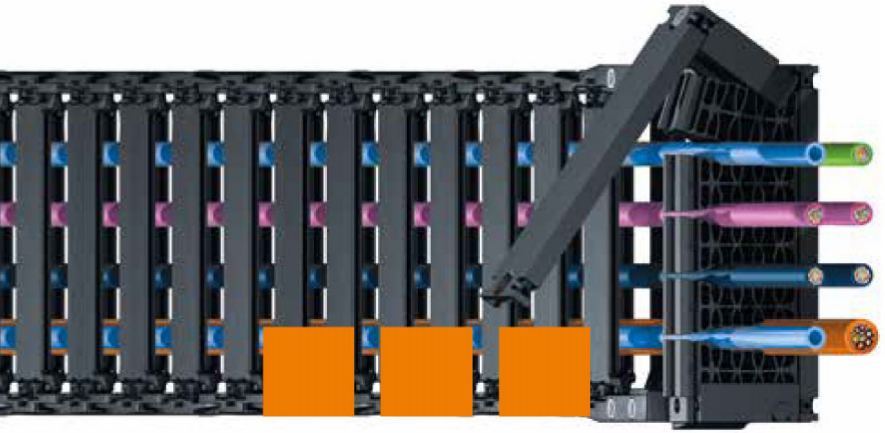
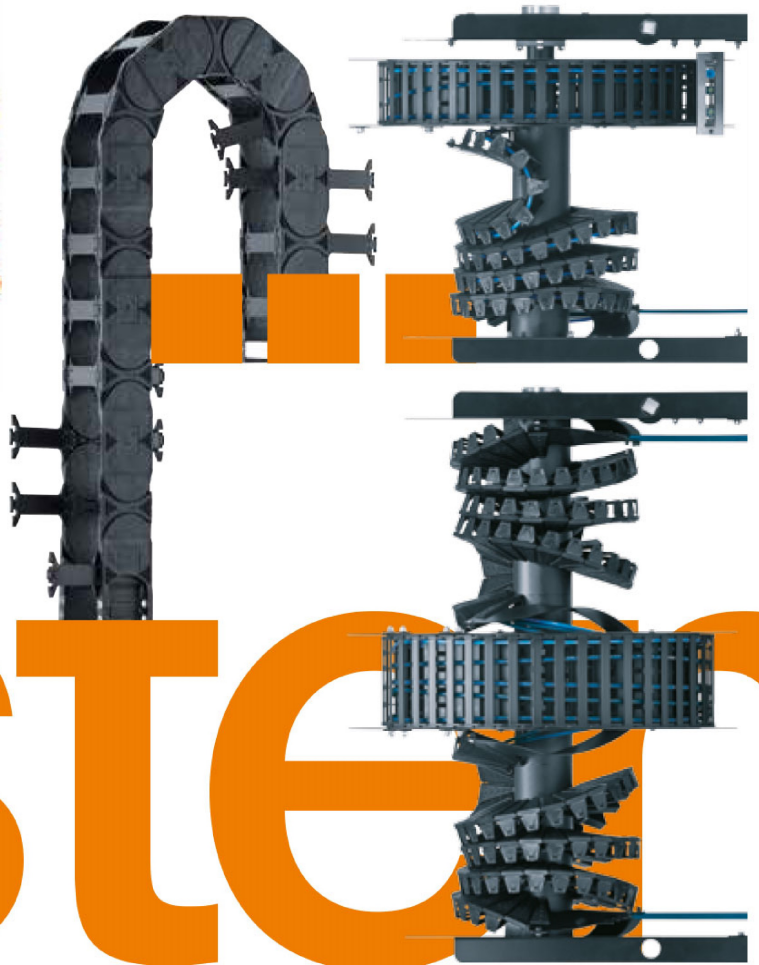
e-chain®

igus.eu ... e-chains® and -systems® ... 2019 ... plastics for longer life®







systems®



Designing with igus® e-chains® - calculation tools, diagrams, applications

readychain® and readycable®,
igus® installation service with guarantee

From page 98



igus® solutions for simple applications

e-rib, E1, snapchain, office e-chain®

From page 160



Cost-effective, easy to fill e-chains® with "easy" design

easy chain®

From page 198



Zip-open, easy to fill e-chains®

zipper e-chains® and e-tubes

From page 226



All-rounder e-chains® and e-tubes micro ... mini ... medium

E2 micro, mini, E2.1 micro, E2.1, E2/000

From page 260



Protection against dirt and swarf openable igus® e-tubes

E2 e-tubes - series E2 R100, E2 R, R2.1, RX

From page 428



E4 - universal modular kit - e-chains® and e-tubes for any application

E4.1L, E4.1, E4/light

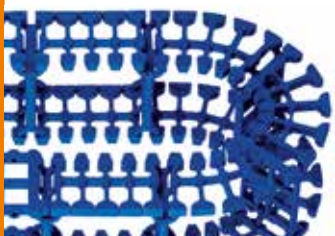
From page 524



Cleanroom e-chains® and e-tubes low noise, low vibration and high dynamics

T3, E3, E6.1, E6, e-skin®

From page 722



e-chain® designed according to hygienic principles - FDA and EU-compliant materials

System TH3

From page 850

Register now for the igus® newsletter ...



- Information on our latest products
- Free samples and services
- Invitations to trade fairs and free entry tickets
- Webinars on current topics around plastics technology
- Exclusive insights into our test laboratories and test results
- Real-world application examples

Register here:
► **www.igus.eu/newsletter**



Quickly find, configure, calculate and order the best e-chain®
► **online igus.eu**



e-chains® for robotic and 3D, circular and spiral movements
triflex® R, retraction systems, easy triflex®, triflex®, twisterchain, twisterband
► From page 864



Solutions for multi-axis motion
e-spool - the alternative to cable reeling drums
► From page 1006



Solutions for vertical motion
liftband, guidelok slimline P
► From page 1026



Solutions for horizontal motion
guidelok horizontal, basic flizz®, micro flizz®
► From page 1038



Predictive maintenance, condition monitoring and engineered projects
isense smart plastics , PPDS, modular projects and systems
► From page 1064



e-chains® for long travel applications
E4/4HD, system P4, rol rol e-chains®, autoglide
► From page 1088



Guide troughs for long travels for standard and heavy-duty applications
Aluminium SuperTrough and steel guide trough
► From page 1200



Other guide trough systems
Steel and aluminium support tray, guidefast, guidelite, tubular trough, snap-in trough
► From page 1262



chainfix strain relief for maximum holding force
Clamps, tiewrap plates, honeycomb strain relief, etc.
► From page 1300

the-chain - moving energy made easy

Lightweight, strong and long service life: igus® e-chain systems® for every type of movement

Millions of igus® e-chains® are working in customer applications worldwide - from beverage dispensers to steelworks. They have a modular design and are therefore easy to assemble. They are resistant to different media and are ideal for very small bend radii as well as for large, heavy cables and hoses.

e-chains® are the umbilical cord of modern machines. They are constantly moving and supply power, data and energy. igus® has been developing, producing and testing polymer e-chains® since 1971. Our expert knowledge is being continuously refined with the help of our customers to constantly improve our product range.

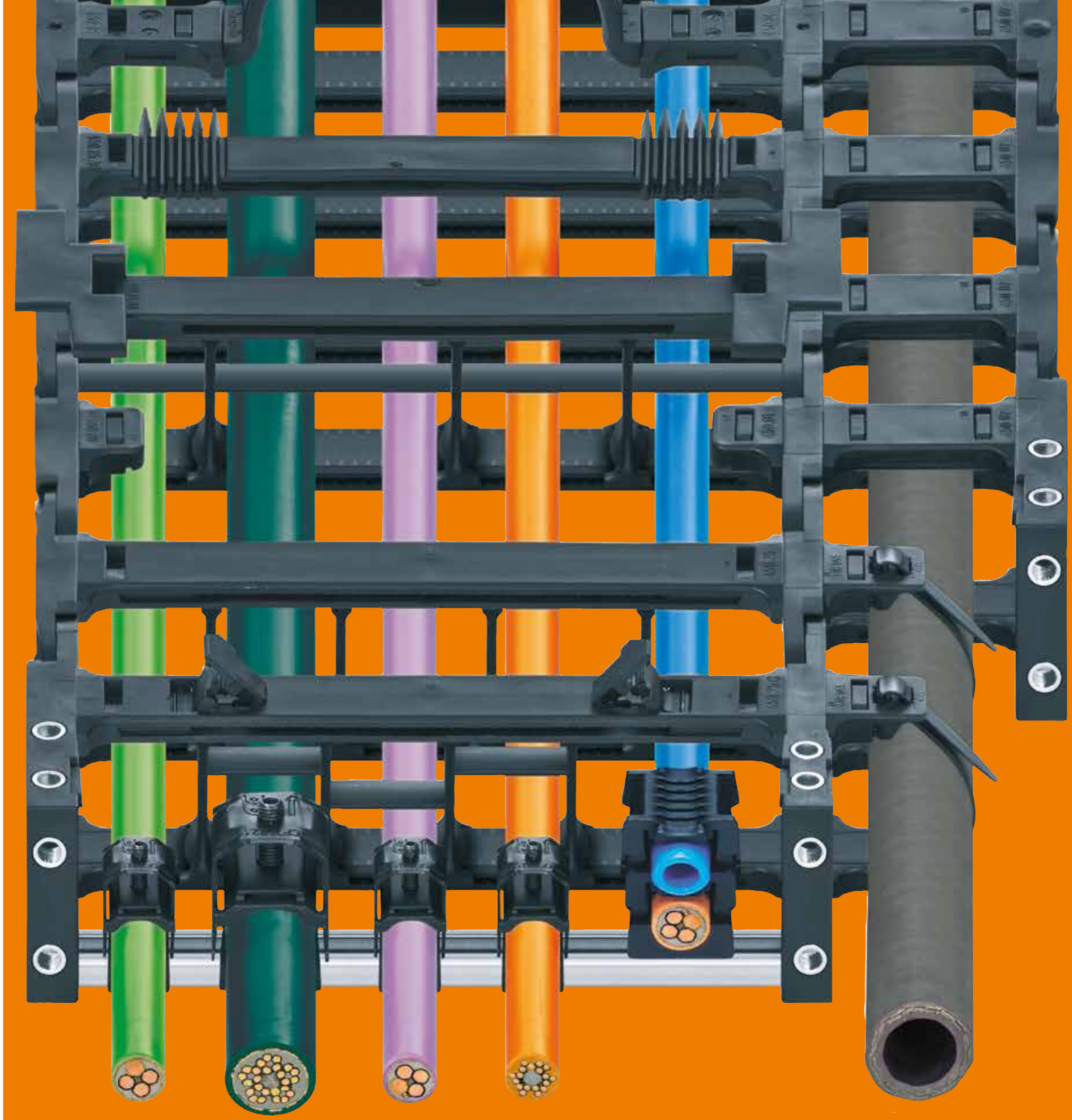
Tested and proven service life.
Calculate and order online.

Universal installation

- Many possibilities in terms of movement and length
- For high dynamic loads and tough service life requirements
- For different environments and climates
- Innovative products that can be assembled quickly
- Large range of products - find the right solution quickly
- System quotes, including made-to-measure harnessing and "turnkey" assembly

More information
► www.igus.eu/the-chain

The award-winning igus® e-chain systems® are certified and tested



Assembled to your exact requirements - delivery time 1-3 days!



From batch size 1 to ... ... "turnkey" systems for your sector - igus® the-chain

readychain® - harnessed e-chain systems®



Ready-to-install energy supply systems - reduce assembly and harnessing time by 95%

Ready-made energy supply systems are developed, fitted with connectors and delivered tailor-made. The customers can dispense with their own storage space for e-chains®, cables and connectors, saving time and space for internal logistics and for assembly and installation of their energy supply system. The ready-made modules reduce process costs of our customers by up to 80% and accelerate cycle times radically. Machine downtimes are also minimised. To achieve this, we supply the systems worldwide from 12 assembly and logistics centres.

- Eliminate storage costs for cables, e-chains® and connectors
- Cut turnaround times by half
- Flexible response to order fluctuations
- Reduce the number of suppliers and orders by 75%
- Minimise your machine downtime

▶ **www.igus.eu/readychain**

Video online
▶ **www.igus.eu/RC_movieFilm**



basic
e-chain® with fitted cables - strain relief in the system



standard
e-chain® with cables and connectors



standard+
Pre-harnessed e-chain system® with sheet-metal parts

premium
Ready-to-install complete system with transport rack



product design award 2014

... other igus® services



Engineering - customer-specific developments with many solutions from the modular kit
▶ **www.igus.eu/projects**



Installation - predictable installation time for your system at your premises: helps you plan and contributes to high plant availability ▶ **www.igus.eu/installation**



Open-Space - save valuable time for engineering whilst reducing process costs
▶ **www.igus.eu/openspace**

Reduce process cost: configure igus® e-chains® online

Simplifying processes for customers is our primary goal. For almost every igus® product you will find further details, data and facts online. These include:

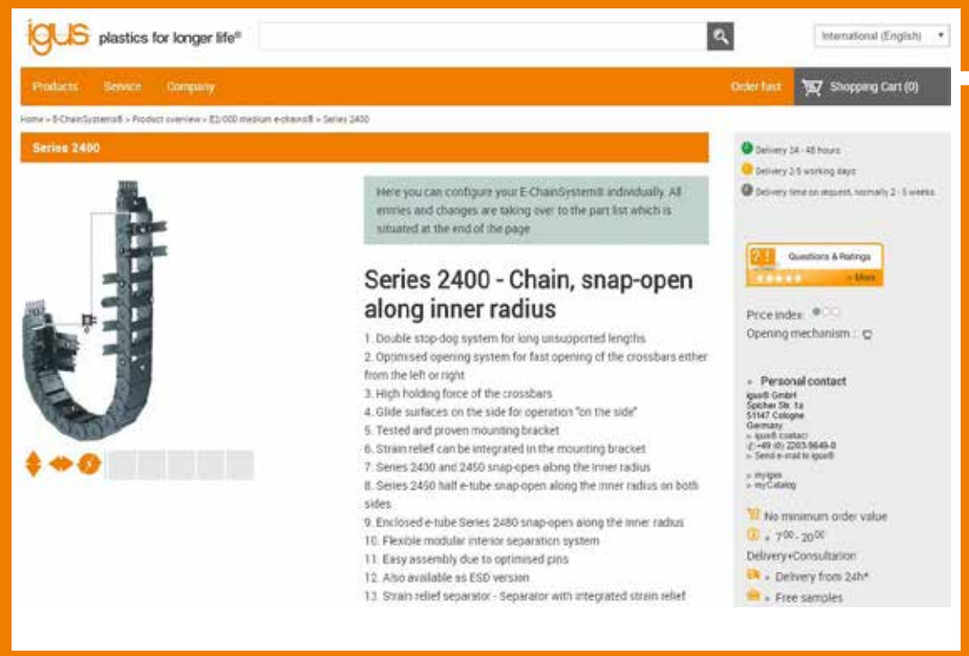
- Online tools for calculating service life
- Online configuration tools
- Comparisons and selection tools
- 3D and 2D CAD files
- PDF-files, data sheets and more
- Application pictures and videos
- Assembly instructions
- Personal support
- Catalogue and sample ordering
- Online price list and online shop

Over 30 helpful online tools for quick finding, configuring and calculating your product. No registration necessary. 3D CAD models online for downloading. Easy to use.

Visit our website and make use of all the advantages.
▶ **www.igus.eu/online**



Create your complete e-chain system® with cables with a few mouse clicks ▶ **www.igus.eu/configurator**



Example:
▶ **www.igus.eu/2400**



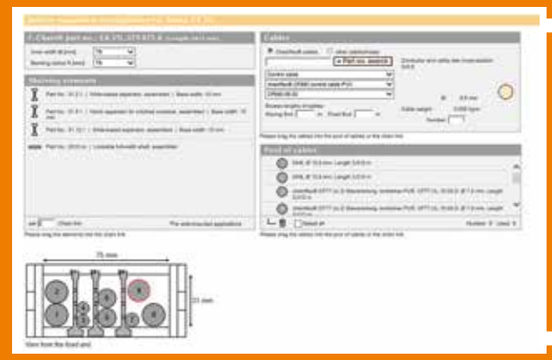
"Search" - the e-chain product finder and configurator

- Find the right e-chain® quickly and easily by entering your application data and parameters.



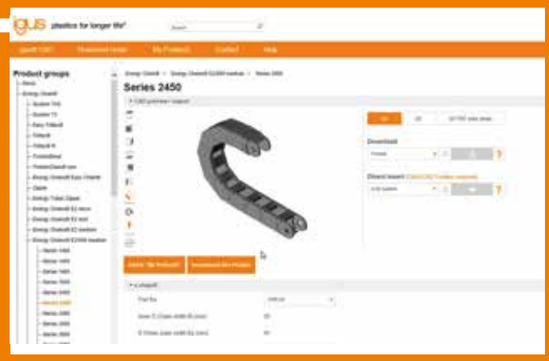
"Calculate e-chain® length"

- Calculate the e-chain® length and see all installation dimensions.



"Configure" e-chains® with the interior separator configurator

- Quickly and easily determine interior separation for the selected e-chain®; just drag and drop
- The configuration can be transferred automatically to your part list



"Generate 3D file"

- e-chain® CAD library
- Download and save CAD data free of charge without having to register
- Nearly 30 different 3D and 2D formats available
- Data on all products are updated and extended on a regular basis.

▶ **www.igus-CAD.com**

Quality from the igus® laboratory

Tested and proven every day.

Applications involving high duty cycles, speeds and accelerations or demanding environmental conditions require proven systems especially for e-chains®, cables, polymer bearings and linear systems. igus® constantly conducts tests at its own laboratory under real-world conditions. Every year, we conduct more than 4,100 tests on e-chains® and cables, and over 12,000 tests on plain bearings. These tests focus on push/pull forces, friction values and wear rates. Other factors like speed, load, dirt, weathering, cold and impact are also tested. Our laboratory is also at your disposal. If we don't have data for your type of application, we can conduct a test representative of your requirements. ▶ **www.igus.eu/test**

Video online
▶ www.igus.eu/testlab


Global Warranty Certificate

Global warranty for _____

We hereby confirm the following warranty for the igus® e-chainsystem® application described on the back page of this certificate:

For a period of 24 months upon delivery, we will ship replacement parts for any igus® components that fail due to wear and tear, free of charge (shipping ex works). This does not include failure due to mechanical impact and damage due to incorrect assembly. Shipping of replacement parts does not prolong the warranty period.

We reserve the right of inspecting the installed e-chainsystem® , prior to its first operation.

Other agreements: _____

Warranty confirmed

Date

igus® GmbH

Stamp and signature

igus® GmbH Spicher Str. 1a 51147 Köln
Phone +49-2203-96-49-800
Fax +49-2203-96-49-222
Internet igus.de
E-Mail info@igus.de

igus® system warranty - every application is different. igus® warranty certificates can be issued for your individual application. Ask for the igus® warranty: "chain, cable, guarantee"

All products are tested and available from a single source. Examples of test certificates and quality seals for igus® products ... more upon request


Electronic checking and archiving for every e-chain® production batch


Noise level test inside an igus® acoustic cell


igus® dynamic bending test


Long-term wear and service life test


Speeds up to 10m/s, acceleration up to 200m/s² are tested by igus®


Long travel test facility - 125m travel length, speed 300m/min



2,750m² igus® lab. The largest test lab in the energy chain industry with 65 e-chain® test machines and about 7,515 test results per year. 253 simultaneous tests for e-chain® and chainflex® cables with more than 10 billion e-chain® cycles (in the e-chains® and chainflex® lab per year) ensure reliable energy supply systems for all industries and installation types.

Worldwide, quick and reliable. The igus® service

Delivery and consultation Mon-Fri from 7am-8pm and Sat from 8am-12pm

Innovation and service are the focus of our corporate philosophy. We have therefore put together an extensive package of services for you: no minimum order quantity, speedy delivery from 24hrs, more than 100,000 products from stock. Order an iglidur® bearing or a harnessed standard portal from stock in 24 hours at no extra cost. Rapid delivery worldwide guaranteed. Spare parts are delivered from stock in the shortest possible time.
Take advantage of further service options from igus®:

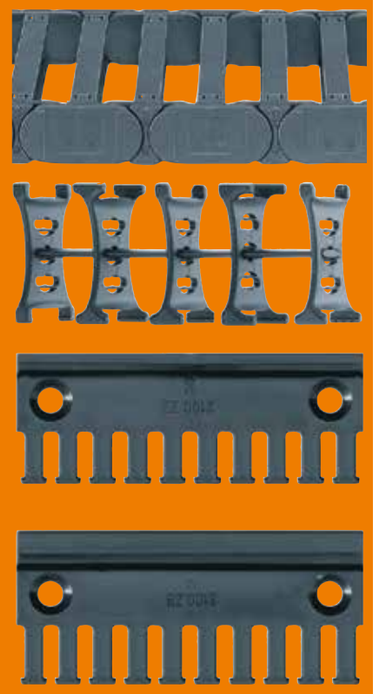
- **Free samples:** we will be happy to send you free samples for testing in your application. Order here ▶ **www.igus.eu/samples**
- The **monthly newsletter** keeps you regularly informed about new igus® solutions. Register here ▶ **www.igus.eu/newsletter**

Order at igus®:
no minimum order quantities,
no surcharges.

24hrs

Single components

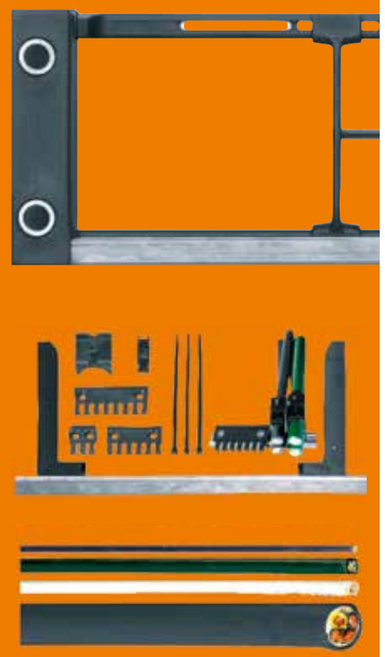
For example: One e-chain® link, 6m of e-chain®, 3 strain relief elements, etc.



24-48hrs

Customised e-chain systems®

For example: 11.46m of e-chains® with interior separators, mounting brackets and strain relief elements according to your specifications. Also with loose accessories: chainflex® cables, guide troughs, mounting brackets and strain reliefs



3-5 business days

Harnessed systems

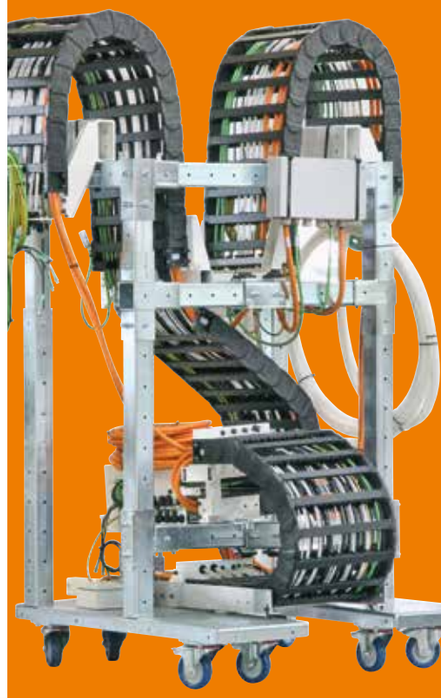
For example: readychain® "basic"
Simple, harnessed e-chain systems® including installed cables without connectors, labelled and tail lengths to your specifications



10 business days

Complex harnessed systems

For example: readychain® "Premium"
Customised harnessed e-chain system® including cables as well as connectors, mounting brackets and other components to your specifications





myigus space online



igus® Newsletter



The flexible igus® factory

Investments in better technology and faster delivery times

Nearly 200,000 customers worldwide trust "plastics for longer life®" - manufacturing products at low-cost, while also ensuring quality. Plastics are becoming increasingly affordable and technical benefits continue to grow. We have been developing, making and selling our products according to this principle for years. In view of the potential of plastics technology, we offer a wide and varied range of tribo components. Wear resistant parts as catalogue items are on stock, to allow us to complete customer requests within hours and ship.

igus® is continuing its growth trend and is focusing more than ever on sophisticated yet simpler solutions for all applications and budgets.



Material preparation



Injection moulding



Warehouse



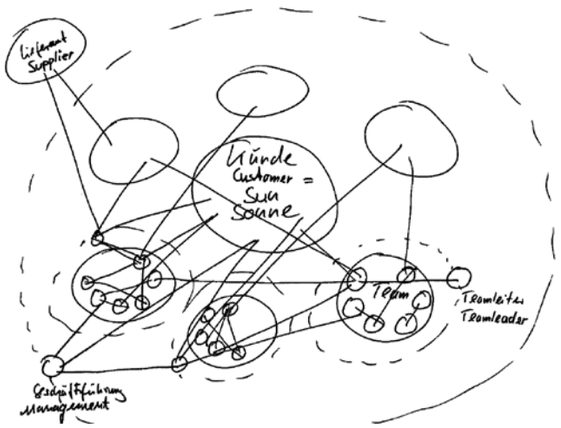
Assembly factory



Toolmaking



Open offices



"For us, customers have the same significance as the sun to life on earth. The sun gives light, warmth and energy; our customers give us ideas, work and money."



Global standards - igus® is close to you

Worldwide individual consultation: by phone or at your premises. 35 subsidiaries worldwide.

A large network of sales engineers are at your disposal in Germany and worldwide. We will gladly provide consultation at your premises, supply assembly instructions and tools to installation sites, as well as measure installation spaces and check environmental conditions on site.
There are 3,800 employees in Germany and 35 international subsidiaries, plus distributors in another 55 countries to guarantee a rapid delivery worldwide.

- Customer-specific projects and special solutions: for every challenge, we will work with you to find a solution and provide a sample for your application free of charge
- We are wherever you need us: numerous e-chain® and polymer bearing consultants are at your disposal at any time
- Hands-on with our products at 200 trade fairs worldwide
- Individually at your premises with our mobile exhibition



In a face-to-face meeting



Technical consultation at your premises



Worldwide open offices - for example in China



igus® at trade fairs



igus® mobile exhibition



Worldwide modular factories - for example in the USA





igus® Offices igus® Distributors

All addresses on last page.

igus® - close to the customer since 1964

From a garage to the global market with tribopolymers

What began in 1964 with a single injection moulding machine in a garage in Cologne has become a global enterprise within half a century. It all started more than 50 years ago when Günter Blase, who established the company, had an idea about the potential of polymer materials. A mere one year after the company was established, an injection moulding machine about the size of a sewing machine was used to make the very first products. In 1971, igus® delivered the first e-chain®. The company's own design engineering team has been developing the range of plastic chains since 1983. In accordance with the igus® slogan "Moving energy made easy", the company configures, produces and assembles the appropriate energy chain system - the "umbilical cord" of all modern machines - in line with the wishes of the customer. In the course of its history, igus® gradually grew to become a systems supplier. In 1989, the company developed the CF1, which was its own first chainflex® cable specially designed for use in energy chains.

Today, the 3,800 employees come up with new ideas daily, make high-quality products, ensure streamlined processes and delivery times and, above all, stay close to the customer. On average, igus® dispatches around 5,500 consignments per day. In order to ensure speedy and individual delivery, the customers receive exactly the product they need for their application from 14 storage and assembly/installation centres worldwide: as a single component or as a complete system, also installed or assembled on site upon request.

Products with variants
staff
sales
subsidiaries

65

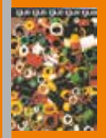
1965
First iglidur® slide element: Plug valve for the company Pierburg



1979
First e-chain® catalogue, 2 pages



1980
First Polymer Bearings catalogue, 8 pages



Company founders Günter and Margret Blase in front of the double garage in 1964



75

1971
First e-chain® (series 20)



1977
Relocation to Locher-mühle in Bergisch Gladbach



10

85

1989
E4 e-tubes, openable on both sides



1989
First chainflex® cable CF1



1983
First bearing material: iglidur® G



3

90

1991
xigus 1.0 electronic catalogue



1993
First drylin® R linear round shaft guide



1994
First igubal® rod end



1994
Relocation to the new igus® factory in Cologne



1,000

95

1995
readychain®, with the slogan "Chain-Cable-Guarantee"



1997
drylin® T linear guide systems



8,000

2000

2001
Low-vibration e-chains®: system E6



2001
drylin® N miniature linear guide systems



2003
drylin® W modular linear guide systems



2003
triflex® R 3D e-chains®



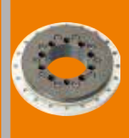
45,000

05

2006
rol e-chain®: System P4



2005
iglidur® PRT slewing ring bearings



2007
drylin® ZLW Toothed belt axes



2007
"One for all": system E4.1 e-chains®



1,200

08

2009
Chip-proof: RX e-tube



2008
xiros® polymer ball bearings



2009
robolink® joints



2008
E4.350: largest polymer e-chain®



303 million

2009
60 % factory extension in Cologne



16

2010

2010
twisterband: turn 7000°



2011
drylin® E – linear axes with stepper motor



2010
For Pick & Place: pikchain®



2010
iglidur® bar stocks for custom design: Ø 10-100 mm



80,000

12

2012
The alternative to the cable reeling drum: the modular e-spool system



2013
High efficiency: dryspin® high helix screw drives



2012
Flip open chain links on triflex® TRLF



2012
Individual design: igubal® coupling bars



1,800

2012
2nd factory extension in Cologne



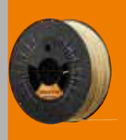
30

14

2014
The first plug-in energy chain: readychain® speed 2.0



2014
iglidur® Tribo-Filament for 3D printing



2014
Cost-effective chainflex® M cables



2014
Versatile: iglidur® Tribo-Tape

95,000

552 million

2014
igus 50 years

2015
Guarantee igus chainflex 36 month guarantee

16

2016
100 % stable, filled in seconds: easy chain® HD

2016
Predictive maintenance with smart plastics

2016
3D printing service for wear resistant components

2016
drylin® carriage for curved rail

2,950

2017

2017
Plastic energy chain according to "Hygienic Design Guidelines"

2017
Angle adapter ibow for priceless flexibility

2017
"Eco series" linear modules – with 3D printed parts

2017
robolink® low-cost robot: modular ... build or buy

100,000

3,180

690 million

36

2017
Change your bearing now: igus.eu/iglidur

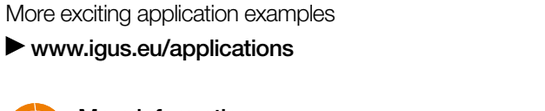
Moving energy made easy - for any industry

Solutions with igus® e-chain systems®

The task of igus® e-chain systems® is to reliably supply energy and data to moving equipment. Such equipment is constantly in motion and has to function reliably in difficult ambient conditions as well as under high loads and at high speeds. e-chain systems® can be used universally in these kinds of application.

More exciting application examples
▶ **www.igus.eu/applications**

More information
▶ **www.igus.eu/vector-award**



For example: machine tools, woodworking equipment, cranes, material handling systems and robots ...



Harnessed "readychain®" energy chains reduce costs sustainably



The worldwide longest e-chain® travel of 615m with igus® rol e-chains® and chainflex® cables in a power plant



igus® e-chain systems® replace conventional energy supply solutions for cranes



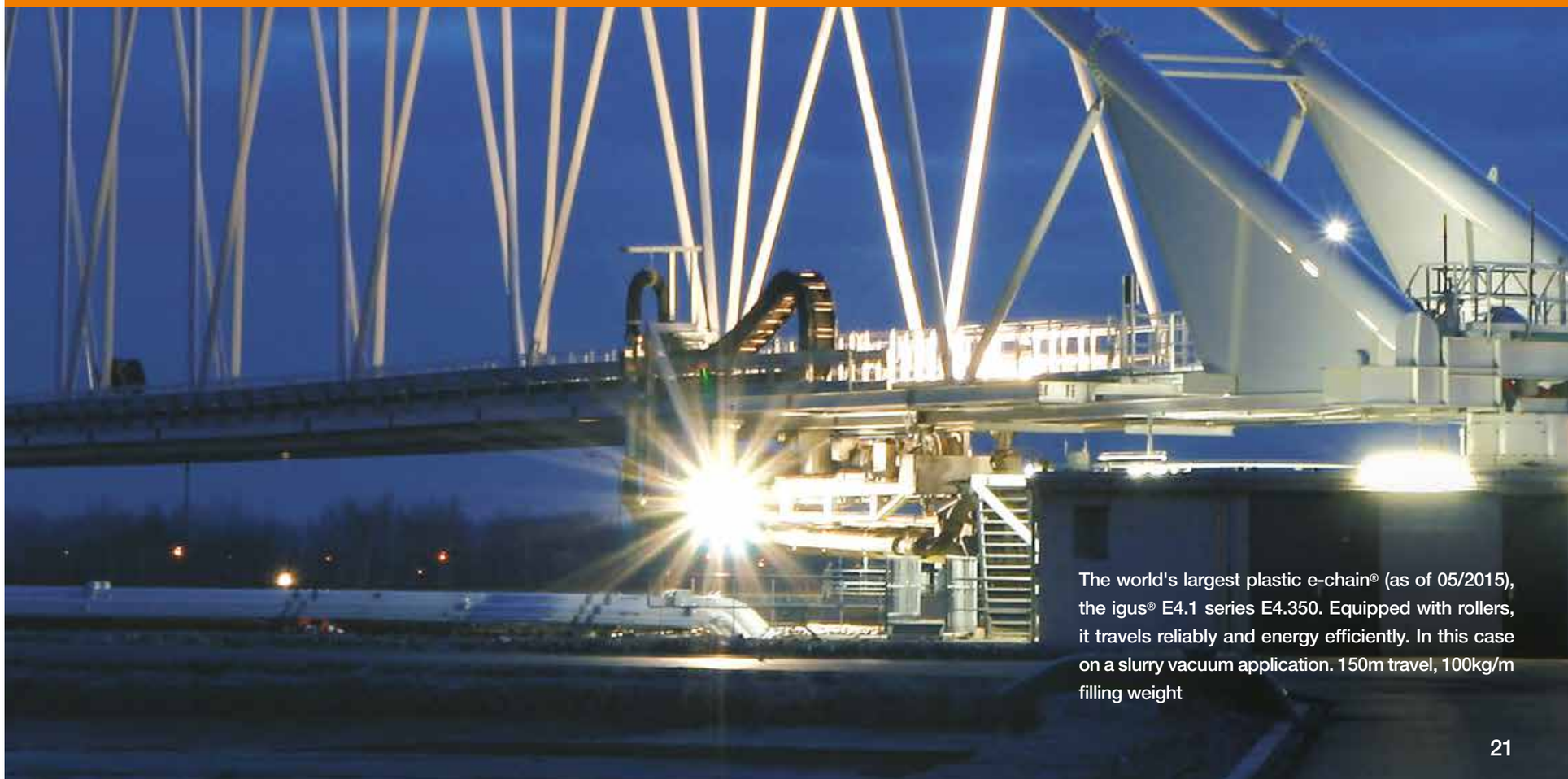
Tunnelling machine - reliable E4.1 energy supply in spite of dirt and vibration



Long travel, side-mounted installation using the vibration-free and low noise series E6.29 in a camera application



igus® triflex® R e-chains® for robots that machine moulded plastic parts

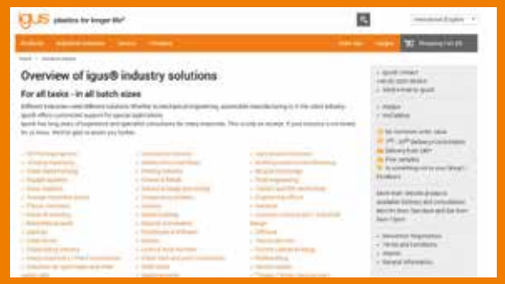


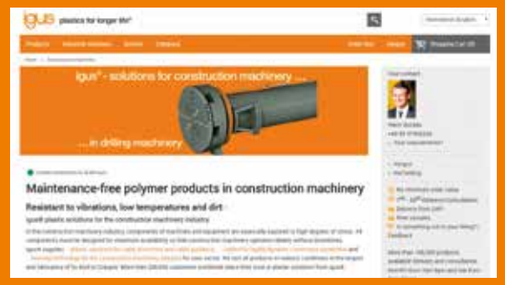
The world's largest plastic e-chain® (as of 05/2015), the igus® E4.1 series E4.350. Equipped with rollers, it travels reliably and energy efficiently. In this case on a slurry vacuum application. 150m travel, 100kg/m filling weight

Find references online ... take a look at over 60 industry branches

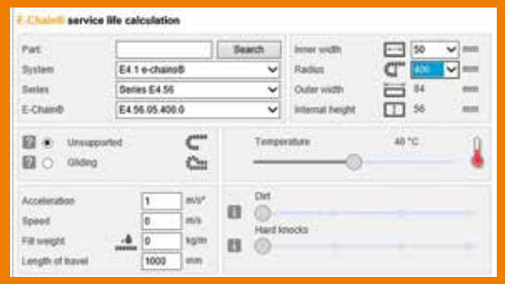
Different industries need different solutions. Whether in mechanical engineering, automobile manufacturing or in the robot industry - igus® offers customised support for special applications. igus® already has many years of experience and specialised resources for many industries.
▶ **www.igus.eu/industry**

Quickly find and configure products and calculate service life - all online.
Using our online product finders, you can find the right igus® product and get a service life prediction. You can also download 3D CAD files for free and shop around the clock.
▶ **www.igus.eu/online**















igus® WebGuide - the "TV guide" for engineers

The WebGuide is the first technical printed catalogue that is entirely designed as a quick online guide. On selection of the desired product it leads straight to the internet. "Zapping" online **... find, configure, order ... followed by speedy delivery.** Also available as an App for Android and iOS.
More information ▶ www.igus.eu/webguide

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All products that are marked "New" in the catalogue have been added since the last version of the catalogue published in 2017.

The terms "igus", "Apiro", "chainflex", "CFRIP", "conprotect", "CTD", "drylin", "dry-tech", "dryspin", "easy chain", "e-chain", "e-chain systems", "e-ketten", "e-kettensysteme", "e-skin", "flizz", "ibow", "iglide", "iglidur", "igubal", "manus", "motion plastics", "plastics for longer life", "pikchain", "readychain", "readycable", "ReBeL", "robolink", "speedigus", "triflex", and "xiros" are protected by trademark laws in the Federal Republic of Germany and internationally, where applicable.

Product overview

igus® solutions for simple applications

Reinforcement for corrugated tubes
e-rib | Easy to clip-on New



NW 23-48

Reinforcement for existing corrugated tube systems from different manufacturers. Easy to retrofit, simply clip the e-rib onto a corrugated hose ► From page 162

e-chain® in a strip
E1 | Openable



10-20

Cost-effective, one-piece strip design for simple applications. Openable along the outer radius. Easy to fill
► From page 174

e-chains® for cable bundles
snapchain | Adjustable loops



50-120

Guide cable bundles quickly and easily; loops open along the outer radius (TZ) or along the inner radius (TE)
► From page 182

Zip fastening e-chains® and e-tubes

e-chains®
zipper | Openable



9-32

Open and close at lightning speed. Crossbars on a strip. Zip-open along the outer radius
► From page 226

e-tubes
zipper | Openable



10.3-32

Fully enclosed design. Open and close at lightning speed. Lids on a strip. Zip-open along the outer radius
► From page 226

For the smallest applications ...

e-chains®, one-piece design
E2 micro | Non-openable



5-15

For the smallest applications. One-piece, non-openable
► From page 260

... medium sizes

e-chains®, one-piece design
E2 mini | Openable



20-32

Openable along the inner radius from one side with film hinge. Enclosed along the outer radius
► From page 290

e-chains®, two-piece design
E2 mini | Openable



17-32

Openable along the outer radius, from one side
► From page 290

e-chains®, two-piece design
E2 mini | Openable



17-32

Openable along the inner radius, from one side
► From page 290

Easy to fill and cost-effective

Energy supply for furniture
office e-chain® | "easy" design



21

This e-chain® was designed especially for the furniture industry. Split crossbar along the inner radius
► From page 188

e-chain® version E
easy chain® | "easy" design



5-48.5

Split crossbar along the outer radius. Some types with multi-chamber design
► From page 198

e-chain® version Z
easy chain® | "easy" design



9.4-48.5

Split crossbar along the inner radius. Some types with multi-chamber design
► From page 198

... smallest inner heights and bend radii

e-chains®, one-piece design
E2 micro | Openable



11.5-15.6

Openable along the inner radius from one side with film hinge
► From page 260

e-chains®, two-piece design
E2 micro | Openable



10.3-14.3

Openable along the outer radius, from one side
► From page 260

Small and ...

e-chains®, one-piece design
E2 mini | Non-openable



18-41

One-piece, non-openable
► From page 290

The new "small" E2 micro standard

e-chains®, one-piece design
E2.1 micro | Non-openable



10.6-14.9

New generation, strong, low-noise, for the smallest installation spaces. One-piece, non-openable
► From page 320

e-chains®, two-piece design
E2.1 micro | Openable



10.1-14.4

New generation, strong, low-noise, for the smallest installation spaces. Crossbars openable along the inner radius, from both sides
► From page 320

e-chains®, two-piece design
E2.1 micro | Openable



10.1-14.4

New generation, strong, low-noise, for the smallest installation spaces. Crossbars openable along the outer radius, from both sides
► From page 320

Product overview

Continued

E2.1 - new generation E2/000 e-chains®

e-chains®, two-piece design
E2.1 | Openable New



26-48

More useable interior space with outer height the same as E2/000 e-chains®. Crossbars openable along the inner radius, from both sides ► **From page 334**

e-chains®, two-piece design
E2.1 | Openable New



26-48

More useable interior space with outer height the same as E2/000 e-chains®. Crossbars openable along the outer radius, from both sides ► **From page 334**

E2/000 ...

e-chains®, two-piece design
E2/000 | Openable



21-45

High strength, quiet operation. Crossbars openable along the inner radius, from both sides ► **From page 360**

Protection against dirt and swarf ... cost-effective ...

E2 e-tubes
R100 | Openable



21-50

Cost-effective swarf protection. Lids openable along the inner radius, from both sides ► **From page 428**

E2 e-tubes
R100 | Openable



21-50

Cost-effective swarf protection. Lids openable along the outer radius, from both sides ► **From page 428**

... smooth operation ...

E2 e-tubes
R | Openable



25-45

Swarf protection at higher speeds and smooth running. Lids removable along outer radius ► **From page 454**

Quick and easy harnessing

e-chains® with crossbars every link
E4.1L | Openable



31-64

Light and cable-friendly design. Crossbars openable along the inner and outer radius from both sides ► **From page 524**

e-tubes
R4.1L | Openable



31-48

Light and cable-friendly design. Lids openable along inner and outer radius, from both sides ► **From page 524**

One e-chain® series ...

e-chains® with crossbars every link
E4.1 | Openable



21-350

For especially demanding applications. Crossbars removable along the inner and outer radius ► **From page 566**

... wide range of applications, the proven all-rounder

e-chains®, two-piece design
E2/000 | Openable



21-45

High strength, quiet operation. Crossbars openable along the outer radius, from both sides ► **From page 360**

Half e-tubes, two-piece design
E2/000 | Openable



21-45

High strength, quiet operation. Crossbars openable along the inner radius, from both sides ► **From page 360**

e-tubes, two-piece design
E2/000 | Openable



21-45

High strength, quiet operation. Lids openable along the inner radius, from both sides ► **From page 360**

...strong ...

R2.1 e-tubes
R2.1i | Openable



26-48

Cost-effective, strong e-tubes. Lids openable along the inner radius, from both sides ► **From page 478**

R2.1 e-tubes
R2.1| Openable



26-75

Cost-effective, strong e-tubes. Lids openable along the outer radius, from both sides ► **From page 478**

... extremely swarf-resistant

e-tubes
RX | Openable



42-73

Extremely swarf-resistant. Round contour prevents swarf accumulation. Lids removable along outer radius ► **From page 502**

... for almost any application

e-chains® with crossbars every 2nd link
H4.1 | Openable



32-80

For almost any application, the standard. Crossbars removable along the inner and outer radius ► **From page 566**

e-tubes
R4.1 | Openable



28-108

Fully enclosed design. Lids openable along the outer radius, from one side. Shelves can be removed from the inner radius ► **From page 566**

Light, strong and ...

e-chains® with crossbars every link
E4/light | Openable



56-112

For especially demanding applications. Crossbars removable along the inner and outer radius ► **From page 560**

Product overview

Continued

... cost-effective

e-chains® with crossbars every 2nd link
E4/light | Openable



56-86

For almost any application, the standard. Crossbars removable along the inner and outer radius

► From page 560

e-tubes
E4/light | Openable



56-108

Fully enclosed design. Lids openable along the outer radius, from one side. Shelves can be removed from the inner radius

► From page 560

Highly flexible

T-band e-chain®
T3 | Openable



29

Smooth running "T-band", quiet, cost-effective. Crossbars removable along the inner and outer radius

► From page 722

Extremely low noise, vibration and abrasion, cleanroom suitable

e-chains®
E6 | Openable



29-80

Low noise - 37 dB(A), low vibration, cleanroom suitable. Crossbars removable along the inner and outer radius

► From page 788

e-tubes
R6 | Openable



28-52

Low noise - 37 dB(A), low vibration, cleanroom suitable. Lids removable along the inner and outer radius

► From page 788

Novel corrugated tube

Corrugated tube for cleanroom
e-skin® | Openable



28-38

Oval design. Can be opened and closed like a zipper. Cleanroom Class 1

► From page 834

... e-chains® and e-tubes for multi-axis movement

Multi-axis e-tubes
triflex® R TRCF | Openable



Enclosed design with snap lock mechanism, easy to fill

► From page 866

Multi-axis e-chains®
triflex® R TRL | "easy" design



Light version with "easy" design, cost-effective. Simply press cables in

► From page 866

Multi-axis e-chains®
triflex® R TRLF | Openable



Light version with snap lock mechanism. Easy to fill. Openable by hand

► From page 866

Small, for high dynamics

e-chains®
E3 | Openable



10-22

Low noise - 38 dB(A). Crossbars on a strip. Zip-open along the outer radius

► From page 732

High dynamics and cleanroom compatible

e-chains®
E6.1 | Openable



29

Extremely low noise 32dB(A), low vibration. Crossbars openable along the inner and outer radius from both sides

► From page 750

e-chains®
E6.1 | Openable



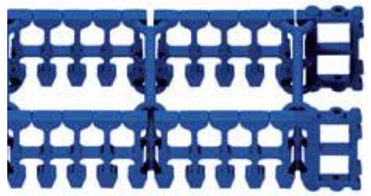
29-80

Extremely low noise 32dB(A), low vibration. Crossbars removable along the inner and outer radius

► From page 750

Hygienic design

T-band e-chain®
TH3 | Open design New



25,5-
2 x 20

3-piece e-chain®, hygienic design. Open design for effective and easy cleaning, FDA-compliant material

► From page 850

For multi-axis movement ... and robots ...

Multi-axis e-tubes
triflex® R TRC | Non-openable



Completely enclosed for chip-protection. With smooth and robust exterior

► From page 866

Multi-axis e-chains®
triflex® R TRE | "easy" design



"easy" design, easy to fill. Simply press cables in

► From page 866

For simple multi-axis applications

Multi-axis e-chains®
easy triflex® | "easy" design



13-38.5

For simple multi-axis applications. "easy" design. Simply press cables in. Easy filling from both sides

► From page 940

For multi-axis applications, enclosed

Multi-axis e-tubes
triflex® | Fully enclosed



16-75

Fully enclosed, for simple multi-axis applications

► From page 952

Circular movements

e-chains® for circular movements
twisterchain | Openable



28-56

e-chains® for circular and spiral movements up to 360°, from stock (up to 540° upon request). Crossbars removable along the inner and outer radius

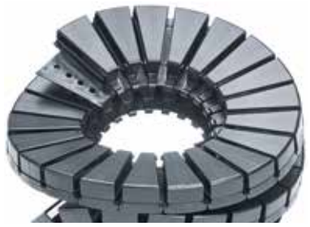
► From page 966

Product overview

Continued

Up to 7,000°* rotary movement in the smallest spaces

e-chains® for spiral movements
twisterband | Openable



9-22

Rotary movement in the smallest spaces. e-chain® links on a strip. Openable with film hinge or with "easy" design

► From page 988

e-chains® for spiral movements
twisterband HD | Openable



22-30

Rotary movement in the smallest spaces. Strong pin and hook connection of the e-chain® links. Openable with film-hinge

► From page 988

Solutions ...

Flexible use
e-spool standard and HD



≤14

Travel length ≤ [m]

The cable reel without a slip ring. Guidance of many different cables types together in a compact system. Standard and HD variant

► From page 1006

Solutions for vertical motion

Vertical guidance
liftband



13

Travel ≤ [m]

Modular, silent, space-saving; vertical guidance for energy, data and media. Cable guidance up to 13m height with limited installation space

► From page 1026

Vertical guidance
guidelok slimline P



50

Travel ≤ [m]

Safe 50m vertical guidance. For e-chains® in highly dynamic storage and retrieval units. No swinging of the e-chain®

► From page 1032

Solutions ...

Upper run guide
guidelok | Horizontal



50

Travel ≤ [m]

Upper run guide for long travels, unsupported in swarf areas. Up to 50m possible

► From page 1038

... Condition Monitoring and engineered projects

Condition Monitoring
PPDS (isense EC.P.)



Push-Pull Force Detection System PPDS. Signal or alarm in response to system overload

► From page 1080

Engineering service
Modular projects



Special solutions from stock. Faster project planning, detailed service manuals and documentation, time and cost savings

► From page 1084

Heavy-duty e-chains® ...

e-chains® with crossbars every link
E4/4HD | Openable



56-80

For very heavy fill weights, crossbars removable along the inner and outer radius

► From page 1092

... for multi-axis movement

Compact, space-saving
e-spool compact New



≤4

Travel length ≤ [m]

Compact, space-saving cable reel without slip ring for reliable guidance and flexible filling

► From page 1006

Easy manual operation
e-spool for manual operation New



≤5

Travel length ≤ [m]

The manually operated e-spool is designed for applications where only one cable or hose is pulled out by hand

► From page 1006

Motor-driven
e-spool power New



igus® project upon request

≤35

Travel length ≤ [m]

e-spool power is a motor-driven e-spool for travels up to 35m. Upon request

► From page 1006

... for horizontal motion

Enclosed trough
basic flizz®



100

Travel ≤ [m]

Cost-effective, enclosed solution for long travels. Protection against weather and dirt exposure. Available as HD version

► From page 1044

e-chains® in aluminium profiles
micro flizz®



30-100

Travel ≤ [m]

Unsupported e-chains® in aluminium profiles. Reliably supply long travels using the smallest e-chains®

► From page 1052

Predictive maintenance ...

Predictive maintenance
isense smart plastics New



Make maintenance and repair of your machines more efficient and cost-effective with smart plastics. Predict the maintenance date in good time

► From page 1064

... for long travel applications

e-tubes
R4/4HD | Openable



56-80

Heavy-duty, especially for heavy fill weights. Lids openable along the outer radius, from one side. Shelves can be removed from the inner radius

► From page 1092

Profile rollers

Profile-rol e-chains®
P4 | Openable



32-80

Reduce energy consumption by 57%. For long travels at high speeds. Crossbars removable along the inner and outer radius

► From page 1112

E4/4 rol e-chains® ...

e-chains® with crossbars every link
E4/4 rol e-chain® | Openable



32-80

Rolling instead of gliding. For especially demanding applications. Crossbars removable along the inner and outer radius

► From page 1142

Product overview

Continued

... normal and heavy-duty design

e-tubes
R4/4 rol e-tube | Openable



32-80

Rolling instead of gliding, fully enclosed. For especially demanding applications. Lids openable along the outer radius, from one side

► From page 1142

Heavy-duty e-chains® with crossbars every link
E4/4 HD rol e-chain® | Openable



56-80

Rolling instead of gliding. Heavy-duty, for very long travels with very heavy fill weights. Crossbars removable along the inner and outer radius ► From page 1142

E2/000 rol e-chains®

e-chains®
E2/000 rol e-chain® | Openable



21-45

For long travels up to 150m, energy efficient and cost-effective. Crossbars openable along the outer radius, from both sides

► From page 1160

Self-guiding e-chain®
autoglide version 04 | Openable



25-35

Special glide shoes provide a secure guidance for the E2/000. Lids openable along inner and outer radius, from both sides

► From page 1170

Aluminium SuperTroughs

For general applications
Aluminium SuperTrough | Basic



77-236

igus® standard guide troughs. Very simple, modular assembly

► From page 1208

For heavy-duty applications
Aluminium SuperTrough | Heavy-duty

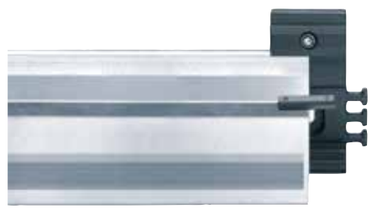


87-236

Guide troughs for tough applications. Online catalogue

► www.igus.eu/superalu

Energy supply for cranes girders and indoor cranes
guidefast



42.5-120

Economical energy supply for crane girders and indoor cranes, fast installation

► From page 1276

For light-duty applications
guidelite

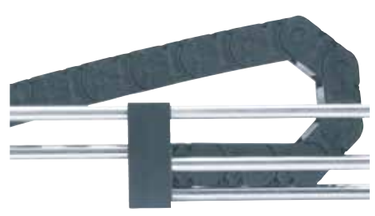


76-425

For long travels up to 150m, quick and cost-effective. Very lightweight polymer components

► From page 1282

For less demanding applications
System RS | Tubular trough



90-146

Resistant to dirt. Cost-effective. Fast assembly

► From page 1288

autoglide self-guiding e-chains® ...

Self-guiding e-chain®
autoglide version 01 | Openable



32-56

Self-guiding E4.1 e-chain®. Crossbars openable along the inner radius fitted with moulded autoglide grooves. Crossbars removable along the inner and outer radius ► From page 1170

Self-guiding e-chain®
autoglide version 02 | Openable



25-45

Self-guiding E2/000 e-chain®. Crossbars openable along the inner radius fitted with moulded autoglide grooves. Openable along the inner radius, from both sides ► From page 1170

Self-guiding e-chain®
autoglide version 03 | "easy" design



32-25.2

"easy" design - split crossbar along the outer radius. Moulded autoglide combs along the inner radius

► From page 1170

Steel guide trough

For extremely heavy-duty applications
Steel guide trough



70-480

For applications in tough environments. Large selection

► From page 1234

Other igus® guide trough systems ...

For easy support of the lower run
Steel support tray



80-306

Steel support tray kit for support of the lower run, cost-effective, one piece. Complete system, ready to install

► From page 1264

For easy support of the lower run
Aluminium support tray



41-73

The flexible construction kit to support the lower run - aluminium support tray. Seawater-resistant aluminium profile

► From page 1270

chainfix strain relief elements ...

For less demanding applications
System SP | Snap-in trough



55.5-138.6

Very slimline trough. Fast assembly. Cost-effective

► From page 1294

Installation profile
C-profile | 92.42 | 92.52



C-profile - Part No. 92.42 as standard (can be integrated into KMA); Part No. 92.52 for increased holding force (mounting in front of e-chain®)

► From page 1312

For C-profiles
Clamps | CFX | CFXL



Adjustable CFX as standard clamps and CFXL clamps for increased holding force. Galvanised steel or stainless steel (material 1.4301)

► From page 1316

Product overview

Technical details

... other chainfix strain relief options ...

For C-profiles
Multi-clamps



Save both time and space during installation, cost-effective. Compact and modular, for small outer diameters

► Page 1319

For C-profiles / Mounting brackets
Tiewrap plates | Universal



Tiewrap plates as individual parts. Screwed on KMA with C-profile or can be clipped onto some mounting brackets

► From page 1320

For C-profiles / openable crossbars / fixed crossbars
Tiewrap plates | Options



4 options available: 1. chainfix tiewrap plates with clip-on connection for C-profile. 2. Integrated strain relief for R series E2 e-tubes. 3. Tiewrap plates for fixed crossbars. 4. chainfix tiewrap plates for openable crossbars ► From page 1322

Honeycomb strain relief
CFU New



Assembled in seconds - CFU honeycomb strain relief. Simply insert cables and hoses into the honeycomb and close. Strain relief of different cables in one slot

► From page 1325

For e-chain® links
Strain relief separators



Separator with integrated strain relief teeth. For easy strain relief either at the first or last e-chain® link with cable tiewraps

► From page 1326

For C-profiles / top-hat (DIN) rail 15
CFV | Strain relief elements



Stepped strain relief elements with tie-wrap teeth. For a strain relief for use outside of the e-chain® section

► From page 1330

For C-profiles / top-hat (DIN) rail 35
CFN | Nuggets



Simple strain relief with cable tiewraps for C-profile or top-hat (DIN) rail 35

► Page 1331

For C-profiles
CFB | Strain relief connector system



Polymer, modular strain relief connector system, can be mounted into C-profile. For many cables types together in a compact system

► From page 1332

▸▸ Online tools ...

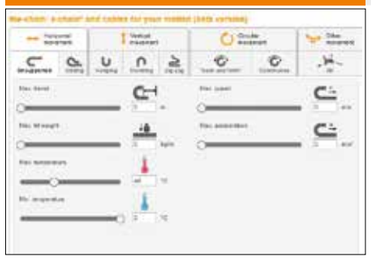
Expert in system design and calculation for travels up to 100m



Simply enter your application's parameters into the e-chain® expert to get a suitable solution

► www.igus.eu/quickchain100

the e-chain: product finder for all kind of movements



With 2 to 6 parameters, you can reduce the number of matching e-chains® from a variety of options. Easy, reliable, fast

► www.igus.eu/the-chain

Expert in system design and calculation for gliding applications up to 60m



The e-chain® expert for fully harnessed, ready-to-install e-chain® systems for medium travels from 10 to 60m in gliding applications. Installation service upon request

► www.igus.eu/quickchain60

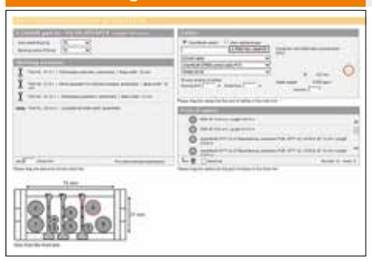
Product finder for short unsupported applications up to 13m



With 2 to 6 parameters, you can reduce the number of matching e-chains® from a variety of options. Easy, reliable, fast

► www.igus.eu/quickchain13

Interior separation configurator with automatic filling of the e-chain®



Use this configurator to fill your e-chains® quickly and easily. With parts list; download and save 3D CAD files ...

► www.igus.eu/quickfill

e-chain® service life calculator for gliding and unsupported applications



Obtain the expected service life of the e-chain® with just a few clicks. Service life calculation for gliding and unsupported applications

► www.igus.eu/quicklife

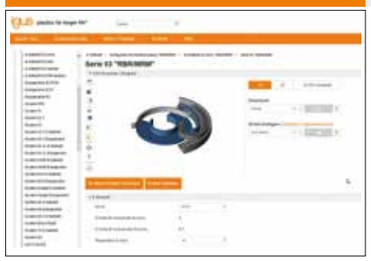
Configurator for robotic equipment; selection of robot types by manufacturer



The e-chains® configurator for robotic equipment. Simply select the robot type and find the suitable e-chain® system

► www.igus.eu/quickrobot

CAD configurator for circular movement



Get complete 3D models just by inputting the e-chain® bend radius and basic dimensions

► www.igus.eu/quickcad

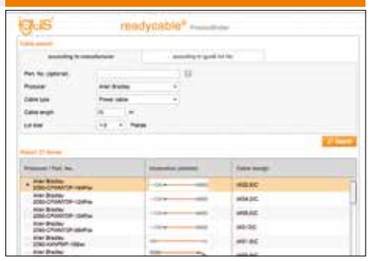
Product finder for chainflex® cables - enquire or order



The product finder provides you with a quick overview of all possible chainflex® cables for your application

► www.igus.eu/quickcable

Product finder for chainflex® drive cables



Harnessed drive cables in accordance with manufacturer standards can be found and ordered online easily and quickly. With service life calculation for the cable

► www.igus.eu/readycablefinder

Legend
- ● Standard
- ❍ Limited suitability
- ▲ Possible as an option
- ■ Especially suitable

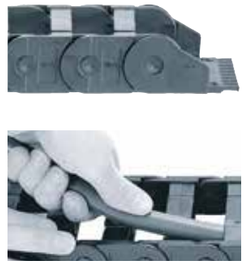
Opening principle	Series / product	Inner height *hi* [mm] + ≤ ø [mm]		Inner width from - to *Bi* [mm]	Outer height *ha* [mm]	Outer width from - to *Ba* [mm]	Bend radius from - to *R* [mm]		Pitch e-chain® link [mm]	Unsupported fill weight ≤ [kg/m]	Unsupported length FL_B ≤ [m]	Long travel length ≤ [m]	Interior separation options: Separators	Full-width shelves	Shelves	ESD	Cleanroom	UL-V2 / V0	Quiet	Price index	Page
e-rib - reinforcement for existing corrugated tube systems																					
Reinforcement for corrugated tubes | Simply clip onto a corrugated hose																					
	EL.00.23.0 New	Nominal width	NW 23	28	29.9	41	–		–	–	–	–	–	–	–	–	–	❍	–	●●●	170
	EL.01.29.0[1] New	Nominal width	NW 29	34.5	33	44.5	–		–	–	–	–	–	–	–	–	–	❍	–	●●●	171
	EL.00.36.0 New	Nominal width	NW 36	42	42.9	56	–		–	–	–	–	–	–	–	–	–	❍	–	●●●	172
	EL.00.48.0 New	Nominal width	NW 48	54	53.6	67.5	–		–	–	–	–	–	–	–	–	–	❍	–	●●●	173
E1 - cost-effective, one-piece strip design for simple applications																					
e-chains® | Openable along the outer radius																					
	ES1.10	10	ø 9	13	15.5	17	018		20	upon request	–	–	–	–	–	❍	●	▲	●	●●●	178
	E1.17	17	ø 15	21 - 44	25	26 - 49	028		25.5	upon request	–	–	–	–	–	❍	●	▲	●	●●●	179
	E1.18	18	ø 16	15	26	20	028		25.25	upon request	–	–	–	–	–	❍	●	▲	●	●●●	180
	E1.20	20	ø 18	15	27	22	028		25	upon request	–	–	–	–	–	❍	●	▲	●	●●●	181
snapchain - guide cable bundles quickly and easily																					
Version TE | Loops openable along the outer radius																					
	TE14.50	Length of loops:	50mm	–	–	–	028 - 125		30.5	–	–	–	–	–	–	–	–	▲	●	●●●	186
	TE26.120	Length of loops:	120mm	–	–	–	063 - 200		56	–	–	–	–	–	–	–	–	▲	●	●●●	187
Version TZ | Loops openable along the inner radius																					
	TZ14.50	Length of loops:	50mm	–	–	–	028 - 125		30.5	–	–	–	–	–	–	–	–	▲	●	●●●	186
	TZ26.120	Length of loops:	120mm	–	–	–	063 - 200		56	–	–	–	–	–	–	–	–	▲	●	●●●	187
office e-chain® - energy supply for offices and furniture																					
e-chains® | "easy" design, split crossbar along the inner radius																					
	ZF14	21	ø 14	38	25	46.6	028		30.5	–	–	–	–	–	–	▲	▲	●	▲	●●●	194

1) EL.01.29.0 only for PMA corrugated tube I-PISG-29B/S

Legend
- ● Standard
- ❍ Limited suitability
- ▲ Possible as an option
- ■ Especially suitable

easy chain® - easy to fill and cost-effective

e-chain® version E | "easy" design - split crossbar along the outer radius



Chamber design	Series / product	Inner height *hi* [mm] + ≤ ø [mm]		Inner width from - to *Bi* [mm]	Outer height *ha* [mm]	Outer width from - to *Ba* [mm]	Bend radius from - to *R* [mm]	Pitch e-chain® link [mm]	Unsupported fill weight ≤ [kg/m]	Unsupported length FL_B ≤ [m]	Interior separation options: Injection-moulded separators	Interior separation options: Full-width shelves	Interior separation options: Shelves	ESD	Cleanroom	UL-V2 / V0	Quiet	Price index	Page
1-chamber	E03	5	ø 3	5 - 10	8	8.7 - 13.7	010 - 028	10	0.24	0.4	–	–	–	❍	■	●	■	○○○	204
	E04	7	ø 4.5	7	10	13	015 - 048	16.7	0.35	0.55	–	–	–	▲	■	●	●	○○○	206
	E045	9.4	ø 5.5	10 - 16	12.5	16 - 23	018 - 038	13	0.25	0.4	–	–	–	▲	■	●	■	○○○	208
	E06	10.7	ø 6.5	10 - 20	15	16.5 - 26.5	018 - 038	20	0.45	0.55	–	–	–	▲	■	●	■	○○○	210
	E065	11.3	ø 7	16	15	24.8	018 - 038	15	0.45	0.6	–	–	–	▲	■	●	■	○○○	212
	E08	14.6	ø 10	10 - 50	19.3	18.2 - 58.2	028 - 048	20	0.7	1	–	–	–	▲	■	●	●	○○○	214
	E14	19	ø 13	15 - 50	25	27 - 62	028 - 125	30.5	0.5	0.65	–	–	–	▲	■	●	●	○○○	216
	E200	24.3	ø 20	57	35	74.4	055 - 200	46	2	1.75	–	–	–	▲	■	●	●	○○○	218
	E16	32	ø 25	23 - 100	39	37.5 - 15.3	040 - 100	30.5	0.7	1	–	–	–	▲	■	●	●	○○○	220
	E26	36.5	ø 28	75	50	92	063 - 250	56	4	2	–	–	–	▲	■	●	●	○○○	222
	E300	48.5	ø 35	75	64	95	075 - 300	67	8	2.25	–	–	–	▲	■	●	●	○○○	224
2-chamber	E045.2	9.4	ø 5.5	7 - 9	12.5	23 - 27	018 - 038	13	0.25	0.4	●	–	–	▲	■	●	●	○○○	208
	E065.2	11.3	ø 7	9	15	29.3	018 - 038	15	0.45	0.6	●	–	–	▲	■	●	●	○○○	212
	E200.2	24.3	ø 20	37 - 50	35	94.4 - 20.4	055 - 200	46	2	1.75	●	–	–	▲	■	●	●	○○○	218
	E26.2	37.1	ø 20	48	50	117	063 - 250	56	4	2	●	–	–	▲	■	●	●	○○○	222
	E300.2	48.5	ø 18	48	64	120	075 - 300	67	8	2.25	●	–	–	▲	■	●	●	○○○	224
3-chamber	E045.3	9.4	ø 5.5	9	12.5	37	018 - 038	13	0.25	0.4	●	–	–	▲	■	●	●	○○○	208
	E065.3	11.3	ø 7	9	15	39.3	018 - 038	15	0.45	0.6	●	–	–	▲	■	●	●	○○○	212
	E26.3	37.1	ø 20	47	50	167	063 - 250	56	4	2	●	–	–	▲	■	●	●	○○○	222
	E300.3	48.5	ø 18	47	64	170	075 - 300	67	8	2.25	●	–	–	▲	■	●	●	○○○	224
4-chamber	E065.4	11.3	ø 7	9	15	49.3	018 - 038	15	0.45	0.6	●	–	●	▲	■	●	●	○○○	212

e-chain® version Z | "easy" design - split crossbar along the inner radius



Chamber design	Series / product	Inner height *hi* [mm] + ≤ ø [mm]		Inner width from - to *Bi* [mm]	Outer height *ha* [mm]	Outer width from - to *Ba* [mm]	Bend radius from - to *R* [mm]	Pitch e-chain® link [mm]	Unsupported fill weight ≤ [kg/m]	Unsupported length FL_B ≤ [m]	Interior separation options: Injection-moulded separators	Interior separation options: Full-width shelves	Interior separation options: Shelves	ESD	Cleanroom	UL-V2 / V0	Quiet	Price index	Page
1-chamber	Z045	9.4	ø 5.5	16	12.5	23	018 - 038	13	0.25	0.4	–	–	–	▲	■	●	■	○○○	208
	Z06	10.5	ø 6.5	10 - 20	15	16.5 - 26.5	018 - 038	20	0.45	0.55	–	–	–	▲	■	●	■	○○○	210
	Z08	14.6	ø 10	10 - 50	19.3	18.2 - 58.2	028 - 048	20	0.70	1	–	–	–	▲	■	●	●	○○○	214
	Z14	19	ø 13	15 - 50	25	27 - 62	028 - 125	30.5	0.50	0.65	–	–	–	▲	■	●	●	○○○	216
	Z200	24.3	ø 20	57	35	74.4	055 - 200	46	2	1.75	–	–	–	▲	■	●	●	○○○	218
	Z16	32	ø 25	23 - 100	39	37.5 - 15.3	040 - 100	30.5	0.7	1	–	–	–	▲	■	●	●	○○○	220
	Z26	36.5	ø 20	75	50	92	063 - 250	56	4	2	–	–	–	▲	■	●	●	○○○	222
	Z300	48.5	ø 35	75	64	95	075 - 300	67	8	2.25	–	–	–	▲	■	●	●	○○○	224
2-chamber	Z045.2	9.4	ø 5.5	16	12.5	23	018 - 038	13	0.25	0.4	●	–	–	▲	■	●	●	○○○	208
	Z200.2	24.3	ø 20	37 - 50	35	94.4 - 20.4	055 - 200	46	2	1.75	●	–	–	▲	■	●	●	○○○	218
	Z26.2	37.1	ø 20	48	50	117	063 - 250	56	4	2	●	–	–	▲	■	●	●	○○○	222
	Z300.2	48.5	ø 18	48	64	120	075 - 300	67	8	2.25	●	–	–	▲	■	●	●	○○○	224
3-chamber	Z045.3	9.4	ø 5.5	9	12.5	37	018 - 038	13	0.25	0.4	●	–	–	▲	■	●	●	○○○	208
	Z065.3	11.3	ø 7	9	15	39.3	018 - 038	15	0.45	0.6	●	–	–	▲	■	●	●	○○○	212
	Z26.3	37.1	ø 28	47	50	167	063 - 250	56	4	2	●	–	–	▲	■	●	●	○○○	222
	Z300.3	48.5	ø 18	47	64	170	075 - 300	67	8	2.25	●	–	●	▲	■	●	●	○○○	224

Legend
- ● Standard
- ❍ Limited suitability
- ▲ Possible as an option
- ■ Especially suitable

zipper - zip fastening e-chains® and e-tubes

e-chains® | Crossbars on a strip - zip-open along the outer radius



Opening principle	Series / product	Inner height *hi* [mm] + ≤ ø [mm]		Inner width from - to *Bi* [mm]	Outer height *ha* [mm]	Outer width from - to *Ba* [mm]	Bend radius from - to *R* [mm]	Pitch e-chain® link [mm]	Unsupported fill weight ≤ [kg/m]	Unsupported length FL_B ≤ [m]	Long travel length ≤ [m]	Interior separation options: Separators	Interior separation options: Full-width shelves	Interior separation options: Shelves	ESD	Cleanroom	UL-V2 / V0	Quiet	Price index	Page
	047	9	ø 7	10 - 16	12.5	16 - 22	018 - 038	13	0.25	0.4	–	–	–	–	▲	●	▲	■	◔	232
	07	10.3	ø 8	6 - 64	15	12.5 - 71	018 - 048	20	0.4	0.55	–	–	–	–	▲2) ■	●	▲	■	◔	234
	09	15	ø 12.5	10 - 64	19.3	18.2 - 72.2	028 - 048	20	0.7	1	–	●	●	–	▲2) ■	●	▲	■	◔	238
	15	17	ø 15	15 - 100	24	26 - 113	038 - 180	30.5	1.5	1.2	–	●	●	–	▲	●	▲	■	◔	244
	17	32	ø 28	15 - 100	39	25.5 - 113	063 - 125	30.5	1	1	–	●	●	–	▲	●	▲	■	◔	252

e-tubes | Lids on a strip - zip-open along the outer radius



Opening principle	Series / product	Inner height *hi* [mm] + ≤ ø [mm]		Inner width from - to *Bi* [mm]	Outer height *ha* [mm]	Outer width from - to *Ba* [mm]	Bend radius from - to *R* [mm]	Pitch e-chain® link [mm]	Unsupported fill weight ≤ [kg/m]	Unsupported length FL_B ≤ [m]	Long travel length ≤ [m]	Interior separation options: Separators	Interior separation options: Full-width shelves	Interior separation options: Shelves	ESD	Cleanroom	UL-V2 / V0	Quiet	Price index	Page
	R07	10.3	ø 8	6 - 64	15	12.5 - 71	038 - 048	20	0.4	0.55	–	–	–	–	▲	●	▲	■	◔	236
	R09	15	ø 12.5	10 - 50	19.3	18.2 - 58.2	048 - 100	20	0.7	1	–	–	–	–	▲	●	▲	■	◔	242
	R15	17	ø 15	25 - 80	24	36 - 94	063 - 180	30.5	1.5	1.2	–	●	●	–	▲	●	▲	■	◔	248
	R17	32	ø 28	15 - 63	39	26 - 74	063 - 125	30.5	1.5	1.2	–	●	●	–	▲	●	▲	■	◔	256

2) ESD option, available from stock. Delivery time 24hrs or today! ▶ **igus.eu/ESD**

Legend
- ● Standard
- ❍ Limited suitability
- ▲ Possible as an option
- ■ Especially suitable

E2 micro - smallest inner heights and bend radii

e-chains® | Non-openable



Opening principle	Series / product	Inner height *hi* [mm] + ≤ ø [mm]		Inner width from - to *Bi* [mm]	Outer height *ha* [mm]	Outer width from - to *Ba* [mm]	Bend radius from - to *R* [mm]	Pitch e-chain® link [mm]	Unsupported fill weight ≤ [kg/m]	Unsupported length FL_B ≤ [m]	Long travel length ≤ [m]	Interior separation options: Separators	Interior separation options: Full-width shelves	Interior separation options: Shelves	ESD	Cleanroom	UL-V2 / V0	Quiet	Price index	Page
□	03	5	ø 3.5	5 - 10	8	8.7 - 13.7	010 - 028	10	0.24	0.4	–	–	–	–	❍	❍	●	■	●○○	266
□	04	7	ø 5	7 - 30	10	12 - 35	015 - 048	16.7	0.35	0.5	–	–	–	–	▲	❍	▲	●	●○○	268
□	05	10	ø 8	6 - 64	12	10 - 68	018 - 038	20	0.375	0.55	–	–	–	–	▲	❍	▲	●	●○○	270
□	045	10.3	ø 8	6 - 64	12.5	12 - 70	018 - 083	13	0.25	0.5	–	▲	–	–	▲	❍	▲	■	●○○	272
□	06[1]	10.5	ø 8	6 - 64	15	12.5 - 71	018 - 038	20	0.48	0.6	–	▲	–	–	▲	❍	▲	●	●○○	276
□	08[2]	14.9	ø 12	10 - 50	19.3	18.2 - 58.2	025 - 048	20	0.75	1	–	–	–	–	▲	❍	▲	●	●○○	286

e-chains® | Openable along the inner radius, from one side



Opening principle	Series / product	Inner height *hi* [mm] + ≤ ø [mm]		Inner width from - to *Bi* [mm]	Outer height *ha* [mm]	Outer width from - to *Ba* [mm]	Bend radius from - to *R* [mm]	Pitch e-chain® link [mm]	Unsupported fill weight ≤ [kg/m]	Unsupported length FL_B ≤ [m]	Long travel length ≤ [m]	Interior separation options: Separators	Interior separation options: Full-width shelves	Interior separation options: Shelves	ESD	Cleanroom	UL-V2 / V0	Quiet	Price index	Page
⌐	074**	11.5	ø 10.3	10 - 20	15	16.3 - 26.3	018 - 038	20	0.4	0.55	–	–	–	–	❍	●	●	●	●○○	278
⌐	094**	15.6	ø 14	10 - 30	19.3	18.2 - 38.2	028 - 048	20	0.7	1	–	–	–	–	❍	●	●	●	●○○	280

e-chains® | Openable along the outer radius, from one side



Opening principle	Series / product	Inner height *hi* [mm] + ≤ ø [mm]		Inner width from - to *Bi* [mm]	Outer height *ha* [mm]	Outer width from - to *Ba* [mm]	Bend radius from - to *R* [mm]	Pitch e-chain® link [mm]	Unsupported fill weight ≤ [kg/m]	Unsupported length FL_B ≤ [m]	Long travel length ≤ [m]	Interior separation options: Separators	Interior separation options: Full-width shelves	Interior separation options: Shelves	ESD	Cleanroom	UL-V2 / V0	Quiet	Price index	Page
⌐	B07[3]	10.3	ø 8	16 - 40	15	22.5 - 47	018 - 038	20	0.4	0.55	–	–	–	–	❍	●	▲	■	●○○	274
⌐	B09[4]	14.3	ø 12	16 - 40	19.3	24.2 - 48.2	028 - 048	20	0.7	1	–	●	●	–	❍	●	▲	■	●○○	282

E2 mini - small and medium sizes

e-chains® | Non-openable



Opening principle	Series / product	Inner height *hi* [mm] + ≤ ø [mm]		Inner width from - to *Bi* [mm]	Outer height *ha* [mm]	Outer width from - to *Ba* [mm]	Bend radius from - to *R* [mm]	Pitch e-chain® link [mm]	Unsupported fill weight ≤ [kg/m]	Unsupported length FL_B ≤ [m]	Long travel length ≤ [m]	Interior separation options: Separators	Interior separation options: Full-width shelves	Interior separation options: Shelves	ESD	Cleanroom	UL-V2 / V0	Quiet	Price index	Page
□	10	18	ø 16	15 - 100	23	26 - 113	028 - 180	30.5	1.5	1.2	–	●	–	–	▲	❍	▲	●	●○○	296
□	11.031	23	ø 21	31	28	41.2	045 - 070	30.5	1.5	1.35	–	–	–	–	▲	❍	▲	●	●○○	300
□	11.080	28	ø 25	80	33.4	93	038 - 065	30.5	1.5	1.5	–	–	–	–	▲	❍	▲	●	●○○	302
□	11.1/11.2	41	ø 22.5	15 - 25	46	25.5 - 35.5	040 - 100	30.5	1.5	1.35	–	–	–	–	▲	❍	▲	●	●○○	304

e-chains® | Openable along the inner radius, from one side



Opening principle	Series / product	Inner height *hi* [mm] + ≤ ø [mm]		Inner width from - to *Bi* [mm]	Outer height *ha* [mm]	Outer width from - to *Ba* [mm]	Bend radius from - to *R* [mm]	Pitch e-chain® link [mm]	Unsupported fill weight ≤ [kg/m]	Unsupported length FL_B ≤ [m]	Long travel length ≤ [m]	Interior separation options: Separators	Interior separation options: Full-width shelves	Interior separation options: Shelves	ESD	Cleanroom	UL-V2 / V0	Quiet	Price index	Page
⌐	14**	20	ø 16	15 - 50	25	26 - 61	028 - 125	30.5	0.5	0.65	–	–	–	–	▲	■	●	●	●◑○	306
⌐	B15i	17	ø 14	15 - 100	23	26 - 113	038 - 180	30.5	1.5	1.2	–	●	●	–	▲	●	▲	●	●◑○	308
⌐	B17i	32	ø 28	25 - 63	39	35.5 - 76	048 - 125***	30.5	1	1	–	●	●	–	▲	❍	▲	●	●◑○	312
⌐	F17**	32	ø 14	15	39	26	048	30.5	1.5	1.2	–	●	●	–	▲	❍	●	●	●◑○	316

e-chains® | Openable along the outer radius, from one side



Opening principle	Series / product	Inner height *hi* [mm] + ≤ ø [mm]		Inner width from - to *Bi* [mm]	Outer height *ha* [mm]	Outer width from - to *Ba* [mm]	Bend radius from - to *R* [mm]	Pitch e-chain® link [mm]	Unsupported fill weight ≤ [kg/m]	Unsupported length FL_B ≤ [m]	Long travel length ≤ [m]	Interior separation options: Separators	Interior separation options: Full-width shelves	Interior separation options: Shelves	ESD	Cleanroom	UL-V2 / V0	Quiet	Price index	Page
⌐	B15	17	ø 14	15 - 100	23	26 - 113	038 - 180	30.5	1.5	1.2	–	●	●	–	▲	●	▲	●	●◑○	308
⌐	B17	32	ø 28	15 - 100	39	25.5 - 113	048 - 125***	30.5	1	1	–	●	●	–	▲	❍	▲	●	●◑○	312

For new designs we recommend E2 micro new generation series:: 1) E2C.10, 2) E2C.15, 3) E2.10, 4) E2.15

** One-piece, openable along the inner radius with film hinge

*** Radii for several widths available upon request (please see product range table of the respective series).

Legend
- ● Standard
- ❍ Limited suitability
- ▲ Possible as an option
- ■ Especially suitable

Opening principle	Series / product	Inner height *hi* [mm] + ≤ ø [mm]		Inner width from - to *Bi* [mm]	Outer height *ha* [mm]	Outer width from - to *Ba* [mm]	Bend radius from - to *R* [mm]		Pitch e-chain® link [mm]	Unsupported fill weight ≤ [kg/m]	Unsupported length FL_B ≤ [m]	Long travel length ≤ [m]	Interior separation options: Separators	Interior separation options: Full-width shelves	Interior separation options: Shelves	ESD	Cleanroom	UL-V2 / V0	Quiet	Price index	Page
E2.1 micro - the new "small" E2 micro standard, stronger, easier to install																					
e-chains® | Openable along the inner radius, from both sides																					
	E2i.10	10.1	ø 8	6 - 50	15	13.4 - 57.4	018 - 038		20	0.7	0.75	–	▲	–	–	▲	❍	▲	●	●●●	326
	E2i.15	14.4	ø 12.5	10 - 50	19.3	17.8 - 57.8	028 - 048		20	1.25	1.3	–	–	–	–	▲	❍	▲	●	●●●	330
e-chain® | Openable along the outer radius, from both sides																					
	E2.10	10.1	ø 8	6 - 50	15	13.4 - 57.4	018 - 038		20	0.7	0.75	–	▲	–	–	▲	❍	▲	●	●●●	326
	E2.15	14.4	ø 12.5	10 - 50	19.3	17.8 - 57.8	028 - 048		20	1.25	1.3	–	–	–	–	▲	❍	▲	●	●●●	330
e-chains® | Non-openable																					
	E2C.10	10.6	ø 8	6 - 50	15	13.4 - 57.4	018 - 038		20	0.7	0.75	–	▲	–	–	▲	❍	▲2) ■	●	●●●	326
	E2C.15	14.9	ø 12.5	10 - 50	19.3	17.8 - 57.8	028 - 075		20	1.25	1.3	–	–	–	–	▲	❍	▲2) ■	●	●●●	330
E2.1 - new generation E2/000 e-chains®, stronger, easier to install																					
e-chains® | Openable along the inner radius, from both sides																					
	E2i.26**	26	ø 24	upon request	35	upon request	048 - 250		46	5	2.25	–	●	●	●	▲	●	▲	■	●●●	342
	E2i.38**	38	ø 34.2	upon request	50	upon request	063 - 250		56	8	2.75	–	●	●	●	▲	●	▲	■	●●●	348
	E2i.48**	48	ø 43.2	upon request	64	upon request	075 - 300		67	14	3	–	●	●	●	▲	●	▲	■	●●●	354
e-chain® | Openable along the outer radius, from both sides																					
	E2.26 New	26	ø 24	38 - 77	35	55 - 94	048 - 250		46	5	2.25	–	●	●	●	▲	●	▲	■	●●●	342
	E2.38 New	38	ø 34.2	50 - 100	50	67 - 117	063 - 250		56	8	2.75	–	●	●	●	▲	●	▲	■	●●●	348
	E2.48 New	48	ø 43.2	75 - 150	64	97 - 172	075 - 300		67	14	3	–	●	●	●	▲	●	▲	■	●●●	354

**Available upon request. Please consult igus® for delivery time.

2) ESD option, available from stock. Delivery time 24hrs or today! ▶ **igus.eu/ESD**

Legend
- ● Standard
- ❍ Limited suitability
- ▲ Possible as an option
- ■ Especially suitable

E2/000 - all-rounder for a wide range of applications

e-chains® | Crossbars openable along the inner radius, from both sides



Series / product	Inner height *hi* [mm] + ≤ ø [mm]		Inner width from - to *Bi* [mm]	Outer height *ha* [mm]	Outer width from - to *Ba* [mm]	Bend radius from - to *R* [mm]	Pitch e-chain® link [mm]	Unsupported fill weight ≤ [kg/m]	Unsupported length FL_B ≤ [m]	Long travel length ≤ [m]	Interior separation options: Separators	Full-width shelves	Shelves	ESD	Cleanroom	UL-V2 / V0	Quiet	Price index	Page
1400	21	ø 18	15 - 125	28	28.5 - 138.5	035 - 180	33.3	2	1.75	75[1]	●	●	–	▲	■	▲	●	●❍❍	368
2400	25	ø 23	25 - 125	35	41 - 141	055 - 250	46	5	2.25	100[1]	●	●	●	▲	■	▲	●	●❍❍	380
2600	35	ø 32	50 - 175	50	66 - 194	063 - 250	56	8	2.75	120[1]	●	●	●	▲	●	▲	●	●❍❍	392
3400	45	ø 42	50 - 250	64	70 - 270	075 - 300	67	13	3	150[1]	●	●	●	▲	●	▲	●	●❍❍	408

e-chains® | Crossbars openable along the outer radius, from both sides



Series / product	Inner height *hi* [mm] + ≤ ø [mm]		Inner width from - to *Bi* [mm]	Outer height *ha* [mm]	Outer width from - to *Ba* [mm]	Bend radius from - to *R* [mm]	Pitch e-chain® link [mm]	Unsupported fill weight ≤ [kg/m]	Unsupported length FL_B ≤ [m]	Long travel length ≤ [m]	Interior separation options: Separators	Full-width shelves	Shelves	ESD	Cleanroom	UL-V2 / V0	Quiet	Price index	Page
1500	21	ø 18	15 - 125	28	28.5 - 138.5	035 - 180	33.3	2	1.75	75	●	●	–	▲[2] ■	■	▲	●	●❍❍	368
2500	25	ø 23	25 - 125	35	41 - 141	055 - 250	46	5	2.25	100	●	●	●	▲[2] ■	■	▲	●	●❍❍	380
2700	35	ø 32	50 - 175	50	66 - 194	063 - 250	56	8	2.75	120	●	●	●	▲[2] ■	●	▲	●	●❍❍	392
3500	45	ø 42	50 - 250	64	70 - 270	075 - 300	67	13	3	150	●	●	●	▲	●	▲	●	●❍❍	408
255	24	ø 22	38 - 103	35	54 - 119	055 - 250	27.8	2	1.8	100	●	●	●	▲	●	▲	■	●❍❍	424

Half e-tubes | Crossbars openable along the inner radius, from both sides



Series / product	Inner height *hi* [mm] + ≤ ø [mm]		Inner width from - to *Bi* [mm]	Outer height *ha* [mm]	Outer width from - to *Ba* [mm]	Bend radius from - to *R* [mm]	Pitch e-chain® link [mm]	Unsupported fill weight ≤ [kg/m]	Unsupported length FL_B ≤ [m]	Long travel length ≤ [m]	Interior separation options: Separators	Full-width shelves	Shelves	ESD	Cleanroom	UL-V2 / V0	Quiet	Price index	Page
1450	21	ø 18	15 - 125	28	28.5 - 138.5	075 - 180	33.3	2	1.75	75[1]	●	●	–	●	■	▲	●	●❍❍	374
2450	25	ø 23	25 - 125	35	41 - 141	055 - 250	46	5	2.25	100[1]	●	●	▲	●	■	▲	●	●❍❍	386
2650	35	ø 32	50 - 175	50	66 - 194	100 - 250	56	8	2.75	120[1]	●	●	●	●	●	▲	●	●❍❍	400
3450	45	ø 42	50 - 250	64	70 - 270	125 - 300	67	13	3	150[1]	●	●	●	▲	●	▲	●	●❍❍	416

e-tubes | Lids openable along the inner radius, from both sides



Series / product	Inner height *hi* [mm] + ≤ ø [mm]		Inner width from - to *Bi* [mm]	Outer height *ha* [mm]	Outer width from - to *Ba* [mm]	Bend radius from - to *R* [mm]	Pitch e-chain® link [mm]	Unsupported fill weight ≤ [kg/m]	Unsupported length FL_B ≤ [m]	Long travel length ≤ [m]	Interior separation options: Separators	Full-width shelves	Shelves	ESD	Cleanroom	UL-V2 / V0	Quiet	Price index	Page
1480	21	ø 18	15 - 125	28	28.5 -138.5	075 - 180	33.3	2	1.75	75[1]	●	●	–	▲	■	▲	❍	●❍❍	374
2480	25	ø 23	25 - 125	35	41 - 141	075 - 250	46	5	2.25	100[1]	●	●	▲	▲	■	▲	❍	●❍❍	386
2680	35	ø 32	50 - 175	50	66 - 194	100 - 250	56	8	2.75	120[1]	●	●	●	▲	●	▲	❍	●❍❍	400
3480	45	ø 42	50 - 250	64	70 - 270	125 - 300	67	13	3	150[1]	●	●	●	▲	●	▲	❍	●❍❍	416

1) Conditionally suitable if the crossbars are openable along the inner radius 2) ESD-option, available from stock. Delivery time 24hrs or today! ▶ **igus.eu/ESD**

Legend
- ● Standard
- ❍ Limited suitability
- ▲ Possible as an option
- ■ Especially suitable

	Opening principle	Series / product	Inner height *hi* [mm] + ≤ ø [mm]		Inner width from - to *Bi* [mm]	Outer height *ha* [mm]	Outer width from - to *Ba* [mm]	Bend radius from - to *R* [mm]		Pitch e-chain® link [mm]	Unsupported fill weight ≤ [kg/m]	Unsupported length FL_B ≤ [m]	Long travel length ≤ [m]	Interior separation options: Separators	Full-width shelves	Shelves	ESD	Cleanroom	UL-V2 / V0	Quiet	Price index	Page
E2 R100 - cost-effective swarf protection																						
e-tubes R100 | Lids openable along the inner radius, from both sides																						
		R117	21	ø 17	20 - 100	28	32 - 112	063 - 180		30.5	1.5	1.2	–	●	–	–	–	❍	▲	❍	●○○	434
		R157	40	ø 37	40 - 200	50	56 - 216	100 - 250		46	8	2.25	–	●	●	●	▲	❍	▲	❍	●○○	440
		R167	50	ø 46	50 - 250	64	68 - 268	100 - 300		58.8	10	2.5	–	●	●	●	▲	❍	▲	❍	●○○	448
e-tubes R100 | Lids openable along the outer radius, from both sides																						
		R118	21	ø 17	25 - 80	28	37 - 92	063 - 180		30.5	1.5	1.2	–	●	–	–	–	❍	▲	❍	●○○	434
		R158	40	ø 37	40 - 200	50	56 - 216	100 - 250		46	8	2.25	–	●	●	●	▲	❍	▲	❍	●○○	440
		R168	50	ø 46	50 - 200	64	68 - 218	100 - 300		58.8	10	2.5	–	●	●	●	▲	❍	▲	❍	●○○	448
E2 R - swarf protection at higher speeds and smooth running																						
e-tubes R | Lids removable along the outer radius																						
		R48	25	ø 22	25 - 130	36	36 - 141	060 - 250		30.3	1	1.5	50	●	▲	–	▲	❍	▲	●	●◐○	460
		R58	35	ø 32	50 - 200	50	66 - 216	075 - 250		33.3	8	2.3	75	●	●	●	▲	❍	▲	●	●◐○	466
		R68	45	ø 42	50 - 250	64	68 - 268	100 - 300		36	10	2.5	100	●	●	●	▲	❍	▲	●	●◐○	472
R2.1 - cost-effective swarf protection																						
e-tubes R2.1 | Lids openable along the inner radius, from both sides																						
		R2i.26	26	ø 23	50 - 75	36	66 - 91	060 - 250		35	4	2	–	●	▲	●	▲	❍	▲	●	●◐○	486
		R2i.40	40	ø 36	50 - 75	54	66.2 - 91.2	080 - 250		48	8	2.75	–	●	▲	●	▲	❍	▲	●	●◐○	490
		R2i.48 New	48	ø 43	115	64	135	100 - 250		58	10	2.75	–	●	▲	●	▲	❍	▲	●	●◐○	494
e-tubes R2.1 | Lids openable along the outer radius, from both sides																						
		R2.26	26	ø 23	50	36	66	060 - 250		35	4	2	–	●	▲	●	▲	❍	▲	●	●◐○	486
		R2.40	40	ø 36	75	54	91.2	080 - 250		48	8	2.75	–	●	▲	●	▲	❍	▲	●	●◐○	490
		R2.48 New	48	ø 43	115	64	135	100 - 250		58	10	2.75	–	●	▲	●	▲	❍	▲	●	●◐○	494
		R2.75	75	ø 60	111 - 200	90	134 - 224	130 - 250		60	12	3	–	●	▲	●	▲	❍	▲	●	●◐○	498
RX - extremely swarf-resistant e-tubes																						
e-tubes RX | Lids removable along the outer radius																						
		RX32	42	ø 37	80	56	98.4	080 - 150		32	4	1.7	–	–	–	–	▲	❍	▲	●	●◐○	508
		RX40	52	ø 48	100	70	123	100 - 300		40	6	1.8	–	–	–	–	▲	❍	▲	●	●◐○	512
		RX48	62	ø 56	120	84	147.5	120 - 150		48	9	2.1	–	●	●	–	▲	❍	▲	●	●◐○	516
		RX56	73	ø 65	140	98	172.2	140		56	11	2.3	–	●	●	–	▲	❍	▲	●	●◐○	520

*Available upon request. Please consult igus® for delivery time.

Legend
- ● Standard
- ❍ Limited suitability
- ▲ Possible as an option
- ■ Especially suitable

E4.1L - low weight, easy assembly and cable-friendly design

e-chains® | Crossbars openable along the inner and outer radius, from both sides



Series / product	Inner height *hi* [mm] + ≤ ø [mm]		Inner width from - to *Bi* [mm]	Outer height *ha* [mm]	Outer width from - to *Ba* [mm]	Bend radius from - to *R* [mm]		Pitch e-chain® link [mm]	Unsupported fill weight ≤ [kg/m]	Unsupported length FL_B ≤ [m]	Long travel length ≤ [m]	Separators	Full-width shelves	Shelves	ESD	Cleanroom	UL-V2 / V0	Quiet	Price index	Page
E4.31L	31	ø 28	40 - 175	42	54 - 189	055 - 250		46	7	2	80	●	–	●	▲	▲	▲	▲■	●●❍	536
E4.38L	38	ø 34	50 - 300	54	66 - 316	063 - 300		56	13	2.75	80	●	–	●	▲	▲	▲	▲■	●●❍	542
E4.48L	48	ø 43	50 - 300	64	70 - 320	075 - 350		67	26	3.75	100	●	–	●	▲	▲	▲	▲■	●●❍	550
E4.64L	64	ø 57	87 - 200	84	113 - 201	100 - 400		91	40	4.1	120	●	–	●	▲	▲	▲	▲■	●●❍	560

e-tubes | Fully enclosed - lids openable along the inner and outer radius, from both sides



Series / product	Inner height *hi* [mm] + ≤ ø [mm]		Inner width from - to *Bi* [mm]	Outer height *ha* [mm]	Outer width from - to *Ba* [mm]	Bend radius from - to *R* [mm]		Pitch e-chain® link [mm]	Unsupported fill weight ≤ [kg/m]	Unsupported length FL_B ≤ [m]	Long travel length ≤ [m]	Separators	Full-width shelves	Shelves	ESD	Cleanroom	UL-V2 / V0	Quiet	Price index	Page
R4.31L	31	ø 28	50 - 100	42	64 - 114	075 - 250		46	7	2	80	●	–	●	▲	–	▲	▲■	●●❍	536
R4.38L	38	ø 34	50 - 250	54	66 - 266	125 - 300		56	13	2.75	80	●	–	●	▲	–	▲	▲■	●●❍	542
R4.48L	48	ø 43	50 - 250	64	70 - 270	125 - 350		67	26	3.75	100	●	–	●	▲	–	▲	▲■	●●❍	550

E4.1 - one e-chain® series for almost any application

e-chains® | Crossbars every link - crossbars removable along the inner and outer radius



Series / product	Inner height *hi* [mm] + ≤ ø [mm]		Inner width from - to *Bi* [mm]	Outer height *ha* [mm]	Outer width from - to *Ba* [mm]	Bend radius from - to *R* [mm]		Pitch e-chain® link [mm]	Unsupported fill weight ≤ [kg/m]	Unsupported length FL_B ≤ [m]	Long travel length ≤ [m]	Separators	Full-width shelves	Shelves	ESD	Cleanroom	UL-V2 / V0	Quiet	Price index	Page
E4.21	21	ø 18	30 - 140	28	44 - 154	038 - 200		30.5	4	2.5	120	●	●	–	▲[2] ■	▲■	▲	▲■	●●●	576
E4.28	28	ø 25	40 - 300	42	60 - 320	055 - 250		46	10	2.5	200	●	●	●	▲[2] ■	▲	▲	▲■	●●●	582
E4.32	32	ø 28	50 - 400	54	73 - 423	063 - 300		56	15	3.3	200	●	–	●	▲[2] ■	▲■	▲	▲■	●●●	590
E4.42	42	ø 38	50 - 400	64	76 - 426	075 - 350		67	37	4	300	●	–	●	▲[2] ■	▲	▲	▲■	●●●	600
E4.56	56	ø 50	50 - 600	84	84 - 634	135 - 500		91	62.5	5	400	●	–	●	▲[2] ■	▲	▲	▲■	●●●	612
E4.80	80	ø 72	50 - 600	108	100 - 650	150 - 1,000		111	80	6.2	400	●	–	●	▲[2] ■	▲	▲	▲■	●●●	624
E4.112	112	ø 100	50 - 600	140	102 - 652	200 - 1,000		143	85	6.5	450	●	–	●	▲■	▲	▲	▲■	●●●	636
E4.162	162	ø 145	200 - 600	195	256 - 656	250 - 1,000		200	90	6.8	450	●	–	●	▲	❍	▲	■	●●●	644
800	200	ø 184	200 - 600	236	260 - 660	325 - 1,000		250	90	8	450	●	–	●	▲	❍	▲	■	●●●	648
840	204	ø 184	100 - 563	236	160 - 623	325 - 1,000		250	90	8	450	●	–	–	▲	❍	▲	■	●●●	652
E4.350	350	ø 315	400 - 800	450	540 - 940	500 - 1,000		470	600	6.2	–	●	–	●	▲	–	▲	–	●●●	656

e-chains® | Crossbars every 2nd link - crossbars removable along the inner and outer radius



Series / product	Inner height *hi* [mm] + ≤ ø [mm]		Inner width from - to *Bi* [mm]	Outer height *ha* [mm]	Outer width from - to *Ba* [mm]	Bend radius from - to *R* [mm]		Pitch e-chain® link [mm]	Unsupported fill weight ≤ [kg/m]	Unsupported length FL_B ≤ [m]	Long travel length ≤ [m]	Separators	Full-width shelves	Shelves	ESD	Cleanroom	UL-V2 / V0	Quiet	Price index	Page
H4.32	32	ø 28	50 - 400	54	73 - 423	063 - 300		56	15	3.3	200	●	–	●	▲■	■	▲■	▲■	●●❍	590
H4.42	42	ø 38	50 - 400	64	76 - 426	075 - 350		67	37	4	300	●	–	●	▲■	▲	▲	▲■	●●❍	600
H4.56	56	ø 50	50 - 600	84	84 - 634	135 - 500		91	62.5	5	400	●	–	●	▲■	▲	▲	▲■	●●❍	612
H4.80	80	ø 72	50 - 600	108	100 - 650	150 - 1,000		111	80	6.2	400	●	–	●	▲■	▲	▲	▲■	●●❍	624

e-tubes | Fully enclosed - lids openable along the outer radius, from one side



Series / product	Inner height *hi* [mm] + ≤ ø [mm]		Inner width from - to *Bi* [mm]	Outer height *ha* [mm]	Outer width from - to *Ba* [mm]	Bend radius from - to *R* [mm]		Pitch e-chain® link [mm]	Unsupported fill weight ≤ [kg/m]	Unsupported length FL_B ≤ [m]	Long travel length ≤ [m]	Separators	Full-width shelves	Shelves	ESD	Cleanroom	UL-V2 / V0	Quiet	Price index	Page
R4.28	28	ø 25	50 - 300	42	70 - 320	075 - 250		46	10	2.5	200	●	●	●	▲■	▲	▲	▲■	●●◐	582
R4.32	32	ø 28	50 - 300	54	73 - 323	125 - 300		56	15	3.3	200	●	–	●	▲■	▲■	▲	▲■	●●◐	590
R4.42	42	ø 38	50 - 300	64	76 - 326	125 - 350		67	37	4	300	●	–	●	▲■	▲	▲	▲■	●●◐	600
R4.56	56	ø 50	75 - 462	84	109 - 497	150 - 500		91	62.5	5	400	●	–	●	▲■	▲	▲	▲■	●●◐	612
R4.80	80	ø 72	150 - 462	108	200 - 513	200 - 1,000		111	80	6.2	400	●	–	●	▲■	▲	▲	▲■	●●◐	624
R4.112	108	ø 100	200 - 500	140	252 - 552	250 - 1,000		143	85	6.5	450	●	–	●	▲■	▲	▲	▲■	●●❍	636

2) ESD option, available from stock. Delivery time 24hrs or today! ▶ **igus.eu/ESD**

Legend
- ● Standard
- ❍ Limited suitability
- ▲ Possible as an option
- ■ Especially suitable

E4/light - light, strong and cost-effective

e-chains® | Crossbars every link - crossbars removable along the inner and outer radius





Series / product	Inner height *hi* [mm] + ≤ ø [mm]		Inner width from - to *Bi* [mm]	Outer height *ha* [mm]	Outer width from - to *Ba* [mm]	Bend radius from - to *R* [mm]	Pitch e-chain® link [mm]	Unsupported fill weight ≤ [kg/m]	Unsupported length FL_B ≤ [m]	Long travel length ≤ [m]	Interior separation options: Separators	Full-width shelves	Shelves	ESD	Cleanroom	UL-V2 / V0	Quiet	Price index	Page
14040	**56**	ø 50	50 - 600	84	76 - 626	135 - 500	91	40	4	150	●	–	●	▲■	❍	▲	●	●◐○	**668**
14240	**62**	ø 56	50 - 400	84	76 - 426	135 - 500	91	40	4	150	●	–	●	▲[2]■	❍	▲	●	●○○	**678**
14550	**70**	ø 62	50 - 600	98	77 - 627	150 - 600	91	55	4.2	250	●	–	●	▲■	❍	▲	●	●◐○	**686**
15050	**80**	ø 72	50 - 600	108	80 - 630	150 - 600	91	55	4.6	250	●	–	●	▲[2]■	❍	▲	●	●◐○	**694**
15250	**86**	ø 75	50 - 400	108	80 - 430	150 - 600	91	55	4.6	250	●	–	●	▲■	❍	▲	●	●◐○	**704**
1640	**112**	ø 100	50 - 600	140	84 - 634	200 - 600	143	50	4.5	400	●	–	●	▲■	❍	▲	●	●●◐	**712**

e-chains® | Crossbars every 2nd link - crossbars removable along the inner and outer radius





Series / product	Inner height *hi* [mm] + ≤ ø [mm]		Inner width from - to *Bi* [mm]	Outer height *ha* [mm]	Outer width from - to *Ba* [mm]	Bend radius from - to *R* [mm]	Pitch e-chain® link [mm]	Unsupported fill weight ≤ [kg/m]	Unsupported length FL_B ≤ [m]	Long travel length ≤ [m]	Interior separation options: Separators	Full-width shelves	Shelves	ESD	Cleanroom	UL-V2 / V0	Quiet	Price index	Page
14140	**56**	ø 50	50 - 600	84	76 - 626	135 - 500	91	40	4	150	●	–	●	▲■	❍	▲	●	●○○	**668**
14340	**62**	ø 56	50 - 400	84	76 - 426	135 - 500	91	40	4	150	●	–	●	▲■	❍	▲	●	◐○○	**678**
14650	**70**	ø 62	50 - 600	98	77 - 627	150 - 600	91	55	4.2	250	●	–	●	▲■	❍	▲	●	●◐○	**686**
15150	**80**	ø 72	50 - 600	108	80 - 630	150 - 600	91	55	4.6	250	●	–	●	▲■	❍	▲	●	●○○	**694**
15350	**86**	ø 75	50 - 400	108	80 - 430	150 - 600	91	55	4.6	250	●	–	●	▲■	❍	▲	●	●◐○	**704**

e-tubes | Fully enclosed - lids openable along the outer radius, from one side





Series / product	Inner height *hi* [mm] + ≤ ø [mm]		Inner width from - to *Bi* [mm]	Outer height *ha* [mm]	Outer width from - to *Ba* [mm]	Bend radius from - to *R* [mm]	Pitch e-chain® link [mm]	Unsupported fill weight ≤ [kg/m]	Unsupported length FL_B ≤ [m]	Long travel length ≤ [m]	Interior separation options: Separators	Full-width shelves	Shelves	ESD	Cleanroom	UL-V2 / V0	Quiet	Price index	Page
R18840	**56**	ø 50	75 - 462	84	101 - 489	150 - 500	91	40	4	150	●	–	●	▲■	❍	▲	●	●●○	**668**
R19050	**70**	ø 62	75 - 462	98	102 - 489	200 - 600	91	55	4.2	250	●	–	●	▲■	❍	▲	●	●◐○	**686**
R19850	**80**	ø 72	75 - 462	108	105 - 493	200 - 600	91	55	4.6	250	●	–	●	▲■	❍	▲	●	●●○	**694**
R1608	**108**	ø 100	200 - 500	140	234 - 534	250 - 600	143	50	4.5	400	●	–	●	▲■	❍	▲	●	●●◐	**712**

2) ESD option, available from stock. Delivery time 24hrs or today! ▶ **igus.eu/ESD**

Smooth running, cleanroom suitable, dynamic

Continued

Legend
- ● Standard
- ❍ Limited suitability
- ▲ Possible as an option
- ■ Especially suitable

T3 - smooth running "T-band", quiet, cost-effective

e-chains® | Crossbars removable along the inner and outer radius



Series / product	Inner height *hi* [mm] + ≤ ø [mm]		Inner width from - to *Bi* [mm]	Outer height *ha* [mm]	Outer width from - to *Ba* [mm]	Bend radius from - to *R* [mm]	Pitch e-chain® link [mm]	Unsupported fill weight ≤ [kg/m]	Unsupported length FL_B ≤ [m]	Long travel length ≤ [m]	Separators	Full-width shelves	Shelves	ESD	Cleanroom	UL-V2 / V0	Quiet	Price index	Page
T3.29	29	ø 25	30 - 140	35	55 - 165	038	15	1	1.45	–	●	●	●	▲	■■	▲	■■	●●●	728

E3 - high dynamics and cleanroom compatible

e-chains® | Crossbars on a strip - zip-open along the outer radius



Series / product	Inner height *hi* [mm] + ≤ ø [mm]		Inner width from - to *Bi* [mm]	Outer height *ha* [mm]	Outer width from - to *Ba* [mm]	Bend radius from - to *R* [mm]	Pitch e-chain® link [mm]	Unsupported fill weight ≤ [kg/m]	Unsupported length FL_B ≤ [m]	Long travel length ≤ [m]	Separators	Full-width shelves	Shelves	ESD	Cleanroom	UL-V2 / V0	Quiet	Price index	Page
E3.10	10	ø 8	20 - 60	15	32 - 72	015 - 48	16.7	0.3	0.7	–	●	–	–	–	■■	▲	■■	●●●	738
E3.15	15	ø 13	20 - 60	20	32 - 72	032 - 75	16.7	0.7	0.9	–	●	▲	–	–	■■	▲	■■	●●●	742
E3.22	22	ø 20	20 - 60	27	32 - 72	044 - 75	16.7	0.85	1.2	–	●	▲	–	–	■■	▲	■■	●●●	746

E6.1 - low noise 32dB(A), dynamic, light and cleanroom suitable

e-chains® | Crossbars openable along the inner and outer radius, from both sides



Series / product	Inner height *hi* [mm] + ≤ ø [mm]		Inner width from - to *Bi* [mm]	Outer height *ha* [mm]	Outer width from - to *Ba* [mm]	Bend radius from - to *R* [mm]	Pitch e-chain® link [mm]	Unsupported fill weight ≤ [kg/m]	Unsupported length FL_B ≤ [m]	Long travel length ≤ [m]	Separators	Full-width shelves	Shelves	ESD	Cleanroom	UL-V2 / V0	Quiet	Price index	Page
E61.29	29	ø 25	30 - 140	35	44 - 154	055 - 150	22	3	1.75	–	●	●	●	▲	■■	▲	■■	●●●	758

e-chains® | Crossbars removable along the inner and outer radius



Series / product	Inner height *hi* [mm] + ≤ ø [mm]		Inner width from - to *Bi* [mm]	Outer height *ha* [mm]	Outer width from - to *Ba* [mm]	Bend radius from - to *R* [mm]	Pitch e-chain® link [mm]	Unsupported fill weight ≤ [kg/m]	Unsupported length FL_B ≤ [m]	Long travel length ≤ [m]	Separators	Full-width shelves	Shelves	ESD	Cleanroom	UL-V2 / V0	Quiet	Price index	Page
EF61.29	29	ø 25	30 - 140	35	44- 154	055 - 150	22	3	1.75	–	●	●	●	▲	■■	▲	■■	●●●	758
E61.35	35	ø 31	30 - 140	42	46 - 156	055 - 150	25	6	1.9	–	●	●	●	▲	■■	▲	■■	●●●	764
E61.40	40	ø 36	40 - 300	54	56 - 316	063 - 200	27.8	10	2.75	60[1)]	●	●	●	▲	■■	▲	■■	●●●	768
E61.52	52	ø 46	40 - 300	65	64 - 324	075 - 150	30	15	3	80[1)]	●	●	●	▲	■■	▲	■■	●●●	774
E61.62	62	ø 54	50 - 400	84	82 - 432	115	50	43	4	100[1)]	●	●	●	▲	■■	▲	■■	●●●	778
E61.80	80	ø 72	50 - 600	108	78 - 628	150	65	55	5.25	120[1)]	●	–	●	▲	■■	▲	■■	●●●	782

1) In preparation / upon request

Legend
- ● Standard
- ❍ Limited suitability
- ▲ Possible as an option
- ■ Especially suitable

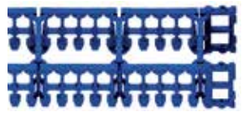
Opening principle	Series / product	Inner height *hi* [mm] + ≤ ø [mm]	Inner width from - to *Bi* [mm]	Outer height *ha* [mm]	Outer width from - to *Ba* [mm]	Bend radius from - to *R* [mm]	Pitch e-chain® link [mm]	Unsupported fill weight ≤ [kg/m]	Unsupported length FL_B ≤ [m]	Long travel length ≤ [m]	Interior separation options: Separators	Interior separation options: Full-width shelves	Interior separation options: Shelves	ESD	Cleanroom	UL-V2 / V0	Quiet	Price index	Page
E6 - extremely low noise 37dB(A), low vibration and abrasion, cleanroom suitable																			
e-chains® | Crossbars every 2nd link - crossbars removable along the inner and outer radius																			
	E6.29	29 ø 25	30 - 140	35	46 - 156	055 - 150	22	3	1.75	–	●	●	●	▲	■■	▲	■■	●●●	796
	E6.35	35 ø 31	30 - 140	42	50 - 160	055 - 150	25	6	1.9	–	●	●	●	▲	■■	▲	■■	●●●	802
	E6.40	40 ø 36	40 - 300	54	60 - 320	063 - 200	27.8	10	2.75	60[1]	●	●	●	▲	■■	▲	■■	●●●	806
	E6.52	52 ø 46	40 - 300	65	64 - 324	075 - 250	30	15	3	80[1]	●	●	●	▲	■■	▲	■■	●●●	812
	E6.62	62 ø 54	50 - 400	84	86 - 436	115 - 350	50	43	4	100[1]	●	●	●	▲	■■	▲	■■	●●●	818
	E6.80L	80 ø 72	87 - 550	108	115 - 578	150 - 300	65	25	2.5	–	●	–	●	▲	■■	▲	■■	●●●	822
	E6.80	80 ø 72	50 - 600	108	100 - 650	150 - 450	65	55	5.25	120[1]	●	–	●	▲	■■	▲	■■	●●●	828
e-tubes | Fully enclosed - lids removable along the inner and outer radius																			
	R6.29	28 ø 25	30 - 120	35	46 - 136	055 - 150	22	3	1.75	–	●	–	–	▲	■■	▲	■■	●●●	796
	R6.40	40 ø 36	50 - 125	54	70 - 145	063 - 200	27.8	10	2.75	60[1]	●	–	–	▲	■■	▲	■■	●●●	806
	R6.52	52 ø 46	50 - 175	66	74 - 199	075 - 250	30	15	3	80[1]	●	–	–	▲	■■	▲	■■	●●●	812
e-skin® - novel corrugated hose energy supply system for cleanrooms																			
Oval design | Can be opened and closed like a zipper																			
	SK28	28 ø 25	68	40	95	–	–	1	0.75	–	●	●	–	–	■■	–	■■	●●●	842
	SK40 New	38 ø 30	85	57	118	–	–	1.5	1.25	–	●	●	–	–	■■	–	■■	●●●	846

1) In preparation / upon request

Legend
- ● Standard
- ❍ Limited suitability
- ▲ Possible as an option
- ■ Especially suitable

TH3 - e-chain® designed according to hygienic principles

Open design - easy to clean



FDA

Opening principle	Chamber design	Series / product	Inner height *hi* [mm] + ≤ ø [mm]		Inner width from - to *Bi* [mm]	Outer height *ha* [mm]	Outer width from - to *Ba* [mm]		Bend radius from - to *R* [mm]	Pitch mm/side link	Unsupported fill weight ≤ [kg/m]	Unsupported length FL_B ≤ [m]	Interior separation options: Chamber design	Interior separation options: Full-width shelves	Interior separation options: Shelves	ESD	Cleanroom	UL-V2 / V0	Quiet	Price index	Page
	2-segment	TH3.25.2/26 New	25.5	ø 23.4/18.4	70	35	86		070	56	1.8	1.2	●	–	–	▲	■	●	■	●●○	856
		TH3.45.2/20 New	2 x 20	ø 18	70	57	90		090	96.5	2.0	1.4	●	–	–	▲	■	●	●	●●○	860
	3-segment	TH3.25.3/26 New	25.5	ø 23.4/18.4	95	35	111		070	56	1.8	1.2	●	–	–	▲	■	●	■	●●○	856
		TH3.45.3/20 New	2 x 20	ø 18	95	57	115		090	96.5	2.0	1.4	●	–	–	▲	■	●	●	●●○	860
	4-segment	TH3.25.4/26* New	25.5	ø 23.4/18.4	120	35	136		070	56	1.8	1.2	●	–	–	▲	■	●	■	●●○	856
		TH3.45.4/20* New	2 x 20	ø 18	120	57	140		090	96.5	2.0	1.4	●	–	–	▲	■	●	●	●●○	860
	5-segment	TH3.25.5/26* New	25.5	ø 23.4/18.4	145	35	161		070	56	1.8	1.2	●	–	–	▲	■	●	■	●●○	856
		TH3.45.5/20 New	2 x 20	ø 18	145	57	165		090	96.5	2.0	1.4	●	–	–	▲	■	●	●	●●○	860

*Available upon request. Please consult igus® for delivery time.

Legend
- ● Standard
- ❍ Limited suitability
- ▲ Possible as an option
- ■ Especially suitable

Opening principle	Series / product	Inner height *hi* [mm] + ≤ ø [mm]	Inner width from - to *Bi* [mm]	Outer height *ha* [mm]	Outer width from - to *Ba* [mm]	Bend radius from - to *R* [mm]	Pitch e-chain® link [mm]	Unsupported fill weight ≤ [kg/m]	Unsupported length FL_B ≤ [m]	Long travel length ≤ [m]	Interior separation options: Separators	Interior separation options: Full-width shelves	Interior separation options: Shelves	ESD	Cleanroom	UL-V2 / V0	Quiet	Price index	Page
triflex® R - for multi-axis movement and robots																			
TRC e-tubes | Fully enclosed, non-openable - swarf protection																			
	TRC.30	12/10 ø 10	12/10	ø 34.5	ø 34.5	050	11.3	–	–	–	●	–	–	1)	❍	●	●	●●●	874
	TRC.40	15/13 ø 13	15/13	ø 43	ø 43	058	13.9	–	–	–	●	–	–	▲2)	❍	●	●	●●●	874
	TRC.50	16.5/14 ø 14	18.8/16.2	ø 54	ø 54	080	17.4	–	–	–	●	–	–	▲2)	❍	●	●	●●●	874
	TRC.60	22.5/19.5 ø 20.5	22.5/19.5	ø 65	ø 65	087	20.4	–	–	–	●	–	–	▲2)	❍	●	●	●●●	874
	TRC.70	28/24 ø 26	28/24	ø 81	ø 81	110	25.6	–	–	–	●	–	–	▲2)	❍	●	●	●●●	874
	TRC.85	33/28 ø 31	33/28	ø 94.5	ø 94.5	135	30.6	–	–	–	●	–	–	▲	❍	●	●	●●●	874
	TRC.100	37.5/32.5 ø 35.5	37.5/32.5	ø 108	ø 108	145	34.5	–	–	–	●	–	–	▲	❍	●	●	●●●	874
	TRC.125	43.3/43.3 ø 41	43.3/43.3	ø 135	ø 135	182	44.6	–	–	–	●	–	–	❍	❍	●	●	●●●	874
TRE e-chains® | "easy" design, very easy to fill - simply press cables in																			
	TRE.30	12/10 ø 10	12/10	ø 34.5	ø 34.5	050	11.3	–	–	–	●	–	–	–	❍	●	●	●●●	876
	TRE.40	15/13 ø 13	15/13	ø 43	ø 43	058	13.9	–	–	–	●	–	–	–	❍	●	●	●●●	876
	TRE.50	16.5/14 ø 14	15/13	ø 54	ø 54	080	17.4	–	–	–	●	–	–	–	❍	●	●	●●●	876
	TRE.60	22.5/19.5 ø 20.5	22.5/19.5	ø 65	ø 65	087	20.4	–	–	–	●	–	–	–	❍	●	●	●●●	876
	TRE.70	28/24 ø 26	28/24	ø 81	ø 81	110	25.6	–	–	–	●	–	–	–	❍	●	●	●●●	876
	TRE.85	33/28 ø 31	33/28	ø 94.5	ø 94.5	135	30.6	–	–	–	●	–	–	–	❍	●	●	●●●	876
	TRE.100	37.5/32.5 ø 35.5	37.5/32.5	ø 108	ø 108	145	34.5	–	–	–	●	–	–	–	❍	●	●	●●●	876
	TRE.125	43.3/43.3 ø 41	43.3/43.3	ø 135	ø 135	182	44.6	–	–	–	●	–	–	–	❍	●	●	●●●	876
TRCF e-tubes | Fully enclosed design, with snap lock mechanism - swarf protection																			
	TRCF.65	22.3 ø 20	30	ø 94.5	ø 94.5	100	31	–	–	–	●	–	–	1)	❍	●	●	●●●	878
	TRCF.85	32.8 ø 30	30	ø 94.5	ø 94.5	135	31	–	–	–	●	–	–	1)	❍	●	●	●●●	878
	TRCF.85*	37.5 ø 35.5	30	ø 94.5	ø 94.5	240	31	–	–	–	●	–	–	1)	❍	●	●	●●●	878
	TRCF.100	34.3 ø 32	34.3	ø 108	ø 108	145	34.5	–	–	–	●	–	–	1)	❍	●	●	●●●	878
TRL e-chains® | Light version with "easy" design, cost-effective - simply press cables in																			
	TRL.30	12/10 ø 10	12/10	ø 34.5	ø 34.5	050	11.3	–	–	–	●	–	–	1)	❍	●	●	●●●	880
	TRL.40	15/13 ø 13	15/13	ø 45	ø 45	058	13.9	–	–	–	●	–	–	1)	❍	●	●	●●●	880
	TRL.60	22.5/19.5 ø 20.5	22.5/19.5	ø 65	ø 65	087	20.4	–	–	–	●	–	–	1)	❍	●	●	●●●	880
	TRL.70	28/24 ø 26	28/24	ø 81	ø 81	110	25.6	–	–	–	●	–	–	1)	❍	●	●	●●●	880
	TRL.100	37.5/32.5 ø 35.5	37.5/32.5	ø 108	ø 108	145	34.5	–	–	–	●	–	–	1)	❍	●	●	●●●	880
TRLF e-chains® | Light version with snap-lock mechanism - easy to fill																			
	TRLF.65	24.4 ø 22	24.4	ø 70.2	ø 70.2	100	23.1	–	–	–	●	–	–	–	❍	●	●	●●●	882
	TRLF.85	32.8 ø 30	32.8	ø 94.5	ø 94.5	135	31	–	–	–	●	–	–	–	❍	●	●	●●●	882
	TRLF.100	37.5 ø 35.5	37.5	ø 108	ø 108	145	34.5	–	–	–	●	–	–	–	❍	●	●	●●●	882
	TRLF.125	46.8 ø 44.5	46.8	ø 135	ø 135	182	44.1	–	–	–	●	–	–	–	❍	●	●	●●●	882

*Special size TRCF.85.240.0 with 240 degree bend radius and a range of accessories

Legend
- ● Standard
- ❍ Limited suitability
- ▲ Possible as an option
- ■ Especially suitable

Opening principle	Series / product	Inner height *hi* [mm] + ≤ ø [mm]	Inner width from - to *Bi* [mm]	Outer height *ha* [mm]	Outer width from - to *Ba* [mm]	Bend radius from - to *R* [mm]		Pitch e-chain® link [mm]	Unsupported fill weight ≤ [kg/m]	Unsupported length FL_B ≤ [m]	Long travel length ≤ [m]	Interior separation options: Separators	Interior separation options: Full-width shelves	Interior separation options: Shelves	ESD	Cleanroom	UL-V2 / V0	Quiet	Price index	Page

easy triflex® - for simple multi-axis applications, easy filling from both sides

e-chains® | "easy" design, very easy to fill - simply press cables in



E332.25	25	ø 09	25	34	34	048 - 200		14.5	–	–	–	●	–	–	▲	❍	●	●	●◐○	946/947
E332.32	32	ø 12	32	50	50	075 - 250		25	–	–	–	●	–	–	▲	❍	●	●	●◐○	946/947
E332.50	50	ø 21	50	68	68	100 - 250		30	–	–	–	●	–	–	▲	❍	●	●	●◐○	946/947
E332.75	75	ø 33	75	96	96	140 - 300		36	–	–	–	●	–	–	▲	❍	●	●	●◐○	946/947
E333.25	25	ø 09	25	34	34	048 - 200		14.5	–	–	–	●	–	–	▲	❍	●	●	●◐○	948
E333.32	32	ø 12	32	50	50	075 - 250		25	–	–	–	●	–	–	▲	❍	●	●	●◐○	948
E333.50	50	ø 21	50	68	68	100 - 250		30	–	–	–	●	–	–	▲	❍	●	●	●◐○	948
E333.75	75	ø 33	75	96	96	140 - 300		36	–	–	–	●	–	–	▲	❍	●	●	●◐○	948

triflex® - enclosed for simple multi-axis applications

e-tubes | Fully enclosed, non-openable - swarf protection



332.16	16	ø 14	16	26	26	038 - 100		13.3	–	–	–	–	–	–	▲	❍	▲	❍	●◐○	958/960
332.32	32	ø 28	32	50	50	075 - 250		25	–	–	–	●	–	–	▲	❍	▲	❍	●◐○	958/960
332.50	50	ø 45	50	68	68	100 - 250		30	–	–	–	●	–	–	▲	❍	▲	❍	●◐○	958/960
332.75	75	ø 67	75	96	96	140 - 300		36	–	–	–	●	–	–	▲	❍	▲	❍	●◐○	958/960
333.16	16	ø 14	16	26	26	038 - 100		13.3	–	–	–	–	–	–	▲	❍	▲	❍	●◐○	961
333.32	32	ø 28	32	50	50	075 - 250		25	–	–	–	●	–	–	▲	❍	▲	❍	●◐○	961
333.50	50	ø 45	50	68	68	100 - 250		30	–	–	–	●	–	–	▲	❍	▲	❍	●◐○	961
333.75	75	ø 67	75	96	96	140 - 300		36	–	–	–	●	–	–	▲	❍	▲	❍	●◐○	961

e-tubes | Fully enclosed, openable - swarf protection



352.50	50	ø 45	50	68	68	100 - 250		30	–	–	–	●	–	–	▲	❍	▲	❍	●◐○	958/960
353.50	50	ø 45	50	68	68	100 - 250		30	–	–	–	●	–	–	▲	❍	▲	❍	●◐○	961

Legend
- ● Standard
- ❍ Limited suitability
- ▲ Possible as an option
- ■ Especially suitable

twisterchain - circular and spiral movements up to 360°, from stock (up to 540° upon request)

e-chains® | Crossbars removable along the inner and outer radius



Series / product	Inner height *hi* [mm] + ≤ ø [mm]		Inner width from - to *Bi* [mm]	Outer height *ha* [mm]	Outer width from - to *Ba* [mm]	Bend radius from - to *R* [mm]	Pitch e-chain® link [mm]	Fill weight up to 360° ≤ [kg/m] 180°	360°	Unsupported length FL_B ≤ [m]	Long travel length ≤ [m]	Separators	Full-width shelves	Shelves	ESD	Cleanroom	UL-V2 / V0	Quiet	Price index	Page
2208*	28	ø 25	52.5 - 112.5	42	80 - 140	055 - 150	44	1	1.5	–	–	●	●	●	▲	❍	▲	●	●●◐	972
TC32	32	ø 28	87.5 - 150	54	108.5 - 171	100 - 250	56	4	2	–	–	●	●	●	▲	❍	▲	●	●●◐	974
TC42	42	ø 38	87.5 - 200	64	110.5 - 223	100 - 250	67	6	3.6	–	–	●	●	●	▲	❍	▲	●	●●◐	976
TC56	56	ø 50	125 - 200	84	155 - 230	150 - 400	91	8	5	–	–	●	●	●	▲	❍	▲	●	●●◐	978

twisterband - up to 7000°* rotary movements in the smallest spaces

e-chains® | Openable with film hinge or "easy" design



							R min.	R max.												
TB12.23.9	9	ø 7	23	–	–	024	035		–	–	–	–	–	–	–	❍	❍	●	●	●●◐	994
TB20.44.12	12	ø 9	44	–	–	034	057		–	–	–	–	–	–	–	❍	❍	●	●	●●◐	994
TB20.44.18	18	ø 14	44	–	–	034	057		–	–	–	–	●	–	–	❍	❍	●	●	●●◐	994
TB29.27.22	22	ø 17	27	–	–	069	082		–	–	–	–	●	–	–	❍	❍	●	●	●●◐	994
TB30.75.22	22	ø 17	75	–	–	044	077		–	–	–	–	●	–	–	❍	❍	●	●	●●◐	994

e-chains® | links with strong pin and hook connection - openable with film hinge



TBHD30.75.22	22	ø 17	75	–	–	044	077		–	–	–	–	●	–	–	❍	❍	●	●	●●◐	998
TBHD42.135.30 New	30	ø 20	135	–	–	056	119		–	–	–	–	●	–	–	❍	❍	●	●	●●◐	998

*twisterchain classic (1st generation) **Depending on installation orientation, vertical: up to 3,000°, horizontal: 7,000° and more possible

Product description and benefits	Suitable industries and applications	Travel length ≤ [m]	Speed ≤ [m/s]	Price index	Page
e-spool - the cable reel without a slip ring					
e-spool standard and HD | Flexible use					
 ● Flexible energy supply - guidance of different media in one system ● Flexible use - energy supply in any direction is possible ● Cost-effective - twisterband enables rotary movement ● Space-saving - e-chain® retracts into a compact unit ● No tensile load on the cables ● Cables can be retrospectively added or changed	● Telescopic/retractable applications ● Theatre, stage and lighting technology ● Space-saving alternative to zig-zag solutions	≤ 14	≈ 1.5	●●○	**1012**
e-spool compact | Space-saving, spring-driven					
 ● Compact, space-saving cable reel without slip ring ● Different media (power, air data and fluids) can be routed together in one system ● Energy supply in all directions ● Space-saving ● Very lightweight design (SP1.240 series made from aluminium) ● Extension lengths up to 2 and 4m ● Cables can be retrospectively added or changed	● Small circular movements ● Retractable applications - linear or rotary	≤ 4	≈ 1.5	●○○	**1016**
e-spool for manual operation | Reliable and space-saving					
 ● For applications where only one cable or hose is pulled out manually ● Compact, space-saving cable reel without slip ring ● Integrated ratchet to lock/release the retraction ● Also suitable for media or air hoses ● Handle with mounting option and strain relief	● Robot teach pendants ● Workstations ● Assembly lines	≤ 5	≈ 1.5	●○○	**1020**
e-spool power | Motor-driven for long extension lengths					
 ● Travel distances up to 35m ● Solid tubular steel construction ● Flexible filling with electrical and fibre optic cables, and pneumatic hoses ● Future-proof, additions and upgrades possible ● No tensile load on the cables	● Theatre, stage and lighting technology ● Indoor cranes ● Cranes	≤ 35	≈ 1.5	●●●	**1024**

igus® project
Product upon request

Product description and benefits	Suitable industries and applications	Travel length ≤m	Speed ≤ [m/s]	Price index	Page
liftband - cable guidance up to 13m height with limited installation space					
Vertical guidance					
 ● For high vertical applications that need a compact solution ● Modular, silent, space-saving; vertical guidance for energy, data and media ● Max. extension length 13m ● Available in 2 sizes ● Alternative to zig-zag solutions, but lighter and requires less installation space ● Vertical applications implemented with ease	● Theatre and stage technology ● Indoor cranes ● Mobile telescopic antennas	13	1	●○○	**1026**
guidelok slimline P / P.S - safe vertical guidance					
Vertical guidance					
 ● Up to 7m/s and 10m/s² ● Up to 80% less trough required, saving costs and weight ● For hanging systems up to 50m ● No swinging of the e-chain®, high reliability due to the lock mechanism and guiding rails ● Faster and easier installation ● Reduced noise ● Easy access for servicing ● Low weight due to plastic construction ● Energy and data and all kinds of media can be safely guided	● Storage and retrieval units for high-bay warehouses ● Lifts ● Elevators ● Construction and crane lifts ● Hoists ● Automatic miniload warehouses	50	4	●○○	**1032**

Product description and benefits	Suitable industries and applications	Travel length ≤m	Speed ≤ [m/s]	Price index	Page
guidelok horizontal - upper run guide, unsupported in swarf areas					
Upper run guide					
					
● Unsupported travels up to 50m are possible ● Swarf cannot get stuck between upper and lower run ● Modular system with few parts (also possible without lateral trough) ● Enormous increase of unsupported lengths for e-chains® ● Lower push/pull forces (smaller e-chains®, unsupported and rollers = energy-efficient) ● Lower cost than most steel chains or gliding systems ● Open guide trough design, swarf can fall through	● Machine tools ● Heavy swarf environments ● Wherever a gliding application is not recommended	50	1	●●○	**1038**
basic flizz® - cost-effective, enclosed solution for long travels					
Enclosed trough					
					
● Low-maintenance system for travels up to 100m ● Protection against weather and dirt exposure ● Cost-effective and fully enclosed complete system ● Standardised and modular design ● Easy installation using a bracket with different mounting options ● Cable lengths up to 50% shorter than festoons, low-profile installation ● Cables are guided with a defined bend radius so tensile forces are absorbed by the e-chain® ● Cables cannot tangle or get damaged, no slip ring contact, cables or hoses can be easily retrofitted ● Reduce power costs - directly driven by the scraper, no additional drives needed ● Optionally available moving end arm (e.g. as mechanical connection for scraper trolley) ● Available in 2 sizes, each also available in HD version for even higher push/pull forces	● Wastewater and sewage treatment plants ● Longitudinal scrapers ● Sand traps ● Grease traps ● Wastewater treatment plants ● Electroplating facilities ● Cranes ● Plant construction ● River locks	100	10	●○○	**1044**
micro flizz® - unsupported, small e-chains® in aluminium profiles					
e-chains® in aluminium profiles					
					
● e-chain® is guided in special slots, no gliding ● Control option via stationary switch cabinet ● Accelerations up to 50m/s², speeds up to 6m/s and data rates up to 10Gbit/s ● Fast assembly due to pre-configured, modular system ● Less space required ● Also available as pre-assembled system ● Smooth running due to ball bearings in the guide carriages ● Also available with an ESD chain material version (upon request) ● 3 sizes available	● Storage and retrieval units for high-bay warehouses ● Indoor cranes ● Industrial gates ● Workplace equipment ● Wastewater and sewage treatment plants ● Camera systems ● Sliding doors ● Operator panels ● Measuring systems ● Studio equipment ● Material handling	75	6	●◐○	**1052**

Product description and benefits	Suitable industries and applications	Travel length ≤m	Speed ≤ [m/s]	Price index	Page

isense - smart plastics for predictive maintenance

Predictive maintenance



- Make maintenance and repair of your machines more efficient and cost-effective with smart plastics
- Eliminate unplanned downtime
- Increase service life
- Increase equipment efficiency
- Save time - faster detection of faults
- Reduce energy consumption
- Intelligent products predict the maintenance date in good time and can be integrated into your processes and systems

Suitable industries and applications	Travel length ≤m	Speed ≤ [m/s]	Price index	Page
● Wherever predictive maintenance is required	Project-related	Project-related	upon request	1064
● Harbour installations				
● Cranes				
● Car plants				
● Gantries				

Push/Pull Detection System PPDS

Condition monitoring



- 3 PPDS system options are available
- Easy installation by means of non-interchangeable connectors
- Easy programming using the keypad directly at the device
- Compact housing, corrosion-resistant and with EMC protection
- The force limit is programmed in tensile and compression directions
- The plant shuts down when the force is exceeded
- Custom programmable and event logging in the data memory

Suitable industries and applications	Travel length ≤m	Speed ≤ [m/s]	Price index	Page
● When push/pull force monitoring is needed	≈ 800	≈ 10	upon request	1080
● Downtime sensitive plants, such as conveyor systems in power plants				
● Waste incineration systems				
● Chemical plants				
● Cranes				
● With long travel distances that have high fail-safe requirements				

Modular projects - special solutions from stock

Engineering service



- Faster quotations, faster project planning
- Detailed service manuals and documentation
- Time and cost savings
- Absolute functional reliability
- System guarantee available upon request and depending on the application
- PPDS moving end - electronic Push/Pull Detection System
- Fixed end modules for easy attachment of the e-chain® inside the guide trough, with no drilling required
- Extreme gliding - gliding elements for even longer service life of e-chains® where long travels are involved
- HD trough systems with different installation set designs, matching the respective application and duty levels

Suitable industries and applications	Travel length ≤m	Speed ≤ [m/s]	Price index	Page
● Engineering service	Project-related	Project-related	upon request	1084
● Lifts				
● Elevators				
● Construction and crane lifts				
● Hoists				
● Automatic miniload warehouses				

Legend
- ● Standard
- ❍ Limited suitability
- ▲ Possible as an option
- ■ Especially suitable

Opening principle	Series / product	Inner height *hi* [mm] + ≤ ø [mm]		Inner width from - to *Bi* [mm]	Outer height *ha* [mm]	Outer width from - to *Ba* [mm]	Bend radius from - to *R* [mm]		Pitch e-chain® link [mm]	Fill weight (depending on radius) ≤ [kg/m]	Unsupported length FL_B ≤ [m]	Long travel length ≤ [m]	Interior separation options: Separators	Interior separation options: Full-width shelves	Interior separation options: Shelves	ESD	Cleanroom	UL-V2 / V0	Quiet	Price index	Page
E4/4HD heavy-duty - very high fill weights for long travels																					
e-chains® | Crossbars every link - crossbars removable along the inner and outer radius																					
	4040HD	56	ø 50	50 - 600	84	104 - 654	135 - 300		91	16	–	> 350	●	●	●	❍	❍	▲	–	●●○	1098
	5050HD	80	ø 74	50 - 600	108	110 - 660	200 - 500		91	60	–	> 500	●	●	●	❍	❍	▲	–	●●○	1104
e-tubes | Fully enclosed - lids openable along the outer radius, from one side																					
	8840HD	56	ø 50	75 - 462	84	129 - 516	150 - 300		91	16	–	> 350	●	●	●	❍	❍	▲	–	●●○	1098
	9850HD	80	ø 74	75 - 462	108	135 - 522	200 - 500		91	60	–	> 500	●	●	●	❍	❍	▲	–	●●○	1104
P4 profile-rol e-chain® - reduce energy consumption by up to 57%																					
e-chains® | Crossbars every link - crossbars removable along the inner and outer radius																					
	P4.32	32	ø 28	100 - 250	54	132 - 282	150 - 250		56	6	–	> 500	●	●	●	❍	▲	▲	–	●●●	1118
	P4.42	42	ø 38	100 - 200	64	154 - 254	100 - 350		67	7	–	> 600	●	●	●	❍	▲	▲	–	●●●	1124
	P4.56	56	ø 50	187 - 400	84	257 - 470	250 - 350		91	13	–	> 800	●	●	●	❍	▲	▲	–	●●●	1130
	P4.80	80	ø 72	187 - 400	108	263 - 476	250 - 350		100	30	–	> 800	●	●	●	❍	▲	▲	–	●●●	1136
Rol e-chain® - long travels up to 800m, rolling instead of gliding																					
e-chains® | Crossbars every link - crossbars removable along the inner and outer radius																					
	2828R	32	ø 28	50 - 400	54	74 - 424	125 - 300**		56	6	–	> 250	●	●	●	❍	❍	▲	–	●●○	1148
	3838R	42	ø 38	50 - 400	64	77 - 427	150 - 350**		67	7	–	> 330	●	●	●	❍	❍	▲	–	●●○	1150
	4040R	56	ø 50	50 - 600	84	86 - 636	200 - 400**		91	13	–	> 500	●	●	●	❍	❍	▲	–	●●○	1152
	5050R	80	ø 72	50 - 600	108	100 - 650	250 - 500**		100	16	–	> 600	●	●	●	❍	❍	▲	–	●●○	1156
e-tubes | Fully enclosed - lids openable along the outer radius, from one side																					
	7728R	32	ø 28	50 - 300	54	74 - 324	150 - 300		55	6	–	> 250	●	●	●	❍	❍	▲	–	●●◐	1148
	7838R	42	ø 38	50 - 300	64	77 - 427	200 - 350		67	7	–	> 330	●	●	●	❍	❍	▲	–	●●◐	1150
	8840R	56	ø 50	75 - 462	84	111 - 499	300 - 400		91	13	–	> 500	●	●	●	❍	❍	▲	–	●●◐	1152
	9850R	80	ø 72	75 - 462	108	125 - 513	300 - 500		100	16	–	> 600	●	●	●	❍	❍	▲	–	●●◐	1156
Rol e-chain® RHD heavy-duty - for extremely high fill weights																					
e-chains® | Crossbars every link - crossbars removable along the inner and outer radius																					
	4040RHD	56	ø 50	50 - 600	84	104 - 654	300 - 400		91	16	–	> 600	●	●	●	❍	❍	▲	–	●●○	1154
	5050RHD	80	ø 72	50 - 600	108	110 - 660	250 - 500		100	30	–	> 800	●	●	●	❍	❍	▲	–	●●○	1158

**Smaller bend radii (only for e-chains®) available upon request. Please consult igus® for delivery time.

Legend
- ● Standard
- ❍ Limited suitability
- ▲ Possible as an option
- ■ Especially suitable

E2/000 rol e-chain® - long travels up to 150m, energy-efficient and cost-effective

e-chains® | Crossbars openable along the outer radius, from both sides



Series / product	Inner height *hi* [mm] + ≤ ø [mm]		Inner width from - to *Bi* [mm]	Outer height *ha* [mm]	Outer width from - to *Ba* [mm]	Bend radius from - to *R* [mm]	Pitch e-chain® link [mm]	Fill weight (depending on radius) ≤ [kg/m]	Unsupported length FL_B ≤ [m]	Long travel length ≤ [m]	Interior separation options: Separators	Full-width shelves	Shelves	ESD	Cleanroom	UL-V2 / V0	Quiet	Price index	Page
2700R	35	ø 32	50 - 175	50	66 - 194	150	56	2.5	–	150	●	●	●	❍	❍	▲	–	◔	1166
3500R	45	ø 42	50 - 250	64	70 - 270	125 - 200	67	5 - 8	–	150	●	●	●	❍	❍	▲	–	◔	1168

autoglide - make savings on long travel distances with self-guiding e-chains®

Version 01 - E4.1 | Crossbars removable along the inner and outer radius



Series / product	Inner height *hi* [mm] + ≤ ø [mm]		Inner width from - to *Bi* [mm]	Outer height *ha* [mm]	Outer width from - to *Ba* [mm]	Bend radius from - to *R* [mm]	Pitch e-chain® link [mm]	Fill weight (depending on radius) ≤ [kg/m]	Unsupported length FL_B ≤ [m]	Long travel length ≤ [m]	Interior separation options: Separators	Full-width shelves	Shelves	ESD	Cleanroom	UL-V2 / V0	Quiet	Price index	Page
E4.32AG	32	ø 28	112 - 262	54	136 - 286	100 - 300	56	5 - 7	–	60	●	●	●	❍	❍	▲	–	◔	1176
E4.42AG	42	ø 38	112 - 262	64	139 - 289	125 - 350	67	4 - 9.6	–	70	●	●	●	❍	❍	▲	–	◔	1178
E4.56AG	56	ø 50	150 - 250	84	184 - 284	150 - 500	91	6.4 - 12	–	80	●	●	●	❍	❍	▲	–	◔	1180

Version 02 - E2/000 | Crossbars openable along the inner radius, from both sides



Series / product	Inner height *hi* [mm] + ≤ ø [mm]		Inner width from - to *Bi* [mm]	Outer height *ha* [mm]	Outer width from - to *Ba* [mm]	Bend radius from - to *R* [mm]	Pitch e-chain® link [mm]	Fill weight (depending on radius) ≤ [kg/m]	Unsupported length FL_B ≤ [m]	Long travel length ≤ [m]	Interior separation options: Separators	Full-width shelves	Shelves	ESD	Cleanroom	UL-V2 / V0	Quiet	Price index	Page
2400AG	25	ø 23	57 - 77	35	73 - 93	075 - 250	46	2	–	40	●	●	●	❍	❍	▲	–	◔	1184
2600AG	35	ø 32	50 - 75	50	66 - 91	075 - 250	56	2.5	–	60	●	●	●	❍	❍	▲	–	◔	1186
3400AG	45	ø 42	75 - 100	64	95 - 120	100 - 300	67	5 - 8	–	70	●	●	●	❍	❍	▲	–	◔	1188

Version 03 - "easy" design | Split crossbar along the outer radius



Series / product	Inner height *hi* [mm] + ≤ ø [mm]		Inner width from - to *Bi* [mm]	Outer height *ha* [mm]	Outer width from - to *Ba* [mm]	Bend radius from - to *R* [mm]	Pitch e-chain® link [mm]	Fill weight (depending on radius) ≤ [kg/m]	Unsupported length FL_B ≤ [m]	Long travel length ≤ [m]	Interior separation options: Separators	Full-width shelves	Shelves	ESD	Cleanroom	UL-V2 / V0	Quiet	Price index	Page
EA16	32	ø 28.5	48	39	60	065 - 100	30.5	4	–	20	●	●	●	❍	❍	▲	–	◔	1192
EA25	25.2	ø 22.5	50	25.2	60	075 - 100	25	4	–	20	●	●	●	❍	❍	▲	–	◔	1193

Version 04 - E2/000 with special glide shoes | Openable along the inner and outer radius



Series / product	Inner height *hi* [mm] + ≤ ø [mm]		Inner width from - to *Bi* [mm]	Outer height *ha* [mm]	Outer width from - to *Ba* [mm]	Bend radius from - to *R* [mm]	Pitch e-chain® link [mm]	Fill weight (depending on radius) ≤ [kg/m]	Unsupported length FL_B ≤ [m]	Long travel length ≤ [m]	Interior separation options: Separators	Full-width shelves	Shelves	ESD	Cleanroom	UL-V2 / V0	Quiet	Price index	Page
2400/2500.AG	25	ø 23	57 - 125	35	73 - 141	055 - 250	46	1.6	–	20	●	●	●	❍	❍	▲	–	◔	1196
2600/2700.AG	35	ø 32	50 - 250	50	66 - 194	075 - 250	56	2	–	30	●	●	●	❍	❍	▲	–	◔	1198

Legend
- ● Aluminium
- ❍ Galvanised steel
- ■ Stainless steel upon request
- ▲ Galvanised steel/polymer

Aluminium SuperTrough - basic version for general use

Basic version - for general use - standard



Series / product	Outer height H_{Ra} [mm]	Series zipper	Series E2 mini	System E2.1	System E2/000	Series E2 e-tubes		System E4.1L	System E4.1	System E4/light	System E6.1	System E6	Material of side parts	Price index	Page
970.30.SL | 970.31.SL	77	15/R15	10/B15	–	–	–		–	–	–	–	–	●	●◐○	1216
970.30.SL | 970.32.SL	77	–	–	–	1400[1]/1450[1]/1480[1]/1500	–		–	E4.21	–	–	–	●	●◐○	1218
971.30.SL | 971.31.SL	87	–	–	E2.26	2400[1]/2450[1]/2480[1]/2500/255	R48		–	–	–	E61.29[2]	E6.29/R6.29[2]	●	●◐○	1220
972.02.30.SL | 972.02.31.SL	117	–	–	–	–	–		–	E4.28/R4.28	–	E61.35[2]	E6.35[2]	●	●◐○	1222
972.30.SL | 972.31.SL	117	–	–	–	–	–		E4.38L/R4.38L	E4.32/H4.32/R4.32	–	E61.40[2]	E6.40/R6.40[2]	●	●◐○	1224
972.30.SL | 972.32.SL	117	–	–	E2.38	2600[1]/2650[1]/2680[1]/2700	R58		–	–	–	–	–	●	●◐○	1226
973.30.SL | 973.31.SL	144	–	–	E2.48	3400[1]/3450[1]/3480[1]/3500	R68		E4.48L/R4.48L	E4.42/H4.42/R4.42	–	E61.52[2]	E6.52/R6.52[2]	●	●◐○	1228
974.30.SL | 974.31.SL	184	–	–	–	–	–		–	E4.56/H4.56/R4.56	14040/14140/18840/14240/14340	E61.62[2]	E6.62[2]	●	●◐○	1230
975.30.SL | 975.31.SL	236	–	–	–	–	–		–	E4.80/H4.80/R4.80	15050/15150/19850/15250/15350	E61.80[2]	E6.80[2]	●	●◐○	1232

Aluminium SuperTrough - heavy-duty version, for heavy-duty applications

Heavy-duty version - for heavy-duty applications



Series / product	Outer height H_{Ra} [mm]	Series zipper	Series E2 mini	System E2.1	System E2/000	Series E2 e-tubes		System E4.1L	System E4.1	System E4/light	System E6.1	System E6	Material of side parts	Price index	Page
971.30.SL | 971.31.SL	87	–	–	E2.26	2400[1]/2450[1]/2480[1]/2500/255	R48		–	–	–	E61.29[2]	E6.29/R6.29[2]	●	●◐○	1221
972.02.30.SL | 972.02.31.SL	117	–	–	–	–	–		–	E4.28/R4.28	–	E61.35[2]	E6.35[2]	●	●◐○	1223
972.30.SL | 972.31.SL	117	–	–	–	–	–		E4.38L/R4.38L	E4.32/H4.32/R4.32	–	E61.40[2]	E6.40/R6.40[2]	●	●◐○	1225
972.30.SL | 972.32.SL	117	–	–	E2.38	2600[1]/2650[1]/2680[1]/2700	R58		–	–	–	–	–	●	●◐○	1227
973.30.SL | 973.31.SL	144	–	–	E2.48	3400[1]/3450[1]/3480[1]/3500	R68		E4.48L/R4.48L	E4.42/H4.42/R4.42	–	E61.52[2]	E6.52/R6.52[2]	●	●◐○	1229
974.30.SL | 974.31.SL	184	–	–	–	–	–		–	E4.56/H4.56/R4.56	14040/14140/18840/14240/14340	E61.62[2]	E6.62[2]	●	●◐○	1231
975.30.SL | 975.31.SL	236	–	–	–	–	–		–	E4.80/H4.80/R4.80	15050/15150/19850/15250/15350	E61.80[2]	E6.80[2]	●	●◐○	1233

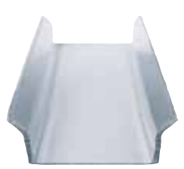
Steel guide through - Very tough for heavy-duty applications

Steel - for extremely heavy-duty applications



Series / product	Outer height H_{Ra} [mm]	Series zipper	Series E2 mini	System E2.1	System E2/000	Series E2 e-tubes		System E4.1L	System E4.1	System E4/light	System E6.1	System E6	Material of side parts	Price index	Page
92.30 | 92.31	70	–	–	E2.26	2400[1]/2450[1]/2480[1]/2500/255	–		–	–	–	E61.29[2]	E6.29/R6.29[2]	❍■	●◐○	1242
95.30 | 95.31	100	–	–	E2.38	2600[1]/2650[1]/2680[1]/2700	R58		–	–	–	–	–	❍■	●◐○	1244
99.30 | 99.31	100	–	–	–	–	–		–	E4.28/R4.28	–	E61.35[2]	E6.35[2]	❍■	●◐○	1246
97.30 | 97.31	130	–	–	–	–	–		E4.38L/R4.38L	E4.32/H4.32/R4.32	–	E61.40[2]	E6.40/R6.40[2]	❍■	●◐○	1248
93.30 | 93.31	130	–	–	E2.48	3400[1]/3450[1]/3480[1]/3500	R68		E4.48L/R4.48L	E4.42/H4.42/R4.42	–	E61.52[2]	E6.52/R6.52[2]	❍■	●◐○	1250
94.30 | 94.31	170	–	–	–	–	–		–	E4.56/H4.56/R4.56	14040/14140/14240/14340/18840	E61.62[2]	E6.62[2]	❍■	●◐○	1252
94.14450.30 | 94.14450.31	170	–	–	–	–	–		–	–	14550/14650/R19050	–	–	❍■	●◐○	1254
96.30 | 96.31	220	–	–	–	–	–		–	E4.80/H4.80/R480	15050/15150/19850	E61.80[2]	E6.80[2]	❍■	●◐○	1256
98.30 | 98.31	300	–	–	–	–	–		–	E4.112/R4.112	1640/1608	–	–	❍■	●◐○	1258
90.30 | 90.31	480	–	–	–	–	–			–	800/840	–	–	❍■	●◐○	1260

Steel guide trough - one-piece, u-shaped, special solution for series 10, B15, 15



Series / product	Outer height H_{Ra} [mm]	Series zipper	Series E2 mini	System E2.1	System E2/000	Series E2 e-tubes		System E4.1L	System E4.1	System E4/light	System E6.1	System E6	Material of side parts	Price index	Page
91.10 - 91.71	48	15/R15	10/B15	–	–	–		–	–	–	–	–	❍■	●◐○	1241

1) Conditionally suitable if the crossbars are openable along the inner radius 2) For long travels applications, please consult igus®

Legend
- ● Aluminium
- ❍ Galvanised steel
- ■ Stainless steel upon request
- ❑ Steel, powder coated

Steel support tray - for support of the lower run

Support tray - type 01



Series / product	Outer height H_{Ra} [mm]	Series zipper	Series E2 mini	System E2.1	System E2/000	Series E2 e-tubes		System E4.1L	System E4.1	System E4/light	System E6.1	System E6	Material of side parts	Price index	Page
S9.010/011.05.	**43**	–	–	E2.26/E2.38	2500 ... /2700 ...	–		E4.38L/R4.38L	E4.21/E4.28/E4.32	–	E61.29/E61.35/E61.40	E6.29/E6.35/E6.40	❑	●○○	**1266**
S9.010/011.07.	**43**	–	–	E2.26/E2.38	2500 ... /2700 ...	–		E4.38L/R4.38L	E4.21/E4.28/E4.32	–	E61.29/E61.35/E61.40	E6.29/E6.35/E6.40	❑	●○○	**1266**
S9.010/011.10.	**43**	–	–	E2.26/E2.38	2500 ... /2700 ...	–		E4.38L/R4.38L	E4.21/E4.28/E4.32	–	E61.29/E61.35/E61.40	E6.29/E6.35/E6.40	❑	●○○	**1266**
S9.010/011.15.	**43**	–	–	E2.38	2700 ...	–		E4.38L/R4.38L	E4.28/E4.32	–	E61.40	E6.40	❑	●○○	**1266**

Support tray - type 02



S9.020/021.10.	**53**	–	–	E2.38	3400 ...	–		E4.48L/R4.48L	E4.42/E4.56/E4.80	14040/14240/14550/15050/15250	E61.52/E61.62/E61.80	E6.62/E6.52/E6.80	❑	●○○	**1268**
S9.020/021.15.	**53**	–	–	E2.38	3400 ...	–		E4.48L/R4.48L	E4.42/E4.56/E4.80	14040/14240/14550/15050/15250	E61.52/E61.62/E61.80	E6.62/E6.52/E6.80	❑	●○○	**1268**
S9.020/021.20.	**53**	–	–	E2.38	3400 ...	–		E4.48L/R4.48L	E4.42/E4.56/E4.80	14040/14240/14550/15050/15250	E61.52/E61.62/E61.80	E6.62/E6.52/E6.80	❑	●○○	**1268**
S9.020/021.25.	**53**	–	–	E2.38	3400 ...	–		E4.48L/R4.48L	E4.42/E4.56/E4.80	14040/14240/14550/15050/15250	E61.52/E61.62/E61.80	E6.62/E6.52/E6.80	❑	●○○	**1268**

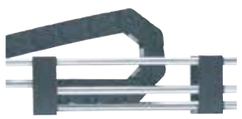
Aluminium support tray - flexible support of the lower run

Modular system



9AT.35.SL | 9AT.35.SLA	**35**	–	–	E2.38	2500 ... /2700 ...	–		E4.38L/R4.38L	E4.21/E4.28/E4.32	–	E61.29/E61.35/E61.40	E6.29/E6.35/E6.40	●	●○○	**1270**

Legend
- ● Aluminium
- ❍ Galvanised steel
- ■ Stainless steel upon request
- ▲ Galvanised steel/polymer

Series / product	Outer height H_{Ra} [mm]	Series zipper	Series E2 mini	System E2.1	System E2/000	Series E2 e-tubes		System E4.1L	System E4.1	System E4/light	System E6.1	System E6	Material of side parts	Price index	Page
guidefast - for crane girders and indoor cranes															
For crane girders and indoor cranes															
															
GF91.30/31.025	61	–	–	–	1500	–		–	–	–	–	–	❍	●○○	1279
GF91.30/31.050	61	–	–	–	1500	–		–	–	–	–	–	❍	●○○	1279
GF92.30/31.03	75	–	–	E2.26	2500/255	R48		–	–	–	–	–	❍	●○○	1279
GF92.30/31.05	75	–	–	E2.26	2500/255	–		–	–	–	–	–	❍	●○○	1279
GF92.30/31.07	75	–	–	E2.26	2500/255	–		–	–	–	–	–	❍	●○○	1279
GF92.30/31.09	75	–	–	E2.26	2500/255	R58		–	–	–	–	–	❍	●○○	1279
GF92.30/31.10	75	–	–	E2.26	2500/255	R68		–	–	–	–	–	❍	●○○	1279
GF95.30/31.05	105	–	–	E2.38	2700	–		–	–	–	–	–	❍	●○○	1279
GF95.30/31.07	105	–	–	E2.38	2700	–		–	–	–	–	–	❍	●○○	1279
GF95.30/31.10	105	–	–	E2.38	2700	–		–	–	–	–	–	❍	●○○	1279
guidelite - long travels up to 150m, quick and cost-effective															
For light-duty applications															
															
9GL.64.50.450.XX	145	–	–	E2.48	2500 / 2700 / 3500	–		–	E4.21/E4.28/E4.32	–	–	–	▲	●○○	1284
9GL.64.50.LLL	145	–	–	E2.26 / E2.38	1500/ 2500 / 2700 / 3500	–		–	E4.21/E4.28/E4.32	–	–	–	▲	●○○	1286
Tubular trough system RS - lets light and swarf through															
For very low loads															
															
92.70 / 92.71	90	–	–	E2.26	2500/255	–		–	–	–	–	–	▲	●◐○	1290
93.70 / 93.71	146	–	–	E2.48	3500	–		–	–	–	–	–	▲	●◐○	1291
95.70 / 95.71	126.3	–	–	E2.38	2700			–	–	–	–	–	▲	●◐○	1292
Snap-in trough system SP - simple and cost-effective															
For light-duty applications															
															
91.930	55.5	15/R15	10/B15	–	–	–		–	–	–	–	–	▲	●○○	1296
92.930	76.6	–	–	E2.26	2500/255			–	–	–	–	–	▲	●○○	1297
93.930	138.6	–	–	E2.48	3500			–	–	–	–	–	▲	●○○	1298
95.930	106.6	–	–	E2.38	2700								▲	●○○	1299

Technical details | chainfix strain relief elements

For maximum holding force

Selection by inner height

Strain relief	Product description	from - to ø [mm]	Series easy chain®	Series E2.1	Series E2/000	Series R2.1 e-tubes	Series E2 e-tubes	System E4.1L / E4.1	System E4/light	System E6.1 / E6	Page
Steel and stainless steel clamps - for maximum holding force											
	● **CFX*** single, double, triple clamps with standard base	6 - 42	–	X	X	–	–	X	X	X	1316
	● **CFXL*** single, double, triple clamps with wide base for maximum holding force	6 - 42	–	X	X	–	–	X	X	X	1317
	● Clamp stacker and saddle elements	6 - 42	–	X	X	–	–	X	X	X	1318
	● chainfix multi-clamps*	6 - 12	–	X	X	–	–	X	X	X	1319
chainfix tiewrap plates - universal, bolted or clip-on											
	● **Option 1A:** tiewrap plates as individual parts "series 2000" + cable tiewraps	≤ ø 36	X	X	X	–	X	X	X	X	1320
	● **Option 1B:** tiewrap plates as individual parts "series 3000" + cable tiewraps	≤ ø 36	X	X	X	–	X	X	X	X	1321
chainfix tiewrap plates - optional variants											
	● **Option 1:** tiewrap plates with clip-on connection for C-profile		–	–	X	–	–	X	X	X	1322
	● **Option 2:** integrated strain relief for E2 e-tubes - series R		–	–	–	–	X	–	–	–	1322
	● **Option 3:** tiewrap plates for fixed crossbars		X	–	X	–	–	–	–	–	1323
	● **Option 4:** tiewrap plates for openable crossbars		–	X	X	–	–	X	X	X	1324
CFU honeycomb strain relief - assembled in seconds New											
	● Simply insert cables and hoses into honeycomb and close - strain relief for different cables in one slot		–	X	X	X	X	X	X	X	1325
Strain relief separators - with integrated teeth											
	● For easy strain relief with cable tiewraps	20 - 30	–	X	X	X	X	X	–	X	1326
CFV - strain relief elements outside of the e-chain® cross section											
	● Easy strain relief for cables, even in fully enclosed e-tubes (With strain relief teeth, stepped)		–	X	X	X	X	X	X	X	1330
CFN - chainfix nuggets for C-profile and top-hat (DIN) rail 35											
	● **Option 1:** simple and universal cable fixation (for diameter of Ø 20mm and Ø 30mm)	≤ 30	–	X	X	–	–	X	X	X	1331
	● **Option 2:** fastening through clipping onto standard top-hat (DIN) rail 35	≤ 20	–	X	X	–	–	X	X	X	1331
CFB - strain relief connector system, modular and customised											
	● **CFB** polymer strain relief connector system, for many cables in a very confined space	4.3 - 14	Individual designing - please consult igus®.								1332

*Standard material: galvanised steel. Also available as stainless steel version (stainless steel material: 1.4301/AISI 304)

X = not available for this series

– = not available

Selection by inner height



Continued

hi	Series	Product	Page
5 - 10mm			
5	03	E2 micro	**266**
5	E03	easy chain®	**204**
7	04	E2 micro	**268**
7	E04	easy chain®	**206**
9	047	zipper	**232**
9	TB12.23.09	twisterband	**995**
9.4	E045	easy chain®	**208**
9.4	E045.2	easy chain®	**208**
9.4	E045.3	easy chain®	**208**
9.4	Z045	easy chain®	**208**
9.4	Z045.2	easy chain®	**208**
9.4	Z045.3	easy chain®	**208**
10	05	E2 micro	**270**
10	E3.10	E3	**738**
10	ES1.10	E1	**178**
10.1 - 16mm			
10.1	E2.10	E2.1 micro	**326**
10.1	E2i.10	E2.1 micro	**326**
10.3	07	zipper	**234**
10.3	045	E2 micro	**272**
10.3	B07	E2 micro	**274**
10.3	R07	zipper e-tube	**236**
10.5	06	E2 micro	**276**
10.7	E2C.10	E2.1 micro	**326**
10.7	E06	easy chain®	**210**
10.7	Z06	easy chain®	**210**
11.3	E065	easy chain®	**212**
11.3	E065.2	easy chain®	**212**
11.3	E065.3	easy chain®	**212**
11.3	Z065	easy chain®	**212**
11.3	Z065.2	easy chain®	**212**
11.3	Z065.3	easy chain®	**212**
11.5	074	E2 micro	**278**
12	TB20.44.12	twisterband	**995**
12	TRC.30	triflex® R	**875**
12	TRE.30	triflex® R	**877**
12	TRL.30	triflex® R	**881**
13	E332.25	easy triflex®	**946**
13	E333.25	easy triflex®	**948**
14.3	B09	E2 micro	**282**
14.4	E2.15	E2.1 micro	**330**
14.4	E2i.15	E2.1 micro	**330**
14.6	E08	easy chain®	**214**
14.7	Z08	easy chain®	**214**
14.9	E2C.15	E2.1 micro	**330**
15	08	E2 micro	**286**
15	09	zipper	**239**
15	E3.15	E3	**744**
15	R09	zipper e-tube	**242**
15	TRC.40	triflex® R	**875**
15	TRE.40	triflex® R	**877**
15	TRL.40	triflex® R	**881**
15.6	094	E2 micro	**380**
16	332.16	triflex®	**958**
16	333.16	triflex®	**958**
17 - 23mm			
17	15	zipper	**244**
17	B15	E2 mini	**308**
17	B15i	E2 mini	**308**
17	E1.17	E1	**179**
17	E332.32	easy triflex®	**946**
17	E333.32	easy triflex®	**948**
17	R15	zipper e-tube	**248**
18	10	E2 mini	**296**
18	E1.18	E1	**180**
18	TB20.44.18	twisterband	**995**
18	TE14	snapchain	**186**
18	TZ14	snapchain	**186**
18.8	TRC.50	triflex® R	**875**
18.8	TRE.50	triflex® R	**877**
19	E14	easy chain®	**216**
19	Z14	easy chain®	**216**
20	14	E2 mini	**306**
20	E1.20	E1	**181**
21	117	E2 series R100 e-tube	**434**
21	118	E2 series R100 e-tube	**434**
21	1400	E2/000	**368**
21	1450	E2/000	**374**
21	1480	E2/000 e-tube	**374**
21	1500	E2/000	**368**
21	E4.21	E4.1	**576**
21	ZF14	office chain	**194**
21	ZF14	office chain	**194**
22	E3.22	E3	**746**
22	TB29.27.22	twisterband	**995**
22	TB30.75.22	twisterband	**995**
22	TBHD30.75.22	twisterband	**999**
22.3	TRCF.65	triflex® R	**879**
22.5	TRC.60	triflex® R	**875**
22.5	TRE.60	triflex® R	**877**
22.5	TRL.60	triflex® R	**881**
23	11.031	E2 mini	**300**
NW23	EL.00.23.0	e-rib	**170**
24 - 29mm			
24	255	E2/000	**424**
24.3	E200	easy chain®	**218**
24.3	E200.2	easy chain®	**218**
24.3	Z200	easy chain®	**218**
24.3	Z200.2	easy chain®	**218**
24.4	TRLF.65	triflex® R	**883**
25	48	E2 series R e-tube	**460**
25	2400	E2/000	**380**
25	2450	E2/000	**386**
25	2480	E2/000 e-tube	**386**
25	2500	E2/000	**380**
25	2400.AG	autoglide	**1196**
25	2400AG	autoglide	**1184**
25	2450.AG	autoglide	**1196**
25	2480.AG	autoglide	**1196**
25	2500.AG	autoglide	**1196**
25.2	EA25	autoglide	**1193**
25.5	TH3.25.2/26	TH3	**856**
25.5	TH3.25.3/26	TH3	**856**
25.5	TH3.25.4/26	TH3	**856**
25.5	TH3.25.5/26	TH3	**856**
26	E2.26	E2.1	**342**
26	E2i.26	E2.1	**342**
26	E332.50	easy triflex®	**946**
26	E333.50	easy triflex®	**948**
26	R2.26	R2.1	**486**
26	R2.26i	R2.1	**486**
28	2208	twisterchain	**972**
28	11.080	E2 mini	**302**
28	E4.28	E4.1	**582**
28	R4.28	E4.1 e-tube	**582**
28	$SK_2$8	e-skin®	**842**
28	TRC.70	triflex® R	**875**
28	TRE.70	triflex® R	**877**
28	TRL.70	triflex® R	**881**
29	E6.29	E6	**796**
29	R6.29	E6 e-tube	**796**
29	T3.29	T3 Band	**728**
NW29	EL.01.29.0	e-rib	**171**
30 - 35mm			
30	TBHD42.135.30	twisterband	**999**
31	E4.31L	E4.1L	**536**
31	R4.31L	E4.1L e-tube	**536**
32	17	zipper	**252**
32	2828R	rol e-chain®	**1148**
32	332.32	triflex®	**958**
32	333.32	triflex®	**961**
32	7728R	rol e-chain®	**1148**
32	B17	E2 mini	**312**
32	B17i	E2 mini	**312**
32	E16	easy chain®	**220**
32	E4.32	E4.1	**590**
32	E4.32AG	autoglide	**1176**
32	EA16	autoglide	**1192**
32	F17	E2 mini	**316**
32	H4.32	E4.1	**590**
32	P4.32	rol e-chain®	**1118**
32	R17	zipper e-tube	**256**
32	R4.32	E4.1 e-tube	**590**
32	TC32	twisterchain	**974**
32	Z16	easy chain®	**220**
32.8	TRCF.85	triflex® R	**879**
32.8	TRLF.85	triflex® R	**883**
33	TRC.85	triflex® R	**875**
33	TRE.85	triflex® R	**877**
35	58	E2 series R e-tube	**466**
35	2600	E2/000	**392**
35	2650	E2/000	**400**
35	2680	E2/000 e-tube	**400**
35	2700	E2/000	**392**
35	2600.AG	autoglide	**1198**
35	2650AG	autoglide	**1186**
35	2680.AG	autoglide	**1198**
35	2700.AG	autoglide	**1198**
35	2700R	E2/000 rollers	**1166**
35	E6.35	E6	**802**
35	E61.35	E6.1	**764**
36 - 48.5mm			
36.5	E26	easy chain®	**222**
36.5	Z26	easy chain®	**222**
37.1	E26.2	easy chain®	**222**
37.1	E26.3	easy chain®	**222**
37.1	Z26.2	easy chain®	**222**
37.1	Z26.3	easy chain®	**222**
37.5	TRC.100	triflex® R	**875**
37.5	TRCF.100	triflex® R	**879**
37.5	TRE.100	triflex® R	**877**
37.5	TRL.100	triflex® R	**881**
37.5	TRLF.100	triflex® R	**883**
38	E2.38	E2.1	**348**
38	E2i.38	E2.1	**348**
38	E4.38L	E4.1L	**542**
38	R4.38L	E4.1L e-tube	**542**
38.5	E332.75	easy triflex®	**946**
38.5	E333.75	easy triflex®	**948**
40	157	E2 series R100 e-tube	**440**
40	158	E2 series R100 e-tube	**440**
40	E6.40	E6	**806**
40	E61.40	E6.1	**768**
40	R2.40	R2.1	**490**
40	R2i.40	R2.1	**490**
40	R6.40	E6 e-tube	**806**
40	SK40	e-skin®	**846**
40	TH3.45.2/20	TH3	**860**
40	TH3.45.3/20	TH3	**860**

Selection by inner height



Selection by product, series and page

hi	Series	Product	Page
40	TH3.45.4/20	TH3	**860**
40	TH3.45.5/20	TH3	**860**
41	11. Jan	E2 mini	**304**
41	11. Feb	E2 mini	**304**
42	3838R	rol e-chain®	**1150**
42	7838R	rol e-chain®	**1150**
42	E4.42	E4.1	**600**
42	E4.42AG	autoglide	**1178**
42	H4.42	E4.1	**600**
42	P4.42	rol e-chain®	**1124**
42	R4.42	E4.1 e-tube	**600**
42	RX32	RX e-tube	**508**
42	TC42	twisterchain	**976**
43.3	TRC.125	triflex® R	**875**
43.3	TRE.125	triflex® R	**877**
45	68	E2 series R e-tube	**472**
45	3400	E2/000	**408**
45	3450	E2/000	**416**
45	3480	E2/000 e-tube	**416**
45	3500	E2/000	**408**
45	3400AG	autoglide	**1188**
45	3500R	E2/000 rollers	**1168**
46.8	TRLF.125	triflex® R	**883**
47	TE26	snapchain	**187**
47	TZ26	snapchain	**187**
48	E2.48	E2.1	**354**
48	E2i.48	E2.1	**354**
48	E4.48L	E4.1L	**550**

hi	Series	Product	Page
48	R2.48	R2.1	**494**
48	R2i.48	R2.1	**494**
48	R4.48L	E4.1L e-tube	**550**
48.5	E300	easy chain®	**224**
48.5	E300.2	easy chain®	**224**
48.5	Z300	easy chain®	**224**
48.5	Z300.2	easy chain®	**224**
48.5	Z300.3	easy chain®	**224**
NW36	EL.00.36.0	e-rib	**172**
NW48	EL.00.48.0	e-rib	**173**
50 - 56mm			
50	167	E2 series R100 e-tube	**448**
50	168	E2 series R100 e-tube	**448**
50	332.50	triflex®	**958**
50	333.50	triflex®	**961**
50	352.50	triflex®	**958**
50	353.50	triflex®	**961**
52	E6.52	E6	**812**
52	E61.52	E6.1	**774**
52	R6.52	E6 e-tube	**812**
52	RX40	RX e-tube	**512**
56	14040	E4/light	**668**
56	14140	E4/light	**668**
56	18840	E4/light e-tube	**668**
56	4040HD	E4/4 HD	**1098**
56	4040R	rol e-chain®	**1152**
56	4040RHD	rol e-chain®	**1154**
56	8840HD	E4/4 HD e-tube	**1098**

hi	Series	Product	Page
56	8840R	rol e-chain®	**1152**
56	E4.56AG	autoglide	**1180**
56	H4.56	E4.1	**612**
56	P4.56	rol e-chain®	**1130**
56	R4.56	E4.1 e-tube	**612**
56	TC56	twisterchain	**978**
62 - 86mm			
62	14240	E4/light	**678**
62	14340	E4/light	**678**
62	E6.62	E6	**818**
62	E61.62	E6.1	**778**
62	RX48	RX e-tube	**516**
64	E4.64L	E4.1L	**560**
70	14550	E4/light	**686**
70	14650	E4/light	**686**
70	19050	E4/light e-tube	**686**
73	RX56	RX e-tube	**520**
75	332.75	triflex®	**958**
75	333.75	triflex®	**961**
75	R2.75	R2.1	**498**
80	15050	E4/light	**694**
80	15150	E4/light	**694**
80	19850	E4/light e-tube	**694**
80	5050HD	E4/4 HD	**1104**
80	5050R	rol e-chain®	**1156**
80	5050RHD	rol e-chain®	**1158**
80	9850HD	E4/4 HD e-tube	**1104**
80	9850R	rol e-chain®	**1156**

hi	Series	Product	Page
80	E4.80	E4.1	**624**
80	E6.80	E6	**828**
80	E6.80L	E6	**822**
80	H4.80	E4.1	**624**
80	P4.80	rol e-chain®	**1136**
80	R4.80	E4.1 e-tube	**624**
86	15250	E4/light	**704**
86	15350	E4/light	**704**
108 - 350mm			
108	1608	E4/light e-tube	**712**
112	1640	E4/light	**712**
112	E4.112	E4.1	**636**
112	R4.112	E4.1 e-tube	**636**
162	E4.162	E4.1	**644**
200	800	E4.1	**648**
204	840	E4.1	**652**
350	E4.350	E4.1	**656**

Selection by product, series and page

Continued

Series	Product	Page
03	E2 micro	266
04	E2 micro	268
05	E2 micro	270
06	E2 micro	276
07	zipper	234
08	E2 micro	286
09	zipper	239
10	E2 mini	296
14	E2 mini	306
15	zipper	244
17	zipper	252
045	E2 micro	272
047	zipper	232
48	E2 series R e-tube	460
58	E2 series R e-tube	466
68	E2 series R e-tube	472
074	E2 micro	278
094	E2 micro	280
117	E2 series R100 e-tube	434
118	E2 series R100 e-tube	434
157	E2 series R100 e-tube	440
158	E2 series R100 e-tube	440
167	E2 series R100 e-tube	448
168	E2 series R100 e-tube	448
255	E2/000	424
800	E4.1	648
840	E4.1	652
1400	E2/000	368
1450	E2/000	374
1480	E2/000 e-tube	374
1500	E2/000	368
1608	E4/light e-tube	712
1640	E4/light	712
2208	twisterchain	972
2400	E2/000	380
2450	E2/000	386
2480	E2/000 e-tube	386
2500	E2/000	380
2600	E2/000	392
2650	E2/000	400
2680	E2/000 e-tube	400
2700	E2/000	392
3400	E2/000	408
3450	E2/000	416
3480	E2/000 e-tube	416
3500	E2/000	408
11.031	E2 mini	300
11.080	E2 mini	302
14040	E4/light	668
14140	E4/light	668
14240	E4/light	678
14340	E4/light	678
14550	E4/light	686
14650	E4/light	686
15050	E4/light	694
15150	E4/light	694
15250	E4/light	704
15350	E4/light	704
18840	E4/light e-tube	668
19050	E4/light e-tube	686
19850	E4/light e-tube	694
11.1	E2 mini	304
11.2	E2 mini	304
907.645	guidelok horizontal	1042
907.837	guidelok horizontal	1042
2400.AG	autoglide	1196
2400AG	autoglide	1184
2450.AG	autoglide	1196
2480.AG	autoglide	1196
2500.AG	autoglide	1196
2600.AG	autoglide	1198
2600AG	autoglide	1186
2650.AG	autoglide	1198
2680.AG	autoglide	1198
2700.AG	autoglide	1198
2700R	E2/000 rollers	1166
2828R	rol e-chain®	1148
332.16	triflex®	958
332.32	triflex®	958
332.50	triflex®	958
332.75	triflex®	958
333.32	triflex®	961
333.50	triflex®	961
333.75	triflex®	961
3400AG	autoglide	1188
3500R	E2/000 rollers	1168
352.50	triflex®	958
353.50	triflex®	961
3838R	rol e-chain®	1150
4040HD	E4/4 HD	1098
4040R	rol e-chain®	1152
4040RHD	rol e-chain®	1154
5050HD	E4/4 HD	1104
5050R	rol e-chain®	1156
5050RHD	rol e-chain®	1158
7728R	rol e-chain®	1148
7838R	rol e-chain®	1150
8840HD	E4/4 HD e-tube	1098
8840R	rol e-chain®	1152
9850HD	E4/4 HD e-tube	1104
9850R	rol e-chain®	1156
Aluminium SuperTrough	Guide troughs	1208
Aluminium support tray	Guide troughs	1270
autoglide	autoglide	1170
B07	E2 micro	274
B09	E2 micro	282
B15	E2 mini	308
B15i	E2 mini	308
B17	E2 mini	312
B17i	E2 mini	312
basic flizz® 2500 HD	basic flizz®	1048
basic flizz® 2500 v2	basic flizz®	1048
basic flizz® 3500 HD	basic flizz®	1049
basic flizz® 3500 v2	basic flizz®	1049
CFB strain relief connector system	chainfix	1332
CFN nuggets	chainfix	1331
CFU honeycomb strain relief	chainfix	1325
CFV strain relief element	chainfix	1330
CFX clamps	chainfix	1316
CFXL clamps	chainfix	1317
E03	easy chain®	204
E04	easy chain®	206
E045	easy chain®	208
E045.2	easy chain®	208
E045.3	easy chain®	208
E06	easy chain®	210
E065	easy chain®	212
E065.2	easy chain®	212
E065.3	easy chain®	212
E08	easy chain®	214
E1.17	E1	179
E1.18	E1	180
E1.20	E1	181
E14	easy chain®	216
E16	easy chain®	220
E2.10	E2 micro	326
E2.15	E2 micro	330
E2.26	E2.1	342
E2.38	E2.1	348
E2.48	E2.1	354
E200	easy chain®	218
E200.2	easy chain®	218
E26	easy chain®	222
E26.2	easy chain®	222
E26.3	easy chain®	222
E2C.10	E2 micro	326
E2C.15	E2 micro	330
E2i.10	E2 micro	326
E2i.15	E2 micro	330
E2i.26	E2.1	342
E2i.38	E2.1	348
E2i.48	E2.1	354
E3.10	E3	738
E3.15	E3	744
E3.22	E3	746
E300	easy chain®	224
E300.2	easy chain®	224
E300.3	easy chain®	224
E332.25	easy triflex®	946
E332.32	easy triflex®	946
E332.50	easy triflex®	946
E332.75	easy triflex®	946
E333.25	easy triflex®	948
E333.32	easy triflex®	948
E333.50	easy triflex®	948
E333.75	easy triflex®	948
E4,112	E4.1	636
E4.162	E4.1	644
E4.21	E4.1	576
E4.28	E4.1	582
E4.31L	E4.1L	536
E4.32	E4.1	590
E4.32AG	autoglide	1176
E4.350	E4.1	656
E4.38L	E4.1L	542
E4.42	E4.1	600
E4.42AG	autoglide	1178
E4.48L	E4.1L	550
E4.56	E4.1	612
E4.56AG	autoglide	1180
E4.64L	E4.1L	560
E4.80	E4.1	624
E6.29	E6	796
E6.35	E6	802
E6.40	E6	806
E6.52	E6	812
E6.62	E6	818
E6.80	E6	828
E6.80L	E6	822
E61.29	E6.1	758
E61.35	E6.1	764
E61.40	E6.1	768
E61.52	E6.1	774
E61.62	E6.1	778
E61.80	E6.1	782
EA16	autoglide	1192

Selection by product, series and page

Contents

Series	Product	Page
EA25	autoglide	1193
EF61.29	E6.1	758
EL.00.23.0	e-rib	170
EL.00.36.0	e-rib	172
EL.00.48.0	e-rib	173
EL.01.29.0	e-rib	171
ES1.10	E1	178
e-spool compact	e-spool	1016
e-spool for manual operation	e-spool	1020
e-spool HD	e-spool	1014
e-spool power	e-spool	1024
e-spool standard	e-spool	1012
F17	E2 mini	316
FTA.B.01	Floating moving end	1082
GLSL.P.255	guidelok	1034
GLSL.P.2700	guidelok	1034
guidefast	guidefast	1276
guidelite	guidelite	1282
guidelok horizontal	guidelok	1040
guidelok slimline	guidelok	1034
H4.32	E4.1	590
H4.42	E4.1	600
H4.56	E4.1	612
H4.80	E4.1	624
isense	smart plastics	1066
LB.E332	liftband	1030
liftband	liftband	1028
MF06	micro flizz®	1058
MF08	micro flizz®	1059
MF10	micro flizz®	1060
micro flizz®	micro flizz®	1054
P4.32	rol e-chain®	1118
P4.42	rol e-chain®	1124
P4.56	rol e-chain®	1130
P4.80	rol e-chain®	1136
PPDS	Condition Monitoring	1082
R07	zipper e-tube	236
R09	zipper e-tube	242
R15	zipper e-tube	248
R17	zipper e-tube	256
R2.26	R2.1	486
R2.40	R2.1	490

Series	Product	Page
R2.48	R2.1	494
R2.75	R2.1	498
R2i.26	R2.1	486
R2i.40	R2.1	490
R2i.48	R2.1	494
R4.112	E4.1	636
R4.28	E4.1 e-tube	582
R4.31L	E4.1L e-tube	536
R4.32	E4.1 e-tube	590
R4.38L	E4.1L e-tube	542
R4.42	E4.1 e-tube	600
R4.48L	E4.1L e-tube	550
R4.56	E4.1 e-tube	612
R4.80	E4.1 e-tube	624
R6.29	E6 e-tube	796
R6.40	E6 e-tube	806
R6.52	E6 e-tube	812
RS tubular trough	Guide troughs	1288
RX32	RX e-tube	508
RX40	RX e-tube	512
RX48	RX e-tube	516
RX56	RX e-tube	520
SK28	e-skin®	842
SK40	e-skin®	846
SP snap-in trough	Guide troughs	1294
SP1.240.	e-spool	1016
SP1.400.	e-spool	1016
SP1.600.	e-spool	1013
SP1.700.	e-spool	1013
SP1.850.	e-spool	1013
SP2.600.	e-spool	1013
SP2.700.	e-spool	1013
SP2.850.	e-spool	1013
SPC1.300.	e-spool	1020
SPHD1.600.	e-spool	1014
SPHD1.700.	e-spool	1014
SPHD1.850.	e-spool	1014
SPHD2.600.	e-spool	1014
SPHD2.700.	e-spool	1014
SPHD2.850.	e-spool	1014
Steel guide trough	Guide troughs	1234
Steel support tray	Guide troughs	1264

Series	Product	Page
Strain relief	chainfix	1302
Strain relief separators	chainfix	1326
T3.29	T3 Band	728
TB12.23.09	twisterband	995
TB20.44.12	twisterband	995
TB20.44.18	twisterband	995
TB29.27.22	twisterband	995
TB30.75.22	twisterband	995
TBHD30.75.22	twisterband	999
TBHD42.135.30	twisterband	999
TC32	twisterchain	974
TC42	twisterchain	976
TC56	twisterchain	978
TE14	snapchain	186
TE26	snapchain	187
TH3.25.2/26	TH3	856
TH3.25.3/26	TH3	856
TH3.25.4/26	TH3	856
TH3.25.5/26	TH3	856
TH3.45.2/20	TH3	860
TH3.45.3/20	TH3	860
TH3.45.4/20	TH3	860
TH3.45.5/20	TH3	860
Tiewrap plates	chainfix	1320
TRC.100	triflex® R	875
TRC.125	triflex® R	875
TRC.30	triflex® R	875
TRC.40	triflex® R	875
TRC.50	triflex® R	875
TRC.60	triflex® R	875
TRC.70	triflex® R	875
TRC.85	triflex® R	875
TRCF.100	triflex® R	879
TRCF.65	triflex® R	879
TRCF.85	triflex® R	879
TRCF.85	triflex® R	879
TRE.100	triflex® R	877
TRE.125	triflex® R	877
TRE.30	triflex® R	877
TRE.40	triflex® R	877
TRE.50	triflex® R	877
TRE.60	triflex® R	877

Series	Product	Page
TRE.70	triflex® R	877
TRE.85	triflex® R	877
triflex® RS	triflex® R	914
triflex® RSE	triflex® R	926
triflex® RSE linear	triflex® R	920
triflex® RSP	triflex® R	908
TRL.100	triflex® R	881
TRL.30	triflex® R	881
TRL.40	triflex® R	881
TRL.60	triflex® R	881
TRL.70	triflex® R	881
TRLF.100	triflex® R	883
TRLF.125	triflex® R	883
TRLF.65	triflex® R	883
TRLF.85	triflex® R	883
TZ14	snapchain	186
TZ26	snapchain	187
UR brackets	triflex® R	900
Z045	easy chain®	208
Z045.2	easy chain®	208
Z045.3	easy chain®	208
Z06	easy chain®	210
Z065	easy chain®	212
Z065.2	easy chain®	212
Z065.3	easy chain®	212
Z08	easy chain®	214
Z14	easy chain®	216
Z16	easy chain®	220
Z200	easy chain®	218
Z200.2	easy chain®	218
Z26	easy chain®	222
Z26.2	easy chain®	222
Z26.3	easy chain®	222
Z300	easy chain®	224
Z300.2	easy chain®	224
Z300.3	easy chain®	224
ZF14	office chain	194

Contents

Designing with igus® e-chains® - calculation tools, diagrams, applications

Introduction	from 101	Technical data, standards, material data	from 136
Applications	from 104	igus® readychain® and readycable®	from 145
Distribution rules and strain relief	from 130	igus® installation service including guarantee	from 156

igus® solutions for simple applications - e-rib, E1, snapchain, office e-chain®

e-rib	from 162	**E1**	from 174	**snapchain**	from 182	**office e-chain®**	from 186
EL.00.23.0	170	ES1.10	178	TE14	186	ZF14	194
EL.01.29.0	171	E1.17	179	TZ14	186		
EL.00.36.0	172	E1.18	180	TE26	187		
EL.00.48.0	173	E1.20	181	TZ26	187		

Cost-effective, easy to fill e-chains® with "easy" design - easy chain®

easy chain®	from 198	E045 / Z045	208	E08 / Z08	214	E16 / Z16	220
E03	204	E06 / Z06	210	E14 / Z14	216	E26 / Z26	222
E04	206	E065 / Z065	212	E200 / Z200	218	E300 / Z300	224

Zip-open, easy to fill - zipper e-chains® and e-tubes

zipper	from 226	R07	236	15	244	R17	256
047	232	09	238	R15	248		
07	234	R09	242	17	252		

All-rounder - e-chains® and e-tubes - E2 micro, mini, E2.1 micro, E2.1, E2/000

micro	from 261	08	286	**E2.1 micro**	from 320	2400 / 2500	380
03	266	**mini**	from 290	E2i.10/E2.10/E2C.10	326	2450 / 2480	386
04	268	10	296	E2i.15/E2.15/E2C.15	330	2600 / 2700	392
05	270	11,031	300	**E2.1**	from 334	2650 / 2680	400
045	272	11,080	302	E2i.26/E2.26	342	3400 / 3500	408
B07	274	11.1 / 11.2 272	304	E2i.38/E2.38	348	3450 / 3480	416
06	276	14	306	E2i.48/E2.48	354	255	424
074	278	B15i / B15 276	308	**E2/000**	from 360		
094	280	B17i / B17	312	1400 / 1500	368		
B09	282	F17	316	1450 / 1480	374		

Protection against dirt and swarf, openable - igus® e-tubes E2 R100, E2 R, R2.1, RX

E2 R100	from 428	R48	460	R2.40 / R2i.40	490	RX40	512
R117 / R118	434	R58	466	R2.48 / R2i.48	494	RX48	516
R157 / R158	440	R68	472	R2.75	498	RX56	520
R167 / R168	448	**R2.1**	from 478	**RX**	from 502		
E2 R	from 454	R2.26 / R2i.26	486	RX32	508		

E4 universal modular kit - e-chains® and e-tubes for any application - E4.1L, E4.1, E4/light

E4.1L	from 524	E4.28/R4.28	582	800	648	15050/15150/19850	694
E4.31L/R4.31L	536	E4.32/H4.32/R4.32	590	840	652	15250/15350	704
E4.38L/R4.38L	542	E4.42/H4.42/R4.42	600	E4.350	656	1640/1608	712
E4.48L/R4.48L	550	E4.56/H4.56/R4.56	612	**E4/light**	from 660		
E4.64L	560	E4.80/H4.80/R4.80	624	14040/14140/18840	668		
E4.1	from 566	E4.112/R4.112	636	14240/14340	678		
E4.21	576	E4.162	644	14550/14650/19050	686		

Cleanroom e-chains® and e-tubes, low noise, low vibration and high dynamics - T3, E3, E6.1, E6, e-skin®

T3	from 722	**E6.1**	from 750	E61.80	782	E6.62	818
T3.29	728	E61.29/EF61.29	758	**E6**	from 788	E6.80L	822
E3	from 732	E61.35	764	E6.29/R6.29	796	E6.80	828
E3.10	738	E61.40	768	E6.35	802	**e-skin®**	from 834
E3.15	742	E61.52	774	E6.40/R6.40	806	SK28	842
E3.22	746	E61.62	778	E6.52/R6.52	812	SK40	846

e-chain® designed according to hygienic principles - TH3

TH3	from 850	TH3.25.4/26	856	TH3.45.3/20	860
TH3.25.2/26	856	TH3.25.5/26	856	TH3.45.4/20	860
TH3.25.3/26	856	TH3.45.2/20	860	TH3.45.5/20	860

Robotics, 3D and circular movements - triflex® R, triflex®, twisterchain, twisterband

triflex® R	from 866	E332 (Single-axis movement)	946	**twisterchain**	from 966	TB20	994
TRC	874	E332 (Double-axis movement)	947	2208	972	TB29	994
TRE	876	E333 (Triple-axis movement)	948	TC32	974	TB30	994
TRCF	878	**triflex®**	from 952	TC42	976	TBHD30	998
TRL	880	332/352 (Single-axis movement)	958	TC56	978	TBHD42	998
TRLF	882	333/352 (Double-axis movement)	960	**twisterband**	from 988		
easy triflex®	from 940	333/353 (Triple-axis movement)	961	TB12	994		

Solutions for multi-axis movement - e-spool

e-spool standard / HD	from 1012	e-spool compact	from 1016	e-spool for manual operation	from 1020	e-spool power	from 1024

Solutions for vertical motion - liftband, guidelok slimline P

liftband	from 1026	guidelok slimline P	from 1032

Solutions for horizontal motion - guidelok horizontal, basic flizz®, micro flizz®

guidelok horizontal	from 1038	basic flizz®	from 1044	micro flizz®	from 1052

Predictive maintenance, condition monitoring and engineered projects

isense smart plastics	from 1080	PPDS (isense EC.P.)	from 1080	Modular projects	from 1084

e-chains® for long travels - E4/4HD, System P4, rol e-chain®, autoglide

E4/4HD	from 1092	E4/4 rol e-chain®	from 1142	2700R	1166	2600AG	1186
4040HD/8840HD	1098	2828R/7728R	1148	3500R	1168	3400AG	1188
5050HD/9850HD	1104	3838R/7838R	1150	**autoglide 01 - E4.1**	from 1174	**autoglide 03 - easy chain®**	from 1190
P4	from 1112	4040R/8840R	1152	E4.32AG	1176	EA16	1192
P4.32	1118	4040RHD	1154	E4.42AG	1178	EA25	1193
P4.42	1124	5050R/9850R	1156	E4.56AG	1180	**autoglide 04 - E2/000**	from 1194
P4.56	1130	5050RHD	1158	**autoglide 02 - E2/000**	from 1182	2400/2500.AG	1196
P4.80	1136	E2/000 rol e-chain®	from 1160	2400AG	1184	2600/2700.AG	1198

Guide troughs for general and heavy-duty applications - Aluminium SuperTroughs, steel troughs

Aluminium SuperTroughs	from 1208	972.30.SL | 972.32.SL	1226	92.30 | 92.31	1242	94.14550.30 | 94.14550.31	1254
970.30.SL | 970.31.SL	1216	973.30.SL | 973.31.SL	1228	95.30 | 95.31	1244	96.30 | 96.31	1256
970.30.SL | 970.32.SL	1218	974.30.SL | 974.31.SL	1230	99.30 | 99.31	1246	98.30 | 98.31	1258
971.30.SL | 971.31.SL	1220	975.30.SL | 975.31.SL	1232	97.30 | 97.31	1248	90.30 | 90.31	1260
972.02.30.SL | 972.02.31.SL	1222	Fixed end module, aluminium	1214	93.30 | 93.31	1250	Fixed end module, steel	1240
972.30.SL | 972.31.SL	1224	Steel guide trough	from 1234	94.30 | 94.31	1252	91.10 - 91.71	1241

Other guide trough systems - steel and aluminium support trays, guidefast, guidelite, RS, SP

Steel support tray	from 1264	**guidefast**	from 1276	Tubular trough RS	from 1288
Aluminium support tray	from 1270	**guidelite**	from 1282	Snap-in trough SP	from 1284

For maximum holding force - igus® chainfix strain relief components

Steel and stainless steel clamps	from 1314	Option 2: integrated strain relief for E2 e-tubes - series R	1322
CFX* single, double, triple standard clamps	1316	Option 3: tiewrap plates for fixed crossbars	1323
CFXL* single, double, triple clamps with wide base for maximum holding force	1317	Option 4: tiewrap plates for openable crossbars	1324
chainfix multi-clamps	1319	**CFU - honeycomb strain relief - assembled in seconds**	1325
chainfix tiewrap plates - universal, bolted or clip-on	from 1320	**Strain relief separators - separator with integrated strain relief teeth**	1326
Option 1A: Series 2000	1320	**CFV strain relief element - stepped strain relief**	1330
Option 1B: Series 3000	1321	**CFN nuggets - chainfix nuggets for C-profile and top-hat (DIN) rail 35**	1331
Option 1: tiewrap plates with clip-on connection for C-profile	1322	**CFB strain relief connector system - modular and customised**	1332

Application icons

Accessibility of e-chains® and e-tubes

- "easy" design - simply press cables in
- One-piece, non-openable
- Lids removable along the outer radius
- triflex® R - fully enclosed design, non openable
- Zipper - zip-open along the outer radius
- Crossbars openable along the outer radius, from both sides
- Crossbars removable along the inner and outer radius
- triflex® R - "easy" design, simply press cables in
- Openable along the inner radius, from one side
- Crossbars openable along the inner radius, from both sides
- Openable from both sides - lids openable along the outer radius, from one side
- triflex® R - "easy" design, simply press cables in
- Openable along the outer radius, from one side
- Lids removable along the outer radius
- Easy filling from both sides with "easy" design
- triflex® R - with snap-lock mechanism

Application icons

- Unsupported
- Recommended standard
- igus® calculation
- Gliding
- igus® information
- Mounting brackets
- Vertical hanging
- igus® order example
- chainfix strain relief
- Vertical standing
- igus® web www.igus.eu
- Interior separation
- Zig-zag
- igus® delivery time
- Guide troughs
- Side-mounted
- Order key
- NC without pretension
- Circular movement
- Temperature
- Noise-optimised
- Horizontal and vertical
- Speed / acceleration
- Quick version
- Nested
- UL Classification
- ESD e-chains®
- Side by side
- Weight
- Cleanroom certificates
- Combined motion
- Preferred series
- if Design Award

Price index

- Low price category
- Medium price category
- Highest price category



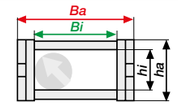
Quicklinks

Quicklinks for more information and additional features on each page. Visit directly your chosen product online, e.g. ▶ **www.igus.eu/E4.56** and you'll find more details, 3D CAD files, DXF files, PDF downloads, application examples and many more for your chosen igus® product.

Selection guide designing e-chains®

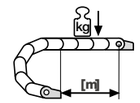
1 Sizing e-chains®

Determine the size of the e-chain® based on the specified installation space of your machine and/or of the selected filling (such as the number of cables/outer diameter of cable).



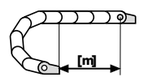
2 Determine fill weight

Determine fill weight of (cables and/or media hoses) in [kg/m] using chainflex® quick selection for manufacturer specification.



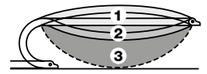
3 Determine length of travel

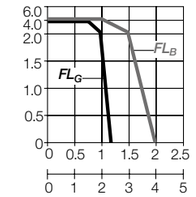
Compare the fill weight calculated in (point ❷) to the maximum fill weight of the selected e-chain® and check suitability for unsupported application.



4 Unsupported length

The maximum unsupported length initially depends on the fill weight and the e-chain® selected. At the same time, there are three different levels of unsupported length: ❶ FL_G - recommended range of application ❷ FL_B - permitted sag ❸ Critical sag: should never be allowed! Twice the value of the unsupported length determines the maximum travel in the unsupported type of operation. For evaluation the weight of the cables to be carried must be known, then an exact choice can be made using a diagram on the introductory page of the selected product. You will find the values for FL_G and FL_B on the following pages in this chapter as an overview and within every individual series' chapter. They are necessary for: ● Finding the fill weight and length of travel for the appropriate e-chain® ● Identifying the maximum load of the e-chain® used.





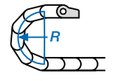
If the application works self-supporting, then the selection follows the following criteria:

5 Opening principle:

The quick finder gives an overview of the possibilities to fill the e-chain®.

6 Bend radius *R:*

Determine the possible bend radius ***R*** [mm] of the e-chain® with respect to the cable diameter.



7 Interior separation is possible with:

Separators | Full-width shelves | Shelves

8 The price index gives you the possibility of making price comparisons of similar sizes within the range.

Low | Medium | High

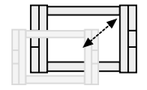
9 Additional criteria:

... for selection criteria such as pitch, permissible temperatures etc., please refer to our quick finder.

or

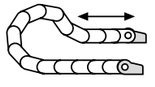
The following options are available if there is no possibility of self-supporting e-chain® application:

A You can choose the **next and stronger** e-chain®, that can be operated unsupported.



B Option:

You can design your application **to be gliding.**

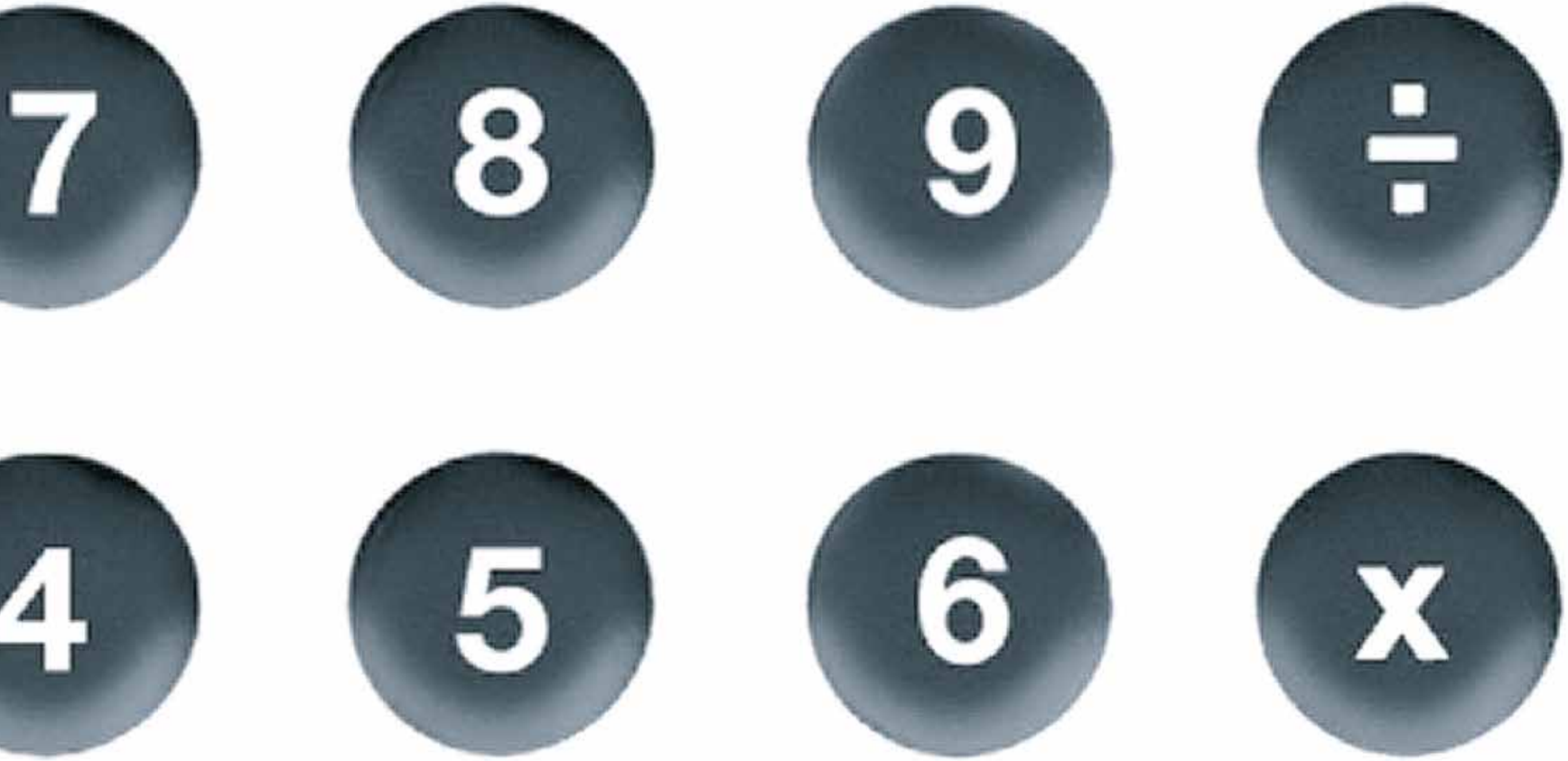


You can contact us directly or fax us your e-chain® requests! We will respond immediately!

Part No. e-chain®

Alternative e-chain®-dimensions:

hi:	*Bi*:	*ha*:	*Ba*:
Fill weight			[kg/m]
Length of travel			[m]



Designing with igus®

Calculation tools, diagrams, applications

Table of Contents | Designing with igus®

Introduction

the-chain | Designing with igus® — Page 101

igus® terms | Alphabetical order — Page 102

Calculation | e-chain® length and camber — Page 103

Applications

Unsupported | Short travels — From page 104

Unsupported | Noise-optimised — Page 107

Quick overview | Fill weights — From page 108

Unsupported straight FL_G | **Unsupported with sag FL_B** | Load diagrams — From page 110

Gliding | Long travels — From page 116

Vertical hanging | Application — From page 120

Vertical standing | Application — Page 122

Zig-zag | **liftband** | Application — Page 123

Side-mounted | Application — From page 124

Circular movement | ***RBR*** | Application — From page 126

Circular movement | ***RBR*** | Guide troughs — From page 128

Distribution rules and strain relief

Distribution rules | Cables and hoses — From page 130

chainfix | Strain relief elements — From page 134

Technical data, standards, material data

igus® materials | Technical environment — Page 136

Material igumid | Technical environment — Page 137

ESD e-chains® | Technical environment — From page 138

Cleanroom and ESD | Technical environment — Page 140

Dirty environment | Technical environment — Page 141

Material data igumid | **Colours** | Technical environment — Page 142

Chemical resistance | Technical environment — Page 143

Certification | Standards and certificates — Page 144

igus® readychain® and readycable®

readychain® | Harnessed e-chain systems® — From page 145

readycable® | Harnessed cables in 24-48hrs — From page 154

igus® installation service, including guarantee

Installation service | Save time and money — From page 156

the-chain | Designing with igus®

the-chain - moving energy made easy - an all-in-one energy supply system

There are many ways to supply your equipment and systems with energy and data. But there is no solution as universal and durable as the e-chain system®. Whether you have a circular movement, a hanging or standing application, a long travel distance or high loads - igus® plastic e-chains® will help you solve nearly any type of energy supply problem, quickly, safely and with ease. By using the extensive igus® construction kit, you will find the solution to match your needs and application: from individual components to a complete installation at your facility. We have developed an online tool to help you find what you need with greater ease ▶ **www.igus.eu/the-chain**. Should you have trouble finding exactly the product you need, our engineers are always at your disposal to help you design **the-chain.**



igus® twisterchain and E4 e-chains® with chainflex® cables for reliable and fail-safe guidance

The igus® lab and field experience

Our calculations and analyses are based on the result of ongoing practical tests in our technical centre and our experience with moving applications. The focal points of our tests are push/pull forces, friction values and abrasion under widely varying conditions and speeds, as well as factors such as dirt, weathering or impact. We test all system components such as cables, hoses, strain relief and other accessories, in addition to the e-chains® or e-tubes and guide troughs.



2,750m² igus® test lab - more than 15,000 tests every year

igus® terms | Alphabetical order

Application icons

- Unsupported
- Gliding
- Vertical hanging
- Vertical standing
- Zig-zag
- Side-mounted
- Circular movement
- Horizontal and vertical
- Nested
- Side by side
- Combined movements

Abbreviations and description

α	=	Angle of rotation	[°]
ΔM	=	Deviation of the centre point	[mm]
a	=	Acceleration	[m/s²]
AR	=	Outer radius, e-chain® (twisterchain)	[mm]
Ba	=	Outer e-chain® width	[mm]
Bi	=	Inner e-chain® width	[mm]
B_{Ra}	=	Guide trough outer width	[mm]
B_{Ri}	=	Guide trough inner width	[mm]
D	=	Over-length e-chain® radius in final position	[mm]
D_2	=	Over-length for long travel gliding	[mm]
FL_B	=	Unsupported length with sag	[m]
FL_G	=	Unsupported straight length	[m]
FL_U	=	Unsupported lower run	[m]
FZ_{max}	=	Maximum fill weight	[kg/m]
H	=	Nominal clearance height	[mm]
H_2	=	Clearance height with lowered moving end	[mm]
ha	=	Outer e-chain® height	[mm]
H_F	=	Required clearance height	[mm]
hi	=	Inner e-chain® height	[mm]
H_{Ra}	=	Outer trough height	[mm]
H_{Ri}	=	Inner trough height	[mm]
IR	=	Inner radius, e-chain® (twisterchain)	[mm]
K	=	Add-on for bend radius (K is taken from the data tables of the individual series)	[mm]
K_2	=	Add-on for bend radius if the mounting point is lowered (for long travels)	[mm]
L_K	=	e-chain® length	[mm]
n	=	Number of links	[1]
n_{Mon}	=	Number of installation sets (left/right)	[1]
n_{Ri}	=	Number of trough sets (left/right)	[1]
R	=	Bend radius	[mm]
RBR	=	Reverse Bend Radius	[mm]
S	=	Length of travel	[mm]
$S/2$	=	Half length of travel	[mm]
T	=	e-chain® link pitch	[mm]
v	=	Travel speed	[m/s]
X_1	=	Inner machine limit (twisterchain)	[mm]
X_2	=	Outer radius e-chain®, including clearance (twisterchain)	[mm]
ΔCL	=	Offset fixed end	[mm]

igus® formulae

SFL_B	$= 2 \times FL_B$	Calculation of maximum travel length, unsupported with sag
SFL_G	$= 2 \times FL_G$	Calculation of maximum travel length, unsupported straight
B_{Ri}	$= Ba + 4$	Minimum guide trough width
H_{Ri}	$\geq 2 \times ha$	Minimum guide trough height for gliding applications
K	$= \pi \times R + (2 \times T)$	Add-on for bend radius
L_K	$= S/2 + \Delta M + K$	e-chain® length, fixed end is outside the centre of travel (FL_G, FL_B and ΔM)
L_K	$= S/2 + K$ [m]	e-chain® length, for all types of applications, fixed end in the centre of travel, - except circular movements and most long travels
L_K	$= S/2 + K_2$ [m]	e-chain® length for long travels, fixed end in the centre of travel

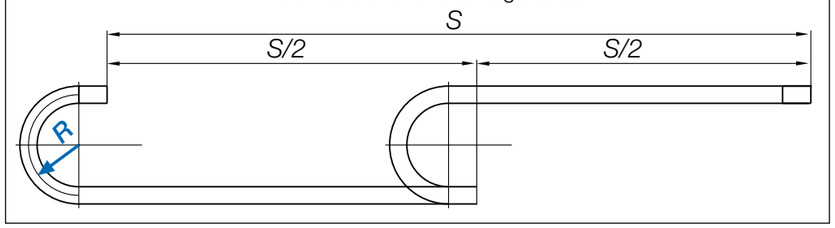
Calculation | e-chain® length and camber

Calculation of the e-chain® length

If the fixed end of the e-chain® is located in the centre of the travel, the e-chain® length L_K is calculated by using half the length of travel and adding the value K for the bend radius. You can obtain the value K from the tables in the catalogue. Placing the fixed end in the centre of the travel is the **most cost-effective** solution because it requires the shortest e-chain®, cables and hoses.

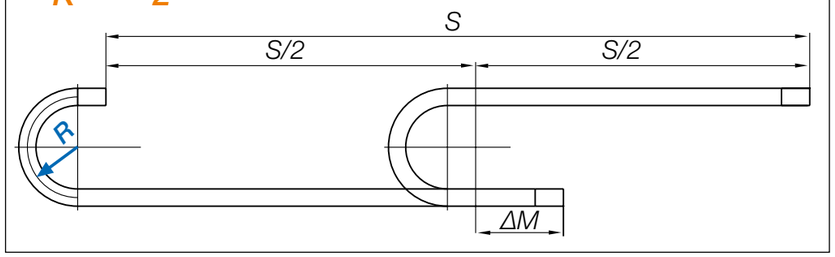
$L_K = S/2 + K$

This formula is generally valid for all types of applications if the fixed end is in the centre of the travel. Exceptions: circular movements and most long travels.



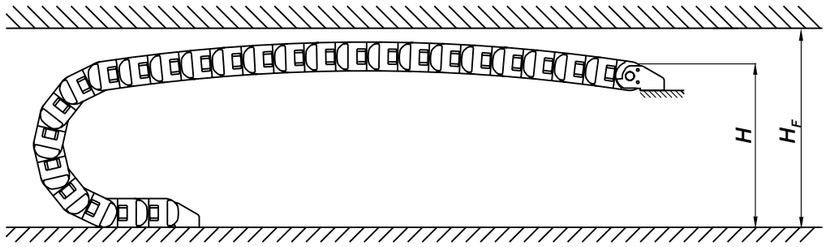
$L_K = S/2 + \Delta M + K$

This formula is valid if the fixed end is outside the centre of the travel.



Camber

The largest possible unsupported length is influenced by the design, material and camber. Camber is the curve of the upper run along its unsupported length. All igus® e-chains® are manufactured with camber. In the installation dimensions section of each respective e-chain® description, you will find the measurement H_F, which specifies the necessary clearance height, taking the camber into account. The camber allows for longer unsupported lengths and increases service life and operating safety. Upon request, we can deliver e-chains® without camber for restricted space applications - however, these no camber e-chains® do not have the same load-bearing capacity. Please consult igus®.



Principle of camber for igus® e-chains® H_F = required installation height

The fixed end in the centre of the travel is the most cost-effective solution

$K = \pi \times R + (2 \times T)$

L_K = e-chain® length

S = Length of travel

$S/2$ = Half length of travel

R = Bend radius

ΔM = Deviation of the centre point

K = Add-on for bend radius

T = e-chain® link pitch

(K is taken from the data tables of the individual igus® series)

No Camber - Special "NC" e-chains® with no camber also available. Please consult igus®.

H = Nominal clearance height

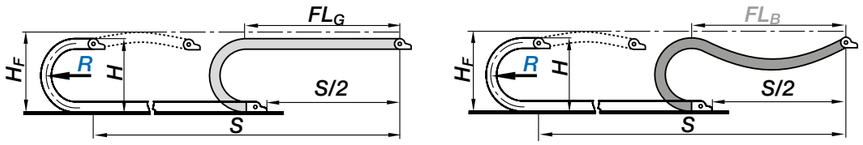
H_F = Required clearance height

The necessary clearance height depends on the camber of the e-chain®. Find values for the necessary clearance height H_F on each product page

The ***FL$_G$*** type of installation always generates the longest service life and can be operated with the max. values for speed and acceleration

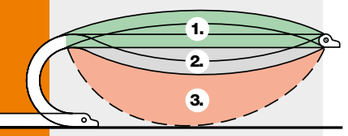


Example for unsupported straight ***FL$_G$***



Unsupported applications

If the upper run of the e-chain® operates without touching the lower run over the entire travel, it is called an unsupported application. The distance between moving end and the beginning of the radius curve of the e-chain® is called **the unsupported length**. The unsupported application is the most common. igus® e-chains® are very well suited for high dynamics and long service life. The maximum unsupported length depends on the fill weight and the type of e-chain® or e-tube. As a result, we differentiate among three types of unsupported length:



1. Unsupported with straight upper run ***FL$_G$***
2. Unsupported with permitted sag ***FL$_B$***
3. Critical sag

1. Unsupported with straight upper run *FL$_G$*

The e-chain® is unsupported ***FL$_G$*** when the upper run still has camber, is straight or has a maximum sag of 1/2 of the e-chain® link height. Installing the e-chain® in ***FL$_G$*** is always recommended. The e-chain® runs smoothly without additional vibration.

2. Unsupported with permitted sag *FL$_B$*

The e-chain® is unsupported ***FL$_B$*** when the sag is more than 1/2 e-chain® link height and less than the smallest available radius of this e-chain® series. In most applications the e-chain® can be used unsupported ***FL$_B$*** without any problems. There are restrictions concerning the maximum speed and acceleration.

3. Critical sag

When the sag of the e-chain® is higher than allowed for ***FL$_B$***, it is in critical sag. Using an e-chain® in critical sag should be avoided or solved with special solutions. An e-chain® should never be installed with critical sag. Applications may reach critical sag after long service times. The e-chain® or e-tube should be replaced in these cases. Please contact us!

Unsupported | Short travels

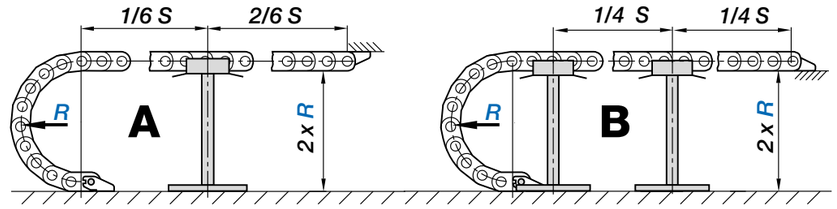


Example of unsupported with sag, ***FL$_B$***

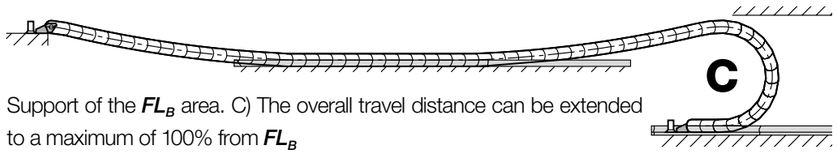
What to do if the unsupported length is insufficient?

If your application, fill weight and travel fall outside the unsupported length parameters of the desired e-chain®, you have the following options:

- Select a stronger igus® e-chain®
- Support the e-chain® in the unsupported area. This option means restrictions for acceleration, speed and noise as a consequence - three fundamental examples are detailed to below - please consult igus® if you are considering this possibility - we will gladly provide you with a detailed proposal
- Use a multiband e-chain® or nest two igus® e-chains® inside one another. (Please consult igus®)
- Design the travel distance as a gliding application



Support of the ***FL$_G$*** area. A) The overall straight, unsupported travel can be increased here by a maximum of 50% of the ***FL$_G$*** and in case of option B) by a maximum of 100%



Support of the ***FL$_B$*** area. C) The overall travel distance can be extended to a maximum of 100% from ***FL$_B$***

For every igus® e-chain® or e-tube, you will find the values for ***FL$_G$*** and ***FL$_B$*** in two locations: on the following pages in this chapter as an overview and within every individual series' chapter. They are essential for:

- Finding a suitable e-chain® for your fill weight and travel distance
- Identifying the maximum load for the selected e-chain®

Unsupported | Short travels

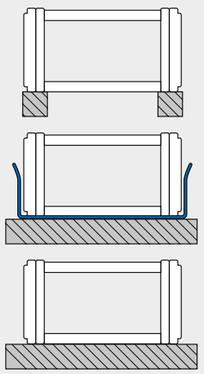
Standard

We recommend pivoting mounting brackets as standard for unsupported applications.
We recommend locking mounting brackets as standard if speeds > 20m/s or accelerations > 20m/s²

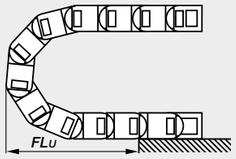
Standard values of maximal speed and acceleration

Unsupported		FL_G	FL_B
v max.	[m/s]	20	3
v peak	[m/s]	50	–
a max.	[m/s²]	200	6
a peak	[m/s²]	784	–

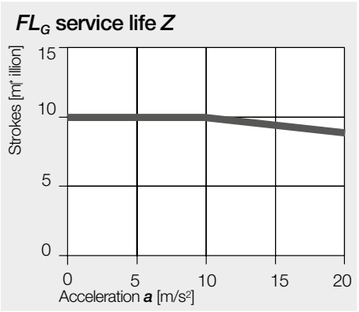
Standard value of FL_G service life: 10 million cycles



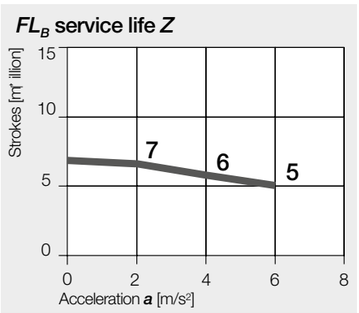
Different surfaces and support trays are possible



FL_U = Unsupported lower run



Standard values on service life for FL_G, depending on acceleration



Standard values on service life for FL_B, depending on acceleration

Speed, acceleration and service life

For unsupported applications, the acceleration (***a***) is the more critical parameter than the speed (***v***). High acceleration can cause the e-chain® to vibrate and reduce its service life. This is a particular issue if the e-chain® already has a sag greater than the FL_G value. Max. values for acceleration (***a***), speed (***v***)and service life are achieved only with e-chains® incorporating the FL_G design. igus® e-chain systems® can sustain very high loads. To date, a peak acceleration of 784m/s² has been achieved during continuous use. The guideline values that result from continuous experiments in the igus® laboratory and countless practical applications can be obtained from the two diagrams for your design. Our tests confirm that these standard values apply to all igus® e-chains® and e-tubes. It is crucial to determine whether the application will be designed as unsupported straight FL_G or unsupported, with sag FL_B.

Contact surfaces

Unsupported igus® e-chains® normally require some type of surface on which the lower portion of the e-chain® runs. A wide range of configurations is available, as the drawings on the right demonstrate. Many material options are feasible: metals, polymers, stone, wood, concrete, glass, etc. We also have solutions to minimise the noise generated by the e-chain® lower portion. Please consult igus®. When selecting the running surface, please ensure that dirt and debris cannot collect in the e-chain® path.

Mounting brackets

We recommend pivoting mounting brackets as standard for unsupported applications.
Pivoting mounting brackets compensate for the camber, can be installed more easily and decrease the load on the first e-chain® link in operation. Exception: if the acceleration is greater than 20m/s² or if the height is limited to the H_F measurement. In such cases, locking mounting brackets keep the e-chain® under the H_F measurement.

Unsupported lower run

e-chains® without support along the lower run have restricted use. The value FL_U usually must be determined in a test by igus®. The maximum permissible amount of the projection depends on the fill weight, the selected e-chain®, the dynamics, and other factors. The combination of fill weight, e-chain® type and FL_U is always different. If the lower run of the e-chain® cannot be supported over the whole travel, please consult igus®.

Unsupported | Noise-optimised

Minimise noise levels with igus® e-chain systems®

The igus® product range includes e-chains® optimised for low noise. The table below briefly illustrates the differences in noise level among various e-chains®. In addition to the e-chain®, the running surface, the dynamics and the cable and hose package play a role in overall noise generation. Have our specialists design the quietest e-chain system® for your application, for example.

System T3 ≤ 33dB(A)

Optimal smoothness of motion was the prime development goal for the t-shaped band e-chain® T3. The igus® T3 e-chain® is very flexible and runs -due to the special geometry- very smoothly. A measurement indicates a value of 33dB(A) at 1m/s and with an unsupported length with series **T3.29.050.038.0**, and all this with a sound pressure level generated by external noise.

System E3 ≤ 38dB(A)

Long-term tests in the igus® acoustic laboratory showed reductions of 19-20dB(A) compared with standard e-chains®, measured at a speed of 1.8m/s and an acceleration of 3m/s². Figure determined in the igus® laboratory in accordance with DIN 45635, taking into consideration background noise, for the series **E3.22.060.044.0.**

System E6.1 ≤ 32dB(A) / System E6 ≤ 46dB(A)

A measurement conducted by the Rhineland Technical Inspection Authority (TÜV Rheinland) in May 2002 indicates a value of ≤ 46dB(A) at 2m/s and with an unsupported length of 1.5m with series **E6.52.10.100.0**, and all this with at least 10dB(A) sound pressure level generated by external noise. A value of 32dB(A) was measured during the igus® internal test 4479 for the series **E61.29.070.055.0.** The quiet operation is due to a very small pitch and a brake in the stop dog system. The so-called "polygon effect" is virtually non-existent during the rolling of the E6/E6.1 e-chains®.

System E4 ≤ 46dB(A)

A measurement by the Rhineland Technical Inspection Authority (TÜV Rheinland) for system E4/101, **series 221.10.200.0** indicates a value of 46dB(A) at 1.5m/s with an unsupported length. Due to the special rubber pads (shown in red) of the system E4, the noise will be largely damped. The standard version of the E4.1 and E4 systems are already very reduced in noise due to their special designed stop-dog.

Selected noise tests - external noise corrected measurement values

e-chain® series		System	Averaging of the corrected sound pressure levels	Test method unsupported
E61.29	(igus®)	**E6.1**	≈ 32 dB(A)	1.0m/s
T3.29	(igus®)	**T3**	≈ 33 dB(A)	1.0m/s
E3.22	(igus®)	**E3**	≈ 38 dB(A)	1.8m/s
E6.52	(igus®)	**E6**	≈ 46 dB(A)	2.0m/s
ES4.42	(igus®)	**E4.1**	≈ 46 dB(A)	1.0m/s
E4.42	(igus®)	**E4.1**	≈ 50 dB(A)	1.0m/s
255	(igus®)	**E2 medium**	≈ 53 dB(A)	1.5m/s
Chain 1 third-party product			≈ 77 dB(A)	2.0m/s
Chain 2 third-party product			≈ 68 dB(A)	2.0m/s
Chain 3 third-party product			≈ 73 dB(A)	2.0m/s

Source: TÜV Rheinland, except series E3.22 and T3.29 - source: igus® laboratory

A reduction of 3dB(A) sounds like a 50% reduction in the noise level to the human ear







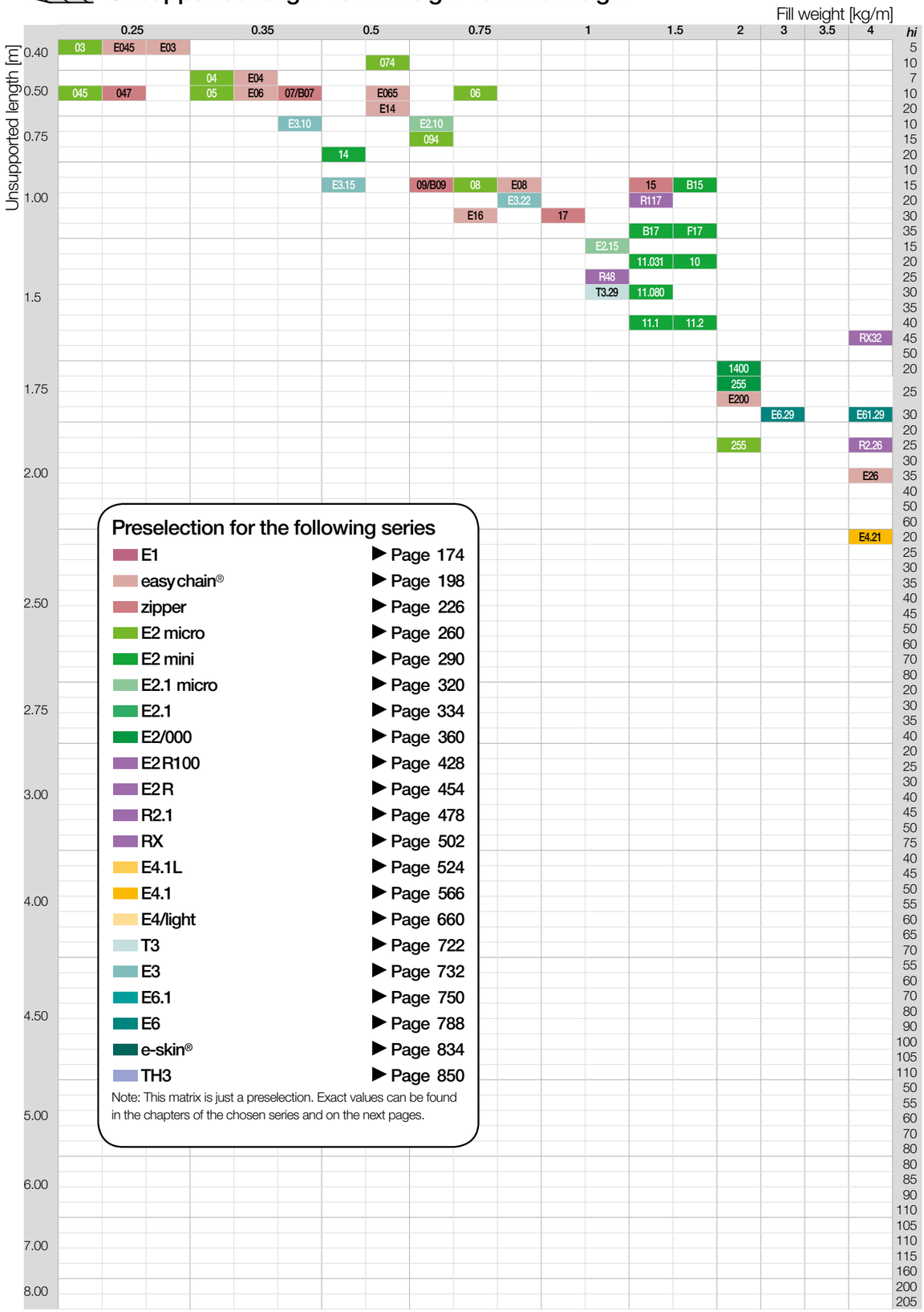




We have received an official certificate from the Rhineland Technical Inspection Authority (TÜV Rheinland Berlin-Brandenburg) and we are able to provide you with a copy upon request

Quick overview | Fill weights up to 4kg/m

Unsupported length vs. fill weight vs. inner height



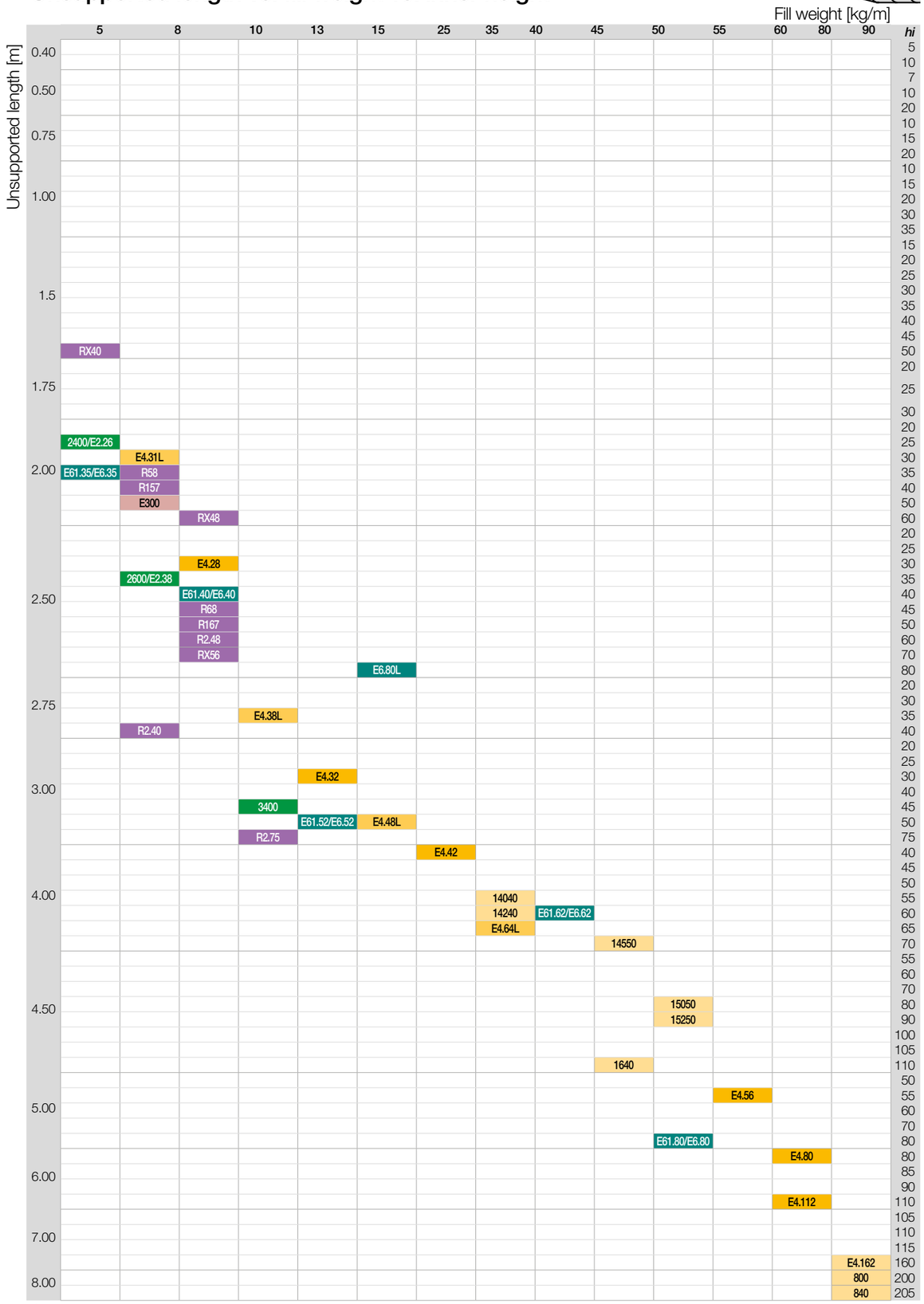
Preselection for the following series

E1	▶ Page 174
easy chain®	▶ Page 198
zipper	▶ Page 226
E2 micro	▶ Page 260
E2 mini	▶ Page 290
E2.1 micro	▶ Page 320
E2.1	▶ Page 334
E2/000	▶ Page 360
E2 R100	▶ Page 428
E2 R	▶ Page 454
R2.1	▶ Page 478
RX	▶ Page 502
E4.1L	▶ Page 524
E4.1	▶ Page 566
E4/light	▶ Page 660
T3	▶ Page 722
E3	▶ Page 732
E6.1	▶ Page 750
E6	▶ Page 788
e-skin®	▶ Page 834
TH3	▶ Page 850

Note: This matrix is just a preselection. Exact values can be found in the chapters of the chosen series and on the next pages.

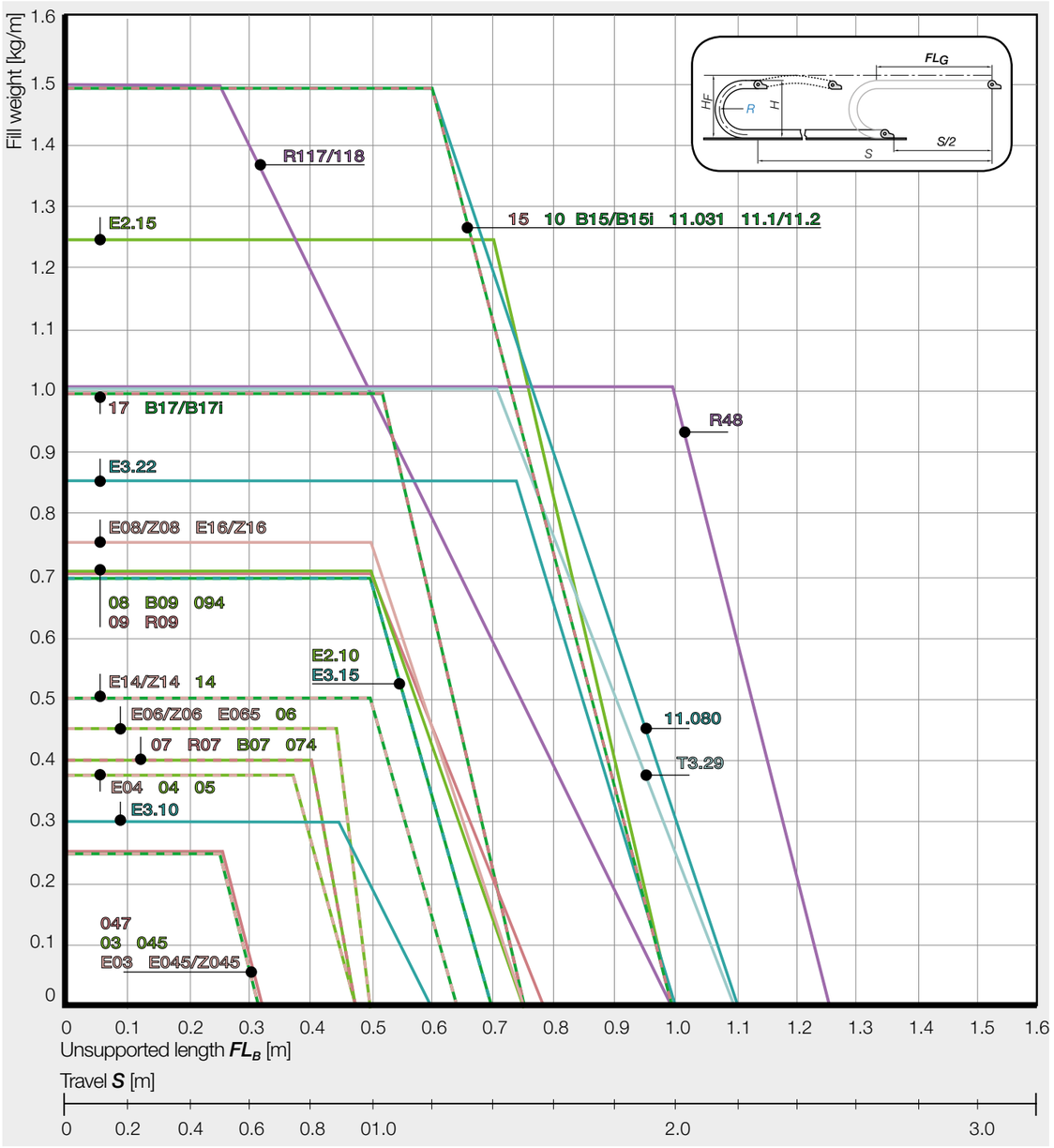
Quick overview | Fill weights from 5 up to 90kg/m

Unsupported length vs. fill weight vs. inner height



Unsupported straight FL_G | Fill weights up to 1.5kg/m

Load diagram for unsupported use



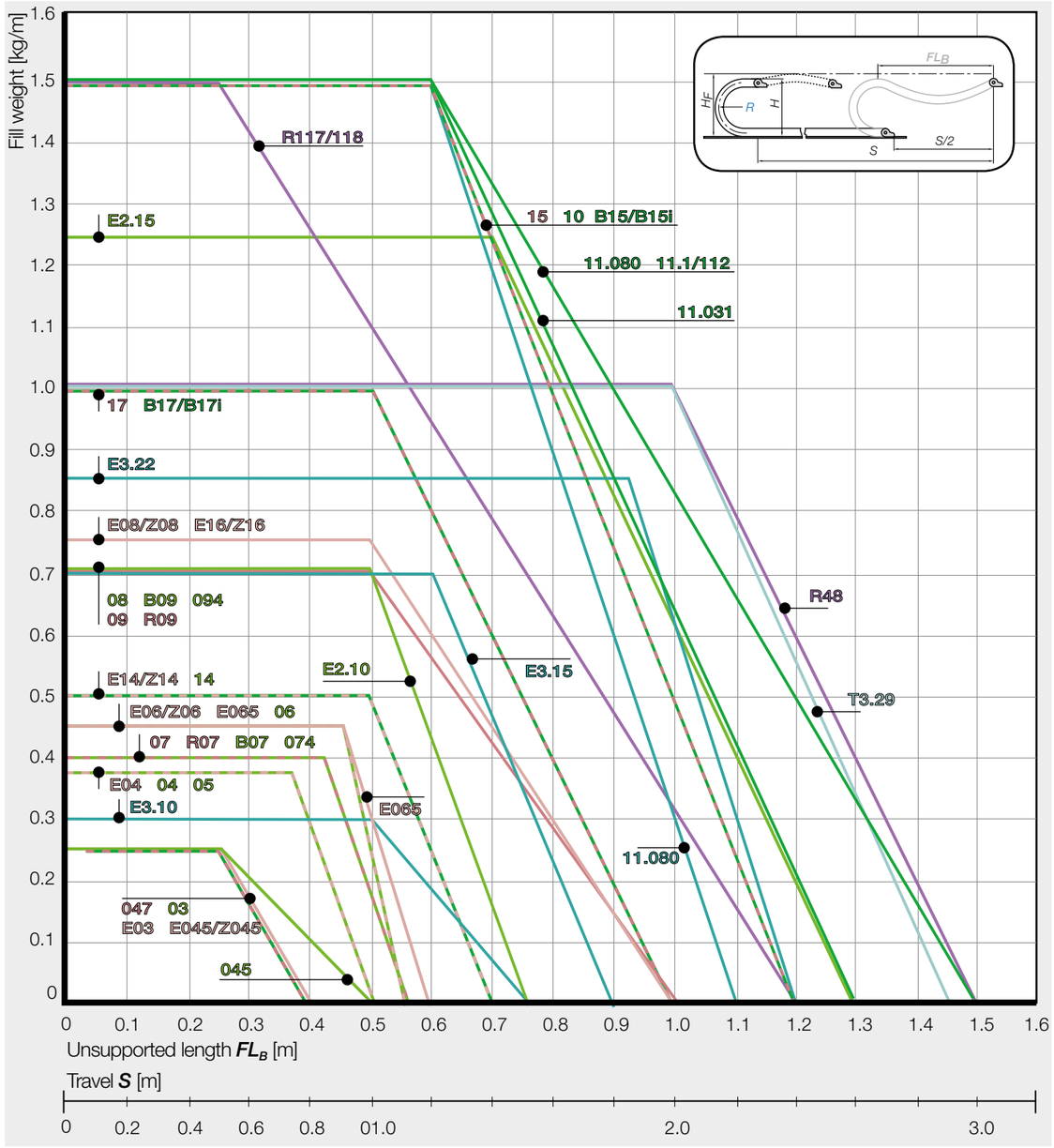
Important information

- Fill weight - weight of all cables and hoses, including contents (for media hoses) within the e-chain®, typically given [kg/m]
- FL_G - unsupported e-chain® with straight upper run
- FL_B - unsupported e-chain® with permitted sag
- To the right of the FL_B graph of the diagram, the application is shown in critical sag. **This must be avoided!**

These values are essential for finding a suitable e-chain® for your fill weight and travel distance, and identifying the max. load for the selected e-chain®. If you cannot meet your application demands using these parameters, keep in mind these specifications are conservative maximum values. **In individual cases, they can be exceeded by up to 30%**. Special solutions are also possible. Please consult igus®.

Unsupported with sag FL_B | Fill weights up to 1.5kg/m

Load diagram for unsupported use



The maximum travel

The maximum travel always amounts to 2 x FL_G or FL_B if the fixed end is in the centre of the travel. In this case, the following applies e-chain® length: $L_K = {}^{S}/_{2} + K$

S = Length of travel
R = Bend radius
H = Nominal clearance height
H_F = Required clearance height
K = π x R + (2 x T) Add-on for bend radius

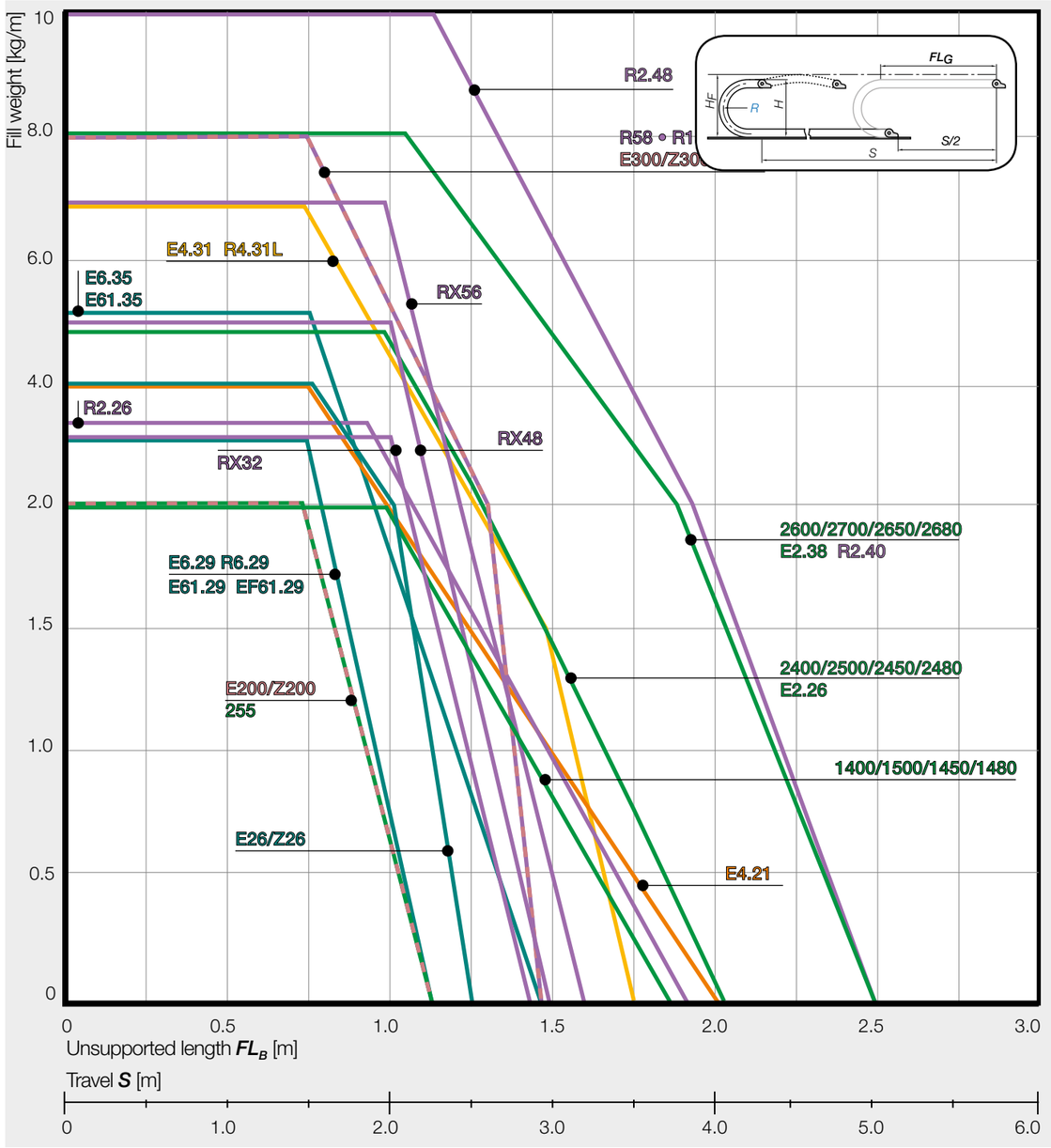
Diagram series legend ▶ on the right

E1	▶ Page 174	RX	▶ Page 502
easy chain®	▶ Page 198	E4.1L	▶ Page 524
zipper	▶ Page 226	E4.1	▶ Page 566
E2 micro	▶ Page 260	E4/light	▶ Page 660
E2 mini	▶ Page 290	T3	▶ Page 722
E2.1 micro	▶ Page 320	E3	▶ Page 732
E2.1	▶ Page 334	E6.1	▶ Page 750
E2/000	▶ Page 360	E6	▶ Page 788
E2 R100	▶ Page 428	e-skin®	▶ Page 834
E2 R	▶ Page 454	TH3	▶ Page 850
R2.1	▶ Page 478		

You will find the diagrams for each series listed individually in the catalogue

Unsupported straight FL_G | Fill weights up to 9.0kg/m

Load diagram for unsupported use



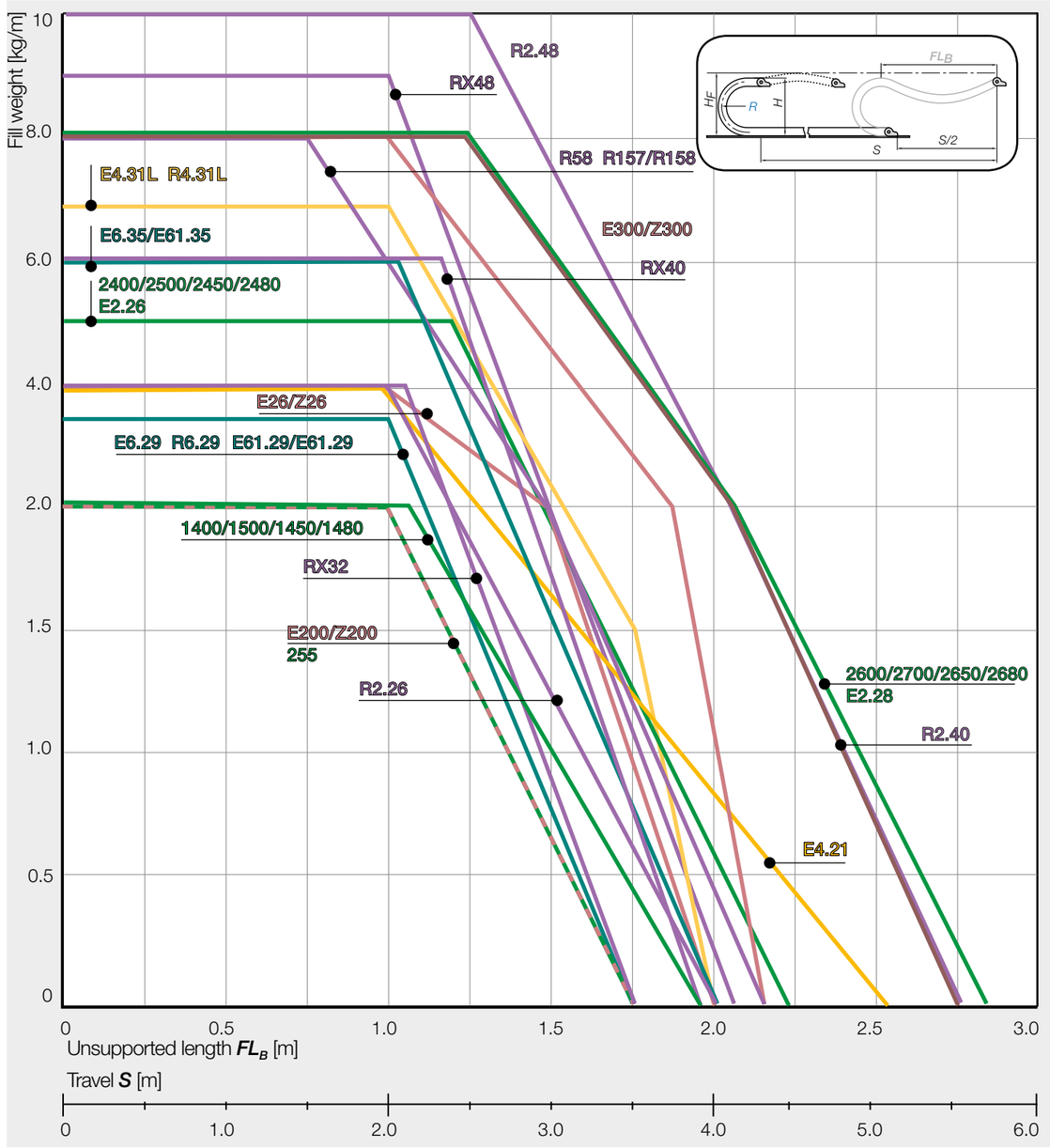
Important information

- Fill weight - weight of all cables and hoses, including contents (for media hoses) within the e-chain®, typically given [kg/m]
- FL_G - unsupported e-chain® with straight upper run
- FL_B - unsupported e-chain® with permitted sag
- To the right of the FL_B graph of the diagram, the application is shown in critical sag. **This must be avoided!**

These values are essential for finding a suitable e-chain® for your fill weight and travel distance, and identifying the max. load for the selected e-chain®. If you cannot meet your application demands using these parameters, keep in mind these specifications are conservative maximum values. **In individual cases, they can be exceeded by up to 30%**. Special solutions are also possible. Please consult igus®.

Unsupported with sag FL_B | Fill weights up to 9.0kg/m

Load diagram for unsupported use



The maximum travel

The maximum travel always amounts to 2 x FL_G or FL_B if the fixed end is in the centre of the travel. In this case, the following applies e-chain® length: $L_K = {}^{S}/_{2} + K$

S = Length of travel
R = Bend radius
H = Nominal clearance height
H_F = Required clearance height
K = π x R + (2 x T) Add-on for bend radius

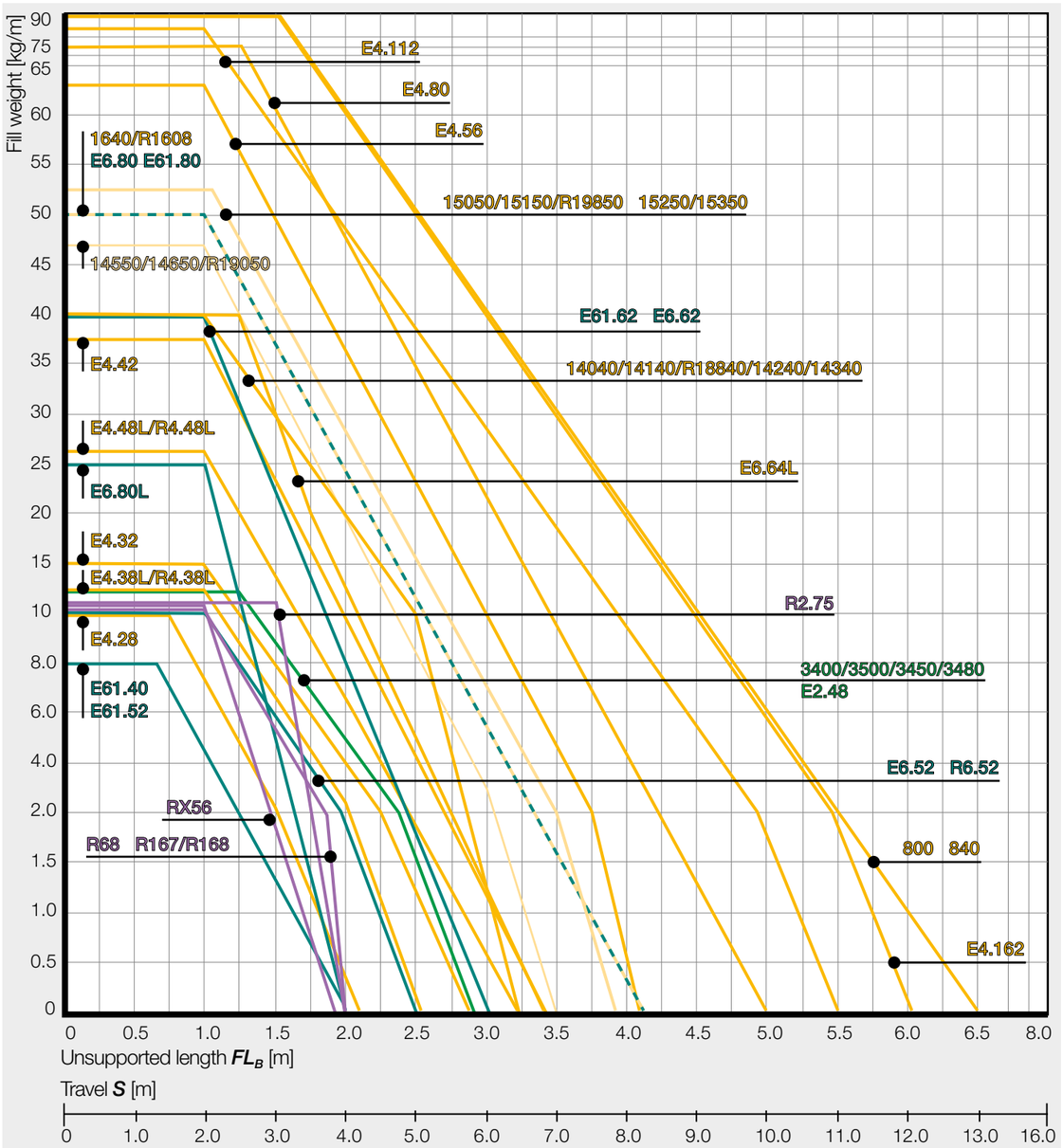
Diagram series legend ▶ on the right

E1	▶ Page 174	RX	▶ Page 502
easy chain®	▶ Page 198	E4.1L	▶ Page 524
zipper	▶ Page 226	E4.1	▶ Page 566
E2 micro	▶ Page 260	E4/light	▶ Page 660
E2 mini	▶ Page 290	T3	▶ Page 850
E2.1 micro	▶ Page 320	E3	▶ Page 722
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E2/000	▶ Page 360	E6	▶ Page 788
E2 R100	▶ Page 428	e-skin®	▶ Page 834
E2 R	▶ Page 454	TH3	▶ Page 850
R2.1	▶ Page 478		

You will find the diagrams for each series listed individually in the catalogue

Unsupported straight FL_G | Fill weights up to 90kg/m

Load diagram for unsupported use



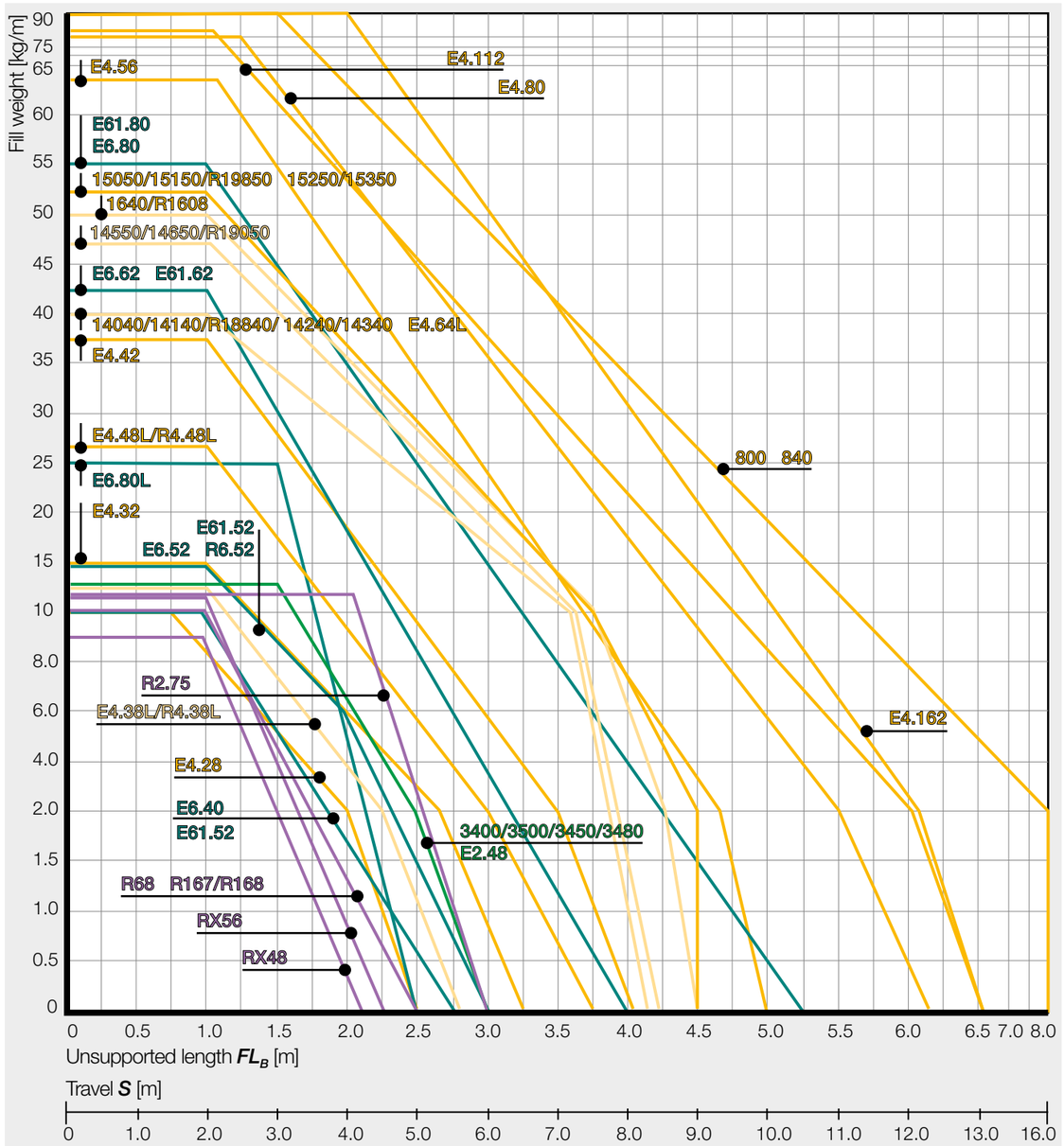
Important information

- Fill weight - weight of all cables and hoses, including contents (for media hoses) within the e-chain®, typically given [kg/m]
- FL_G - unsupported e-chain® with straight upper run
- FL_B - unsupported e-chain® with permitted sag
- To the right of the FL_B graph of the diagram, the application is shown in critical sag. **This must be avoided!**

These values are essential for finding a suitable e-chain® for your fill weight and travel distance, and identifying the max. load for the selected e-chain®. If you cannot meet your application demands using these parameters, keep in mind these specifications are conservative maximum values. **In individual cases, they can be exceeded by up to 30%**. Special solutions are also possible. Please consult igus®.

Unsupported with sag FL_B | Fill weights up to 90kg/m

Load diagram for unsupported use



The maximum travel

The maximum travel always amounts to 2 x FL_G or FL_B if the fixed end is in the centre of the travel. In this case, the following applies e-chain® length: $L_K = S/2 + K$

S = Length of travel
R = Bend radius
H = Nominal clearance height
H_F = Required clearance height
K = π x R + (2 x T) Add-on for bend radius

Diagram series legend ▶ on the right

E1	▶ Page 174	RX	▶ Page 502
easy chain®	▶ Page 198	E4.1L	▶ Page 524
zipper	▶ Page 226	E4.1	▶ Page 566
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E2 R	▶ Page 454	TH3	▶ Page 850
R2.1	▶ Page 478		

You will find the diagrams for each series listed individually in the catalogue

Recommended ratio of inner width *Bi* to bend radius *R*

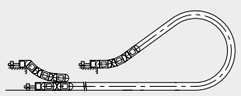
The minimum inner width of an e-chain® on long travels depends on its bend radius. For particularly large bend radii on long travels, please consult igus®.

igus® specifies:

$Bi_{min.} \geq {}^{R}/_{4}$

$L_K = {}^{S}/_{2} + K_2$

L_K = e-chain® length
S = Length of travel
${}^{S}/_{2}$ = Half length of travel
R = Bend radius
ΔCL = Offset fixed end
H_{Ri} = Trough inner height
H_2 = Lowered mounting height
D_2 = Over-length for long travel gliding
K_2 = Add-on with lowered moving end



Advantages for lowered moving end

- Space-saving
- Longer travels
- Higher service life



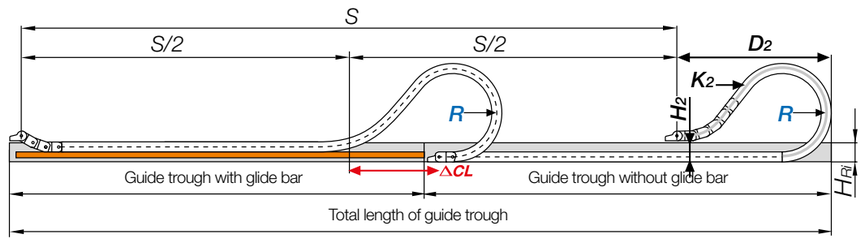
Example of lowered moving end

Gliding application principle

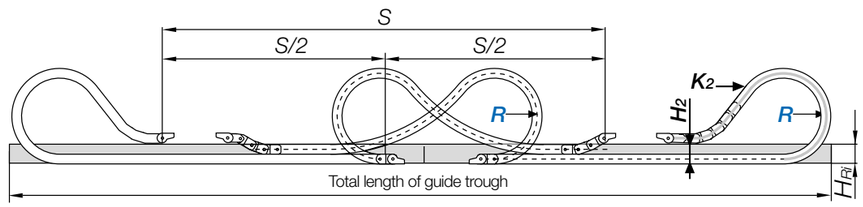
For long travels, the upper run of the igus® e-chains® rests on the lower run. The upper run glides partially on the lower run and partially at the same height on a glide bar. The diagram below shows this. For lateral guidance, a guide trough is necessary. If the stationary mounting bracket and the fixed end of the cables and hoses can be placed **in the centre**, the e-chain® length is calculated as follows: $L_K = {}^{S}/_{2} + K_2$.
Depending on the technical data and the selected e-chain®, the mounting point of the moving end of the e-chain® must be lowered on some units (lowered moving end).



Long travel with an energy-efficient rol e-chain® - saving drive power



Schematic showing the function of an e-chain system® on a gliding application. The fixed end of the e-chain® is located in the centre of the travel distance



Configuration with two opposed e-chains®. The travel is measured as shown and can be used when there are high loads or restricted space

Advantages for long travel applications with igus® e-chains®

- Travels over 800m
- 6m/s speed (up to 10m/s possible after consultation with igus®)
- Fill weights up to 70kg/m
- Service life of 10 years and more with igus® e-chain systems®

Further advantages of the design are

● Many different types of cables and hoses can operate side by side in the same system (i.e. electrical, data, fibre optic cables with hydraulic and pneumatic hoses) ● Space-saving installation ● Quiet operation ● High accelerations ● Durable in wind, weather, dirt and chemicals ● Simple assembly of the modular system on the spot ● Rapid assembly and replacement of cables and hoses



E4 e-chain® with extension links for many cables and large hoses on a long travel application

Design assistance, free of charge

We recommend that igus® calculate every gliding application for you. We will always offer the most cost-effective solution, taking the technical requirements and operating safety into consideration.
To be able to advise you accurately, we require the following specifications: ● Travel [m] ● Travel speed [m/min] or [m/s] ● Acceleration [m/s²] ● Fill weight [kg/m] ● Maximum cable/hose outer diameter [mm] ● Type and number of cables and hoses ● Required bend radius [mm] ● Cycle frequency (n/day or n/hour) ● Technical environment



Longest igus® travel of 615m with rol e-chain® and chainflex® cables

Standard

We recommend pivoting mounting brackets for gliding applications

Please call us and within hours you will receive a detailed system proposal.

If the fixed point is in the centre of the travel, use half of the guide trough with glide bars and the other half without glide bars



Various guide trough systems are available
▶ Page 1200

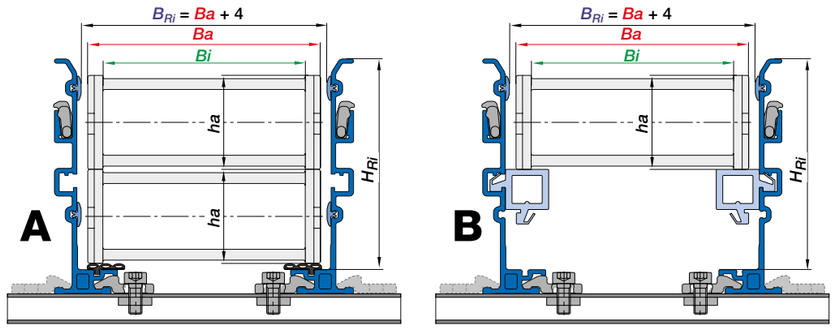
Long travels with igus® guide troughs

Guide troughs allow igus® e-chain® and e-tubes to continue smooth, low-friction operation in long travel applications. Principle sketches are shown on this page. The height of the trough must be at least twice that of the e-chain® height. The sides must provide a chamfered opening. The trough inner width is the same as the e-chain® outer width, plus 4mm (on igus® aluminium SuperTroughs) B_{Ri} = ***Ba*** + 4. Along the side of the trough, where the upper run cannot glide on the lower run, glide bars must be installed. We recommend the use of polymer glide bars from igus®. They are optimally matched to the e-chain® material and achieve the lowest values for friction, noise and wear. Guide troughs with and without glide bars can be obtained from stock for almost all igus® e-chains® Important: When assembling the trough parts, the following points must be given particular attention: ● Properly align all trough parts during installation ● All screw heads should be flush with the trough ● Smooth level transition between the end of the e-chain® and the glide bars ● Solid connection with the glide surface. These points must be observed when using igus® guide troughs.

Ba = Outer e-chain® width
Bi = Inner e-chain® width
ha = Outer e-chain® height
H_{Ri} = Trough inner height
B_{Ri} = Inner trough width depending on ***Ba***

Aluminium SuperTroughs
$H_{Ri} \geq 2 \times ha$
B_{Ri} = ***Ba*** + 4
Steel guide trough
B_{Ri} = ***Ba*** + 5

● Alu SuperTrough set
● Glide bar
● Installation set basic
● C-profile



A) Guide trough without glide bars - upper run glides on the lower run
B) Guide trough with glide bars. The upper run glides on the glide bars from the centre of the travel. We recommend the use of igus® polymer glide bars. They are optimally matched to the e-chain® material and achieve the lowest values for friction, noise and wear.

Friction values for e-chains® made of igumid G and various glide bars

igus® igumid G	igus® polymer glide bar	Galvanised steel sheet	Anodised aluminium	AISI 304 stainless steel (material: 1.4301)
Coefficient of friction dynamic	0.19	0.45	0.54	0.48

Source: igus® lab

Gliding | Long travels

Travel speeds and accelerations

Travel speeds up to 6m/s in continuous operation are possible and in use on current applications. In special cases, up to 10m/s possible after consultation with igus®. For example, E4 e-chains® achieve speeds of 22m/s and accelerations of 784m/s² in crash test units. In these cases, however, only a few thousand cycles are required per year. Acceleration plays a crucial role in the life calculation. Differentiations must be made between normal operational acceleration and a sudden jolt of acceleration such as unexpected stops or so-called "E-stops." Even in these situations, igus® e-chains® prove to be very durable. It is important to get the correct design support from our engineers.



Automated storage/retrieval system with system E2 and chainflex® cables - travels up to 80m and speed of ***v*** = 4.5m/s

Service life

We offer service life calculations for your application based on our extensive gliding application experience. As developers of polymer plain bearings, we possess vast material behaviour knowledge which we apply to the development of e-chains® as well. Units with 200m travels have been in operation for 8 years with minimum maintenance. Units up to 60m travels have been in operation for 15 years with almost no maintenance. Please consult igus® for references and calculations for your project. The maintenance-free aspects of igus® e-chain systems® over long periods and under harsh operating conditions is often the deciding factor in choosing igus®. Our system guarantee (depends on the application) provides additional peace of mind.

Technical environment

Long travel applications using igus® e-chains® run in water, in dirt, in the tropics, in explosive environments (with special design features) and many other conditions. You will find more details in the Technical Environment section of this chapter. Guide troughs can be supplied in corrosion-free materials.

Calculation

Comprehensive tests place us in the position of knowing our products capabilities. Important factors in these tests are: ● Push/pull forces under both ambient and extreme temperatures ● Humidity and dirt ● Friction values of the polymers, alone and against various glide surfaces ● Behaviour of electrical cables under push/pull conditions ● Behaviour of hydraulic and media hoses under push/pull conditions ● Service life, and noise generation. If we cannot calculate your application based on these factors, we can carry out a test for you in our laboratory. Please consult igus®.

Technical data - gliding applications		
Travel max.	600 m - 800 m	
v max.	10 m/s	
a max.	50 m/s²	Depending on the application, please check with igus®
Fill weight max.	70 kg/m	Depending on the application, please check with igus®

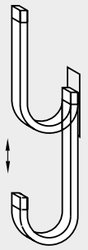
Corrosion-free igus® guide troughs are available in the material:
● Galvanised steel
● AISI 316Ti/AISI 316L stainless steel material 1.4571/1.4404 upon request
● Seawater resistant aluminium



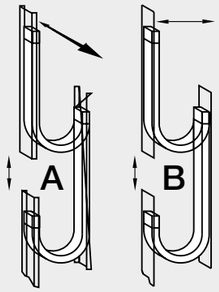
Long travel "off the reel." Up to 100m travel pre-assembled and ready to install

Standard

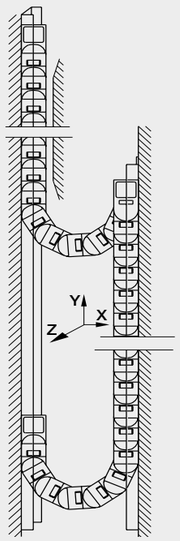
We recommend locking mounting brackets for vertical hanging applications.



In most cases, vertical motion applications do not require lateral guidance



Lateral acceleration can occur in two directions. Guidance is necessary



Principle of a hanging igus® e-chain® with lateral guidance, lateral accelerations in both directions are contained



Hanging applications with heights over 100m are possible with e-chains®



Hanging installation with one-sided U-profile and igus® e-chains®

Vertical, hanging applications

For hanging applications, heights of over 100m are possible with igus® e-chains®. Particularly in the area of material flow technology, the igus® e-chain® enables a bundled supply of a wide variety of cable types. The use of an e-chain® ensures that individual cables are not entangled in parts of shelves or protruding pallets.

Cables and hoses

Two important factors in vertical hanging applications are how the cables and hoses lay in the e-chain® and and how they are secured at the end points: all cables and hoses must be hung so that they bear their own weight. The e-chain® fulfils the function of orderly conduit bundling only and should not absorb any further tensile forces. igus® interior separation elements should be used for distinct division of all cables and hoses. The cables and hoses must be secured carefully to both end points of the e-chain®. The strain relief must be designed so that the opposite run cannot catch. Safe strain relief and clear separation of the cables and hoses are the basic prerequisites for hanging installations. **Cables must be able to move freely and bear their own weight.**

Vertical motion with lateral acceleration

If the application has a purely vertical movement without lateral acceleration, a lateral support is not necessary. If lateral acceleration occurs, lateral guidance of the e-chain® must be provided in most cases. The diagram shows the principle of such guidance. Partial guidance is also an option - however, it must at least cover the area in which the e-chain® may sway. Lateral acceleration can occur in two directions. The lateral guidance must be installed accordingly. **If you have a choice, the layout in figure A is preferred.** The lateral acceleration then acts transversely to the e-chain®, where it is more stable. When using a guide, an e-chain® with camber should be selected. This ensures that the chain is pressed into the trough.

No Camber version with igus® special NC e-chains®

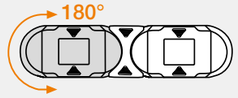
A normal igus® e-chain® with camber is suitable for hanging use if enough space is available. Camber contributes to quiet operation of the e-chain®, but needs a little more space. If there is no room - as is frequently the case for storage and retrieval systems in narrow aisles - a no camber e-chain® must be ordered. igus® offers numerous NC versions without camber. (No Camber, without pretension).

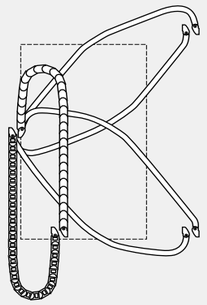
NC version by simply turning the outer link of the E4.1 system. Order example: E4.32.10.175.0.NC



The E4.1 system is one of igus® best solutions for hanging applications

With E4.1 it's easy to create a NC-version. Simply turn the e-chain® outer link





Hanging igus® e-chain systems® can reach different points

Technical data - vertical hanging		
Stroke height max.	100 m	
v max.	20 m/s	Depending on stroke height and strength of the e-chain®
a max.	50 m/s²	Depending on stroke height and strength of the e-chain®

Special solution for vertical motion: guidelok slimline P - safe and fast vertical guidance

● Up to 7m/s and 10m/s² ● Up to 80% less trough required, saving costs and weight ● For hanging systems up to 50m ● No swinging of the e-chain®, high reliability due to the locking mechanism and guiding rails ● Faster and easier installation ● Reduced noise ● Easy access for servicing ● Low weight due to plastic construction ● Energy, data and fluids supply without interruption in one system

More information ▶ From page 1034



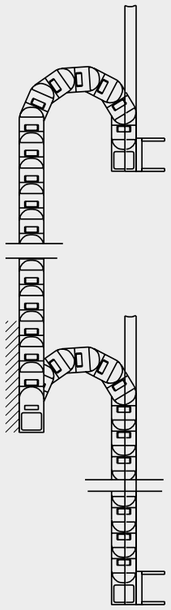
igus® guidelok slimline P vertical guidance in a high-bay warehouse, high reliability



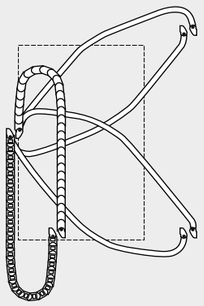


Standard

We recommend locking mounting brackets for vertical standing applications



Options for a standing application with support of the first e-chain® links: on the right, with U-shaped guidance - on the left, with the support of the first e-chain® links

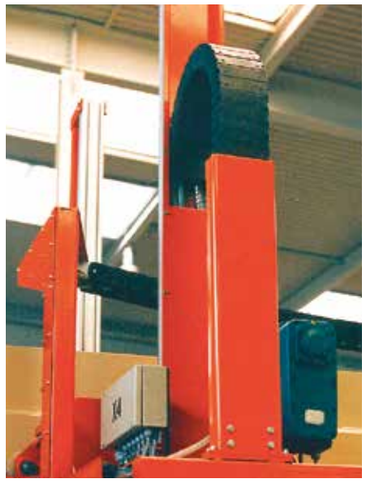


Standing e-chain systems® can reach very different points

Vertical standing | Application



Locking igus® KMA mounting brackets with flush mounting



U-shaped supported igus® e-tube for high lateral acceleration

Vertical standing applications

Standing applications are standard on many machines and plants. Cables will be guided safely in vertical strokes.

Mounting brackets

The mounting brackets must be attached so that the e-chain® cannot bow outwards. The igus® product range offers locking or one-sided, locking mounting brackets for almost all types of e-chains®. Locking KMA mounting brackets are highly recommended because they can be attached flush to the machine.

Cables and hoses

Cables and hoses must be laid in the e-chain® so that they can bend freely and bear their own weight. For precise guidance of the cables and hoses, we strongly recommend igus® interior separation elements. Cables must be strain relieved at both ends.

Lateral acceleration

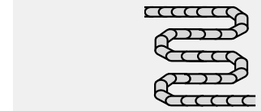
If lateral acceleration occurs, the e-chain® should, in most cases, be supported along the outer radius. For higher e-chain® heights, it is generally recommended that at least the first three links on the outer radius be supported. For maximum heights and weights, the whole distance must often be supported. Due to the wide variety of combinations involving fill weights, stroke heights, e-chain® types and bend radii, we strongly recommend you make use of our consulting services.

Combined motion

Combined vertical and horizontal movements are possible with igus® e-chains® for a cost-saving solution.

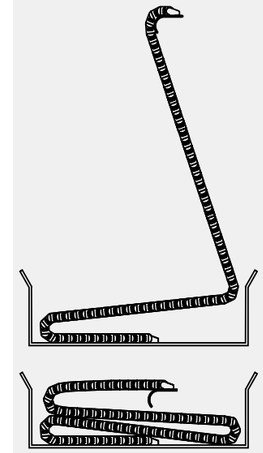
Technical data - vertical standing applications	
Max. stroke height - without support	≈ 4 m
Max. stroke height - with support of the first e-chain® links	≈ 6 m
Max. stroke height - with full support	≈ 20 m
v max (depending on stroke height and fill weight)	20 m/s
a max (depending on stroke height and fill weight)	50 m/s²

More information ▶ www.igus.eu



Standard

We recommend pivoting mounting brackets for zig-zag applications



Space-saving installation - travel heights of more than 20m possible

Zig-zag | **liftband** | Application



Zig-zag application: de-commissioning of a nuclear power station. About 14 m high steel containers are milled into small swarf for disposal

Zig-zag design

The modular design of igus® e-chains® facilitates this space-saving and unconventional solution. For modern platform technology, such as theatre stages, a variety of cables and hoses which adjust the stage height must be accommodated. Lack of space almost invariably presents difficulties. The picture shows an e-chain® in a zig-zag configuration. The unextended e-chain® is stored in a basket. If the platform is raised, the e-chain® unfolds, generating little or no noise. This construction is possible with the E4.1 system as well as many other types. Please consult igus® for these kinds of applications.

Technical data - zig-zag		
Max. travel	40 m	More upon request
v max.	0,4 m/s	Depending on the application, please check with igus®
a max.	1,0 m/s²	Depending on the application, please check with igus®

Special solution for vertical motion: liftband - guide up to a height of 13m with limited installation space

● For high vertical applications that have plenty of space horizontally but little height space ● Modular, silent, space-saving; vertical guidance for energy, data and media ● Max. extension length: 13m ● Available in 2 sizes ● Alternative to zig-zag solution, but lighter and smaller installation space ● Vertical applications implemented with ease

More information ▶ From page 1028





3D CAD, configurators, service life calculation and more ▶ www.igus.eu

Standard

We recommend locking mounting brackets for side-mounted applications

Side-mounted e-chains® are strongly recommended if the installation height is restricted

Unsupported E4 e-chains® on a travelling column machine. The Y and Z axes have a travel of 8m and 1.75m at a speed of 25m/min

Standard values for unsupported lengths, side-mounted, upon request. The unsupported lengths can be extended by supporting the links next to the mounting brackets



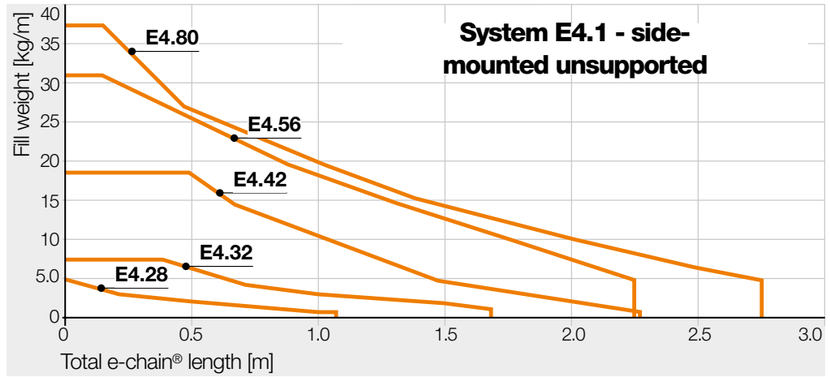
The lying e-chain®, one side of the igus® e-chain® is supported

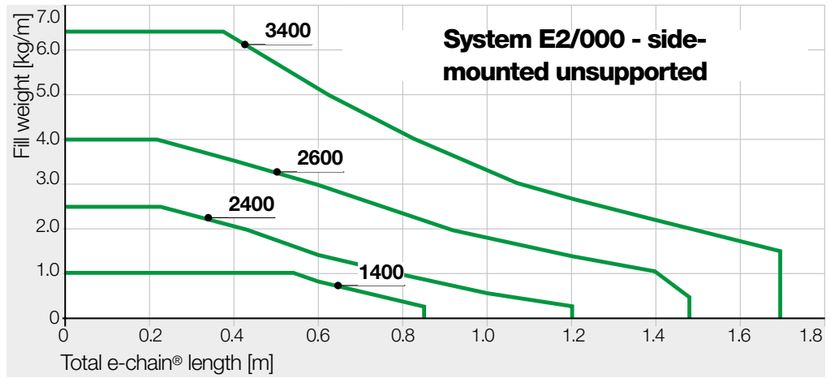
Unsupported - side-mounted

igus® e-chains® placed on their side can be used unsupported to a limited extent. The turned unsupported length in this case is dependent on the following factors: ● Time ● Fill weight ● Width of the e-chain® ● Bend radius ● Parallel placement

The greater the fill weight of the e-chain®, the shorter the available unsupported length. When placed on its side, the e-chain® width, in effect, becomes the height. As this height increases, the e-chain system® becomes proportionally more stable. If further movement in a second axis is added to the parallel motion of two e-chains®, the unsupported length is impaired. For applications with low fill weight, the standard mounting brackets are adequate. If, however, the fill weight is high and the travels are long, the e-chain® must then be supported either in whole or in part. Due to the variety of application possibilities, we strongly recommend you make use of our consulting services.

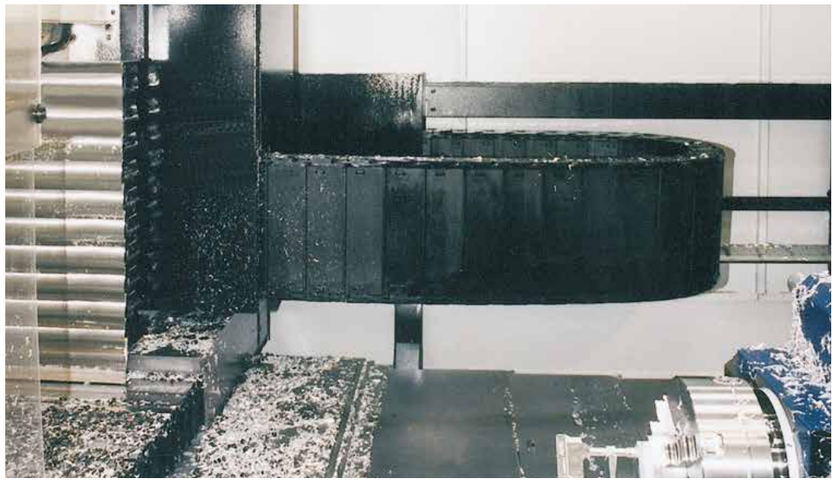
Example load diagrams for e-chains® side-mounted at 90°





The unsupported lengths can be extended by supporting the links next to the mounting brackets. Please consult igus® for more series and details

Side-mounted | Application



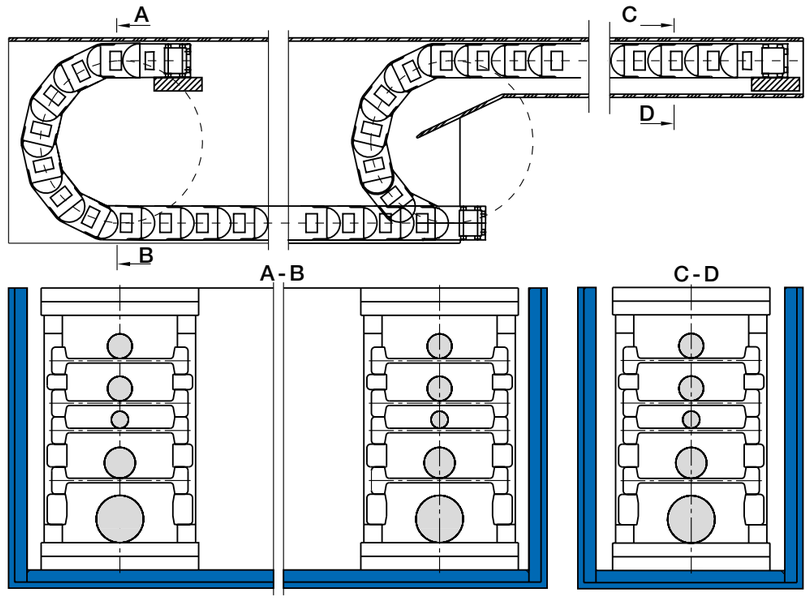
System E4/light e-tube in direct swarf area

Long travel, gliding

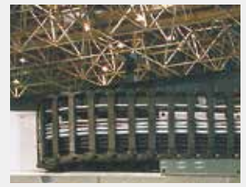
Side-mounted e-chains® can travel over 100m with adequate guidance. All e-chain® types are designed to operate gliding on their side. The corresponding glide surface is usually an igus® polymer, stainless steel (1.4301 material) or galvanised steel, depending on how high the demands on the travel speed and service life are. Roller and ball bearings or additional gliding elements are not necessary for igus® e-chains®.

Cables and hoses

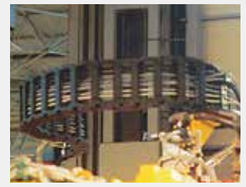
Cables and hoses must be guided so that the e-chain system® can move freely at all times. The igus® modular separation options offers numerous possibilities, such as vertical separators and spacers. igus® will gladly provide an application analysis, free of charge.



Principle of a guide trough for long travel, side-mounted



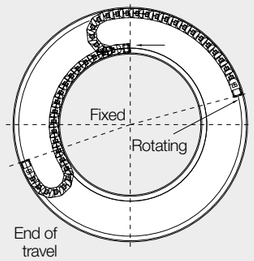
igus® system E4 with partial support



igus® unsupported e-chain® system E4

Standard

We recommend pivoting mounting brackets for most applications with circular movement with ***RBR***





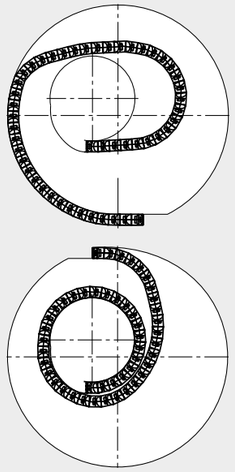
RBR circular movement with igus® system E4, installed on a crane



Rotary movement with a standard igus® e-chain®



Rotary movement of 180° with a standard e-chain® on a crane turret drive



Standard E2/000 e-chain®, angle of rotation 225°

Circular movement with *RBR*

RBR (Reverse Bend Radius) means that the e-chain® can bend in two directions. Most igus® e-chains® can be used in ***RBR*** designs, with the exception of some bend radii, for the e-tubes R117 to R9850 and for the series 07, 09, 14, 15 and 17. The ***RBR*** does not necessarily need to be identical to the normal bend radius ***R*** of an e-chain®. For example, Part No. **E4.32.15.100/425.0**, describes series E4.32 e-chain® with an inner width of 150mm, standard bend radius of ***R*** = 100mm and ***RBR*** of 425mm. Most circular movements can be achieved with an RBR option. Angles of rotation up to 540° have been achieved. Please consult igus® for your particular application.

Circular movements require less installation height. The e-chains® glide mostly on surfaces made of polymer, stainless steel (1.4301 material) or steel and are guided through channels in the circular movement. See side mounted for further design tips. Bend radius, circular radius and e-chain® width are variable with this product line.

Circular movement with standard e-chains®

The photo to the left shows an application which was achieved using standard e-chains®. Such solutions are possible if space is available and if the angles of rotation are limited to a maximum of 450°. All igus® e-chains®, e-tubes and chainflex® cables are appropriate for this situation.

Technical data - circular movement *RBR*		
Max. angle of rotation	540°	More upon request
v max.	2 m/s	Depending on the application, please check with igus®
a max.	20 m/s²	Depending on the application, please check with igus®

More information ▶ www.igus.eu/*rbr*-configurator

Circular movement | *RBR* | Application



System E2 medium with 360° ***RBR*** circular movement on a robot

Product range for circular movement with *RBR*

e-chains® with ***RBR*** are available as standard from stock for the complete triflex® range. In addition, we supply a number of e-chains® which have ***RBR*** as standard . For all other types, ***RBR*** is made to order, and we will be more than willing to offer you this option. igus® e-chains® with ***RBR***, available as standard ▶ triflex® R, easy triflex® and triflex®. The e-chain® series appearing in the table are ***RBR*** versions available from stock. Almost all igus® e-chains® can be delivered as an ***RBR*** version. Please contact us for any enquiry.

- chainflex® cables with TPE outer jacket are especially suitable for e-chains® with ***RBR*** option
- Strain relief only for the moving end

Table of *RBR* e-chains® available from stock

Part No.	Series	Part No.	Series	Part No.	Series
03.05.10/70	E2 micro	10.2.048/048	E2 mini	1500.038.075/450.0	E2/000
03.10.010/070.0	E2 micro	10.2.075/220	E2 mini	2400.09.055/250	E2/000
05.16.018/018	E2 micro	10.3.028/028	E2 mini	250.05.060/060	E2 medium
06.20.018/018	E2 micro	10.3.038/600	E2 mini	250.07.060/060	E2 medium
06.20.038/350	E2 micro	10.3.048/048	E2 mini	2700.15.150/090	E2/000
06.30.018/018	E2 micro	10.3.075/220	E2 mini	B15i.050.100/460	E2 mini
06.64.018/018	E2 micro	10.4.028/028	E2 mini	E/Z14.1.038/038	easy chain®
10.1.028/028	E2 mini	10.4.038/600	E2 mini	E/Z14.2.038/038	easy chain®
10.1.038/600	E2 mini	10.4.048/048	E2 mini	E/Z14.3.038/038	easy chain®
10.1.048/048	E2 mini	10.4.048/400	E2 mini	E/Z14.3.075/075	easy chain®
10.1.075/220	E2 mini	10.4.075/220	E2 mini	E/Z14.4.038/038	easy chain®
10.2.028/028	E2 mini	1400.050.075/075.0	E2/000	TE14.50.028/028	snapchain
10.2.038/600	E2 mini	1400.068.038/038.0	E2/000	TE26.120.063/063	snapchain

Available from stock. Ready to ship in 24 - 48hrs.*

*The delivery times indicated correspond to the average time until the ordered goods are dispatched.

igus® 3D CAD, configurators, service life calculation and more ▶ www.igus.eu

Guide trough systems RM and MRM for RBR solutions ▶ **next page**



Vertical rotary movement of an E2 e-chain®

The e-chain® series appearing in the table are ***RBR*** versions available from stock. Almost all igus® e-chains® can be delivered as an ***RBR*** version. Please contact us for any enquiry.



Circular movement with ***RBR***, diameter 6000mm, the inner ring rotates



igus® system RM - guide troughs for circular movement applications with ***RBR***

igus® guide troughs- standard modular system RM

Depending on the dynamics and load of the application, the guides are made of steel or stainless steel (material: 1.4301). For applications with high duty cycle, we provide a plastic sliding liner in the guide troughs. The igus® e-chains® do not require any additional sliding pads either for contact with the substrate or with the side walls. We would be happy to offer complete systems with guide troughs, and also support you with drawings for your own construction.



Typical application areas: off shore, stacker/ reclaimer, bucket-wheel excavators, rotary cranes, other rotating applications

igus® Multi Rotation Module (MRM) allows circular movements up to 900° and more

With the Multi Rotation Module (MRM) you can implement larger angles of rotation of 900° and more. Thanks to stackable add-on modules the angle of rotation can be extended virtually indefinitely. One layer for rotations up to 540°, two layers for 900°, larger angles of rotation are possible with more layers. The rotation and add-on modules are ideally suited for rotary movements with high fill weights and limited space.

- Several individual systems are stacked on each other and thus are combined to a complete system
- The maximum rotation of the individual levels can easily be added, thereby enabling rotary movements up to 900° and more
- Compact design enables the operation even in tight spaces, extendable
- High fill weights possible
- e-chains® can be freely assembled
- Peripheral speeds up to 1m/s





igus® MRM modules: Rotate heavy filling in a small space, e.g., in machine tools or telescopes



Functional principle

- Is the defined rotation angle of the lower layer reached, the next upper module is carried along automatically due to an integrated connection system. The entire system only needs a mechanical force transfer
- The construction minimises potential interference. The Multi Rotation Module system is ideal for rotary applications, heavy loads and for harsh environments
- Unlike other systems using sliding contacts, the e-chain® can also guide hoses for air, gas or fluids, as well as bus and fibre optic cables
- Even for tough environmental conditions.

More information ▶ www.igus.eu/MRM

Strong, quiet and up to 540°* - circular and spiral movements - twisterchain

● Tough, quiet and high dynamics, suitable for high fill weights ● Rotary speeds up to 1m/s and more ● e-chains® for circular and spiral movements up to 360° from stock (up to 540° upon request) ● Modular interior separation ● Smooth, cable-friendly interior ●Openable from both sides - crossbars removable along the inner and outer radius ● Available with guide trough for smooth operation ● Successfully tested for over 1 million cycles in the igus® laboratory

More information ▶ From page 966



Rotary movements in small spaces - twisterband

● Rotary movements up to 7000° (*Installation position, vertical: up to 3,000°; horizontal: 7,000° and more possible) ● Rotary speeds up to 180°/s possible ● Snap open with hinge or with "easy" design ● HD version with very stable pin and hook connection for an even longer service life as well as for temperatures from 0°C to +80°C ● Compact, modular and lightweight ● Bands can be lengthened and shortened as required ● Minimum installation space, fits closely around the rotary axis ● Can be reliably used in various installation positions (horizontal or vertical) ● Cost-effective and easy to fill

More information ▶ From page 988



Special solutions for multi-axis motion
The cable reeling drum without a slip ring - igus® e-spool

● More versatile and flexible to use than cable reeling drums ●Different media (power, data and fluids) can be routed together in one system ● Energy supply in all directions (horizontal, vertical, diagonal) ● If travels must be kept free ● Very well suited for theatre and stage technology ● No tensile load on the cables ● Cables can be retrospectively added or changed ● Alternative to zig-zag solutions ● Max. deployment and retract speed: 1m/s ● Large standard product range and special projects available

More information ▶ From page 1006



e-spool standard and HD - flexible use



e-spool compact - space-saving, spring-driven



e-spool for manual operation - cost-effective



e-spool power - motor-driven for long extension lengths

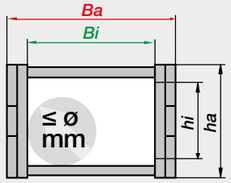


igus® e-spool and zig-zag solutions in a theatre. Space-saving and maintenance-free: guide all kind of energy, data and media safely, in all directions

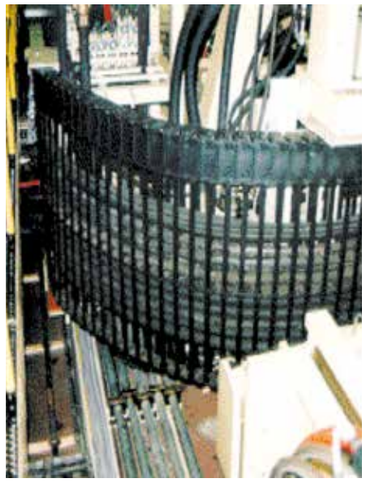
3D CAD, configurators, service life calculation and more ▶ www.igus.eu

Rules for:
- Maximum cable/hose diameters
- Separation
- Bend radius

Electrical cables need at least 10% clearance space all around, hydraulic hoses need 20%



The maximum cable/hose diameter is specified for each series on its respective chapter



Hydraulics and electric cables are separated from one another in this example

General rules for igus® cables and hoses in e-chains®

The key advantage of an igus® e-chain system® is the safe accommodation of various forms of data cables and energy suppliers in one system. We recommend the optimal separation layout of the cables and hoses in the e-chain®, but you, the customer, are still afforded the final choice. It is possible, for instance, to maintain minimum distances between bus and motor cables and mix pneumatics, electric and hydraulics in the same compartments. It is possible to mix pneumatics, electric and hydraulics in the same compartments. In addition to the quality of the cables used, the arrangement of each conduit within the e-chain® and the space allowed, are important for the service life of the system. Various separation options enable the adaptation of the e-chains® to the specific requirements of each respective application. In this chapter, we give you detailed recommendations. Due to the variety of the application parameters, we strongly recommend you take advantage of our free consultation services. Simply give us a list of your cable requirements (or merely the required electrical or other services) and you will receive our recommendation by the end of the next business day.

Maximum cable and hose diameters

The maximum cable and/or hose diameter corresponds to the inner height of the selected e-chain®/ e-tube, with additional minimum clearance. This minimum clearance would be, for example, 10% for electrical round cables, 20% for hydraulic hoses. An e-chain® is ideal if a minimum lateral gap to the next cable or hose has been factored in. Depending on the nature of the cables, the dynamics, and the expected service life, more clearance must be allowed. In specific cases, clearances may be altered further. Please consult igus.



Orderly cables with igus® interior separation

e-chain® interior separation

Cables and hoses with very different diameters should be laid separately. The separation is achieved using modular separators. Cables and hoses must under no circumstances have the opportunity to tangle.

Therefore, the clearance height of a compartment with several similar cables or hoses next to one another must not amount to more than one and a half times the cable/ hose diameter.

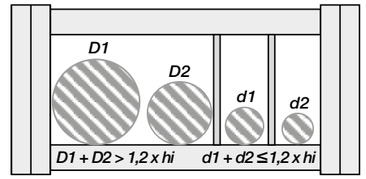


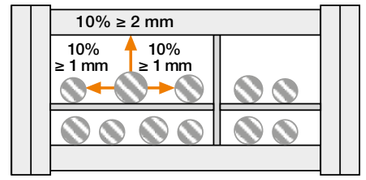
Distribution rules

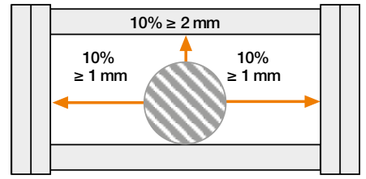
The cables and hoses must be laid so that they can move freely at all times and so that no tensile force is exerted at the radius of the e-chains®. For high-speed applications and high cycles, cables or hoses must not be laid on top of each other without horizontal separation. The standard values for this are: travel speed over 0.5m/s and cycles over 10,000p.a. igus® interior separation offers a safe solution for this situation.

Further guidelines for distribution

The cable or hose weight should be symmetrically distributed across the width of the e-chain®. Cables and hoses with different outer jacket materials must not be allowed to stick together. If necessary, they must be laid separately. All igus® chainflex® cables series can be combined. The cables should always have strain relief at the fixed and at the moving end. Exceptions are made only for certain hydraulic hoses with length compensation issues or other high pressure hoses (i.e. hydraulic hoses). Generally, **the faster and more frequently the e-chain® operates, the more important the exact positioning of the cables and hoses inside the e-chain® becomes. Due to the wide variety of the possibilities, we strongly recommend you take advantage of our free consultation services for your specific applications. igus® tip: interior separation configurator ▶ www.igus.eu/quickchain100**







Clearance space "all around" for round electrical cables

Bend radius *R*

The bend radius of our e-chains® depend on the largest or stiffest cable or hose in your application. The bend radii of the e-chains® should be adjusted to the recommendations of the cable or hose manufacturer. The selection of a larger radius than the minimum will positively affect service life. The specification of minimum bend radii for cables and hoses refers to use at normal temperatures. Other bend radii may be recommended. We recommend complete e-chain systems® - where bend radii for all cables and hoses, interior separation and service life are correctly matched. igus® chainflex® cables permit the smallest bend radius of 5 x d for one million strokes.



An E4 extender chain with vacuum hose also guides an E2 e-chain® here

d1 + d2 > 1,2 x hi

Distribution rule 1:

If ***d1 + d2*** > 1.2 x inner e-chain® height, no separation between the two cables/hoses is necessary. Two cables/ hoses should never be left unguided on top of one another or be allowed to become tangled.

d1 + d2 ≤ 1,2 x hi

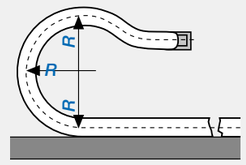
Distribution rule 2:

If ***d1 + d2*** ≤ ***1.2*** x inner height, a vertical separator or a horizontal shelf must be used to reduce the inner height, thereby preventing the tangling of ***d1*** and ***d2***.

igus® clearance space for various cables/hoses

Cable type	%
Electrical round cables	10
Electrical flat cables	10
Pneumatic hoses	5-10
Hydraulic hoses	20
Media hoses	15-20

Please note: Don't fill e-chains® and e-tubes more than 80% of the cross-section!



Principle sketch bend radius *R*



No more corkscrewing with igus® e-chain systems®

Round electrical cables

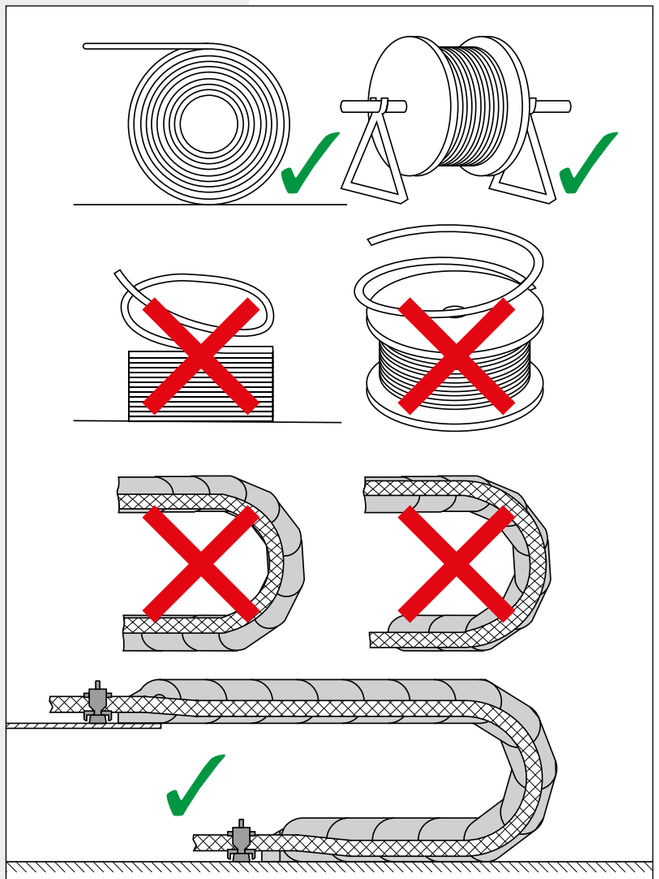
For electrical cables, the round cable is a safe, simple and cost-effective solution for e-chain systems®. We recommend the following criteria for selecting the proper round electrical cables: ● Small minimum bend radii and mounting heights ● Long service life at minimum bend radius ● Service life expectations for your application (short or long travel, hanging) ● Test data on service life from realistic tests ● Uncomplicated installation process - no hanging, laying out, etc. of cables ● Strain relief integrated directly into the mounting bracket ● Flexible shields for shielded cables ● Abrasion-resistant and non-adhesive outer jackets ● Large selection to avoid expensive custom designs. For bus cables and fibre optic cable, special attention must be paid to how effective transmission rates and shielding remain after millions of cycles at the minimum bend radius.

Installation and strain relief of round electrical cables

1) The cables must be laid straight, without twisting. Cables must not be uncoiled from the top of the spool. igus® chainflex® cables are immediately ready for placement directly into the e-chain®. They need not be disconnected or laid out before installation.

2) The cables must be laid so that each individual cable can move freely from side to side.

3) The cables must be able to move freely along the radius. This must be double-checked if the upper run operates at the cable's maximum bend radius.



Cables must be able to bend freely. chainflex® cables can be strain-relieved directly at the mounting bracket

4) The division of the e-chains® interior using igus® interior separators or shelves is necessary if several cables and/or hoses with varying diameters are laid out. It is important to prevent cables and hoses from tangling.

5) Cables and hoses with different jacket materials must not be allowed to stick together. If necessary, they should be separated. igus® chainflex® cables can be combined with all others.

6) Round electrical cables must be secured with strain relief at both ends. In exceptional cases, the cables may be fixed with strain relief at the moving end of the e-chain® only. A gap of 10-30 x cable diameter between the end of the bend segment and the fixed point is recommended for most cables. chainflex® cables can, on the other hand, be secured directly to the mounting bracket with strain relief (this has been confirmed with testing).

We will be pleased to provide you with recommendations for complete e-chain systems®: bend radii of all cables and hoses, interior separation and service life are then optimised.

Pneumatic hoses

In principle, the same rules for round cables apply to pneumatic hoses. In practice, it has been demonstrated that pneumatic hoses are less susceptible to wear. After consultation, they can be laid together more closely than the "10% clearance" rule. A double-sided strain relief is required under these conditions. For pneumatic hoses made of rubber, we recommend strictly following the "10% clearance" rule because they tend to adhere to each other and to other cables and hoses.



Fully pre-assembled e-chain system® with several pneumatic and hydraulic hoses

Flat cables

Flat cables must be able to move freely at the bend radius. Two flat cables next to one another should be kept apart with separators. If two flat cables are laid on top of one another, we strongly recommend the use of horizontal igus® shelving. Flat and round cables should be laid separately in the e-chain®. Strain relief should be attached at both ends. Flat cables are only conditionally recommended for use in e-chains®.

Hydraulic hoses

When designing hydraulic hoses into e-chains®, special attention should be paid to the expansion of the hoses when pressurised. Sufficient room must be left in the e-chain® (20% clearance). It is important for selected hoses to be sufficiently flexible (i.e. meet bend radius specified by the e-chain®). The gliding ability and abrasion-resistant surface of the hoses are also important. The igus® interior separation minimise abrasion of hoses through wide, rounded and smooth surfaces. Normally, hoses with textile braiding are more flexible than hoses made of steel wire, while maintaining smaller outer diameters and better fatigue strength under reverse-travel stresses. As lateral movements of the hydraulic hoses within the e-chain® can lead to increased abrasion of the hose material, they should be secured in position with vertical separators, but not forced. Special locking separators, which grip the opening crossbars of the e-chain®, as well as the use of spacers, prevent lateral shifting of the separators - they also ensure the hoses stay put in cases of strong vibration and impact on the e-chain®.

Strain relief

Hydraulic hoses are most often stretched lengthwise during operation This must be taken into account when applying strain relief. More hose length is factored in to allow the hose to "breathe", or "floating" strain relief must be implemented. In some cases, one-sided strain relief on the moving end can be tolerated.

Rollclip

In almost all cases, the broad, smooth and rounded surfaces of all igus® e-chains® are sufficient to protect hydraulic hoses from abrasion. In extreme cases, the igus® Rollclip can be installed. The hoses come in contact with a series of polymer cylinders which rotate. Extreme cases include particularly soft materials, particularly small bend radii or highly dynamic loads. Over 95% of all applications can be solved without Rollclips.

● **Pneumatic hoses**
The igus® programme also offers polymer pneumatic hoses called chainflex® Air

● **Flat cables**
Outer jackets made of rubber must be specified particularly carefully, because of potentially high friction

● **Hydraulic hoses**
Hydraulic hoses need more space: 20% all-around clearance



The new roller crossbars for the E4.1 system significantly reduce jacket abrasion of very stiff cables and hoses with rolling contact surfaces equipped with tribo-optimised bearings. Available upon request

Ideally, the cables/hoses should be strain relieved at both ends of the e-chain®. At the very least, they must be strain relieved at the moving end of the e-chain®.

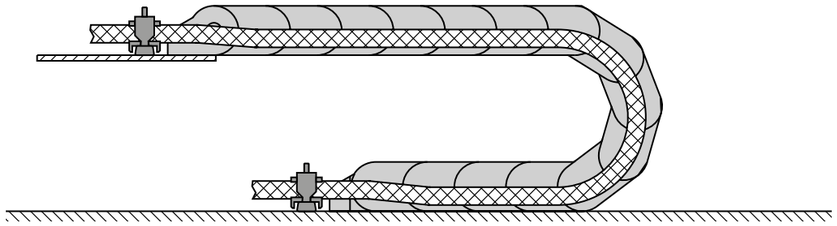


Strain relief for electrical cables

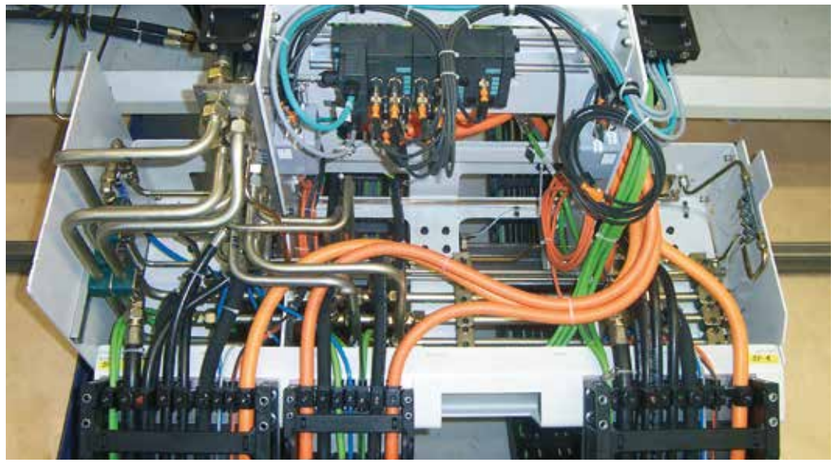
Strain relief can consist of standard elements or can be custom-made. For most applications, our standard programme of C-profiles with mounting brackets and space-saving chainfix clamps can be used. We also offer simple strain relief solutions using tiewrap plates and cable tiewraps. In ideal cases, the cables should be secured at both ends of the e-chain® with strain relief. (In a few instances, strain relief at the moving end of the e-chain® is sufficient - please consult igus® for these cases).

Minimum gap between the strain relief and the beginning of the bend radius

Tests on our premises and in field applications have shown strain relief located at the last bend point of the e-chain® has no influence over the durability of igus® chainflex® cables. It is possible, therefore, to integrate the strain relief with the mounting bracket. Strain relief options, i.e. chainfix clamp or space-saving tiewrap plate, are offered by igus® for almost all e-chains®.



chainflex® cables can be directly strain-relieved in the mounting bracket (minimum gap to the last rotating e-chain® link is not necessary)



igus® chainfix strain relief in mounting bracket in practice - used here for cables and hoses

chainfix | Strain relief elements

Features of chainfix clamps

● Optimal igus® chainfix housing with reduced height ● Long service life for dynamic applications thanks to improved clamping elements ● Integration with KMA mounting brackets - saves both time and space during installation and are available for complete systems with cables and strain relief ● Improved housing foot clamp for easy fit into C-profile ● Black housing and setscrews for aesthetic appearance ● Setscrews, tightened with Allen wrench, for easy installation ● Mark of the installation direction

Tiewrap plates as individual parts

The tiewrap plate is integrated on the end of the mounting bracket, and cables and hoses can be fixed using cable tiewrap. ● Quick and easy to assemble (clip on). The tiewrap plate is also captivated by the fixation of the mounting brackets ● Longer service life for cables ● Space-saving design ● Assembly in the C-profile of the KMA (plastic/metal mounting brackets) possible

Tiewrap plates with clip-on connection for the C-profile

The tiewrap plates **3050.ZC** and **3075.ZC** can be clipped directly into the C-profile without bolts or any extra hardware. Clip-on tiewrap plates can be released and repositioned with just a screwdriver as a lever.
4 options available: ● Tiewrap plates with clip-on connection for the C-profile ● Integrated strain relief for E2 e-tubes - series R ● Tiewrap plates for fixed crossbars ● Tiewrap plates for opening crossbars

chainfix clip - modular snap-on strain relief device

chainfix clip is a series of clamps and bottom parts made of plastic for cable diameters ranging from 4mm to 24mm. chainfix clips are available for C-profiles, also suitable for assembly in the KMA mounting brackets and clip-on strain relief for cross bars. Characteristics: ● Quick installation without any tools ● 2 and 3 layers on top of one another possible ● Each layer can be detached and changed later on ● High tensile forces in case of single-layer installation, decreasing with the number of layers

Strain relief separators - separator with integrated strain relief strain relief teeth

● Can be integrated in mounting bracket ● Strain relief separator can be positioned as required ● Double strain relief possible ● Easy to assemble without any screws ● Cost-effective ● For most series from stock

Stepped strain relief element outside of the e-chain® cross section

● Easy strain relief for cables, even in enclosed e-tubes ● Stepped strain relief - good access ● For e-chains® and e-tubes ● Easy retrofit assembly possible ● Simple installation into top-hat rails and C-profile on KMA mounting brackets

chainfix nugget - for C-profile and top hat rail

Option 1: universal cable fixation, for diameter with Ø 20mm and Ø 30mm
Option 2: fastening through clipping onto standard top-hat (DIN) rail
● The smart helper for electricians in the machine building industry ● Accessory for all KMA with integrated C-profile ● Easy to assemble, without any screws and tools ● Adjustable to every e-chain® filling ● Very small space requirement ● Easy strain relief due to fixation with pre-harnessed cable tiewrap















igus® materials:
- igumid G
- igumid NB
- igumid ESD
- igumid TE
- igumid GE
- igumid DT

Find technical data about igus® materials, temperatures and chemical resistance

▶ From page 142



igus® factory - automatic compounding and conveyor belt for igumid G

plastics for longer life® - igus® know-how in polymer materials

Each year, igus® engineers develop more than 500 new plastic compounds and test igus®-products in more than 15,000 experiments per year. That's how in recent years they have built an extensive database of the tribological properties of polymers. This database makes it possible for us to assess better most of the applications in advance and provide our customer with confidence during use. Our calculations and analyses are based on the result of ongoing practical tests in our technical centre and our experience with moving applications. The focal points of our tests are push/pull forces, friction values and abrasion under widely varying conditions and speeds, as well as factors such as dirt, weathering or impact and bumps. We test all system components such as cables, hoses, strain relief and other accessories, in addition to the e-chains® or e-tubes and guide troughs.

Technical environment

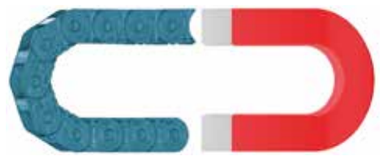
The igumid G material, from which igus® e-chains® are made, possesses the following wide-ranging features to cope with a variety of environments: the ability to handle pressure and strenuous loads, abrasion resistance, sturdiness, stable behaviour at high and low temperatures, and suitability for outdoor use. Numerous application examples, from refrigerator blocks to steel mills, prove this. In extreme cases, we also offer modifications and other igus® compounds as a solution.

Technical environment:
- Fire resistance
- Radiation
- Weathering
- Cold, heat
- Explosive environments
- Vacuum
- Hot swarf
- Dirt, dust
- Cleanroom
- Chemicals

Magnetically detectable plastic e-chains®

- For the food and tobacco industry
- igumid DT - automatic detection by all common metal detection systems
- Particles as small as 1.0mm can be recognised for fragments passing at speeds of 20m/min

More information ▶ www.igus.eu/detectable-chain



Flammability of igumid G

The flame-retardant characteristics of igumid G can be described using various classifications. Most of igus® e-chains® are made from igumid G, i.e. the popular E4.1 and E2/000 e-chain systems®. Classifications:
- Test procedure VDE 0304 parts 3/5.70
- Tested according to UL94 "Standard tests for Flammability of Plastic Materials for arts in Devices and Appliances" classification 94 HB for 3.2 and 1.6mm thickness of the body.
- Tested according to DIN 4102 "Fire Behaviour of Building Materials and Parts" classification materials class B-2.
- For further requirements, please consult igus® for special solutions, such as materials with self-extinguishing properties (UL94-V2 or UL94-V0).

Flammability of igumid NB

All easy e-chains® and series 14, F17 e-chains® are made from the flame-retardant igumid NB material. These e-chains® have the following flame-retardant classifications:
- UL94 classification - V2
- VDE 0304 part 3/5.70 classification- IIb
- DIN 4102 flammability of materials - B2
- Please consult igus® for material availability of V0

Weathering and temperature resistance

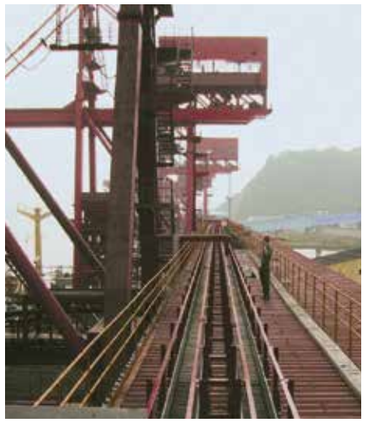
igumid G is very suitable for outdoor applications. In our experience, the mechanical properties of the e-chain® are not impaired. igus® e-chains® are used in applications as cold as -40°C (40°F). Installation may be eventually compromised at temperatures below -25°C (-13°F). In such cases, we offer special solutions made from cold-elastic materials. +120°C (248°F) continuous temperatures are possible with igumid G, short-term up to +180°C (370°F). However, the mechanical values are reduced and the service life is impaired.

Resistance to radiation

igus® offers several solutions for high-radiation areas. igumid G is very resistant to high-energy radiation. Under gamma radiation, in the range of 8×10^4 rd, the mechanical properties of igumid G change very little.



Reflecting telescope at 2,200m. Robust under high wind speeds, snow, ice and increased UV radiation



rol e-chain® on a coal unloading system with fire protection regulations - travel 190m, fill weight 8kg/m, ***v*** = 0.5m/s



Live broadcast from the Winter Olympics in Lillehammer, 75m travel at -25°C (-13°F)

Flammability class

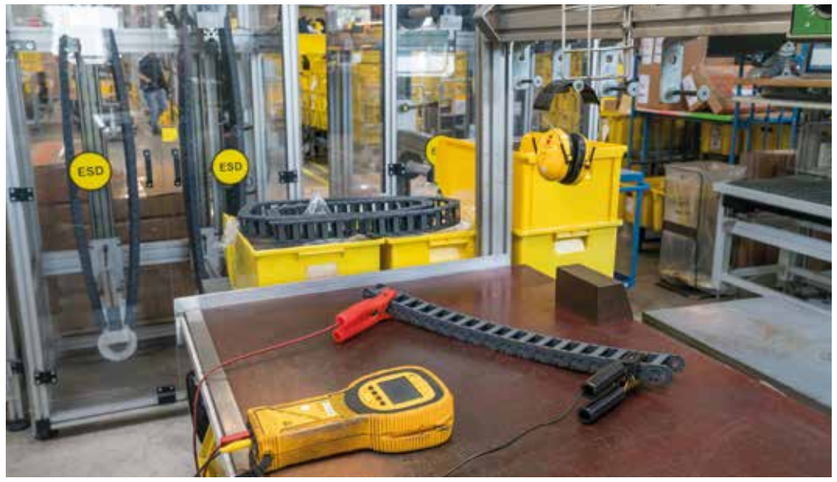
igumid G:
- UL94-HB (Standard)

igumid NB:
- UL94-V2 (Standard)
- UL94-V0 (upon request)

igumid G:
- UV-resistant!
- Temperature range from -40°C (40°F) up to +120°C (248°F)

- **ESD** (Electro Static Discharge) - avoidance of static charge in manufacturing processes for electronic components or assemblies
- **ATEX** (Atmosphères Explosibles) - prevention of explosive static charge in hazardous environments

According to a statement by TÜV Rheinland 557/ Ex 125071309.00 / 17, igus® e-chains® do not fall under the scope of application of Directive 2014/34/EU



100% of the ESD e-chains® produced are checked for their continuous conductivity from one end to the other

Measurements of the electrical surface leakage resistance for igus® e-chains® with the special material igumid GC were made already in 1992 by igus® GmbH together with the PTB (Physikalisch-Technische-Bundesanstalt) in Braunschweig, supplemented by additional certifications in 1998 and 1999 according to DIN 53482 and the guidelines for static electricity ZH1/200 of the Federation of Trade Associations. To discharge build up of electrostatic energy, igus recommends the igumid ESD material for the production of sensitive electrical components and for applications in hazardous environments (ATEX). igumid ESD surpasses even the standard material igumid and has been tested for over 10 million cycles in igus® technology.

Your benefits with ESD products

- ESD material tested with over 10 million cycles for the toughest requirements
- Openable e-chains® with mounting brackets and interior separation in ESD and ATEX design available from stock
- Standardised product - igumid ESD
- Proven over years of use in explosion-proof areas
- Short delivery times 7:00am to 8:00pm - ordering and delivery service

Conductivity of igus® products from igumid ESD

In contrast to temporary conductive surface coatings or volatile incorporated antistatic agents, the additives used grant a long lasting and maintenance-free conductivity. An e-chain® is not deemed conductive if the individual components exhibit conductivity, but the whole e-chain® from one end to the other must offer continuous conductivity. All products in this catalogue are optimised in this regard and the continuous conductivity is measured and documented prior to delivery by a 100% test. Only e-chains® that have passed this test are provided with the test seal and delivered. Colour* of igumid ESD products: similar to RAL7015, slate-grey to ensure distinguishability from standard materials.

(*Exception: cover zipper and triflex® R - here black in colour)

ESD e-chains® | Technical environment

More information on igus® ESD e-chains®

1. General safety information:

These additional operating instructions apply to our ESD e-chains® in colour grey (similar to RAL 7015). They supplement the installation instructions for the standard e-chains® and the catalogue information. The information in these instructions relates only to data impacting on ESD areas. The technical information in the installation instructions for the standard e-chains® and the category information still apply unchanged unless these instructions explicitly exclude or replace the relevant information.

2. Assembly, removal and installation

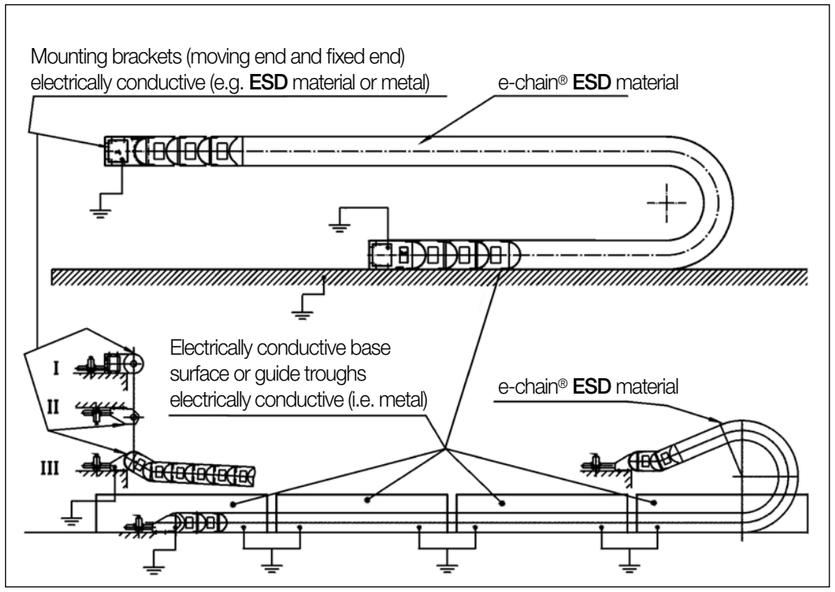
Please follow the information in the installation instructions for the standard e-chains® and the catalogue information on assembly, removal and installation for trouble-free operation. igus® ESD e-chains® must be grounded with appropriate measures in accordance with drawing number 18392 in order to discharge any electrostatic charges occurring.
Assembly, installation, commissioning and maintenance may be performed only by personnel properly trained in explosion protection! Please also note the corresponding national safety regulations and the relevant national regulations in respect of explosion protection during installation and operation.

3. Commissioning

Before commissioning the system, check that the system has been installed correctly in accordance with the installation instructions for the standard e-chains® and the catalogue information. Correct grounding must be checked in particular in the case of ESD e-chains®.

4. Maintenance

igus® e-chains® are maintenance-free*. Correct grounding of the e-chains® must be inspected at regular intervals. (*in case of large projects a customised maintenance plans can become an issue and will be created if necessary)





The igus® ESD/ATEX e-chains® available from stock are shown online ▶ www.igus.eu/esd or order a separate catalogue

Cleanroom and ESD | Technical environment

Safe and clean with igus® e-chains®

Cleanroom qualification of igus® e-chains®

By using a special material, the already low abrasion of the e-chain® can be reduced even further. In many applications where cumbersome special solutions are required, a simple standard e-chain® can be used instead. For many applications, the e-chains® in special materials are virtually abrasion-free. IPA tests confirm that standard igus® e-chains® meet cleanroom requirements, "tested and certified as very good". e-chains® for cleanroom applications demand very high wear resistance of moving parts. e-chains®, for example, must be very wear-resistant, in order to meet the normal requirements for such a sensitive environment.

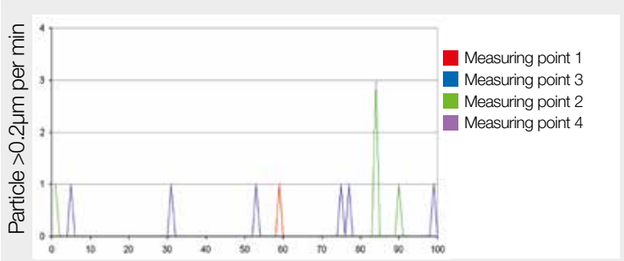
Class per DIN EN ISO 14644-1	Equivalent to US Fed. Std. 209E	Classification series	Report number	Speed [m/s]
ISO Class 1	no comparable classification	**E61.29.50.075.0**	IG 1303-640-1	0.5 / 1.0 / 2.0
ISO Class 1	no comparable classification	**E3.15.040.075.0**	IG 0704-400	0.5 / 1.0 / 2.0
ISO Class 1	no comparable classification	**E6.29.060.150.0.CR***	IG 0704-400	0.5 / 1.0 / 2.0
ISO Class 1	no comparable classification	**e-skin®**	IG 1504-755	0.5 / 1.0 / 2.0
ISO Class 2	no comparable classification	**1500.050.038.0**	IG 1303-640-1	0.5 / 1.0 / 2.0
ISO Class 2	no comparable classification	**E4.32.10.063.0.CR***	IG 1303-640-1	0.5 / 1.0 / 2.0
ISO Class 2	no comparable classification	**T3.29.050.038.0**	IG 1303-640-1	0.5 / 1.0 / 2.0
ISO Class 2	no comparable classification	**E14.3.038.0**	IG 0308-295	1.0
ISO Class 3	Class 1	**2500.05.055.0**	IG 0308-295	2.0
ISO Class 3	Class 1	**E6.29.060.150.0**	IG 0704-400	0.5 / 1.0 / 2.0
ISO Class 5	Class 100	**E4.32.10.063.0**	IG 1303-640-1	0.5 / 1.0 / 2.0

*Special material cleanroom

Particle generation measurement



Result:
particle generation
E14.3.038.0



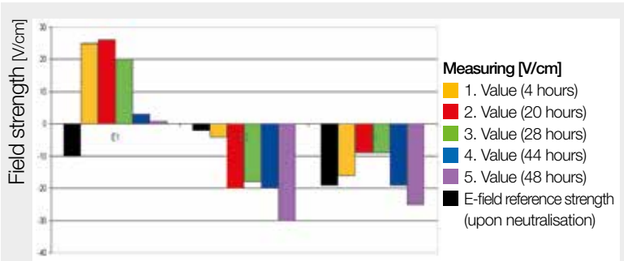
ISO Class 2
according to DIN EN ISO 14644-1 for E14.3.038.0

Absorption LEVEL 1 confirmed by IPA-Fraunhofer-Institut according to SEMI E78-0998 for the E6 standard material.
Continuously constant conductance value as there are no pin-bore connection (no air gaps)

Field strength measurement



Result:
field strength
E6.29.050.055.0



Level 1
ESD-compatibility according to SEMI E78-0998 for E14.3.038.0 and E6.29.050.055.0

Dirty environment | Technical environment

Spatter, hot swarf

Laboratory tests and numerous field applications have proved that igus® e-chains® and e-tubes reliably protect cables in welding robots and machine tools since 20 years. e-tubes made from the igus® igumid HT material are resistant to hot swarf up to +850°C (1,562°F), no swarf sticks. This opens new possibilities for replacing more complex and expensive steel tubes. All E2 and E4 e-tubes from the standard product range are available in igumid HT material upon request. igumid G in direct contact with large amounts of melted aluminium is not recommended.

Dirt, dust, swarf

Materials and design make igus® e-chains® excellent problem-solvers in tough environments. Experience and application references are available upon request. Please consult igus® with your application.

Vacuum

igus® e-chains® made of igumid G can be used in vacuum applications. Very little outgassing occurs.

Chemical resistance

igumid G is resistant to fuel, lubricants, oils, fats, alcohol, ester, ketone, and aliphatic and aromatic hydrocarbons. Oxidants and acids are damaging. The table ▶ **Page 143** shows an excerpt of the resistance to chemicals. Acid-resistant e-chains® are available upon request.

Coolant resistance

e-chains® and e-tubes have proven resistance to cooling agents. However, we are always willing to perform individual tests if you have particular problems or advanced developments. **Table on resistance to chemicals ▶ Page 143**



igus® e-tubes in the swarf area of a machine tool



Hot asphalt is no problem for igus® e-tubes



System E4 in an incinerating plant, safe also in abrasive dirt and dust



Compost sludge, numerous related references available upon request

igus® experience with:
Dust, dirt, mud, compost, wood, textile fibres, paper dust, abrasive paste, cooling agents, glass dust, glass splinters, coal dust, sand, corundum and much more.



e-tubes that repel hot swarf, up to +850 °C with the igus® igumid HT material ▶ www.igus.eu/HT



igus® tests: e-chains® and chainflex® cables are tested for resistance against chemicals and oils in long-term tests

Material data igumid

Material data table	Units of measurement	igumid G	igumid NB	igumid ESD	igumid TE	igumid GE
Mechanical properties						
Yield stress (dry/wet)	MPa	190/130	78/40	*	*	*
Elongation at break (dry/wet)	%	004/006	20/210	*	*	*
Flexural modulus (tensile test)	MPa	9.000/7.000	2.900/1.200	*	*	*
Limit of elasticity (bending)	MPa	7,800	3,000	9,500	1,290	7,200
Flexural strength	MPa	240	120	230	55	200
Shore-D-Hardness	–	79	79	83	72	80
General properties						
Density	g/cm³	1.37	1.14	1.2	1.02	1.46
Moisture absorption 23/50 r.h.	% by weight	1.4	3.4	1.9	0.8	0.7
Maximum water absorption	% by weight	5.6	7.6	7.3	1.6	4
Electrical properties						
Specific transitional resistance	Ω*cm	$>10^{11}$	$>10^{11}$	$<10^{9}$	$>10^{11}$	$>10^{11}$
Surface resistance ROA	Ω	$>10^{11}$	$>10^{11}$	$<10^{9}$	$>10^{11}$	$>10^{11}$
Thermal properties						
Lower operating temperature	°C / °F	-40°C / -40°F	-40°C / -40°F	-40°C / -40°F	-40°C / -40°F	-40°C / -40°F
Upper long-term application temp.	°C / °F	+120°C / +248°F	+80°C / +176°F	+80°C / +176°F	+70°C / +158°F	+120°C / +248°F
Upper short-term application temp.	°C / °F	+180°C / +356°F	+170°C / +338°F	+150°C / +302°F	140°C / +284°F	+200°C / +392°F
Material certificates						
Fire resistance as per UL94	–	HB	V2	HB	HB	HB
Silicone-free	–	++	++	++	++	++
Halogen-free	–	++	++	++	++	x
2002/95/EG (RoHS)	–	++	++	++	++	++
2002/96/EG (WEEE)	–	++	++	++	++	–
Colour						
according to RAL, approx.	–	■ ≈RAL9004	■ ≈RAL9004	■ ≈RAL7015	■ ≈RAL9004	■ ≈RAL9004

++ = yes x = no *Values upon request

Colours and special solutions

Product prices are always based on the colour black. e-chains® in any colour shown in the colour selection chart are subject to a percentage based colour surcharge. Any other colours that are not shown in the chart are individually calculated depending on the article and quantity, insofar as this is technically possible. As a rule, coloured e-chains® are not available from stock. Delivery time and surcharges for coloured e-chains® are available upon request. As a rule, all specifications related to stability (for instance unsupported lengths) and material characteristics apply only to black e-chains®. The characteristics of coloured e-chains® may differ. This also applies to all e-chains® from special materials, such as conducting e-chains® made from igumid ESD material or other special materials. For technical reasons HT and ESD materials cannot be supplied in other colours.

e-chain® colour variations with RAL-numbers

Black	Standard, from stock	≈ RAL 9004	**Index .0**	**Orange**	Special colour	≈ RAL 2003	**Index .2**
Silver-grey	Special colour	≈ RAL 7001	**Index .31**	**Yellow**	Special colour	≈ RAL 1018	**Index .4**
White	Special colour	≈ RAL 9003	**Index .1**	**Light grey**	Special colour	≈ RAL 7035	**Index .14**
Grey-white	Special colour	≈ RAL 9002	**Index .1S**				

Black e-chains® available from stock! Delivery time* for special colours: from 5 business days.

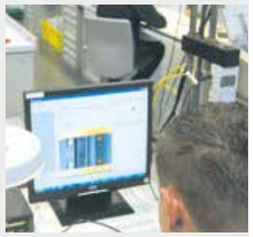
*The delivery times indicated correspond to the average time until the ordered goods are dispatched.

Chemical resistance of igumid

Medium	Concentration % weight	igumid G / NB	igumid TE
Acetic acid	2	++	+
Acetone	100	++	++
Ammonia (aqueous)	10	++	++
Benzene	100	++	++
Bitumen	100	+	–
Boric acid (aqueous)	10	++	+
Butyric acid	100	+	–
Calcium chloride (aqueous)	Sat. aq. sol.	++	++
Caustic potash	10	++	++
Chlorinated hydrocarbons		++	+
Chlorine water	Sat. aq. sol.	–	–
Chromic acid (aqueous)	1	+	–
Colour		++	++
Diesel oil	100	++	++
Fats, cooking fat		++	++
Fluorinated hydrocarbons		++	++
Formaldehyde (aqueous)	30	+	+
Formic acid (aqueous)	2	+	++
Gasoline	100	++	++
Hydraulic oils		++	+
Hydrochloric acid	pH_2	+	–
Hydrochloric acid	2	–	–
Hydrochloric acid	10	–	–
Ink, printing ink		++	++
Mercury		++	++
Methyl acetate	100	++	++
Milk		++	++
Mineral oil		++	++
Oil, cooking		++	++
Oil, lubricating oil		++	++
Oleic acid	100	++	++
Paraffin oil		++	++
Perchloroethylene	100	++	–
Polyester resins (with styrene)		++	++
Potassium carbonate (aqueous)	60	++	++
Potassium sulphate (aqueous)	100	++	++
Propane gas		++	++
Sodium carbonate (aqueous)	50	++	++
Tartaric acid		+	++
Vaseline		++	++
Zinc sulphate (aqueous)	10	++	–

++ = Resistant
+ = Conditionally resistant
– = Non-resistant
Sat. aq. sol. = Saturated aqueous solution

The values specified are values determined by laboratory tests and are material-specific. All specifications apply to black e-chains®



Quality inspection of every igus® e-chain® production



Test location for igus® ESD e-chains®



chainflex® cables with many certificates for e.g. DESINA



Noise level tests in igus® own acoustic laboratory

DIN EN ISO 9001:2016 and IATF 16949:2016

igus® is certified in accordance with DIN EN ISO 9001:2015 and IATF 16949:2016 in the field of energy supply systems, cables and harnessing, as well as plastic plain bearings.



ESD

According to a statement by TÜV Rheinland 557/ Ex 125071309.00 / 17, igus® energy chains do not fall under the scope of application of Directive 2014/34/EU The material properties of igumid ESD combine the requirements according to ESD. igus® therefore recommends igumid ESD for use in the relevant ATEX zone.

IPA Cleanroom

A lot of e-chains® are suitable for the use in cleanrooms according to DIN EN ISO 14644-1. Confirmed by the IPA Fraunhofer Institute.

UL, CSA, CEI and VDE

All igumid materials for e-chains® and e-tubes have got the UL-material approval. The material igumid NB has got the fire protection class approval IIb according to the test VDE 0304 Part 3/5.70, the approval V2 according UL94 and the construction material class B2 according DIN 4102.

Interbus, CC-Link, DESINA and NFPA

chainflex® cables are produced according to a lot of international standards. **Interbus certification:** for Interbus certification of certain CF11 bus cables. **CC-Link:** CC Link is a Fieldbus established by Mitsubishi Electric Automation. igus® chainflex® CFBUS.035 is CC Link certified. **DESINA:** many chainflex® cables are Desina-compliant. **NFPA:** with the CF130.US and CF140.US, igus® offers the MTW (Machine Tool Wire) cable which meets the requirements of NFPA 79

Clearly quieter

igus® e-chain systems® are clearly quieter. In the acoustic laboratory of the TÜV and the igus® GmbH different e-chains® were compared (see also noise-optimised e-chains® ▶ **page 107**)

igumid

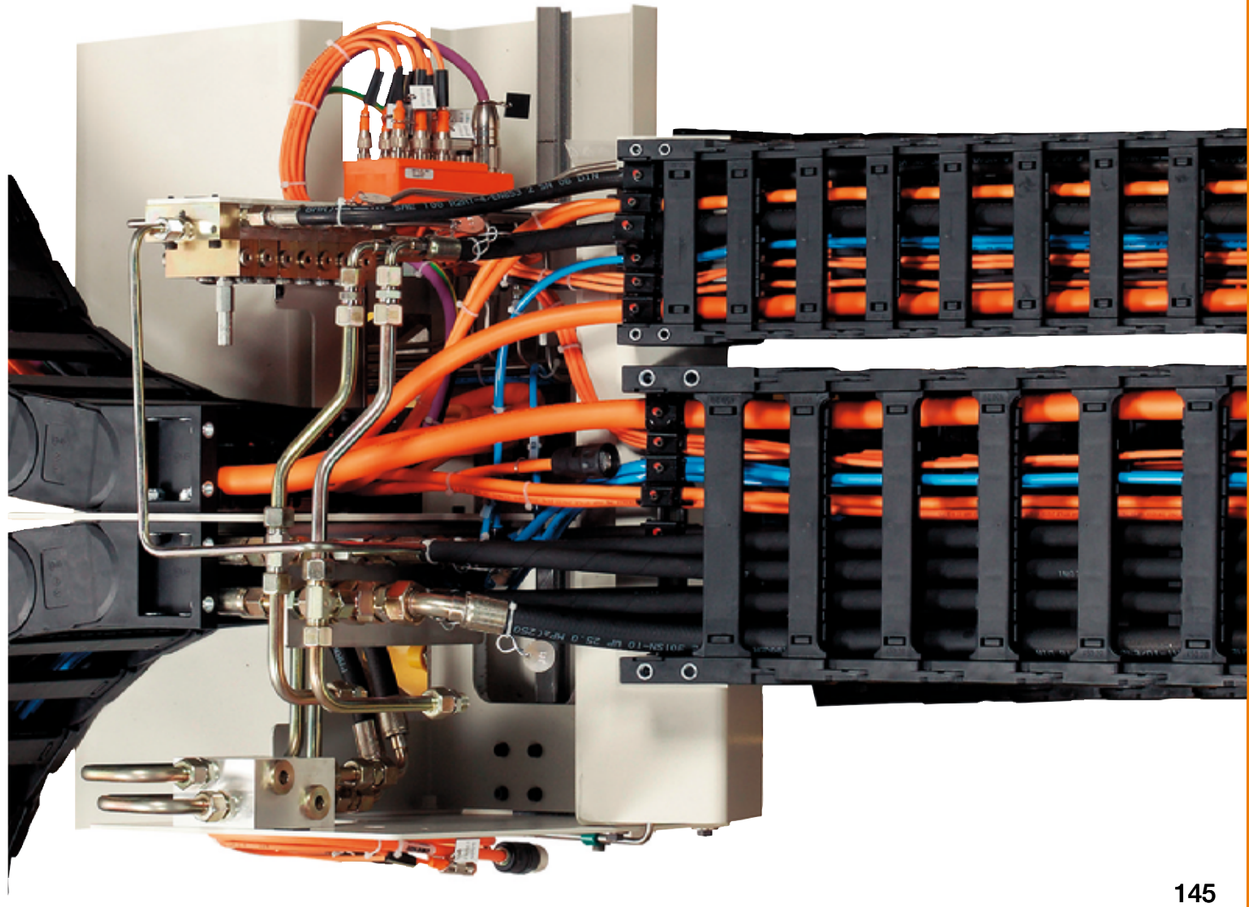
The material igumid is free from toxins, according to 2002/95/EC (RoHS).

iF Design Award

Since 1987 - 38 iF Design Awards ▶ **www.igus.eu/iF**

igus® readychain® & readycable®

Ready-to-install energy supply systems. Cables with connectors. Minimise process costs. Everything from a single source.



readychain® | Ready-to-install harnessed e-chain systems®

Assembled energy supply systems, connectors and cables from igus®. Everything from one source, directly from the manufacturer, delivered quickly to your machine



Ready-to-install systems, from connectors through assembled cables up to complex energy supply modules, delivered in 1-10 days



Customer-specific production



From one off to mass production

readychains® - increase your capacity and cash flow quickly with igus®

- Reduce overhead costs
- Reduce your throughput times from days to hours
- Respond flexibly to order variations
- Utilise igus® manufacturing capacities and our know-how in cable assembly

Reduce the number of suppliers and orders by 75% with igus®

- One order, one invoice, one delivery
- A partner for minimal machine downtimes
- All readychain® components are subject to an extensive quality control and function testing

readychain® | You decide, igus® delivers

Industrially harnessed energy chain modules direct from the manufacturer ... You decide the quantity, the travel and the degree of harnessing ...

3 Benefits: readychain® basic



❶ ONE supplier - combine suppliers
❷ Reduce assembly time
❸ Reduce failures

Reduction of assembly time
Reduction of logistics cost
Procurement optimisation

Further information, videos, configurators and product finders
▶ www.igus.eu/RCbasic

6 Benefits: readychain® standard



❹ No electrical termination needed
❺ 100% digitally tested
❻ No cable surplus

Reduction of assembly time
Reduction of logistics cost
Procurement optimisation

Further information, videos, configurators and product finders
▶ www.igus.eu/RCstandard

9 Benefits: readychain® standard+



❼ Reduce interfaces
❽ Optimise points of connection / interfaces
❾ Ready-to-install multi-axis system

Reduction of assembly time
Reduction of logistics cost
Procurement optimisation

Further information, videos, configurators and product finders
▶ www.igus.eu/RCstandard+

13 Benefits: readychain® premium



❿ Optimise your transport / assembly
⓫ One single assembly
⓬ One Part No. / Product group
⓭ Plug & Play

Reduction of assembly time
Reduction of logistics cost
Procurement optimisation

Further information, videos, configurators and product finders
▶ www.igus.eu/RCpremium

Up to 1,600 readychain® systems per week, over 4,700m² floor space, "chain-cable-guarantee" since 1989. 3 shifts, 24 project engineers, 359 employees just for assembly



In the igus® readychain® factory, we assemble customised e-chain systems®. All under one roof



Up-to-date production processes, custom-build or serial production



Full service from system acceptance to installation



12 readychain® factories worldwide



Customised cable assembling

1 Everything from one source

The readychain® system includes pre-assembled, customised e-chain systems®. The "Plug & Play" solutions are configured, manufactured and delivered according to individual customer specifications. The use of the mounting rack can yield benefits even at low quantities.



2 Flexible components

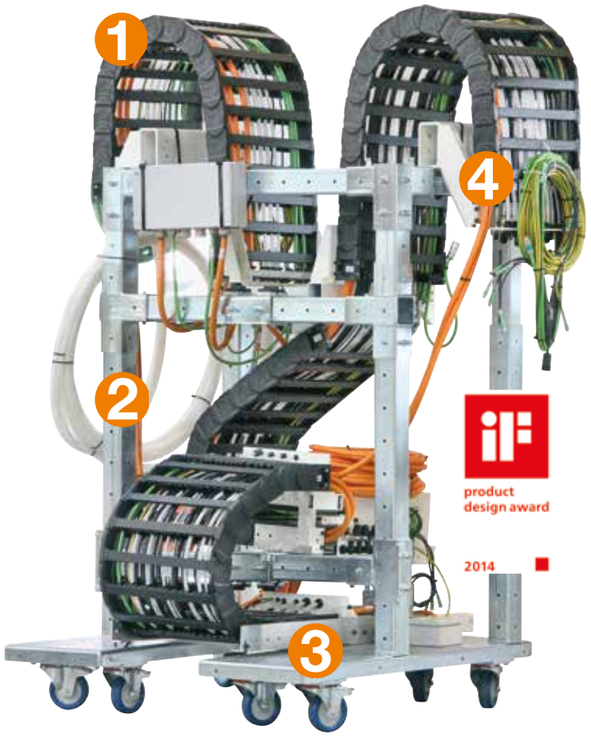
The telescopic supports and braces of the readychain® rack allow flexible adaptation to the installation needs on site. Changes in serial production can be undertaken easily. By using modular parts, additional components can also be easily attached to the rack.

3 Sustainable use

The components of the readychain® rack are galvanised and thus designed for a long life. Each rack can be constructed within a few hours. The individual elements can be reused at any time removing the need to dispose of custom made parts, such as conventional welded transport racks.

4 Precise fitting "Plug & Play"

All interfaces and attachments are designed in such a way that the installation of the e-chain® can be managed quickly and easily. The complete package includes the matching plugs and connectors, plates, sensor actuator boxes, linear bearings, links to the central lubrication, etc., all reducing the installation time considerably.



80% savings during prototyping. Assembly transport rack for ready-to-install energy supply systems.





readychain® | Connectors, cables and accessories

igus® connectors



Round connector connector kit



Square plug connector kit



Tools and accessories

igus® readycable®



4,400 drive cables in accordance with 24 manufacturer standards, from stock



Catalogue standards: Video/vision/bus technology



Catalogue standards: network/ethernet/FOC/Field bus



Catalogue standards: CF.INI initiator cables up to 4 x d

igus® hoses and attachments



Configured online with hose cable configurator



readychain® | Configured, fitted, with system guarantee

1 System acceptance
2 Project phase
3 Initial acceptance of prototype
4 igus® installation



readychain® service

- We visit you
- Define interfaces
- Logistics planning
- Cycle integration
- Time schedule



System acceptance on your machine



readychain® service

- Component selection
- Interface optimisations
- Documentation
- Integrated project management
- Cost optimisation



Project planning



readychain® Skype service*

- Initial acceptance from your work place
- Build your prototype with an igus® project engineer, live in your meeting
- Your requests for changes explained with a model or visit us for production acceptance

*Only available in Germany



Prototype including transport rack



readychain® installation

- System installation by igus® specialists
- igus® supervision service for your own installation
- Transparent, fixed price



Installation on site

Capacity for 600,000 assembled cables a year, more than 18,000 test programmes, 1,800 test adapters



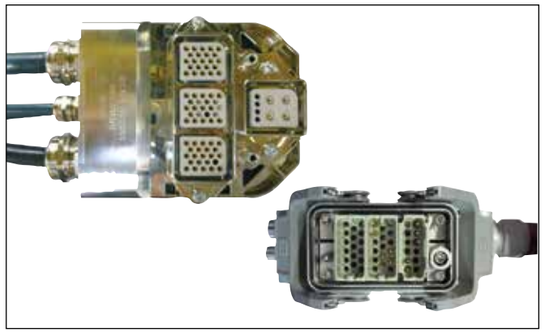
Process reliability, crimp force monitored, automated, time-optimised



Computer-based high-voltage testing and inspection of all assembled cables



Modern machinery - automatic stripper-crimper



Special cable assemblies to your specifications



Worldwide system guarantee



In our warehouse the material waits for your order and not your order for the materials!

e-chains® ...



100,000 e-chain® components

... chainflex® cables ...



5 million meter of cables on stock

... Harnessing



5,000 connector components



Hundreds of meters of guide troughs



2,750m² test lab - more than 15,000 tests every year



Quickly within reach



Numerous strain relief solutions



More than 8,000 cables per week



Just-in-time supply

readycable® | From 24hrs ... for 24 manufacturers

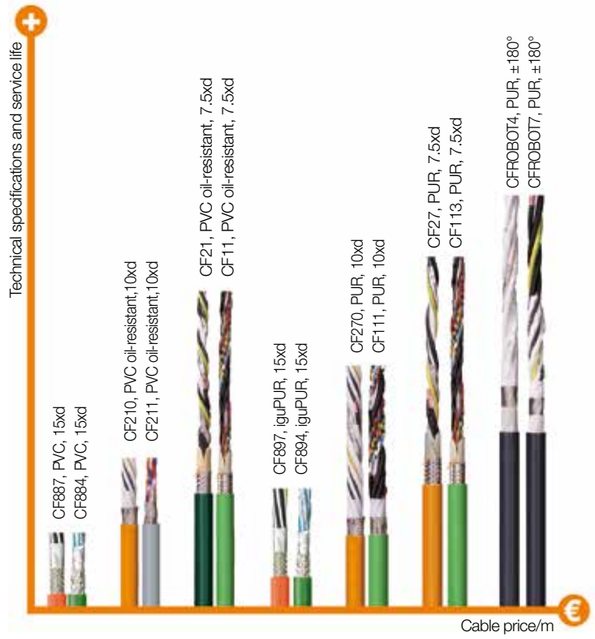
No. 1 in moving, harnessed cables for e-chains®

The most cost-effective cable for your drive

igus® offers 7 price levels with the same electrical properties for readycable® harnessed drive cables to your requirements:

- From ± 180° torsion to small movements
- From the smallest to the largest bend radius
- For outdoor or indoor applications
- Seven different outer jacket materials
- chainflex® measuring system and servo cables

Find the right drive cable and calculate the savings potential ► www.igus.eu/readycable-finder





Harnessed drive cables in accordance with 24 manufacturer standards:

... Allen Bradley ... B&R ... Baumüller ... Beckhoff ... Berger Lahr ... Control Techniques ... Danaher Motion ... ELAU ... Fagor ... Fanuc Festo ... Heidenhain ... Jetter ... Lenze ... LinMot ... LTi DRiVES ... Mitsubishi Electric ... NUM ... Omron ... Parker ... Rexroth ... SEW ... Siemens ... Stöber ...

readycable® | From 24hrs ... 100% tested ... with guarantee

Example:

B&R	CF887, PVC, 15xd
ELAU	CF210, PVC oil-resistant, 10xd
Fanuc	CF21, PVC oil-resistant, 7.5xd
LinMot	CF897, iguPUR, 15xd
NUM	CF270, PUR, 10xd
Rexroth	CF27, PUR, 7.5xd
SEW	CFROBOT7, PUR, ±180°

- Always find the most cost-effective solution for your application
- Seven price levels with the same electrical properties
- 4,200 harnessed cables in accordance with 24 manufacturer standards
- 36-month guarantee for all chainflex® cables
- To your required length
- No cutting charges
- Each cable electrically tested
- Configure drive cables online
- Fast delivery - up to 25 cables from the current catalogue range in 24hrs

60,000 test programmes

- High-voltage tests
- Digital continuity test
- 1,800 test adapters
- Custom tests

More information ► www.igus.eu/test

"QuickPin" - connector-cable configurator integrated directly in EPLAN P8

► www.igus.eu/quickpin

Predictable reliability ... tested!

- 36-month igus® guarantee on every cable**
- More than 2.0 billion test strokes per year
- 1.4 million electric measurements per year
- Security for machine builders
- Clear statements on durability and service life
- Unique in the market (as of 04/2016)

More information

► www.igus.eu/chainflex-guarantee

**Predictable reliability for full 36 months, or up to 10 million double strokes (5 million double strokes for the very cost-effective chainflex® M cables), whichever comes first. For the guarantee to be valid, the cables must be operated within the parameters for each cable series shown in the selection tables.

igus® installation service including guarantee

Improve technology and reduce costs with fully installed igus® systems













Save time and money - installation and maintenance of your e-chain system®

New installation

- Installation of a tailored e-chain system® on-site at your facility or your new plant
- Documentation and planning of the project at your construction site
- Configuration of the system interfaces and consulting by igus® engineering
- Fast and error-free installation on your machine
- Everything from a single source - including customised system guarantee

Conversion / Modernisation / Retrofit

- Modernisation and implementation concept for the conversion of existing energy supply systems to e-chain systems®
- To expand the capability
- Reduction of costs and energy consumption
- Increased service life
- Increased plant reliability and availability

Inspection

- Assessment of the technical condition of the your energy supply system
- Determination of the repair and maintenance requirements
- Reporting of deficiencies, risks and optimisation proposals
- Documentation of the plant condition in the inspection report

Maintenance

- Preventive maintenance of more complex e-chain systems® proactively recognise and address any damage or issues, therefore extending the service life of your system.
- Adjustments on e-chains®, cables and strain reliefs
- Measurement, assessment, and documentation in the maintenance handbook

Repair / Service

- Prompt, flexible, and professional exchange and service on e-chain systems® and their components

From a single source - components, service, and reliability

Your reliable plant
"Improving technology and reducing costs"

System guarantee up to 36 months
(depending on application)

Supervisor service | New installation | Installation support

igus® installation service

Inspection and maintenance | Repair service and maintenance | Modernisation and retrofit

igus® energy chains | igus® chainflex® cables | igus® harnessed system

Tested: igus® lab, Cologne

Development and production: igus® GmbH, Cologne



Fast, professional installation by specialised installation staff: saves installation time and cost, increases the service life, prevents failures



Predictable: igus® fixed prices for the installation and maintenance - saves you time and effort in planning and purchasing



Predictable installation time for your system at your premises - helps you schedule and contributes to high plant availability



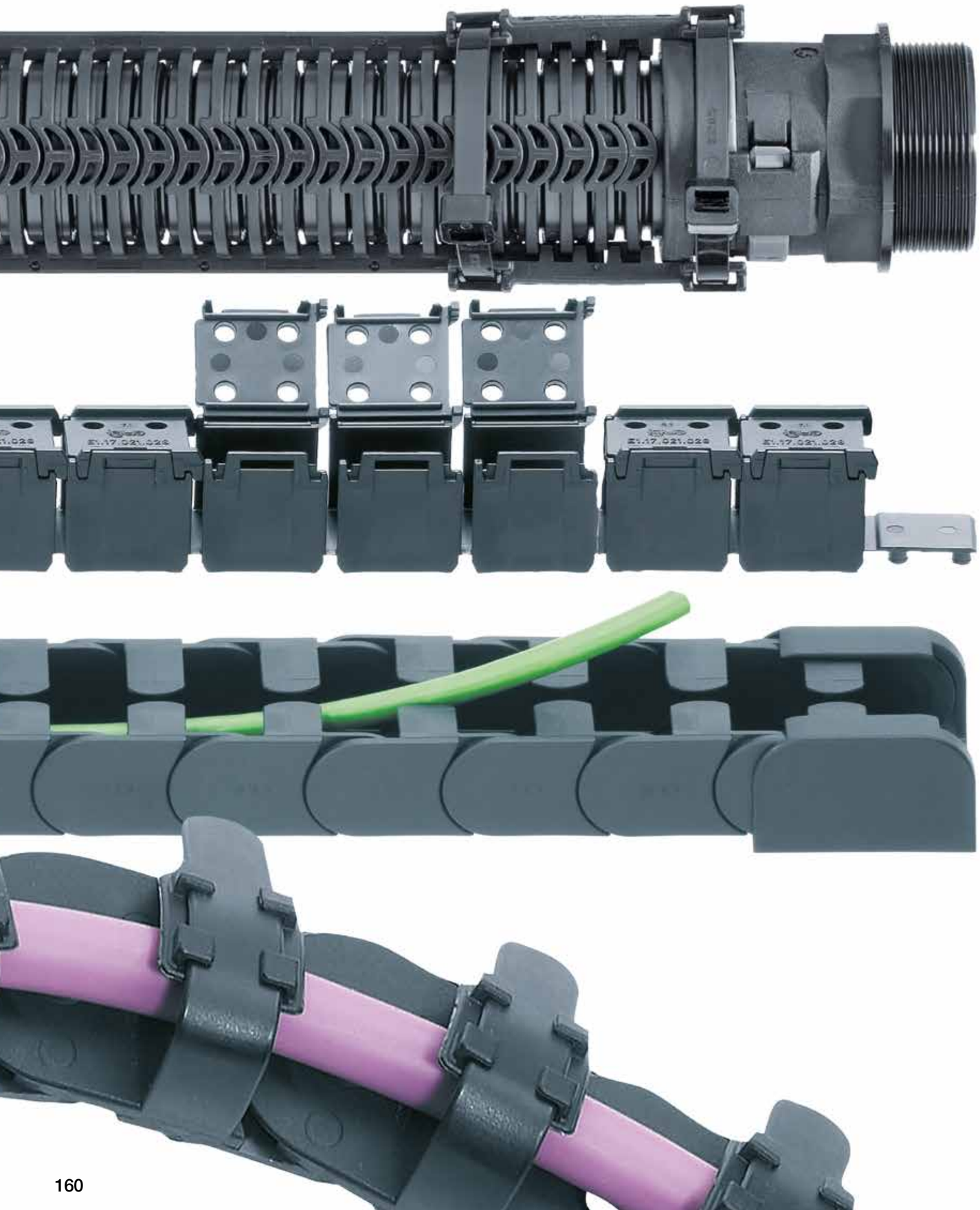
Fast service with approved partners in your area - keeps travel and response times short and saves installation costs



Short term, flexible installation dates even on weekends or at night - if you need immediate support or if the scheduled date has to be shifted. Simply give us a call and we will find a solution



Everything from a single source from the manufacturer - including customised system guarantee - we can help you! Ranging from the initial assessment to the final system configuration, the delivery, and the on-site installation of the system in your plant. You can focus on your core business



igus® solutions for simple applications

- Reinforcement for existing corrugated tube systems
- Cost-effective, one-piece strip design
- Guide cable bundles quickly and easily
- Energy supply for offices and furniture



e-rib

Reinforcement for existing corrugated tube systems

Advantages of the e-rib series:

- When low-cost corrugated tubes are used to protect and carry cables but stability must be increased
- To stabilise corrugated tubes used in highly dynamic applications
- Longer service life for cables in corrugated tubes
- 4 sizes for nominal hose widths NW23, NW29*, NW36 and NW48 available *NW29 for PMA corrugated tubes

When to use another system:

- When a fully enclosed, yet still openable corrugated tube is needed

▶ **e-skin®, page 834**



Mounting bracket: connector elements for secure fixing

Additional security: retention clips for greater dynamic responsiveness

Independent of hose manufacturer: 4 sizes for nominal hose widths NW23, NW29*, NW36 and NW48 available

*NW29 only for PMA corrugated tubes

Easy to retrofit: simply clip onto a corrugated hose

Space-saving: less installation space required

Strong: prevents unintentional sideways movement

Reinforcement for existing corrugated tube systems - e-rib

Corrugated tubes are used in many applications where the mechanical demands on the energy supply are low. The key advantages are easy, versatile and exceptionally cost-effective guidance of energy, data and media. However, fast movements can lead to damaging sideways movement. The igus® e-rib is easy to clip onto a corrugated hose and can help prevent this. The e-rib fills the joints of the corrugated hose to stabilise it in such a way that it can only move in one direction. The corrugated hose has an unsupported length due to the lateral guide elements. When retrofitted, the e-rib enables an upgrade of existing applications with just a few simple steps. The e-rib is independent of the hose manufacturer (depending on size) and available in four sizes.

- Stability prevents unintentional sideways movement
- Less installation space required
- Easy to retrofit
- No change in the impermeability of the corrugated hose

Typical industries and applications

● Fast, short and unsupported applications ● Standing or hanging applications ● Automotive industry ● Machine and plant construction ● Pick & Place applications ● Plotter ● Handling systems ● Medical technology ● SCARA robots

Series	Nominal width NW [mm]	Inner width *Bi* [mm]	Outer width *Ba* [mm]	Outer height *ha* [mm]	Mounting bracket	Page
						
EL.00.23.0	23	28	41	29.9	**EL.00.12**	**170**
EL.01.29.0[1)]	29	34.5	44.5	33	**EL.01.12**	**171**
EL.00.36.0	36	42	56	42.9	**EL.00.12**	**172**
EL.00.48.0	48	54	67.5	53.6	**EL.00.12**	**173**

e-rib -
reinforcement for existing corrugated tube systems

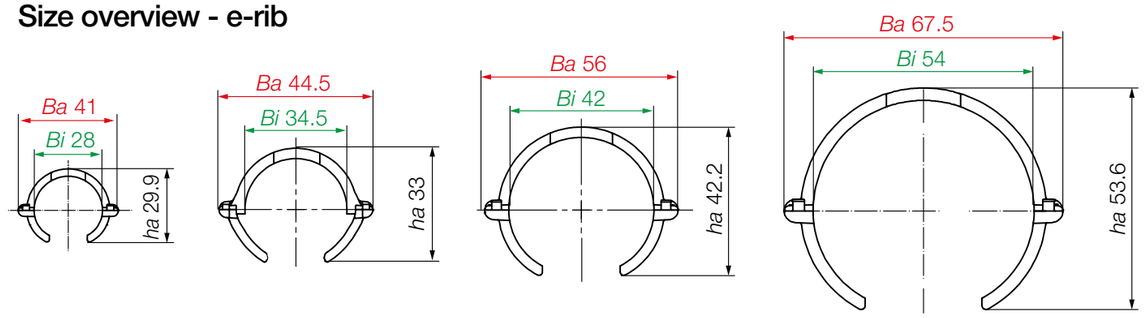
1) EL.01.29.0 only for PMA corrugated tube I-PISG-29B/S

Other sizes available upon request. Please consult igus® for delivery time.

Available from stock. Ready to ship in 24 - 48hrs.*

*The delivery times indicated correspond to the average time until the ordered goods are dispatched.

Size overview - e-rib



EL.00.23.0
Nominal width NW 23mm

EL.01.29.0[1)]
Nominal width NW 29mm
1) Only for PMA corrugated tube I-PISG-29B/S

EL.00.36.0
Nominal width NW 36mm

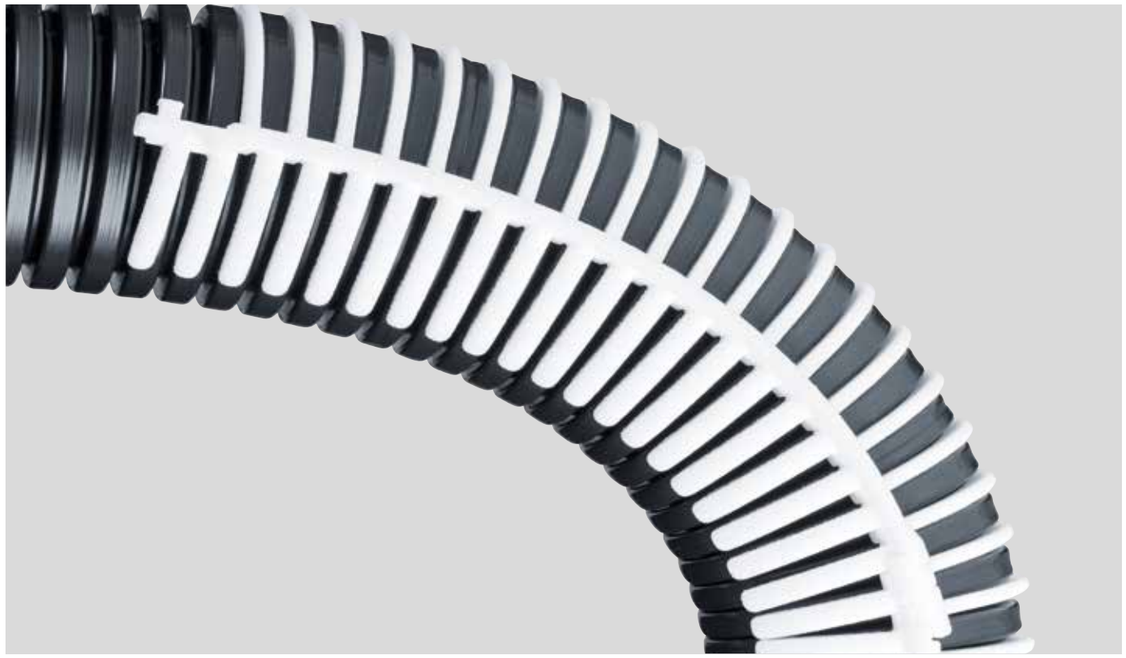
EL.00.48.0
Nominal width NW 48mm

Technical data

e-chain® material - permitted temperature °C, igumid NB	+5°C up to +80°C
Mounting bracket material - permitted temperature °C, igumid NB	+5°C up to +80°C
Flammability class	VDE 0304 IIC UL94-V2

Overview nominal width | Manufacturer | Pitch

Part No. e-rib	For nominal width NW [mm]	For corrugated tube systems	e-rib segments per 1 metre	e-rib segment length [mm]
EL.00.23.0	NW 23	Independent of manufacturer	7 segments	147mm
EL.01.29.0	NW 29	Only for PMA corrugated tube I-PISG-29B/S	10 segments	100mm
EL.00.36.0	NW 36	Independent of manufacturer	7 segments	147mm
EL.00.48.0	NW 48	Independent of manufacturer	7 segments	147mm



The e-rib is clipped onto the corrugated tube and stabilises it in such a way that it can only move in one direction

Order example | Order key and colour examples | Examples based on series EL.00.36

Order example for e-rib, colour black, with mounting bracket and securing clips for one metre corrugated tube (independent of manufacturer):

e-rib (for 1.0m)	Please indicate the quantity	EL.00.36.0
+ Mounting brackets	1 set mounting bracket	EL.00.12
+ Securing clips	**Option**: with 2 securing clips	EL.00.S
+ Cable tiewrap	**Option**: 1 cable tiewrap (for securing clips)	MAT0170899
Order text:	7 pieces EL.00.36.0 + 2 x EL.00.12 + 2 x EL.00.S + 1 x MAT0170899	

Order key

Example: Part No. e-rib **EL.00.36.0**

- Series e-rib
- Index **00** for all manufacturers
  Index **01** only for PMA
- Nominal width (NW)
- Colour index (standard black)

Order index for colour options

Colour	Order index		Colour	Order index	
Black	Standard	.0	Orange	Special colour	.2
Silver-grey	Special colour	.31	Yellow	Special colour	.4
White	Special colour	.1	Light grey	Special colour	.14
Grey-white	Special colour	.1S			

Black e-ribs available from stock.

Above special colours upon request.



The igus® e-rib corrugated tube reinforcement can be easily retrofitted onto existing systems

1



igus® delivers the required length. Any excess length can easily be cut off.

2



To attach the e-rib to the hose fitting, there must be no connection point on the last 7 ribs of the e-rib, otherwise the mounting bracket will not lock securely.

3



If necessary, cut off thicker end section and any excess length and place the two mounting brackets on the side plates.

4



Finally, the mounting brackets are fixed with two cable tiewraps.

Find a video online
▶ www.igus.eu/e-rib





Tests from the igus® laboratory: The igus® e-rib (pictured on the right) stabilises the corrugated hose significantly in sideways movement during acceleration or deceleration







The e-rib stabilises the corrugated hose so that it can only move in one direction. The corrugated hose requires no other support along its length due to the e-rib

e-rib | Series EL.00.23 | Product range New

NW 23

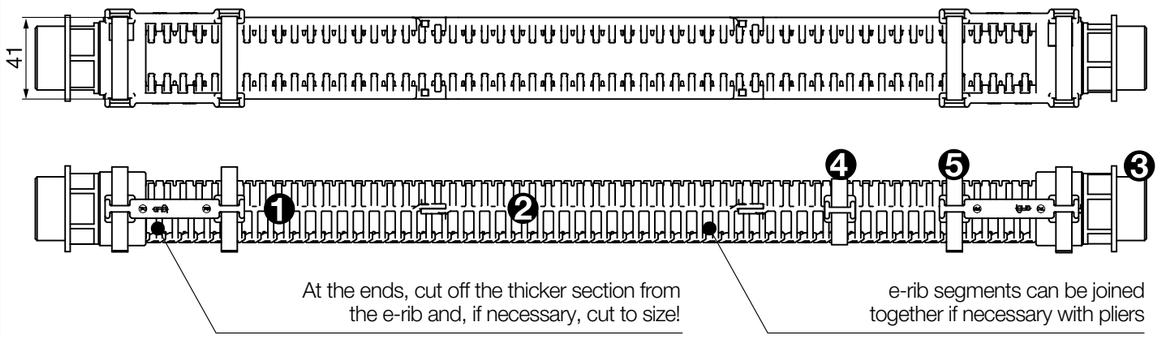
Reinforcement for existing corrugated tube systems



Series EL.00.23 | e-rib for corrugated tubes from different manufacturers | Nominal width 23

Part No. e-rib	NW [mm]	*Bi* [mm]	*Ba* [mm]	*ha* [mm]	Segments per metre	Segment length [mm]	Weight [kg/m]	Mounting bracket
EL.00.23.0	23	28	41	29.9	7	147	≈ 0.16	EL.00.12

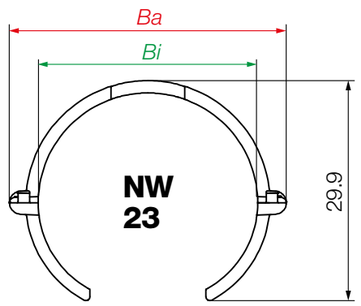
Installation dimensions and product description



Position	Description	Part No.
❶	PMA corrugated tube	I-PISG-23B
❷	e-rib	EL.00.23
❸	PMA connection fitting	I-BVND-M323GT
❹	Securing clip, optional*	EL.00.S
❺	Mounting bracket connection set	EL.00.12

Note: For each locking device, 2 clips EL.00.S and a cable tie wrap MAT0170899 are needed!

*Securing clips for additional attachment. They can be placed anywhere on the e-rib and fixed to the corrugated tube with a cable tiewrap.



e-rib | Series EL.01.29 | Product range New

NW 29

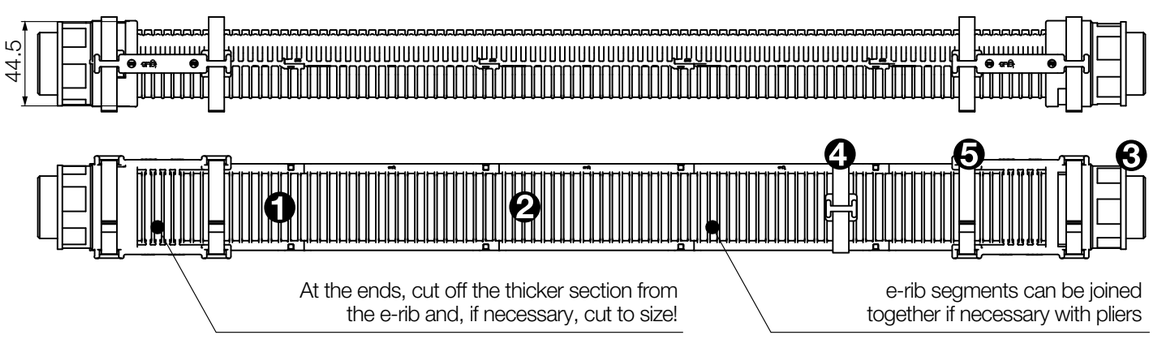
Reinforcement for PMA corrugated tube I-PISG-29B/S



Series EL.00.29 | e-rib - only for PMA corrugated tube I-PISG-29B/S | Nominal width 29

Part No. e-rib	NW [mm]	*Bi* [mm]	*Ba* [mm]	*ha* [mm]	Segments per metre	Segment length [mm]	Weight [kg/m]	Mounting bracket
EL.01.29.0[1)]	29	34.5	44.5	33	10	100	≈ 0.12	EL.01.12

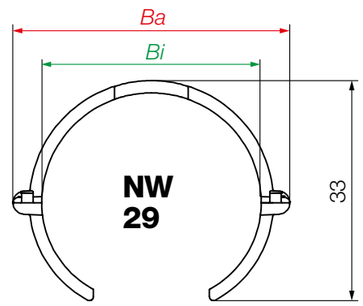
Installation dimensions and product description



Position	Description	Part No.
❶	PMA corrugated tube	I-PISG-29B
❷	e-rib	EL.01.29
❸	PMA connection fitting	I-BVND-P299GT
❹	Securing clip, optional*	EL.01.S
❺	Mounting bracket connection set	EL.01.12

Note: For each locking device 2 clips EL.01.S and one cable tiewrap MAT0170899 are required!

*Securing clips for additional attachment. They can be placed anywhere on the e-rib and fixed to the corrugated tube with a cable tiewrap.



e-rib | Series EL.00.36 | Product range New

Reinforcement for existing corrugated tube systems

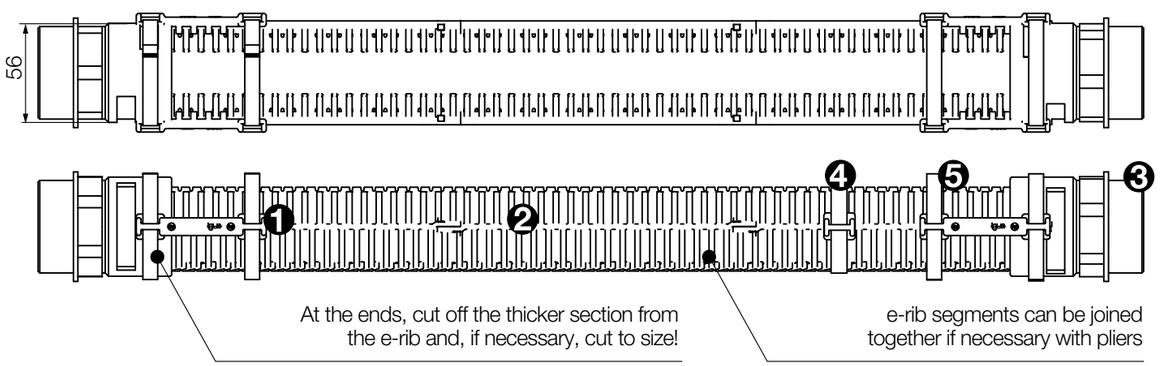
NW 36



Series EL.00.36 | e-rib for corrugated tubes from different manufacturers | Nominal width 36

Part No. e-rib	NW [mm]	Bi [mm]	Ba [mm]	ha [mm]	Segments per metre	Segment length [mm]	Weight [kg/m]	Mounting bracket
EL.00.36.0	36	42	56	42.9	7	147	≈ 0.22	EL.00.12

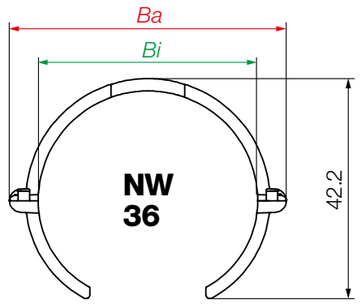
Installation dimensions and product description



Position	Description	Part No.
1	PMA corrugated tube	I-PISG-36B
2	e-rib	EL.00.36
3	PMA connection fitting	I-BVND-M506GT
4	Securing clip, optional*	EL.00.S
5	Mounting bracket connection set	EL.00.12

Note: For each locking device, 2 clips EL.00.S and a cable tie wrap MAT0170899 are needed!

*Securing clips for additional attachment. They can be placed anywhere on the e-rib and fixed to the corrugated tube with a cable tiewrap.



e-rib | Series EL.00.48 | Product range New

Reinforcement for existing corrugated tube systems

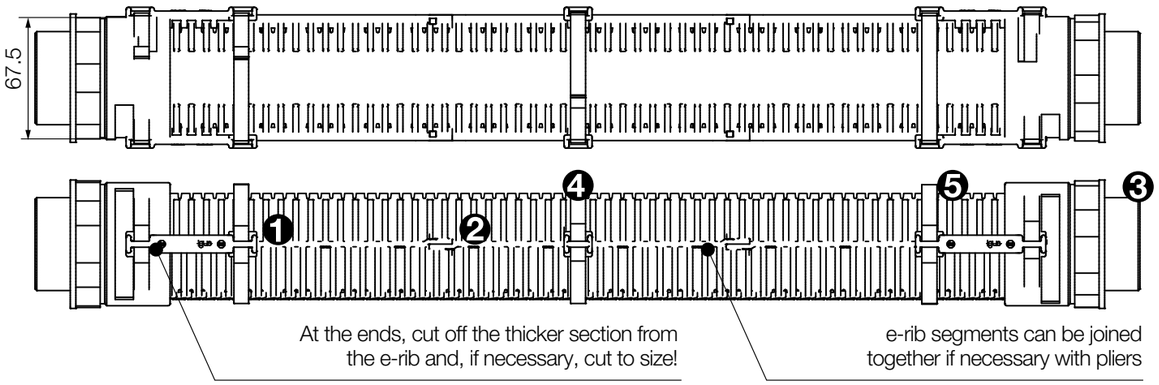
NW 48



Series EL.00.48 | e-rib for corrugated tubes from different manufacturers | Nominal width 48

Part No. e-rib	NW [mm]	Bi [mm]	Ba [mm]	ha [mm]	Segments per metre	Segment length [mm]	Weight [kg/m]	Mounting bracket
EL.00.48.0	48	54	67.5	53.6	7	147	≈ 0.27	EL.00.12

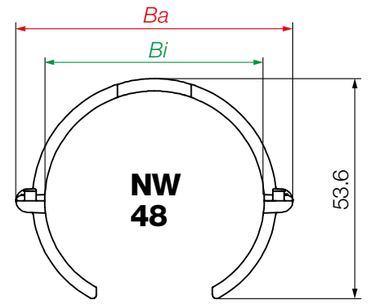
Installation dimensions and product description



Position	Description	Part No.
1	PMA corrugated tube	I-PISG-48B
2	e-rib	EL.00.48
3	PMA connection fitting	I-BVND-M508GT
4	Securing clip, optional*	EL.00.S
5	Mounting bracket connection set	EL.00.12

Note: For each locking device, 2 clips EL.00.S and a cable tie wrap MAT0170899 are needed!

*Securing clips for additional attachment. They can be placed anywhere on the e-rib and fixed to the corrugated tube with a cable tiewrap.





E1

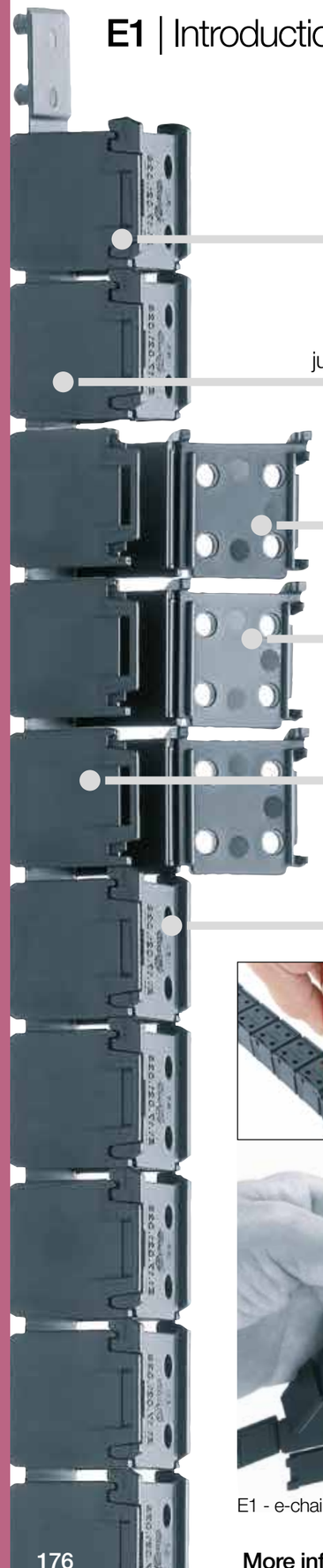
Cost-effective, one-piece strip design for simple applications

Advantages of the E1 series:

- If a small amount of filling is required
- If a cost-effective e-chain® is required
- If easy installation is required
- If a simple solution is required
- For low duty cycles

When to use another e-chain® series:

- For higher fill weights
  - ▶ **easy chain®, page 198**
  - ▶ **zipper, page 226**
- When easy filling with connectorised cables is required
  - ▶ **easy chain®, page 198**



Easy to lengthen: strips can simply be snapped together

Easy shortening: just separate at each strip

Save time: easy to fill due to openable lids

Cost-effective: lightweight and low-priced e-chain®

Space-saving: compact design with smooth contour

Variety of options: different materials and colours available upon request

UL94-V2 classification

Practical: easy attachment to the machine



Cost-effective, one-piece strip design for simple applications - E1

Modular e-chain®, 1-piece strip designed for simple applications - the E1 design brings the benefits of an e-chain® to applications where previously this solution was too expensive. E1 is more economic for higher volumes, quicker to assemble yet still offers great control and protection for moving cables.

Typical industries and applications

● Automotive ● Office solutions and technology ● Automation ● Electrical equipment ● Machine building etc.

E1 - e-chain® in a strip - easy lengthening and shortening

Series	Inner height *hi* [mm]	Inner width *Bi* [mm]	Outer width *Ba* [mm]	Outer height *ha* [mm]	Bend radius *R* [mm]	Segment length [mm]	Page
							
						e-chain® in a strip - openable along the outer radius	
ES1.10.013.	10	13	17	15.5	018	200	**178**
E1.17.021.	17	21	26	25	028	255	**179**
E1.17.031.	17	31	36	25	028	204	**179**
E1.17.044.	17	44	49	25	028	255	**179**
E1.18.015.	18	15	20	26	028	127.5	**180**
E1.20.015.	20	15	22	27	028	250	**181**

Available from stock. Ready to ship in 24 - 48hrs.*

*The delivery times indicated correspond to the average time until the ordered goods are dispatched.

Technical data

e-chain® material - permitted temperature °C, igumid NB	Application dependant, upon request
Flammability class, igumid NB	**VDE 0304 IIC UL94-V2**

Order example | Order key and colour examples | Examples based on series E1.17

Order example for complete e-chain® (1.0m), colour black, with mounting brackets and interior separation:

e-chain® (1.0m)	Please indicate number of segments	**E1.17.044.028.0**
Order text:	**5 x E1.17.044.028.0**	

Order key

Openable along the outer radius **E1.17.044.028.0**

- Series / Type
- Width index (depends on *Bi*)
- Bend radius *R*
- Colour index (standard black)

Order index for colour options

Colour	Order index		Colour	Order index	
Black	Standard	**.0**	Orange	Special colour	.2
Silver-grey	Special colour	.31	Yellow	Special colour	.4
White	Special colour	.1	Light grey	Special colour	.14
Grey-white	Special colour	.1S			

Black e-chains® available from stock.

Above special colours upon request.

E1 | Series ES1.10 | Product range

e-chain® in a strip, smallest size

10



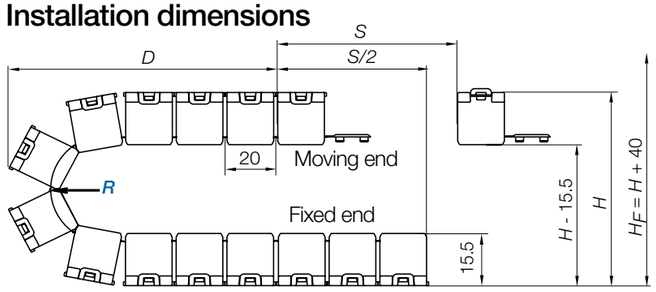
e-chain® | Series ES1.10 | Openable along the outer radius

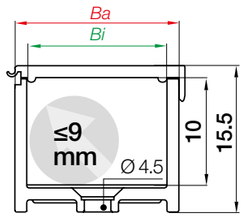
Part No. e-chains®	Bi [mm]	Ba [mm]	R Available bend radii [mm]	Weight [kg/Segment]
ES1.10.013.R.0	13	17	| 018 |	≈ 0.0164

The ES1.10 is an improved version of the E1.10 and supersedes it as of now. With the same dimensions but with installation and handling advantages.

Complete Part No. with required radius (*R*). Example: **E1.10.13.018.0**

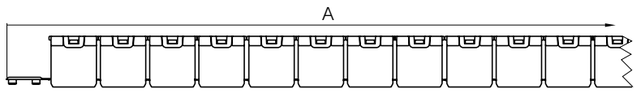
Installation dimensions





Inner height [mm]	10
Pitch [mm/link]	20
Segments/m	5
corresponds to [mm]	1,000
e-chain® length	$L_K = S/2 + K$

Series	Segment length A [mm]	Links/segment	Segments/m
ES1.10.013.	200	10	5 (1.000 mm)



R	018
H	62
D	66
K	100

The required clearance height:

$H_F = H + 40$mm

More radii available upon request, please consult igus®.

E1 | Series E1.17 | Product range

e-chain® in a strip, small size

17

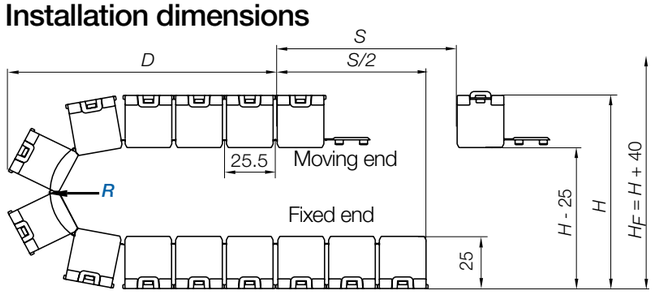


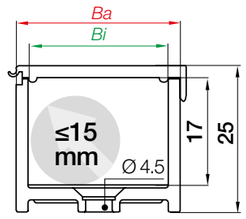
e-chain® | Series E1.17 | Openable along the outer radius

Part No. e-chains®	Bi [mm]	Ba [mm]	R Available bend radii [mm]	Weight [kg/Segment]
E1.17.021.R.0	21	26	| 028 |	≈ 0.0478
E1.17.031.R.0	31	36	| 028 |	≈ 0.0580
E1.17.044.R.0	44	49	| 028 |	≈ 0.0695

Complete Part No. with required radius (*R*). Example: **E1.17.021.028.0**

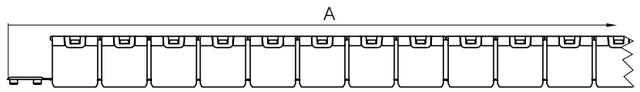
Installation dimensions





Inner height [mm]	17
Pitch [mm/link]	25.5
Segments/m	4 or 5
corresponds to [mm]	1,020
e-chain® length	$L_K = S/2 + K$

Series	Segment length A [mm]	Links/segment	Segments/m
E1.17.021.	255	10	4 (1.020 mm)
E1.17.031.	204	8	5 (1.020 mm)
E1.17.044.	255	10	4 (1.020 mm)



R	028
H	92
D	76
K	120

The required clearance height:

$H_F = H + 40$mm

More radii available upon request, please consult igus®.

Mounting brackets for the series E1.17.021



Compact, universal mounting bracket for E1.17.021: Part No. **E1.170.021.TS** - for easy attachment

E1 | Series E1.18 | Product range

e-chain® in a strip, small size

18

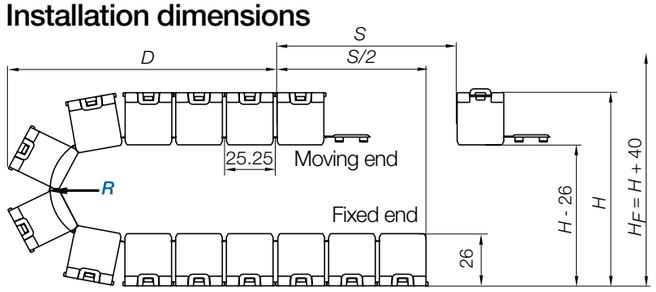


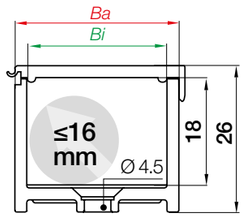
e-chain® | Series E1.18 | Openable along the outer radius

Part No.	Bi	Ba	R Available bend radii	Weight
e-chains®	[mm]	[mm]	[mm]	[kg/Segment]
E1.18.015.R.0	15	20	| 028 |	≈ 0.0169

Complete Part No. with required radius (*R*). Example: **E1.18.15.028.0**

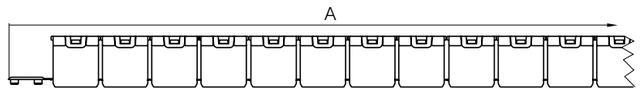
Installation dimensions





Inner height [mm]	18
Pitch [mm/link]	25.25
Segments/m	10
corresponds to [mm]	1,010
e-chain® length	$L_K = S/2 + K$

Series	Segment length A [mm]	Links/segment	Segments/m
E1.18.015.	101	4	10 (1.010 mm)



R	028
H	92
D	76
K	120

The required clearance height:

$H_F = H + 40$mm

More radii available upon request, please consult igus®.

E1 | Series E1.20 | Product range

e-chain® in a strip, lids open alternate sides

20

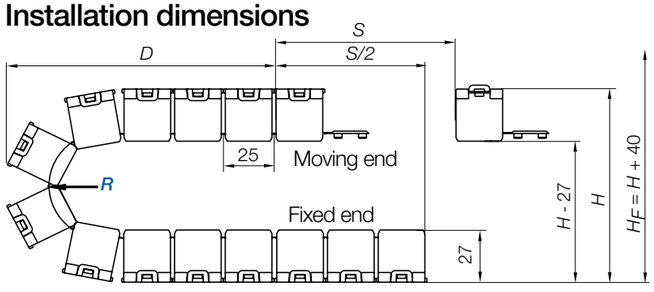


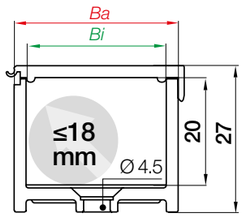
e-chain® | Series E1.20 | Openable along the outer radius | Lids open alternate sides

Part No.	Bi	Ba	R Available bend radii	Weight
e-chains®	[mm]	[mm]	[mm]	[kg/Segment]
E1.20.015.R.0	15	22	| 028 |	≈ 0.0443

Complete Part No. with required radius (*R*). Example: **E1.17.021.028.0**

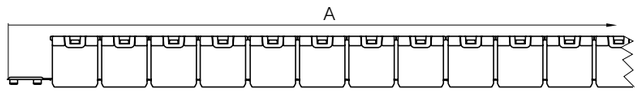
Installation dimensions





Inner height [mm]	20
Pitch [mm/link]	25
Segments/m	4
corresponds to [mm]	1,000
e-chain® length	$L_K = S/2 + K$

Series	Segment length A [mm]	Links/segment	Segments/m
E1.20.015.	250	10	4 (1.000 mm)



R	028
H	92
D	76
K	120

The required clearance height:

$H_F = H + 40$mm

More radii available upon request, please consult igus®.



snapchain

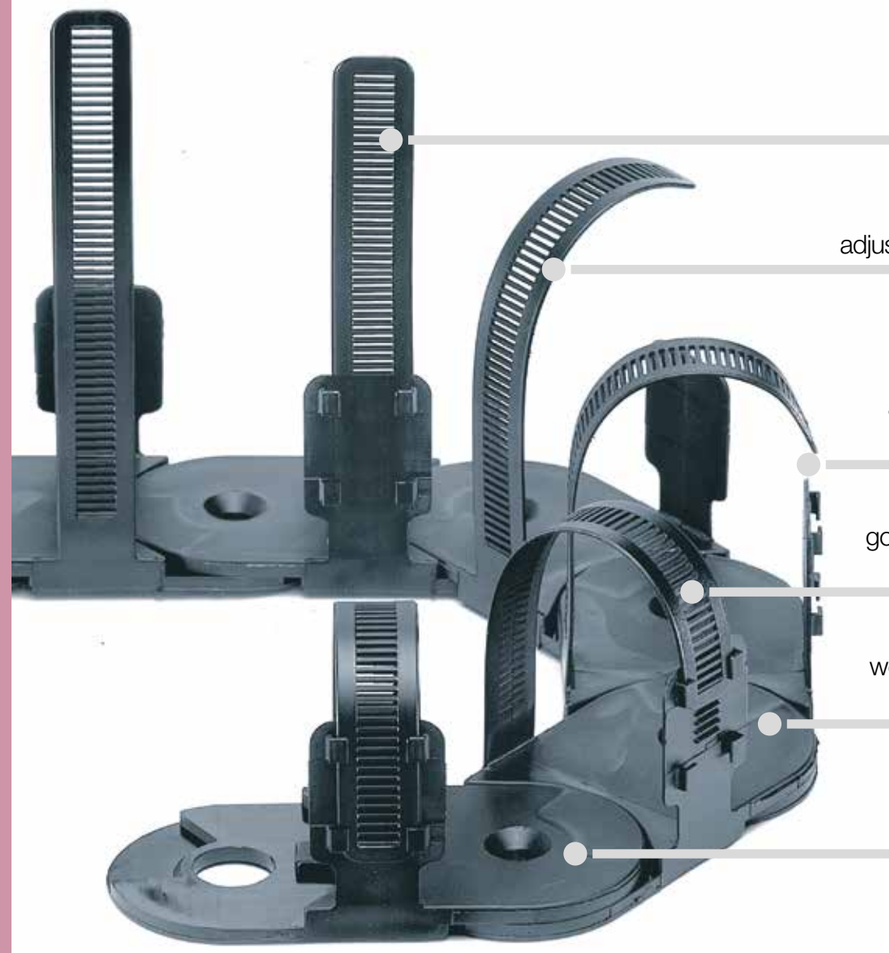
Guide cable bundles quickly and easily

Advantages of the snapchain series:

- If a small amount of filling is required
- If a cost-effective e-chain® is required
- If easy installation is required
- If a simple solution is required
- For low duty cycles
- Various fastening options

When to use another e-chain® series:

- For higher fill weights
  - ▶ **easy chain®, page 198**
  - ▶ **zipper, page 226**
- When easy filling with connectorised cables is required
  - ▶ **easy chain®, page 198**



Save time:
fit cable assemblies
quickly in bundles

Flexible:
adjust and change at any time

Opening principle:
TE26 version can be
opened along the outer
and TZ26 can be opened
along the inner radius

Cost-effective:
good alternative to complex
hinged cable trays

Simple:
well-suited to short lengths,
ideally 5 - 10 links

Flexible:
can be bent in 1 or 2
directions (***RBR***)

Guide cable bundles quickly and easily - snapchain

igus® snapchain cost-effective e-chains® for simple filling. snapchains are easy to assemble and cost-effective. If a simple solution for low duty cycles is required.

Typical industries and applications

● Switch cabinet construction ● Electrical equipment ● Computer cabinets ● Office furniture ● Cables are moved infrequently



iF product design award
2002 igus® snapchain

Series	Loop length [mm]	Pitch [mm]	Bend radius *R* [mm]	Page



Version TE -
loops openable along the outer radius

Version TZ -
loops openable along the inner radius

TE14.50	50	30.5	028 - 125	**186**
TE26.120	120	56	063 - 200	**187**
TZ14.50	50	30.5	028 - 125	**186**
TZ26.120	120	56	063 - 200	**187**

Available from stock. Ready to ship in 24 - 48hrs.*
*The delivery times indicated correspond to the average time until the ordered goods are dispatched.

Technical data

e-chain® material - permitted temperature °C, igumid NB	**-40°C / +80°C**
Flammability class, igumid NB	**VDE 0304 IIC UL94-V2**

Order example | Order key and colour examples | Examples based on series TE26

Order example for complete e-chain® (1.0m), colour black, with mounting brackets and interior separation:

e-chain® (1.0m)	Please indicate e-chain® length or number of links	**TE26.120.100.0**
Order text:	**1 m TE26.120.100.0**	

Order key

"TE" - split crossbar along outer radius **TE26.120.100.0**
"TZ" - split crossbar along the inner radius **TZ26.120.100.0**

Version "TE" or "TZ"
Series / Type
Length of loops
Bend radius ***R***
Colour index (standard black)

Order index for colour options

Colour		Order index		Colour		Order index	
Black	Standard	**.0**		Orange	Special colour	.2	
Silver-grey	Special colour	.31		Yellow	Special colour	.4	
White	Special colour	.1		Light grey	Special colour	.14	
Grey-white	Special colour	.1S					

Black e-chains® available from stock.
Above special colours upon request.

snapchain | Series TE14·TZ14 | Product range



Guide cable bundles quickly and easily, small size



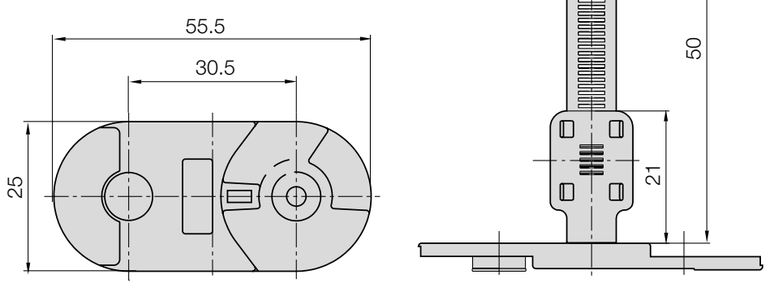
Version TE | Series TE14 | Loops open along the outer radius
Version TZ | Series TZ14 | Loops open along the inner radius

Part No. Version TE	Part No. Version TZ	*R* Available bend radii [mm]	Weight [kg/m]
TE14.50.*R*.0*	TZ14.50.*R*.0	| 028 | 038 | 048 | 075 | 100 | 125 |	≈ 0.15

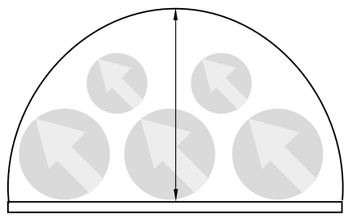
*Also available as ***RBR*** (Reverse Bend Radius) Part No. **TE14.50.**Radius/Radius

Complete Part No. with required radius (*R*). Example: **TE14.50.100.0**

Installation dimensions



Loop length [mm]	50
Pitch [mm/link]	30.5
Links/m	33
corresponds to [mm]	1,006.5
e-chain® length	$L_K = s/2 + K$



Cable package max.: 18mm

snapchain | Series TE26·TZ26 | Product range



Guide cable bundles quickly and easily, large size



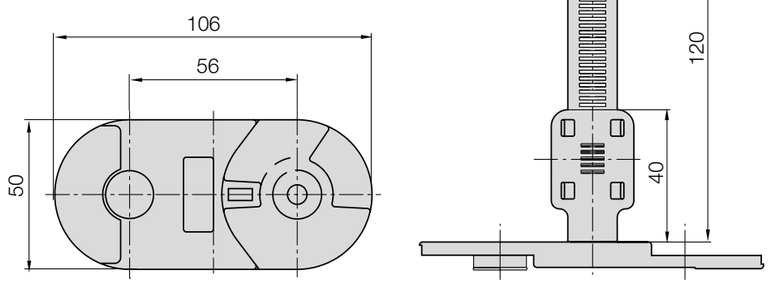
Version TE | Series TE26 | Loops open along the outer radius
Version TZ | Series TZ26 | Loops open along the inner radius

Part No. Version TE	Part No. Version TZ	*R* Available bend radii [mm]	Weight [kg/m]
TE26.120.*R*.0*	TZ26.120.*R*.0	| 063 | 075 | 100 | 125 | 150 | 200 |	≈ 0.43

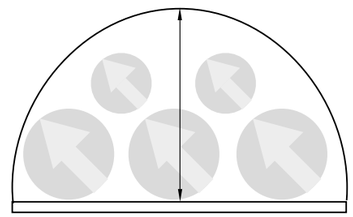
*Also available as ***RBR*** (Reverse Bend Radius) Part No. **TE26.120.**Radius/Radius

Complete Part No. with required radius (*R*). Example: **TE26.120.100.0**

Installation dimensions



Loop length [mm]	120
Pitch [mm/link]	56
Links/m	18
corresponds to [mm]	1,008
e-chain® length	$L_K = s/2 + K$



Cable package max.: 47mm

office e-chain®

Energy supply for offices and furniture

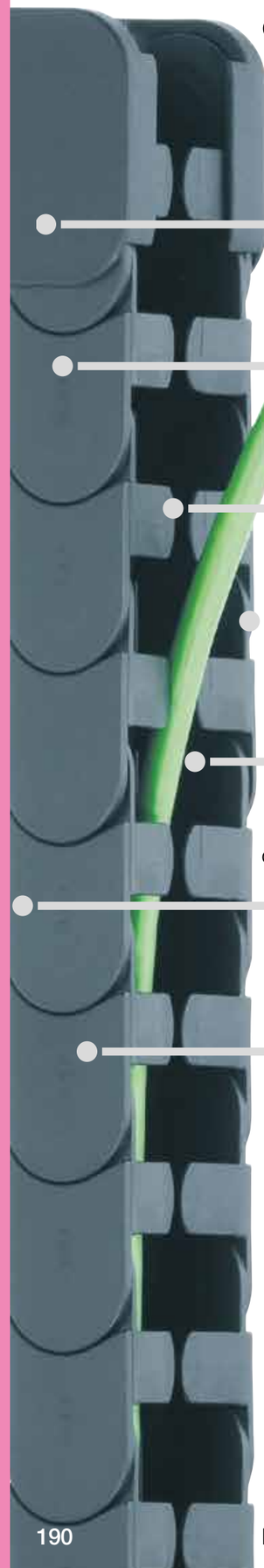
Advantages of the office e-chain® series:

- Aesthetic design
- Closed outer contours (half-tube)
- Easy to fill, even when installed
- Cable-friendly due to smooth interior
- UL94-V2 certified e-chain®
- Mounting brackets can be either screwed or bonded thanks to the large flat surface on the bottom

When to use another e-chain® series:

- When an unsupported application is required
  ► **easy chain®, page 198**
- Where small semi-static applications are required
  ► **E1, page 174**
- When a multi-axis solution is desired
  ► **OCR office e-chain®**
  ► **www.igus.eu/OCR**





Mounting brackets: the e-chain® is easily clipped on

Stylishly simple: designed and developed especially for the furniture industry

Save time: simply press cables in, with "easy" design

Flammability class: UL94-V2

Abrasion-optimised: cable-friendly due to smooth interior

Protected: closed on the outside for cable protection and concealment

Colours: different colours available upon request

Energy supply for offices and furniture - office e-chain®

Cables fitted quickly, e-chain® attached quickly, attractive design, nice and tidy. This e-chain® was designed and developed especially for the furniture industry.

- Aesthetic design
- Closed outer contours (half-tube)
- Mounting brackets easy to clip on
- Easy to fill, even when installed with "easy" design
- Cable-friendly due to smooth interior
- UL94-V2 certified
- Mounting brackets can be either screwed or bonded thanks to the large flat surface on the bottom

Typical industries and applications

● Electrically adjustable furniture ● Miscellaneous applications without highly dynamic movements

UL94-V2 classification

Series	Inner height *hi* [mm]	Inner width *Bi* [mm]	Outer width *Ba* [mm]	Outer height *ha* [mm]	Bend radius *R* [mm]	Page
 **office e-chain®** "easy" design - split crossbar along the inner radius						
ZF14	21	38	46.6	25	028	**194**

Available from stock. Ready to ship in 24 - 48hrs.*

*The delivery times indicated correspond to the average time until the ordered goods are dispatched.

New: OCR office e-chain® - tidy loose cables quickly and easily

- Movable in all axes, round and square versions
- Simply press in or pull out cables with "easy" design
- Mounting brackets with magnets for easy attachment in seconds
- Flexible fitting

Upon request, more information

▶ www.igus.eu/OCR





reddot design award winner 2018

Technical data

e-chain® material - permitted temperature °C, igumid NB	**-40°C / +80°C**
Mounting bracket material - permitted temperature °C, igumid G	**-40°C / +120°C**
Flammability class, igumid NB	**VDE 0304 IIC UL94-HB**
Flammability class, igumid G	**VDE 0304 IIC UL94-V2**

FL_G = unsupported with straight upper run FL_B = unsupported with permitted sag

Order example | Order key and colour options

Order example for complete e-chain® (1.0m), colour black, with mounting brackets and interior separation:

e-chain® (1.0m)	Please indicate e-chain® length or number of links: 1.0m or 33 links	**ZF14.038.028.0**
Order text:	**1 m ZF14.038.028.0**	

Order key

Split crossbar along the outer radius **ZF14.038.028.0**

- Series / Type
- Width index (depends on *Bi*)
- Bend radius *R*
- Colour index (standard black)

Order index for colour options

Colour	Order index		Colour	Order index	
Black	Standard	**.0**	Orange	Special colour	.2
Silver-grey	Special colour	.31	Yellow	Special colour	.4
White	Special colour	.1	Light grey	Special colour	.14
Grey-white	Special colour	.1S			

Black e-chains® available from stock.

Above special colours upon request.



Insert cables quickly and easily with the office e-chain®, the energy supply for offices and furniture

office e-chain® | Series ZF14 | Product range

Energy supply for offices and furniture

21

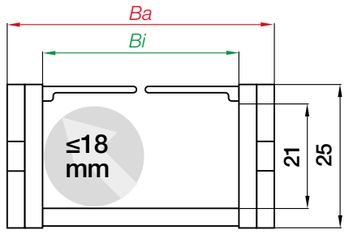


Version ZF14 | "easy" design, split crossbar along the inner radius

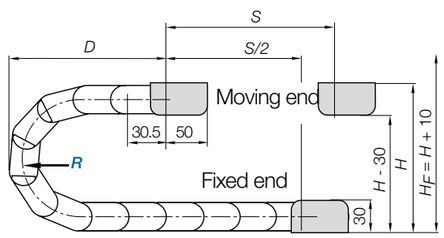
Part No. e-chains®	Bi [mm]	Ba [mm]	R Available bend radii [mm]	Weight [kg/m]
ZF14.038.R.0	38	46.6	| 028 |	≈ 0.297

Complete Part No. with required radius (R). Example: **ZF14.038.028.0**

Installation dimensions



Inner height [mm]	21
Pitch [mm/link]	30.5
Links/m	33
corresponds to [mm]	1,006.5
e-chain® length	$L_K = S/2 + K$

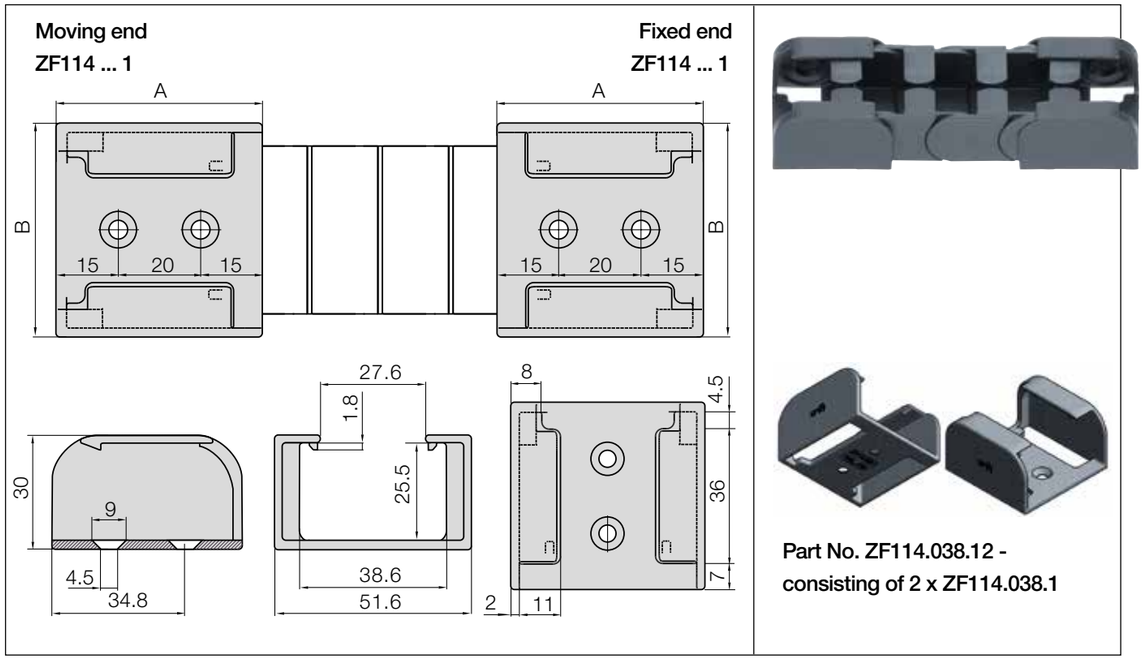


R	028
H^{+5}	86
D	116.5
K	211

The required clearance height: $H_F = H + 10mm$ (with 0.2kg/m fill weight)

office e-chain® | Series ZF14 | Accessories

Mounting brackets, polymer one-piece



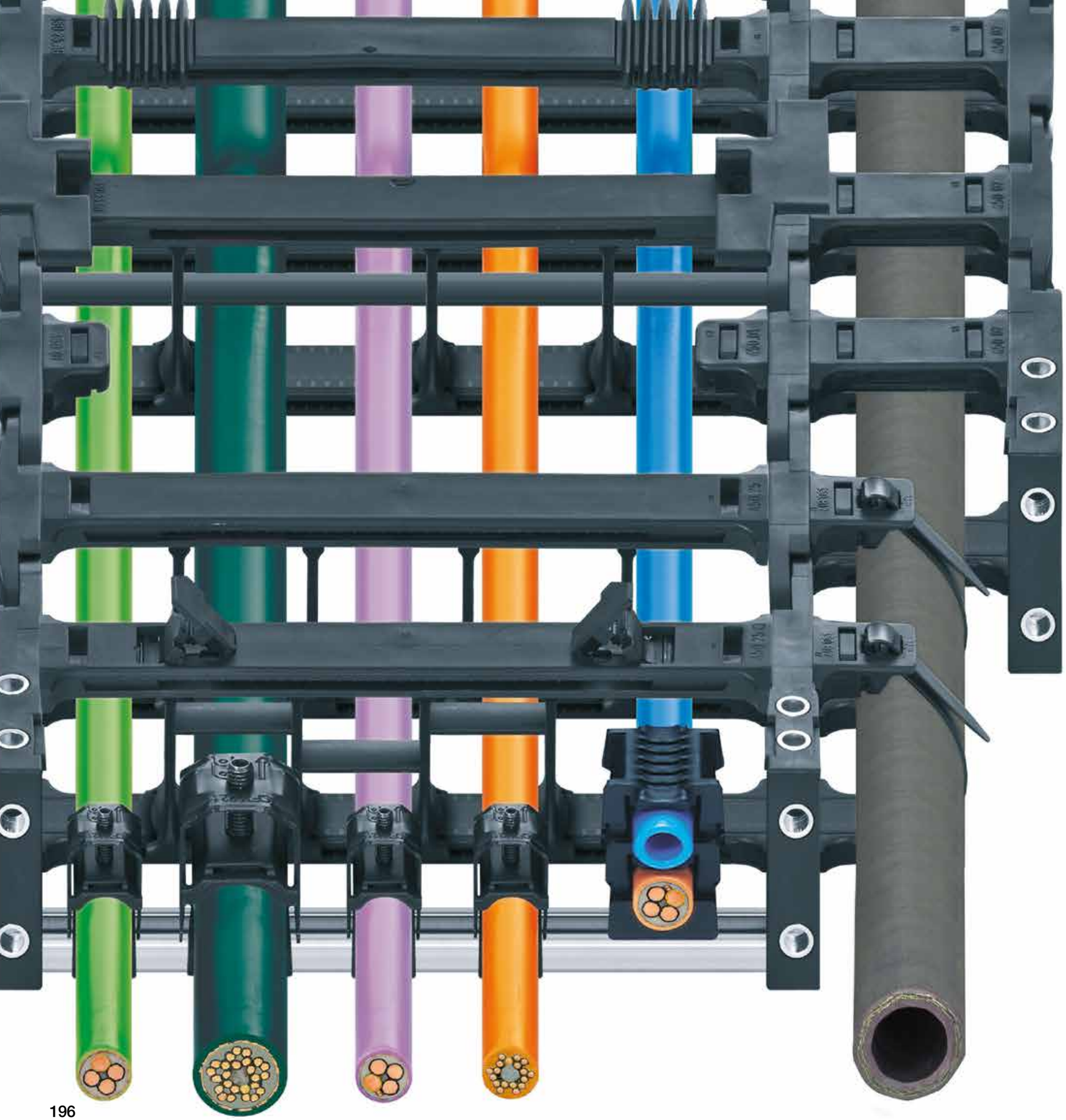
Part No. ZF114.038.12 - consisting of 2 x ZF114.038.1

Width index	Part No. full set	A [mm]	B [mm]
038 ▶	ZF114.038.12	51.6	50

Suitable mounting bracket for moving and fixed ends



Mounting brackets for easy fitting to furniture. Can be easily detached and re-attached.



igus®
e-chain-systems®

- Quick and easy filling
- All-rounders - small, medium - e-chains® and e-tubes
- e-tubes - protection against dirt and swarf
- Universal modular kit, e-chains® and e-tubes for any application
- Cleanroom, extremely low noise e-chains® and e-tubes
- Hygienic design e-chain® with FDA compliance



easy chain®

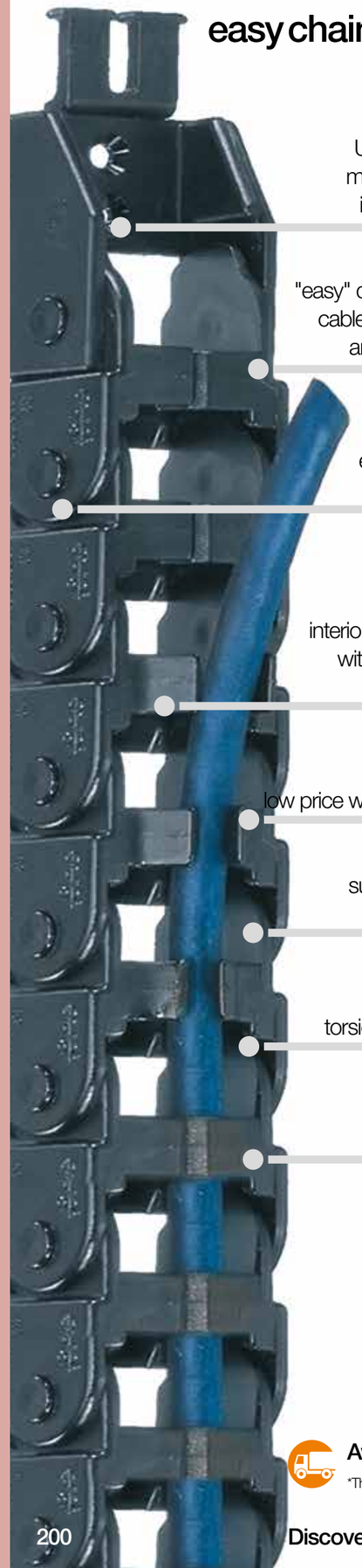
Easy to fill and cost-effective

Advantages of the easy chain® series:

- Easy filling without opening and closing the lids
- If quiet running is required
- If a light and cost-effective e-chain® is required
- For high accelerations

When to use another e-chain® series:

- For applications with large unsupported lengths
  ► **E2/000, page 360**
- When secure closing of the crossbars is required
  ► **E2/000, page 360**
- When openable crossbars are not necessary
  ► **E2 micro, page 260**
- Version Z is not suitable for gliding applications
  ► **zipper, page 226**



Universal connection: mounting bracket with integrated strain relief

Quick assembly: "easy" design - simply press cables in without opening and closing crossbars

Flexible: easy to lengthen and shorten at any point

Keep order: interior separation possible with moulded chamber design (some types)

Cost-effective: low price with one-piece design

Cleanroom: suitable for cleanroom applications

Flexible: torsional motion possible

Flammability class: UL94-V2

Easy to fill and cost-effective - easy chain®

Cost-effective, easy to fill e-chains® are available in two versions. In the "E" version the cable is simply installed from the outside, and in the "Z" version from the inside. The primary reason to choose easy chains® is to save time when fitting cables. The material, igumid NB, presents more application opportunities due to its flexibility, UL94-V2 classification and excellent cleanroom qualities. The one-piece design keeps the easy chain® very cost-effective.

Typical industries and applications

● Cleanroom applications ● Electronics machines ● Office furniture ● Vending machines ● Packaging machines ● General machinery, etc.

Fraunhofer IPA TESTED DEVICE

IPA Qualification Certificate - Report IG 0308-295:
ISO Class 2, according to DIN EN ISO 14644-1
for easy chain®, series E14.3.038 at v = 1.0m/s

Electrically conductive ESD e-chains® upon request

With easy chain® rotary and torsional motions are possible

42 dB(A) - value determined at the igus® test-lab, v = 1.0m/s unsupported, series E06.10.038.0

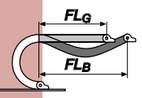
UL94-V2 classification

Available from stock. Ready to ship in 24 - 48hrs.*

*The delivery times indicated correspond to the average time until the ordered goods are dispatched.

Chamber design	Series	Inner height *hi* [mm]	Inner width *Bi* [mm]	Outer width *Ba* [mm]	Outer height *ha* [mm]	Bend radius *R* [mm]	Unsupported length ≤ [m]	Page
	**easy chain® - version "E"** "easy" design - split crossbar along the outer radius							
1-chamber 	**E03**	5	5 - 10	8.7 - 13.7	8	010 - 028	0.40	**204**
	E04	7	7	13	10	015 - 048	0.55	**206**
	E045	9.4	10 - 16	16 - 23	12.5	018 - 038	0.40	**208**
	E06	10.7	10 - 20	16.5 - 26.5	15	018 - 038	0.55	**210**
	E065	11.3	16	24.8	15	018 - 038	0.60	**212**
	E08	14.6	10 - 50	18.2 - 58.2	19.3	028 - 048	1.00	**214**
	E14	19	15 - 50	27 - 62	25	028 - 125	0.65	**216**
	E200	24.3	57	74.4	35	055 - 200	1.75	**218**
	E16	32	23 - 100	37.5 - 15.3	39	040 - 100	1.00	**220**
	E26	36.5	75	92	50	063 - 250	2.00	**222**
	E300	48.5	75	95	64	075 - 300	2.25	**224**
2-chamber 	**E045.2**	9.4	7 - 9	23 - 27	12.5	018 - 038	0.40	**208**
	E065.2	11.3	9	29.3	15	018 - 038	0.60	**212**
	E200.2	24.3	37 - 50	94.4 - 20.4	35	055 - 200	1.75	**218**
	E26.2	37.1	48	117	50	063 - 250	2.00	**222**
	E300.2	48.5	48	120	64	075 - 300	2.25	**224**
3-chamber 	**E045.3**	9.4	9	37	12.5	018 - 038	0.40	**208**
	E065.3	11.3	9	39.3	15	018 - 038	0.60	**212**
	E26.3	37.1	47	167	50	063 - 250	2.00	**222**
	E300.3	48.5	47	170	64	075 - 300	2.25	**224**
4-chamber 	**E065.4**	11.3	9	49.3	15	018 - 038	0.60	**212**
	**easy chain® - version "Z"** "easy" design - split crossbar along the inner radius							
1-chamber 	**Z045**	9.4	16	23	12.5	018 - 038	0.40	**208**
	Z06	10.5	10 - 20	16.5 - 26.5	15	018 - 038	0.55	**210**
	Z08	14.6	10 - 50	18.2 - 58.2	19.3	028 - 048	1.00	**214**
	Z14	19	15 - 50	27 - 62	25	028 - 125	0.65	**216**
	Z200	24.3	57	74.4	35	055 - 200	1.75	**218**
	Z16	32	23 - 100	37.5 - 15.3	39	040 - 100	1.00	**220**
	Z26	36.5	75	92	50	063 - 250	2.00	**222**
	Z300	48.5	75	95	64	075 - 300	2.25	**224**
2-chamber 	**Z045.2**	9.4	16	23	12.5	018 - 038	0.40	**208**
	Z200.2	24.3	37 - 50	94.4 - 20.4	35	055 - 200	1.75	**218**
	Z26.2	37.1	48	117	50	063 - 250	2.00	**222**
	Z300.2	48.5	48	120	64	075 - 300	2.25	**224**
3-chamber 	**Z045.3**	9.4	9	37	12.5	018 - 038	0.40	**208**
	Z065.3	11.3	9	39.3	15	018 - 038	0.60	**212**
	Z26.3	37.1	47	167	50	063 - 250	2.00	**222**
	Z300.3	48.5	47	170	64	075 - 300	2.25	**224**

Technical data



Speed gliding / acceleration gliding	≤ 3 [m/s] / ≤ 10 [m/s²]
Speed FL_G / acceleration FL_G	≤ 20 [m/s] / ≤ 200 [m/s²]
Speed FL_B / acceleration FL_B	≤ 3 [m/s] / ≤ 6 [m/s²]
e-chain® material - permitted temperature °C, igumid NB	-40°C / +80°C
Mounting bracket* material - permitted temperature °C, igumid G	-40°C / +120°C
Flammability class, igumid NB	VDE 0304 IIC UL94-V2
Flammability class, igumid G	VDE 0304 IIC UL94-HB

FL_G = unsupported with straight upper run FL_B = unsupported with permitted sag *Available in igumid NB. Delivery time upon request.

Installation types, maximum travels

Series	Unsupported	Vertical hanging	Vertical standing	Side mounted unsupported	Rotary	Zig-zag
E03	≤ 0.80m	upon request	upon request	upon request	with rework	upon request
E04	≤ 1.10m	upon request	upon request	upon request	with rework	upon request
E045/Z045	≤ 0.80m	upon request	upon request	upon request	with rework	upon request
E06/Z06	≤ 1.10m	upon request	upon request	upon request	with rework	upon request
E065/Z065	≤ 1.20m	upon request	upon request	upon request	with rework	upon request
E08/Z08	≤ 2.00m	upon request	upon request	upon request	with rework	upon request
E14/Z14	≤ 1.30m	upon request	upon request	upon request	with rework	upon request
E200/Z200	≤ 3.50m	≤ 10m	≤ 1.5m	≤ 0.5m	with rework	upon request
E16/Z16	≤ 4.00m	≤ 10m	≤ 1.5m	≤ 0.5m	with rework	upon request
E26/Z26	≤ 4.00m	≤ 10m	≤ 1.5m	≤ 0.5m	with rework	upon request
E300/Z300	≤ 4.50m	≤ 10m	≤ 1.5m	≤ 0.5m	with rework	upon request

Options with order keys | Examples based on series E200

Standard	*NC version - (No Camber) without pretension*	*Reverse Bend Radius (RBR) for circular movements*	*ESD - electrically conductive material*
Part No. Standard	Part No. NC-Version	Part No. *RBR*	Part No. igumid ESD
E200.05.*R*.0	E200.05.*R*.0.NC	E200.05.*R1/R2*.0	E200.05.*R*.0.ESD
Ready to ship* in 24 - 48 hrs.	Delivery time* 2-5 business days	Delivery time* several series from stock	Delivery time* 10 business days

*The delivery times indicated correspond to the average time until the ordered goods are dispatched.

Order example | Order key and colour examples | Examples based on series E200

Order example for complete e-chain® (1.0m), colour black, with mounting brackets and interior separation:

e-chain® (1.0m)	Please indicate e-chain® length or number of links: 1.0m or 22 links	E200.05.100.0
+ Mounting brackets	1 set (with tiewrap plates)	2050.34PZB
Order text:	**1 m E200.05.100.0 + 2050.34PZB**	

Order key

"E" - split crossbar along outer radius **E200. 05. 100 .0**
"Z" - split crossbar along the inner radius **Z200. 05. 100 .0**

Version "E" or "Z"
Series / Type
Width index (depends on *Bi*)
Bend radius *R*
Colour index (standard black)

Order index for colour options

Colour	Order index		Colour	Order index	
Black	Standard	.0	Orange	Special colour	.2
Silver-grey	Special colour	.31	Yellow	Special colour	.4
White	Special colour	.1	Light grey	Special colour	.14
Grey-white	Special colour	.1S			

Black e-chains® available from stock.
Above special colours upon request.

easy chain® | Series E03 | Product range

Smallest applications, simply press cables in

5



Version E | Series E03 | "easy" design, split crossbar along the outer radius

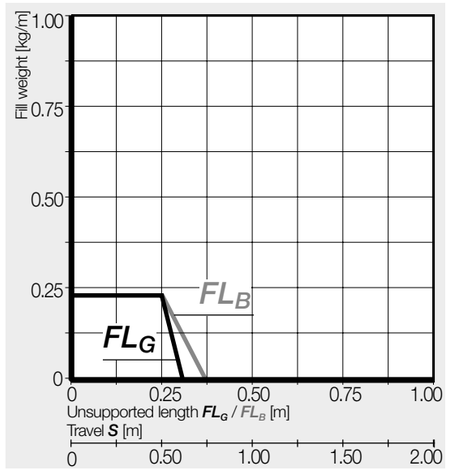
Part No. Version E	Bi [mm]	Ba [mm]	R Available bend radii [mm]	Weight [kg/m]
E03.05.R.0 1)	5	8.7	| 010 | 012 | 015 | 018 | 028 |	≈ 0.03
E03.07.R.0 2)	7	10.7	| 010 | 012 | 015 | 018 | 028 |	≈ 0.04
E03.10.R.0 2)	10	13.7	| 010 | 012 | 015 | 018 | 028 |	≈ 0.05

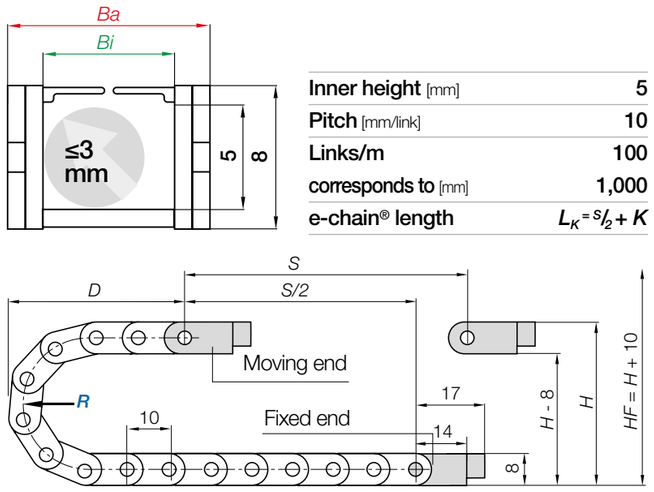
1) Crossbars do not overlap. Gap = 1mm / 2) Crossbars do not overlap. Gap = 2mm

Ba: pin dimension approx. 0.1 - 0.3mm wider.

Complete Part No. with required radius (*R*). Example: **E03.05.028.0**

Installation dimensions





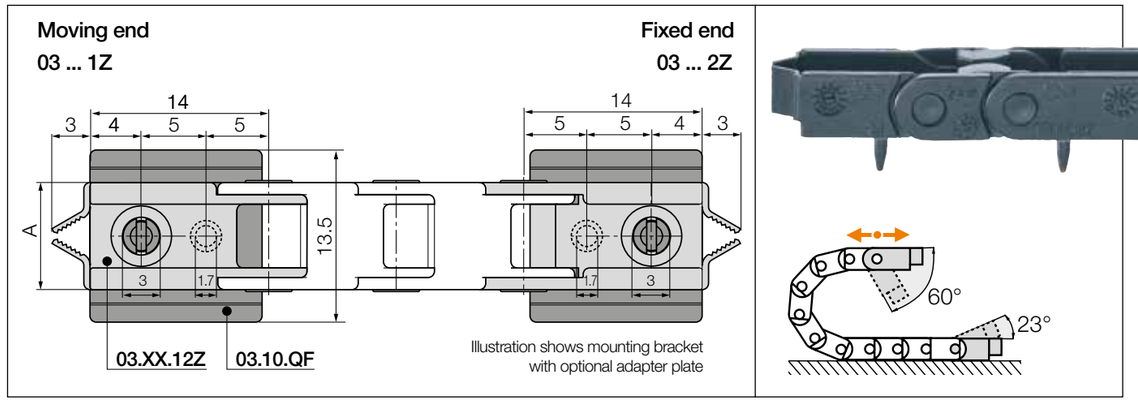
Inner height [mm]	5
Pitch [mm/link]	10
Links/m	100
corresponds to [mm]	1,000
e-chain® length	$L_K = S/2 + K$

R	010	012	015	018	028
H	28	32	38	44	64
D	29	31	34	37	47
K	55	60	70	80	110

The required clearance height: $H_F = H + 10$mm (with 0.1kg/m fill weight)

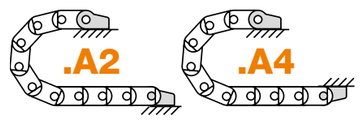
easy chain® | Series E03 | Accessories

Mounting brackets, polymer one-piece | Pivoting



Width index		Part No. full set	A [mm]
05.	▶	**03.05.12Z**	8.4
07.	▶	**03.07.12Z**	10.4
10.	▶	**03.10.12Z**	13.4

Material mounting bracket - igumid G, temperature: -40° up to +120°C, VDE 0304 IIC UL94-HB



Possible orientations for assembled mounting brackets. To receive brackets **pre-fitted** please add index **.A2** or **.A4**.

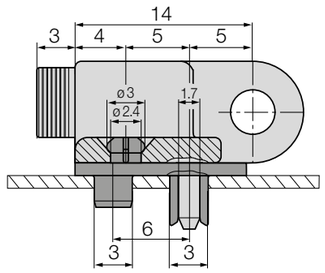
Order example

03.05.12Z.A2

.A ... to indicate option with brackets pre-fitted

Full set

Series



Adapter plate for rapid installation for all sizes, Part No. 03.10.QF

The adapter has scored lines so that it can be adapted to the respective e-chain® width. The adapter plate is not always necessary when attaching the mounting brackets as they can also be screwed on without the adapter plate.



Optional adapter plate

easy chain® | Series E04 | Product range

Low weight, simply press cables in

7



Version E | Series E04 | "easy" design, split crossbar along the outer radius

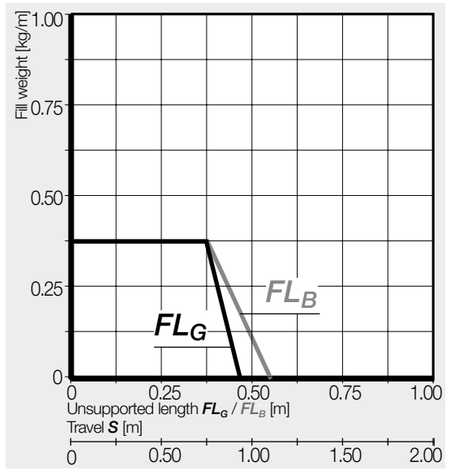
Part No. Version E	*Bi* [mm]	*Ba* [mm]	*R* Available bend radii [mm]	Weight [kg/m]
E04.07.*R*.0[1)]	7	13	| 015 | 018 | 028 | 038 | 048 |	≈ 0.08

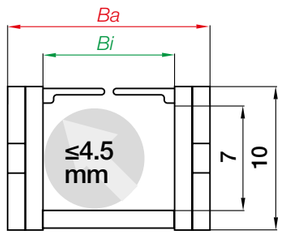
1) Crossbars do not overlap. Gap = 2.5mm Special solution with opening gap 0.8mm: **Part No. E04.07.015.0.S**

Ba: pin dimension approx. 0.1 - 0.3mm wider.

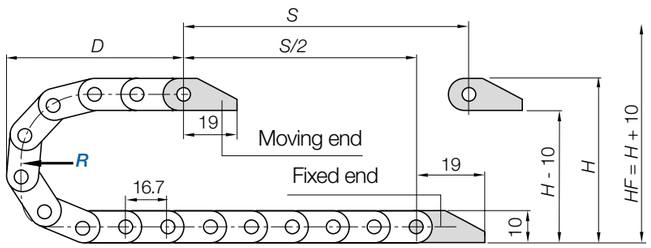
Complete Part No. with required radius (*R*). Example: **E04.07.028.0**

Installation dimensions





Inner height [mm]	7
Pitch [mm/link]	16.7
Links/m	60
corresponds to [mm]	1,002
e-chain® length	$L_K = S/2 + K$

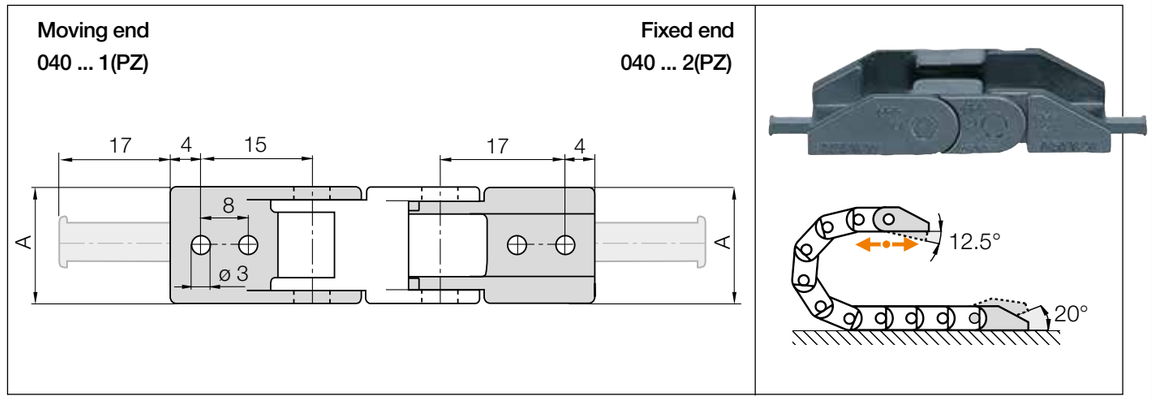


R	015	018	028	038	048
H	40	46	66	86	106
D	45	48	58	68	78
K	85	90	125	155	185

The required clearance height: $H_F = H + 10$mm (with 0.1kg/m fill weight)

easy chain® | Series E04 | Accessories

Mounting brackets, polymer one-piece | Pivoting



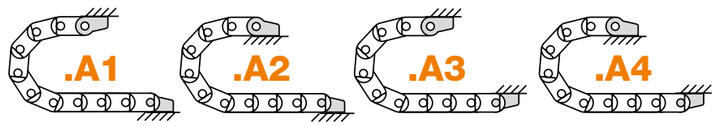
Width index	Standard	Part No. full set **with tiewrap plates***	Part No. full set **without tiewrap plates**	A [mm]	Number of teeth
.07. ▶		**040.07.12PZ**	**040.07.12**	12	1

*040.07.12PZ only installation versions A2 and A4

Material mounting bracket - igumid G, temperature: -40° up to +120°C, VDE 0304 IIC UL94-HB

Mounting bracket with strain relief tiewrap plate has reductions of ø 3mm

Mounting bracket without strain relief tiewrap plate only has holes of ø 3mm



Possible orientations for assembled mounting brackets. To receive brackets **pre-fitted** please add index **.A1**, **.A2**, **.A3** or **.A4**.

040.07.12PZ.A2 **Order example**

.A ... to indicate option with brackets pre-fitted

With integrated strain relief tiewrap plates

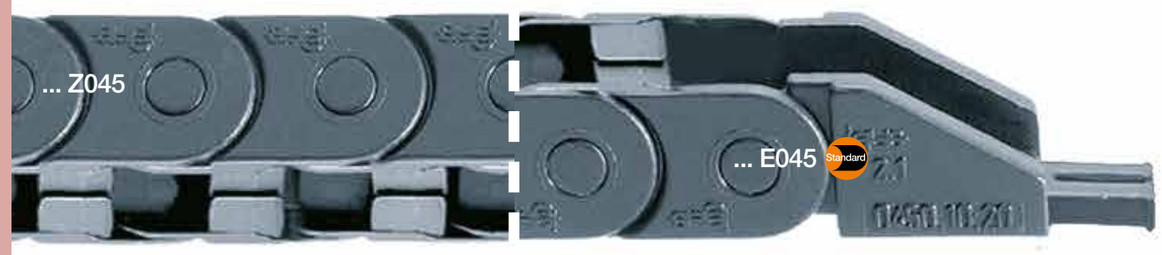
Full set

Series

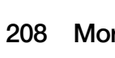
easy chain® | Series E045·Z045 | Product range

9.4 9.4

Small pitch, smooth running, simply press cables in



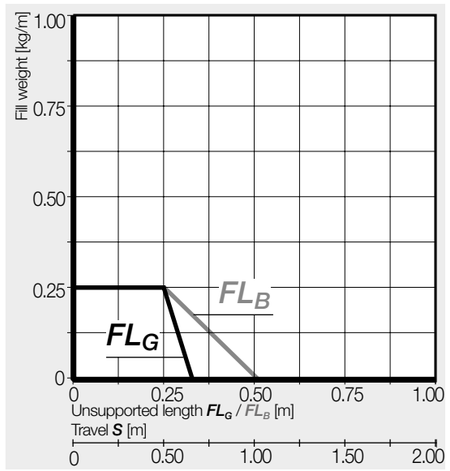
Version E | Series E045 | "easy" design, split crossbar along the outer radius
Version Z | Series Z045 | "easy" design, split crossbar along the inner radius

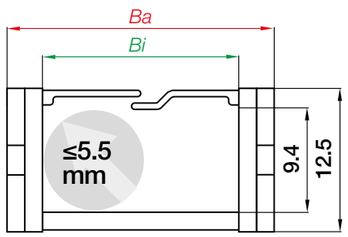
Chamber design	Part No. Version E	Part No. Version Z	*Bi* [mm]	*Ba* [mm]	*R* Available bend radii [mm]	Weight [kg/m]
1-chamber	E045.10.*R*.0 1)	Z045.10.*R*.0 1) *	10	16	| 018 | 028 | 038 |	≈ 0.09
	E045.16.*R*.0	Z045.16.*R*.0	16	23	| 018 | 028 | 038 |	≈ 0.11
	1) Crossbars do not overlap. Gap = 2mm					
2-chamber	E045.2/7.*R*.0 2)	Z045.2/7.*R*.0 2)	7/7	23	| 018 | 028 | 038 |	≈ 0.13
	E045.2/9.*R*.0 2)	Z045.2/9.*R*.0 2) *	9/9	27	| 018 | 028 | 038 |	≈ 0.14
	1) Crossbars do not overlap. Gap = 2.25mm					
3-chamber	E045.3/9.*R*.0 3)	Z045.3/9.*R*.0 3) *	9/9/9	37	| 018 | 028 | 038 |	≈ 0.17
						
	1) Crossbars do not overlap. Gap = 2.25mm					

Ba: pin dimension approx. 0.5 - 1.0mm wider. *Width available upon request. Please consult igus® for delivery time.

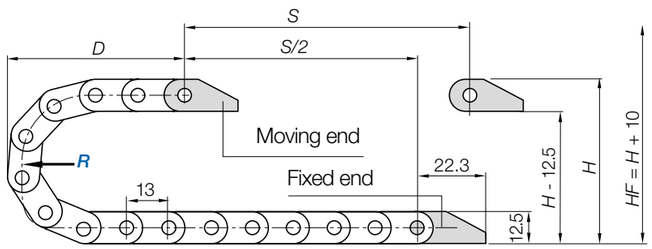
Complete Part No. with required radius (*R*). Example: **E045.16.038.0**

Installation dimensions





Inner height [mm]	9.4
Pitch [mm/link]	13
Links/m	77
corresponds to [mm]	1,001
e-chain® length	$L_K = S/2 + K$

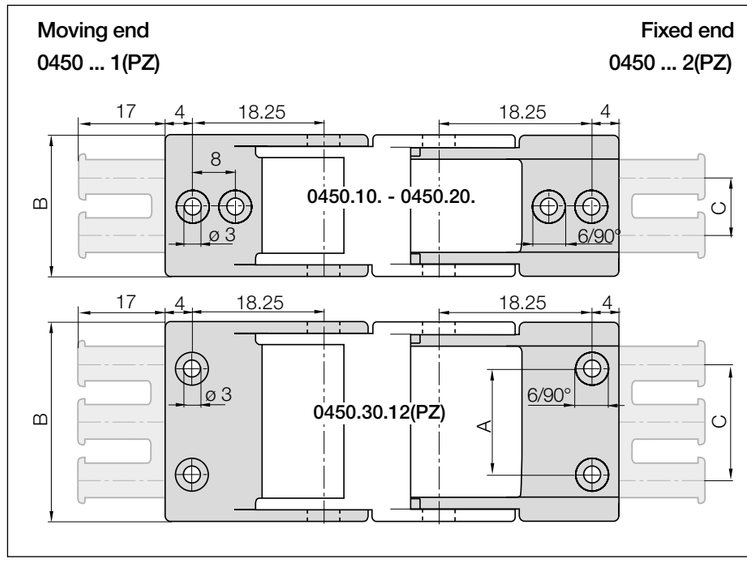


R	018	028	038
H	48.5	68.5	88.5
D	44	54	64
K	85	115	150

The required clearance height: $H_F = H + 10mm$ (with 0.1kg/m fill weight)

easy chain® | Series E045·Z045 | Accessories

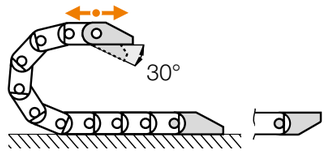
Mounting brackets, polymer one-piece | Pivoting





Hole pattern for part numbers **0450.10 - 0450.20.** = drawing above left

Hole pattern for part numbers **0450.30.** = drawing below left

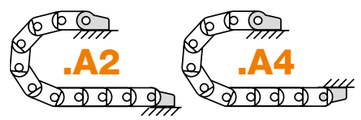


Width index	Standard	Part No. full set with tiewrap plates	Part No. full set without tiewrap plates	A [mm]	B [mm]	C [mm]	Number of teeth
10.	▶	0450.10.12PZ	0450.10.12	–	16	–	1
16.	▶	0450.16.12PZ	0450.16.12	–	22	10	2
2/7.	▶	0450.16.12PZ	0450.16.12	–	22	10	2
2/9.	▶	0450.20.12PZ	0450.20.12	–	26	10	2
3/9.	▶	0450.30.12PZ	0450.30.12	22	36	20	3

Material mounting bracket - igumid G, temperature: -40° up to +120°C, VDE 0304 IIC UL94-HB

Mounting bracket with strain relief tiewrap plate has reductions of ø 3mm / ø 6mm 90°

Mounting bracket without strain relief tiewrap plate only has holes of ø 3mm



Possible orientations for assembled mounting brackets. To receive brackets **pre-fitted** please add index **.A2** or **.A4**.

0450.10.12PZ.A2 **Order example**

.A ... to indicate option with brackets pre-fitted With integrated strain relief tiewrap plates

Full set

Series

easy chain® | Series E06·Z06 | Product range

Low weight, simply press cables in

10.7 Version E | 10.5 Version Z



Standard **Version E | Series E06 | "easy" design, split crossbar along the outer radius**
Version Z | Series Z06 | "easy" design, split crossbar along the inner radius

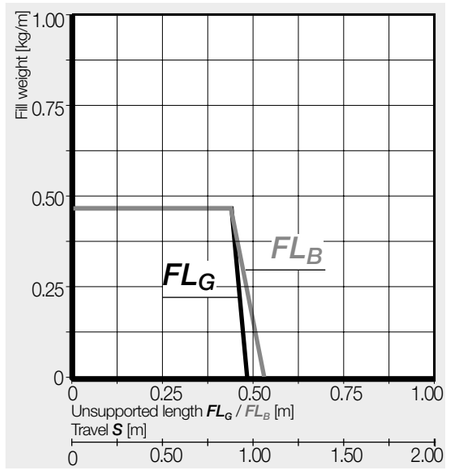
Part No. Version E	Part No. Version Z	*Bi* [mm]	*Ba* [mm]	*R* Available bend radii [mm]	Weight [kg/m]
E06.10.*R*.0 1)	Z06.10.*R*.0 1)	10	16.5	| 018 | 028 | 038 |	≈ 0.14
E06.16.*R*.0 1)	Z06.16.*R*.0 1)	16	22.5	| 018 | 028 | 038 |	≈ 0.16
E06.20.*R*.0	Z06.20.*R*.0	20	26.5	| 018 | 028 | 038 |	≈ 0.18

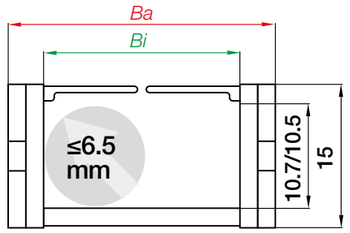
1) Crossbars do not overlap. Gap = 5.5mm Special solution with opening gap 3.5mm: **Part No. E06.10.018.0.S3**

Ba: pin dimension approx. 1.5 - 2.0mm wider.

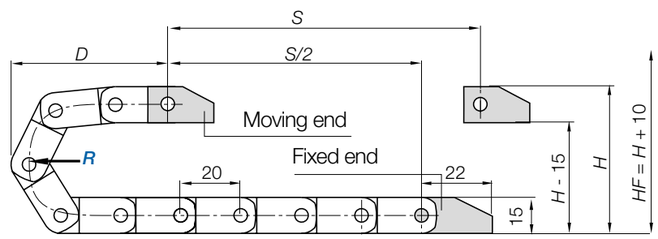
Complete Part No. with required radius (*R*). Example: **E06.10.028.0**

Installation dimensions





E06 Inner height [mm]	**10.7**
Z06 Inner height [mm]	**10.5**
Pitch [mm/link]	**20**
Links/m	**50**
corresponds to [mm]	**1,000**
e-chain® length	$L_K = S/2 + K$

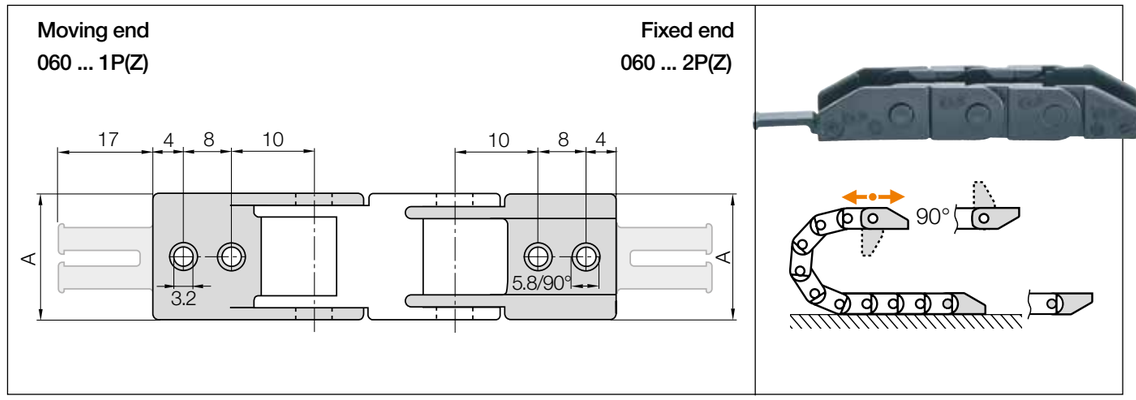


R	018	028	038
H	51	71	91
D	56	66	76
K	100	130	160

The required clearance height: $H_F = H + 10mm$ (with 0.2kg/m fill weight)

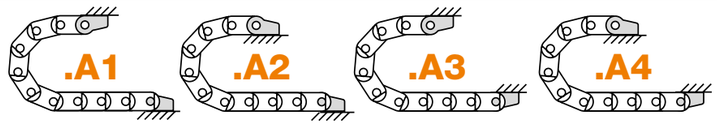
easy chain® | Series E06·Z06 | Accessories

Mounting brackets, polymer one-piece | Locking



Width index	Standard	Part No. full set with tiewrap plates	Part No. full set without tiewrap plates	A [mm]	Number of teeth
10. ▶		**060.10.12PZ**	**060.10.12P**	16.5	1
16. ▶		**060.16.12PZ**	**060.16.12P**	22.5	2
20. ▶		**060.20.12PZ**	**060.20.12P**	27.0	2

Material mounting bracket - igumid G, temperature: -40° up to +120°C, VDE 0304 IIC UL94-HB



Possible orientations for assembled mounting brackets. To receive brackets **pre-fitted** please add index **.A1**, **.A2**, **.A3** or **.A4**.

060.10.12PZ.A1 **Order example**

- **.A** ... to indicate option with brackets pre-fitted
- With integrated strain relief tiewrap plates
- Full set
- Series

easy chain® | Series E065·Z065 | Product range

Small pitch, smooth running, simply press cables in



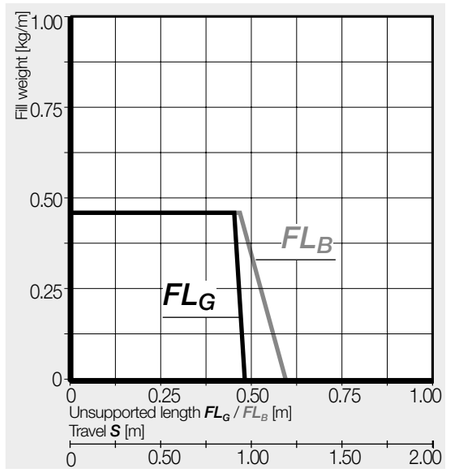
Version E | Series E065 | "easy" design, split crossbar along the outer radius
Version Z | Series Z065 | "easy" design, split crossbar along the inner radius

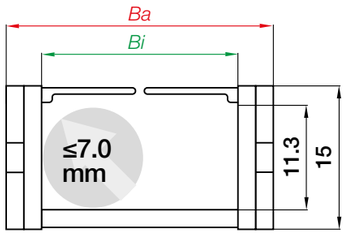
Chamber design	Part No. Version E	Part No. Version Z	*Bi* [mm]	*Ba* [mm]	*R* [mm]	Weight [kg/m]
1-chamber	E065.16.*R*.0 1)	Z065.16.*R*.0 1) *	16	24.8	| 018 | 028 | 038 |	≈ 0.17
	1) Crossbars do not overlap. Gap = 2.5mm					
2-chamber	E065.2/9.*R*.0 1)	Z065.2/9.*R*.0 1) *	9/9	29.3	| 018 | 028 | 038 |	≈ 0.19
	1) Crossbars do not overlap. Gap = 2.5mm					
3-chamber	E065.3/9.*R*.0 1)	Z065.3/9.*R*.0 1)	9/9/9	39.3	| 018 | 028 | 038 |	≈ 0.22
	1) Crossbars do not overlap. Gap = 2.5mm					
4-chamber	E065.4/9.*R*.0 1)	Z065.4/9.*R*.0 1) *	9/9/9/9	49.3	| 018 | 028 | 038 |	≈ 0.25
	1) Crossbars do not overlap. Gap = 2.5mm					

Ba: pin dimension approx. 1.0 - 1.6mm wider. *Width available upon request. Please consult igus® for delivery time.

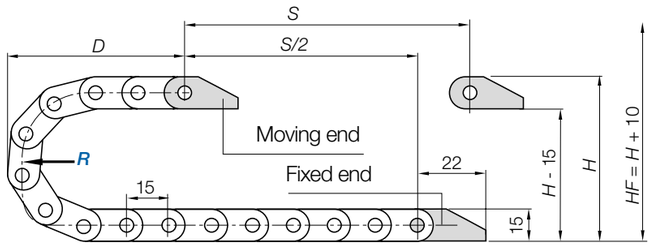
Complete Part No. with required radius (*R*). Example: **E065.16.038.0**

Installation dimensions





Inner height [mm]	**11.3**
Pitch [mm/link]	**15**
Links/m	**67**
corresponds to [mm]	**1,005**
e-chain® length	$L_K = S/2 + K$

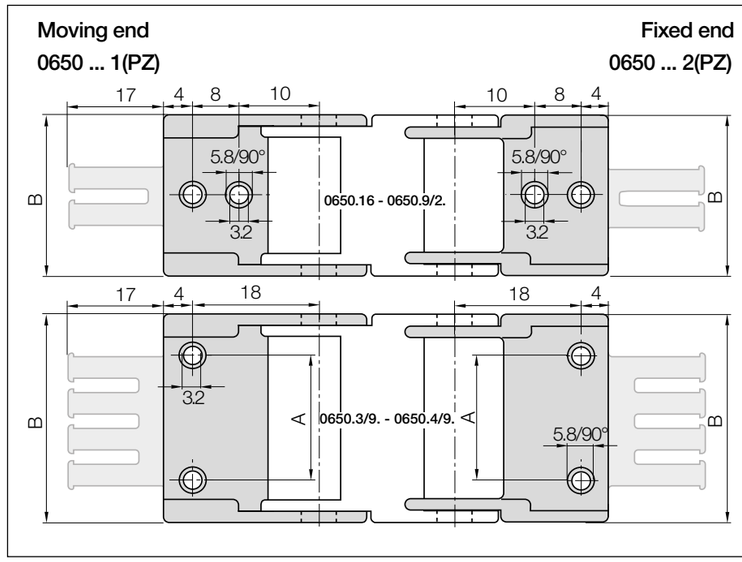


R	018	028	038
H	51	71	91
D	48	58	68
K	90	120	150

The required clearance height: $H_F = H + 10$mm (with 0.2kg/m fill weight)

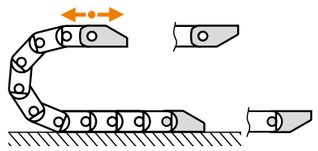
easy chain® | Series E065·Z065 | Accessories

Mounting brackets, polymer one-piece | Locking



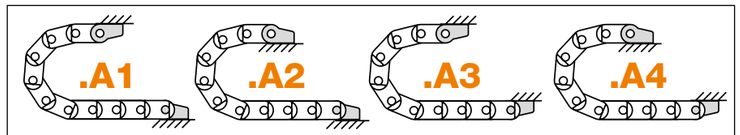


Hole pattern for part numbers
0650.16 - 0650.9/2.
= drawing above left
Hole pattern for part numbers
0650.3/9. - 0650.4/9.
= drawing below left



Width index	Standard	Part No. full set with tiewrap plates	Part No. full set without tiewrap plates	A [mm]	B [mm]	Number of teeth
16. ▶		0650.16.12PZ	0650.16.12	–	22.5	2
2/9. ▶		0650.2/9.12PZ	0650.2/9.12	–	27	2
3/9. ▶		0650.3/9.12PZ	0650.3/9.12	22	37	3
4/9. ▶		0650.4/9.12PZ	0650.4/9.12	32	47	4

Material mounting bracket - igumid G, temperature: -40° up to +120°C, VDE 0304 IIC UL94-HB



Possible orientations for assembled mounting brackets. To receive brackets **pre-fitted** please add index **.A1**, **.A2**, **.A3** or **.A4**.

0650.16.12PZ.A2 **Order example**
.A ... to indicate option with brackets pre-fitted
With integrated strain relief tiewrap plates
Full set
Series

easy chain® | Series E08·Z08 | Product range

Small pitch, simply press cables in

14.6 Version E | 14.7 Version Z



Standard **Version E | Series E08 | "easy" design, split crossbar along the outer radius**
Version Z | Series Z08 | "easy" design, split crossbar along the inner radius

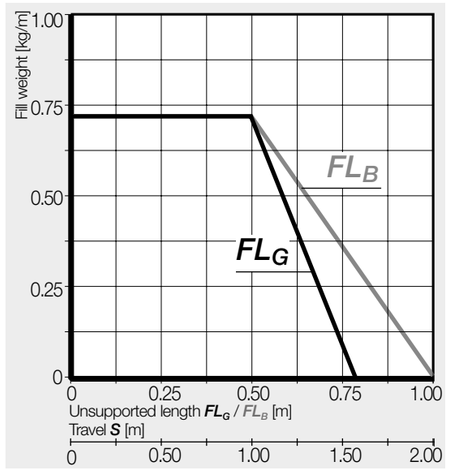
Part No. Version E	Part No. Version Z	*Bi* [mm]	*Ba* [mm]	*R* Available bend radii [mm]	Weight [kg/m]
E08.10.*R*.0 1)	Z08.10.*R*.0 1)	10	18.2	| 025* | 028 | 038 | 048 |	≈ 0.21
E08.16.*R*.0 2)	Z08.16.*R*.0 2)	16	24.2	| 025* | 028 | 038 | 048 |	≈ 0.24
E08.20.*R*.0	Z08.20.*R*.0	20	28.2	| 025* | 028 | 038 | 048 |	≈ 0.25
E08.30.*R*.0	Z08.30.*R*.0	30	38.2	| 025* | 028 | 038 | 048 |	≈ 0.28
E08.40.*R*.0	Z08.40.*R*.0	40	48.2	| 025* | 028 | 038 | 048 |	≈ 0.31
E08.50.*R*.0	Z08.50.*R*.0	50	58.2	| 025* | 028 | 038 | 048 |	≈ 0.37

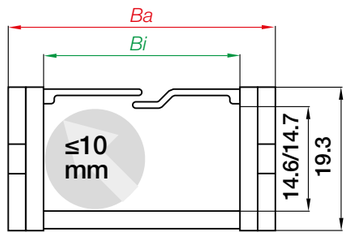
1) Crossbars do not overlap. Gap = 5.5mm / 2) Crossbars do not overlap. Gap = 4.0mm

Ba: pin dimension approx. 1.4 - 1.8mm wider. *Radius available upon request. Please consult igus® for delivery time.

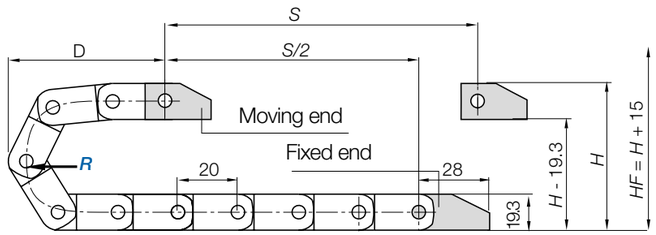
Complete Part No. with required radius (*R*). Example: **E08.10.028.0**

Installation dimensions





E08 Inner height [mm]	14.6
Z08 Inner height [mm]	14.7
Pitch [mm/link]	20
Links/m	50
corresponds to [mm]	1,000
e-chain® length	$L_K = S/2 + K$



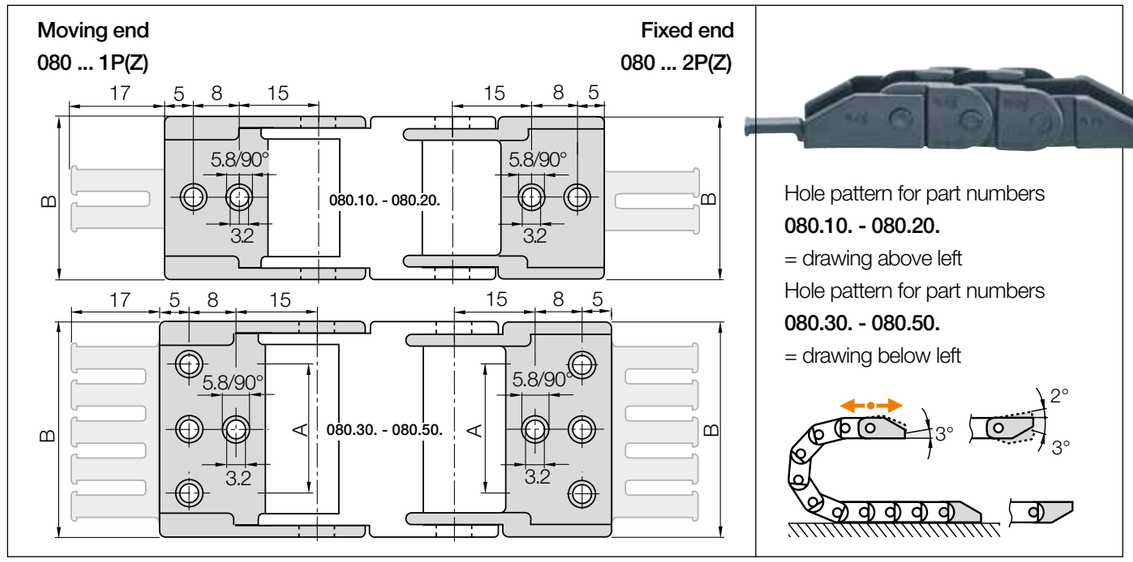
R	025*	028	038	048
H	69	75	95	115
D	65	68	78	88
K	120	130	160	195

The required clearance height: $H_F = H + 15$mm (with 0.3kg/m fill weight)

*Radius available upon request. Please consult igus® for delivery time.

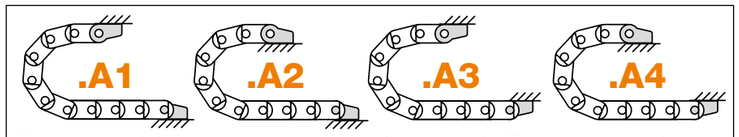
easy chain® | Series E08·Z08 | Accessories

Mounting brackets, polymer one-piece | Locking



Width index	Standard	Part No. full set with tiewrap plates	Part No. full set without tiewrap plates	A [mm]	B [mm]	Number of teeth
10. ▶		080.10. 12PZ	080.10. 12P	–	18.2	1
16. ▶		080.16. 12PZ	080.16. 12P	–	24.2	2
20. ▶		080.20. 12PZ	080.20. 12P	–	28.2	2
30. ▶		080.30. 12PZ	080.30. 12P	22	38.2	3
40. ▶		080.40. 12PZ	080.40. 12P	32	48.2	4
50. ▶		080.50. 12PZ	080.50. 12P	42	58.2	5

Material mounting bracket - igumid G, temperature: -40° up to +120°C, VDE 0304 IIC UL94-HB



Possible orientations for assembled mounting brackets. To receive brackets **pre-fitted** please add index **.A1**, **.A2**, **.A3** or **.A4**.

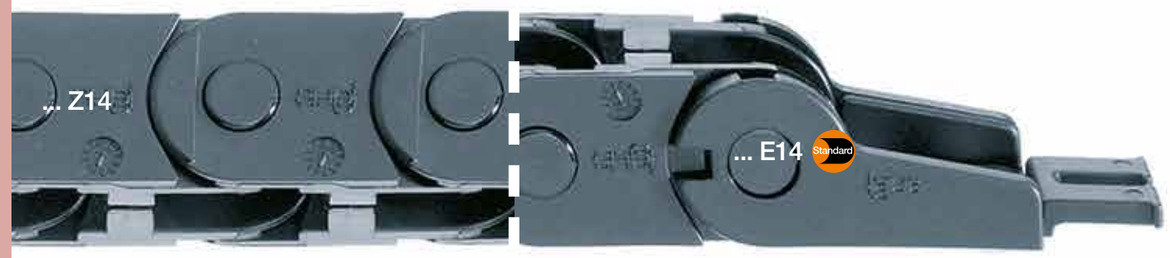
080.10.12PZ.A2 **Order example**

- **.A** ... to indicate option with brackets pre-fitted
- With integrated strain relief tiewrap plates
- Full set
- Series

easy chain® | Series E14·Z14 | Product range

Economical size, simply press cables in

19 19

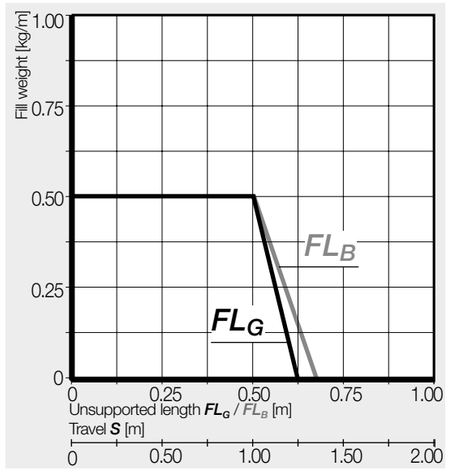


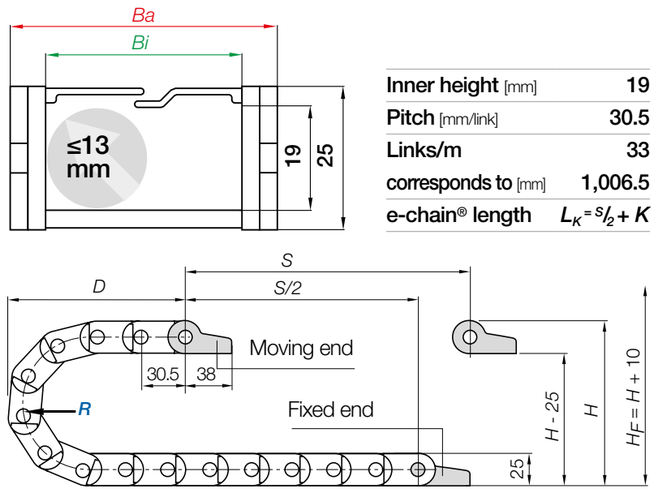
Version E | Series E14 | "easy" design, split crossbar along the outer radius
Version Z | Series Z14 | "easy" design, split crossbar along the inner radius

Part No. Version E	Part No. Version Z	*Bi* [mm]	*Ba* [mm]	*R* Available bend radii [mm]	Weight [kg/m]
E14. 1 .*R*.0	Z14.1 .*R*.0	15	27	| 028 | 038 | 048 | 075 | 100 | 125 |	≈ 0.31
E14. 2 .*R*.0	Z14.2 .*R*.0	25	37	| 028 | 038 | 048 | 075 | 100 | 125 |	≈ 0.32
E14. 3 .*R*.0	Z14.3 .*R*.0	38	50	| 028 | 038 | 048 | 075 | 100 | 125 |	≈ 0.40
E14. 4 .*R*.0	Z14.4 .*R*.0	50	62	| 028 | 038 | 048 | 075 | 100 | 125 |	≈ 0.44

Complete Part No. with required radius (*R*). Example: **E14.1.028.0**

Installation dimensions





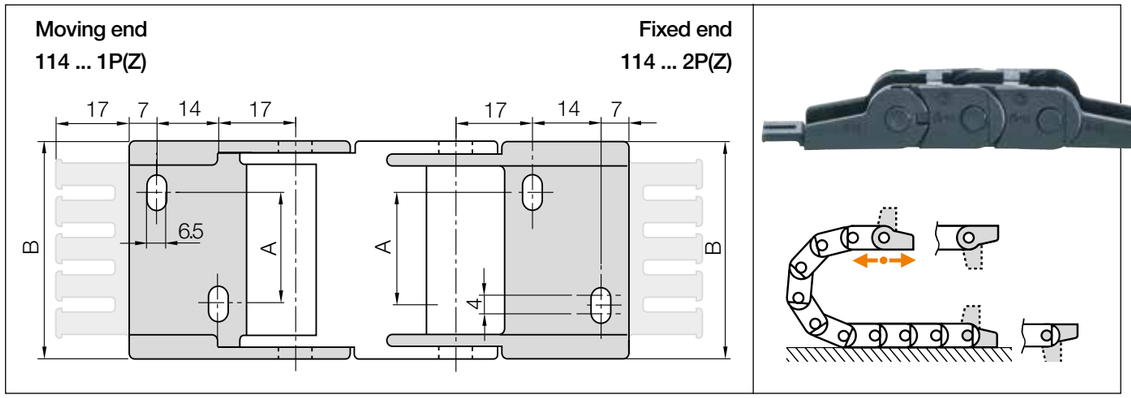
R	**028**	**038**	**048**	**075**	**100**	**125**
H	81	101	121	175	225	275
D	86	96	106	133	158	183
K	150	185	215	300	380	455

The required clearance height: $H_F = H + 10$mm (with 0.2kg/m fill weight)

Inner height [mm]	**19**
Pitch [mm/link]	**30.5**
Links/m	**33**
corresponds to [mm]	**1,006.5**
e-chain® length	$L_K = {}^{S}/_{2} + K$

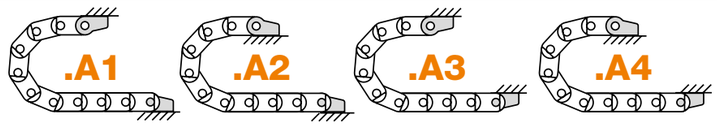
easy chain® | Series E14·Z14 | Accessories

Mounting brackets, polymer one-piece | Locking



Width index	Standard	Part No. full set **with tiewrap plates**	Part No. full set **without tiewrap plates**	A [mm]	B [mm]	Number of teeth
1.	▶	**114.1.12PZ**	**114.1.12P**	–	26.3	2
2.	▶	**114.2.12PZ**	**114.2.12P**	10	36.3	3
3.	▶	**114.3.12PZ**	**114.3.12P**	23	49.3	4
4.	▶	**114.4.12PZ**	**114.4.12P**	35	61.3	5

Material mounting bracket - igumid G, temperature: -40° up to +120°C, VDE 0304 IIC UL94-HB



Possible orientations for assembled mounting brackets. To receive brackets **pre-fitted** please add index **.A1**, **.A2**, **.A3** or **.A4**.

Order example

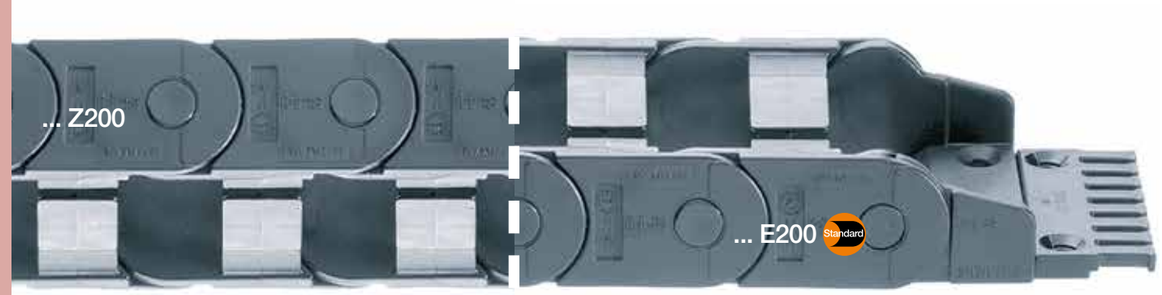
114.2.12PZ.A1

- **.A** ... to indicate option with brackets pre-fitted
- With integrated strain relief tiewrap plates
- Full set
- Series

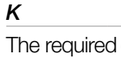
easy chain® | Series E200·Z200 | Product range

Medium size, simply press cables in

24.3 24.3

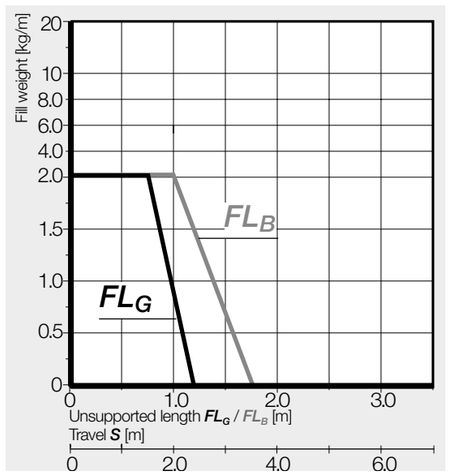


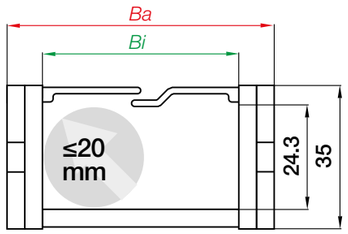
Standard **Version E | Series E200 | "easy" design, split crossbar along the outer radius**
Version Z | Series Z200 | "easy" design, split crossbar along the inner radius

Chamber design	Part No. Version E	Part No. Version Z	*Bi* [mm]	*Ba* [mm]	*R* Available bend radii [mm]	Weight [kg/m]
1-chamber	E200.05.*R*.0	Z200.05.*R*.0	57	74.4	| 055 | 075 | 100 | 150 | 200 |	≈ 0.70
						
2-chamber	E200.2/35.*R*.0	Z200.2/35.*R*.0	37/37	94.4	| 055 | 075 | 100 | 150 | 200 |	≈ 0.79
	E200.2/50.*R*.0	Z200.2/50.*R*.0	50/50	120.4	| 055 | 075 | 100 | 150 | 200 |	≈ 0.82

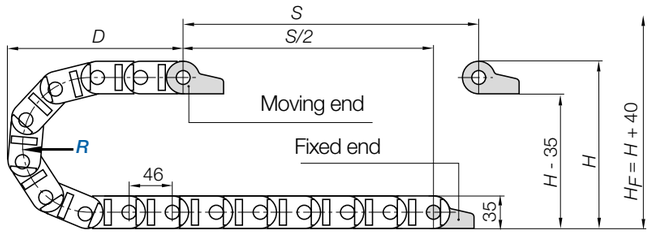
Complete Part No. with required radius (*R*). Example: **E200.05.150.0**

Installation dimensions





Inner height [mm]	24.3
Pitch [mm/link]	46
Links/m	22
corresponds to [mm]	1,012
e-chain® length	$L_K = S/2 + K$



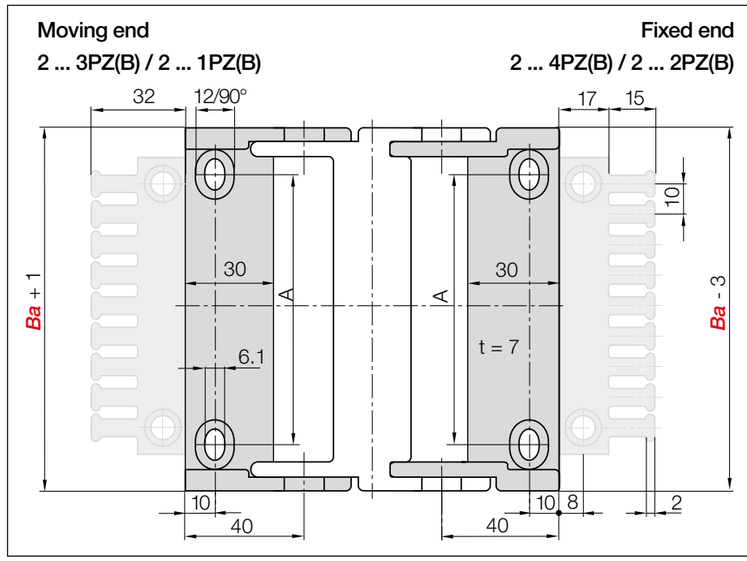
R	055	075	100	150	200
H^{+4}	145	185	235	335	435
D	142	162	187	237	287
K	265	330	410	565	725

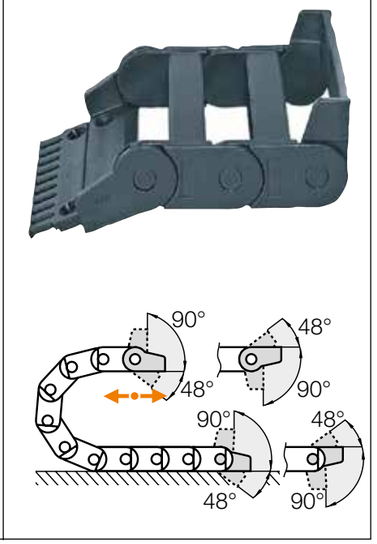
The required clearance height: $H_F = H + 40$mm (with 2.0kg/m fill weight)

easy chain® | Series E200·Z200 | Accessories

Mounting brackets, polymer | Pivoting | Locking

▶ 1300

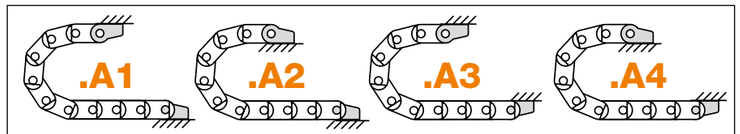




Width index	Standard	Part No. full set **pivoting** with tiewrap plates	Part No. full set **pivoting** without tiewrap plate	Part No. full set **locking** with tiewrap plates	Part No. full set **locking** without tiewrap plate	A [mm]	Number of teeth
05. ▶		2050.34PZB	2050.34PZ	2050.12PZB	2050.12PZ	44	6
2/35. ▶		2070.34PZB	2070.34PZ	2070.12PZB	2070.12PZ	64	8
2/50. ▶		2100.34PZB	2100.34PZ	2100.12PZB	2100.12PZ	90	10

Material mounting bracket - igumid G, temperature: -40° up to +120°C, VDE 0304 IIC UL94-HB

Full set with tiewrap plate + 10 cable tiewraps, please add index **K1**. Example: **2050.34PZBK1**



Possible orientations for assembled mounting brackets. To receive brackets **pre-fitted** please add index **.A1**, **.A2**, **.A3** or **.A4**.

2050.34PZB.A1 **Order example**
.A ... to indicate option with brackets pre-fitted
With integrated strain relief tiewrap plates
Full set
Series

Strain relief e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with ordering options ▶ From page 1300

easy chain® | Series E16·Z16 | Product range

Large inner height, simply press cables in



Version E | Series E16 | "easy" design, split crossbar along the outer radius
Version Z | Series Z16 | "easy" design, split crossbar along the inner radius

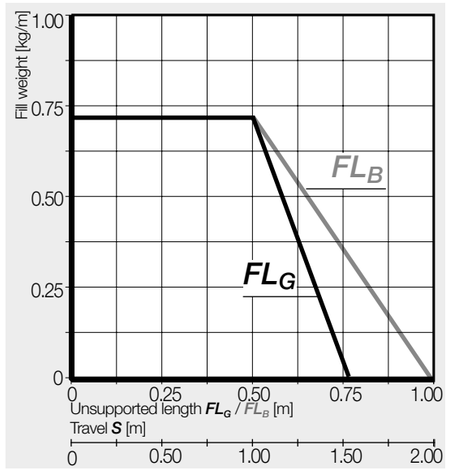
Part No. Version E	Part No. Version Z	*Bi* [mm]	*Ba* [mm]	*R* Available bend radii [mm]	Weight [kg/m]
E16. 2 .*R*.0 1)	Z16. 2 .*R*.0	23	37.5	|040 1) | 060 | 075 | 100 | 125* |	≈ 0.51
E16. 3 .*R*.0	Z16. 3 .*R*.0 1)	36	50.5	|040 1) | 060 | 075 | 100 | 125* |	≈ 0.57
E16. 4 .*R*.0	Z16. 4 .*R*.0 1)	48	62.5	|040 1) | 060 | 075 | 100 | 125* |	≈ 0.62
E16. 5 .*R*.0	Z16. 5 .*R*.0	63	78.5	|040 | 060 | 075 | 100 | 125* |	≈ 0.75
E16. 6 .*R*.0	Z16. 6 .*R*.0 1)	80	95.5	|040* | 060 | 075 | 100 | 125* |	≈ 0.83
E16. 7 .*R*.0	Z16. 7 .*R*.0	100	115.3	|040* | 060 | 075 | 100 | 125* |	≈ 0.91

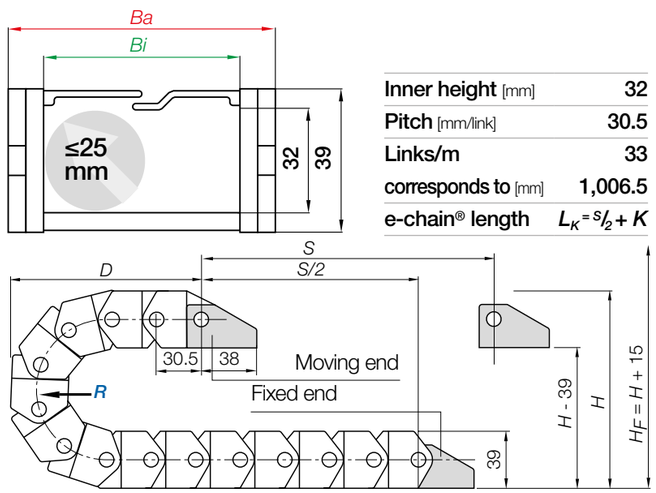
Special solution with opening gap 3mm: **Part No. E16.2.100.0.N3 / Z16.2.075.0.N3**

*Radius available upon request. Please consult igus® for delivery time. 1) Radius 040 only for these series available

Complete Part No. with required radius (*R*). Example: **E16.7.100.0**

Installation dimensions





Inner height [mm]	32
Pitch [mm/link]	30.5
Links/m	33
corresponds to [mm]	1,006.5
e-chain® length	$L_K = S/2 + K$

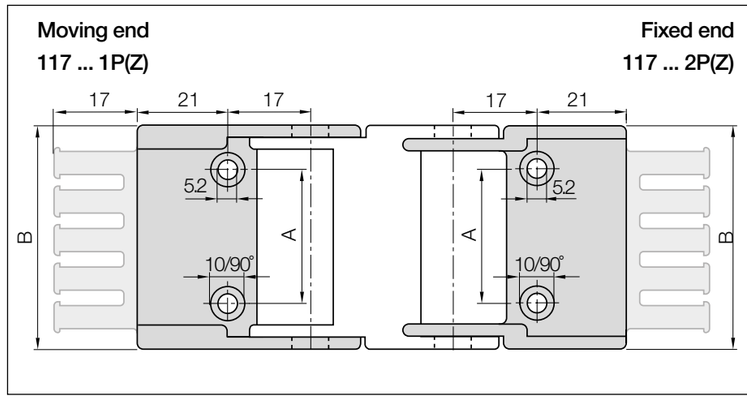
R	040 1)	060	075	100	125*
H	119	159	189	239	289
D	105	125	140	165	190
K	190	250	300	380	455

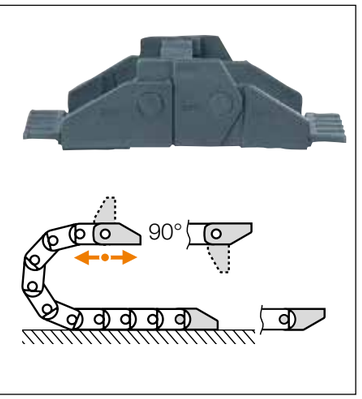
The required clearance height: $H_F = H + 15$mm (with 0.3kg/m fill weight)

*Radius available upon request. Please consult igus® for delivery time. 1) Radius 040 only for E16.2. / Z16.3 / Z16.4 /Z16.5 available

easy chain® | Series E16·Z16 | Accessories

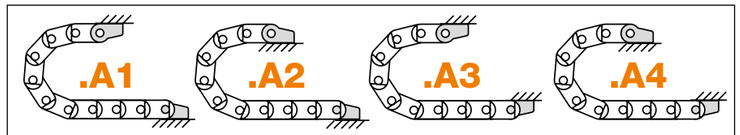
Mounting brackets, polymer one-piece | Locking





Width index	Part No. full set **with tiewrap plates**	Part No. full set **without tiewrap plates**	A [mm]	B [mm]	Number of teeth
2. ▶	**117.2.12PZ**	**117.2.12P**	12	35.5	3
3. ▶	**117.3.12PZ**	**117.3.12P**	25	48.5	4
4. ▶	**117.4.12PZ**	**117.4.12P**	37	60.5	5
5. ▶	**117.5.12PZ**	**117.5.12P**	48	76.0	6
6. ▶	**117.6.12PZ**	**117.6.12P**	65	93.0	8
7. ▶	**117.7.12PZ**	**117.7.12P**	85	113.0	10

Material mounting bracket - igumid G, temperature: -40° up to +120°C, VDE 0304 IIC UL94-HB



Possible orientations for assembled mounting brackets. To receive brackets **pre-fitted** please add index **.A1**, **.A2**, **.A3** or **.A4**.

easy chain® | Series E26·Z26 | Product range

Large inner height, simply press cables in



2 + 3 chamber design
Inner height: 37.1

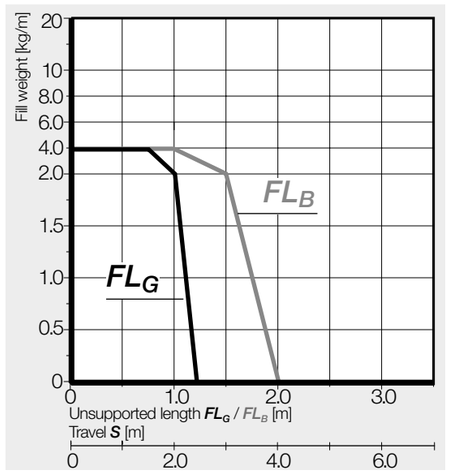


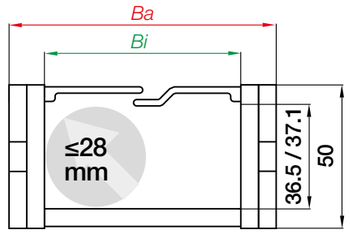
Version E | Series E26 | "easy" design, split crossbar along the outer radius
Version Z | Series Z26 | "easy" design, split crossbar along the inner radius

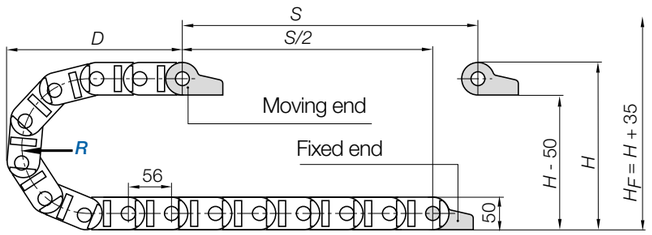
Chamber design	Part No. Version E	Part No. Version Z	*Bi* [mm]	*Ba* [mm]	*R* Available bend radii [mm]	Weight [kg/m]
1-chamber 	E26.07.*R*.0	Z26.07.*R*.0	75	92	| 063 | 075 | 100 | 125 | 150 | 175 | 200 | 250 |	≈ 0.96
2-chamber 	E26.2/45.*R*.0	Z26.2/45.*R*.0	48/48	117	| 063 | 075 | 100 | 125 | 150 | 175 | 200 | 250 |	≈ 1.14
3-chamber	E26.3/45.*R*.0	Z26.3/45.*R*.0	47/48/47	167	| 063 | 075 | 100 | 125 | 150 | 175 | 200 | 250 |	≈ 1.30

Complete Part No. with required radius (*R*). Example: **E26.07.150.0**

Installation dimensions







Inner height [mm]	
1-chamber	36.5
2 & 3-chamber	37.1
Pitch [mm/link]	56
Links/m	18
corresponds to [mm]	1,008
e-chain® length	$L_K = S/2 + K$

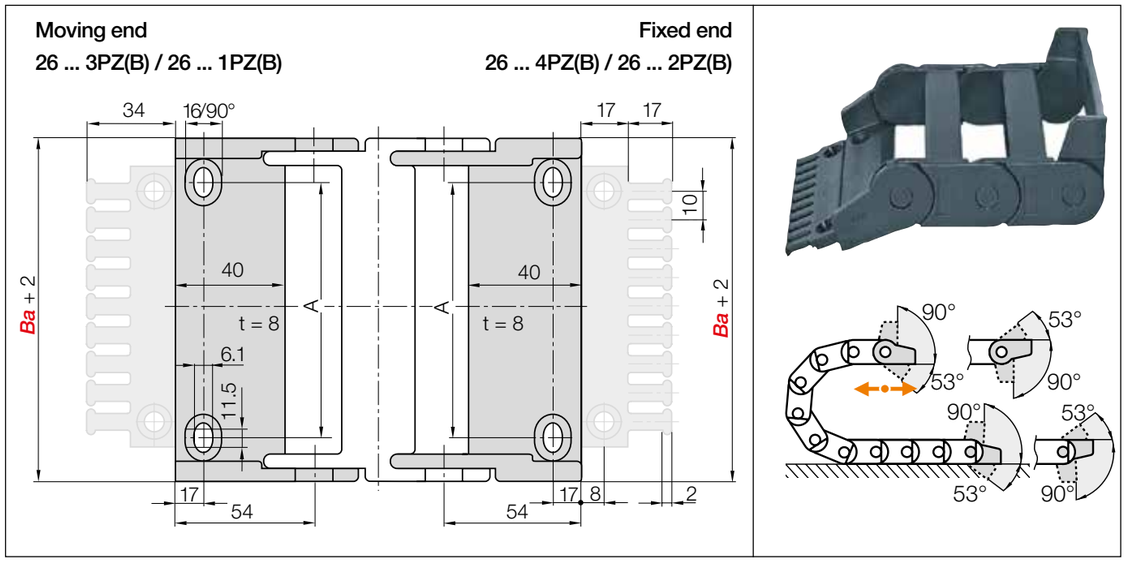
R	063	075	100	125	150	175	200	250
H^{+5}	176	200	250	300	350	400	450	550
D	172	184	209	234	259	284	309	359
K	310	350	430	505	585	665	745	900

The required clearance height: $H_F = H + 35$mm (with 2.0kg/m fill weight)

easy chain® | Series E26·Z26 | Accessories

Mounting brackets, polymer | Pivoting | Locking

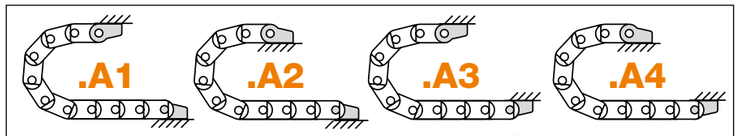
▶ 1300



Width index	Standard	Part No. full set **pivoting** with tiewrap plates	Part No. full set **pivoting** without tiewrap plate	Part No. full set **locking** with tiewrap plates	Part No. full set **locking** without tiewrap plate	A [mm]	Number of teeth
07. ▶		2607.34PZB	2607.34PZ	2607.12PZB	2607.12PZ	55	7
2/45. ▶		2610.34PZB	2610.34PZ	2610.12PZB	2610.12PZ	80	10
3/45. ▶		2615.34PZB	2615.34PZ	2615.12PZB	2615.12PZ	130	15

Material mounting bracket - igumid G, temperature: -40° up to +120°C, VDE 0304 IIC UL94-HB

Full set with tiewrap plate + 10 cable tiewraps, please add index **K1**. Example: **2607.34PZBK1**



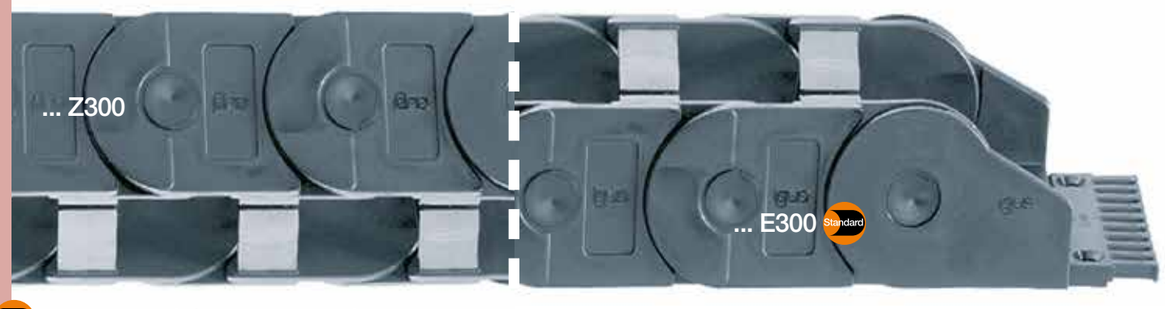
Possible orientations for assembled mounting brackets. To receive brackets **pre-fitted** please add index **.A1**, **.A2**, **.A3** or **.A4**.

2607.34PZB.A2 **Order example**
.A ... to indicate option with brackets pre-fitted
With integrated strain relief tiewrap plates
Full set
Series

Strain relief e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with ordering options ▶ From page 1300

easy chain® | E300·Z300 | Product range

Large inner height, simply press cables in

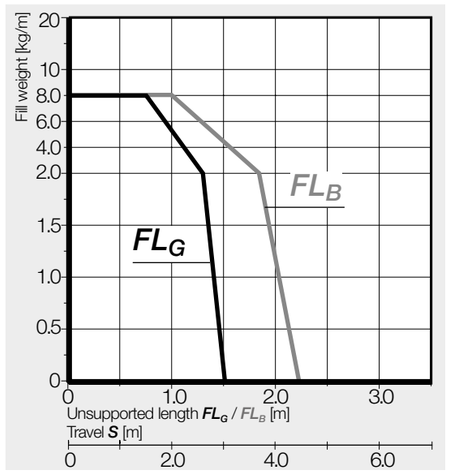


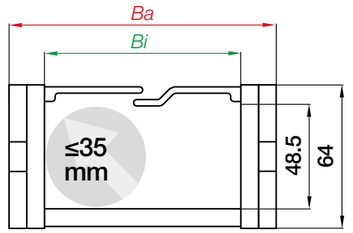
Version E | Series E300 | "easy" design, split crossbar along the outer radius
Version Z | Series Z300 | "easy" design, split crossbar along the inner radius

Chamber design	Part No. Version E	Part No. Version Z	*Bi* [mm]	*Ba* [mm]	*R* Available bend radii [mm]	Weight [kg/m]
1-chamber	E300.075.*R*.0	Z300.075.*R*.0	75	95	| 075 | 100 | 125 | 150 | 200 | 250 | 300 |	≈ 1.60
2-chamber	E300.2/45.*R*.0	Z300.2/45.*R*.0	48/48	120	| 075 | 100 | 125 | 150 | 200 | 250 | 300 |	≈ 1.78
3-chamber	E300.3/45.*R*.0	Z300.3/45.*R*.0	47/46/47	170	| 075 | 100 | 125 | 150 | 200 | 250 | 300 |	≈ 1.92

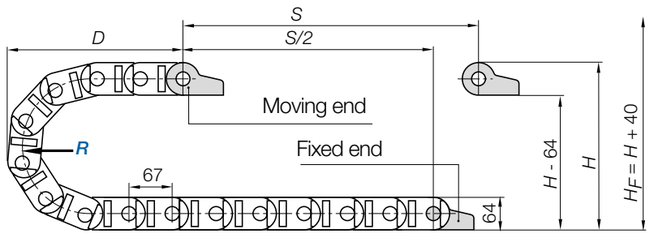
Complete Part No. with required radius (*R*). Example: **E300.075.150.0**

Installation dimensions





Inner height [mm]	48.5
Pitch [mm/link]	67
Links/m	15
corresponds to [mm]	1,005
e-chain® length	$L_K = S/2 + K$



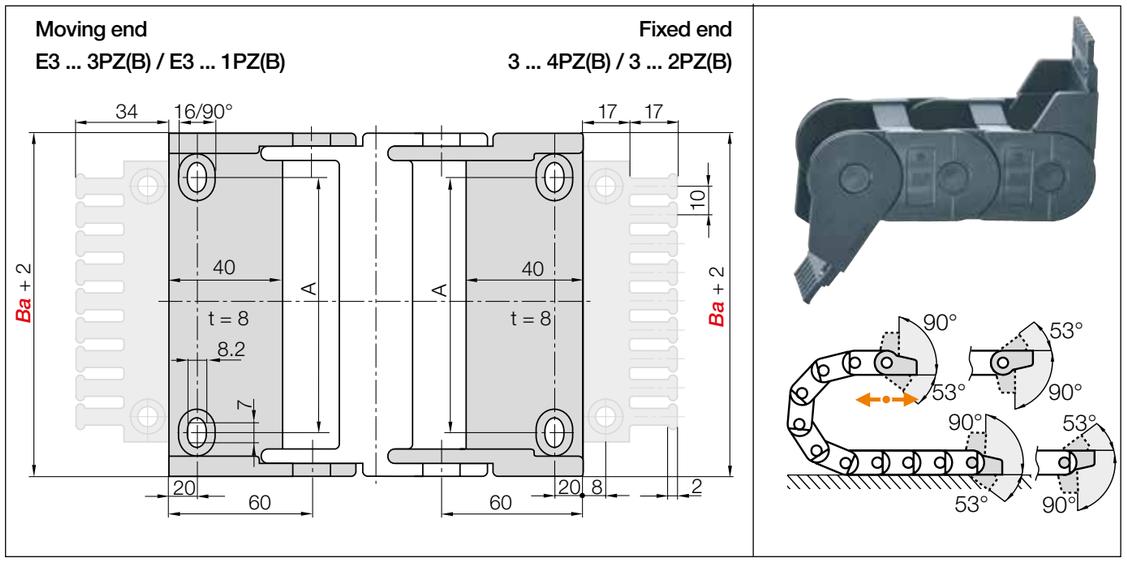
R	075	100	125	150	200	250	300
H^{+5}	214	264	314	364	464	564	664
D	208	233	258	283	333	383	433
K	370	450	530	610	765	920	1,080

The required clearance height: $H_F = H + 40$mm (with 2.5kg/m fill weight)

easy chain® | Series E300·Z300 | Accessories

Mounting brackets, polymer | Pivoting | Locking

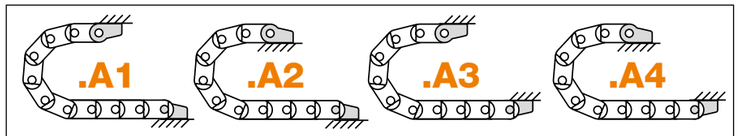
▶ 1300



Width index	Standard	Part No. full set **pivoting** with tiewrap plates	Part No. full set **pivoting** without tiewrap plate	Part No. full set **locking** with tiewrap plates	Part No. full set **locking** without tiewrap plate	A [mm]	Number of teeth
075. ▶		E3075.34PZB	E3075.34PZ	E3075.12PZB	E3075.12PZ	53	7
2/45. ▶		E3100.34PZB	E3100.34PZ	E3100.12PZB	E3100.12PZ	78	10
3/45. ▶		E3150.34PZB	E3150.34PZ	E3150.12PZB	E3150.12PZ	128	15

Material mounting bracket - igumid G, temperature: -40° up to +120°C, VDE 0304 IIC UL94-HB

Full set with tiewrap plate + 10 cable tiewraps, please add index **K1**. Example: **E3075.34PZBK1**



Possible orientations for assembled mounting brackets. To receive brackets **pre-fitted** please add index **.A1**, **.A2**, **.A3** or **.A4**.

E3075.34PZB.A2 Order example
- **.A** ... to indicate option with brackets pre-fitted
- With integrated strain relief tiewrap plates
- Full set
- Series

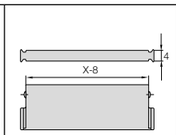
Strain relief e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with ordering options ▶ From page 1300

Interior separation

Modular shelf

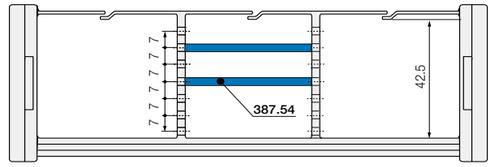
For additional horizontal subdivision of the inner space, shelves are available for e-chains® series E300.3/45 and Z300.3/45. They can be fitted at 7 different heights.





Shelf for e-chains®	
unassembled	386.54
assembled	387.54





zipper

Zip fastening e-chains® and e-tubes

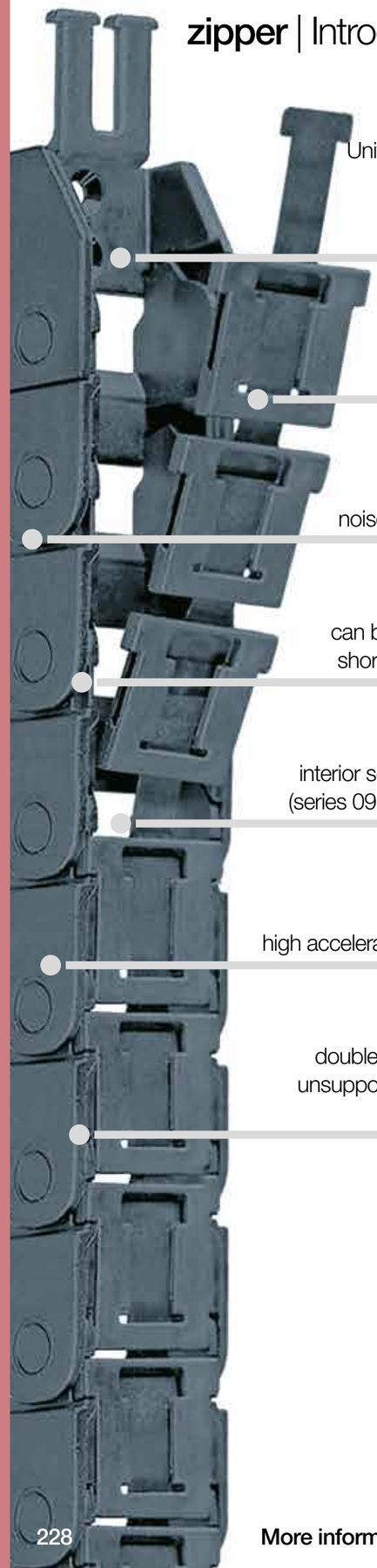
Advantages of the zipper series:

- zipper-like design for quick opening and closing of lids
- zipper e-chains® can be lengthened and shortened at any point
- Small pitch for low noise, smooth running
- Interior separation possible

When to use another e-chain® series:

- When an easy filling without opening and closing of the chain is required
  ► **easy chain®, page 198**
- When an easy-to-open and cost-effective e-chain® is required
  ► **E2.1 micro, page 320**
- When openable crossbars are not necessary
  ►**E2 micro, page 260**





Universal connection: mounting bracket with integrated strain relief

Fast opening: zip-open along the outer radius

Smooth running: small pitch for low noise, smooth running

Flexible: can be lengthened and shortened at any point

Keep order: interior separation possible (series 09, 15/R15, 17/R17)

Dynamic: high accelerations are possible

Strong: double stop-dog for long unsupported travels (series 15/R15, 17/R17)

Zip fastening e-chains® and e-tubes - zipper

igus® "zipper" e-chains® and e-tubes deliver in terms of practicality and performance. The "zipper" function makes them a very useful product to reduce assembly time. The small pitch, the tough-elastic zipper-band, and the sturdy link work well in high acceleration applications. The "zipper" series is one of the most popular igus® e-chain® series for demanding applications.

- zipper-like design for quick opening and closing of lids
- zipper e-chains® can be lengthened and shortened at any point
- Small pitch for low noise, smooth running
- High accelerations: 100 m/s² and more

Typical industries and applications

● Pick & place robots ● Semi-conductor machines ● Linear motors, actuators ● Measuring equipment ● Machine tools (zipper e-tube) ● General machinery, etc.

58 dB(A) - value determined at the igus® test-lab, v = 1.0m/s unsupported, series 09.50.028.0

UL94-V0 classifications upon request

Electrically conductive ESD e-chains® - several series available from stock

iF product design award
2002 igus® Series R09
1989 igus® Series 15

Series	Inner height *hi* [mm]	Inner width *Bi* [mm]	Outer width *Ba* [mm]	Outer height *ha* [mm]	Bend radius *R* [mm]	Unsupported length ≤ [m]	Page
							
zipper - e-chains® crossbars on a strip - zip-open along the outer radius							
047	9	10 - 16	16 - 22	12.5	018 - 038	0.40	**232**
07	10.3	06 - 64	12.5 - 71	15	018 - 048	0.55	**234**
09	15	10 - 64	18.2 - 72.2	19.3	028 - 048	1.00	**238**
15	17	15 - 100	26 - 113	24	038 - 180	1.20	**244**
17	32	15 - 100	25.5 - 113	39	063 - 125	1.00	**252**
							
zipper - e-tubes - protection against dirt and swarf lids on a strip - zip-open along the outer radius							
R07	10.3	06 - 64	12.5 - 71	15	038 - 048	0.55	**236**
R09	15	10 - 50	18.2 - 58.2	19.3	048 - 100	1.00	**242**
R15	17	25 - 80	36 - 94	24	063 - 180	1.20	**248**
R17	32	15 - 63	26 - 74	39	063 - 125	1.20	**256**

Available from stock. Ready to ship in 24 - 48hrs.*

*The delivery times indicated correspond to the average time until the ordered goods are dispatched.

Technical data

Speed gliding / acceleration gliding	≤ 10 [m/s] / ≤ 50 [m/s²]
Speed FL_G / acceleration FL_G	≤ 20 [m/s] / ≤ 200 [m/s²]
Speed FL_B / acceleration FL_B	≤ 3 [m/s] / ≤ 6 [m/s²]
Material lower part - permitted temperature °C, igumid G	-40°C / +120°C
Material lid - permitted temperature °C, igumid TE	-40°C / +70°C
Flammability class, igumid G	VDE 0304 IIC UL94-HB

FL_G = unsupported with straight upper run FL_B = unsupported with permitted sag

Installation types, maximum travels

Series	Unsupported	Vertical hanging	Vertical standing	Side mounted unsupported
047	≤ 0.80m	upon request	upon request	upon request
07 / R07	≤ 1.10m	upon request	upon request	upon request
09 / R09	≤ 2.00m	upon request	upon request	upon request
15 / R15	≤ 2.40m	upon request	upon request	upon request
17 / R17	≤ 2.00m	upon request	upon request	upon request

Options with order keys | Examples based on series 15

	Standard	*NC version - (No Camber) without pretension*	*ESD - electrically conductive material*
	Part No. Standard	**Part No. NC-Version**	**Part No. igumid ESD**
	15.025.*R*.0	15.025.*R*.0.NC	15.025.*R*.0.ESD
	Ready to ship* in 24 - 48 hrs.	Delivery time* 2-5 business days	Delivery time* several series from stock

*The delivery times indicated correspond to the average time until the ordered goods are dispatched.

Order example | Order key and colour examples | Examples based on series 15

Order example for complete e-chain® (1.0m), colour black, with mounting brackets and interior separation:

e-chain® (1.0m)	Please indicate e-chain® length or number of links: 1.0m or 33 links	15.025.075.0
+ Mounting brackets	1 set (with tiewrap plates)	1025.34PZ
Interior separation	with 2 separators assembled every 2nd link	2 x 154
Order text:	1 m 15.025.075.0 + 1025.34PZ + 2 x 154	

Order key

e-chain® zip-open along the outer radius 15.025.075.0

e-tube zip-open along the outer radius R15.025.075.0

- Series / Type
- Width index (depends on *Bi*)
- Bend radius *R*
- Colour index (standard black)

Order index for colour options

Colour	Order index		Colour	Order index	
Black	Standard	.0	Orange	Special colour	.2
Silver-grey	Special colour	.31	Yellow	Special colour	.4
White	Special colour	.1	Light grey	Special colour	.14
Grey-white	Special colour	.1S			

Black e-chains® available from stock.

Above special colours upon request.

zipper | e-chains® | Series 047 | Product range

9

Fast opening, small pitch, smooth running

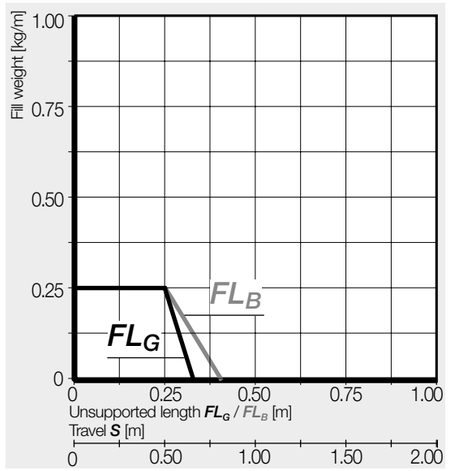


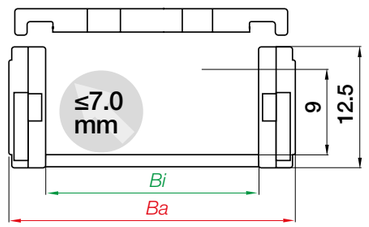
e-chains® | Series 047 | Crossbars on a strip - zip-open along the outer radius

Part No. e-chains®	Bi [mm]	Ba [mm]	R Available bend radii [mm]	Weight [kg/m]
047.10.R.0	10	16	| 018 | 028 | 038 |	≈ 0.10
047.16.R.0	16	22	| 018 | 028 | 038 |	≈ 0.11

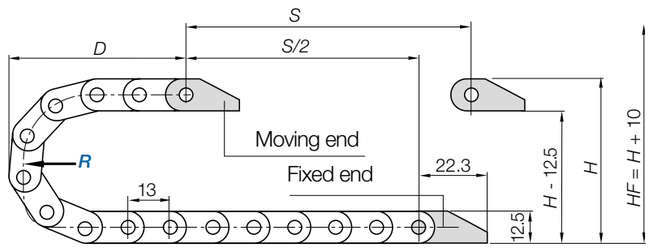
Complete Part No. with required radius (*R*). Example: **047.10.038.0**

Installation dimensions





Inner height [mm]	9
Pitch [mm/link]	13
Links/m	77
corresponds to [mm]	1,001
e-chain® length	$L_K = S/2 + K$

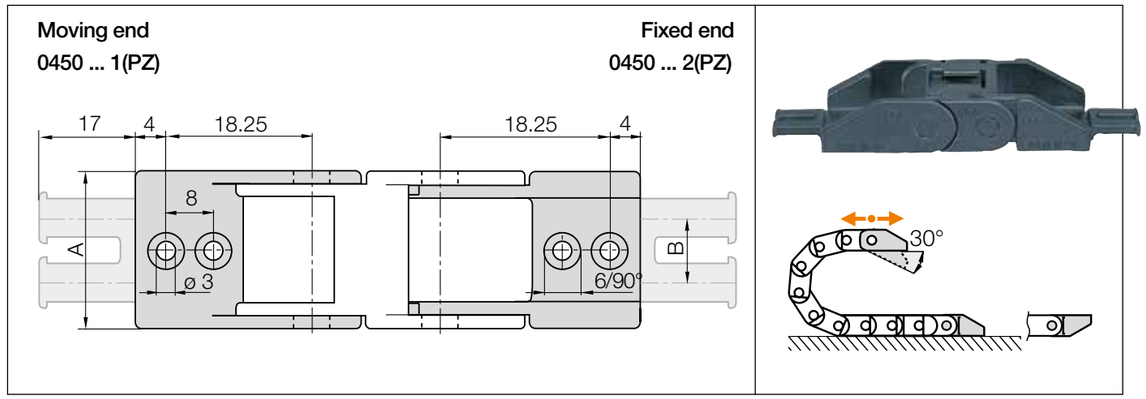


R	018	028	038
H	48.5	68.5	88.5
D	44	54	64
K	85	115	150

The required clearance height: $H_F = H + 10mm$ (with 0.2kg/m fill weight)

zipper | e-chains® | Series 047 | Accessories

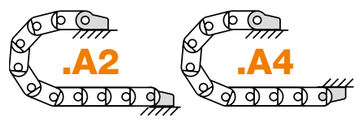
Mounting brackets, polymer one-piece | Pivoting



Width index	Standard	Part No. full set with tiewrap plates	Part No. full set without tiewrap plates	A [mm]	B [mm]	Number of teeth
10. ▶		0450.10.12PZ	0450.10.12	16	–	1
16. ▶		0450.16.12PZ	0450.16.12	22	10	2

Mounting bracket with strain relief tiewrap plate has reductions of ø 3mm / ø 6mm 90°

Mounting bracket without strain relief tiewrap plate only has holes of ø 3mm



Possible orientations for assembled mounting brackets. To receive brackets **pre-fitted** please add index **.A2** or **.A4**.

0450.10.12PZ.A2 Order example

- **.A** ... to indicate option with brackets pre-fitted
- With integrated strain relief tiewrap plates
- Full set
- Series

zipper | e-chains® | Series 07 | Product range

10,3

Fast opening, small pitch, smooth running



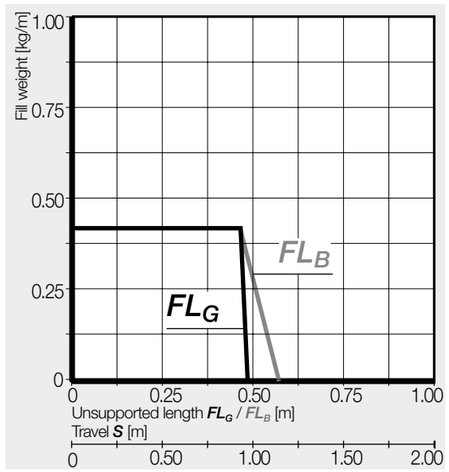
e-chains® | Series 07 | Crossbars on a strip - zip-open along the outer radius

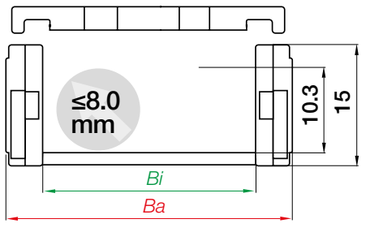
Part No. e-chains®	Bi [mm]	Ba [mm]	R Available bend radii [mm]	Weight [kg/m]
07.06.R.0	06	12.5	| 018 | 028 | 038 | 048* |	≈ 0.13
07.10.R.0 1)	10	16.5	| 018 | 028 | 038 | 048* |	≈ 0.14
07.16.R.0 1)	16	22.5	| 018 | 028 | 038 | 048* |	≈ 0.16
07.20.R.0 1)	20	27	| 018 | 028 | 038 | 048* |	≈ 0.17
07.30.R.0 1)	30	37	| 018 | 028 | 038 | 048* |	≈ 0.20
07.40.R.0 1)	40	47	| 018 | 028 | 038 | 048* |	≈ 0.23
07.50.R.0 1)	50	57	| 018 | 028 | 038 | 048* |	≈ 0.26
07.64.R.0	64	71	| 018 | 028 | 038 | 048 |	≈ 0.30

1) ESD version available from stock *Radius available upon request. Please consult igus® for delivery time.

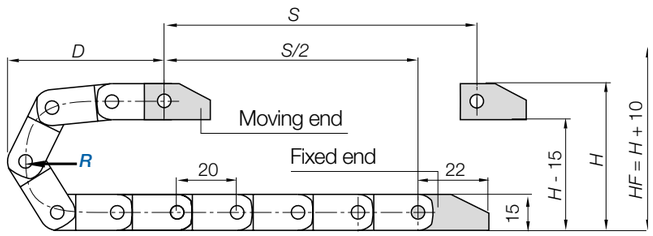
Complete Part No. with required radius (R). Example: **07.40.038.0**

Installation dimensions





Inner height [mm]	10.3
Pitch [mm/link]	20
Links/m	50
corresponds to [mm]	1,000
e-chain® length	$L_K = S/2 + K$



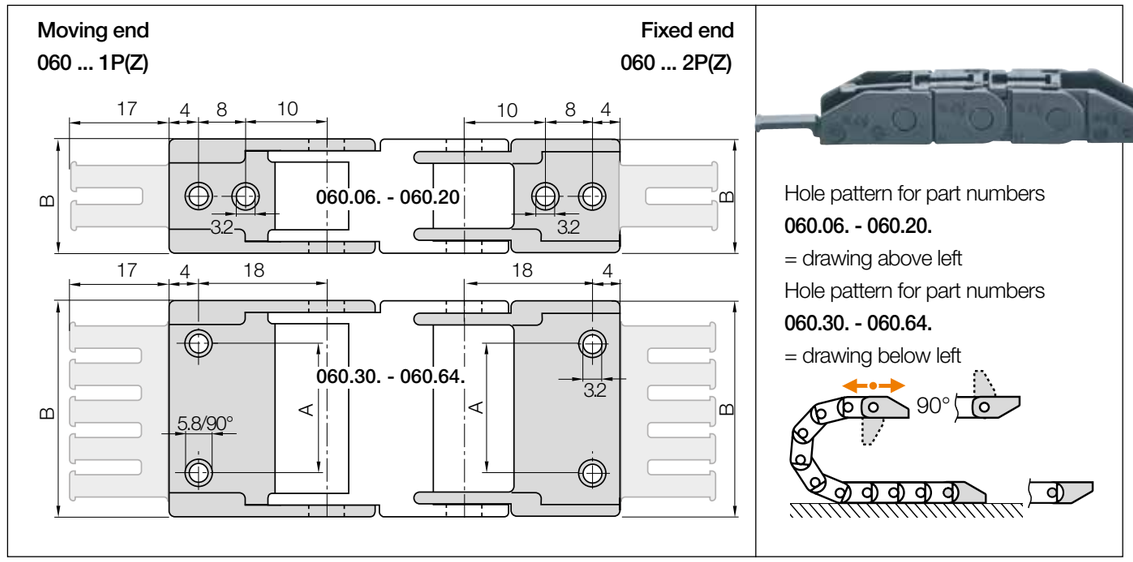
R	018	028	038	048*
H	51	71	91	111
D	56	66	76	86
K	100	130	160	195

The required clearance height: $H_F = H + 10$mm (with 0.2kg/m fill weight)

*Radius 048 only for series 07.64 - for other widths radii available upon request. Please consult igus® for delivery time.

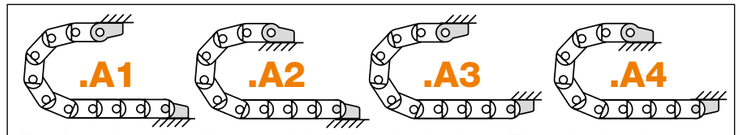
zipper | e-chains® | Series 07 | Accessories

Mounting brackets, polymer one-piece | Locking



Hole pattern for part numbers **060.06. - 060.20.**
= drawing above left
Hole pattern for part numbers **060.30. - 060.64.**
= drawing below left

Width index	Standard	Part No. full set with tiewrap plates	Part No. full set without tiewrap plates	A [mm]	B [mm]	Number of teeth
06. ▶		060.06. 12PZ	060.06. 12P	–	12.5	1
10. ▶		060.10. 12PZ	060.10. 12P	–	16.5	1
16. ▶		060.16. 12PZ	060.16. 12P	–	22.5	2
20. ▶		060.20. 12PZ	060.20. 12P	–	27.0	2
30. ▶		060.30. 12PZ	060.30. 12P	22	37.0	3
40. ▶		060.40. 12PZ	060.40. 12P	32	47.0	4
50. ▶		060.50. 12PZ	060.50. 12P	42	57.0	5
64. ▶		060.64. 12PZ	060.64. 12P	56	71.0	6



Possible orientations for assembled mounting brackets. To receive brackets **pre-fitted** please add index **.A1**, **.A2**, **.A3** or **.A4**.

060.40.12PZ.A1 **Order example**
- **.A** ... to indicate option with brackets pre-fitted
- With integrated strain relief tiewrap plates
- Full set
- Series

ESD - many sizes from stock

- ESD material tested with over 10 million cycles for the toughest requirements
- Standardised product made from igumid ESD
- Short delivery times including mounting brackets and interior separation; 24hrs, from stock

More information ▶ www.igus.eu/esd



zipper | e-tubes | Series R07 | Product range

Fast opening, enclosed zipper-band

10,3

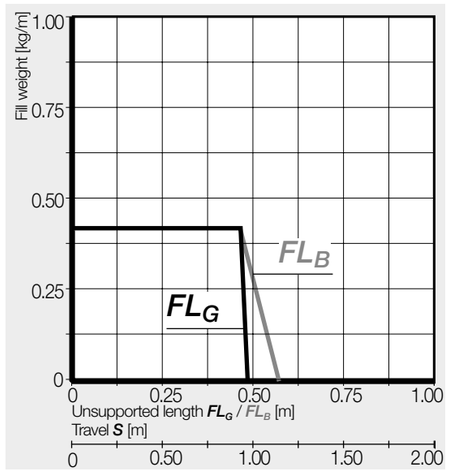


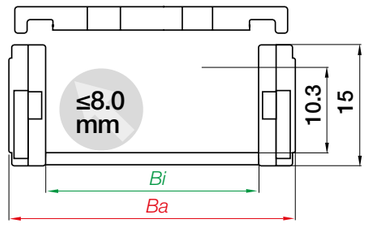
e-tube | Series R07 | Lids on a strip - zip-open along the outer radius

Part No. e-tubes	Bi [mm]	Ba [mm]	R Available bend radii [mm]	Weight [kg/m]
R07.06.R.0	06	12.5	| 038 | 048 |	≈ 0.15
R07.10.R.0	10	16.5	| 038 | 048 |	≈ 0.16
R07.16.R.0	16	22.5	| 038 | 048 |	≈ 0.18
R07.20.R.0	20	27	| 038 | 048 |	≈ 0.19
R07.30.R.0	30	37	| 038 | 048 |	≈ 0.22
R07.40.R.0	40	47	| 038 | 048 |	≈ 0.25
R07.50.R.0	50	57	| 038 | 048 |	≈ 0.28
R07.64.R.0	64	71	| 038 | 048 |	≈ 0.32

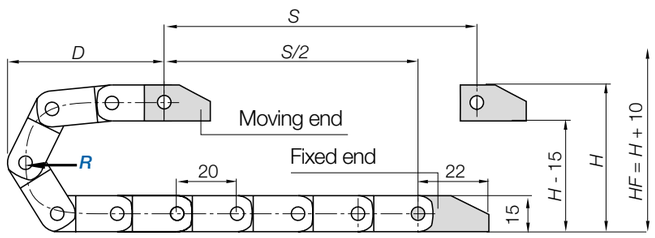
Complete Part No. with required radius (R). Example: **R07.40.038.0**

Installation dimensions





Inner height [mm]	10.3
Pitch [mm/link]	20
Links/m	50
corresponds to [mm]	1,000
e-chain® length	$L_K = S/2 + K$

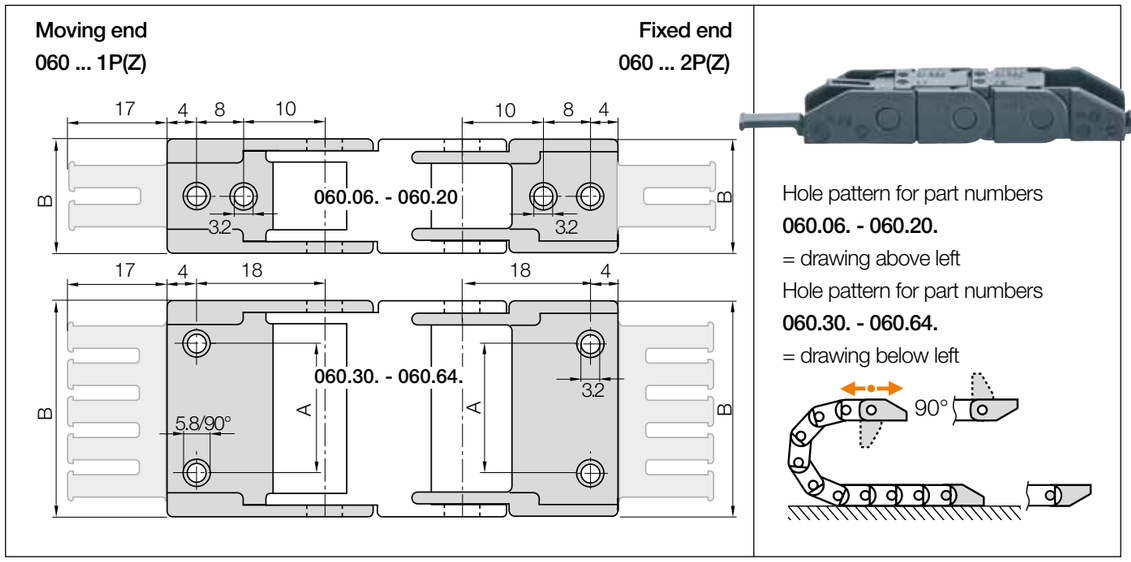


R	038	048
H	91	111
D	76	86
K	160	195

The required clearance height: $H_F = H + 10mm$ (with 0.2kg/m fill weight)

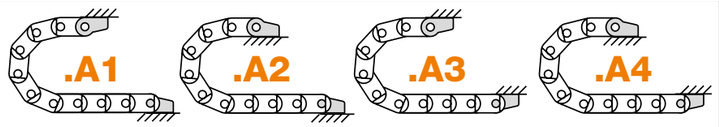
zipper | e-tubes | Series R07 | Accessories

Mounting brackets, polymer one-piece | Locking



Width index	Standard	Part No. full set with tiewrap plates	Part No. full set without tiewrap plates	A [mm]	B [mm]	Number of teeth
06.* ▶		060.06. 12PZ	060.06. 12P	–	12.5	1
10. ▶		060.10. 12PZ	060.10. 12P	–	16.5	1
16. ▶		060.16. 12PZ	060.16. 12P	–	22.5	2
20. ▶		060.20. 12PZ	060.20. 12P	–	27.0	2
30. ▶		060.30. 12PZ	060.30. 12P	22	37.0	3
40. ▶		060.40. 12PZ	060.40. 12P	32	47.0	4
50. ▶		060.50. 12PZ	060.50. 12P	42	57.0	5
64.* ▶		060.64. 12PZ	060.64. 12P	56	71.0	6

*Width available upon request. Please consult igus® for delivery time.



Possible orientations for assembled mounting brackets. To receive brackets **pre-fitted** please add index **.A1**, **.A2**, **.A3** or **.A4**.

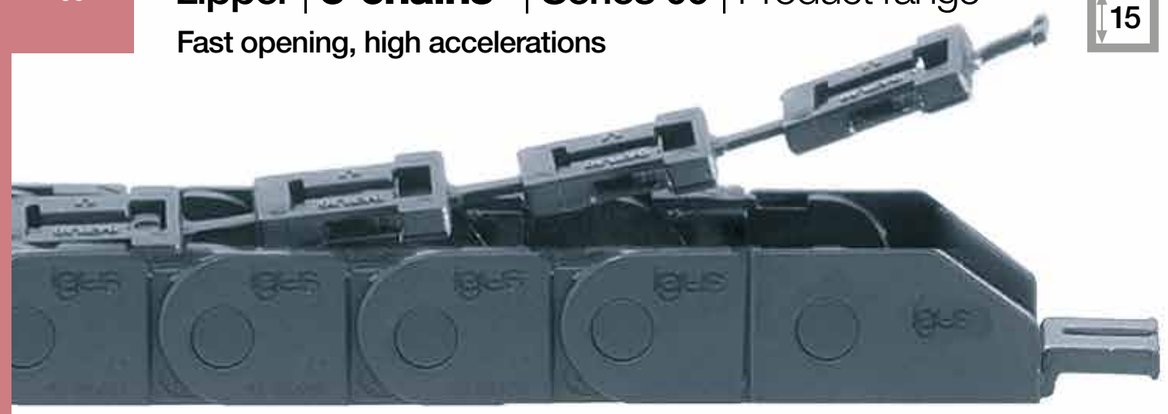
060.40.12PZ.A1 **Order example**

- .A ... to indicate option with brackets pre-fitted
- With integrated strain relief tiewrap plates
- Full set
- Series

zipper | e-chains® | Series 09 | Product range

15

Fast opening, high accelerations



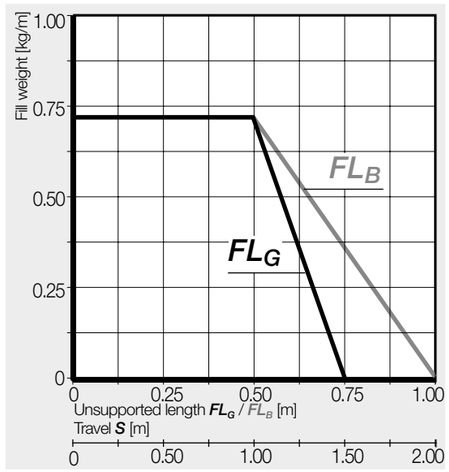
e-chains® | Series 09 | Crossbars on a strip - zip-open along the outer radius

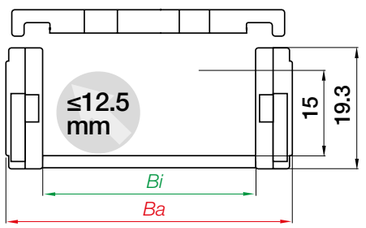
Part No. e-chains®	Bi [mm]	Ba [mm]	R Available bend radii [mm]	Weight [kg/m]
09.10 .R.0	10	18.2	| 028 | 038 | 048 |	≈ 0.21
09.16 .R.0 1)	16	24.2	| 028 | 038 | 048 |	≈ 0.24
09.20 .R.0 1)	20	28.2	| 028 | 038 | 048 |	≈ 0.25
09.30 .R.0 1)	30	38.2	| 028 | 038 | 048 |	≈ 0.28
09.40 .R.0 1)	40	48.2	| 028 | 038 | 048 |	≈ 0.31
09.50 .R.0 1)	50	58.2	| 028 | 038 | 048 |	≈ 0.34
09.64 .R.0	64	72.2	| 028 | 038 | 048 |	≈ 0.39

1) ⚠ Available as ESD version from stock

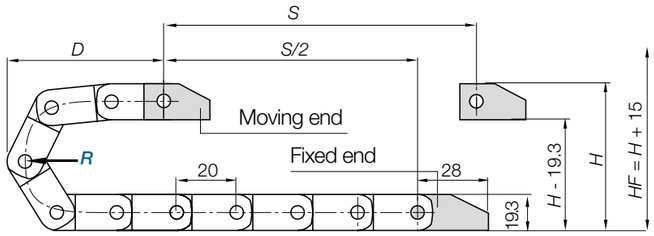
Complete Part No. with required radius (*R*). Example: **09.40.038.0**

Installation dimensions





Inner height [mm]	15
Pitch [mm/link]	20
Links/m	50
corresponds to [mm]	1,000
e-chain® length	$L_K = S/2 + K$

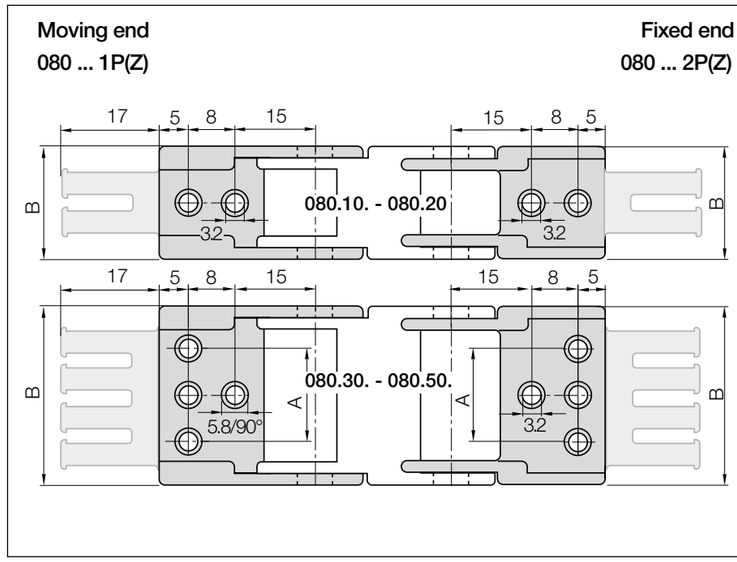


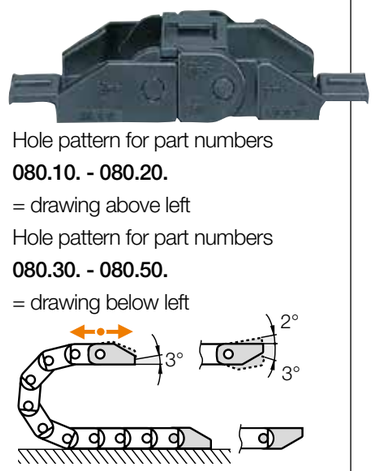
R	028	038	048
H	75	95	115
D	68	78	88
K	130	160	195

The required clearance height: $H_F = H + 15$mm (with 0.3kg/m fill weight)

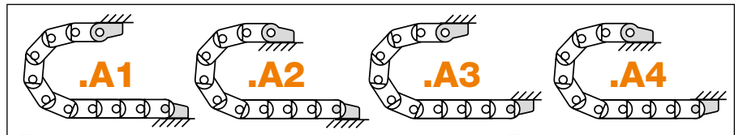
zipper | e-chains® | Series 09 | Accessories

Mounting brackets, polymer one-piece | Locking





Width index	Standard	Part No. full set with tiewrap plates	Part No. full set without tiewrap plates	A [mm]	B [mm]	Number of teeth
10. ▶		080.10. 12PZ	080.10. 12P	–	18.2	1
16. ▶		080.16. 12PZ	080.16. 12P	–	24.2	2
20. ▶		080.20. 12PZ	080.20. 12P	–	28.2	2
30. ▶		080.30. 12PZ	080.30. 12P	22	38.2	3
40. ▶		080.40. 12PZ	080.40. 12P	32	48.2	4
50. ▶		080.50. 12PZ	080.50. 12P	42	58.2	5
64. ▶		080.64. 12PZ	080.65. 12P	56	72.2	6



Possible orientations for assembled mounting brackets. To receive brackets **pre-fitted** please add index **.A1**, **.A2**, **.A3** or **.A4**.

080.40.12PZ.A1 Order example

- **.A** ... to indicate option with brackets pre-fitted
- With integrated strain relief tiewrap plates
- Full set
- Series

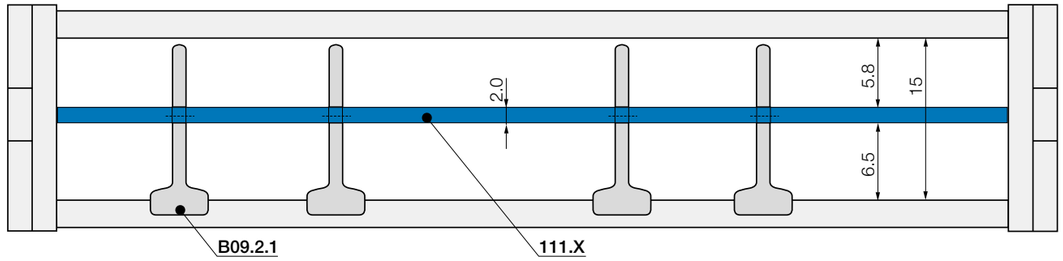
ESD - many sizes from stock

- ESD material tested with over 10 million cycles for the toughest requirements
- Standardised product made from igumid ESD
- Short delivery times including mounting brackets and interior separation; 24hrs, from stock

More information ▶ www.igus.eu/esd

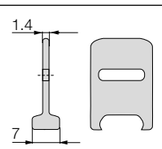


Interior separation



No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-chain® link!



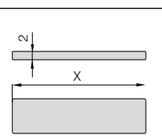


Slotted separator	
unassembled	**B09.2**
assembled	**B09.2.1**

Slotted separator

Vertical separation in e-chains®. The slot allows basic vertical/ horizontal shelving arrangements.





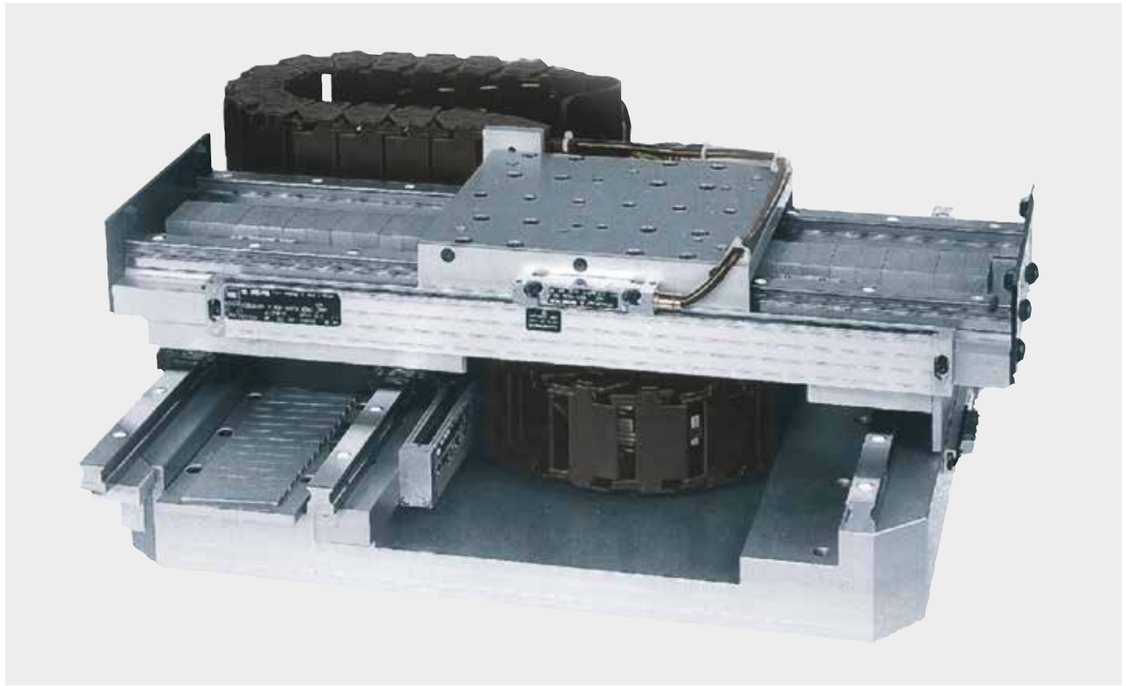
Full-width shelf for e-chains®	
unassembled	**110.X**
assembled	**111.X**

Full-width shelf

This option is for applications with many small cables with similar diameters. For full width separation.

Full-width shelves
Width = X [mm]

X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
016	**110.16**	**111.16**	030	**110.30**	**111.30**	050	**110.50**	**111.50**
020	**110.20**	**111.20**	040	**110.40**	**111.40**			



igus® zipper e-chain® on an X/Y unit. Acceleration: 100m/s²

zipper | **e-tubes** | Series R09 | Product range

15

Fast opening, enclosed zipper-band

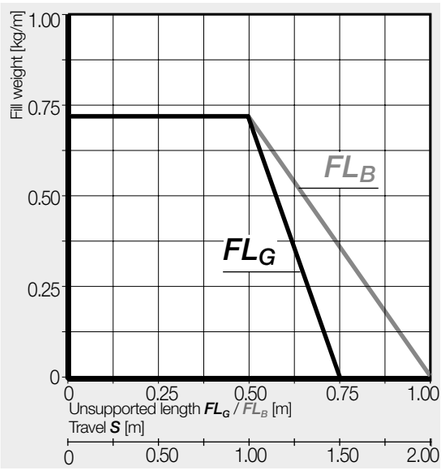


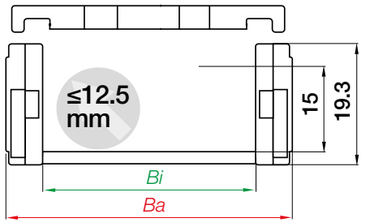
e-tube | Series R09 | Lids on a strip - zip-open along the outer radius

Part No. e-tubes	*Bi* [mm]	*Ba* [mm]	*R* Available bend radii [mm]	Weight [kg/m]
R09.10.*R*.0	10	18.2	| 048 | 075 | 100 |	≈ 0.23
R09.16.*R*.0	16	24.2	| 048 | 075 | 100 |	≈ 0.26
R09.20.*R*.0	20	28.2	| 048 | 075 | 100 |	≈ 0.27
R09.30.*R*.0	30	38.2	| 048 | 075 | 100 |	≈ 0.30
R09.40.*R*.0	40	48.2	| 048 | 075 | 100 |	≈ 0.33
R09.50.*R*.0	50	58.2	| 048 | 075 | 100 |	≈ 0.36

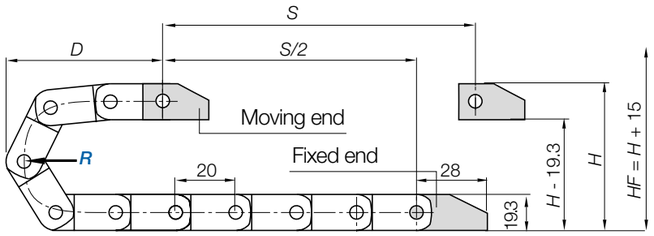
Complete Part No. with required radius (*R*). Example: R09.40.048.0

Installation dimensions





Inner height [mm]	15
Pitch [mm/link]	20
Links/m	50
corresponds to [mm]	1,000
e-chain® length	$L_K = S/2 + K$



R	048	075	100
H	115	169	219
D	88	115	140
K	195	280	355

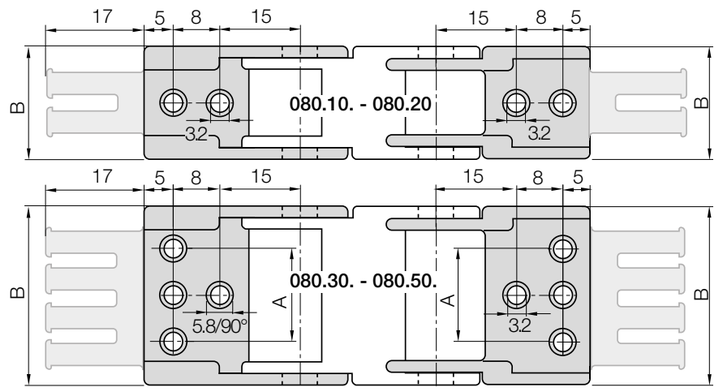
The required clearance height: $H_F = H + 15$mm (with 0.3kg/m fill weight)

zipper | **e-tubes** | Series R09 | Accessories

Mounting brackets, polymer one-piece | Locking

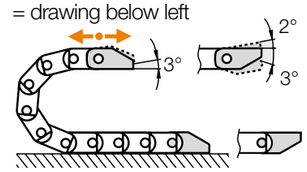
Moving end
080 ... 1P(Z)

Fixed end
080 ... 2P(Z)

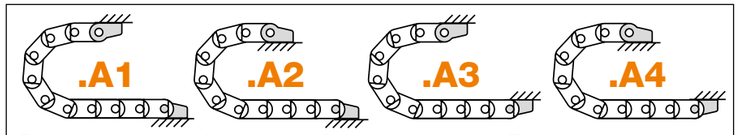




Hole pattern for part numbers
080.10. - 080.20.
= drawing above left
Hole pattern for part numbers
080.30. - 080.50.
= drawing below left



Width index	Standard	Part No. full set with tiewrap plates	Part No. full set without tiewrap plates	A [mm]	B [mm]	Number of teeth
10. ▶		080.10. 12PZ	080.10. 12P	–	18.2	1
16. ▶		080.16. 12PZ	080.16. 12P	–	24.2	2
20. ▶		080.20. 12PZ	080.20. 12P	–	28.2	2
30. ▶		080.30. 12PZ	080.30. 12P	22	38.2	3
40. ▶		080.40. 12PZ	080.40. 12P	32	48.2	4
50. ▶		080.50. 12PZ	080.50. 12P	42	58.2	5



Possible orientations for assembled mounting brackets. To receive brackets **pre-fitted** please add index **.A1**, **.A2**, **.A3** or **.A4**.

080.40.12PZ.**A1**

Order example
.A ... to indicate option with brackets pre-fitted
With integrated strain relief tiewrap plates
Full set
Series

Fast opening, high strength



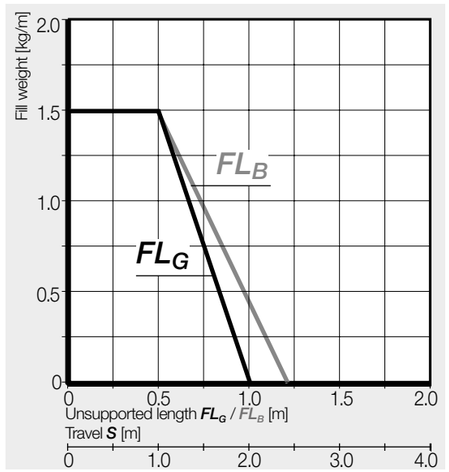
e-chains® | Series 15 | Crossbars on a strip - zip-open along the outer radius

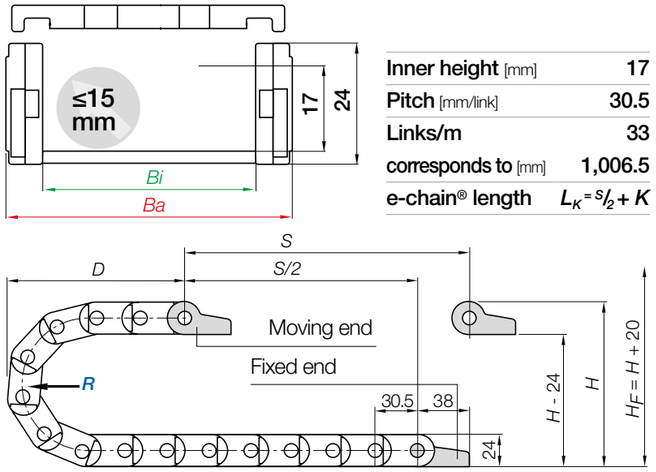
Part No. e-chains®	Bi [mm]	Ba [mm]	R Available bend radii [mm]	Weight [kg/m]
15.015.R.0	15	26	| 038 | 048 | 075 | 100 | 110 | 125 | 145 | 180 |	≈ 0.35
15.025.R.0	25	36	| 038 | 048 | 075 | 100 | 110 | 125 | 145 | 180 |	≈ 0.40
15.038.R.0	38	49	| 038 | 048 | 075 | 100 | 110 | 125 | 145 | 180 |	≈ 0.46
15.050.R.0	50	61	| 038 | 048 | 075 | 100 | 110 | 125 | 145 | 180 |	≈ 0.52
15.5 .R.0	63	76	| 038 | 048 | 075 | 100 | 110 | 125 | 145 | 180 |	≈ 0.63
15.6 .R.0	80	94	| 038 | 048 | 075 | 100 | 110 | 125 | 145 | 180 |	≈ 0.70
15.7 .R.0	100	113	| 038 | 048 | 075 | 100 | 110 | 125 | 145 | 180 |	≈ 0.76

Before using this series on long travels please consult igus®.

Complete Part No. with required radius (*R*). Example: **15.025.038.0**

Installation dimensions



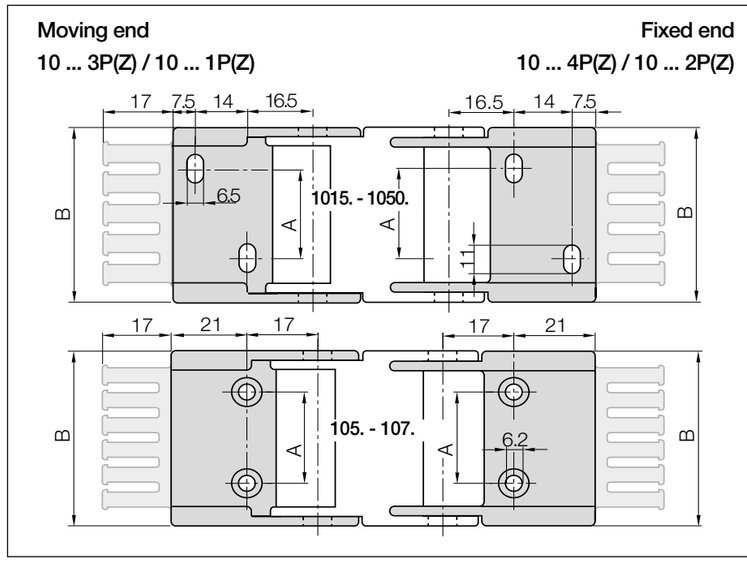


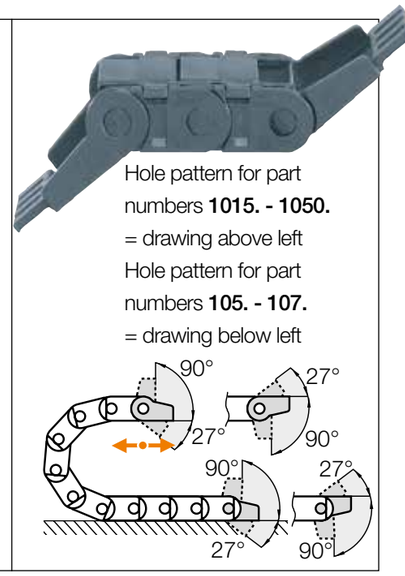
Inner height [mm]	17
Pitch [mm/link]	30.5
Links/m	33
corresponds to [mm]	1,006.5
e-chain® length	$L_K = S/2 + K$

R	038	048	075	100	110	125	145	180
H	99	119	173	223	243	273	313	383
D	95	105	132	157	167	182	202	237
K	185	215	300	380	410	455	520	630

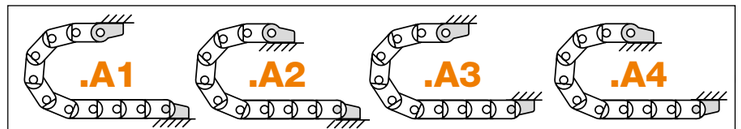
The required clearance height: $H_F = H + 20$mm (with 1.0kg/m fill weight)

Mounting brackets, polymer one-piece | Pivoting | Locking

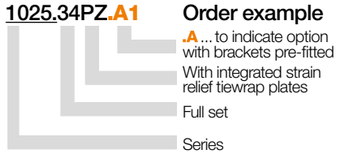




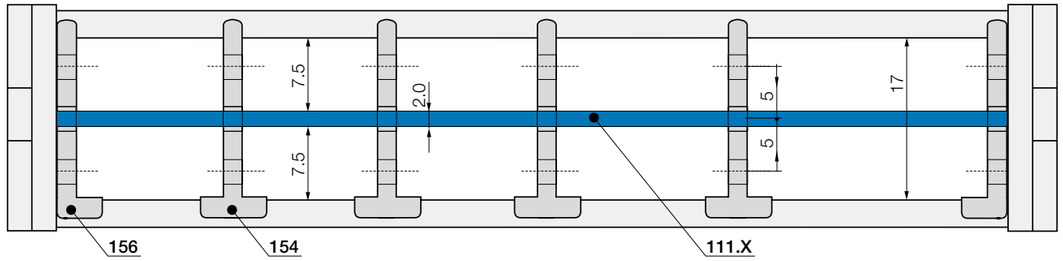
Width index	Standard	Part No. full set pivoting with tiewrap plates	Part No. full set pivoting without tiewrap plate	Part No. full set locking with tiewrap plates	Part No. full set locking without tiewrap plate	A [mm]	B [mm]	Number of teeth
015. ▶		1015.34PZ	1015.34P	1015.12PZ	1015.12P	–	25.5	2
025. ▶		1025.34PZ	1025.34P	1025.12PZ	1025.12P	10	35.5	3
038. ▶		1038.34PZ	1038.34P	1038.12PZ	1038.12P	23	48.5	4
050. ▶		1050.34PZ	1050.34P	1050.12PZ	1050.12P	35	60.5	5
5. ▶		105. 34PZ	105. 34P	105. 12PZ	105. 12P	48	75.0	6
6. ▶		106. 34PZ	106. 34P	106. 12PZ	106. 12P	65	92.0	8
7. ▶		107. 34PZ	107. 34P	107. 12PZ	107. 12P	85	112.0	10



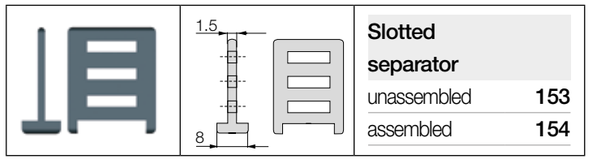
Possible orientations for assembled mounting brackets. To receive brackets **pre-fitted** please add index **.A1**, **.A2**, **.A3** or **.A4**.



Interior separation



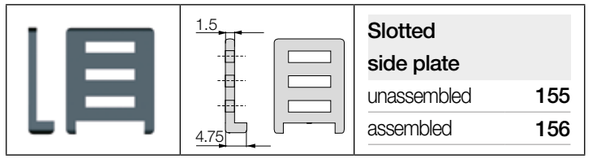
No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-chain® link!



Slotted separator	
unassembled	**153**
assembled	**154**

Slotted separator

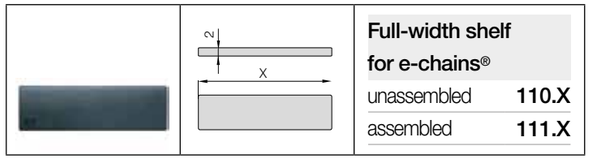
Vertical separation in e-chains®. The slot allows basic vertical/ horizontal shelving arrangements.



Slotted side plate	
unassembled	**155**
assembled	**156**

Slotted side plate

Allows modular shelving right up to the side links. No clearance required!



Full-width shelf for e-chains®	
unassembled	**110.X**
assembled	**111.X**

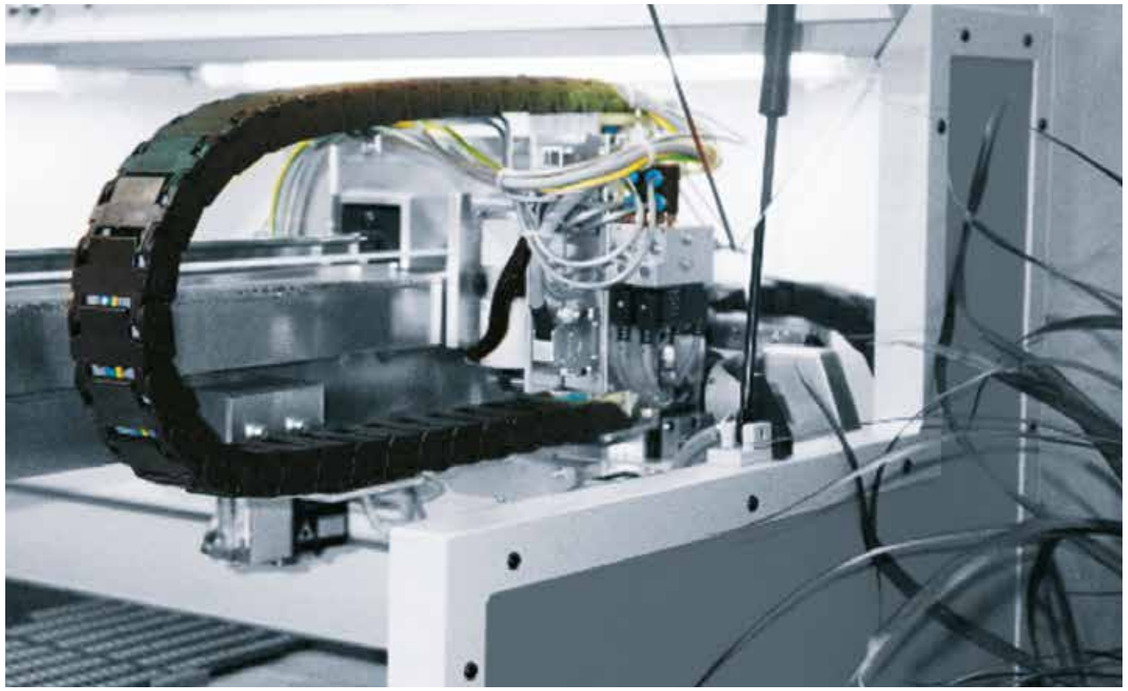
Full-width shelf

This option is for applications with many small cables with similar diameters. For full width separation.

Full-width shelves

Width = X [mm]

X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
015	**110.15**	**111.15**	050	**110.50**	**111.50**	100	**110.100**	**111.100**
025	**110.25**	**111.25**	063	**110.63**	**111.63**			
038	**110.38**	**111.38**	080	**110.80**	**111.80**			



igus® zipper e-chain® series 15 in a special purpose machine for quick cable installation

zipper | **e-tubes** | Series R15 | Product range

17

Fast opening, enclosed zipper-band



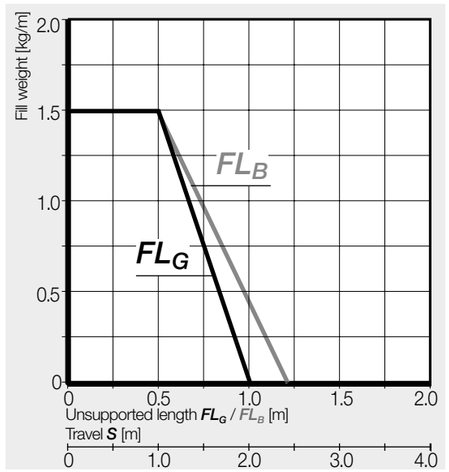
e-tube | Series R15 | Lids on a strip - zip-open along the outer radius

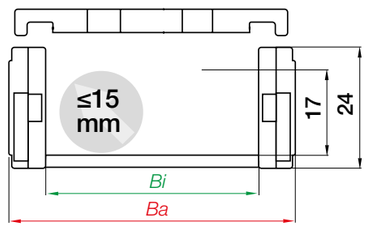
Part No. e-tubes	*Bi* [mm]	*Ba* [mm]	*R* Available bend radii [mm]	Weight [kg/m]
R15.015.*R*.0*	15	26	063 | 075 | 100 | 110 | 125 | 145 | 180	≈ 0.40
R15.025.*R*.0	25	36	063 | 075 | 100 | 110 | 125 | 145 | 180	≈ 0.45
R15.038.*R*.0	38	49	063 | 075 | 100 | 110 | 125 | 145 | 180	≈ 0.51
R15.050.*R*.0*	50	61	063 | 075 | 100 | 110 | 125 | 145 | 180	≈ 0.57
R15.063.*R*.0	63	76	063 | 075 | 100 | 110 | 125 | 145 | 180	≈ 0.68
R15.080.*R*.0	80	94	063 | 075 | 100 | 110 | 125 | 145 | 180	≈ 0.75
R15.100.*R*.0*	100	113	063 | 075 | 100 | 110 | 125 | 145 | 180	≈ 0.81

*Width available upon request. Please consult igus® for delivery time. Before using this series on long travels please consult igus®.

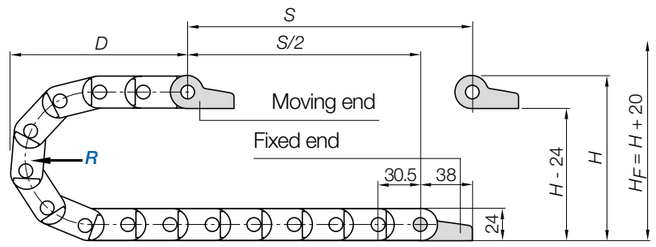
Complete Part No. with required radius (*R*). Example: **R15.025.063.0**

Installation dimensions





Inner height [mm]	17
Pitch [mm/link]	30.5
Links/m	33
corresponds to [mm]	1,006.5
e-chain® length	$L_K = S/2 + K$



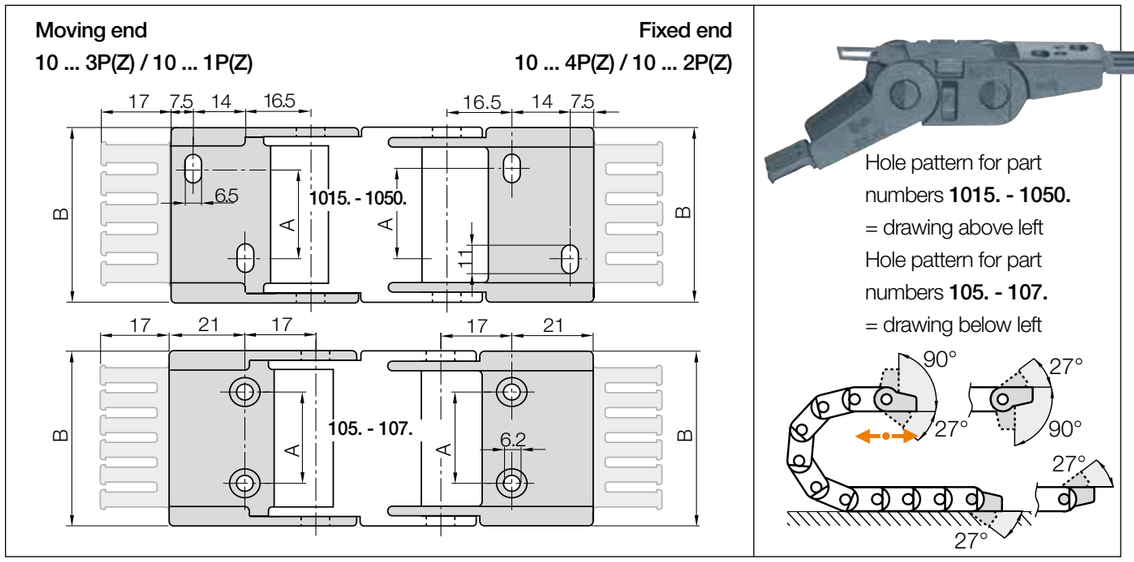
R	063	075	100	110	125	145	180	180
H	149	173	223	243	273	313	383	383
D	120	132	157	167	182	202	237	237
K	260	300	380	410	455	520	630	630

The required clearance height: $H_F = H + 20$mm (with 1.0kg/m fill weight)

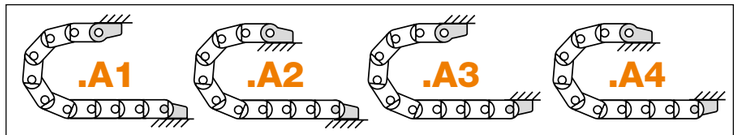
zipper | **e-tubes** | Series R15 | Accessories

Mounting brackets, polymer one-piece | Pivoting | Locking

▶ 1241



Width index	Standard	Part No. full set **pivoting** with tiewrap plates	Part No. full set **pivoting** without tiewrap plate	Part No. full set **locking** with tiewrap plates	Part No. full set **locking** without tiewrap plate	A [mm]	B [mm]	Number of teeth
015. ▶		**1015.34PZ**	**1015.34P**	**1015.12PZ**	**1015.12P**	–	25.5	2
025. ▶		**1025.34PZ**	**1025.34P**	**1025.12PZ**	**1025.12P**	10	35.5	3
038. ▶		**1038.34PZ**	**1038.34P**	**1038.12PZ**	**1038.12P**	23	48.5	4
050. ▶		**1050.34PZ**	**1050.34P**	**1050.12PZ**	**1050.12P**	35	60.5	5
063. ▶		**105. 34PZ**	**105. 34P**	**105. 12PZ**	**105. 12P**	48	75.0	6
080. ▶		**106. 34PZ**	**106. 34P**	**106. 12PZ**	**106. 12P**	65	92.0	8
100. ▶		**107. 34PZ**	**107. 34P**	**107. 12PZ**	**107. 12P**	85	112.0	10

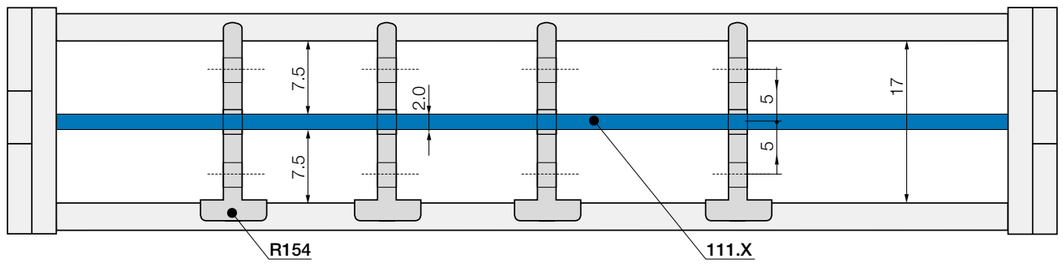


Possible orientations for assembled mounting brackets. To receive brackets **pre-fitted** please add index **.A1**, **.A2**, **.A3** or **.A4**.

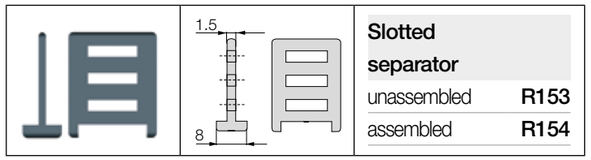
1025.34PZ.A1 **Order example**

- **.A** ... to indicate option with brackets pre-fitted
- With integrated strain relief tiewrap plates
- Full set
- Series

Interior separation



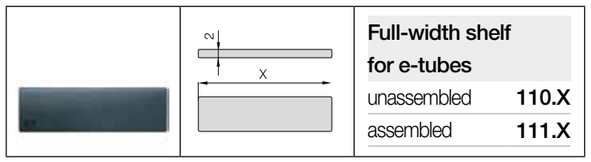
No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-chain® link!



Slotted separator	
unassembled	**R153**
assembled	**R154**

Slotted separator

Vertical separation in e-tubes. The slot allows basic vertical/ horizontal shelving arrangements.



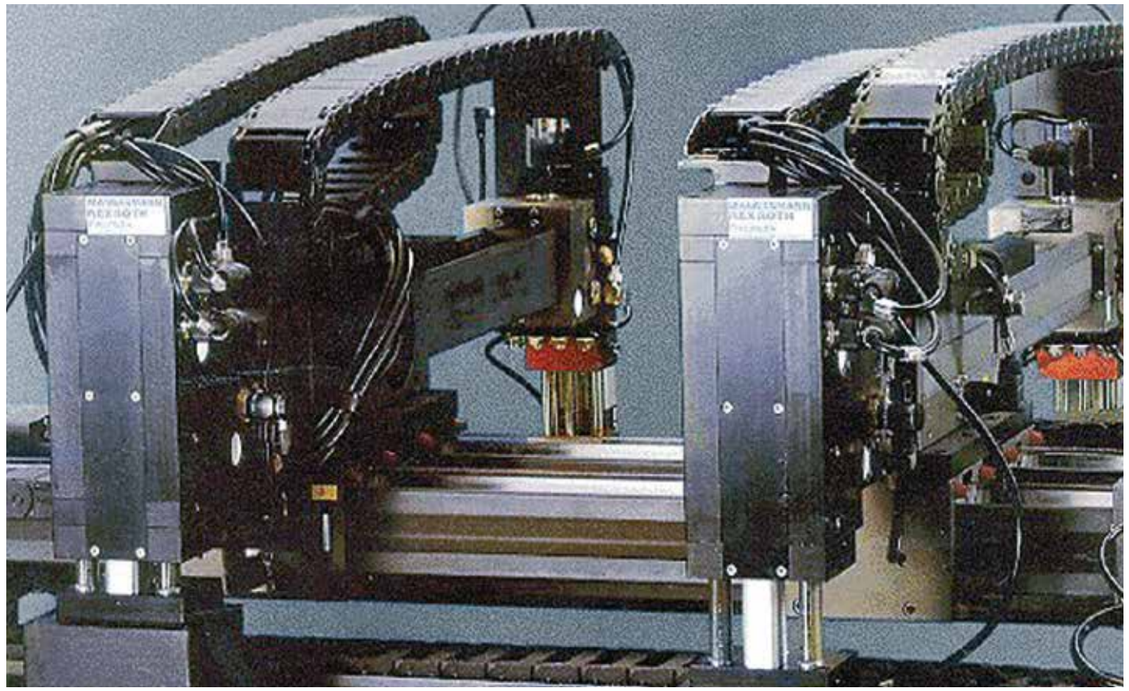
Full-width shelf for e-tubes	
unassembled	**110.X**
assembled	**111.X**

Full-width shelf

This option is for applications with many small cables with similar diameters. For full width separation.

Full-width shelves
Width = X [mm]

X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
025	**110.25**	**111.25**	063	**110.63**	**111.63**
038	**110.38**	**111.38**	080	**110.80**	**111.80**



Series 15 on a pick and place machine. Acceleration: 100 m/s², yet smooth running

zipper | e-chains® | Series 17 | Product range

32

Fast opening, large inner height

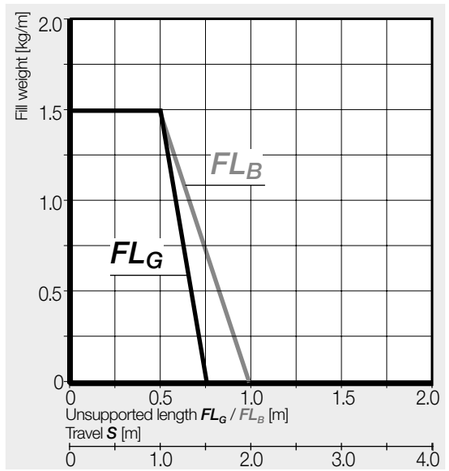


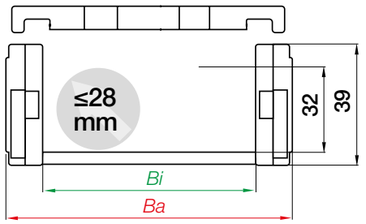
e-chains® | Series 17 | Crossbars on a strip - zip-open along the outer radius

Part No. e-chains®	Bi [mm]	Ba [mm]	R Available bend radii [mm]	Weight [kg/m]
17. 1 .R.0	15	25.5	| 063 | 075 | 100 | 125 |	≈ 0.52
17. 2 .R.0	25	35.5	| 063 | 075 | 100 | 125 |	≈ 0.59
17. 3 .R.0	38	48.5	| 063 | 075 | 100 | 125 |	≈ 0.65
17. 4 .R.0	50	60.5	| 063 | 075 | 100 | 125 |	≈ 0.70
17. 5 .R.0	63	76	| 063 | 075 | 100 | 125 |	≈ 0.83
17. 6 .R.0	80	93	| 063 | 075 | 100 | 125 |	≈ 0.92
17. 7 .R.0	100	113	| 063 | 075 | 100 | 125 |	≈ 1.06

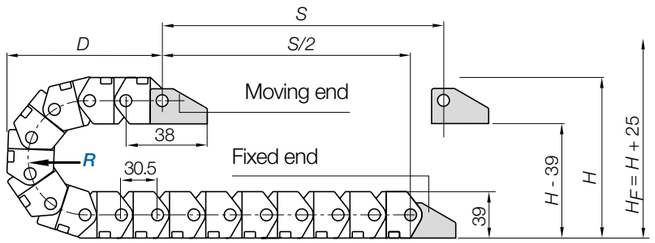
Complete Part No. with required radius (*R*). Example: **17.2.075.0**

Installation dimensions





Inner height [mm]	32
Pitch [mm/link]	30.5
Links/m	33
corresponds to [mm]	1,006.5
e-chain® length	$L_K = S/2 + K$

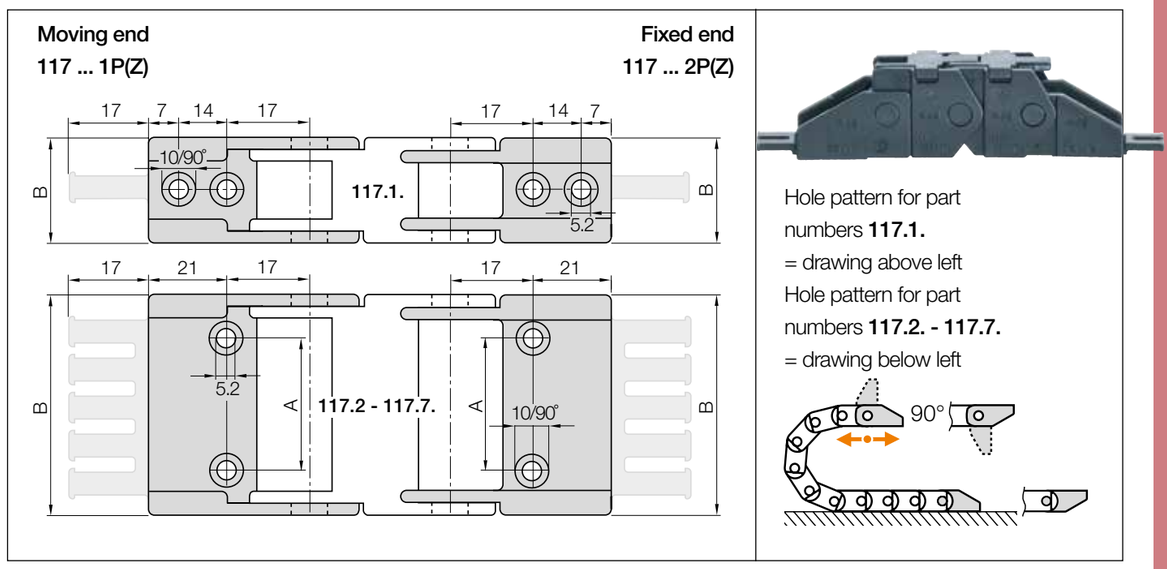


R	063	075	100	125
H	165	189	239	289
D	128	140	165	190
K	260	300	380	455

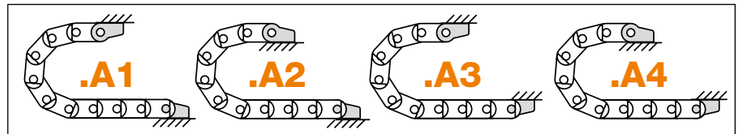
The required clearance height: $H_F = H + 25$mm (with 1.5kg/m fill weight)

zipper | e-chains® | Series 17 | Accessories

Mounting brackets, polymer one-piece | Locking



Width index	Standard	Part No. full set with tiewrap plates	Part No. full set without tiewrap plates	A [mm]	B [mm]	Number of teeth
1. ▶		117.1.12PZ	117.1.12P	–	25.5	1
2. ▶		117.2.12PZ	117.2.12P	12	35.5	3
3. ▶		117.3.12PZ	117.3.12P	25	48.5	4
4. ▶		117.4.12PZ	117.4.12P	37	60.5	5
5. ▶		117.5.12PZ	117.5.12P	48	76	6
6. ▶		117.6.12PZ	117.6.12P	65	93	8
7. ▶		117.7.12PZ	117.7.12P	85	113	10

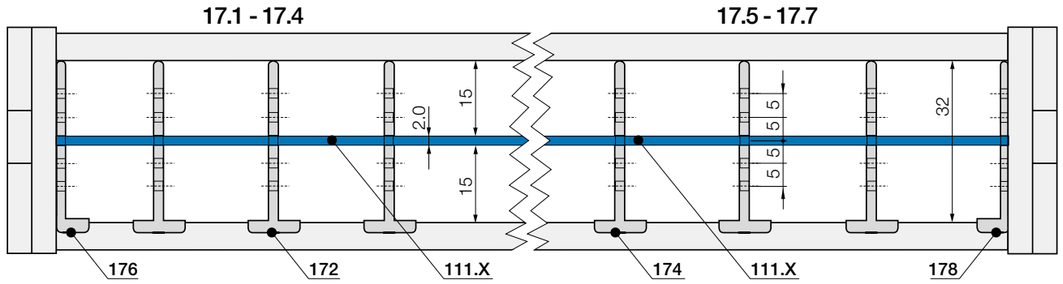


Possible orientations for assembled mounting brackets. To receive brackets **pre-fitted** please add index **.A1**, **.A2**, **.A3** or **.A4**.

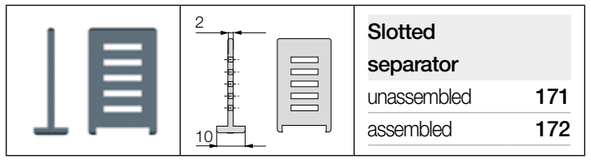
117.2.12PZ.A1 **Order example**

- **.A** ... to indicate option with brackets pre-fitted
- With integrated strain relief tiewrap plates
- Full set
- Series

Interior separation



No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-chain® link!

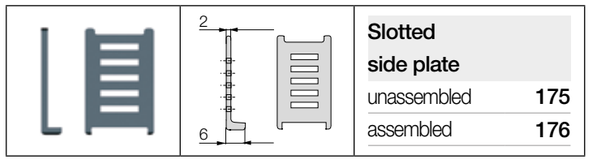


Slotted separator	
unassembled	**171**
assembled	**172**

For width index 17.1 up to 17.4

Slotted separator

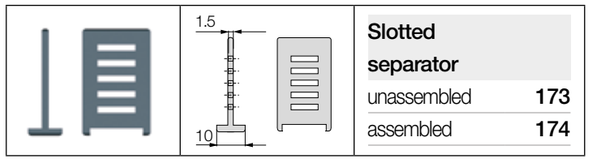
Vertical separation in e-chains®. The slot allows basic vertical/ horizontal shelving arrangements.



Slotted side plate	
unassembled	**175**
assembled	**176**

Slotted side plate

Allows modular shelving right up to the side links. No clearance required!

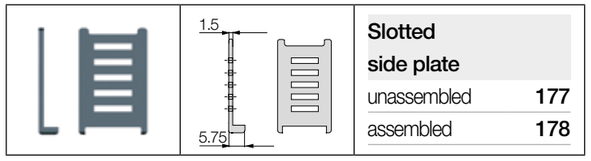


Slotted separator	
unassembled	**173**
assembled	**174**

For width index 17.5 up to 17.7

Slotted separator

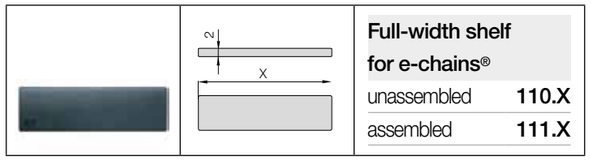
Vertical separation in e-chains®. The slot allows basic vertical/ horizontal shelving arrangements.



Slotted side plate	
unassembled	**177**
assembled	**178**

Slotted side plate

Allows modular shelving right up to the side links. No clearance required!



Full-width shelf for e-chains®	
unassembled	**110.X**
assembled	**111.X**

For all widths

Full-width shelf

This option is for applications with many small cables with similar diameters. For full width separation.

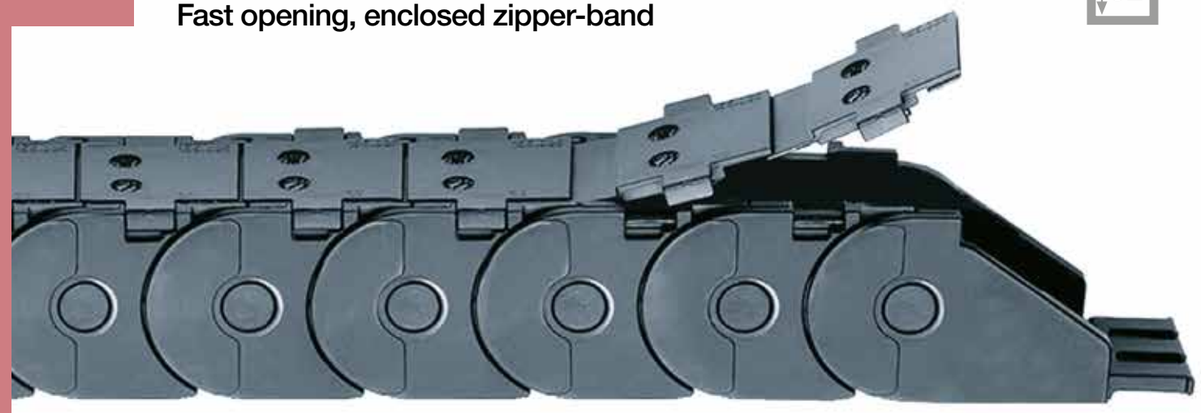
Full-width shelves
Width = X [mm]

X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
015	**110.15**	**111.15**	050	**110.50**	**111.50**	100	**110.100**	**111.100**
025	**110.25**	**111.25**	063	**110.63**	**111.63**			
038	**110.38**	**111.38**	080	**110.80**	**111.80**			

zipper | **e-tubes** | Series R17 | Product range

32

Fast opening, enclosed zipper-band

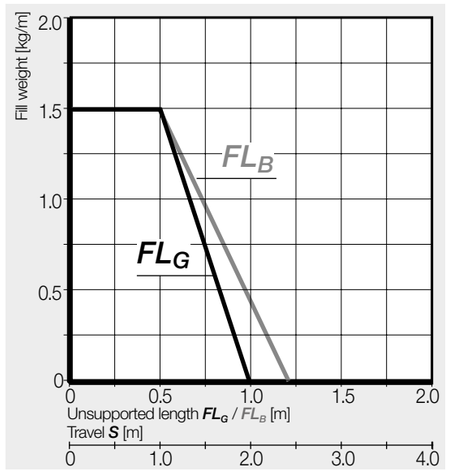


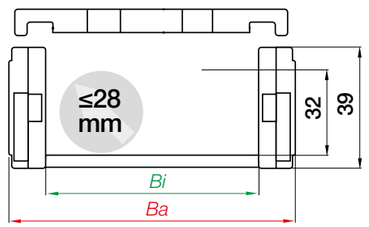
e-tube | Series R17 | Lids on a strip - zip-open along the outer radius

Part No.	*Bi*	*Ba*	*R* Available bend radii	Weight
e-tubes	[mm]	[mm]	[mm]	[kg/m]
R17.015 .*R*.0	15	26	| 063 | 075 | 100 | 125 |	≈ 0.57
R17.025 .*R*.0	25	36	| 063 | 075 | 100 | 125 |	≈ 0.64
R17.063 .*R*.0	63	74	| 063 | 075 | 100 | 125 |	≈ 0.88

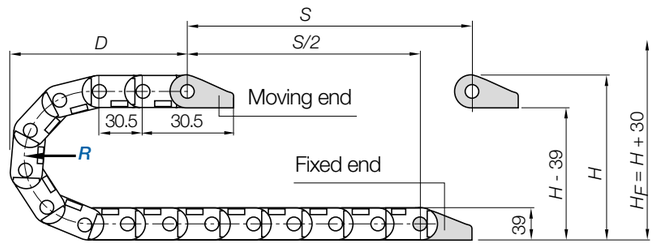
Complete Part No. with required radius (*R*). Example: **R17.015.063.0**

Installation dimensions





Inner height [mm]	32
Pitch [mm/link]	30.5
Links/m	33
corresponds to [mm]	1,006.5
e-chain® length	$L_K = S/2 + K$

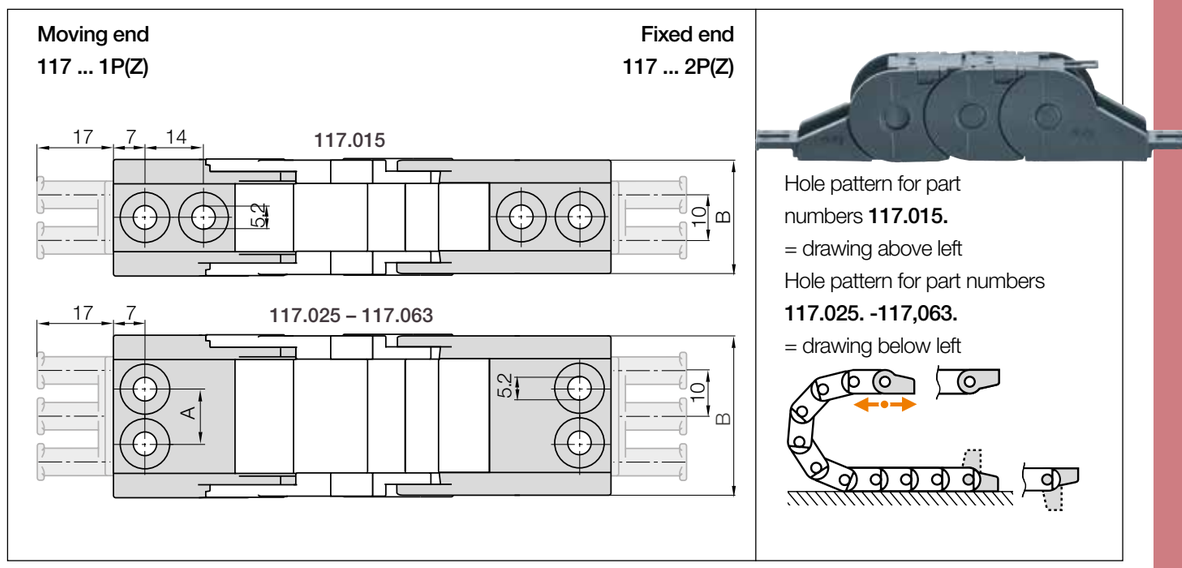


R	063	075	100	125
H	165	189	239	289
D	128	140	165	190
K	260	300	380	455

The required clearance height: $H_F = H + 30$mm (with 1.0kg/m fill weight)

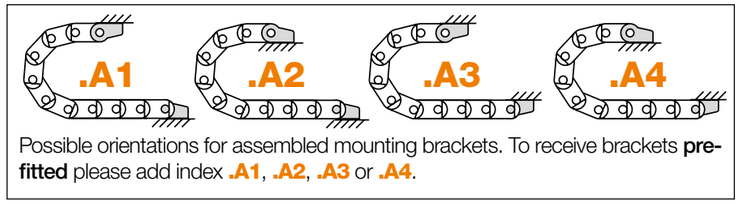
zipper | **e-tubes** | Series R17 | Accessories

Mounting brackets, polymer one-piece | Locking



Hole pattern for part numbers **117.015.**
= drawing above left
Hole pattern for part numbers **117.025. -117,063.**
= drawing below left

Width index	Standard	Part No. full set **with tiewrap plates**	Part No. full set **without tiewrap plates**	A [mm]	B [mm]	Number of teeth
015. ▶		**117.015.12PZ**	**117.015.12P**	–	25.7	2
025. ▶		**117.025.12PZ**	**117.025.12P**	12	35.7	3
063. ▶		**117.063.12PZ**	**117.063.12P**	48	73.7	6

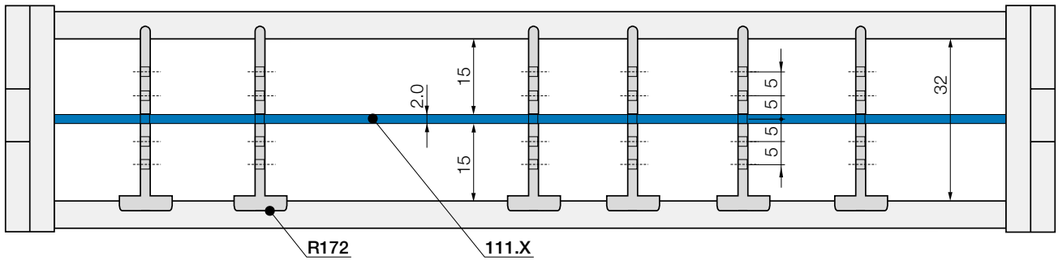


Possible orientations for assembled mounting brackets. To receive brackets **pre-fitted** please add index **.A1**, **.A2**, **.A3** or **.A4**.

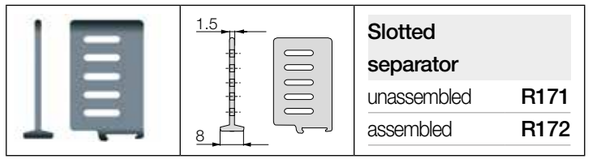
117.015.12PZ.A1 **Order example**

- **.A** ... to indicate option with brackets pre-fitted
- With integrated strain relief tiewrap plates
- Full set
- Series

Interior separation



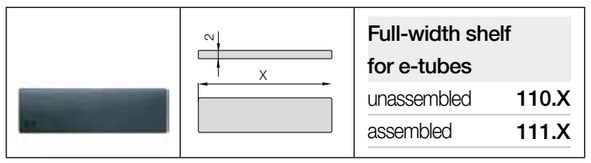
No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-chain® link!



Slotted separator	
unassembled	**R171**
assembled	**R172**

Slotted separator

Vertical separation in e-tubes. The slot allows basic vertical/ horizontal shelving arrangements.



Full-width shelf for e-tubes	
unassembled	**110.X**
assembled	**111.X**

Full-width shelf

This option is for applications with many small cables with similar diameters. For full width separation.

Full-width shelves
Width = X [mm]

X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
015	**110.15**	**111.15**	063	**110.63**	**111.63**
025	**110.25**	**111.25**			



E2 micro

Smallest inner heights and bend radii

Advantages of the E2 micro series:

- For the smallest applications
- Lightweight and cost-effective
- Quiet operation due to small pitch
- Ideal for applications with low inertia
- Variety of options - E2 micro as non-openable or openable along the inner or outer radius

When to use another e-chain® series:

- When openable crossbars are required
  ► **E2.1 micro, page 320**
  ► **zipper, page 226**
- When easy filling with connectorised cables is required
  ► **easy chain®, page 198**



Universal connection: mounting bracket with strain relief option

Cost-efficient: very lightweight, low price

Smooth Design: dirt-repellent outer contour

Smooth running: small pitch for low-noise, smooth running

Cost-effective: one-piece design, non-openable

Series 074 /094: moulded crossbar, openable along the inner radius with film hinge

Series B07/B09: openable along the outer radius

Smallest inner heights and bend radii - E2 micro

E2 micro e-chains® are very small, one- and two-piece (B07/B09) e-chains® with low weight, making them ideal for highly dynamic applications. E2 micro e-chains® are optimal for the smallest installation spaces, and are available in many versions. igus® also offers a range of accessories and fixation options. Upgrades of the openable versions are available for many types; different types are interchangeable and can therefore be used as, spare parts for existing applications, for example.

Typical industries and applications

● Models (micro e-chain®) ● Automatic doors ● Vehicles ● Measuring machines ● Electronic engineering ● Handling ● Pick und place robots ● General machinery, etc.

Clean Room — Cleanroom test upon request

UL94-V2 classification - for series 03, 074, 094 (UL94-V0 upon request)

iF product design award — 1989 igus® series 05

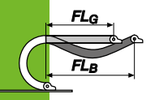
Series	Inner height *hi* [mm]	Inner width *Bi* [mm]	Outer width *Ba* [mm]	Outer height *ha* [mm]	Bend radius *R* [mm]	Unsupported length ≤ [m]	Page
 **E2 micro - one-piece design** non-openable							
03	5	5 - 10	8.70 - 13.7	8	010 - 028	0.40	**266**
04	7	7 - 30	12 - 35	10	015 - 048	0.50	**268**
05	10	6 - 64	10 - 68	12	018 - 038	0.55	**270**
045	10.3	6 - 64	12 - 70	12.5	018 - 083	0.50	**272**
06 [1]	10.5	6 - 64	12.5 - 71	15	018 - 038	0.60	**276**
08 [2]	15	10 - 50	18.2 58.2	19.3	025 - 048	1.00	**286**
 **E2 micro - one-piece design** openable along the inner radius with film hinge							
074	11.5	10 - 20	16.3 - 26.3	15	018 - 038	0.55	**278**
094	15.6	10 - 30	18.2 - 38.2	19.3	028 - 048	1.00	**280**
 **E2 micro - two-piece design** openable along the outer radius							
B07 [3]	10.3	16 - 40	22.5 - 47	15	018 - 038	0.55	**274**
B09 [4]	14.3	16 - 40	24.2 - 48.2	19.3	028 - 048	1.00	**282**

For new designs we recommend E2.1 system, series: 1) E2C.10, 2) E2C.15, 3) E2.10, 4) E2.15 ▶ From page 320

Available from stock. Ready to ship in 24 - 48hrs.*

*The delivery times indicated correspond to the average time until the ordered goods are dispatched.

Technical data



Speed gliding / acceleration gliding	≤ 3 [m/s] / ≤ 10 [m/s²]
Speed FL_G / acceleration FL_G	≤ 20 [m/s] / ≤ 200 [m/s²]
Speed FL_B / acceleration FL_B	≤ 3 [m/s] / ≤ 6 [m/s²]
Material - permitted temperature °C, igumid G	-40°C / +120°C
Material - permitted temperature °C, igumid NB (only series 03, 074, 094)	-40°C / +80°C
Material lower part - permitted temperature °C, igumid G (only series B07, B09)	-40°C / +120°C
Material crossbar - permitted temperature °C, igumid NB (only series B07, B09)	-40°C / +80°C
Flammability class	igumid G = VDE 0304 IIC UL94-HB / igumid NB = VDE 0304 IIC UL94-V2

FL_G = unsupported with straight upper run FL_B = unsupported with permitted sag

Installation types, maximum travels

Series	Unsupported	Vertical hanging	Vertical standing	Side mounted unsupported	Rotary	Zig-zag
03	≤ 0.80m	upon request	upon request	upon request	with rework	upon request
04	≤ 1.00m	upon request	upon request	upon request	with rework	upon request
05	≤ 1.10m	upon request	upon request	upon request	with rework	upon request
045	≤ 1.00m	upon request	upon request	upon request	with rework	upon request
B07 3)	≤ 1.10m	upon request	upon request	upon request	with rework	upon request
06 1)	≤ 1.20m	upon request	upon request	upon request	with rework	upon request
074	≤ 1.10m	upon request	upon request	upon request	with rework	upon request
094	≤ 2.00m	upon request	upon request	upon request	with rework	upon request
B09 4)	≤ 2.00m	upon request	upon request	upon request	with rework	upon request
08 2)	≤ 2.00m	upon request	upon request	upon request	with rework	upon request

For new designs we recommend E2.1 system, series: 1) E2C.10, 2) E2C.15, 3) E2.10, 4) E2.15 ▶ From page 320

Options with order keys | Examples based on series 08

	Standard	*NC version - (No Camber) without pretension*	*Reverse Bend Radius (RBR) for circular movements*	*ESD - electrically conductive material*
	Part No. Standard	Part No. NC version	Part No. *RBR*	Part No. igumid ESD
	08.50.*R*.0	08.50.*R*.0.NC	08.50.*R1/R2*.0	08.50.*R*.0.ESD
	Ready to ship* in 24 - 48 hrs.	Delivery time* 2-5 business days	Delivery time* several series from stock	Delivery time* 10 business days

*The delivery times indicated correspond to the average time until the ordered goods are dispatched.

Order example | Order key and colour examples | Examples based on series 08

Order example for complete e-chain® (1.0m), colour black, with mounting brackets and interior separation:

e-chain® (1.0m)	Please indicate e-chain® length or number of links: 1.0m or 50 links	08.50.038.0
+ Mounting brackets	1 set (with tiewrap plates)	080.50.12PZ
Interior separation	with 2 separators assembled every 2nd link	2 x B09.2.1
Order text:		1 m 08.50.038.0 + 080.50.12PZ + 2 x B09.2.1

Order key

One-piece, non-openable **08.50.038.0**

- Series / Type
- Width index (depends on *Bi*)
- Bend radius *R*
- Colour index (standard black)

Order index for colour options

Colour	Order index		Colour	Order index	
Black	Standard	.0	Orange	Special colour	.2
Silver-grey	Special colour	.31	Yellow	Special colour	.4
White	Special colour	.1	Light grey	Special colour	.14
Grey-white	Special colour	.1S			

Black e-chains® available from stock.

Above special colours upon request.

E2 micro | Series 03 | Product range

Smallest applications

5

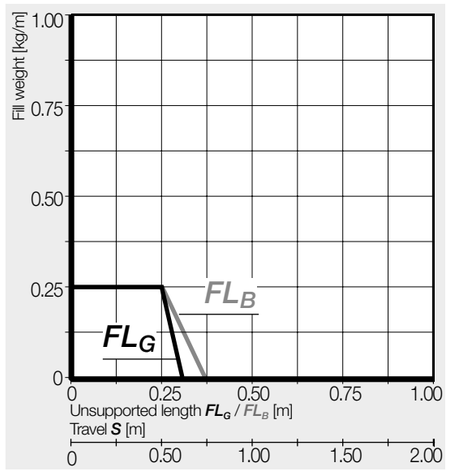


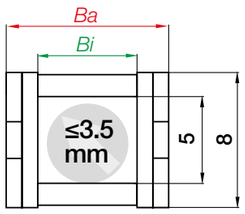
e-chains® | Series 03 | One-piece, non-openable

Part No. e-chains®	Bi [mm]	Ba [mm]	R Available bend radii [mm]	Weight [kg/m]
03. 05 .R.0	5	8.7	| 010 | 012 | 015 | 018 | 028 |	≈ 0.04
03. 07 .R.0	7	10.7	| 010 | 012 | 015 | 018 | 028 |	≈ 0.05
03. 10 .R.0	10	13.7	| 010 | 012 | 015 | 018 | 028 |	≈ 0.06

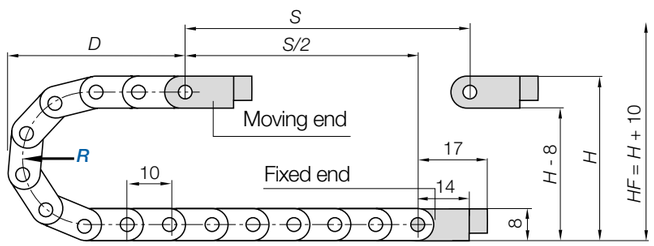
Complete Part No. with required radius (*R*). Example: **03.05.028.0**

Installation dimensions





Inner height [mm]	5
Pitch [mm/link]	10
Links/m	100
corresponds to [mm]	1,000
e-chain® length	$L_K = S/2 + K$

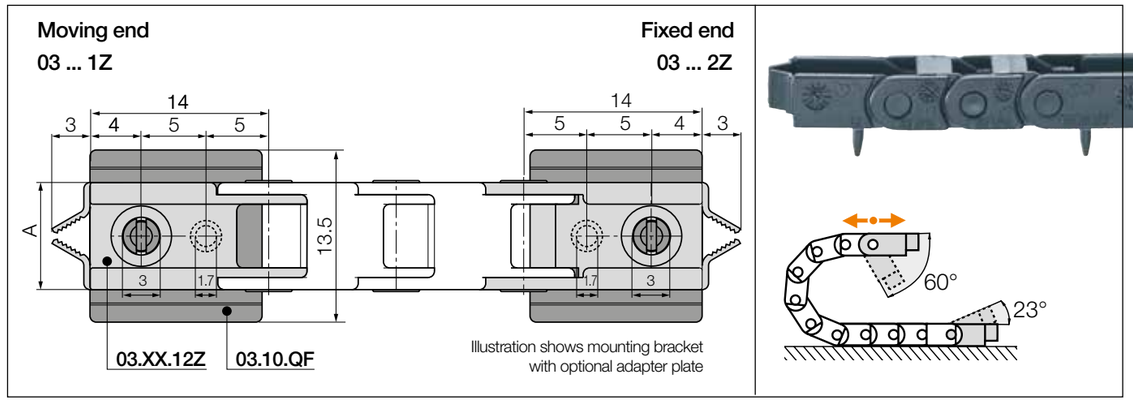


R	010	012	015	018	028
H	28	32	38	44	64
D	29	31	34	37	47
K	55	60	70	80	110

The required clearance height: $H_F = H + 10mm$ (with 0.1kg/m fill weight)

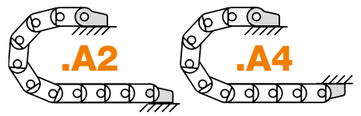
E2 micro | Series 03 | Accessories

Mounting brackets, polymer one-piece | Pivoting



Width index		Part No. full set	A [mm]
05.	▶	03.05. 12Z	8.7
07.	▶	03.07. 12Z	10.7
10.	▶	03.10. 12Z	13.7

Material mounting bracket - igumid G, temperature: -40° up to +120°C, VDE 0304 IIC UL94-HB



Possible orientations for assembled mounting brackets. To receive brackets **pre-fitted** please add index **.A2** or **.A4**.

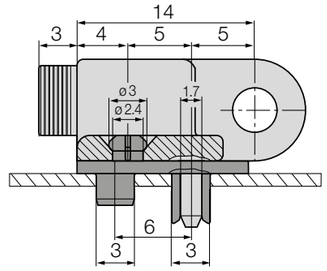
03.05.12Z.A2

Order example

.A ... to indicate option with brackets pre-fitted

Full set

Series



Adapter plate for rapid installation for all sizes, Part No. 03.10.QF

The adapter has scored lines so that it can be adapted to the respective e-chain® width. It is not always necessary when attaching the mounting brackets. The mounting brackets can also be screwed on without the adapter plate.



Optional adapter plate

E2 micro | Series 04 | Product range

Lightweight

7

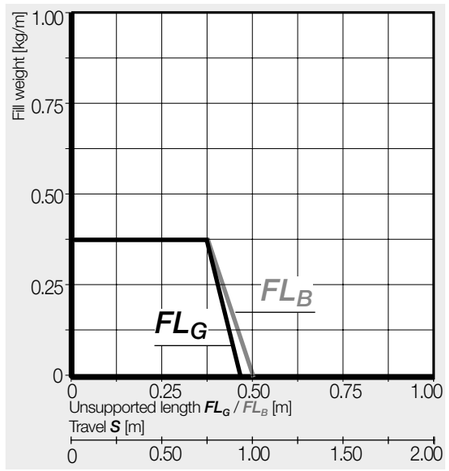


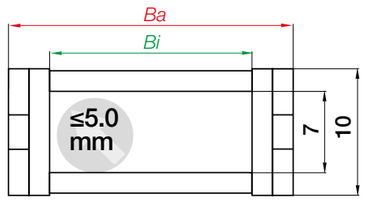
e-chains® | Series 04 | One-piece, non-openable

Part No. e-chains®	Bi [mm]	Ba [mm]	R Available bend radii [mm]	Weight [kg/m]
04.07.R.0	7	12	| 015 | 018 | 028 | 038 | 048 |	≈ 0.07
04.10.R.0	10	15	| 015 | 018 | 028 | 038 | 048 |	≈ 0.08
04.16.R.0	16	21	| 015 | 018 | 028 | 038 | 048 |	≈ 0.09
04.20.R.0	20	25	| 015 | 018 | 028 | 038 | 048 |	≈ 0.10
04.30.R.0	30	35	| 015 | 018 | 028 | 038 | 048 |	≈ 0.11

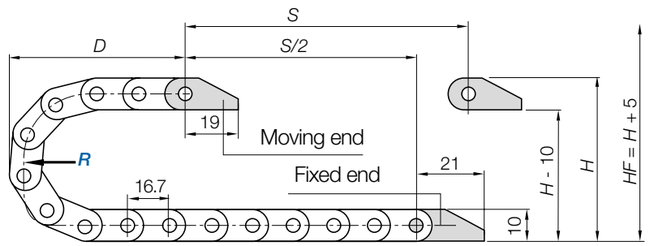
Complete Part No. with required radius (R). Example: **04.10.028.0**

Installation dimensions





Inner height [mm]	7
Pitch [mm/link]	16.7
Links/m	60
corresponds to [mm]	1,002
e-chain® length	$L_K = S/2 + K$

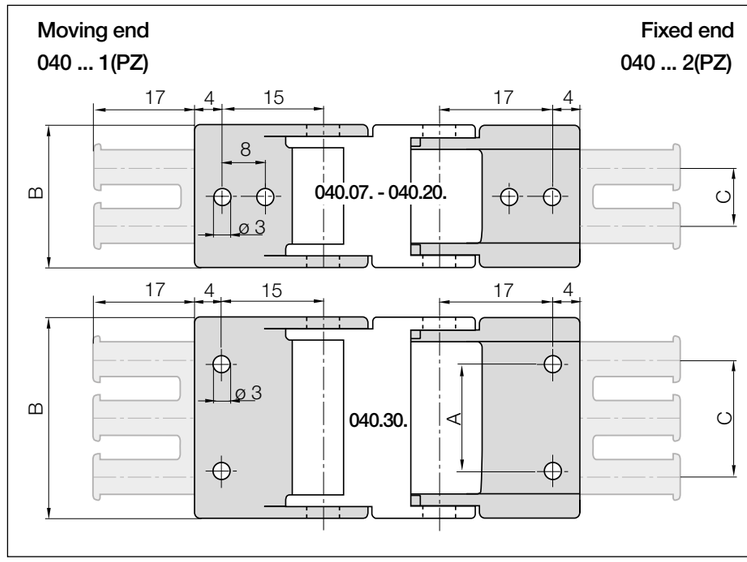


R	015	018	028	038	048
H	40	46	66	86	106
D	45	48	58	68	78
K	85	90	125	155	185

The required clearance height: $H_F = H + 5$mm (with 0.1kg/m fill weight)

E2 micro | Series 04 | Accessories

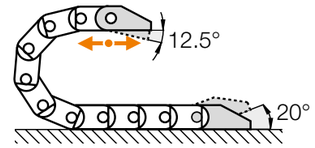
Mounting brackets, polymer one-piece | Pivoting





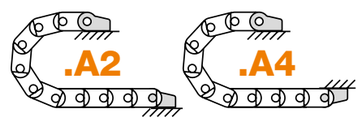
Hole pattern for part numbers **040.07. - 040.20.** = drawing above left

Hole pattern for part numbers **040.30.** = drawing below left



Width index	Standard	Part No. full set with tiewrap plates	Part No. full set without tiewrap plates	A [mm]	B [mm]	C [mm]	Number of teeth
07. ▶		040.07.12PZ	040.07.12	–	12	–	1
10. ▶		040.10.12PZ	040.10.12	–	15	–	1
16. ▶		040.16.12PZ	040.16.12	–	21	10	2
20. ▶		040.20.12PZ	040.20.12	–	25	10	2
30. ▶		040.30.12PZ	040.30.12	22	35	20	3

Material mounting bracket - igumid G, temperature: -40° up to +120°C, VDE 0304 IIC UL94-HB



Possible orientations for assembled mounting brackets. To receive brackets **pre-fitted** please add index **.A2** or **.A4**.

040.07.12PZ.A2 Order example

- **.A** ... to indicate option with brackets pre-fitted
- With integrated strain relief tiewrap plates
- Full set
- Series

E2 micro | Series 05 | Product range

Low weight, high dynamics, cost-effective

10

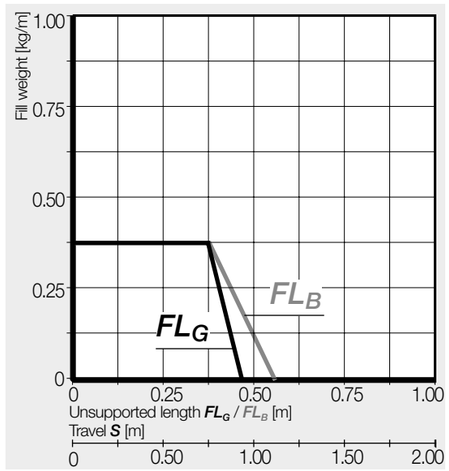


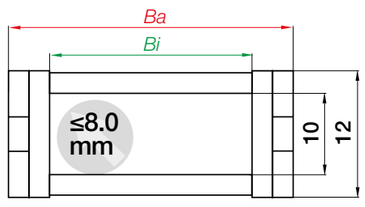
e-chains® | Series 05 | One-piece, non-openable

Part No. e-chains®	Bi [mm]	Ba [mm]	R Available bend radii [mm]	Weight [kg/m]
05. 06 .R.0	6	10	| 018 | 028 | 038 |	≈ 0.06
05. 10 .R.0	10	14	| 018 | 028 | 038 |	≈ 0.07
05. 16 .R.0	16	20	| 018 | 028 | 038 |	≈ 0.07
05. 20 .R.0	20	24	| 018 | 028 | 038 |	≈ 0.08
05. 30 .R.0	30	34	| 018 | 028 | 038 |	≈ 0.09
05. 64 .R.0	64	68	| 018 | 028 | 038 |	≈ 0.19

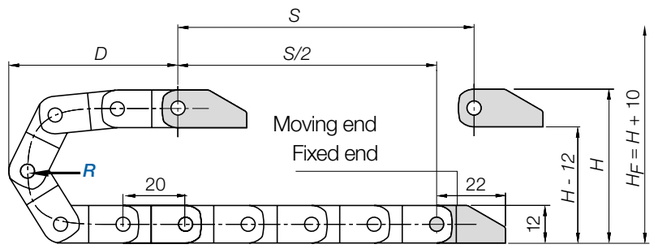
Complete Part No. with required radius (*R*). Example: **05.10.028.0**

Installation dimensions





Inner height [mm]	10
Pitch [mm/link]	20
Links/m	50
corresponds to [mm]	1,000
e-chain® length	$L_K = S/2 + K$

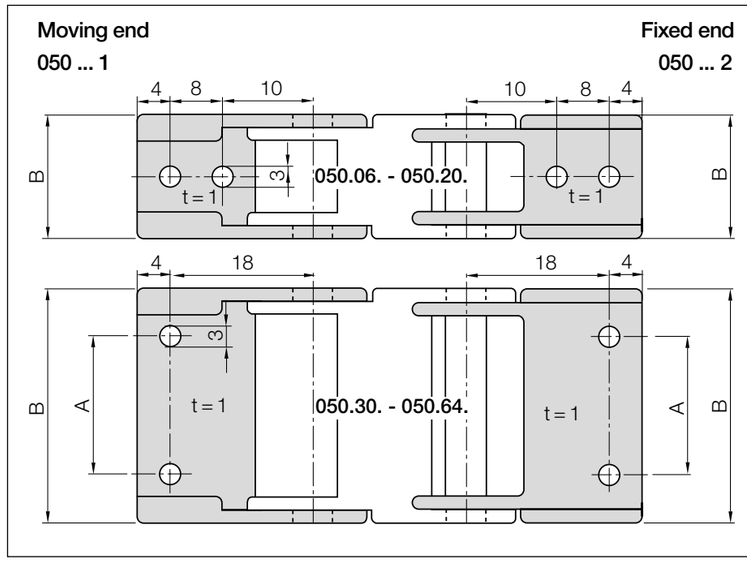


R	018	028	038
H	48	68	88
D	54	64	74
K	100	130	160

The required clearance height: $H_F = H + 10mm$ (with 0.2kg/m fill weight)

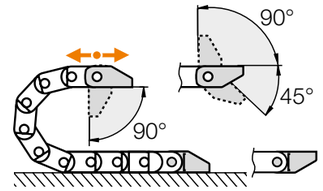
E2 micro | Series 05 | Accessories

Mounting brackets, polymer one-piece | One end pivoting



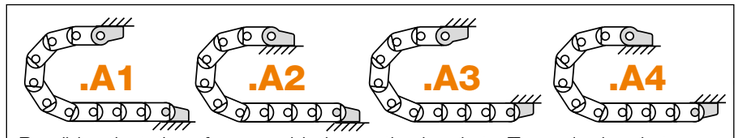


Hole pattern for part numbers
050.06. - 050.20.
= drawing above left
Hole pattern for part numbers
050.30 - 050.64.
= drawing below left



Width index	Standard	Part No. full set without tiewrap plates	A [mm]	B [mm]	Number of teeth
06. ▶		050.06.12	–	10.7	–
10. ▶		050.10.12	–	14.7	–
16. ▶		050.16.12	–	20.7	–
20. ▶		050.20.12	–	24.7	–
30. ▶		050.30.12	22	34.7	–
64. ▶		050.64.12	56	68.7	–

Material mounting bracket - igumid G, temperature: -40° up to +120°C, VDE 0304 IIC UL94-HB



Possible orientations for assembled mounting brackets. To receive brackets **pre-fitted** please add index **.A1**, **.A2**, **.A3** or **.A4**.

050.10.12.A2

Order example
.A ... to indicate option with brackets pre-fitted
Full set
Series

E2 micro | Series 045 | Product range

Small pitch, smooth running

10,3



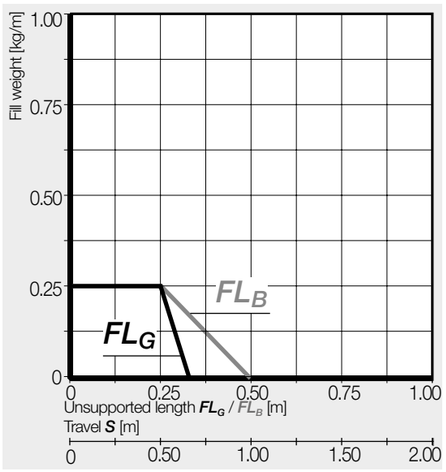
e-chains® | Series 045 | One-piece, non-openable

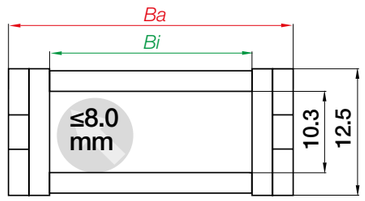
Part No. e-chains®	Bi [mm]	Ba [mm]	R Available bend radii [mm]	Weight [kg/m]
045.06 .R.0	6	12	| 018 | 028 | 038 | 083* |	≈ 0.09
045.10 .R.0	10	16	| 018 | 028 | 038 | 083* |	≈ 0.10
045.16 .R.0	16	22	| 018 | 028 | 038 | 083* |	≈ 0.11
045.20 .R.0	20	26	| 018 | 028 | 038 | 083 |	≈ 0.13
045.30 .R.0	30	36	| 018 | 028 | 038 | 083* |	≈ 0.16
045.64 .R.0	64	70	| 018 | 028 | 038 | 083* |	≈ 0.19

*Radius 083 only for Part No. 045.20. For other widths available upon request. Please consult igus® for delivery time.

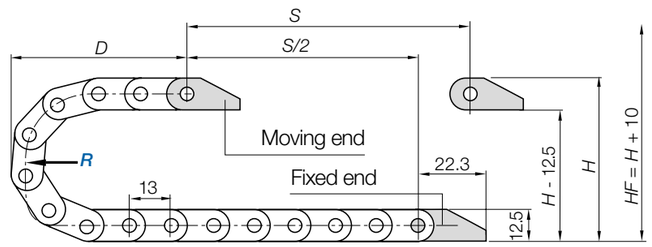
Complete Part No. with required radius (*R*). Example: **045.10.028.0**

Installation dimensions





Inner height [mm]	**10.3**
Pitch [mm/link]	**13**
Links/m	**77**
corresponds to [mm]	**1,001**
e-chain® length	$L_K = S/2 + K$



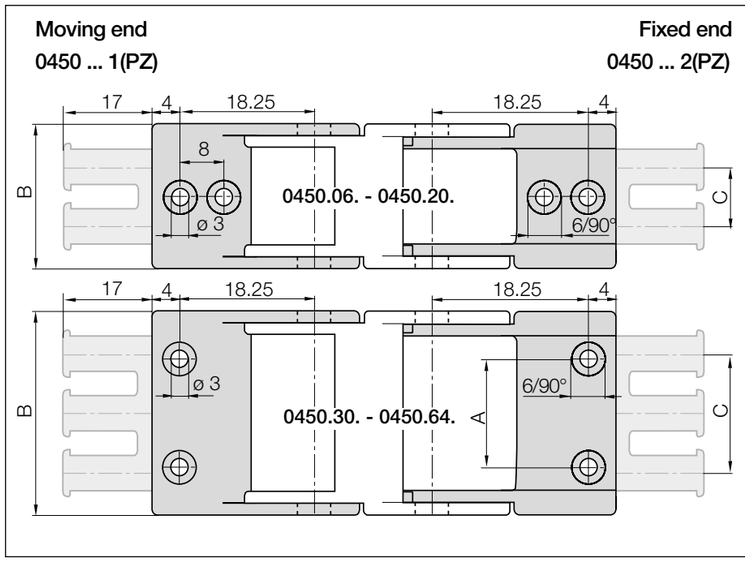
R	018	028	038	083
H	48.5	68.5	88.5	178.5
D	44	54	64	109
K	85	115	150	290

The required clearance height: $H_F = H + 10mm$ (with 0.2kg/m fill weight)

Radii for several widths available upon request (please see product range table above)

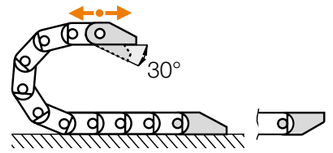
E2 micro | Series 045 | Accessories

Mounting brackets, polymer one-piece | One end pivoting





Hole pattern for part numbers
0450.06. - 0450.20.
= drawing above left
Hole pattern for part numbers
0450.30. - 0450.64.
= drawing below left

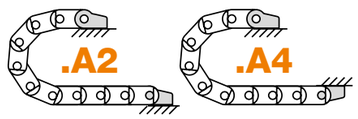


Width index	Standard	Part No. full set with tiewrap plates	Part No. full set without tiewrap plates	A [mm]	B [mm]	C [mm]	Number of teeth
06. ▶		0450.06.12PZ	0450.06.12	–	12	–	1
10. ▶		0450.10.12PZ	0450.10.12	–	16	–	1
16. ▶		0450.16.12PZ	0450.16.12	–	22	10	2
20. ▶		0450.20.12PZ	0450.20.12	–	26	10	2
30. ▶		0450.30.12PZ	0450.30.12	22	36	20	3
64. ▶		0450.64.12PZ	0450.64.12	56	70	50	6

Material mounting bracket - igumid G, temperature: -40° up to +120°C, VDE 0304 IIC UL94-HB

Mounting bracket with strain relief tiewrap plate has reductions of ø 3mm / ø 6mm 90°

Mounting bracket without strain relief tiewrap plate only has holes of ø 3mm



Possible orientations for assembled mounting brackets. To receive brackets **pre-fitted** please add index **.A2** or **.A4**.

0450.10.12PZ.A2 **Order example**

- **.A** ... to indicate option with brackets pre-fitted
- With integrated strain relief tiewrap plates
- Full set
- Series

E2 micro | Series B07 | Product range

Openable along the outer radius, cost-effective

10.3



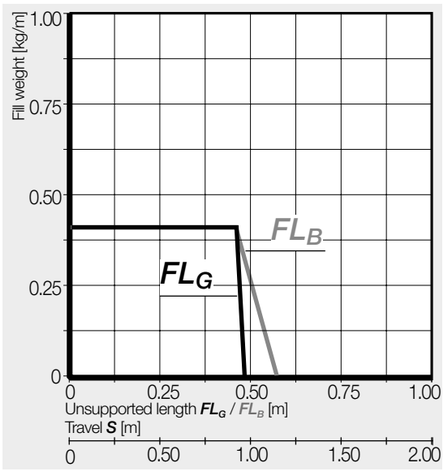
e-chains® | Series B07 | Openable along the outer radius, from one side

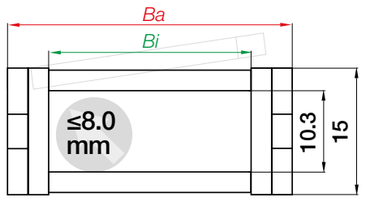
Part No. e-chains®	Bi [mm]	Ba [mm]	R Available bend radii [mm]	Weight [kg/m]
B07.16.R.0	16	22.5	| 018 | 028 | 038 |	≈ 0.16
B07.20.R.0	20	27	| 018 | 028 | 038 |	≈ 0.17
B07.30.R.0	30	37	| 018 | 028 | 038 |	≈ 0.20
B07.40.R.0	40	47	| 018 | 028 | 038 |	≈ 0.23

For new designs we recommend E2.1 system, series E2.10 ▶ From page 326

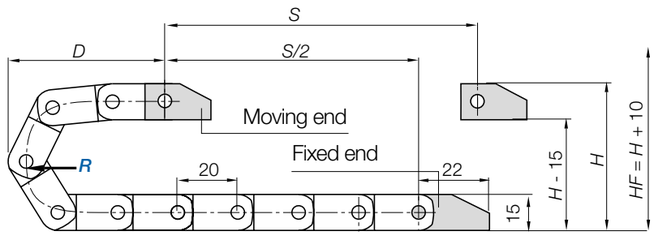
Complete Part No. with required radius (*R*). Example: B**07.40.038.0**

Installation dimensions





Inner height [mm]	10.3
Pitch [mm/link]	20
Links/m	50
corresponds to [mm]	1,000
e-chain® length	$L_K = S/2 + K$

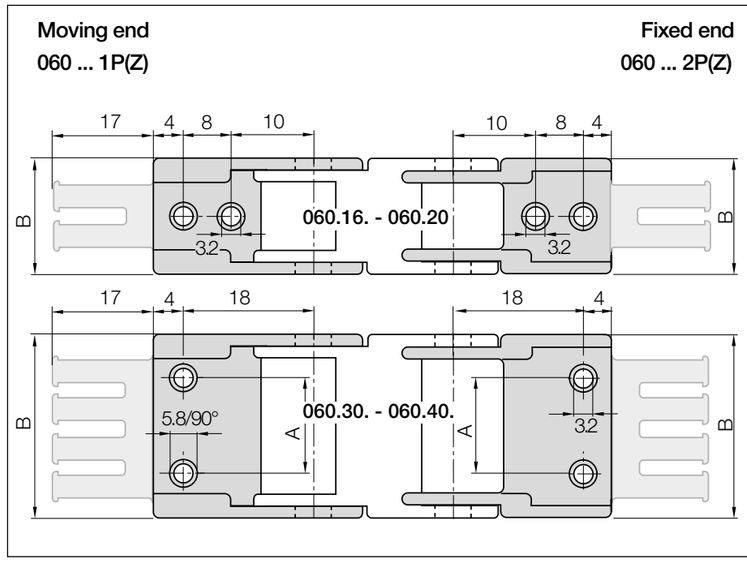


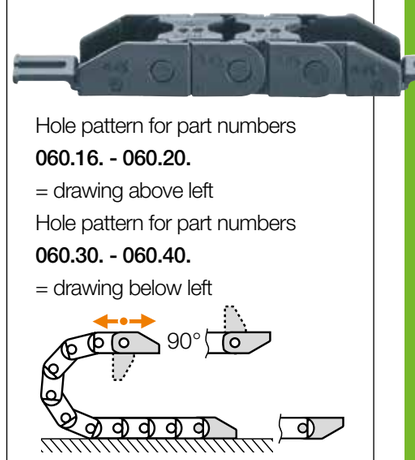
R	018	028	038
H	51	71	91
D	56	66	76
K	100	130	160

The required clearance height: $H_F = H + 10$mm (with 0.2kg/m fill weight)

E2 micro | Series B07 | Accessories

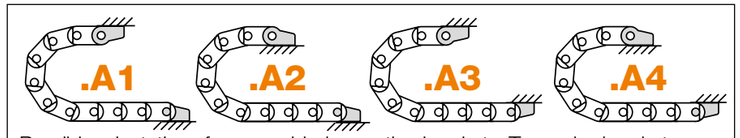
Mounting brackets, polymer one-piece | Locking





Width index	Standard	Part No. full set with tiewrap plates	Part No. full set without tiewrap plates	A [mm]	B [mm]	Number of teeth
16. ▶		060.16. 12PZ	060.16. 12P	–	22.5	2
20. ▶		060.20. 12PZ	060.20. 12P	–	27.0	2
30. ▶		060.30. 12PZ	060.30. 12P	22	37.0	3
40. ▶		060.40. 12PZ	060.40. 12P	32	47.0	4

Material mounting bracket - igumid G, temperature: -40° up to +120°C, VDE 0304 IIC UL94-HB



Possible orientations for assembled mounting brackets. To receive brackets **pre-fitted** please add index **.A1**, **.A2**, **.A3** or **.A4**.

060.40.12PZ.A1 **Order example**

- **.A** ... to indicate option with brackets pre-fitted
- With integrated strain relief tiewrap plates
- Full set
- Series

E2 micro | Series 06 | Product range

Low weight, high dynamics

10.5



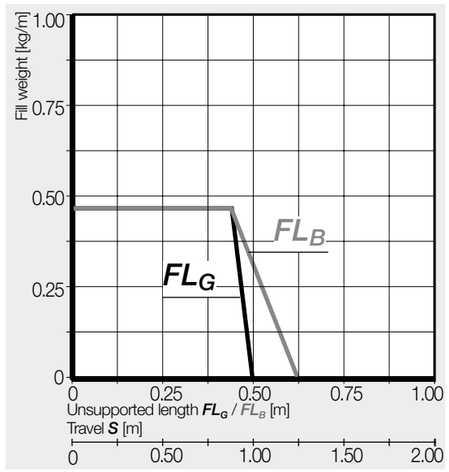
e-chains® | Series 06 | One-piece, non-openable

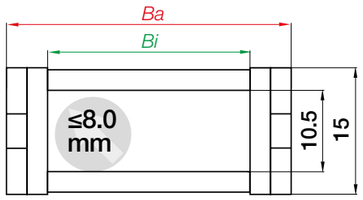
Part No. e-chains®	Bi [mm]	Ba [mm]	R Available bend radii [mm]	Weight [kg/m]
06.06.R.0	6	12.5	| 018 | 028 | 038 |	≈ 0.13
06.10.R.0	10	16.5	| 018 | 028 | 038 |	≈ 0.14
06.16.R.0	16	22.5	| 018 | 028 | 038 |	≈ 0.16
06.20.R.0	20	27	| 018 | 028 | 038 |	≈ 0.17
06.30.R.0	30	37	| 018 | 028 | 038 |	≈ 0.20
06.40.R.0	40	47	| 018 | 028 | 038 |	≈ 0.23
06.50.R.0	50	57	| 018 | 028 | 038 |	≈ 0.26
06.64.R.0	64	71	| 018 | 028 | 038 |	≈ 0.30

For new designs we recommend E2.1 system, series E2C.10 ▶ From page 326

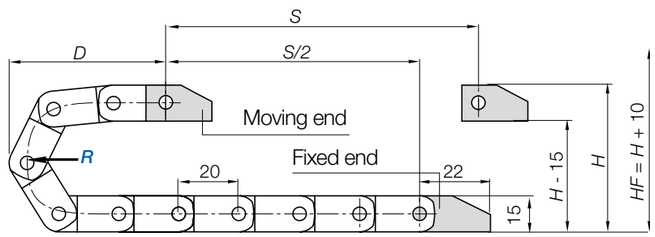
Complete Part No. with required radius (*R*). Example: **06.10.028.0**

Installation dimensions





Inner height [mm]	10.5
Pitch [mm/link]	20
Links/m	50
corresponds to [mm]	1,000
e-chain® length	$L_K = S/2 + K$

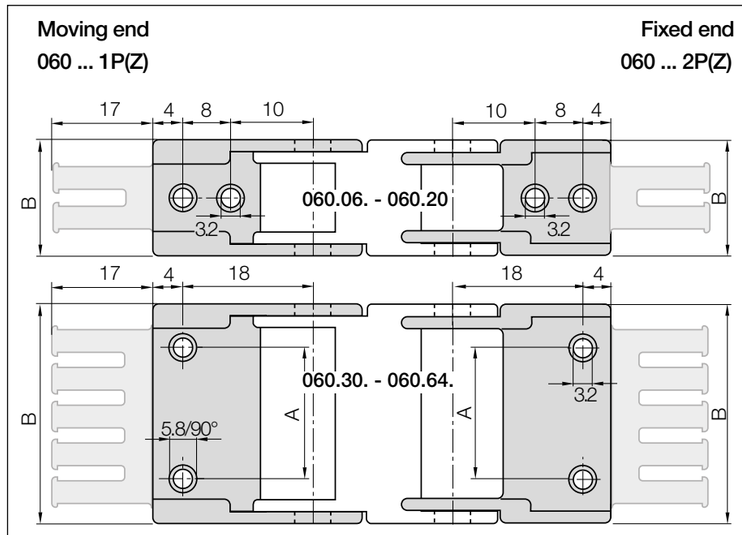


R	018	028	038
H	51	71	91
D	56	66	76
K	100	130	160

The required clearance height: $H_F = H + 10$mm (with 0.2kg/m fill weight)

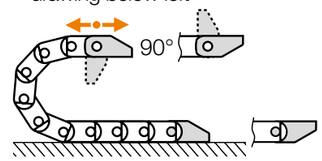
E2 micro | Series 06 | Accessories

Mounting brackets, polymer one-piece | Locking



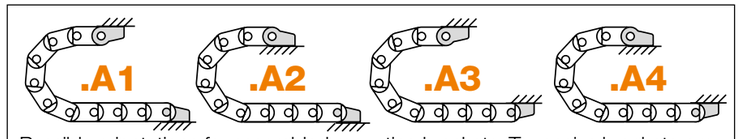


Hole pattern for part numbers
060.06. - 060.20.
= drawing above left
Hole pattern for part numbers
060.30. - 060.64.
= drawing below left



Width index	Standard	Part No. full set with tiewrap plates	Part No. full set without tiewrap plates	A [mm]	B [mm]	Number of teeth
06. ▶		060.06. 12PZ	060.06. 12P	–	12.5	1
10. ▶		060.10. 12PZ	060.10. 12P	–	16.5	1
16. ▶		060.16. 12PZ	060.16. 12P	–	22.5	2
20. ▶		060.20. 12PZ	060.20. 12P	–	27.0	2
30. ▶		060.30. 12PZ	060.30. 12P	22	37.0	3
40. ▶		060.40. 12PZ	060.40. 12P	32	47.0	4
50. ▶		060.50. 12PZ	060.50. 12P	42	57.0	5
64. ▶		060.64. 12PZ	060.64. 12P	56	71.0	6

Material mounting bracket - igumid G, temperature: -40° up to +120°C, VDE 0304 IIC UL94-HB



Possible orientations for assembled mounting brackets. To receive brackets **pre-fitted** please add index **.A1**, **.A2**, **.A3** or **.A4**.

060.10.12PZ.A1 **Order example**

- **.A** ... to indicate option with brackets pre-fitted
- With integrated strain relief tiewrap plates
- Full set
- Series

E2 micro | Series 074 | Product range

Openable along the inner radius, cost-effective

11,5



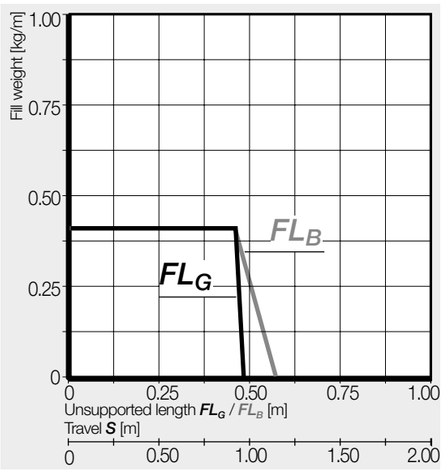
e-chains® | Series 074 | Openable along the inner radius from one side with film hinge

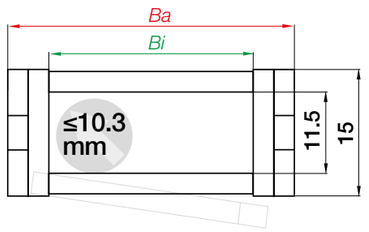
Part No. e-chains®	*Bi* [mm]	*Ba* [mm]	*R* Available bend radii [mm]	Weight [kg/m]
074. 06 .*R*.0	06	12.3	| 018 | 028 | 038 |	≈ 0.14
074. 10 .*R*.0	10	16.3	| 018 | 028 | 038 |	≈ 0.15
074. 16 .*R*.0	16	22.3	| 018 | 028 | 038 |	≈ 0.16
074. 20 .*R*.0	20	26.3	| 018 | 028 | 038 |	≈ 0.17
074. 30 .*R*.0**	30	36.3	| 018 | 028 | 038 |	≈ 0.20
074. 40 .*R*.0**	40	46.3	| 018 | 028 | 038 |	≈ 0.23

**Width available upon request. Please consult igus® for delivery time.

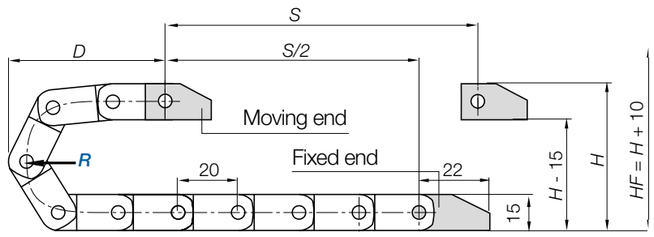
Complete Part No. with required radius (*R*). Example: **074.10.018.0**

Installation dimensions





Inner height [mm]	**11.5**
Pitch [mm/link]	**20**
Links/m	**50**
corresponds to [mm]	**1,000**
e-chain® length	$L_K = S/2 + K$

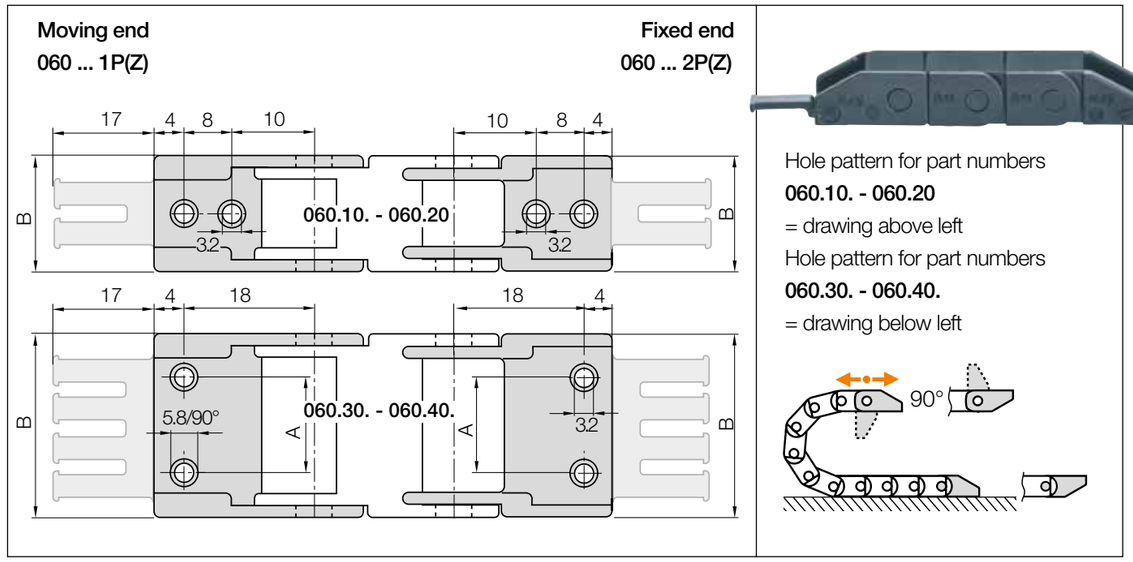


R	018	028	038
H	51	71	91
D	56	66	76
K	100	130	160

The required clearance height: $H_F = H + 10$mm (with 0.2kg/m fill weight)

E2 micro | Series 074 | Accessories

Mounting brackets, polymer one-piece | Locking

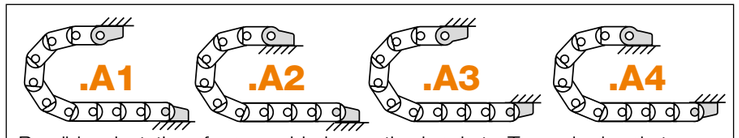


Hole pattern for part numbers
060.10. - 060.20
= drawing above left
Hole pattern for part numbers
060.30. - 060.40.
= drawing below left

Width index	Standard	Part No. full set with tiewrap plates	Part No. full set without tiewrap plates	A [mm]	B [mm]	Number of teeth
06. ▶		**060.06. 12PZ**	**060.06. 12P**	–	12.5	1
10. ▶		**060.10. 12PZ**	**060.10. 12P**	–	16.5	1
16. ▶		**060.16. 12PZ**	**060.16. 12P**	–	22.5	2
20. ▶		**060.20. 12PZ**	**060.20. 12P**	–	27	2
30. ▶		060.30. 12PZ**	060.30. 12P**	22	37	3
40. ▶		060.40. 12PZ**	060.40. 12P**	32	47	4

**Width available upon request. Please consult igus® for delivery time.

Material mounting bracket - igumid G, temperature: -40° up to +120°C, VDE 0304 IIC UL94-HB



Possible orientations for assembled mounting brackets. To receive brackets **pre-fitted** please add index **.A1**, **.A2**, **.A3** or **.A4**.

060.10.12PZ.A1 **Order example**

- **.A** ... to indicate option with brackets pre-fitted
- With integrated strain relief tiewrap plates
- Full set
- Series

E2 micro | Series 094 | Product range

Openable along the inner radius, cost-effective

15.6



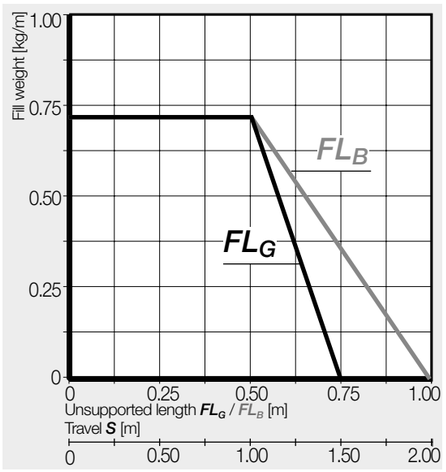
e-chains® | Series 094 | Openable along the inner radius from one side with film hinge

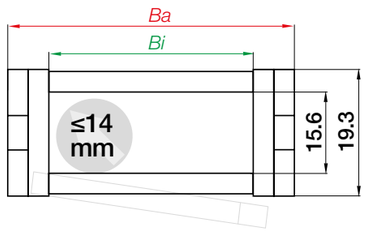
Part No. e-chains®	Bi [mm]	Ba [mm]	R Available bend radii [mm]	Weight [kg/m]
094.10.R.0	10	18.2	| 028 | 038 | 048 |	≈ 0.23
094.16.R.0	16	24.2	| 028 | 038 | 048 |	≈ 0.24
094.20.R.0	20	28.2	| 028 | 038 | 048 |	≈ 0.25
094.30.R.0	30	38.2	| 028 | 038 | 048 |	≈ 0.28
094.40.R.0**	40	48.2	| 028 | 038 | 048 |	≈ 0.31

**Width available upon request. Please consult igus® for delivery time.

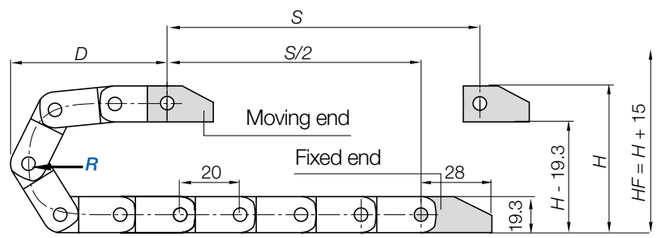
Complete Part No. with required radius (*R*). Example: **094.10.028.0**

Installation dimensions





Inner height [mm]	15.6
Pitch [mm/link]	20
Links/m	50
corresponds to [mm]	1,000
e-chain® length	$L_K = S/2 + K$

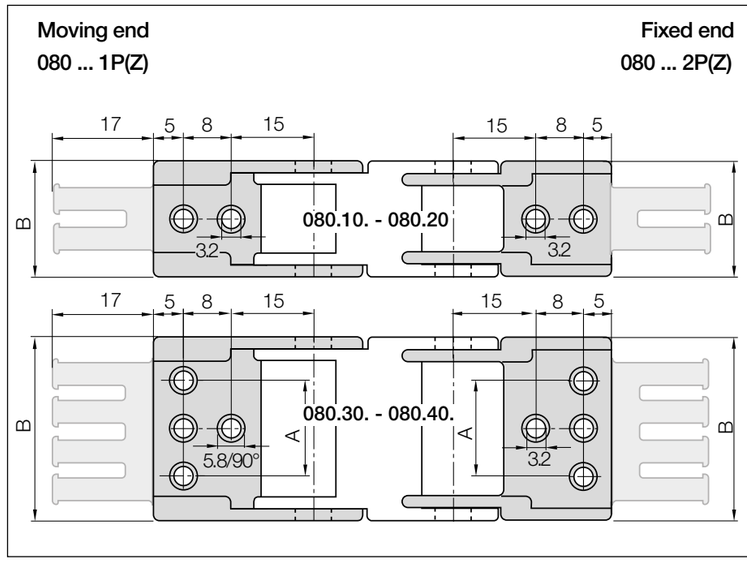


R	028	038	048
H	75	95	115
D	68	78	88
K	130	160	195

The required clearance height: $H_F = H + 15mm$ (with 0.3kg/m fill weight)

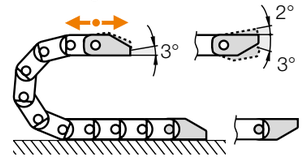
E2 micro | Series 094 | Accessories

Mounting brackets, polymer one-piece | Locking





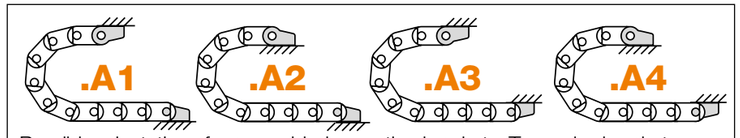
Hole pattern for part numbers
080.10. - 080.20.
= drawing above left
Hole pattern for part numbers
080.30. - 080.40.
= drawing below left



Width index	Standard	Part No. full set with tiewrap plates	Part No. full set without tiewrap plates	A [mm]	B [mm]	Number of teeth
10. ▶		080.10. 12PZ	080.10. 12P	–	18.2	1
16. ▶		080.16. 12PZ	080.16. 12P	–	24.2	2
20. ▶		080.20. 12PZ	080.20. 12P	–	28.2	2
30. ▶		080.30. 12PZ	080.30. 12P	22	38.2	3
40. ▶		080.40. 12PZ**	080.40. 12P**	32	48.2	4

**Width available upon request. Please consult igus® for delivery time.

Material mounting bracket - igumid G, temperature: -40° up to +120°C, VDE 0304 IIC UL94-HB



Possible orientations for assembled mounting brackets. To receive brackets **pre-fitted** please add index **.A1**, **.A2**, **.A3** or **.A4**.

080.10.12PZ.A1 Order example

- **.A** ... to indicate option with brackets pre-fitted
- With integrated strain relief tiewrap plates
- Full set
- Series

E2 micro | Series B09 | Product range

Openable along the outer radius, cost-effective

14.3



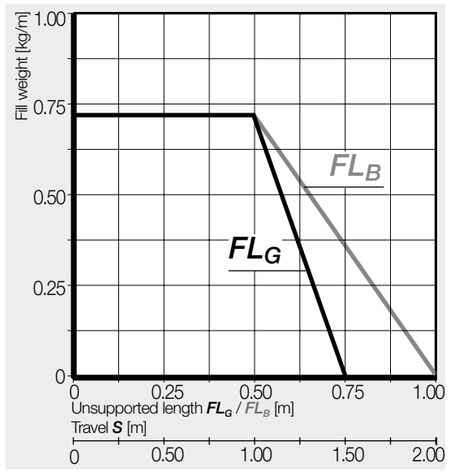
e-chains® | Series B09 | Openable along the outer radius, from one side

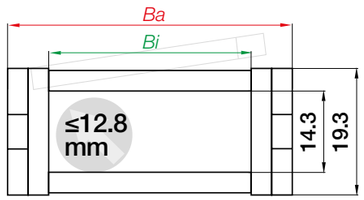
Part No. e-chains®	Bi [mm]	Ba [mm]	R Available bend radii [mm]	Weight [kg/m]
B09.16.R.0	16	24.2	| 028 | 038 | 048 |	≈ 0.24
B09.20.R.0	20	28.2	| 028 | 038 | 048 |	≈ 0.25
B09.30.R.0	30	38.2	| 028 | 038 | 048 |	≈ 0.28
B09.40.R.0	40	48.2	| 028 | 038 | 048 |	≈ 0.31

For new designs we recommend E2.1 system, series E2.15 ▶ From page 330

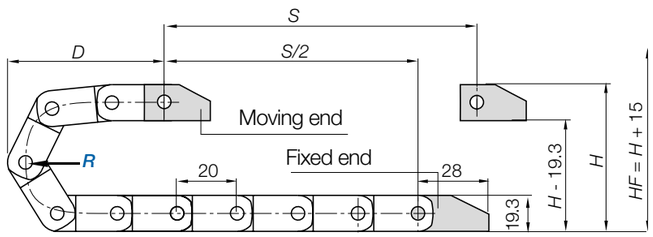
Complete Part No. with required radius (*R*). Example: **B09.40.038.0**

Installation dimensions





Inner height [mm]	14.3
Pitch [mm/link]	20
Links/m	50
corresponds to [mm]	1,000
e-chain® length	$L_K = S/2 + K$

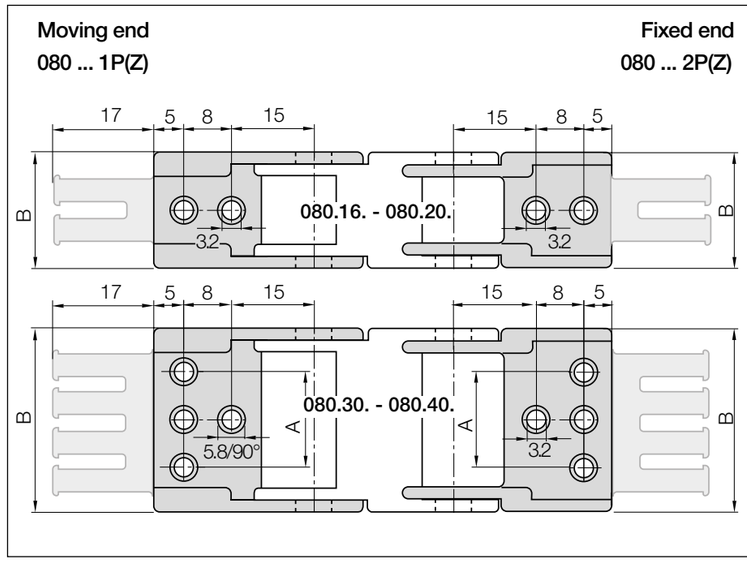


R	028	038	048
H	75	95	115
D	68	78	88
K	130	160	195

The required clearance height: $H_F = H + 15$mm (with 0.3kg/m fill weight)

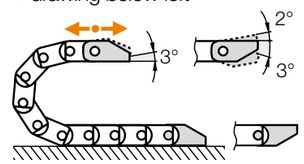
E2 micro | Series B09 | Accessories

Mounting brackets, polymer one-piece | Locking



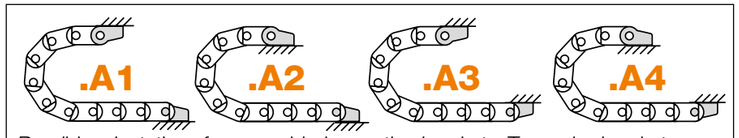


Hole pattern for part numbers
080.16. - 080.20.
= drawing above left
Hole pattern for part numbers
080.30. - 080.40.
= drawing below left



Width index	Standard	Part No. full set with tiewrap plates	Part No. full set without tiewrap plates	A [mm]	B [mm]	Number of teeth
16. ▶		080.16. 12PZ	080.16. 12P	–	24.2	2
20. ▶		080.20. 12PZ	080.20. 12P	–	28.2	2
30. ▶		080.30. 12PZ	080.30. 12P	22	38.2	3
40. ▶		080.40. 12PZ	080.40. 12P	32	48.2	4

Material mounting bracket - igumid G, temperature: -40° up to +120°C, VDE 0304 IIC UL94-HB



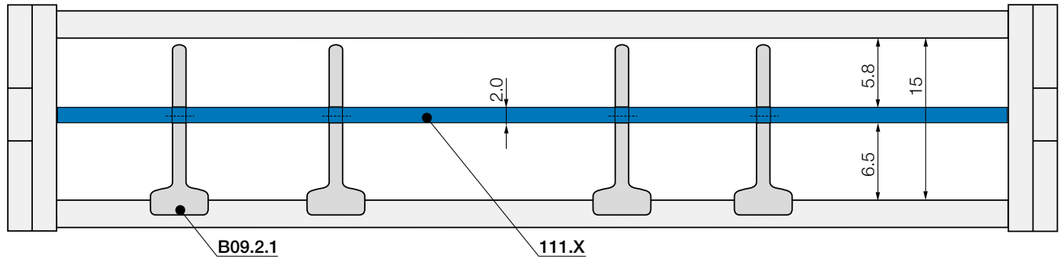
Possible orientations for assembled mounting brackets. To receive brackets **pre-fitted** please add index **.A1**, **.A2**, **.A3** or **.A4**.

080.40.12PZ.A1 **Order example**

.A ... to indicate option with brackets pre-fitted
With integrated strain relief tiewrap plates
Full set
Series

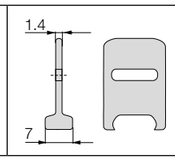
E2 micro | Series B09 | Accessories

Interior separation



No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-chain® link!



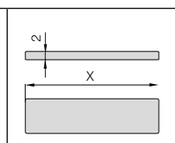


Slotted separator	
unassembled	**B09.2**
assembled	**B09.2.1**

Slotted separator

For easy vertical separation. The slot allows basic vertical/ horizontal shelving arrangements.





Full-width shelf for e-chains®	
unassembled	**110.X**
assembled	**111.X**

Full-width shelf

This option is for applications with many small cables with similar diameters. For full width separation.

Full-width shelves
Width = X [mm]

X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
010	**110.10**	**111.10**	020	**110.20**	**111.20**	050	**110.50**	**111.50**
013	**110.13**	**111.13**	030	**110.30**	**111.30**			
016	**110.16**	**111.16**	040	**110.40**	**111.40**			



E2 micro e-chain® space-saving, zig-zag design in a mobile OP table

E2 micro | Series 08 | Product range

Small pitch, high strength

15



e-chains® | Series 08 | One-piece, non-openable

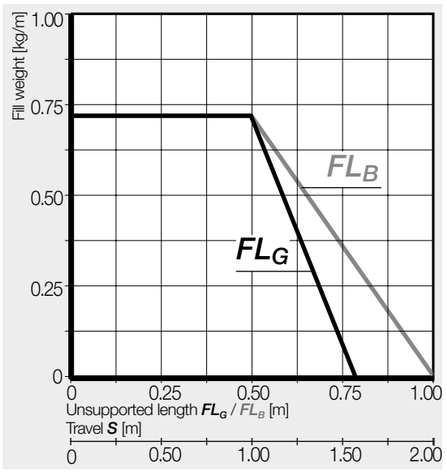
Part No. e-chains®	Bi [mm]	Ba [mm]	R Available bend radii [mm]	Weight [kg/m]
08.10.R.0	10	18.2	| 025 | 028 | 038 | 048 |	≈ 0.21
08.13.R.0	13	21.2	| 025* | 028 | 038 | 048* |	≈ 0.23
08.16.R.0	16	24.2	| 025* | 028 | 038 | 048 |	≈ 0.24
08.20.R.0	20	28.2	| 025 | 028 | 038 | 048 |	≈ 0.25
08.30.R.0	30	38.2	| 025* | 028 | 038 | 048 |	≈ 0.28
08.40.R.0	40	48.2	| 025* | 028 | 038 | 048 |	≈ 0.31
08.50.R.0	50	58.2	| 025* | 028 | 038 | 048 |	≈ 0.37

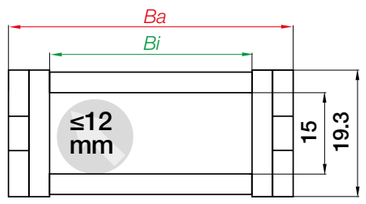
*Radius available upon request. Please consult igus® for delivery time.

For new designs we recommend E2.1 system, series E2C.15 ▶ From page 330

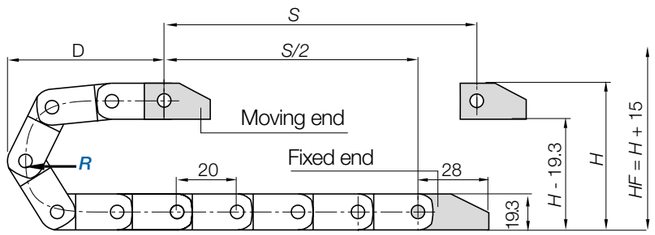
Complete Part No. with required radius (R). Example: **08.50.038.0**

Installation dimensions





Inner height [mm]	15
Pitch [mm/link]	20
Links/m	50
corresponds to [mm]	1,000
e-chain® length	$L_K = S/2 + K$



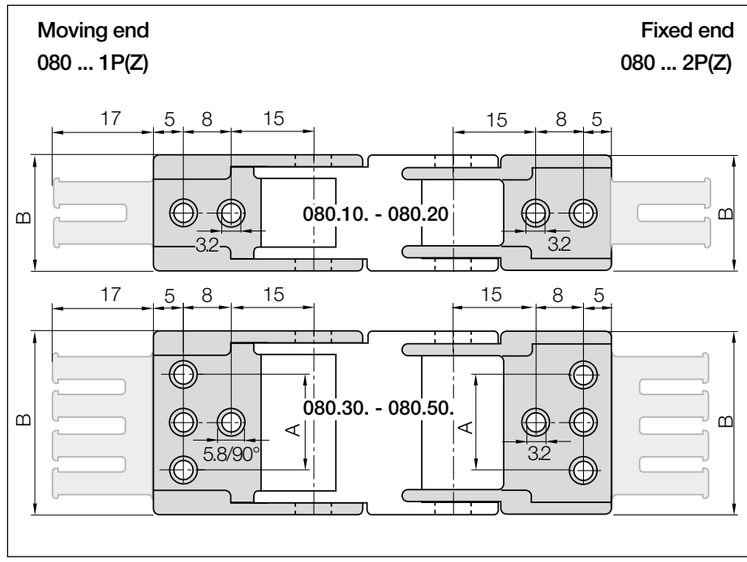
R	025	028	038	048
H	69	75	95	115
D	65	68	78	88
K	120	130	160	195

The required clearance height: $H_F = H + 15mm$ (with 0.3kg/m fill weight)

Radii for several widths available upon request (please see product range table above)

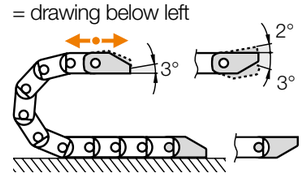
E2 micro | Series 08 | Accessories

Mounting brackets, polymer one-piece | Locking





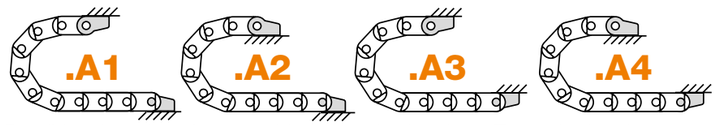
Hole pattern for part numbers
080.10. - 080.20.
= drawing above left
Hole pattern for part numbers
080.30. - 080.50.
= drawing below left



Width index	Standard	Part No. full set with tiewrap plates	Part No. full set without tiewrap plates	A [mm]	B [mm]	Number of teeth
10. ▶		080.10. 12PZ	080.10. 12P	–	18.2	1
13. ▶		080.13. 12PZ**	080.13. 12P	–	21.2	–
16. ▶		080.16. 12PZ	080.16. 12P	–	24.2	2
20. ▶		080.20. 12PZ	080.20. 12P	–	28.2	2
30. ▶		080.30. 12PZ	080.30. 12P	22	38.2	3
40. ▶		080.40. 12PZ	080.40. 12P	32	48.2	4
50. ▶		080.50. 12PZ	080.50. 12P	42	58.2	5

**Width available upon request. Please consult igus® for delivery time.

Material mounting bracket - igumid G, temperature: -40° up to +120°C, VDE 0304 IIC UL94-HB

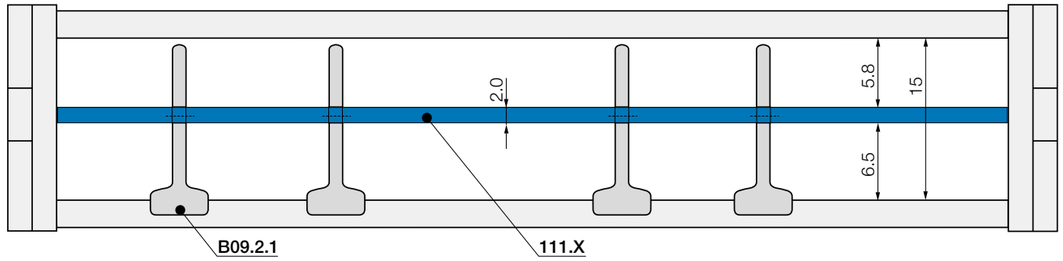


Possible orientations for assembled mounting brackets. To receive brackets **pre-fitted** please add index **.A1**, **.A2**, **.A3** or **.A4**.

080.50.12PZ.A1 **Order example**

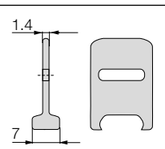
- **.A** ... to indicate option with brackets pre-fitted
- With integrated strain relief tiewrap plates
- Full set
- Series

Interior separation



No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-chain® link!



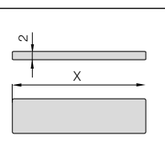


Slotted separator	
unassembled	**B09.2**
assembled	**B09.2.1**

Slotted separator

For easy vertical separation. The slot allows basic vertical/ horizontal shelving arrangements.





Full-width shelf for e-chains®	
unassembled	**110.X**
assembled	**111.X**

Full-width shelf

This option is for applications with many small cables with similar diameters. For full width separation.

Full-width shelves
Width = X [mm]

X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
010	**110.10**	**111.10**	020	**110.20**	**111.20**	050	**110.50**	**111.50**
013	**110.13**	**111.13**	030	**110.30**	**111.30**			
016	**110.16**	**111.16**	040	**110.40**	**111.40**			



Series 03 - extremely small installation space on a paint-spraying machine



E2 mini

Small and medium sizes

Advantages of the E2 mini series:

- If a small, but extremely strong e-chain® is required
- Quiet operation due to small pitch
- For highly dynamic applications
- Variety of options - E2 mini as non-openable or openable along the inner or outer radius

When to use another e-chain® series:

- When openable crossbars are required
  - ► **E2.1 micro, page 320**
  - ► **zipper, page 226**
- When easy filling with connectorised cables is required
  - ► **easy chain®, page 198**



Universal connection: mounting bracket with integrated strain relief

Space-saving: small inner heights and bend radii

Smooth Design: dirt-repellent outer contour

Smooth running: small pitch for low-noise, smooth running

Flexible use: one-piece e-chains®, openable along the inner radius with film hinge (series 14/F17)

Flexible use: two-piece e-chains®, openable along the outer radius (series B15/B17)

Flexible use: two-piece e-chains®, openable along the inner radius (series B15i/B17i)

Flexible use: one-piece e-chains®, non-openable (series 10/11.031/ 11.080/11.1/11.)

Small and medium sizes - E2 mini

E2 mini are small one- or two-piece e-chains®, recommended for highly dynamic applications. igus® also offers a range of accessories and fixation options. Upgrades to openable versions are available for many types. Different types are interchangeable and can also serve as replacements.

Typical industries and applications

● Construction machinery ● Handling ● Furniture ● Packaging machines ● Textile machines ● Vehicle applications ● Woodworking machines ● Glass machines ● Automation ● General machinery, etc.

UL94-V2 classification - for series 14 and F17 (UL94-V0 upon request)

Electrically conductive ESD e-chains® upon request

Series	Inner height *hi* [mm]	Inner width *Bi* [mm]	Outer width *Ba* [mm]	Outer height *ha* [mm]	Bend radius *R* [mm]	Unsupported length ≤ [m]	Page
					**E2 mini - one-piece e-chains®** non-openable		
10	18	15 - 100	26 - 113	23	028 - 180	1.20	**296**
11.031	23	31	41.2	28	045 - 070	≈1.35	**300**
11.080	28	80	93	33.4	038 - 065	1.50	**302**
11.1/11.2	41	15 - 25	25.5 - 35.5	46	040 - 100	≈1.35	**304**
					**E2 mini - one-piece e-chains®** openable along the inner radius with film hinge		
14	20	15 - 50	26 - 61	25	028 - 125	0.65	**306**
F17	32	15	26	39	048	1.20	**316**
					**E2 mini - two-piece e-chains®** openable along the outer radius		
B15	17	15 - 100	26 - 113	23	038 - 180	1.20	**308**
B17	32	15 - 100	25.5 - 113	39	048 - 125*	1.00	**312**
					**E2 mini - two-piece e-chains®** openable along the inner radius		
B15i	17	15 - 100	26 - 113	23	038 - 180	1.20	**308**
B17i	32	25 - 63	35.5 - 76	39	048 - 125*	1.00	**312**

*Radii for several widths available upon request (please see product range table).

Available from stock. Ready to ship in 24 - 48hrs.*

*The delivery times indicated correspond to the average time until the ordered goods are dispatched.

Technical data

Speed gliding / acceleration gliding	≤ 3 [m/s] / ≤ 10 [m/s²]
Speed FL_G / acceleration FL_G	≤ 20 [m/s] / ≤ 200 [m/s²]
Speed FL_B / acceleration FL_B	≤ 3 [m/s] / ≤ 6 [m/s²]
Material - permitted temperature °C, igumid G	-40°C / +120°C
Material - permitted temperature °C, igumid NB (only Series 14)	-40°C / +80°C
Material lower part - permitted temperature °C, igumid G (only Series B15/B15i, B17/B17i, F17)	-40°C / +120°C
Material crossbar- permitted temperature °C, igumid NB (only Series B15/B15i, B17/B17i, F17)	-40°C / +80°C
Flammability class	igumid G = VDE 0304 IIC UL94-HB / igumid NB = VDE 0304 IIC UL94-V2

FL_G = unsupported with straight upper run FL_B = unsupported with permitted sag

Installation types, maximum travels

Series	Unsupported	Vertical hanging	Vertical standing	Side mounted unsupported	Rotary	Zig-zag
10	≤ 2.40m	upon request	upon request	upon request	with rework	upon request
11.031	≤ 2.70m	upon request	upon request	upon request	–	upon request
11.080	≤ 3.00m	upon request	upon request	upon request	–	upon request
11.1/11.2	≤ 2.70m	upon request	upon request	upon request	with rework	upon request
14	≤ 1.30m	upon request	upon request	upon request	with rework	upon request
B15i / B15	≤ 2.40m	upon request	upon request	upon request	with rework	upon request
B17i / B17	≤ 2.00m	upon request	upon request	upon request	with rework	upon request
F17	≤ 2.40m	upon request	upon request	upon request	with rework	upon request

Options with order keys | Examples based on series B15

Standard	*NC version - (No Camber) without pretension*	*Reverse Bend Radius (RBR) for circular movements*	*Unsupported lengths +25% possible*	*ESD - electrically conductive material*
Part No. Standard	Part No. NC version	Part No. *RBR*	Part No. XXL material	Part No. igumid ESD
B15.025.*R*.0	B15.025.*R*.0.NC	B15.025.*R1/R2*.0	B15.025.*R*.0.XXL	B15.025.*R*.0.ESD
Ready to ship* in 24 - 48 hrs.	Delivery time* 2-5 business days	Delivery time* several series from stock	Delivery time* 5 business days	Delivery time* 10 business days

*The delivery times indicated correspond to the average time until the ordered goods are dispatched.

Order example | Order key and colour examples | Examples based on series B15

Order example for complete e-chain® (1.0m), colour black, with mounting brackets and interior separation:

e-chain® (1.0m)	Please indicate e-chain® length or number of links: 1.0m or 33 links	B15.025.038.0
+ Mounting brackets	1 set (with tiewrap plates)	1025.34PZ
Interior separation	with 2 separators assembled every 2nd link	2 x 154
Order text:	1 m B15.025.038.0 + 1025.34PZ + 2 x 154	

Order key

openable along the outer radius B15.025.038.0
openable along the inner radius B15i.025.038.0

Series / Type
Width index (depends on *Bi*)
Bend radius *R*
Colour index (standard black)

Order index for colour options

Colour	Order index		Colour	Order index	
Black	Standard	.0	Orange	Special colour	.2
Silver-grey	Special colour	.31	Yellow	Special colour	.4
White	Special colour	.1	Light grey	Special colour	.14
Grey-white	Special colour	.1S			

Black e-chains® available from stock.
Above special colours upon request.



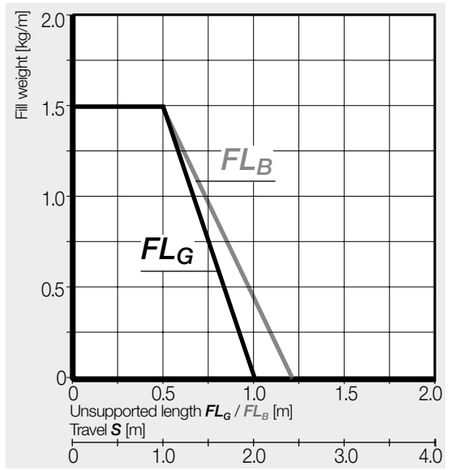
e-chains® | Series 10 | One-piece, non-openable

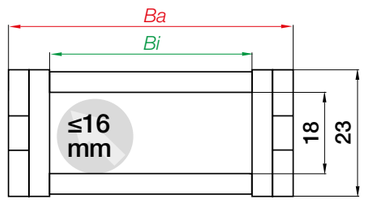
Part No. e-chains®	Bi [mm]	Ba [mm]	R Available bend radii [mm]	Weight [kg/m]
10.015.R.0	15	26	| 028 | 038 | 048 | 075 | 100 | 110 | 125 | 145 | 180 |	≈ 0.35
10.025.R.0	25	36	| 028 | 038 | 048 | 075 | 100 | 110 | 125 | 145 | 180 |	≈ 0.40
10.038.R.0	38	49	| 028 | 038 | 048 | 075 | 100 | 110 | 125 | 145 | 180 |	≈ 0.46
10.050.R.0	50	61	| 028 | 038 | 048 | 075 | 100 | 110 | 125 | 145 | 180 |	≈ 0.52
10.5 .R.0	63	76	| 028 | 038 | 048 | 075 | 100 | 110 | 125 | 145 | 180 |	≈ 0.63
10.6 .R.0	80	94	| 028 | 038 | 048 | 075 | 100 | 110 | 125 | 145 | 180 |	≈ 0.70
10.7 .R.0	100	113	| 028 | 038 | 048 | 075 | 100 | 110 | 125 | 145 | 180 |	≈ 0.76

Before using this series on long travels please consult igus®.

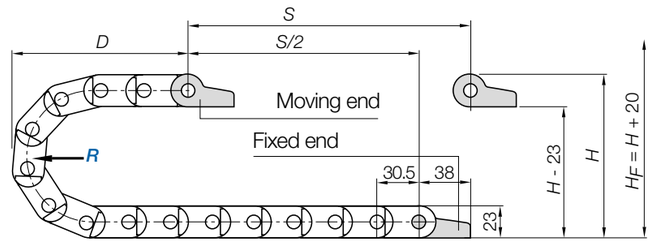
Complete Part No. with required radius (R). Example: **10.025.038.0**

Installation dimensions



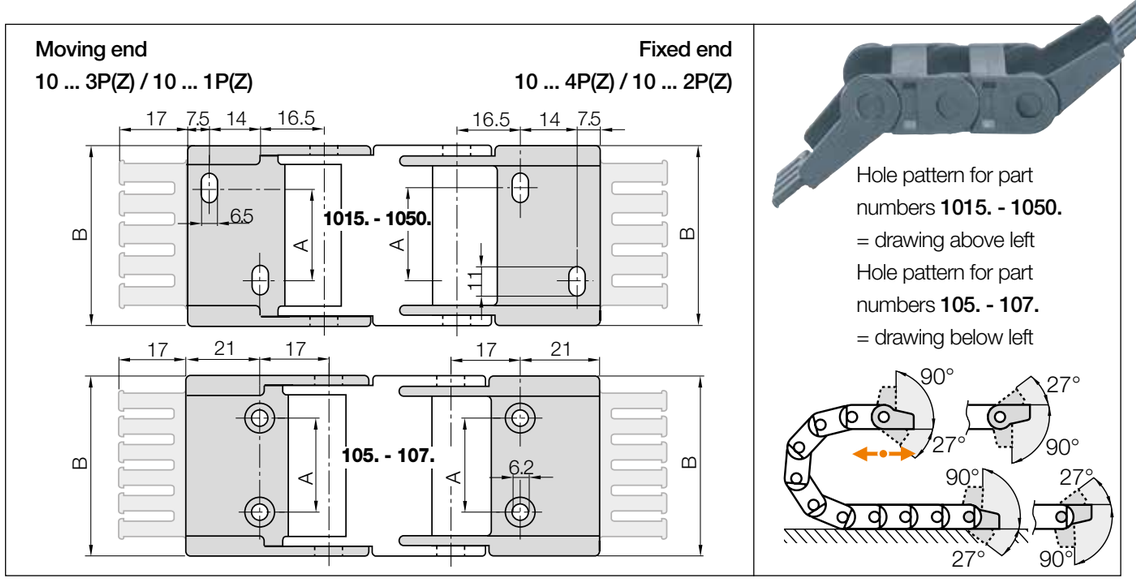


Inner height [mm]	18
Pitch [mm/link]	30.5
Links/m	33
corresponds to [mm]	1,006.5
e-chain® length	$L_K = S/2 + K$

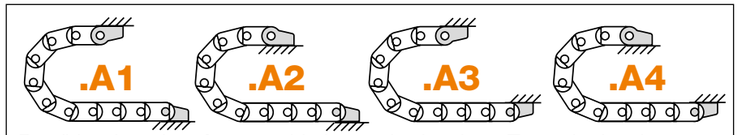


R	028	038	048	075	100	110	125	145	180
H	79	99	119	173	223	243	273	313	383
D	85	95	105	132	157	167	182	202	237
K	150	185	215	300	380	410	455	520	630

The required clearance height: $H_F = H + 20$mm (with 0.5kg/m fill weight)



Width index	Standard	Part No. full set pivoting with tiewrap plates	Part No. full set pivoting without tiewrap plate	Part No. full set locking with tiewrap plates	Part No. full set locking without tiewrap plate	A [mm]	B [mm]	Number of teeth
015. ▶		1015.34PZ	1015.34P	1015.12PZ	1015.12P	–	25.5	2
025. ▶		1025.34PZ	1025.34P	1025.12PZ	1025.12P	10	35.5	3
038. ▶		1038.34PZ	1038.34P	1038.12PZ	1038.12P	23	48.5	4
050. ▶		1050.34PZ	1050.34P	1050.12PZ	1050.12P	35	60.5	5
5. ▶		105. 34PZ	105. 34P	105. 12PZ	105. 12P	48	75.0	6
6. ▶		106. 34PZ	106. 34P	106. 12PZ	106. 12P	65	92.0	8
7. ▶		107. 34PZ	107. 34P	107. 12PZ	107. 12P	85	112	10



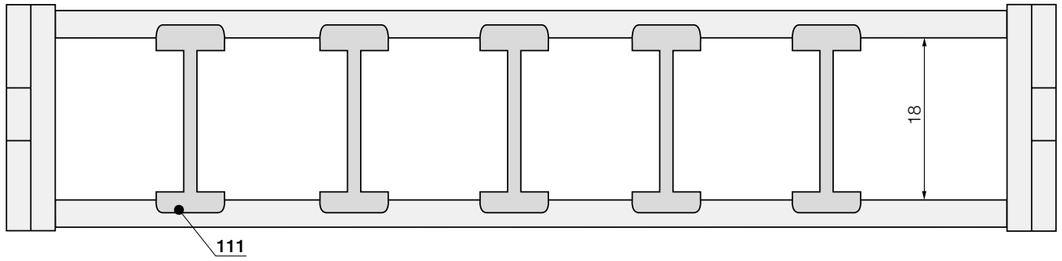
Possible orientations for assembled mounting brackets. To receive brackets **pre-fitted** please add index **.A1**, **.A2**, **.A3** or **.A4**.

1025.34PZ.A1 Order example

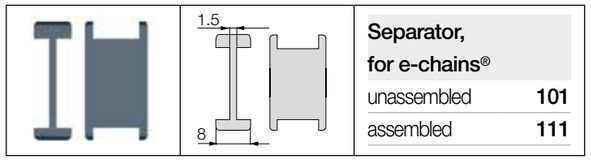
- **.A** ... to indicate option with brackets pre-fitted
- With integrated strain relief tiewrap plates
- Full set
- Series

E2 mini | Series 10 | Accessories

Interior separation



No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-chain® link!

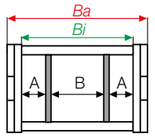


Separator, for e-chains®	
unassembled	**101**
assembled	**111**

Separator

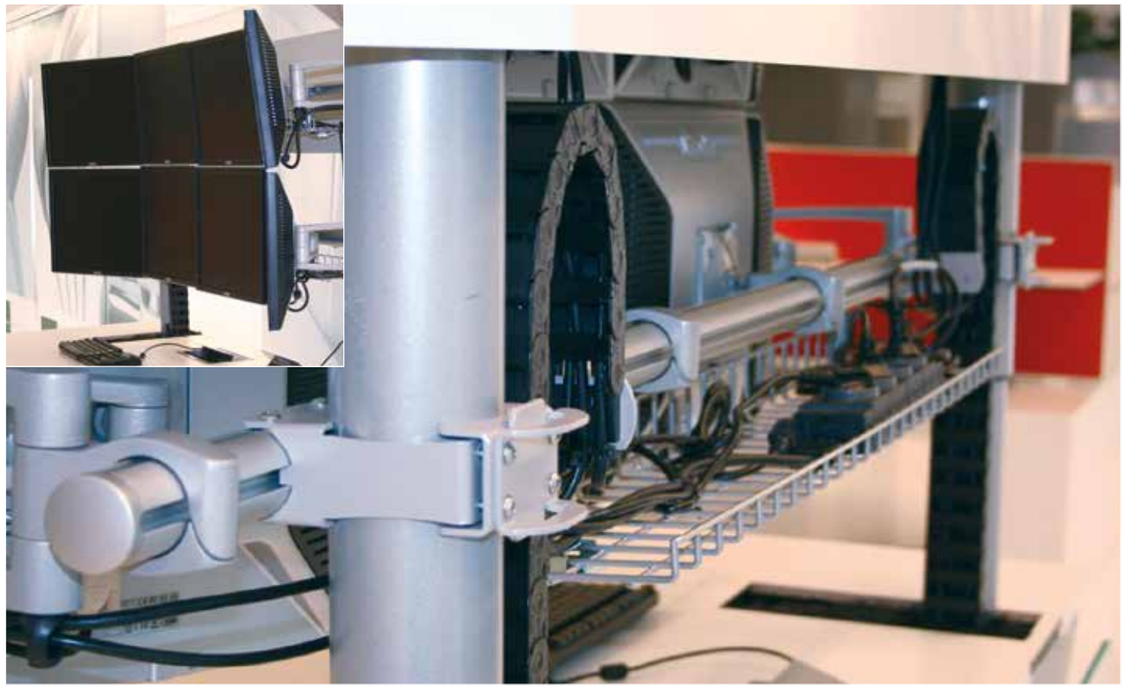
For easy vertical separation in e-chains®. Separators can be arranged in any position in the e-chain® cross-section.
Interior separation is not possible for series 10.015.*R*.0.

Options | With moulded-in vertical separation

Part No. e-chains®	*Bi* [mm]	*Ba* [mm]	*R* Available bend radii [mm]	Chamber design	A [mm]	B [mm]	Weight [kg/m]
10. 038.*R*.0 .S	38	49	| 075 |		10	15	≈ 0.79
10. 050.*R*.0 .S	50	61	| 075 |		13	21	≈ 0.85

Complete Part No. with required radius (*R*). Example: **10.038.075.0.S or 10. 050.075.0.S**

E2 mini | Application example



Cost-effective cable guidance with E2 mini in a moving monitor application

E2 mini | Series 11.031 | Product range

Large inner height, asymmetric design

23

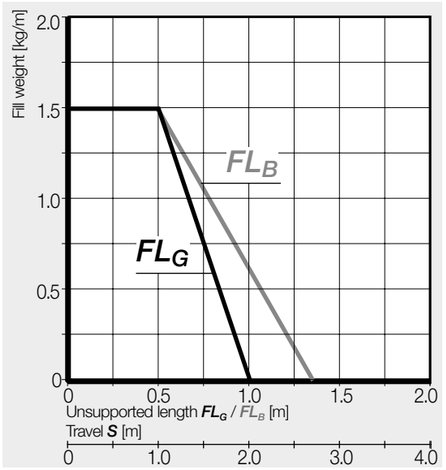


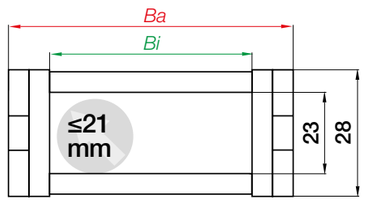
e-chains® | Series 11.031 | One-piece, non-openable

Part No. e-chains®	*Bi* [mm]	*Ba* [mm]	*R* Available bend radii [mm]	Weight [kg/m]
11.031.*R*.0	31	41.2	| 045 | 070 |	≈ 0.43

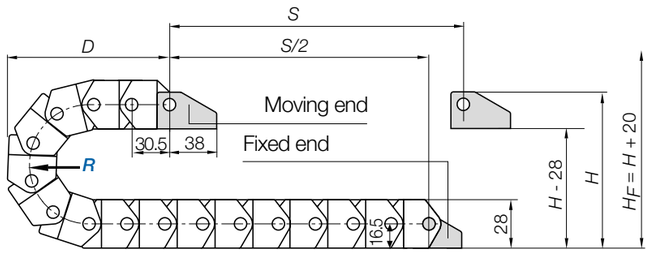
Complete Part No. with required radius (*R*). Example: **11.031.045.0**

Installation dimensions





Inner height [mm]	23
Pitch [mm/link]	30.5
Links/m	33
corresponds to [mm]	1,006.5
e-chain® length	$L_K = S/2 + K$

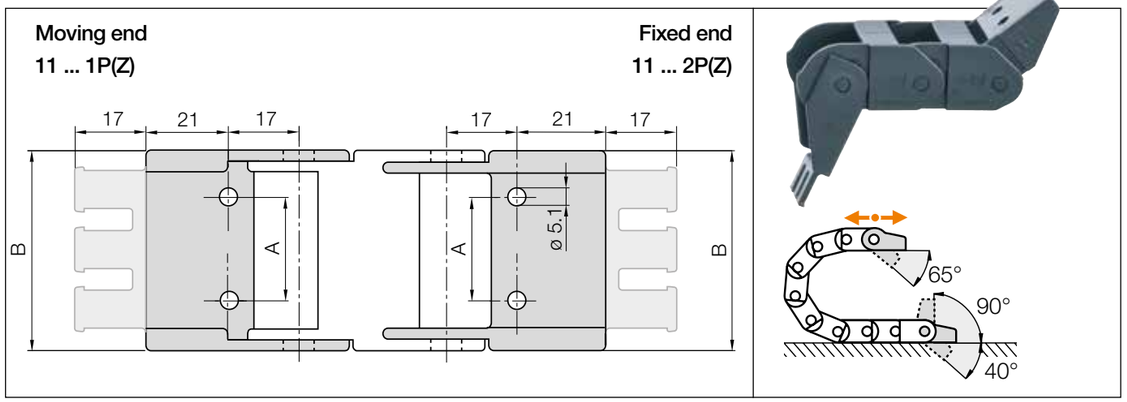


R	045	070
H	123	173
D	107	132
K	205	285

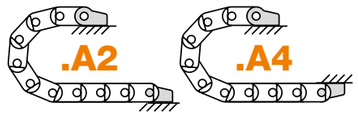
The required clearance height: $H_F = H + 20$mm (with 0.5kg/m fill weight)

E2 mini | Series 11.031 | Accessories

Mounting brackets, polymer one-piece | Pivoting



Width index	Standard	Part No. full set with tiewrap plates	Part No. full set without tiewrap plates	A [mm]	B [mm]	Number of teeth
031. ▶		11.031.12PZ	11.031.12P	16	42	3



Possible orientations for assembled mounting brackets. To receive brackets **pre-fitted** please add index **.A2** or **.A4**.

11.031.12PZ.A2 **Order example**

- **.A** ... to indicate option with brackets pre-fitted
- With integrated strain relief tiewrap plates
- Full set
- Series

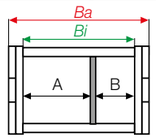
E2 mini | Series 11.080 | Product range

Large inner height, asymmetric design

28

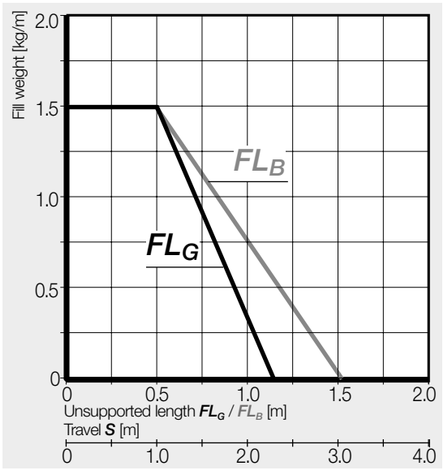


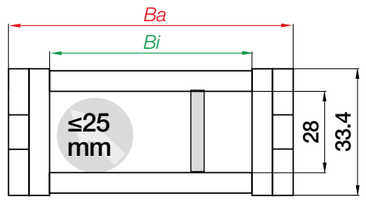
e-chains® | Series 11.080 | Non-openable. With moulded-in vertical separation

Part No. e-chains®	Bi [mm]	Ba [mm]	R Available bend radii [mm]	Chamber design	A [mm]	B [mm]	Weight [kg/m]
11. 080.R.0	80	93	| 038 | 065 |		46	32	≈ 0.73

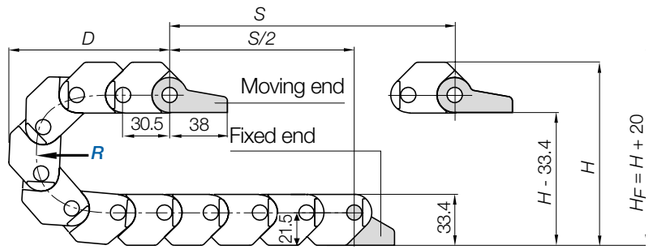
Complete Part No. with required radius (R). Example: **11.080.038.0**

Installation dimensions





Inner height [mm]	28
Pitch [mm/link]	30.5
Links/m	33
corresponds to [mm]	1,006.5
e-chain® length	$L_K = S/2 + K$

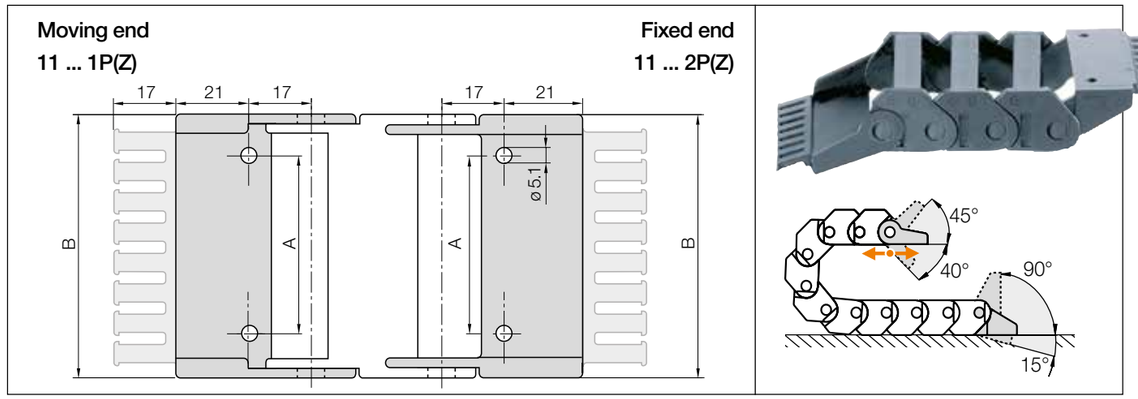


R	038	065
H	119	173
D	105	132
K	185	270

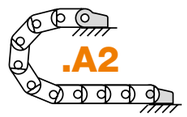
The required clearance height: $H_F = H + 20mm$ (with 0.5kg/m fill weight)

E2 mini | Series 11.080 | Accessories

Mounting brackets, polymer one-piece | Pivoting



Width index	Standard	Part No. full set with tiewrap plates	Part No. full set without tiewrap plates	A [mm]	B [mm]	Number of teeth
080. ▶		11.080.12PZ	11.080.12P	65	93	8



Possible orientation for assembled mounting brackets.
To receive brackets **pre-fitted** please add index **A2**.

11.080.12PZ.A2 **Order example**

- **.A** ... to indicate option with brackets pre-fitted
- With integrated strain relief tiewrap plates
- Full set
- Series

E2 mini | Series 11.1 11.2 | Product range

Very large inner height, small outer width, asymmetric design

41

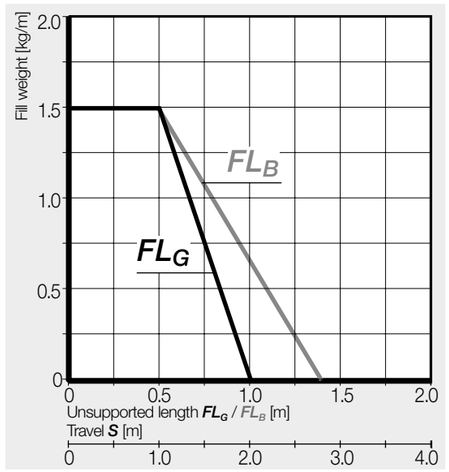


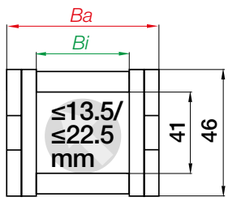
e-chains® | Series 11.1 11.2 | One-piece, non-openable

Part No. e-chains®	*Bi* [mm]	*Ba* [mm]	*R* Available bend radii [mm]	Weight [kg/m]
11.1 .*R*.0	15	25.5	| 040 | 063 | 075 | 100 |	≈ 0.50
11.2 .*R*.0	25	35.5	| 040 | 063 | 075 | 100 |	≈ 0.53

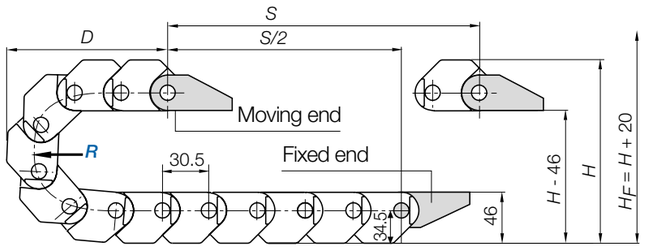
Complete Part No. with required radius (*R*). Example: **11.1.040.0**

Installation dimensions





Inner height [mm]	**41**
Pitch [mm/link]	**30.5**
Links/m	**33**
corresponds to [mm]	**1,006.5**
e-chain® length	$L_K = S/2 + K$

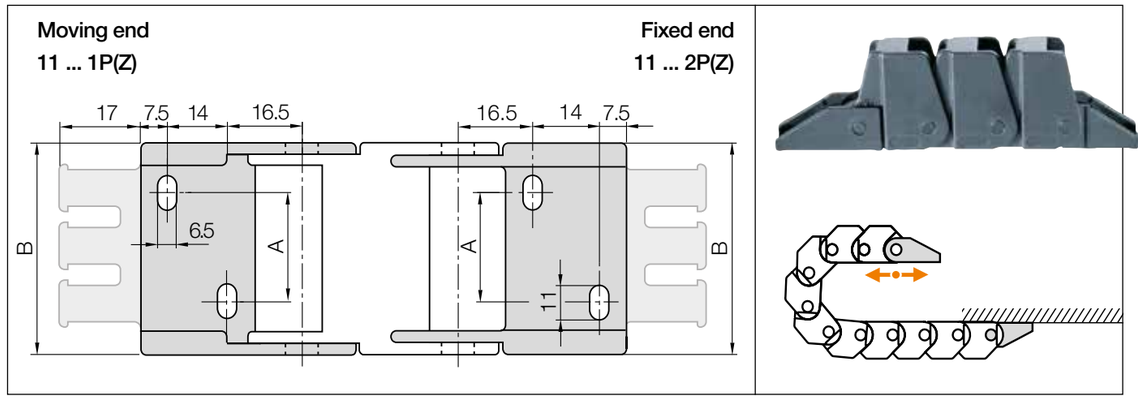


R	040	063	075	100
H	149	195	219	269
D	120	143	155	180
K	190	260	300	380

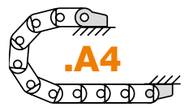
The required clearance height: $H_F = H + 20mm$ (with 0.5kg/m fill weight)

E2 mini | Series 11.1 11.2 | Accessories

Mounting brackets, polymer one-piece | Locking



Width index	Standard	Part No. full set with tiewrap plates	Part No. full set without tiewrap plates	A [mm]	B [mm]	Number of teeth
1. ▶		**101.12PZ**	**101.12P**	–	26	2
2. ▶		**102.12PZ**	**102.12P**	10	36	3



Possible orientation for assembled mounting brackets.
To receive brackets **pre-fitted** please add index **A4**.

101.12PZ.A4 — **Order example**

- **.A** ... to indicate option with brackets pre-fitted
- With integrated strain relief tiewrap plates
- Full set
- Series

E2 mini | Series 14 | Product range

Openable along the inner radius, enclosed outer radius

20

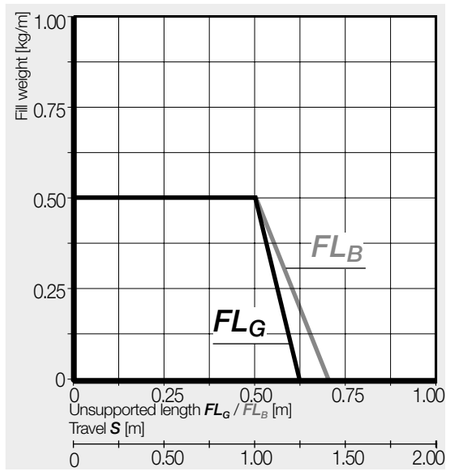


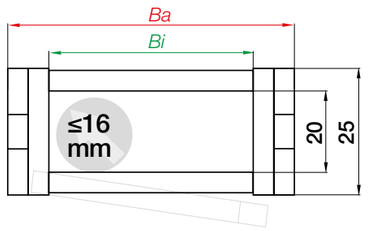
e-chains® | Series 14 | Openable along the inner radius from one side with film hinge

Part No. e-chains®	*Bi* [mm]	*Ba* [mm]	*R* Available bend radii [mm]	Weight [kg/m]
14.1 .*R*.0	15	26	| 028 | 038 | 048 | 075 | 100 | 125 |	≈ 0.31
14.2 .*R*.0	25	36	| 028 | 038 | 048 | 075 | 100 | 125 |	≈ 0.32
14.3 .*R*.0	38	49	| 028 | 038 | 048 | 075 | 100 | 125 |	≈ 0.40
14.4 .*R*.0	50	61	| 028 | 038 | 048 | 075 | 100 | 125 |	≈ 0.41

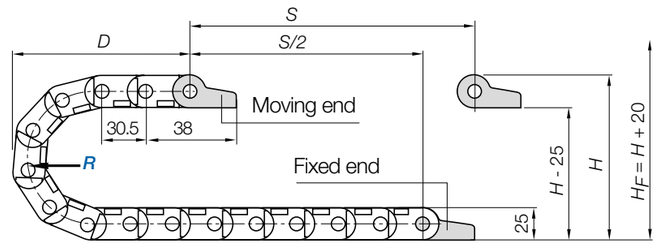
Complete Part No. with required radius (*R*). Example: **14.2.038.0**

Installation dimensions





Inner height [mm]	20
Pitch [mm/link]	30.5
Links/m	33
corresponds to [mm]	1,006.5
e-chain® length	$L_K = S/2 + K$

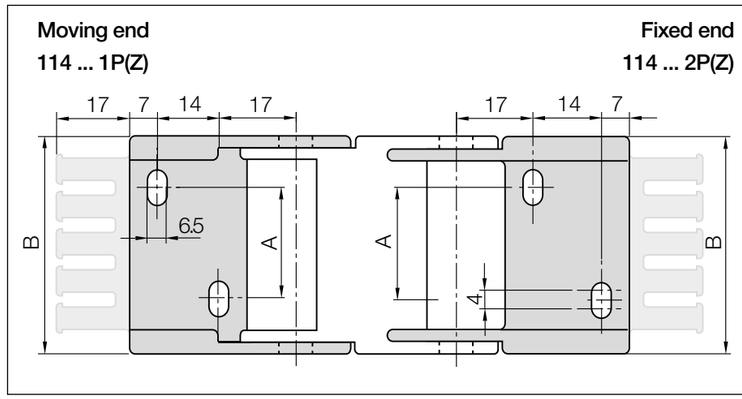


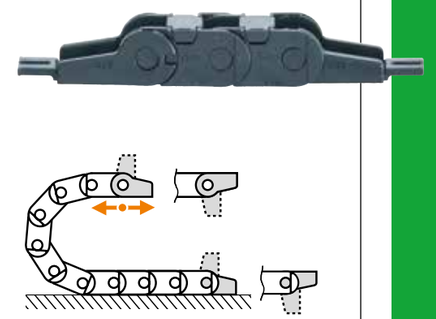
R	028	038	048	075	100	125
H	81	101	121	175	225	275
D	86	96	106	133	158	183
K	150	185	215	300	380	455

The required clearance height: $H_F = H$ + **20mm** (with 0.5kg/m fill weight)

E2 mini | Series 14 | Accessories

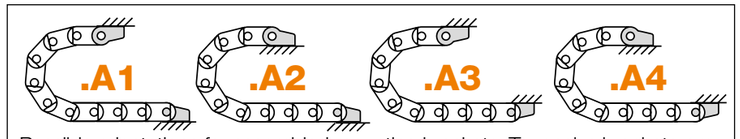
Mounting brackets, polymer one-piece | Locking





Width index	Standard	Part No. full set **with tiewrap plates**	Part No. full set **without tiewrap plates**	A [mm]	B [mm]	Number of teeth
1. ▶		**114.1.12PZ**	**114.1.12P**	–	26.3	2
2. ▶		**114.2.12PZ**	**114.2.12P**	10	36.3	3
3. ▶		**114.3.12PZ**	**114.3.12P**	23	49.3	4
4. ▶		**114.4.12PZ**	**114.4.12P**	35	61.3	5

Material mounting bracket - igumid G, temperature: -40° up to +120°C, VDE 0304 IIC UL94-HB



Possible orientations for assembled mounting brackets. To receive brackets **pre-fitted** please add index **.A1**, **.A2**, **.A3** or **.A4**.

114.2.12PZ.A1 **Order example**

- **.A** ... to indicate option with brackets pre-fitted
- With integrated strain relief tiewrap plates
- Full set
- Series

E2 mini | Series B15i B15 | Product range

Openable along the inner or outer radius



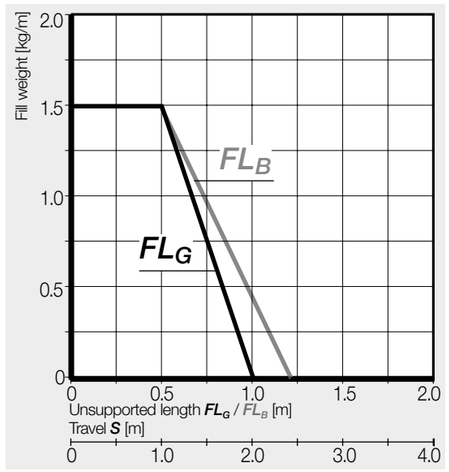
Standard e-chains® | Series B15i | Openable along the inner radius, from one side
Standard e-chains® | Series B15 | Openable along the outer radius, from one side

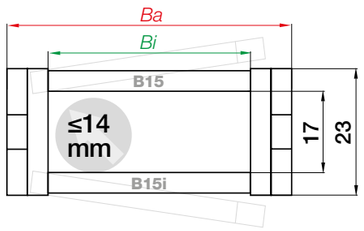
Part No. e-chains® openable along the inner radius	Part No. e-chains® openable along the outer radius	*Bi* [mm]	*Ba* [mm]	*R* Available bend radii [mm]	Weight [kg/m]
B15i.015.*R*.0	B15.015.*R*.0	15	26	| 038 | 048 | 075 | 100 | 110 | 125 | 145 | 180 |	≈ 0.35
B15i.025.*R*.0	B15.025.*R*.0	25	36	| 038 | 048 | 075 | 100 | 110 | 125 | 145 | 180 |	≈ 0.40
B15i.038.*R*.0	B15.038.*R*.0	38	49	| 038 | 048 | 075 | 100 | 110 | 125 | 145 | 180 |	≈ 0.46
B15i.050.*R*.0	B15.050.*R*.0	50	61	| 038 | 048 | 075 | 100 | 110 | 125 | 145 | 180 |	≈ 0.52
B15i.5 .*R*.0	B15.5 .*R*.0	63	76	| 038 | 048 | 075 | 100 | 110 | 125 | 145 | 180 |	≈ 0.63
B15i.6 .*R*.0	B15.6 .*R*.0	80	94	| 038 | 048 | 075 | 100 | 110 | 125 | 145 | 180 |	≈ 0.70
B15i.7 .*R*.0	B15.7 .*R*.0	100	113	| 038 | 048 | 075 | 100 | 110 | 125 | 145 | 180 |	≈ 0.76

Before using this series on long travels please consult igus®.

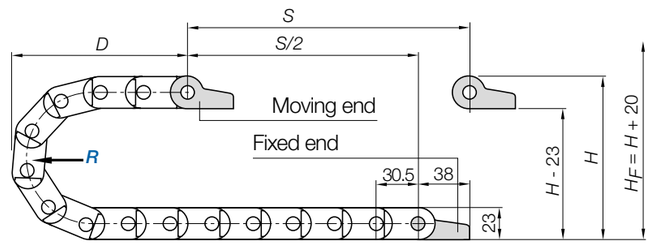
Complete Part No. with required radius (*R*). Example: **B15.025.038.0**

Installation dimensions





Inner height [mm]	17
Pitch [mm/link]	30.5
Links/m	33
corresponds to [mm]	1,006.5
e-chain® length	$L_K = S/2 + K$



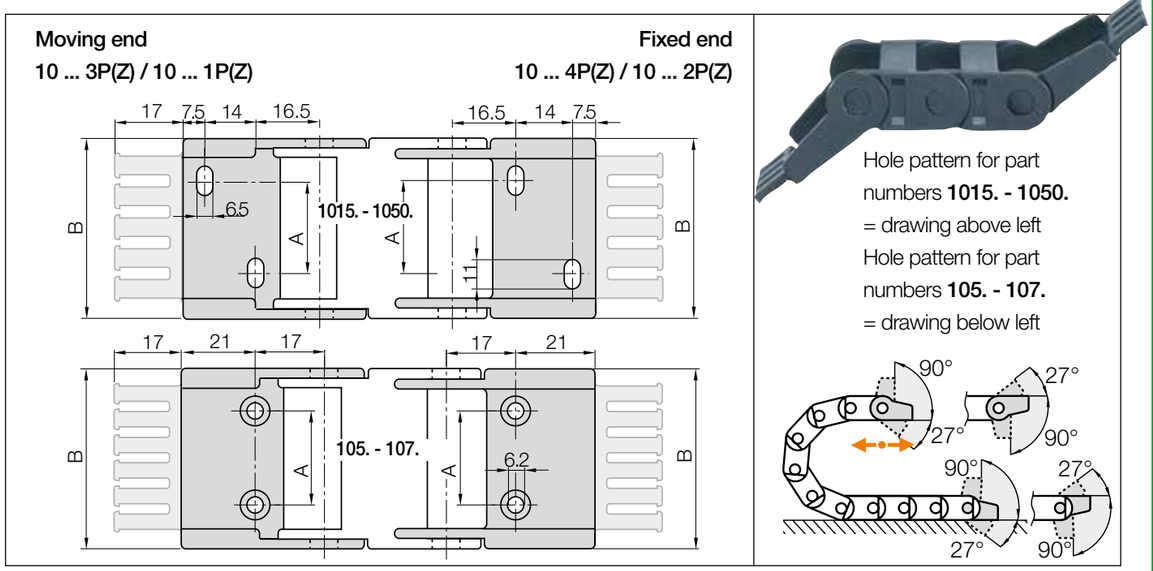
R	038	048	075	100	110	125	145	180
H	99	119	173	223	243	273	313	383
D	95	105	132	157	167	182	202	237
K	185	215	300	380	410	455	520	630

The required clearance height: $H_F = H + 20$mm (with 0.5kg/m fill weight)

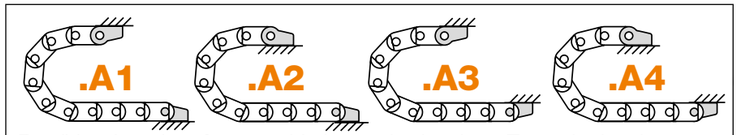
E2 mini | Series B15i B15 | Accessories

Mounting brackets, polymer one-piece | Pivoting | Locking

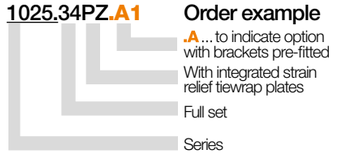
▶ 1216



Width index	Standard	Part No. full set **pivoting** with tiewrap plates	Part No. full set **pivoting** without tiewrap plate	Part No. full set **locking** with tiewrap plates	Part No. full set **locking** without tiewrap plate	A [mm]	B [mm]	Number of teeth
015. ▶		**1015.34PZ**	**1015.34P**	**1015.12PZ**	**1015.12P**	–	25.5	2
025. ▶		**1025.34PZ**	**1025.34P**	**1025.12PZ**	**1025.12P**	10	35.5	3
038. ▶		**1038.34PZ**	**1038.34P**	**1038.12PZ**	**1038.12P**	23	48.5	4
050. ▶		**1050.34PZ**	**1050.34P**	**1050.12PZ**	**1050.12P**	35	60.5	5
5. ▶		**105. 34PZ**	**105. 34P**	**105. 12PZ**	**105. 12P**	48	75.0	6
6. ▶		**106. 34PZ**	**106. 34P**	**106. 12PZ**	**106. 12P**	65	92.0	8
7. ▶		**107. 34PZ**	**107. 34P**	**107. 12PZ**	**107. 12P**	85	112.0	10

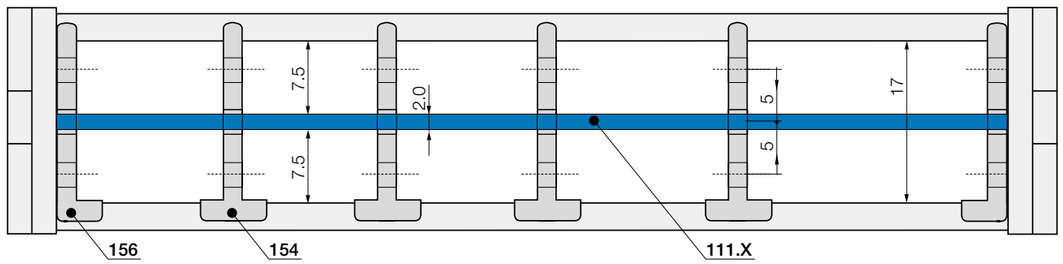


Possible orientations for assembled mounting brackets. To receive brackets **pre-fitted** please add index **.A1**, **.A2**, **.A3** or **.A4**.

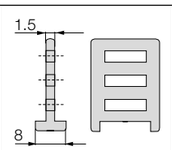


E2 mini | Series B15i B15 | Accessories

Interior separation



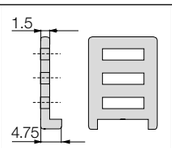
No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-chain® link!

Slotted separator	
unassembled	**153**
assembled	**154**

Slotted separator

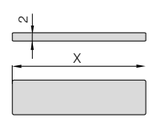
For easy vertical separation. The slot allows basic vertical/ horizontal shelving arrangements.

Slotted side plate	
unassembled	**155**
assembled	**156**

Slotted side plate

Allows modular shelving right up to the side links. No clearance required!

Full-width shelf for e-chains®	
unassembled	**110.X**
assembled	**111.X**

Full-width shelf

This option is for applications with many small cables with similar diameters. For full width separation.

Full-width shelves
Width = X [mm]

X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
015	**110.15**	**111.15**	050	**110.50**	**111.50**	100	**110.100**	**111.100**
025	**110.25**	**111.25**	063	**110.63**	**111.63**			
038	**110.38**	**111.38**	080	**110.80**	**111.80**			

E2 mini | Series B15i·B15 | Application example



E2 mini is a space-saving, reliable cable guide, here supplying power to lift doors

E2 mini | Series B17i B17 | Product range

Openable along the inner or outer radius

32 32



e-chains® | Series B17i | Openable along the inner radius, from one side
e-chains® | Series B17 | Openable along the outer radius, from one side

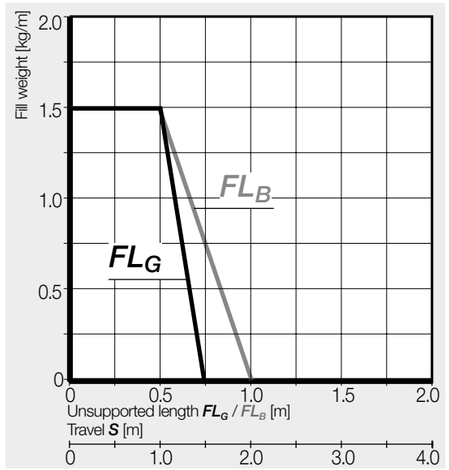
Part No. e-chains® openable along the inner radius	Part No. e-chains® openable along the outer radius	*Bi* [mm]	*Ba* [mm]	*R* Available bend radii [mm]	Weight [kg/m]
B17i.1.*R*.0**	B17.1.*R*.0	15	25.5	| 048[1] | 063 | 075 | 100 | 125 |	≈ 0.52
B17i.2.*R*.0	B17.2.*R*.0	25	35.5	| 048 | 063[1] | 075[1] | 100[1] | 125[1] |	≈ 0.59
B17i.3.*R*.0	B17.3.*R*.0	38	48.5	| 048 | 063 | 075 | 100 | 125 |	≈ 0.65
B17i.4.*R*.0	B17.4.*R*.0	50	60.5	| 048 | 063[1] | 075 | 100[1] | 125 |	≈ 0.70
B17i.5.*R*.0	B17.5.*R*.0	63	76	| 048 | 063 | 075 | 100 | 125 |	≈ 0.83
B17i.6.*R*.0**	B17.6.*R*.0	80	93	| 048 | 063 | 075 | 100 | 125 |	≈ 0.92
B17i.7.*R*.0**	B17.7.*R*.0	100	113	| 048[1] | 063 | 075 | 100 | 125 |	≈ 1.06

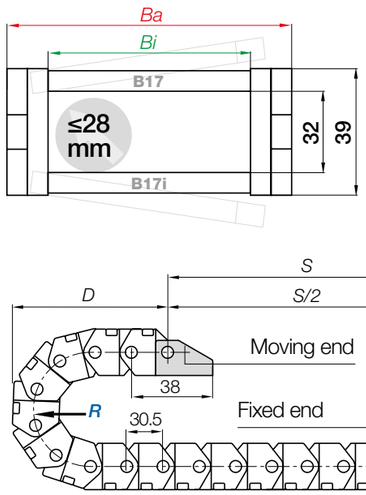
**Width available upon request. Please consult igus® for delivery time.

1) Radius only for series B17. For series B17i available upon request. Delivery time upon request

Complete Part No. with required radius (*R*). Example: **B17.2.048.0**

Installation dimensions





Inner height [mm]	32
Pitch [mm/link]	30.5
Links/m	33
corresponds to [mm]	1,006.5
e-chain® length	$L_K = S/2 + K$

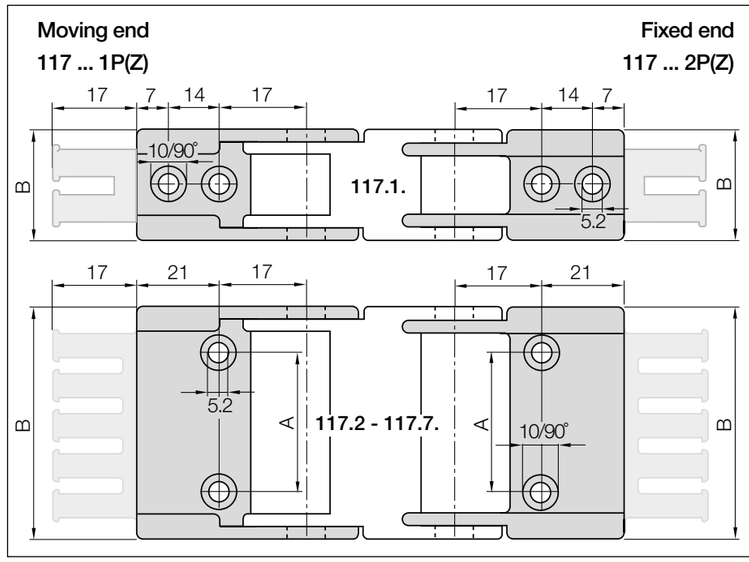
R	048	063	075	100	125
H	135	165	189	239	289
D	113	128	140	165	190
K	215	260	300	380	455

The required clearance height: $H_F = H + 25mm$ (with 1.5kg/m fill weight)

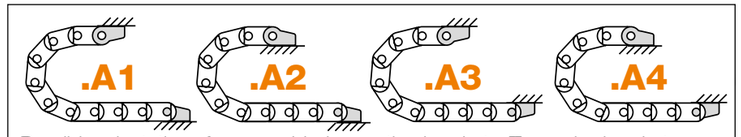
Radii for several widths available upon request (please see product range table above).

E2 mini | Series B17i B17 | Accessories

Mounting brackets, polymer one-piece | Locking



Width index	Standard	Part No. full set with tiewrap plates	Part No. full set without tiewrap plates	A [mm]	B [mm]	Number of teeth
1.	▶	**117.1.12PZ**	**117.1.12P**	–	25.5	2
2.	▶	**117.2.12PZ**	**117.2.12P**	12	35.5	3
3.	▶	**117.3.12PZ**	**117.3.12P**	25	48.5	4
4.	▶	**117.4.12PZ**	**117.4.12P**	37	60.5	5
5.	▶	**117.5.12PZ**	**117.5.12P**	48	76.0	6
6.	▶	**117.6.12PZ**	**117.6.12P**	65	93.0	8
7.	▶	**117.7.12PZ**	**117.7.12P**	85	113	10



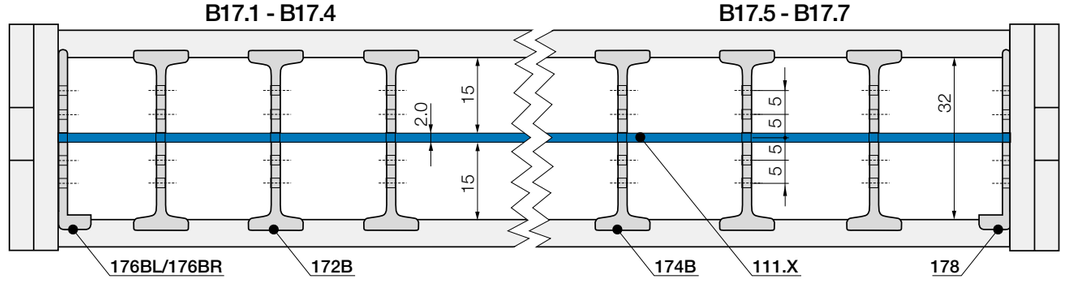
Possible orientations for assembled mounting brackets. To receive brackets **pre-fitted** please add index **.A1**, **.A2**, **.A3** or **.A4**.

117.2.12PZ.A1 **Order example**

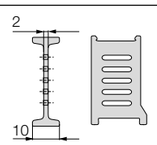
- **.A** ... to indicate option with brackets pre-fitted
- With integrated strain relief tiewrap plates
- Full set
- Series

E2 mini | Series B17i B17 | Accessories

Interior separation



No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-chain® link!

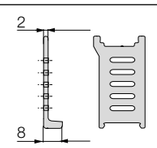



Slotted separator	
unassembled	**171B**
assembled	**172B**

For width index B17.1 up to B17.4

Slotted separator

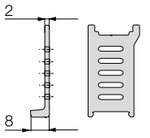
For easy vertical separation. The slot allows basic vertical/ horizontal shelving arrangements.

Slotted side plate, links	
unassembled	**175BL**
assembled	**176BL**

Slotted side plate, left

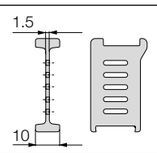
Allows modular shelving right up to the side links. No clearance required!

Slotted side plate, right	
unassembled	**175BR**
assembled	**176BR**

Slotted side plate, right

Allows modular shelving right up to the side links. No clearance required!

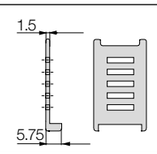



Slotted separator	
unassembled	**173B**
assembled	**174B**

For width index B17.5 up to B17.7

Slotted separator

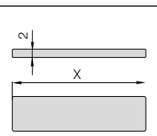
For easy vertical separation. The slot allows basic vertical/ horizontal shelving arrangements.

Slotted side plate	
unassembled	**177**
assembled	**178**

Slotted side plate

Allows modular shelving right up to the side links. No clearance required!

Full-width shelf for e-chains®	
unassembled	**110.X**
assembled	**111.X**

For all widths

Full-width shelf

This option is for applications with many small cables with similar diameters. For full width separation.

Full-width shelves
Width = X [mm]

X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
015	**110.15**	**111.15**	050	**110.50**	**111.50**	100	**110.100**	**111.100**
025	**110.25**	**111.25**	063	**110.63**	**111.63**			
038	**110.38**	**111.38**	080	**110.80**	**111.80**			

E2 mini | Application example

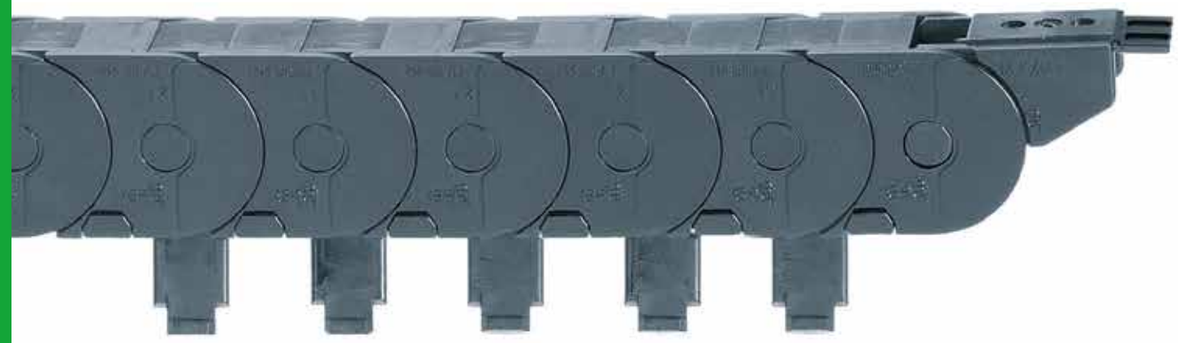


Five E2 mini chains installed above one another and side by side. The bend radii are exactly matched to each other

E2 mini | Series F17 | Product range

Large inner height, small outer width, enclosed outer radius

32



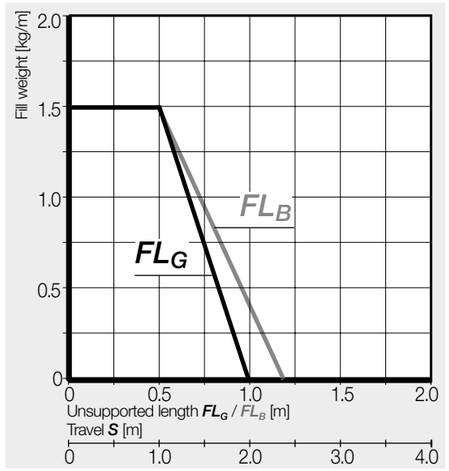
e-chains® | Series F17 | Openable along the inner radius from one side with film hinge

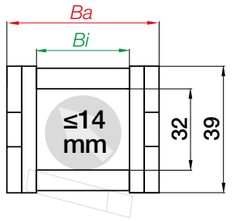
Part No. e-chains®	*Bi* [mm]	*Ba* [mm]	*R* Available bend radii [mm]	Weight [kg/m]
F17.015.*R*.0	15	26	| 048 | 063* | 075 | 100* | 125* |	≈ 0.52

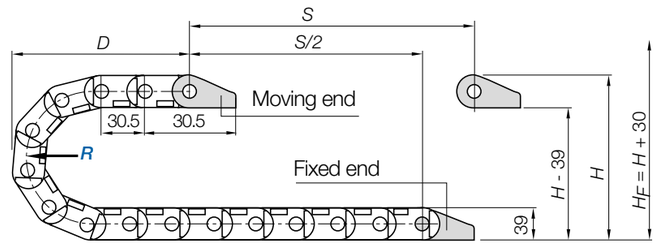
*Radius available upon request. Please consult igus® for delivery time.

Complete Part No. with required radius (*R*). Example: **F17.015.048.0**

Installation dimensions







Inner height [mm]	32
Pitch [mm/link]	30.5
Links/m	33
corresponds to [mm]	1,006.5
e-chain® length	$L_K = S/2 + K$

R	048	063*	075	100*	125*
H	135	165	189	239	289
D	113	128	140	165	190
K	215	260	300	380	455

The required clearance height: $H_F = H + 30$mm (with 0.5kg/m fill weight)

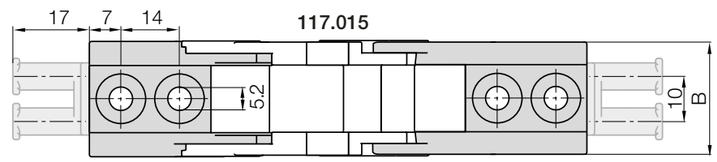
*Radius available upon request. Please consult igus® for delivery time.

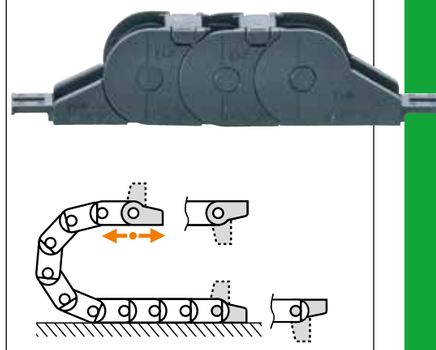
E2 mini | Series F17 | Accessories

Mounting brackets, polymer one-piece | Locking

Fixed end
117 ... 1P(Z)

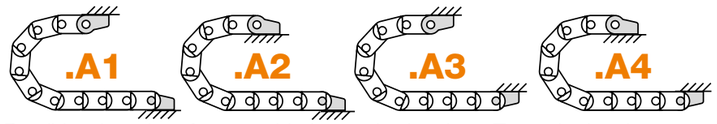
Moving end
117 ... 2P(Z)





Width index	Standard	Part No. full set with tiewrap plates	Part No. full set without tiewrap plates	A [mm]	B [mm]	Number of teeth
015. ▶		117.015.12PZ	117.015.12P	–	27.7	2

Material mounting bracket - igumid G, temperature: -40° up to +120°C, VDE 0304 IIC UL94-HB



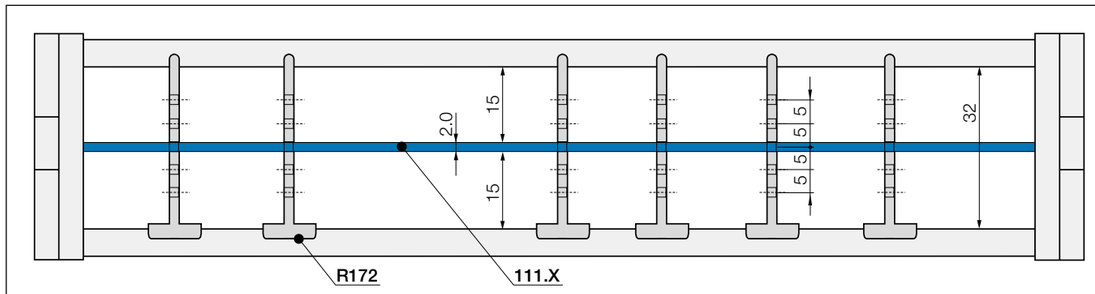
Possible orientations for assembled mounting brackets. To receive brackets **pre-fitted** please add index **.A1**, **.A2**, **.A3** or **.A4**.

117.015.12PZ.A1 **Order example**

.A ... to indicate option with brackets pre-fitted
With integrated strain relief tiewrap plates
Full set
Series

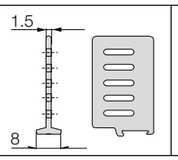
E2 mini | Series F17 | Accessories

Interior separation



No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-chain® link!



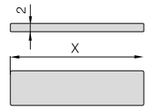


Slotted separator	
unassembled	**R171**
assembled	**R172**

Slotted separator

Vertical separation in e-tubes. The slot allows basic vertical/ horizontal shelving arrangements.





Full-width shelf for e-chains®	
unassembled	**110.X**
assembled	**111.X**

Full-width shelf

This option is for applications with many small cables with similar diameters. For full width separation.

Full-width shelves
Width = X [mm]

X [mm]	unassembled	assembled
015	**110.15**	**111.15**

E2 mini | Application example



E2 mini e-chain® with Reverse Bend Radius ***RBR***



E2.1 micro

the new "small" E2 micro standard

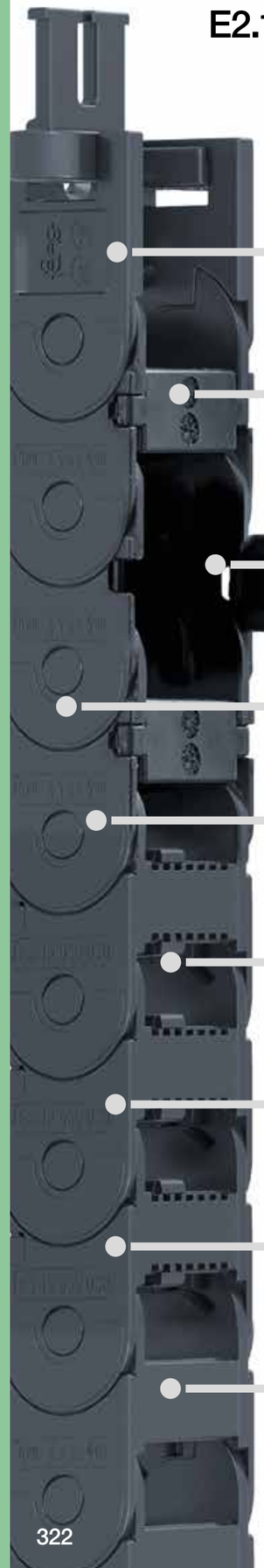
Advantage of the E2.1 micro series:

- More useable installation space*
- 25% more unsupported length*
- 100% more fill weight*
- 10% weight saving*
- Chain opener for opening long sections of chain quickly. Provided free of charge with the first delivery
- Cable friendly interior separation range
- Openable from both sides (left or right)
- Available in 2 sizes, from stock
- Version with electrically conductive ESD material, tested with over 10 million cycles for the most demanding applications

* in comparison to equivalent igus® series

When to use another e-chain® series:

- When a quicker fitting of cables is required
  ► **easy chain®, page 308**
- When an e-chain® that is suitable for cleanrooms is needed
  ► **E3 system, page 732**
- When an openable e-chain® is not necessary
  ► **E2 micro, page 260**



Universal connection: mounting bracket with strain relief and quickflange option

Cable-friendly: very smooth contours ensure the longest cable life

Variety of options: non-openable or openable along the inner or outer radius

Strong: large, assembly-friendly pins

Cost-effective: lightweight and low-priced

Lockable interior separation: recommended for side-mounted applications

Quiet operation: integrated brake reduces noise

Smooth Design: dirt-repellent outer contour

Tough: square stop-dog system for large fill weights

The new "small" E2 micro standard - E2.1

E2.1 micro e-chains® are very small, one- and two-piece e-chains® with low weight, making them ideal for highly dynamic applications. E2.1 micro e-chains® are optimal for smallest installation spaces, and are available in many versions. They feature a strong stop-dog system for up to 25% longer unsupported travels as well as 100% higher fill weights (compared to similar igus® types). They are lightweight, robust and easy to open. An e-chain® opener is included in order to open the e-chain® in one go. Many accessories like interior separation and fixation options are also available.

Typical industries and applications
● Models (micro e-chain®) ● Automatic doors ● Vehicles ● Measuring machines ● Electronic engineering ● Handling ● Pick und place robots ● General machinery, etc.

UL94-V0 classification upon request

Electrically conductive ESD e-chains® - several series available from stock



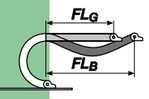
For a quick and easy opening, an e-chain® opener is included with every first order of openable E2.1 micro from igus®

Series	Inner height *hi* [mm]	Inner width *Bi* [mm]	Outer width *Ba* [mm]	Outer height *ha* [mm]	Bend radius *R* [mm]	Unsupported length ≤ [m]	Page
 **E2.1 micro - two-piece design** openable along the inner radius							
E2i.10	10.1	6 - 50	13.4 - 57.4	15	018 - 038	0.75	**326**
E2i.15	14.4	10 - 50	17.8 - 57.8	19.3	028 - 075	1.30	**330**
 **E2.1 micro - two-piece design** openable along the outer radius							
E2.10	10.1	6 - 50	13.4 - 57.4	15	018 - 038	0.75	**326**
E2.15	14.4	10 - 50	17.8 - 57.8	19.3	028 - 075	1.30	**330**
 **E2.1 micro - one-piece design** non-openable							
E2C.10	10.6	6 - 50	13.4 - 57.4	15	018 - 038	0.75	**326**
E2C.15	14.9	10 - 50	17.8 - 57.8	19.3	028 - 075	1.30	**330**

Available from stock. Ready to ship in 24 - 48hrs.*

*The delivery times indicated correspond to the average time until the ordered goods are dispatched.

Technical data



Speed gliding / acceleration gliding	≤ 10 [m/s] / ≤ 50 [m/s²]
Speed FL_G / acceleration FL_G	≤ 20 [m/s] / ≤ 200 [m/s²]
Speed FL_B / acceleration FL_B	≤ 3 [m/s] / ≤ 6 [m/s²]
Material - permitted temperature °C, igumid G	-40°C / +120°C
Flammability class, igumid G	VDE 0304 IIC UL94-HB

FL_G = unsupported with straight upper run FL_B = unsupported with permitted sag

Installation types, maximum travels

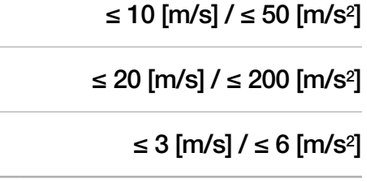
Series	Unsupported	Vertical hanging	Vertical standing	Side mounted unsupported	Rotary	Zig-zag
E2i.10/E2.10/E2C.10	≤ 1.50m	upon request	upon request	upon request	with rework	upon request
E2i.15/E2.15/E2C.15	≤ 2.60m	upon request	upon request	upon request	with rework	upon request

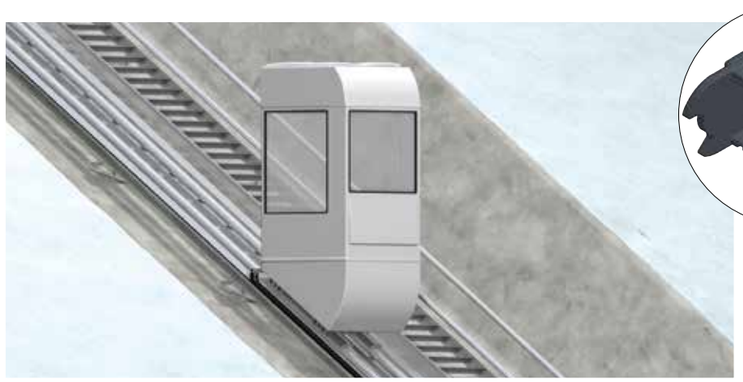
E2.1 micro special | ice-chain New

ice-chain - outdoors at low temperatures

- In order to prevent e-chains® from freezing at very low temperature in an inclined lift, two "nubs" have been injection-moulded onto the e-chain®.
- Closed link for maximum holding strength
- High strength for large unsupported lengths

More information ▶ www.igus.eu/icechain







When the e-chain® rarely moves and temperatures are very low, injection-moulded nubs prevent the igus® ice-chain from freezing to the running surface

Options with order keys | Examples based on series E2.10

Standard	*NC version - (No Camber) without pretension*	*Reverse Bend Radius (RBR) for circular movements*	*ESD - electrically conductive material*
Part No. Standard	**Part No. NC version**	**Part No. *RBR***	**Part No. igumid ESD**
E2i.10.20.*R*.0	**E2i.10.20.*R*.0.NC**	**E2i.10.20.*R1/R2*.0**	**E2i.10.20.*R*.0.ESD**
e-chain® openable along the inner radius	e-chain® openable along the inner radius	e-chain® openable along the inner radius	e-chain® openable along the inner radius
E2.10.20.*R*.0	**E2.10.20.*R*.0.NC**	**E2.10.20.*R1/R2*.0**	**E2.10.20.*R*.0.ESD**
e-chain® openable along the outer radius	e-chain® openable along the outer radius	e-chain® openable along the outer radius	e-chain® openable along the outer radius
E2C.10.20.*R*.0	**E2C.10.20.*R*.0.NC**	**E2C.10.20.*R1/R2*.0**	**E2C.10.20.*R*.0.ESD**
One-piece, non-openable	One-piece, non-openable	One-piece, non-openable	One-piece, non-openable
Ready to ship* in 24 - 48 hrs.	Delivery time* 2-5 business days	Delivery time* several series from stock	Delivery time* several series from stock

*The delivery times indicated correspond to the average time until the ordered goods are dispatched.

Order example | Order key and colour examples | Examples based on series E2.10

Order example for complete e-chain® (1.0m), colour black, with mounting brackets and interior separation:

e-chain® (1.0m)	Please indicate e-chain® length or number of links: 1.0m or 50 links	**E2.10.20.18.0**
+ Mounting brackets	1 set (with tiewrap plates)	**E2.100.20.34PZ**
Interior separation	with 2 separators assembled every 2nd link	**E2.10.2.1**
Order text:	**1 m E2.10.20.18.0 + E2.100.20.34PZ + 2 x E2.10.2.1**	

Order key

Openable along the inner radius	E2i.	10.	20.	18.	0
Openable along the outer radius	E2.	10.	20.	18.	0
One-piece, non-openable	E2C.	10.	20.	18.	0
	Series / Type				
	Width index (depends on *Bi*)				
	Bend radius *R*				
	Colour index (standard black)				

Order index for colour options

Colour	Order index		Colour	Order index	
Black	Standard	.0	Orange	Special colour	.2
Silver-grey	Special colour	.31	Yellow	Special colour	.4
White	Special colour	.1	Light grey	Special colour	.14
Grey-white	Special colour	.1S			

Black e-chains® available from stock.

Above special colours upon request.

E2.1 micro | Series E2.10 | Product range

Next generation, strong, low noise, fast opening





e-chains® | Series E2i.10 | Openable along the inner radius, from both sides
Standard e-chains® | Series E2.10 | Openable along the outer radius, from both sides
e-chains® | Series E2C.10 | One-piece, non-openable

Part No. e-chains® openable along the inner radius	Part No. e-chains® openable along the outer radius	Part No. e-chains® one-piece, non-openable	*Bi*	*Ba*	*R* Available bend radii	E2i.10	E2.10	E2C.10
			[mm]	[mm]	[mm]	[kg/m]	[kg/m]	[kg/m]
E2i.10.06.*R*.0	E2.10. 06.*R*.0	E2C.10.06.*R*.0	6	13.4	| 018 | 028 | 038 |	≈ 0.13	≈ 0.13	≈ 0.14
E2i.10.10.*R*.0	E2.10. 10.*R*.0	E2C.10.10.*R*.0	10	17.4	| 018 | 028 | 038 |	≈ 0.14	≈ 0.14	≈ 0.14
E2i.10.16.*R*.0	E2.10. 16.*R*.0	E2C.10.16.*R*.0[1)]	16	23.4	| 018 | 028 | 038 |	≈ 0.16	≈ 0.16	≈ 0.16
E2i.10.20.*R*.0	E2.10. 20.*R*.0	E2C.10.20.*R*.0[1)]	20	27.4	| 018 | 028 | 038 |	≈ 0.17	≈ 0.17	≈ 0.17
E2i.10.30.*R*.0	E2.10. 30.*R*.0	E2C.10.30.*R*.0[1)]	30	37.4	| 018 | 028 | 038 |	≈ 0.19	≈ 0.19	≈ 0.20
E2i.10.40.*R*.0	E2.10. 40.*R*.0	E2C.10.40.*R*.0	40	47.4	| 018 | 028 | 038 |	≈ 0.22	≈ 0.22	≈ 0.23
E2i.10.50.*R*.0	E2.10. 50.*R*.0	E2C.10.50.*R*.0	50	57.4	| 018 | 028 | 038 |	≈ 0.25	≈ 0.25	≈ 0.25

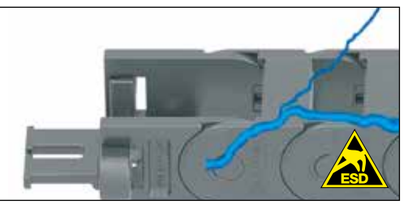
1) ⚠ Available as ESD version from stock

Complete Part No. with required radius (*R*). Example: **E2.10.20.038.0**

ESD - many sizes from stock

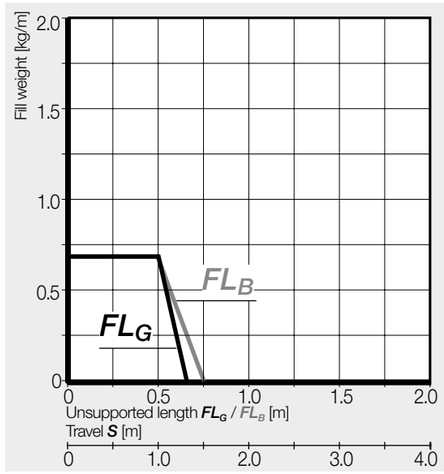
- Standardised product made from igumid ESD
- ESD material tested with over 10 million cycles for the toughest requirements
- Short delivery times including mounting brackets and interior separation; 24hrs, from stock

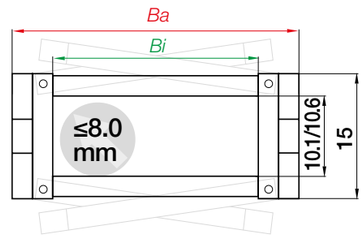
More information ▶ www.igus.eu/esd

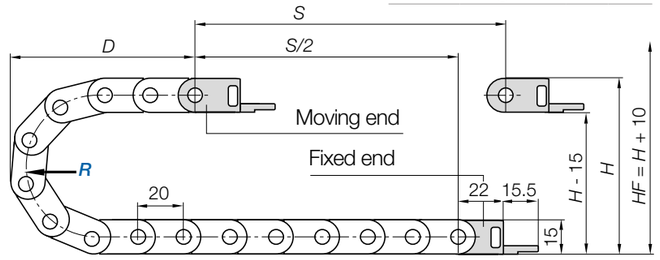


E2.1 micro | Series E2.10 | Installation dimensions

Unsupported applications | Short travels







E2i.10 Inner height [mm]	10.1
E2.10 Inner height [mm]	10.1
E2C.10 Inner height [mm]	10.6
Pitch [mm/link]	20
Links/m	50
corresponds to [mm]	1,000
e-chain® length	$L_K = S/2 + K$

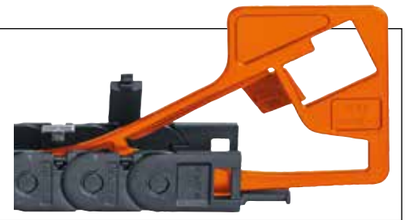
R	018	028	038
H	51	71	91
D	56	66	76
K	100	130	160

The required clearance height: $H_F = H + 10mm$ (with 0.2kg/m fill weight)

Reduce assembly time - E2.1 micro e-chain® opener

- For a quick and easy opening, an e-chain® opener is included with every first order of openable E2.1 micro from igus®
- Reduce opening times from 33 to 2 seconds
- Open a long chain section in one go

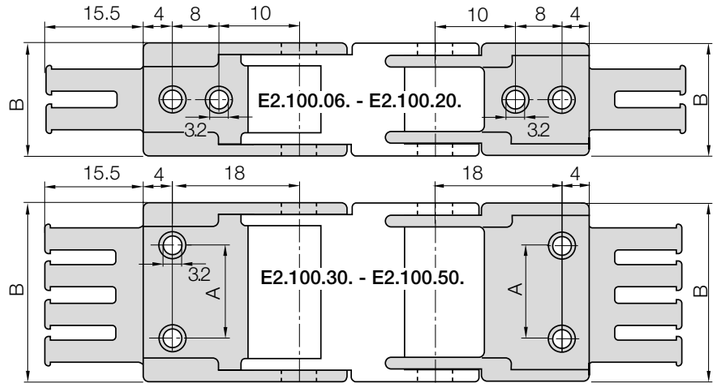
More information ▶ www.igus.eu/E2.1open



E2.1 micro | Series E2.10 | Accessories

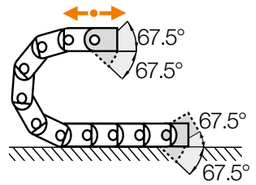
Mounting brackets, polymer one-piece | Pivoting | Locking

Moving end		Fixed end
E2.100 ... 3PZ	both ends pivoting	E2.100 ... 4PZ
E2.100 ... 5PZ	one end* pivoting	E2.100 ... 6PZ
E2.100 ... 1PZ	both ends locking	E2.100 ... 2PZ

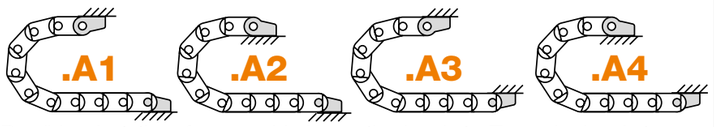




*One end pivoting: pivot angle = bend radius. One end only pivots towards the inner radius - whether fitted A1 or A4!



Width index		Part No. full set **with tiewrap plates** both ends pivoting	Part No. full set **with tiewrap plates** one end* pivoting	Part No. full set **with tiewrap plates** both ends locking	A [mm]	B [mm]	Number of teeth
06.	▶	**E2.100.06.34PZ**	**E2.100.06.56PZ**	**E2.100.06.12PZ**	–	13.4	1
10.	▶	**E2.100.10.34PZ**	**E2.100.10.56PZ**	**E2.100.10.12PZ**	–	17.4	1
16.	▶	**E2.100.16.34PZ**	**E2.100.16.56PZ**	**E2.100.16.12PZ**	–	23.4	2
20.	▶	**E2.100.20.34PZ**	**E2.100.20.56PZ**	**E2.100.20.12PZ**	–	27.4	2
30.	▶	**E2.100.30.34PZ**	**E2.100.30.56PZ**	**E2.100.30.12PZ**	22	37.4	3
40.	▶	**E2.100.40.34PZ**	**E2.100.40.56PZ**	**E2.100.40.12PZ**	32	47.4	4
50	▶	**E2.100.50.34PZ**	**E2.100.50.56PZ**	**E2.100.50.12PZ**	42	57.4	5



Possible orientations for assembled mounting brackets. To receive brackets **pre-fitted** please add index **.A1**, **.A2**, **.A3** or **.A4**.

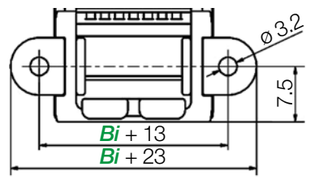
E2.100.20.34PZ.A1 Order example

- **.A** ... to indicate option with brackets pre-fitted
- With integrated strain relief tiewrap plates
- Full set
- Width index
- Series

Additional features



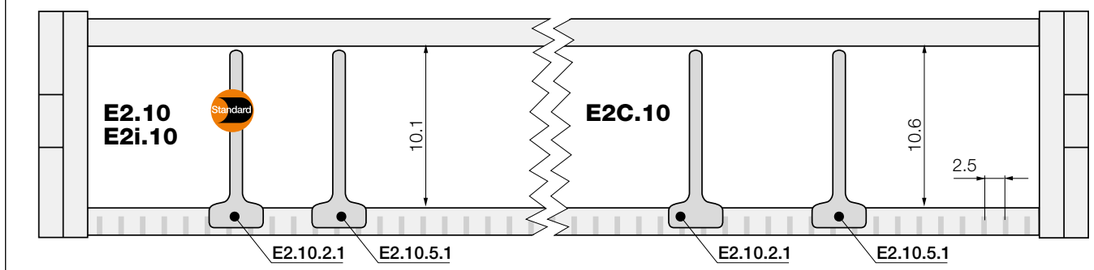
The quickflange can be clipped-in to all mounting brackets. Contains a housing for hexagonal nut and socket cap bolt M3. **Single Part No.: E2.150.QF or Part No. incl. mounting bracket: E2.100.20.34PZQF**



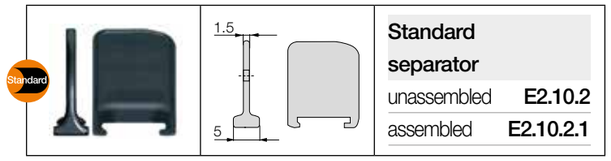
E2.10
E2i.10
E2C.10

E2.1 micro | Series E2.10 | Accessories

Interior separation | Increase cable service life



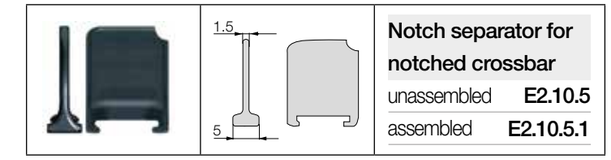
Note: for one-piece, non-openable e-chain® links please assemble the interior separation before fitting the e-chain®!
As standard separators are fitted every 2nd e-chain® link!



Standard separator	
unassembled	E2.10.2
assembled	E2.10.2.1

Standard - for any application

For easy vertical separation in e-chains®. Separators can be arranged in any position in the e-chain® cross-section. Without notches, freely movable.



Notch separator for notched crossbar	
unassembled	E2.10.5
assembled	E2.10.5.1

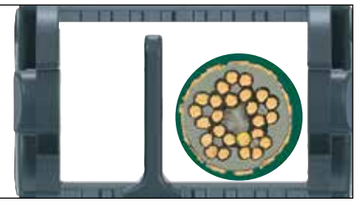
Locks securely in preset increments

Notch separator for exact positioning in e-chains®. Recommended for side-mounted applications.

75% less wear

- igus® separators increase the service life of the cables by a factor of 4
- Separators with a rounded design for less cable wear and abrasion
- Optimised for easier and faster assembly

More information ▶ www.igus.eu/E2.1open



Interior separation assembly tool for the E2.1 micro

- Easy fitting of separators and shelves
- Significant assembly time reduction
- Grip and tool tip can be ordered separately and are easy to change

More information ▶ www.igus.eu/E2.1open



E2.1 micro | Series E2.15 | Product range

Next generation, strong, low noise, fast opening





e-chains® | Series E2i.15 | Openable along the inner radius, from both sides
Standard e-chains® | Series E2.15 | Openable along the outer radius, from both sides
e-chains® | Series E2C.15 | One-piece, non-openable

Part No. e-chains® openable along the inner radius	Part No. e-chains® openable along the outer radius	Part No. e-chains® one-piece, non-openable	*Bi* [mm]	*Ba* [mm]	*R* Available bend radii [mm]				E2i.15 [kg/m]	E2.15 [kg/m]	E2C.15 [kg/m]
E2i.15.10.*R*.0	E2.15.10.*R*.0	E2C.15.10.*R*.0	10	17.8	028	038	048	–	≈ 0.18	≈ 0.18	≈ 0.19
E2i.15.13.*R*.0	E2.15.13.*R*.0	E2C.15.13.*R*.0	13	20.8	028	038	048	–	≈ 0.19	≈ 0.19	≈ 0.20
E2i.15.16.*R*.0	E2.15.16.*R*.0	E2C.15.16.*R*.0[1)]	16	23.8	028	038	048	–	≈ 0.20	≈ 0.20	≈ 0.20
E2i.15.20.*R*.0	E2.15.20.*R*.0	E2C.15.20.*R*.0[1)]	20	27.8	028	038	048	–	≈ 0.21	≈ 0.21	≈ 0.21
E2i.15.30.*R*.0	E2.15.30.*R*.0	E2C.15.30.*R*.0[1)]	30	37.8	028	038	048	–	≈ 0.24	≈ 0.24	≈ 0.24
E2i.15.40.*R*.0	E2.15.40.*R*.0	E2C.15.40.*R*.0	40	47.8	028	038	048	075*	≈ 0.26	≈ 0.26	≈ 0.26
E2i.15.50.*R*.0	E2.15.50.*R*.0	E2C.15.50.*R*.0	50	57.8	028	038	048	–	≈ 0.29	≈ 0.29	≈ 0.29

*Radius 075 only for series E2C.15.40

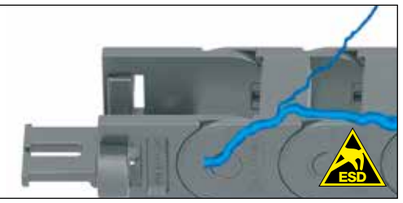
1) ⚠ Available as ESD version from stock

Complete Part No. with required radius (*R*). Example: **E2.15.20.038.0**

ESD - many sizes from stock

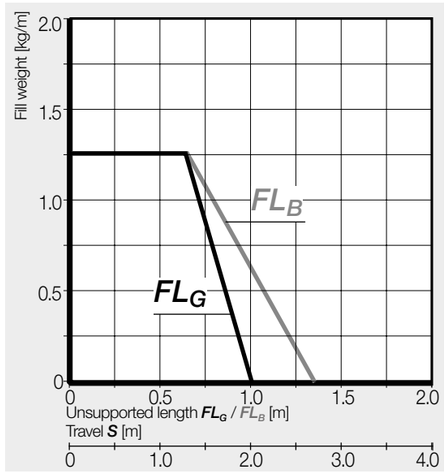
- Standardised product made from igumid ESD
- ESD material tested with over 10 million cycles for the toughest requirements
- Short delivery times including mounting brackets and interior separation; 24hrs, from stock

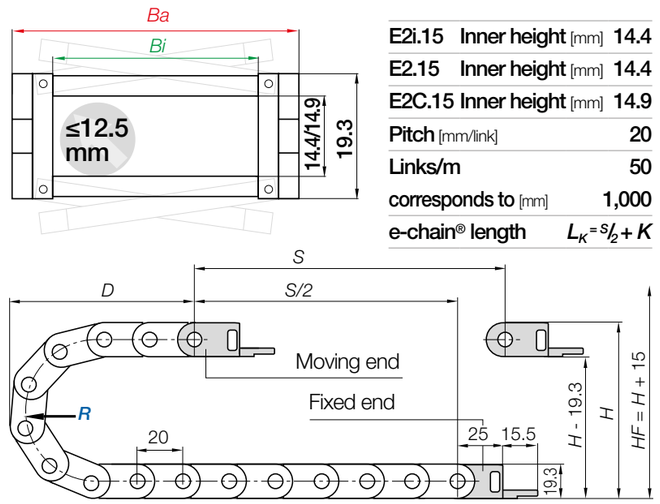
More information ▶ www.igus.eu/esd



E2.1 micro | Series E2.15 | Installation dimensions

Unsupported applications | Short travels





E2i.15	Inner height [mm]	14.4
E2.15	Inner height [mm]	14.4
E2C.15	Inner height [mm]	14.9
Pitch [mm/link]		20
Links/m		50
corresponds to [mm]		1,000
e-chain® length		$L_K = S/2 + K$

R	028	038	048	075*
H	75	95	115	169
D	68	78	88	115
K	130	160	195	280

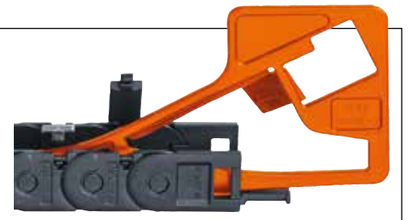
The required clearance height: $H_F = H + 15$mm (with 0.3kg/m fill weight)

*Radius 075 only for series E2C.15.40

Reduce assembly time - E2.1 micro e-chain® opener

- For a quick and easy opening, an e-chain® opener is included with every first order of openable E2.1 micro from igus®
- Reduce opening times from 33 to 2 seconds
- Open a long chain section in one go

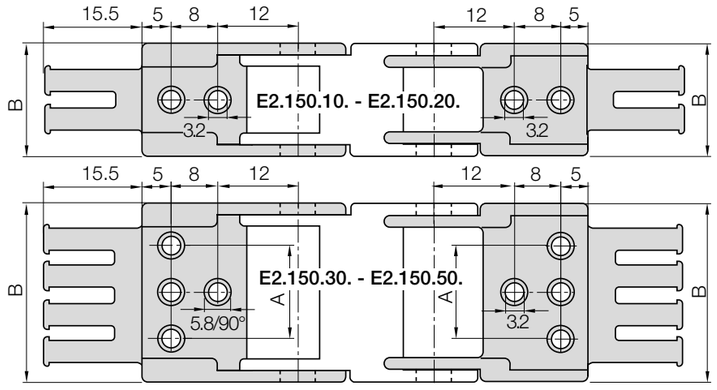
More information ▶ www.igus.eu/E2.1open



E2.1 micro | Series E2.15 | Accessories

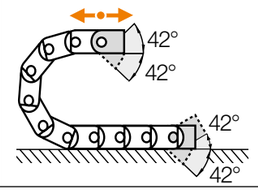
Mounting brackets, polymer one-piece | Pivoting | Locking

Moving end		Fixed end
E2.150 ... 3PZ	both ends pivoting	E2.150 ... 4PZ
E2.150 ... 5PZ	one end* pivoting	E2.150 ... 6PZ
E2.150 ... 1PZ	both ends locking	E2.150 ... 2PZ

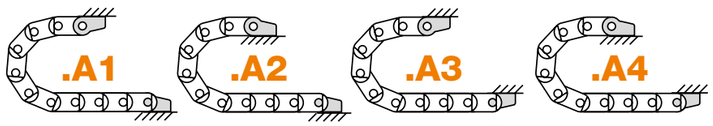




*One end pivoting: pivot angle = bend radius. One end only pivots towards the inner radius - whether fitted A1 or A4!



Width index	Part No. full set **with tiewrap plates** both ends pivoting	Part No. full set **with tiewrap plates** one end* pivoting	Part No. full set **with tiewrap plates** both ends locking	A [mm]	B [mm]	Number of teeth
10. ▶	**E2.150.10.34PZ**	**E2.150.10.56PZ**	**E2.150.10.12PZ**	–	17.8	1
13. ▶	**E2.150.13.34PZ**	**E2.150.13.56PZ**	**E2.150.13.12PZ**	–	20.8	1
16. ▶	**E2.150.16.34PZ**	**E2.150.16.56PZ**	**E2.150.16.12PZ**	–	23.8	2
20. ▶	**E2.150.20.34PZ**	**E2.150.20.56PZ**	**E2.150.20.12PZ**	–	27.8	2
30. ▶	**E2.150.30.34PZ**	**E2.150.30.56PZ**	**E2.150.30.12PZ**	22	37.8	3
40. ▶	**E2.150.40.34PZ**	**E2.150.40.56PZ**	**E2.150.40.12PZ**	32	47.8	4
50. ▶	**E2.150.50.34PZ**	**E2.150.50.56PZ**	**E2.150.50.12PZ**	42	57.8	5



Possible orientations for assembled mounting brackets. To receive brackets **pre-fitted** please add index **.A1**, **.A2**, **.A3** or **.A4**.

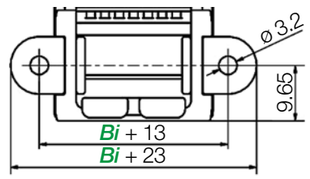
E2.150.20.34PZ.A1 Order example

- **.A** ... to indicate option with brackets pre-fitted
- With integrated strain relief tiewrap plates
- Full set
- Width index
- Series

Additional features



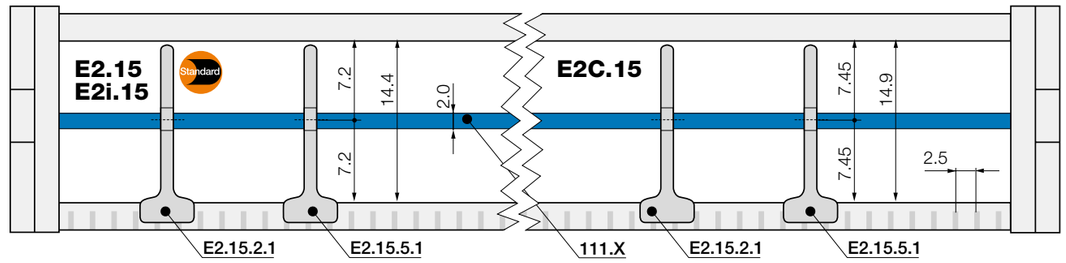
The quickflange can be clipped-in to all mounting brackets. Contains a housing for hexagonal nut and socket cap bolt M3. **Single Part No.: E2.150.QF or Part No. incl. mounting bracket: E2.150.20.34PZQF**



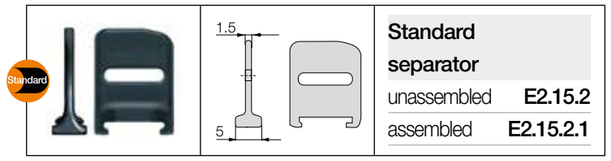
E2i.15
E2.15
E2C.15

E2.1 micro | Series E2.15 | Accessories

Interior separation | Increase cable service life



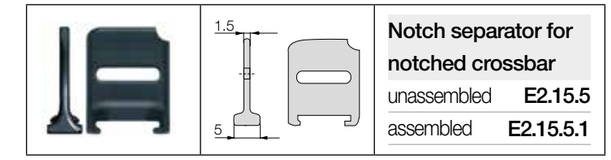
Note: for one-piece, non-openable e-chain® links please assemble the interior separation before fitting the e-chain®! As standard separators are fitted every 2nd e-chain® link!



Standard separator
unassembled **E2.15.2**
assembled **E2.15.2.1**

Standard - for any application

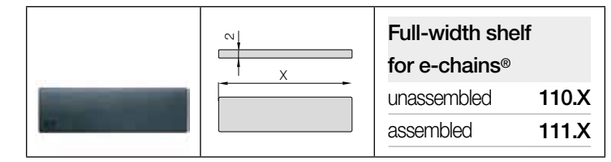
For easy vertical separation in e-chains®. Separators can be arranged in any position in the e-chain® cross-section. Without notches, freely movable.



Notch separator for notched crossbar
unassembled **E2.15.5**
assembled **E2.15.5.1**

Locks securely in preset increments

Notch separator for exact positioning in e-chains®. Recommended for side-mounted applications.



Full-width shelf for e-chains®
unassembled **110.X**
assembled **111.X**

Full-width shelf

This option is for applications with many small cables with similar diameters. For full width separation.

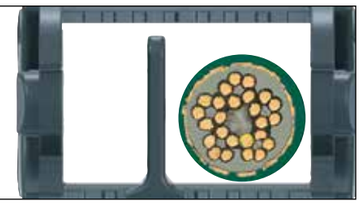
Full-width shelves
Width = X [mm]

X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
010	**110.10**	**111.10**	020	**110.20**	**111.20**	050	**110.50**	**111.50**
013	**110.13**	**111.13**	030	**110.30**	**111.30**			
016	**110.16**	**111.16**	040	**110.40**	**111.40**			

75% less wear

- igus® separators increase the service life of the cables by a factor of 4
- Separators with a rounded design for less cable wear and abrasion
- Optimised for easier and faster assembly

More information ▶ www.igus.eu/E2.1open



Interior separation assembly tool for the E2.1 micro

- Easy fitting of separators and shelves
- Significant assembly time reduction
- Grip and tool tip can be ordered separately and are easy to change

More information ▶ www.igus.eu/E2.1open





E2.1

New generation E2/000 e-chains® New

Advantages of the E2.1 series:

- More useable interior space with inner heights of 26, 38 and 48mm while the outer height is the same as the E2/000 e-chains®
- Easy to open - openable along the inner and outer radius, from both sides (left or right)
- Greater strength for unsupported applications
- Longer service life for gliding applications
- Integrated grid for interior separation in 2.5mm steps
- Cable-friendly due to smooth interior
- Quiet operation due to integrated brake
- igus® e-chain® opener for rapid opening in seconds, available for Series E2.38
- Complete interior separation range

When to use another e-chain® series:

- When a light, cost-effective e-chain®/e-tube with higher dynamics is needed ▶ **E4.1L, from page 524**
- When even higher strength is required ▶ E4.1L, from page **524**
- For very simple applications with fast filling ▶ easy chain®, page **198**



Universal connection: many mounting options with or without strain relief

Easy to open: openable along the inner and outer radius, from both sides (left or right)

Cable-friendly: very smooth contours ensure the longest cable life

Economical: E2.1 is lighter and offers more inner height than the E2/000 system with the same outer dimensions

Quiet operation: integrated brake reduces noise

Long service life: due to integrated gliding surfaces even on long travels

High strength: large pin/bore and crossbar with high locking force

New generation E2/000 e-chains® - E2.1

The proven e-chain system® E2/000 has been the worldwide standard in machinery since the year 2000. Continuous improvements over many years have now been combined in the new generation E2.1 and a new standard has been set. More usable filling space with the same outer dimensions and lower noise with increased service life and strength.

- More useable interior space while the outer height is the same as the E2/000 e-chains®
- Easy to open - openable along the inner and outer radius, from both sides (left or right)
- Quiet operation due to optimised brake
- Greater strength for unsupported applications
- Longer service life for gliding applications
- Notched crossbar with 2.5mm spacing
- Complete interior separation range

Typical industries and applications

- Machine tools
- Wood processing machines
- General mechanical engineering and all other areas



Open 1m e-chain® in 2 seconds. igus® e-chain® opener for rapid opening in seconds, available for Series E2.38

Series	Inner height *hi* [mm]	Inner width *Bi* [mm]	Outer width *Ba* [mm]	Outer height *ha* [mm]	Bend radius *R* [mm]	Unsupported length ≤ [m]	Page
 **E2i.1** crossbars openable along the inner radius, from both sides							
E2i.26**	26	upon request	upon request	35	048 - 250	2.25	342
E2i.38**	38	upon request	upon request	50	063 - 250	2.75	348
E2i.48**	48	upon request	upon request	64	075 - 300	3.00	354
 **E2.1** crossbars openable along the outer radius, from both sides							
E2.26* New	26	38 - 77	55 - 94	35	048 - 250	2.25	342
E2.38* New	38	50 - 100	67 - 117	50	063 - 250	2.75	348
E2.48* New	48	75 - 150	97 - 172	64	075 - 300	3.00	354

Available from stock. Ready to ship in 24 - 48hrs.*

*The delivery times indicated correspond to the average time until the ordered goods are dispatched.



More useable filling space, quiet operation due to integrated brake - the new generation E2 e-chains®



Special brake in the stop-dogs reduces noise level by up to 3 dB(A)



Crossbar openable both sides and from above or from the side, using only a screwdriver



Separators are secure even when e-chain® is open



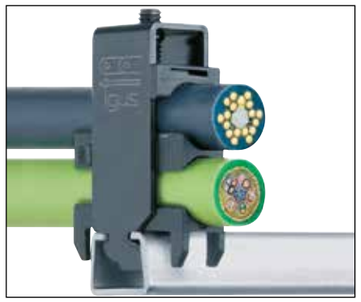
Plastic-metal mounting brackets for strong connection of the e-chain® to the machine, optionally available with C-profile



Integrated gliding surfaces ensure a long service life, even for long travels



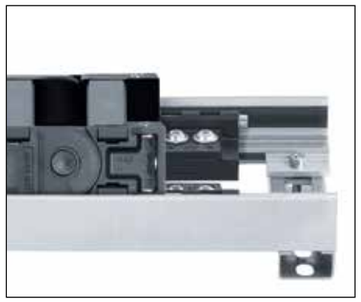
Lean separators enable extremely fast cable filling in several layers



Strain relief e.g. clamps, tiewrap plates, nuggets, etc. ▶ **From page 1300**

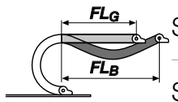


Aluminium SuperTrough - the standard igus® guide trough ▶ **From page 1208**



Aluminium support tray for support of the lower run ▶ **From page 1270**

Technical data



Speed gliding[1] / acceleration gliding[1]	≤ 10 [m/s] / ≤ 50 [m/s²]
Speed FL_G / acceleration FL_G	≤ 20 [m/s] / ≤ 200 [m/s²]
Speed FL_B / acceleration FL_B	≤ 3 [m/s] / ≤ 6 [m/s²]
Material - permitted temperature °C, igumid G	-40°C / +120°C
Flammability class, igumid G	VDE 0304 IIC UL94-HB

FL_G = unsupported with straight upper run FL_B = unsupported with permitted sag

1) For openable series along the inner radius in gliding applications, please consult igus®

Installation types, maximum travels

Series	Unsupported	Gliding[1]	Vertical hanging	Vertical standing	Side mounted unsupported	Rotary	Zig-zag	Unsupported length lower run
E2i.26 / E2.26	≤ 4.25m	≤ 100m	≤ 40m	≤ 3.0m	≤ 1.0m	with rework	upon request	upon request
E2i.38 / E2.38	≤ 5.5m	≤ 120m	≤ 50m	≤ 3.0m	≤ 1.0m	with rework	upon request	upon request
E2i.48 / E2.48	≤ 6.0m	≤ 150m	≤ 80m	≤ 3.0m	≤ 1.0m	with rework	upon request	upon request

1) For openable series along the inner radius in gliding applications, please consult igus®

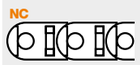
Reduce assembly time - E2.1 e-chain® opener

- igus® e-chain® opener for rapid opening in seconds, available for Series E2.38
- Reduce opening times from 33 to 2 seconds
- Open a long e-chain® section in one go

More information ▶ www.igus.eu/E2.1opener



Options with order keys | Examples based on series E2i.38/E2.38

Standard	*Optional noise dampers*	*NC version - (No Camber) without pretension*	*Reverse Bend Radius (RBR) for circular movements*
Part No. **Standard**	**Part No.** **Low noise (with pads)**	**Part No.** **NC version**	**Part No.** ***RBR***
			
E2i.38.065.*R*.0	**ES2i.38.065.*R*.0**	**E2i.38.065.*R*.0.NC**	**E2i.38.065.*R1/R2*.0**
e-chain® openable along inner radius[1]	e-chain® openable along inner radius[1]	e-chain® openable along inner radius[1]	e-chain® openable along inner radius[1]
E2.38.065.*R*.0	–	**E2.38.065.*R*.0.NC**	**E2.38.065.*R1/R2*.0**
e-chain® openable along the outer radius[1]		e-chain® openable along the outer radius[1]	e-chain® openable along the outer radius[1]
Ready to ship* in 24 - 48hrs.	Available upon request	Delivery time* 2-5 business days	Available upon request

*The delivery times indicated correspond to the average time until the ordered goods are dispatched.

1) For openable series along the inner radius in gliding applications, please consult igus®

E2.1 | Options and order keys

Unsupported lengths +25% possible	*ESD - electrically conductive material*	*Magnetically detectable plastic e-chains®*
Part No. **XXL material[2]**	**Part No.** **igumid ESD**	**Part No.** **igumid DT**
		
E2i.38.065.*R*.0.XXL	**E2i.38.065.*R*.0.ESD**	**E2i.38.065.*R*.0.DT**
e-chain® openable along inner radius[1]	e-chain® openable along inner radius[1]	e-chain® openable along inner radius[1]
E2.38.065.*R*.0.XXL	**E2.38.065.*R*.0.ESD**	**E2.38.065.*R*.0.DT**
e-chain® openable along the outer radius[1]	e-chain® openable along the outer radius[1]	e-chain® openable along the outer radius[1]
Available upon request	Available upon request	Available upon request

*The delivery times indicated correspond to the average time until the ordered goods are dispatched.

1) For openable series along the inner radius in gliding applications, please consult igus®

2) Bottom part made from XXL material

Order example | Examples based on series E2.38

Order example for complete e-chain® (1.0m), colour black, with mounting brackets and interior separation:

e-chain® (1.0m)	Please indicate e-chain® length or number of links: 1.0m or 22 links	**E2.38.065.100.0**
+ Mounting brackets	1 set (with tiewrap plates)	**2606.34PZB**
Interior separation	with 2 separators assembled every 2nd link	**2 x 38.1.1**
Order text:	**1 m E2.38.065.100.0 + 2606.34PZB + 2 x 38.1.1**	

Order key and colour examples | Examples based on series E2i.38/E2.38

Order key

e-chains® openable along the inner radius **E2i.38.065.100.0**

e-chains® openable along the outer radius **E2.28.065.100.0**

- Series / Type
- Inner height
- Width index (depends on *Bi*)
- Bend radius *R*
- Colour index (standard black)

Order index for colour options

Colour	Order index		Colour	Order index	
Black	Standard	**.0**	Orange	Special colour	.2
Silver-grey	Special colour	.31	Yellow	Special colour	.4
White	Special colour	.1	Light grey	Special colour	.14
Grey-white	Special colour	.1S			

Black e-chains® available from stock.

Above special colours upon request.

E2.1 | E2i.26·E2.26 | Product range New

Quiet operation, stronger and quicker to open



e-chains® | Series E2i.26 | Crossbars openable along the inner radius, from both sides
e-chains® | Series E2.26 | Crossbars openable along the outer radius, from both sides

Part No. e-chains® openable along inner radius	Part No. e-chains® openable along outer radius	Bi [mm]	Ba [mm]	R Available bend radii [mm]	E2i.26 [kg/m]	E2.26 [kg/m]
E2i.26.025.R.0*	E2.26.025.R.0*	25	42	048 | 055 | 075 | 100 | 125 | 150 | 175 | 200 | 225 | 250	≈ 0.77	≈ 0.77
E2i.26.038.R.0*	E2.26.038.R.0	38	55	048 | 055 | 075 | 100 | 125 | 150 | 175 | 200 | 225 | 250	≈ 0.84	≈ 0.84
E2i.26.057.R.0*	E2.26.057.R.0	57	74	048 | 055 | 075 | 100 | 125 | 150 | 175 | 200 | 225 | 250	≈ 0.92	≈ 0.92
E2i.26.077.R.0*	E2.26.077.R.0	77	94	048 | 055 | 075 | 100 | 125 | 150 | 175 | 200 | 225 | 250	≈ 0.99	≈ 0.99
E2i.26.089.R.0*	E2.26.089.R.0*	89	106	048 | 055 | 075 | 100 | 125 | 150 | 175 | 200 | 225 | 250	≈ 1.03	≈ 1.03
E2i.26.103.R.0*	E2.26.103.R.0*	103	120	048 | 055 | 075 | 100 | 125 | 150 | 175 | 200 | 225 | 250	≈ 1.10	≈ 1.10
E2i.26.125.R.0*	E2.26.125.R.0*	125	142	048 | 055 | 075 | 100 | 125 | 150 | 175 | 200 | 225 | 250	≈ 1.19	≈ 1.19

*Width available upon request. Please consult igus® for delivery time.

Complete Part No. with required radius (R). Example: **E2.26.038.048.0**

Aluminium support tray

- Corrosion-resistant and seawater-resistant aluminium rails with adjustable width
- Noise-reducing glide strip integrated as standard
- Easy installation and connection of the e-chain®
- Open design - dirt and debris fall through

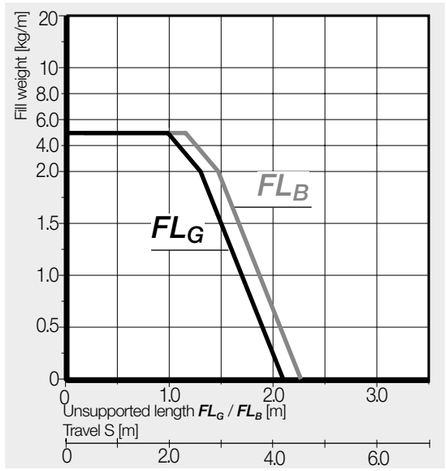
More information ▶ From page 1270

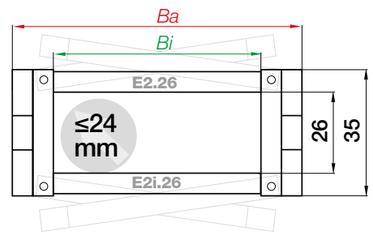


E2.1 | E2i.26·E2.26 | Installation dimensions

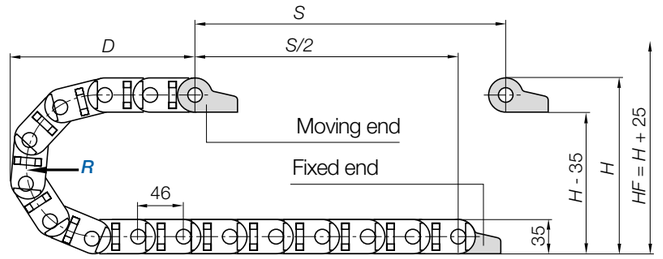
Unsupported applications | Short travels

▶ 1300 ▶ 1220





Inner height [mm]	26
Pitch [mm/link]	46
Links/m	22
corresponds to [mm]	1,012
e-chain® length	$L_K = S/2 + K$

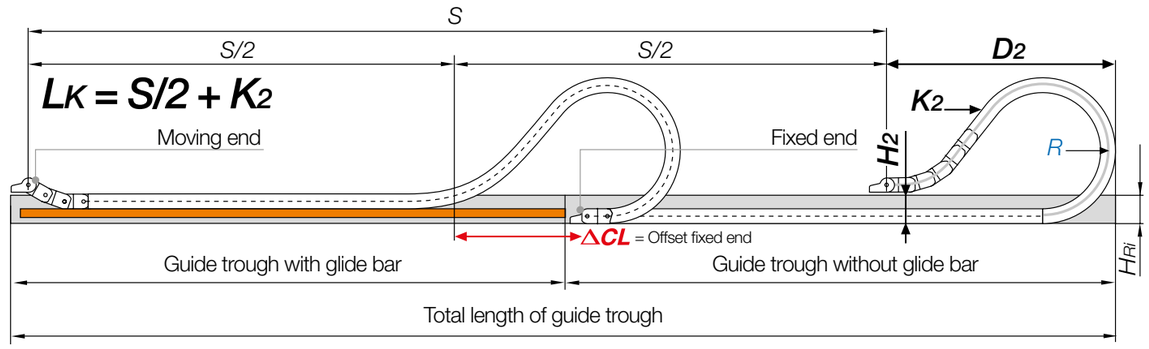


R	048	055	075	100	125	150	175	200	225	250
H	131	145	185	235	285	335	385	435	485	535
D	135	142	162	187	212	237	262	287	312	337
K	245	265	330	410	485	565	645	725	800	880

The required clearance height: $H_F = H + 25mm$ (with 1.5kg/m fill weight)

Before using series E2i.26 on long travels please consult igus®.

Gliding applications | For long travels from 10m to max. 100m



Note: Before using series E2i.26 on long travels please consult igus®.

For long travels, igus® recommends series E2.26 openable along the outer radius.

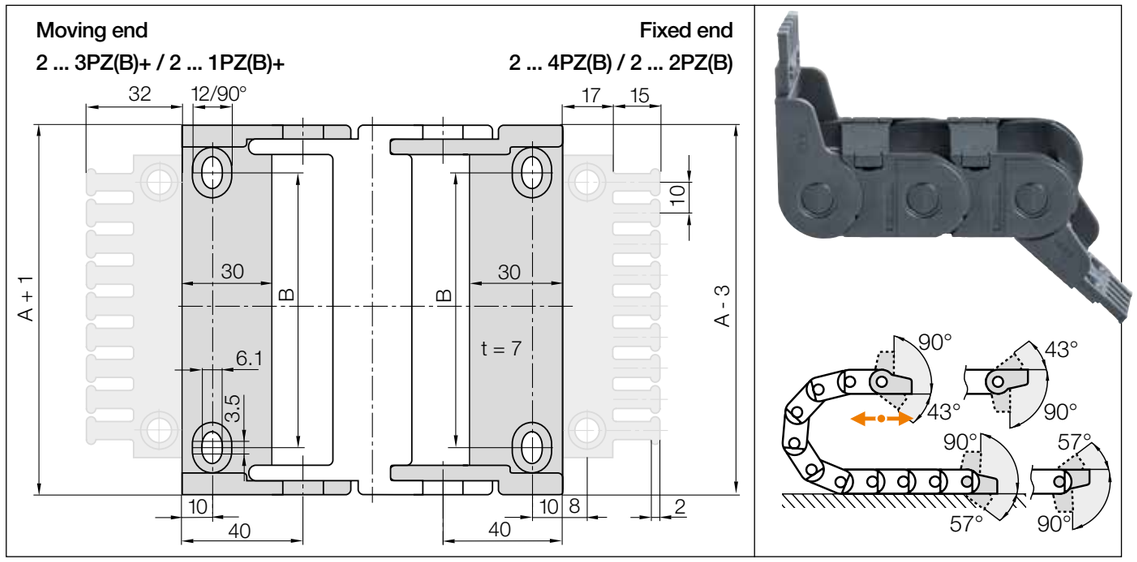
In case of travels between 4 and 10m we recommend an e-chain® with a longer unsupported length.

R	048	055	075	100	125	150	175	200	225	250
H_2	131	110	150	100	100	100	100	100	100	100
D_2^{+25}	135	145	162	380	440	590	755	950	1,040	1,130
K_2	245	265	330	644	736	1,012	1,242	1,472	1,610	1,794
ΔCL	–	–	–	204	244	364	504	674	754	804

Before using series E2i.26 on long travels please consult igus®.

E2.1 | E2i.26·E2.26 | Accessories

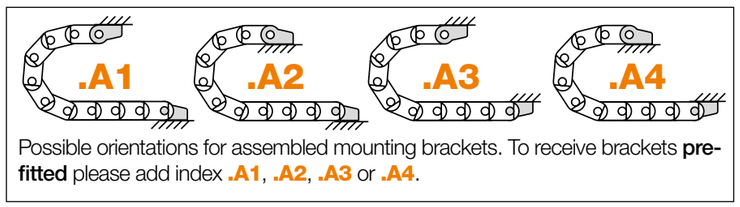
Mounting brackets, polymer | Pivoting | Locking



Standard **Polymer pivoting | Recommended for unsupported and gliding applications**
Polymer locking | Recommended for vertical hanging and standing applications

Width index	Part No. full set **pivoting** with tiewrap plates	Part No. full set **pivoting** without tiewrap plate	Part No. full set **locking** with tiewrap plates	Part No. full set **locking** without tiewrap plate	A [mm]	B [mm]	Number of teeth
025. ▶	2020.34PZB+	2020.34PZ+	2020.12PZB+	2020.12PZ+	41	12	3
038. ▶	2030.34PZB+	2030.34PZ+	2030.12PZB+	2030.12PZ+	54	25	4
057. ▶	2050.34PZB+	2050.34PZ+	2050.12PZB+	2050.12PZ+	73	44	6
077. ▶	2070.34PZB+	2070.34PZ+	2070.12PZB+	2070.12PZ+	93	64	8
089. ▶	2090.34PZB+	2090.34PZ+	2090.12PZB+	2090.12PZ+	105	77	9
103. ▶	2100.34PZB+	2100.34PZ+	2100.12PZB+	2100.12PZ+	119	90	10
125. ▶	2125.34PZB+	2125.34PZ+	2125.12PZB+	2125.12PZ+	141	112	12

Full set with tiewrap plate + 10 cable tiewraps, please add index **K1**. Example: **2020.34PZBK1+**



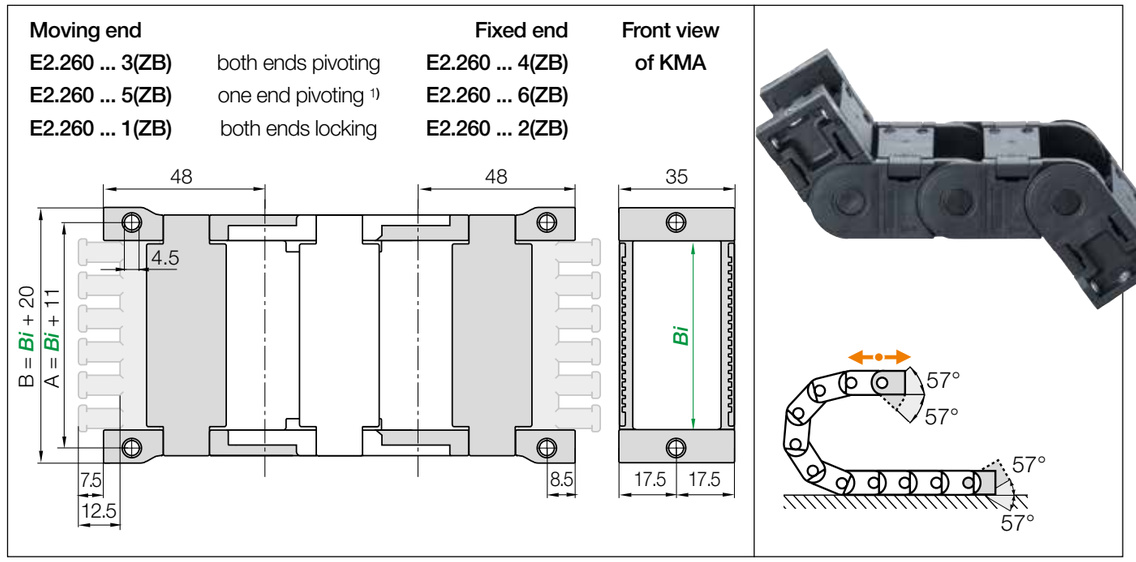
Possible orientations for assembled mounting brackets. To receive brackets **pre-fitted** please add index **.A1**, **.A2**, **.A3** or **.A4**.

2030.34PZB+.A1 **Order example**
.A ... to indicate option with brackets pre-fitted
With integrated strain relief tiewrap plates
Full set
Series

Strain relief e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with ordering options ▶ From page 1300

E2.1 | E2i.26·E2.26 | Accessories

KMA mounting brackets | Attachment from any side | Pivoting | Locking

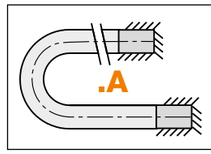


Standard **KMA pivoting | Recommended for unsupported and gliding applications**
KMA locking | Recommended for vertical hanging and standing applications

Width index	Part No. full set **KMA with tiewrap plates both ends pivoting**	Part No. full set **KMA with tiewrap plates one end pivoting** 1)	Part No. full set **KMA with tiewrap plates both ends locking**	A [mm]	B [mm]	*Bi* [mm]	Number of teeth
025. ▶	E2.260.025.34ZB*	E2.260.025.56ZB*	E2.260.025.12ZB*	36	45	25	2
038. ▶	E2.260.038.34ZB	E2.260.038.56ZB	E2.260.038.12ZB	49	58	38	4
057. ▶	E2.260.057.34ZB	E2.260.057.56ZB	E2.260.057.12ZB	68	77	57	6
077. ▶	E2.260.077.34ZB	E2.260.077.56ZB	E2.260.077.12ZB	88	97	77	7
089. ▶	E2.260.089.34ZB*	E2.260.089.56ZB*	E2.260.089.12ZB*	100	109	89	9
103. ▶	E2.260.103.34ZB*	E2.260.103.56ZB*	E2.260.103.12ZB*	114	123	103	10
125. ▶	E2.260.125.34ZB*	E2.260.125.56ZB*	E2.260.125.12ZB*	136	145	125	12

*Width available upon request. Please consult igus® for delivery time. 1) One end pivoting only to the inner radius

Optional strain relief: without tiewrap plates, please state part number **without index ZB**! (KMA = plastic-metal mounting bracket)



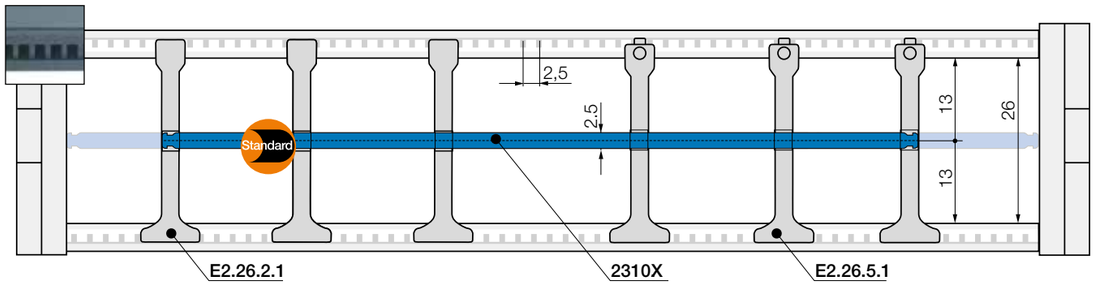
The bracket orientations are set automatically when using an igus® KMA mounting bracket. To receive KMA pre-fitted please add index **.A**

E2.260.038.12ZB.A **Order example**
.A ... to indicate option with brackets pre-fitted
With integrated strain relief tiewrap plates
Full set
Width index
Series

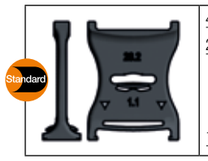
Strain relief e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with ordering options ▶ From page 1300

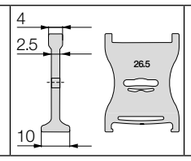
E2.1 | E2i.26·E2.26 | Accessories

Interior separation | Increase cable service life



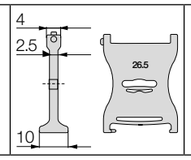
No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-chain® link!



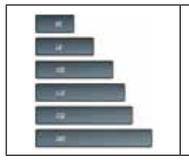


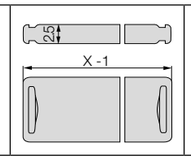
Separator, narrow top	
unassembled	**E2.26.2**
assembled	**E2.26.2.1**





Notch separator for notched crossbar	
unassembled	**E2.26.5**
assembled	**E2.26.5.1**





Shelf, lockable	
unassembled	**2300.X**
assembled	**2310.X**

For even faster installation

Wide on one side for high holding force, narrow on opposite side for easy cable fitting.

Locks securely in preset increments

Notch separator for exact positioning in e-chains®. Recommended for side-mounted applications.

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Shelves

Width = X [mm]



X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
015	**2300.015**	**2310.015**	060	**2300.060**	**2310.060**	087	**2300.087**	**2310.087**
025	**2300.025**	**2310.025**	062	**2300.062**	**2310.062**	090	**2300.090**	**2310.090**
030	**2300.030**	**2310.030**	065	**2300.065**	**2310.065**	100	**2300.100**	**2310.100**
038	**2300.038**	**2310.038**	070	**2300.070**	**2310.070**	103	**2300.103**	**2310.103**
040	**2300.040**	**2310.040**	075	**2300.075**	**2310.075**	110	**2300.110**	**2310.110**
050	**2300.050**	**2310.050**	077	**2300.077**	**2310.077**	120	**2300.120**	**2310.120**
057	**2300.057**	**2310.057**	080	**2300.080**	**2310.080**	125	**2300.125**	**2310.125**

Separator with integrated strain relief teeth

- Can be integrated into the mounting bracket or placed at any point in the e-chain®
- Combines strain relief and interior separation, for restricted space conditions
- Strain relief separator is easy to assemble without any screws

Part No. 26.Z. More information ▶ From page 1326



E2.1 | e-chain® with extender crossbars New

Guidance for hydraulic hoses

E2.1 e-chain® with extender crossbars - guidance for hydraulic hoses

- Safe, space-saving guidance of two hydraulic hoses
- Special solution for heavy machinery, e.g. for elevating work platforms
- Very hose-friendly guidance due to optimised inner contours of the e-chain®

More information ▶ www.igus.eu/hydraulicchain





E2.1 e-chain® with extender crossbars, guidance for hydraulic hoses - can be fitted along supporting legs

More information ▶ www.igus.eu/hydraulicchain

E2.1 | E2i.38·E2.38 | **Product range** New

Quiet operation, stronger and quicker to open



e-chains® | Series E2i.38 | Crossbars openable along the inner radius, from both sides

Standard **e-chains® | Series E2.38 | Crossbars openable along the outer radius, from both sides**

Part No. e-chains® openable along inner radius	Part No. e-chains® openable along outer radius	*Bi* [mm]	*Ba* [mm]	*R* Available bend radii [mm]	E2.38 [kg/m]	E2i.38 [kg/m]
E2i.38. 050 .*R*.0*	**E2.38. 050 .*R*.0**	50	67	063 | 075 | 100 | 125 | 150 | 175 | 200 | 250	≈ 1.01	≈ 1.01
E2i.38. 065 .*R*.0*	**E2.38. 065 .*R*.0**	65	82	063 | 075 | 100 | 125 | 150 | 175 | 200 | 250	≈ 1.08	≈ 1.08
E2i.38. 075 .*R*.0*	**E2.38. 075 .*R*.0**	75	92	063 | 075 | 100 | 125 | 150 | 175 | 200 | 250	≈ 1.12	≈ 1.12
E2i.38. 090 .*R*.0*	E2.38. 090 .*R*.0*	90	107	063 | 075 | 100 | 125 | 150 | 175 | 200 | 250	≈ 1.19	≈ 1.19
E2i.38. 100 .*R*.0*	**E2.38. 100 .*R*.0**	100	117	063 | 075 | 100 | 125 | 150 | 175 | 200 | 250	≈ 1.22	≈ 1.22
E2i.38. 125 .*R*.0*	E2.38. 125 .*R*.0*	125	142	063 | 075 | 100 | 125 | 150 | 175 | 200 | 250	≈ 1.33	≈ 1.33
E2i.38. 150 .*R*.0*	E2.38. 150 .*R*.0*	150	167	063 | 075 | 100 | 125 | 150 | 175 | 200 | 250	≈ 1.44	≈ 1.44
E2i.38. 175 .*R*.0*	E2.38. 175 .*R*.0*	175	192	063 | 075 | 100 | 125 | 150 | 175 | 200 | 250	≈ 1.55	≈ 1.55

*Width available upon request. Please consult igus® for delivery time.

Complete Part No. with required radius (*R*). Example: **E2.38.065.100.0**

Reduce assembly time - E2.1 e-chain® opener

- igus® e-chain® opener for rapid opening in seconds, available for Series E2.38
- Reduce opening times from 33 to 2 seconds
- Open a long e-chain® section in one go

More information ▶ www.igus.eu/E2.1opener



Aluminium support tray

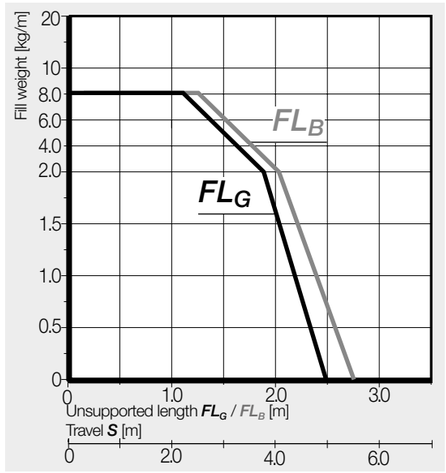
- Corrosion-resistant and seawater-resistant aluminium rails with adjustable width
- Noise-reducing glide strip integrated as standard
- Easy installation and connection of the e-chain®
- Open design - dirt and debris fall through

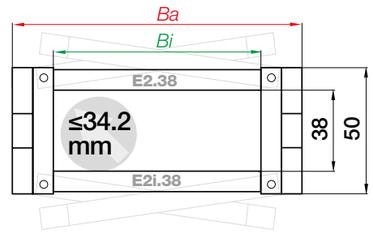
More information ▶ From page 1270



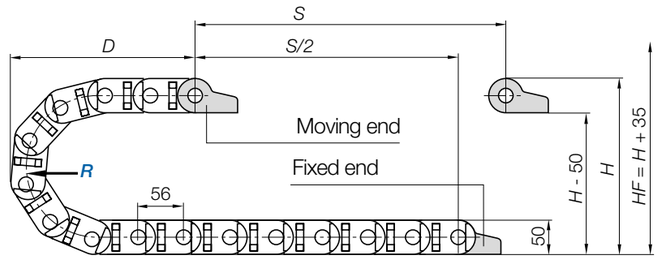
E2.1 | E2i.38·E2.38 | Installation dimensions

Unsupported applications | Short travels





Inner height [mm]	38
Pitch [mm/link]	56
Links/m	18
corresponds to [mm]	1,008
e-chain® length	$L_K = S/2 + K$

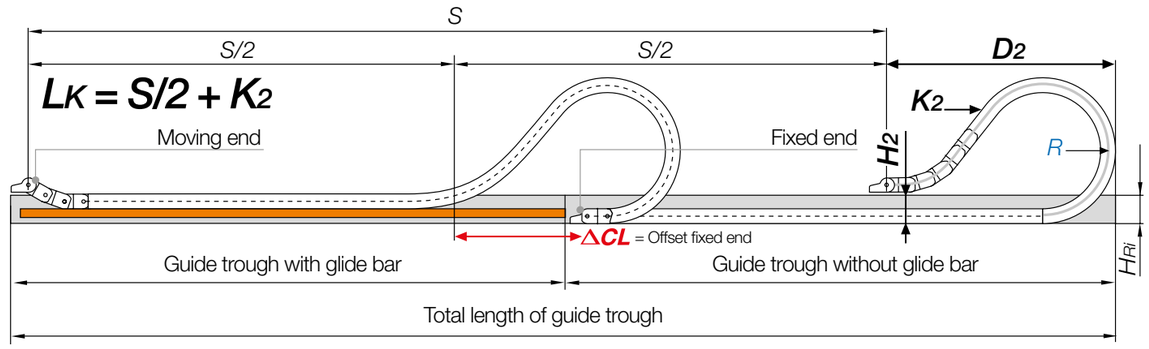


R	063	075	100	125	150	175	200	250
H	176	200	250	300	350	400	450	550
D	172	184	209	234	259	284	309	359
K	310	350	430	505	585	665	745	900

The required clearance height: $H_F = H + 35$mm (with 2.0kg/m fill weight)

Before using series E2i.38 on long travels please consult igus®.

Gliding applications | For long travels from 10m to max. 120m



Note: Before using series E2i.38 on long travels please consult igus®.

For long travels, igus® recommends series E2.38 openable along the outer radius.

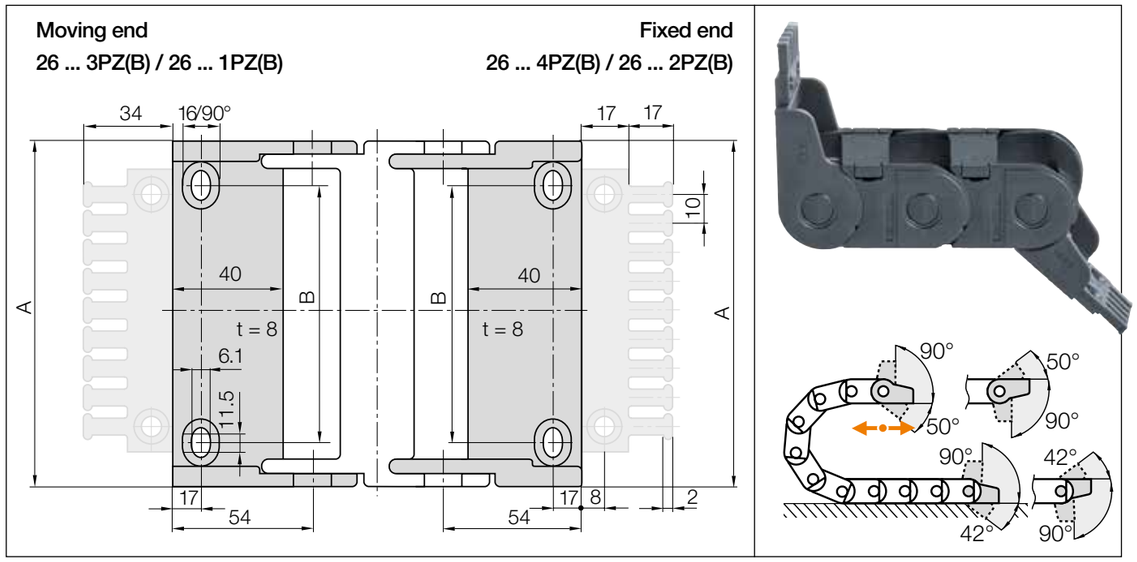
In case of travels between 5 and 10m we recommend an e-chain® with a longer unsupported length.

R	063	075	100	125	150	175	200	250
H_2	176	200	166	166	166	166	166	166
D_2^{+25}	172	184	395	510	545	700	805	995
K_2	310	350	616	784	896	1,120	1,288	1,624
ΔCL	–	–	144	244	244	374	464	594

Before using series E2i.38 on long travels please consult igus®.

E2.1 | E2i.38·E2.38 | Accessories

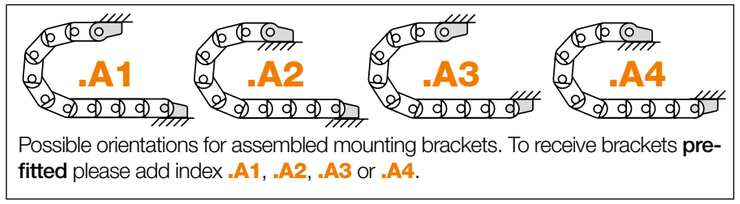
Mounting brackets, polymer | Pivoting | Locking



Standard **Polymer pivoting | Recommended for unsupported and gliding applications**
Polymer locking | Recommended for vertical hanging and standing applications

Width index	Part No. full set **pivoting** with tiewrap plates	Part No. full set **pivoting** without tiewrap plate	Part No. full set **locking** with tiewrap plates	Part No. full set **locking** without tiewrap plate	A [mm]	B [mm]	Number of teeth
050. ▶	**2605.34PZB**	**2605.34PZ**	**2605.12PZB**	**2605.12PZ**	68	30	5
065. ▶	**2606.34PZB**	**2606.34PZ**	**2606.12PZB**	**2606.12PZ**	83	45	5
075. ▶	**2607.34PZB**	**2607.34PZ**	**2607.12PZB**	**2607.12PZ**	93	55	7
090. ▶	**2609.34PZB**	**2609.34PZ**	**2609.12PZB**	**2609.12PZ**	108	70	9
100. ▶	**2610.34PZB**	**2610.34PZ**	**2610.12PZB**	**2610.12PZ**	118	80	10
125. ▶	**2612.34PZB**	**2612.34PZ**	**2612.12PZB**	**2612.12PZ**	143	105	12
150. ▶	**2615.34PZB**	**2615.34PZ**	**2615.12PZB**	**2615.12PZ**	168	130	15
175. ▶	**2617.34PZB**	**2617.34PZ**	**2617.12PZB**	**2617.12PZ**	193	155	17

Full set with tiewrap plate + 10 cable tiewraps, please add index **K1**. Example: **2606.34PZBK1**



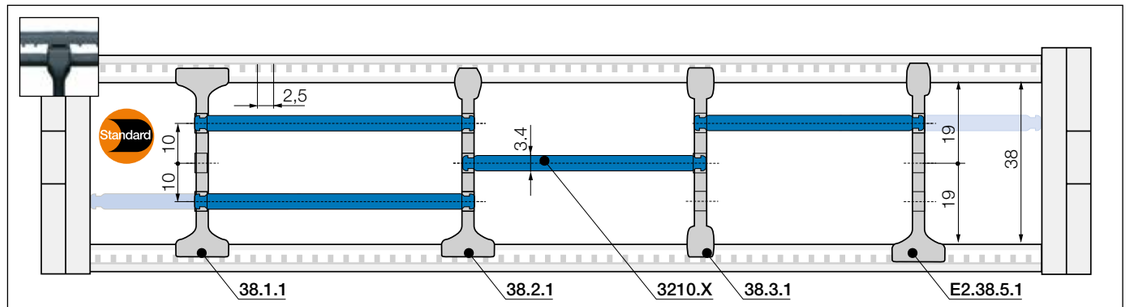
Possible orientations for assembled mounting brackets. To receive brackets **pre-fitted** please add index **.A1**, **.A2**, **.A3** or **.A4**.

2606.34PZB.A1 Order example
.A ... to indicate option with brackets pre-fitted
With integrated strain relief tiewrap plates
Full set
Series

Strain relief e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with ordering options ▶ From page 1300

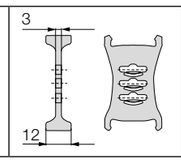
E2.1 | E2i.38·E2.38 | Accessories

Interior separation | Increase cable service life



No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-chain® link!



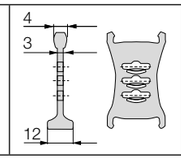


Standard separator, wide base	
unassembled	**38.1**
assembled	**38.1.1**

Standard - for any application

Separator with a wide base for maximum holding force in the e-chain®.



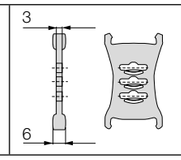


Separator, narrow top	
unassembled	**38.2**
assembled	**38.2.1**

For even faster installation

Wide on one side for high holding force, narrow on opposite side for easy cable fitting.



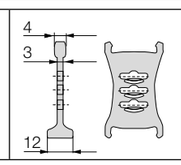


Separator, narrow	
unassembled	**38.3**
assembled	**38.3.1**

For small cables

Separator with a narrow base for a large number of small cables side by side. Saves space in the e-chain®.

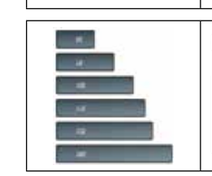


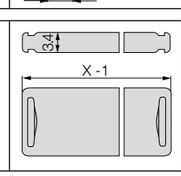


Notch separator for notched crossbar	
unassembled	**E2.38.5**
assembled	**E2.38.5.1**

Locks securely in preset increments

Notch separator for exact positioning in e-chains®. Recommended for side-mounted applications.





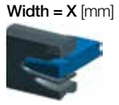
Shelf, lockable	
unassembled	**3200.X**
assembled	**3210.X**

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Shelves

Width = X [mm]



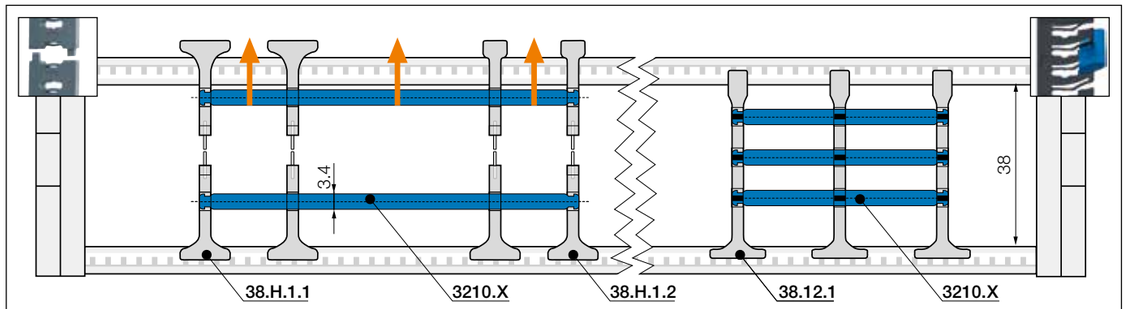
X [mm]	unassembled	assembled
050	**3200.050**	**3210.050**
075	**3200.075**	**3210.075**
100	**3200.100**	**3210.100**
115	**3200.115**	**3210.115**

X [mm]	unassembled	assembled
125	**3200.125**	**3210.125**
150	**3200.150**	**3210.150**
175	**3200.175**	**3210.175**
200	**3200.200**	**3210.200**

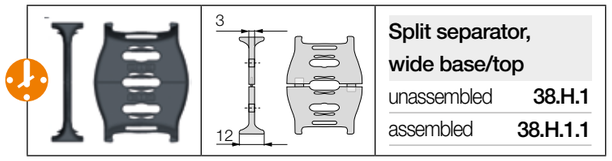
X [mm]	unassembled	assembled
225	**3200.225**	**3210.225**
250	**3200.250**	**3210.250**

E2.1 | E2i.38·E2.38 | Accessories

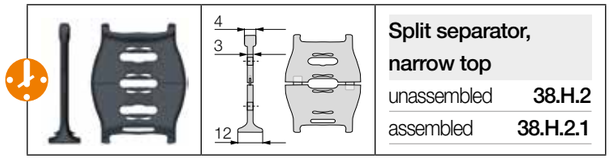
Interior separation | To allow faster filling New



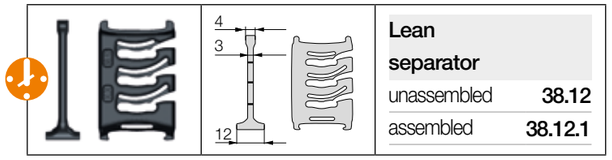
No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-chain® link!



Split separator, wide base/top	
unassembled	**38.H.1**
assembled	**38.H.1.1**



Split separator, narrow top	
unassembled	**38.H.2**
assembled	**38.H.2.1**



Lean separator	
unassembled	**38.12**
assembled	**38.12.1**

Lean separator design - several layers of cables fitted quickly, save up to 50%* assembly time
(*Lean separator vs. standard separator - measured on a 4m long e-chain® fitted with 12 cables in the igus® readychain® factory)

Split separators

In order to fill e-chains® more easily and effectively, these separators can be split in the middle. This allows easier access to middle shelf partitions. Fast assembly and easy retrofit. 2 types available: with wide or narrow top.

Lean separators

New design allows extremely fast fitting of shelves in several layers, which significantly reduces assembly time. Enables extremely fast replacement of individual cables in a very full e-chain®.



E2.1 | My sketches

E2i.38
E2.38

E2.1 | E2i.48·E2.48 | Product range Neu

Quiet operation, stronger and quicker to open

48 48



e-chains® | Series E2i.48 | Crossbars openable along the inner radius, from both sides
e-chains® | Series E2.48 | Crossbars openable along the outer radius, from both sides

Part No. e-chains® openable along inner radius	Part No. e-chains® openable along outer radius	Bi [mm]	Ba [mm]	R Available bend radii [mm]	E2.48 [kg/m]	E2i.48 [kg/m]
E2i.48. 050 .R.0*	E2.48. 050 .R.0*	50	72	075 | 100 | 125 | 150 | 200 | 250 | 300	≈ 1.77	≈ 1.77
E2i.48. 075 .R.0*	E2.48. 075 .R.0	75	97	075 | 100 | 125 | 150 | 200 | 250 | 300	≈ 1.86	≈ 1.86
E2i.48. 100 .R.0*	E2.48. 100 .R.0	100	122	075 | 100 | 125 | 150 | 200 | 250 | 300	≈ 2.00	≈ 2.00
E2i.48. 115 .R.0*	E2.48. 115 .R.0*	115	137	075 | 100 | 125 | 150 | 200 | 250 | 300	≈ 2.06	≈ 2.06
E2i.48. 125 .R.0*	E2.48. 125 .R.0*	125	147	075 | 100 | 125 | 150 | 200 | 250 | 300	≈ 2.12	≈ 2.12
E2i.48. 150 .R.0*	E2.48. 150 .R.0	150	172	075 | 100 | 125 | 150 | 200 | 250 | 300	≈ 2.24	≈ 2.24
E2i.48. 175 .R.0*	E2.48. 175 .R.0*	175	197	075 | 100 | 125 | 150 | 200 | 250 | 300	≈ 2.36	≈ 2.36
E2i.48. 200 .R.0*	E2.48. 200 .R.0*	200	222	075 | 100 | 125 | 150 | 200 | 250 | 300	≈ 2.48	≈ 2.48
E2i.48. 225 .R.0*	E2.48. 225 .R.0*	225	247	075 | 100 | 125 | 150 | 200 | 250 | 300	≈ 2.60	≈ 2.60
E2i.48. 250 .R.0*	E2.48. 250 .R.0*	250	272	075 | 100 | 125 | 150 | 200 | 250 | 300	≈ 2.72	≈ 2.72

*Width available upon request. Please consult igus® for delivery time.

Complete Part No. with required radius (*R*). Example: **E2.48.075.075.0**

Steel support tray for support of the lower run

- Simple one-piece support trays for the lower run
- To your requirements and specification
- 4 options available

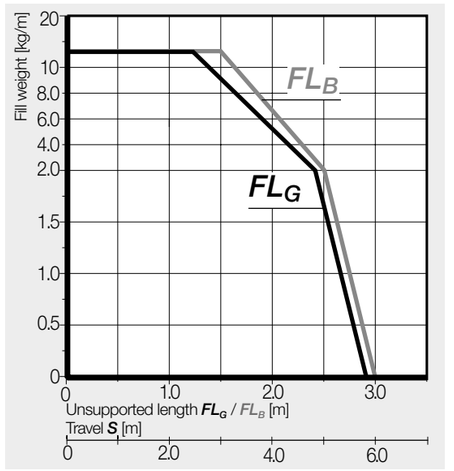
More information ▶ From page 1264

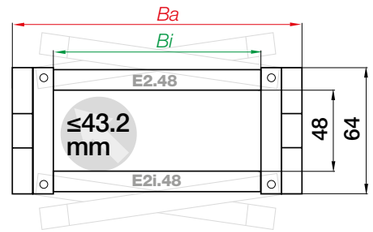


E2.1 | E2i.48·E2.48 | Installation dimensions

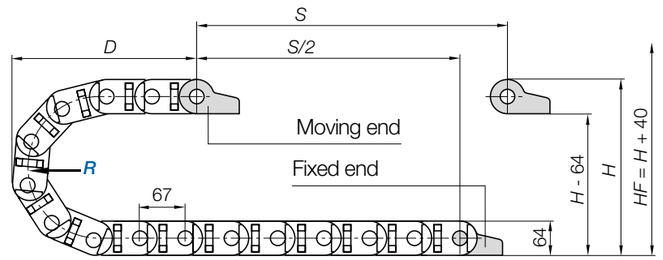
Unsupported applications | Short travels

▶ 1300 ▶ 1228





Inner height [mm]	48
Pitch [mm/link]	67
Links/m	15
corresponds to [mm]	1,005
e-chain® length	$L_K = S/2 + K$

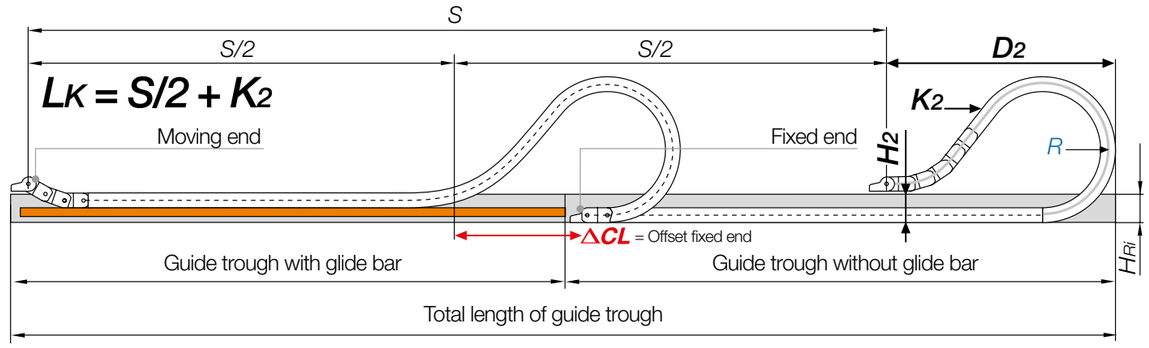


R	075	100	125	150	200	250	300
H	214	264	314	364	464	564	664
D	208	233	258	283	333	383	433
K	370	450	530	610	765	920	1,080

The required clearance height: $H_F = H + 40$mm (with 2.5kg/m fill weight)

Before using series E2i.48 on long travels please consult igus®.

Gliding applications | For long travels from 10m to max. 150m



Note: Before using series E2i.48 on long travels please consult igus®.

For long travels, igus® recommends series E2.48 openable along the outer radius.

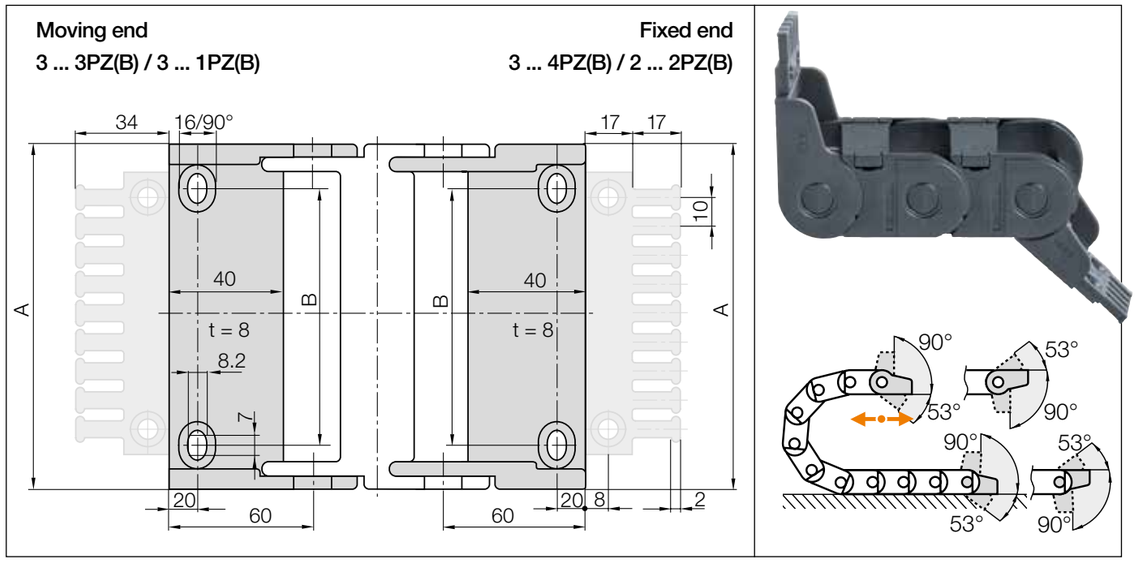
In case of travels between 6 and 10m we recommend an e-chain® with a longer unsupported length.

R	075	100	125	150	200	250	300
H_2	214	264	186	186	186	186	186
D_2^{+25}	208	233	475	570	780	1,010	1,150
K_2	370	450	804	1,005	1,340	1,675	1,943
ΔCL	–	–	233	303	463	643	733

Before using series E2i.48 on long travels please consult igus®.

E2.1 | E2i.48·E2.48 | Accessories

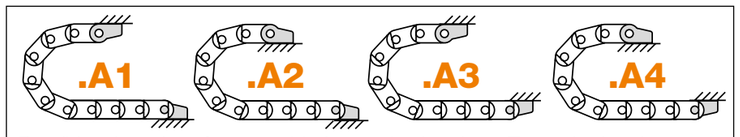
Mounting brackets, polymer | Pivoting | Locking



Standard **Polymer pivoting | Recommended for unsupported and gliding applications**
Polymer locking | Recommended for vertical hanging and standing applications

Width index	Part No. full set **pivoting** with tiewrap plates	Part No. full set **pivoting** without tiewrap plate	Part No. full set **locking** with tiewrap plates	Part No. full set **locking** without tiewrap plate	A [mm]	B [mm]	Number of teeth
050. ▶	**3050.34PZB**	**3050.34PZ**	**3050.12PZB**	**3050.12PZ**	71	28	5
075. ▶	**3075.34PZB**	**3075.34PZ**	**3075.12PZB**	**3075.12PZ**	96	53	7
100. ▶	**3100.34PZB**	**3100.34PZ**	**3100.12PZB**	**3100.12PZ**	121	78	10
115. ▶	**3115.34PZB**	**3115.34PZ**	**3115.12PZB**	**3115.12PZ**	136	93	11
125. ▶	**3125.34PZB**	**3125.34PZ**	**3125.12PZB**	**3125.12PZ**	146	103	12
150. ▶	**3150.34PZB**	**3150.34PZ**	**3150.12PZB**	**3150.12PZ**	171	128	15
175. ▶	**3175.34PZB**	**3175.34PZ**	**3175.12PZB**	**3175.12PZ**	196	153	17
200. ▶	**3200.34PZB**	**3200.34PZ**	**3200.12PZB**	**3200.12PZ**	221	178	20
225. ▶	**3225.34PZB**	**3225.34PZ**	**3225.12PZB**	**3225.12PZ**	246	203	22
250. ▶	**3250.34PZB**	**3250.34PZ**	**3250.12PZB**	**3250.12PZ**	271	228	25

Full set with tiewrap plate + 10 cable tiewraps, please add index **K1**. Example: **3275.34PZBK1**



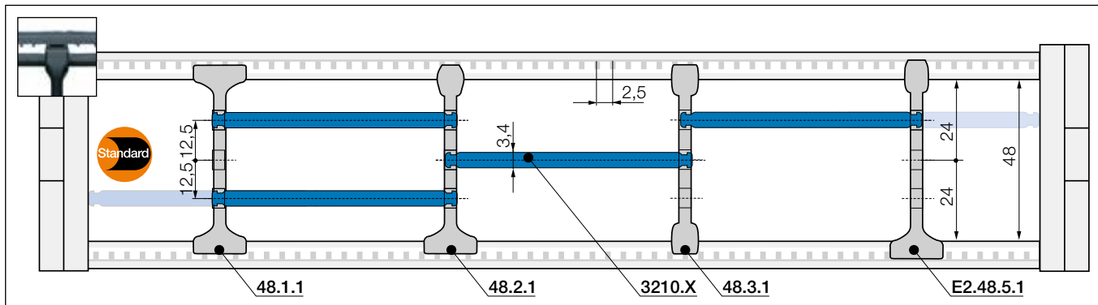
Possible orientations for assembled mounting brackets. To receive brackets **pre-fitted** please add index **.A1**, **.A2**, **.A3** or **.A4**.

3075.34PZB.A1
Order example
.A ... to indicate option with brackets pre-fitted
With integrated strain relief tiewrap plates
Full set
Series

Strain relief **e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with ordering options ▶ From page 1300**

E2.1 | E2i.48·E2.48 | Accessories

Interior separation | Increase cable service life



No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-chain® link!



Standard separator, wide base
unassembled **48.1**
assembled **48.1.1**

Standard - for any application

Separator with a wide base for maximum holding force in the e-chain®.



Separator, narrow top
unassembled **48.2**
assembled **48.2.1**

For even faster installation

Wide on one side for high holding force, narrow on opposite side for easy cable fitting.



Separator, narrow
unassembled **48.3**
assembled **48.3.1**

For small cables

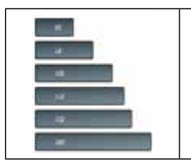
Separator with a narrow base for a large number of small cables side by side. Saves space in the e-chain®.



Notch separator for notched crossbar
unassembled **E2.48.5**
assembled **E2.48.5.1**

Locks securely in preset increments

Notch separator for exact positioning in e-chains®. Recommended for side-mounted applications.

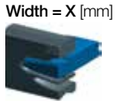


Shelf, lockable
unassembled **3200.X**
assembled **3210.X**

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Shelves
Width = X [mm]



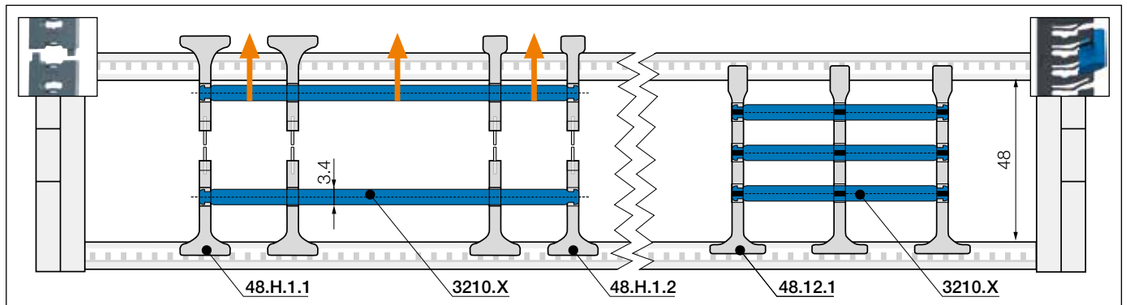
X [mm]	unassembled	assembled
050	**3200.050**	**3210.050**
075	**3200.075**	**3210.075**
100	**3200.100**	**3210.100**
115	**3200.115**	**3210.115**

X [mm]	unassembled	assembled
125	**3200.125**	**3210.125**
150	**3200.150**	**3210.150**
175	**3200.175**	**3210.175**
200	**3200.200**	**3210.200**

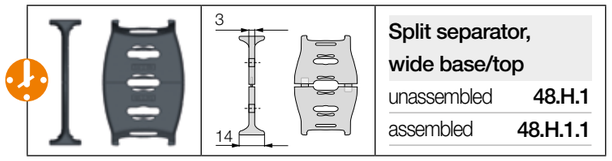
X [mm]	unassembled	assembled
225	**3200.225**	**3210.225**
250	**3200.250**	**3210.250**

E2.1 | E2i.48·E2.48 | Accessories

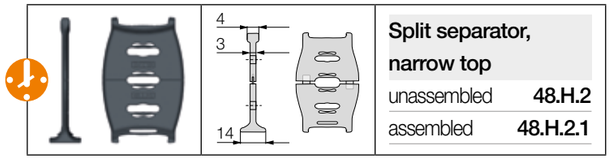
Interior separation | To allow faster filling New



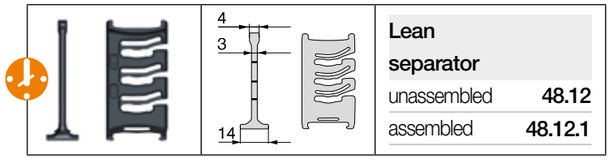
No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-chain® link!



Split separator, wide base/top	
unassembled	**48.H.1**
assembled	**48.H.1.1**



Split separator, narrow top	
unassembled	**48.H.2**
assembled	**48.H.2.1**



Lean separator	
unassembled	**48.12**
assembled	**48.12.1**

Lean separator design - several layers of cables fitted quickly, save up to 50%* assembly time
(*Lean separator vs. standard separator - measured on a 4m long e-chain® fitted with 12 cables in the igus® readychain® factory)

Split separators

In order to fill e-chains® more easily and effectively, these separators can be split in the middle. This allows easier access to middle shelf partitions. Fast assembly and easy retrofit. 2 types available: with wide or narrow top.

Lean separators

New design allows extremely fast fitting of shelves in several layers, which significantly reduces assembly time. Enables extremely fast replacement of individual cables in a very full e-chain®.



E2.1 | Application example



Crossbar with integrated grid and openable at both ends - from the top or the side with a screwdriver



E2/000

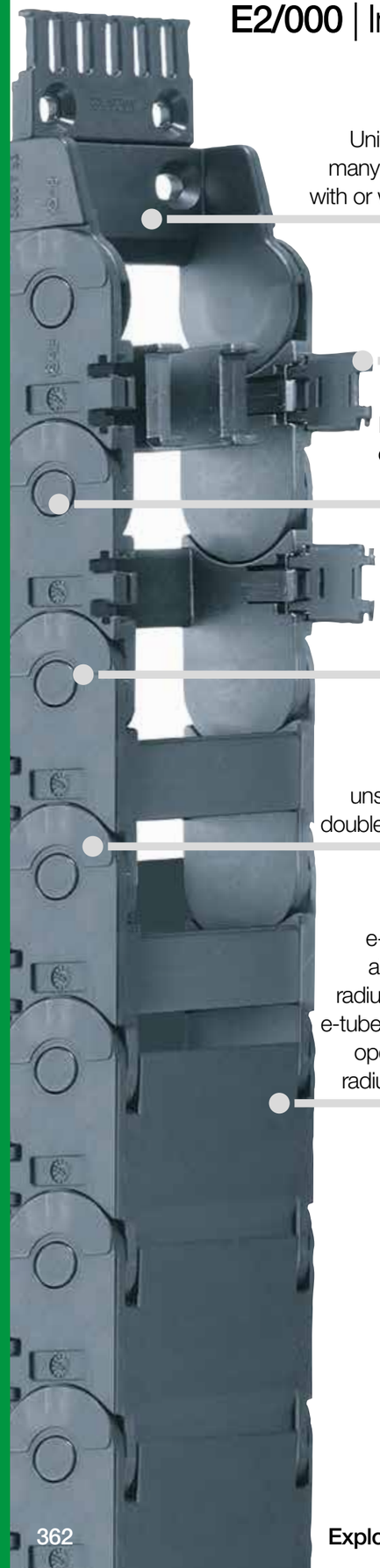
All-rounder for a wide range of applications

Advantages of the E2/000 series:

- When a medium-sized, strong system (e-chains®, half e-tubes, completely enclosed e-tubes) is required
- For unsupported lengths up to 3.0m and fill weights up to 13kg/m
- For long travels up to 150m
- If an openable system is required to quickly open from either the left or right
- Various fastening options

When to use another e-chain® series:

- When a stronger, light, cost-effective e-chain®/e-tube is required ▶ **E4.1L, page 524**
- For very simple applications with fast filling ▶ easy chain®, page **198**
- When very sealed e-tubes are required
  - ▶ **E2 R100 e-tube, page 428**
  - ▶ **E2 R e-tube, page 454**
  - ▶ **R2.1 e-tube, page 478**
  - ▶ **RX e-tube, page 502**



Universal connection: many mounting options with or without strain relief

Easy assembly: e-chain® links openable on left or right

High strength: large pin/bore and crossbar with high locking force

Long service life: lateral gliding surfaces

For long unsupported lengths: double stop-dog system

Variety of options: e-chains® openable along inner or outer radius from both sides, e-tubes and half e-tubes openable along inner radius from both sides

The all-rounder for a wide range of applications - E2/000

Series E2/000 is the fourth generation in this size. All past experience went into this series: easy and versatile assembly combined with ruggedness - high strength paired with quieter motion - long cable life and many mounting options. The design is consistent across all E2/000 variants. It is the standard product for machinery around the world.

Typical industries and applications

● Material handling ● Construction machinery ● Woodworking machines ● Machine tools ● Glass machines ● Plastic machines ● Long travel applications in many industries ● Semiconductors ● Theatre, entertainment and amusement parks, etc. ● Vehicles ● General machinery, etc.

Electrically conductive ESD e-chains® - several series available from stock

46dB(A) - level determined at the igus® test-lab, v = 1.0m/s unsupported, e.g. series 2600.05.075.0

UL94-V0 classifications upon request

IPA Qualification Certificate - Report IG 1303-640-1:
ISO Class 2, according to DIN EN ISO 14644-1 for System E2/000, Series 1500.050.038.0. at v = 0.5 / 1.0 / 2.0m/s

IPA Qualification Certificate - Report IG 0308-295:
ISO Class 3, according to DIN EN ISO 14644-1 for System E2/000, Series 2500.05.055.0. at v = 2.0m/s

Series	Inner height *hi* [mm]	Inner width *Bi* [mm]	Outer width *Ba* [mm]	Outer height *ha* [mm]	Bend radius *R* [mm]	Unsupported length ≤ [m]	Page
							
E2/000 e-chains® crossbars openable along the inner radius, from both sides							
1400	21	15 - 125	28.5 - 138.5	28	035 - 180	1.75	**368**
2400	25	25 - 125	41 - 141	35	055 - 250	2.25	**380**
2600	35	50 - 175	66 - 194	50	063 - 250	2.75	**392**
3400	45	50 - 250	70 - 270	64	075 - 300	3.00	**408**
							
E2/000 e-chains® - standard for system E2 crossbars openable along the outer radius, from both sides							
1500	21	15 - 125	28.5 - 138.5	28	035 - 180	1.75	**368**
2500	25	25 - 125	41 - 141	35	055 - 250	2.25	**380**
2700	35	50 - 175	66 - 194	50	063 - 250	2.75	**392**
3500	45	50 - 250	70 - 270	64	075 - 300	3.00	**408**
255	24	38 - 103	54 - 119	35	055 - 250	1.80	**424**
							
E2/000 half e-tubes crossbars openable along the inner radius, from both sides. Non-openable lids along the outer radius							
1450	21	15 - 125	28.5 - 138.5	28	075 - 180	1.75	**374**
2450	25	25 - 125	41 - 141	35	055 - 250	2.25	**386**
2650	35	50 - 175	66 - 194	50	100 - 250	2.75	**400**
3450	45	50 - 250	70 - 270	64	125 - 300	3.00	**416**
							
E2/000 full e-tubes lids openable along the inner radius, from both sides. Non-openable lids along the outer radius							
1480	21	15 - 125	28.5 - 138.5	28	075 - 180	1.75	**374**
2480	25	25 - 125	41 - 141	35	075 - 250	2.25	**386**
2680	35	50 - 175	66 - 194	50	100 - 250	2.75	**400**
3480	45	50 - 250	70 - 270	64	125 - 300	3.00	**416**

Available from stock. Ready to ship in 24 - 48hrs.*

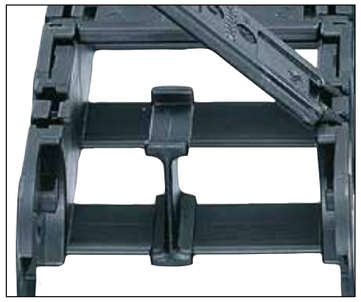
*The delivery times indicated correspond to the average time until the ordered goods are dispatched.



Openable mechanism, openable along the left or right and to 180°



Lean separators enable extremely fast cable filling in several layers



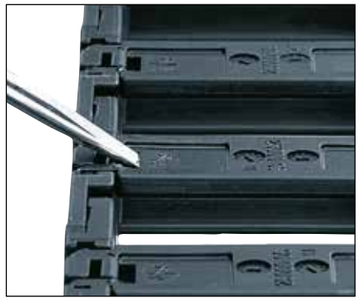
Separators are secure even when e-chain® is open



Half e-tube - fully enclosed along the outer radius. Openable along the inner radius on left or right



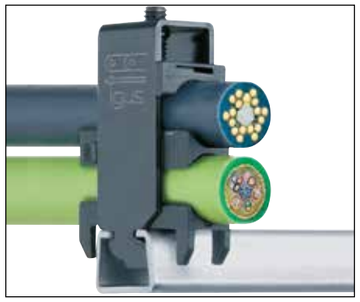
Fast closing by hand - secure without additional locking devices



Mechanical opening from the top - rapid opening with a screwdriver or the e-chain® opener



Open E2/000 in a flash with the e-chain® opener ▶ **www.igus.eu/E2opener**



Strain relief e.g. clamps, tiewrap plates, nuggets, etc. ▶ **From page 1300**



e-chains® with extender crossbars - large increase of the interior space



Aluminium SuperTrough - the standard igus® guide trough ▶ **From page 1208**



rol e-chain® E2/000 - rolling instead of gliding. Reduce driving force



Aluminium and steel support tray for support of the lower run ▶ **From page 1264**

Technical data



Speed gliding[1] / acceleration gliding[1]	≤ 10 [m/s] / ≤ 50 [m/s²]
Speed FL_G / acceleration FL_G	≤ 20 [m/s] / ≤ 200 [m/s²]
Speed FL_B / acceleration FL_B	≤ 3 [m/s] / ≤ 6 [m/s²]
Material - permitted temperature °C, igumid G	-40°C / +120°C
Flammability class, igumid G	VDE 0304 IIC UL94-HB

FL_G = unsupported with straight upper run FL_B = unsupported with permitted sag

1) For openable series along the inner radius in gliding applications, please consult igus®

Installation types, maximum travels

Series	Unsupported	Gliding[1]	Vertical hanging	Vertical standing	Side mounted unsupported	Rotary	Zig-zag	Unsupported length lower run
1400 / 1500 / 1450 / 1480	≤ 3.9m	≤ 75m	≤ 20m	≤ 2.0m	≤ 0.7m	with rework	upon request	upon request
2400 / 2500 / 2450 / 2480	≤ 4.25m	≤ 100m	≤ 40m	≤ 3.0m	≤ 1.0m	with rework	upon request	upon request
2600 / 2700 / 2650 / 2680	≤ 5.5m	≤ 120m	≤ 50m	≤ 3.0m	≤ 1.0m	with rework	upon request	upon request
3400 / 3500 / 3450 / 3480	≤ 6.0m	≤ 150m	≤ 80m	≤ 3.0m	≤ 1.0m	with rework	upon request	upon request
255	≤ 3.6m	≤ 100m	≤ 40m	≤ 3.0m	≤ 1.0m	with rework	upon request	upon request

1) For openable series along the inner radius in gliding applications, please consult igus®

Options with order keys | Examples based on series 2400/2500/2450/2480

Standard	*Optional noise dampers*	*NC version - (No Camber) without pretension*	*Reverse Bend Radius (RBR) for circular movements*
Part No. **Standard**	**Part No.** **Low noise (with pads)**	**Part No.** **NC version**	**Part No.** ***RBR***
2400.03.*R*.0 e-chain® openable along inner radius[1)]	**S2400.03.*R*.0** e-chain® openable along inner radius[1)]	**2400.03.*R*.0.NC** e-chain® openable along inner radius[1)]	**2400.03.*R1/R2*.0** e-chain® openable along inner radius[1)]
2500.03.*R*.0 e-chain® openable along the outer radius	–	**2500.03.*R*.0.NC** e-chain® openable along the outer radius	**2500.03.*R1/R2*.0** e-chain® openable along the outer radius
2450.03.*R*.0 Half e-tube openable along the inner radius[1)]	**S2450.03.*R*.0** Half e-tube openable along the inner radius[1)]	**2450.03.*R*.0.NC** Half e-tube openable along the inner radius[1)]	***RBR*** for e-tubes - please consult igus®
2480.03.*R*.0 e-tube openable along the inner radius[1)]	**S2480.03.*R*.0** e-tube openable along the inner radius[1)]	**2480.03.*R*.0.NC** e-tube openable along the inner radius[1)]	***RBR*** for e-tubes - please consult igus®
Ready to ship* in 24 - 48hrs.	**Delivery time* 3-5 business days**	**Delivery time* 2-5 business days**	**Delivery time* several series from stock**

*The delivery times indicated correspond to the average time until the ordered goods are dispatched.

Order example | Examples based on series 2500

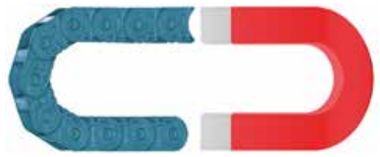
Order example for complete e-chain® (1.0m), colour black, with mounting brackets and interior separation:

e-chain® (1.0m)	Please indicate e-chain® length or number of links: 1.0m or 22 links	**2500.03.100.0**
+ Mounting brackets	1 set (with tiewrap plates)	**2030.34PZB+**
Interior separation	with 2 separators assembled every 2nd link	**2 x 25.1.1**
Order text:		**1 m 2500.03.100.0 + 2030.34PZB+ + 2 x 25.1.1**

Magnetically detectable plastic e-chains® for the food and tobacco industry

- igumid DT - automatic detection by all common metal detection systems
- Particles as small as 1.0mm can be recognised for fragments passing at speeds of 20m/min

More information ▶ www.igus.eu/detectable-chain



E2/000 | Options and order keys

Unsupported lengths +25% possible	*No burning-in of hot swarf up to +850°C (+1562° F)*	*ESD - electrically conductive material*	*Magnetically detectable plastic e-chains®*
Part No. **XXL material[2)]**	**Part No.** **igumid HT**	**Part No.** **igumid ESD**	**Part No.** **igumid DT**
2400.03.*R*.0.XXL e-chain® openable along inner radius[1)]	**2480.03.*R*.0.HT** Complete e-tube	**2400.03.*R*.0.ESD** e-chain® openable along inner radius[1)]	**2400.03.*R*.0.DT** e-chain® openable along inner radius[1)]
2500.03.*R*.0.XXL e-chain® openable along the outer radius	**2480.03HT.*R*.0** e-tube outer radius lid only	**2500.03.*R*.0.ESD** e-chain® openable along the outer radius	**2500.03.*R*.0.DT** e-chain® openable along the outer radius
2450.03.*R*.0.XXL Half e-tube openable along the inner radius[1)]	–	**2450.03.*R*.0.ESD** Half e-tube openable along the inner radius[1)]	**2450.03.*R*.0.DT** Half e-tube openable along the inner radius[1)]
2480.03.*R*.0.XXL e-tube openable along the inner radius[1)]	–	**2480.03.*R*.0.ESD** e-tube openable along the inner radius[1)]	**2480.03.*R*.0.DT** e-tube openable along the inner radius[1)]
Delivery time* 5 business days	**Delivery time* 7-10 business days**	**Delivery time* several series from stock**	**Delivery time* upon request**

1) Before using this series in gliding applications, please consult igus® 2) Lower part made from XXL material

Order key and colour examples | Examples based on series 2400/2500/2450/2480

Order key

e-chains® openable along the outer radius	2500.03.100.0
e-chains® openable along the inner radius	2400.03.100.0
Half e-tube openable along the inner radius	2450.03.100.0
Full e-tube openable along the inner radius	2480.03.100.0
Series / Type	
Width index (depends on *Bi*)	
Bend radius *R*	
Colour index (standard black)	

Order index for colour options

Colour	Order index		Colour	Order index	
Black	Standard	.0	Orange	Special colour	.2
Silver-grey	Special colour	.31	Yellow	Special colour	.4
White	Special colour	.1	Light grey	Special colour	.14
Grey-white	Special colour	.1S			

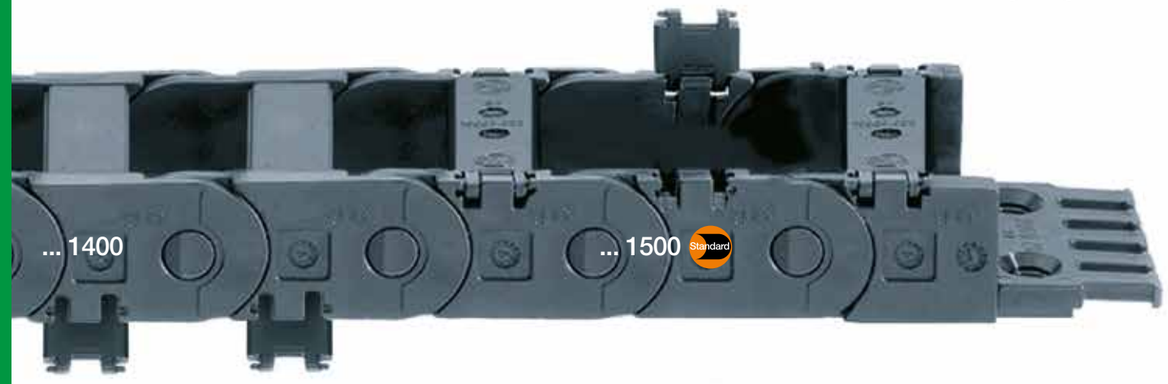
Black e-chains® available from stock.

Above special colours upon request.

E2/000 | e-chains® 1400·1500 | Product range

21 21

Small pitch, high strength



e-chains® | Series 1400 | Crossbars openable along the inner radius, from both sides
e-chains® | Series 1500 | Crossbars openable along the outer radius, from both sides

Part No. e-chains® openable along inner radius	Part No. e-chains® openable along outer radius	*Bi* [mm]	*Ba* [mm]	*R* Available bend radii [mm]	1400 [kg/m]	1500 [kg/m]
1400.015.*R*.0	1500.015.*R*.0[1)]	15	28.5	035 | 038 | 048 | 075 | 100 | 125 | 145 | 180	≈ 0.46	≈ 0.46
1400.020.*R*.0	1500.020.*R*.0	20	33.5	035 | 038 | 048 | 075 | 100 | 125 | 145 | 180	≈ 0.47	≈ 0.47
1400.025.*R*.0	1500.025.*R*.0[1)]	25	38.5	035 | 038 | 048 | 075 | 100 | 125 | 145 | 180	≈ 0.49	≈ 0.49
1400.038.*R*.0	1500.038.*R*.0[1)]	38	51.5	035 | 038 | 048 | 075 | 100 | 125 | 145 | 180	≈ 0.53	≈ 0.53
1400.050.*R*.0	1500.050.*R*.0[1)]	50	63.5	035 | 038 | 048 | 075 | 100 | 125 | 145 | 180	≈ 0.56	≈ 0.56
1400.068.*R*.0	1500.068.*R*.0[1)]	68	81.5	035 | 038 | 048 | 075 | 100 | 125 | 145 | 180	≈ 0.63	≈ 0.63
1400.080.*R*.0	1500.080.*R*.0[1)]	80	93.5	035 | 038 | 048 | 075 | 100 | 125 | 145 | 180	≈ 0.67	≈ 0.67
1400.100.*R*.0	1500.100.*R*.0	100	113.5	035 | 038 | 048 | 075 | 100 | 125 | 145 | 180	≈ 0.74	≈ 0.74
1400.125.*R*.0	1500.125.*R*.0	125	138.5	035 | 038 | 048 | 075 | 100 | 125 | 145 | 180	≈ 0.83	≈ 0.83

1) ⚠ Available as ESD version from stock

Half e-tubes, series 1450 and full e-tube series 1480 ▶ **From page 374**

Complete Part No. with required radius (*R*). Example: **1500.038.100.0**

Reduce assembly time - E2/000 e-chain® opener

- Reduce opening times from 33 to 2 seconds
- Open a long e-chain® section in one go
- For widths *Bi* [mm]: 20, 50, 68, 80, 100
- **Part No. 908.254.1400** for series 1400/1500

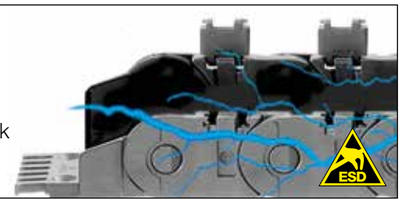
More information ▶ www.igus.eu/E2opener



ESD - many sizes from stock

- Standardised product made from igumid ESD
- ESD material tested with over 10 million cycles for the toughest requirements
- Short delivery times including mounting brackets and interior separation; 24hrs, from stock

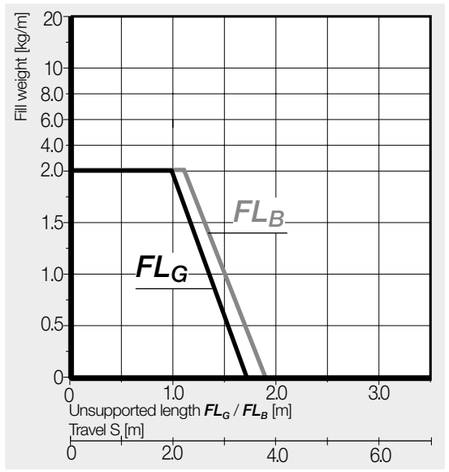
More information ▶ www.igus.eu/esd

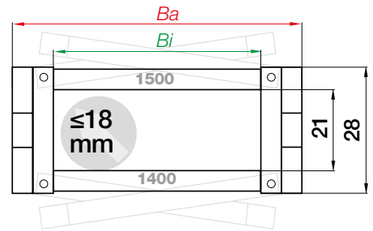


e-chains® 1400·1500 | Installation dimensions

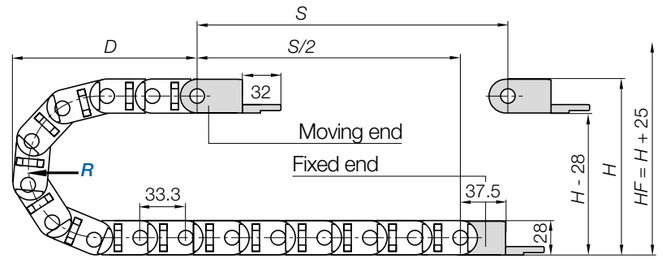
Unsupported applications | Short travels

▶ 1300 ▶ 1218





Inner height [mm]	21
Pitch [mm/link]	33.3
Links/m	30
corresponds to [mm]	1,000
e-chain® length	$L_K = S/2 + K$

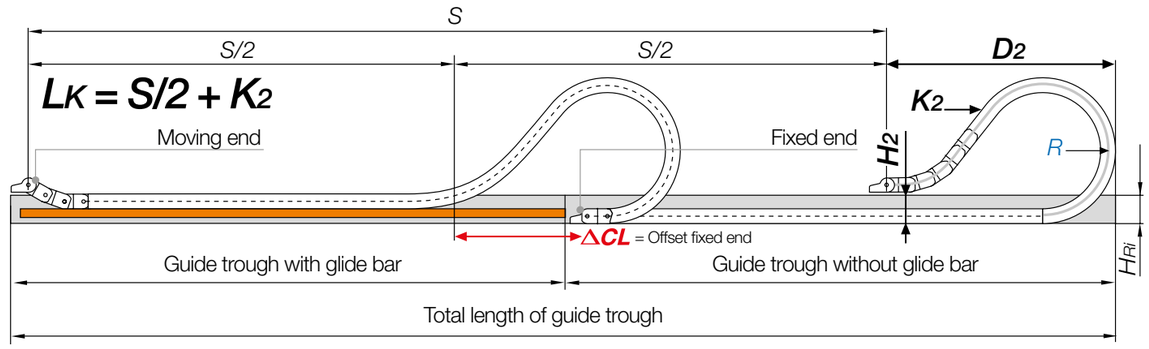


R	035	038	048	075	100	125	145	180
H	98	104	124	178	228	278	318	388
D	99	102	112	139	164	189	209	244
K	180	190	220	305	385	460	525	635

The required clearance height: $H_F = H + 25$mm (with 0.5kg/m fill weight)

Before using series 1400 on long travels please consult igus®.

Gliding applications | For long travels from 10m to max. 75m



Note: before using series 1400/1450/1480 on long travels please consult igus®.

For long travels, igus® recommends series 1500 openable along the outer radius.

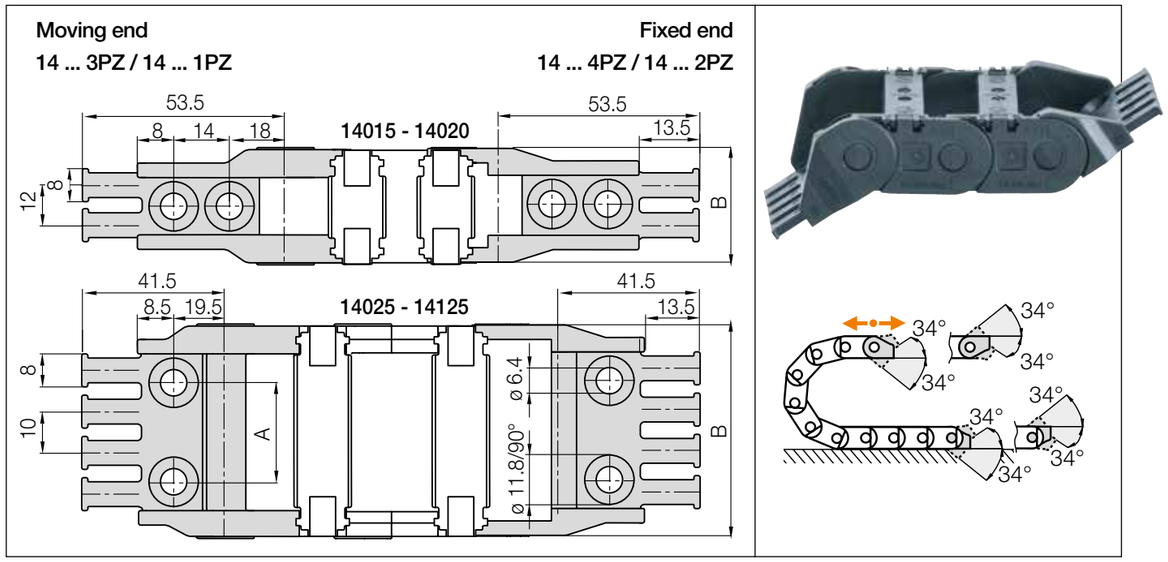
In case of travels between 4 and 10m we recommend an e-chain® with a longer unsupported length.

R	035	038	048	075	100	125	145	180
H_2	70	76	96	150	100	100	100	100
D_2^{+25}	99	102	112	139	340	495	540	690
K_2	180	190	220	305	600	800	940	1,170
ΔCL	–	–	–	–	179	305	340	445

Before using series 1400 on long travels please consult igus®.

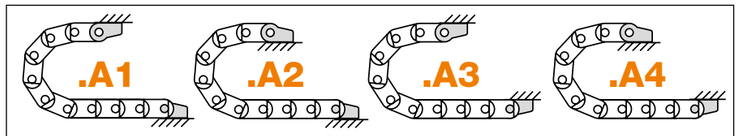
E2/000 | e-chains® 1400·1500 | Accessories

Mounting brackets, polymer | Pivoting | Locking



Polymer pivoting | Recommended for unsupported and gliding applications
Polymer locking | Recommended for vertical hanging and standing applications

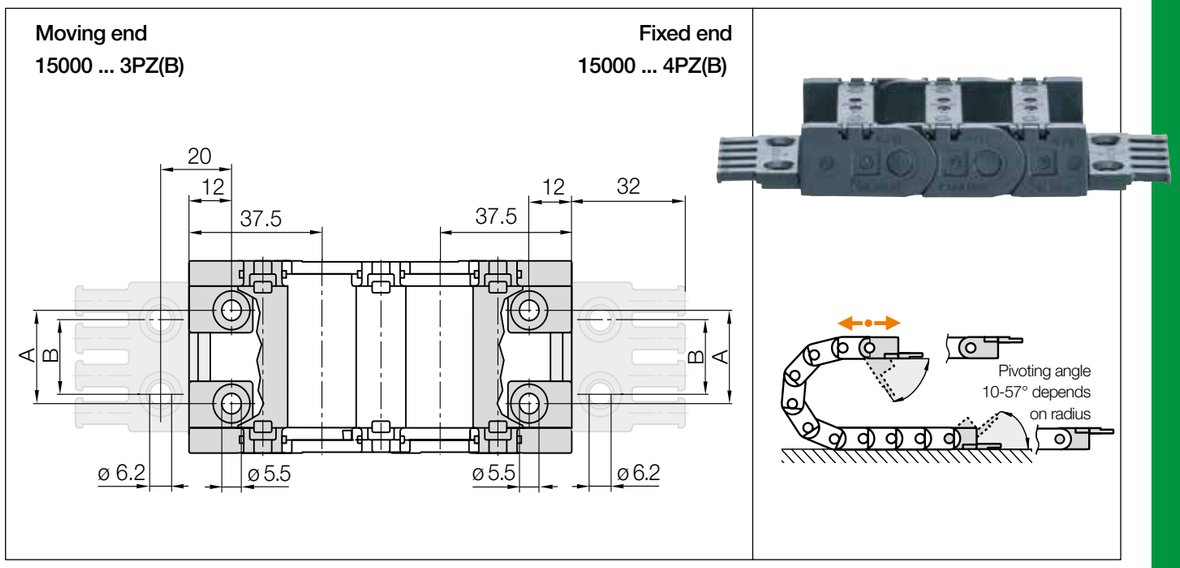
Width index	Part No. full set **pivoting** with tiewrap plates	Part No. full set **pivoting** without tiewrap plate	Part No. full set **locking** with tiewrap plates	Part No. full set **locking** without tiewrap plate	A [mm]	B [mm]	Number of teeth
015. ▶	**14015.34PZ**	–	**14015.12PZ**	–	–	28.5	2
020. ▶	**14020.34PZ**	–	**14020.12PZ**	–	–	33.5	2
025. ▶	**14025.34PZ**	–	**14025.12PZ**	–	13	38.5	2
038. ▶	**14038.34PZ**	–	**14038.12PZ**	–	24	51.5	4
050. ▶	**14050.34PZ**	–	**14050.12PZ**	–	36	63.5	5
068. ▶	**14068.34PZ**	–	**14068.12PZ**	–	54	81.5	7
080. ▶	**14080.34PZ**	–	**14080.12PZ**	–	66	93.5	8
100. ▶	**14100.34PZ**	–	**14100.12PZ**	–	86	113.5	10
125. ▶	**14125.34PZ**	–	**14125.12PZ**	–	111	138.5	13



Possible orientations for assembled mounting brackets. To receive brackets **pre-fitted** please add index **.A1**, **.A2**, **.A3** or **.A4**.

14038.34PZ.A1 Order example
.A ... to indicate option with brackets pre-fitted
With integrated strain relief tiewrap plates
Full set
Series

Strain relief **e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with ordering options ▶ From page 1300**

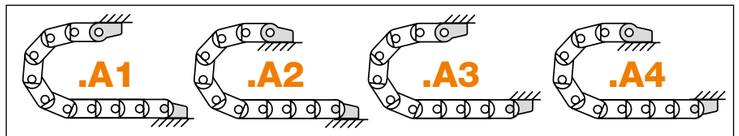


Polymer pivoting | Recommended for unsupported and gliding applications
For tight installation spaces

Width index	Part No. full set **pivoting** with tiewrap plates	Part No. full set **pivoting** without tiewrap plate	Part No. full set **locking** with tiewrap plates	Part No. full set **locking** without tiewrap plate	A [mm]	B [mm]	Number of teeth
015. ▶	–	–	–	–	–	–	–
020. ▶	–	–	–	–	–	–	–
025. ▶	**15000.025.34PZB**	**15000.025.34PZ**	–	–	12	15	3
038. ▶	**15000.038.34PZB**	**15000.038.34PZ**	–	–	25	20	4
050. ▶	**15000.050.34PZB**	**15000.050.34PZ**	–	–	37	30	5
068. ▶	**15000.068.34PZB**	**15000.068.34PZ**	–	–	55	40	6
080. ▶	**15000.080.34PZB**	**15000.080.34PZ**	–	–	67	60	8
100. ▶	**15000.100.34PZB**	**15000.100.34PZ**	–	–	87	80	10
125. ▶	**15000.125.34PZB***	**15000.125.34PZ***	–	–	112	100	12

*Tiewrap plate (consists of 2x2050.ZB) does not snap on but needs to be bolted down separately.

Note: mounting brackets not to assemble at the gable end.



Possible orientations for assembled mounting brackets. To receive brackets **pre-fitted** please add index **.A1**, **.A2**, **.A3** or **.A4**.

15000.038.34PZ.A1 Order example
.A ... to indicate option with brackets pre-fitted
With integrated strain relief tiewrap plates
Full set
Width index
Series



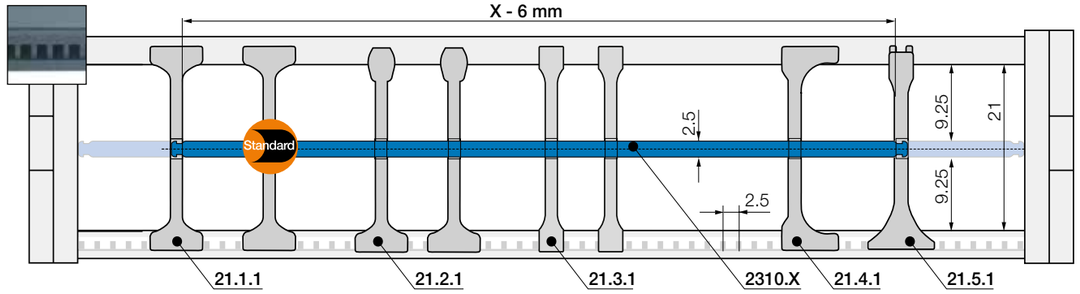
Option: steel mounting bracket, locking. For e-chains® and e-tubes, Part No. 14000.12
● Locking connections ● One part (2-piece) for all e-chain® widths ● Electrically conductive

Strain relief **e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with ordering options ▶ From page 1300**

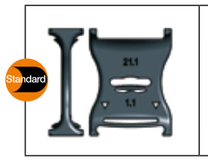
E2/000 | e-chains® 1400·1500 | Accessories

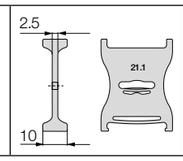
Interior separation | Increase cable service life

Previous generation of interior separation with other options ▶ **www.igus.eu/1400** ▶ **www.igus.eu/1500**



No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-chain® link!

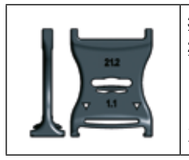


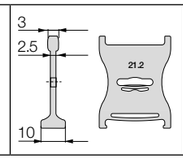


Standard separator, wide base	
unassembled	**21.1**
assembled	**21.1.1**

Standard - for any application

Separator with a wide base for maximum holding force in the e-chain®.



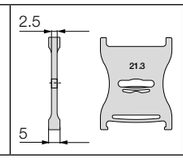


Separator, narrow top	
unassembled	**21.2**
assembled	**21.2.1**

For even faster installation

Wide on one side for high holding force, narrow on opposite side for easy cable fitting.



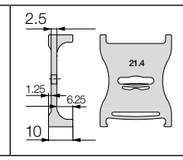


Separator, narrow	
unassembled	**21.3**
assembled	**21.3.1**

For small cables

Separator with a narrow base for a large number of small cables side by side. Saves space in the e-chain®.



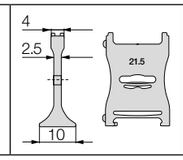


Separator, asymmetrical	
unassembled	**21.4**
assembled	**21.4.1**

For side-mounted applications

Asymmetrical separator, for defined gap distance. No additional spacers required.



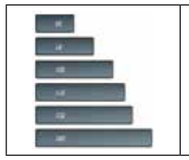


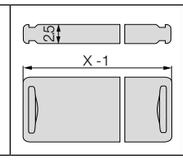
Notch separator for notched crossbar	
unassembled	**21.5**
assembled	**21.5.1**

Locks securely in preset increments

Notch separator for exact positioning in e-chains®. Recommended for side-mounted applications.

Note: For this series notches only on fixed crossbars, not on openable crossbars





Shelf, lockable	
unassembled	**2300.X**
assembled	**2310.X**

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Shelves

Width = X [mm]



X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
015	**2300.015**	**2310.015**	060	**2300.060**	**2310.060**	087	**2300.087**	**2310.087**
025	**2300.025**	**2310.025**	062	**2300.062**	**2310.062**	090	**2300.090**	**2310.090**
030	**2300.030**	**2310.030**	065	**2300.065**	**2310.065**	100	**2300.100**	**2310.100**
038	**2300.038**	**2310.038**	070	**2300.070**	**2310.070**	103	**2300.103**	**2310.103**
040	**2300.040**	**2310.040**	075	**2300.075**	**2310.075**	110	**2300.110**	**2310.110**
050	**2300.050**	**2310.050**	077	**2300.077**	**2310.077**	120	**2300.120**	**2310.120**
057	**2300.057**	**2310.057**	080	**2300.080**	**2310.080**	125	**2300.125**	**2310.125**

Separator with integrated strain relief teeth

- Can be integrated into the mounting bracket or placed at any point in the e-chain®
- Combines strain relief and interior separation, for restricted space conditions
- Strain relief separator is easy to assemble without any screws

Part No. 21.1.Z. More information ▶ From page 1326



Aluminium support tray

- Corrosion-resistant and seawater-resistant aluminium rails with adjustable width
- Noise-reducing glide strip integrated as standard
- Easy installation and connection of the e-chain®
- Open design - dirt and debris fall through

More information ▶ From page 1270





E2/000 series 1400 in aircraft refuelling truck - telescopic crane with six sections

E2/000 | e-tubes 1450·1480 | Product range

Protection against dirt and swarf



Half e-tubes | Series 1450 | Crossbars openable along inner radius from both sides, closed along outer radius
Full e-tubes | Series 1480 | Lids openable along inner radius from both sides, fully enclosed

Part No. half e-tubes openable along the inner radius	Part No. full e-tubes openable along the inner radius	*Bi* [mm]	*Ba* [mm]	*R* Available bend radii [mm]	1450 [kg/m]	1480 [kg/m]
1450.015.*R*.0	1480.015.*R*.0	15	28.5	035* | 038* | 048* | 075 | 100 | 125 | 145 | 180	≈ 0.48	≈ 0.50
1450.020.*R*.0**	1480.020.*R*.0**	20	33.5	035* | 038* | 048* | 075 | 100 | 125 | 145 | 180	≈ 0.51	≈ 0.51
1450.025.*R*.0	1480.025.*R*.0	25	38.5	035* | 038* | 048* | 075 | 100 | 125 | 145 | 180	≈ 0.54	≈ 0.57
1450.038.*R*.0	1480.038.*R*.0	38	51.5	035* | 038* | 048* | 075 | 100 | 125 | 145 | 180	≈ 0.59	≈ 0.61
1450.050.*R*.0	1480.050.*R*.0	50	63.5	035* | 038* | 048* | 075 | 100 | 125 | 145 | 180	≈ 0.65	≈ 0.67
1450.068.*R*.0	1480.068.*R*.0	68	81.5	035* | 038* | 048* | 075 | 100 | 125 | 145 | 180	≈ 0.74	≈ 0.77
1450.080.*R*.0	1480.080.*R*.0	80	93.5	035* | 038* | 048* | 075 | 100 | 125 | 145 | 180	≈ 0.80	≈ 0.84
1450.100.*R*.0	1480.100.*R*.0	100	113.5	035* | 038* | 048* | 075 | 100 | 125 | 145 | 180	≈ 0.90	≈ 0.95
1450.125.*R*.0	1480.125.*R*.0	125	138.5	035* | 038* | 048* | 075 | 100 | 125 | 145 | 180	≈ 1.03	≈ 1.08

**Width available upon request. Please consult igus® for delivery time. *Radius available upon request. Please consult igus® for price and delivery time.

For radii 035, 038, 048 the e-tube is not fully enclosed. Please consult igus®.

Complete Part No. with required radius (*R*). Example: **1450.038.100.0**

Reduce assembly time - E2/000 e-chain® opener

- Reduce opening times from 33 to 2 seconds
- Open a long e-chain® section in one go
- For widths *Bi* [mm]: 20, 50, 68, 80, 100
- **Part No. 908.254.1400** for series 1400/1500

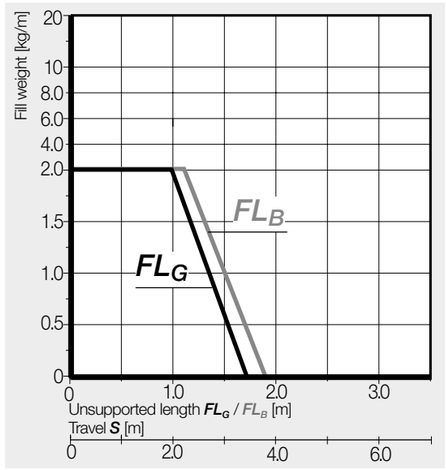
More information ▶ www.igus.eu/E2opener

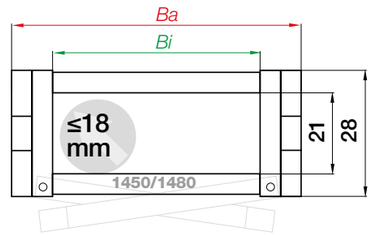


E2/000 | e-tubes 1450·1480 | Installation dimensions

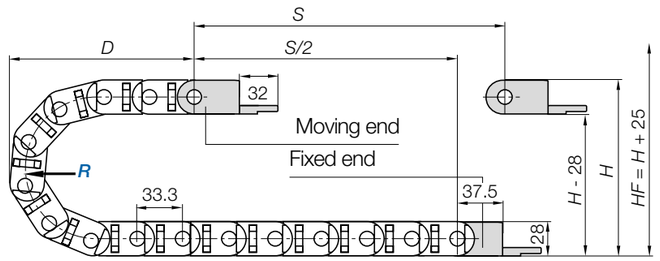
Unsupported applications | Short travels

▶ 1300





Inner height [mm]	21
Pitch [mm/link]	33.3
Links/m	30
corresponds to [mm]	1,000
e-chain® length	$L_K = S/2 + K$



R	035*	038*	048*	075	100	125	145	180
H	98	104	124	178	228	278	318	388
D	99	102	112	139	164	189	209	244
K	180	190	220	305	385	460	525	635

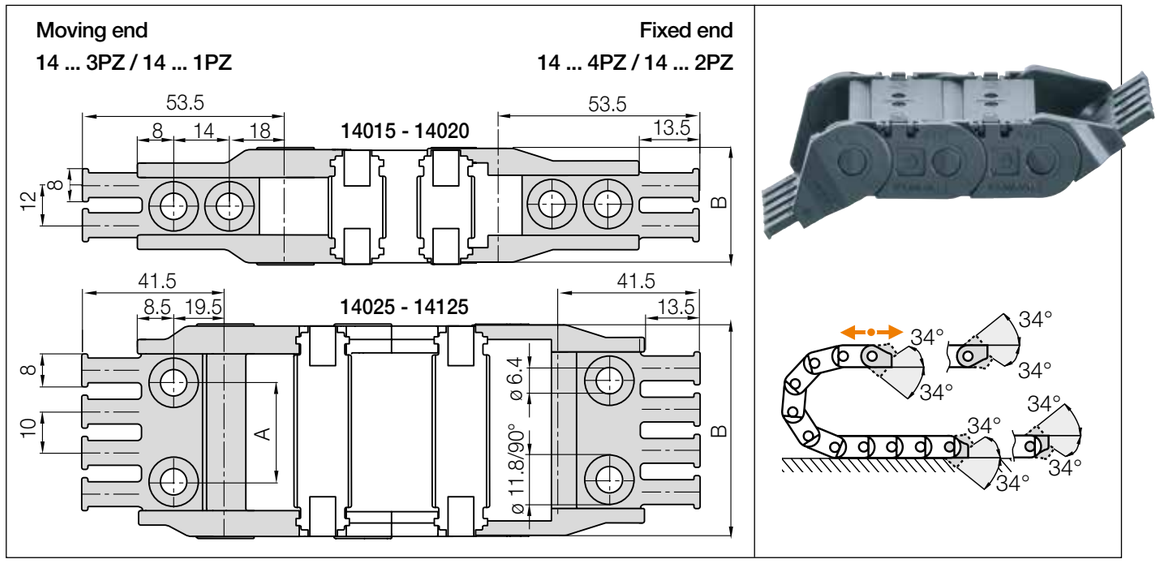
The required clearance height: $H_F = H + 25$mm (with 0.5kg/m fill weight)

*Radius available upon request. Please consult igus® for delivery time. Before using series 1450/1480 on long travels please consult igus®.

If a gliding application is required for a long travel, please consult igus®.

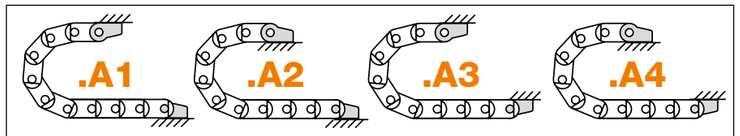
E2/000 | **e-tubes** 1450·1480 | Accessories

Mounting brackets, polymer | Pivoting | Locking

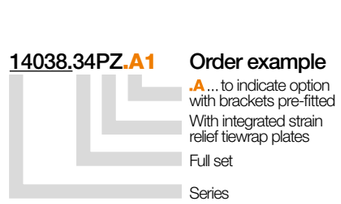


Standard **Polymer pivoting | Recommended for unsupported applications**
Polymer locking | Recommended for vertical hanging and standing applications

Width index	Part No. full set **pivoting** with tiewrap plates	Part No. full set **pivoting** without tiewrap plate	Part No. full set **locking** with tiewrap plates	Part No. full set **locking** without tiewrap plate	A [mm]	B [mm]	Number of teeth
015. ▶	**14015.34PZ**	–	**14015.12PZ**	–	–	28.5	2
020. ▶	**14020.34PZ**	–	**14020.12PZ**	–	–	33.5	2
025. ▶	**14025.34PZ**	–	**14025.12PZ**	–	13	38.5	2
038. ▶	**14038.34PZ**	–	**14038.12PZ**	–	24	51.5	4
050. ▶	**14050.34PZ**	–	**14050.12PZ**	–	36	63.5	5
068. ▶	**14068.34PZ**	–	**14068.12PZ**	–	54	81.5	7
080. ▶	**14080.34PZ**	–	**14080.12PZ**	–	66	93.5	8
100. ▶	**14100.34PZ**	–	**14100.12PZ**	–	86	113.5	10
125. ▶	**14125.34PZ**	–	**14125.12PZ**	–	111	138.5	13



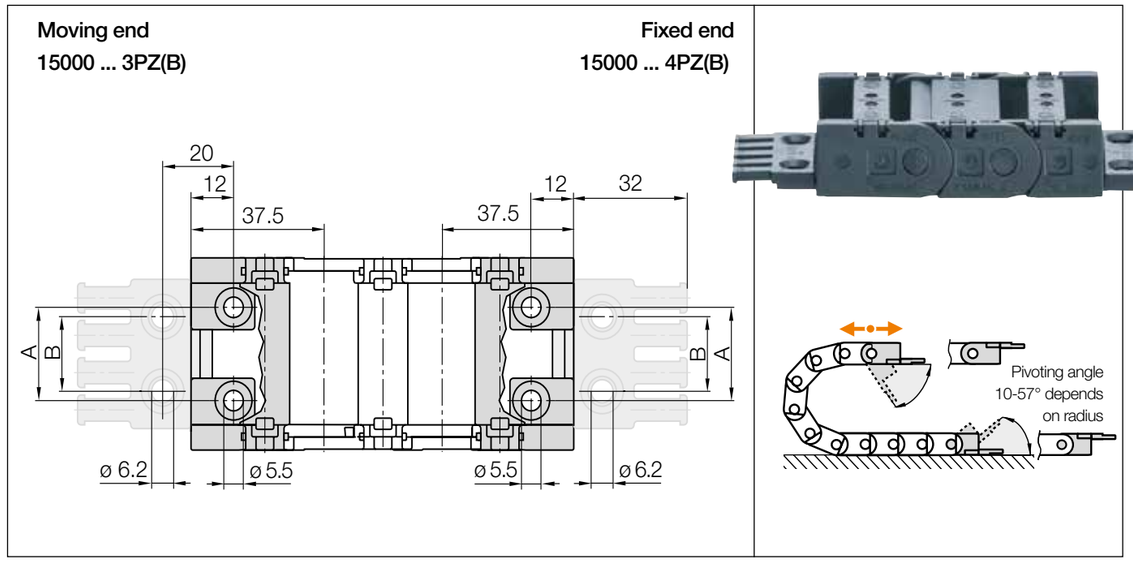
Possible orientations for assembled mounting brackets. To receive brackets **pre-fitted** please add index **.A1**, **.A2**, **.A3** or **.A4**.



Strain relief **e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with ordering options ▶ From page 1300**

E2/000 | **e-tubes** 1450·1480 | Accessories

Mounting brackets, polymer | Pivoting

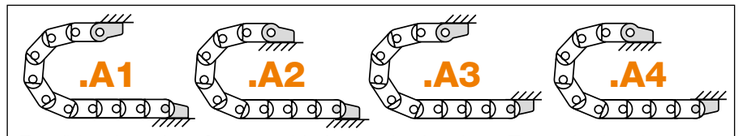


Polymer pivoting | Recommended for unsupported and gliding applications
For tight installation spaces

Width index	Part No. full set **pivoting** with tiewrap plates	Part No. full set **pivoting** without tiewrap plate	Part No. full set **locking** with tiewrap plates	Part No. full set **locking** without tiewrap plate	A [mm]	B [mm]	Number of teeth
015. ▶	–	–	–	–	–	–	–
020. ▶	–	–	–	–	–	–	–
025. ▶	**15000.025.34PZB**	**15000.025.34PZ**	–	–	12	15	3
038. ▶	**15000.038.34PZB**	**15000.038.34PZ**	–	–	25	20	4
050. ▶	**15000.050.34PZB**	**15000.050.34PZ**	–	–	37	30	5
068. ▶	**15000.068.34PZB**	**15000.068.34PZ**	–	–	55	40	6
080. ▶	**15000.080.34PZB**	**15000.080.34PZ**	–	–	67	60	8
100. ▶	**15000.100.34PZB**	**15000.100.34PZ**	–	–	87	80	10
125. ▶	**15000.125.34PZB***	**15000.125.34PZ***	–	–	112	100	12

*Tiewrap plate (consists of 2x2050.ZB) does not snap on but needs to be bolted down separately.

Note: mounting brackets not to assemble at the gable end.



Possible orientations for assembled mounting brackets. To receive brackets **pre-fitted** please add index **.A1**, **.A2**, **.A3** or **.A4**.



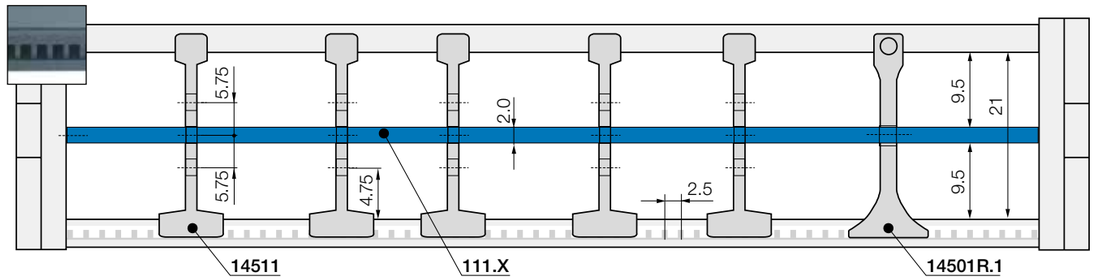


Option: steel mounting bracket, locking. For e-chains® and e-tubes, Part No. 14000.12
● Locking connections ● One part (2-piece) for all e-chain® widths ● Electrically conductive

Strain relief **e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with ordering options ▶ From page 1300**

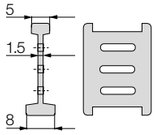
E2/000 | **e-tubes** 1450·1480 | Accessories

Interior separation



No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-chain® link!



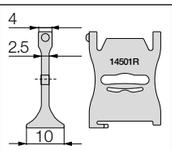


Slotted separator	
unassembled	**14501**
assembled	**14511**

Slotted separator

Vertical separation in e-chains®. The slot allows basic vertical/ horizontal shelving arrangements.





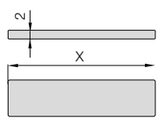
Notch separator for notched crossbar	
unassembled	**14501R**
assembled	**14501R.1**

Locks securely in preset increments

Notch separator for exact positioning in e-chains®. Recommended for side-mounted applications.

Note: For this series notches only on fixed crossbars, not on openable crossbars/lids





Full-width shelf for e-tubes	
unassembled	**110.X**
assembled	**111.X**

Full-width shelf

This option is for applications with many small cables with similar diameters. For full width separation.

Full-width shelves
Width = X [mm]



X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
015	**110.15**	**111.15**	038	**110.38**	**111.38**	080	**110.80**	**111.80**
020	**110.20**	**111.20**	050	**110.50**	**111.50**	100	**110.100**	**111.100**
025	**110.25**	**111.25**	068	**110.68**	**111.68**	125	**110.125**	**111.125**

Aluminium support tray

- Corrosion-resistant and seawater-resistant aluminium rails with adjustable width
- Noise-reducing glide strip integrated as standard
- Easy installation and connection of the e-chain®
- Open design - dirt and debris fall through

More information ▶ From page 1270



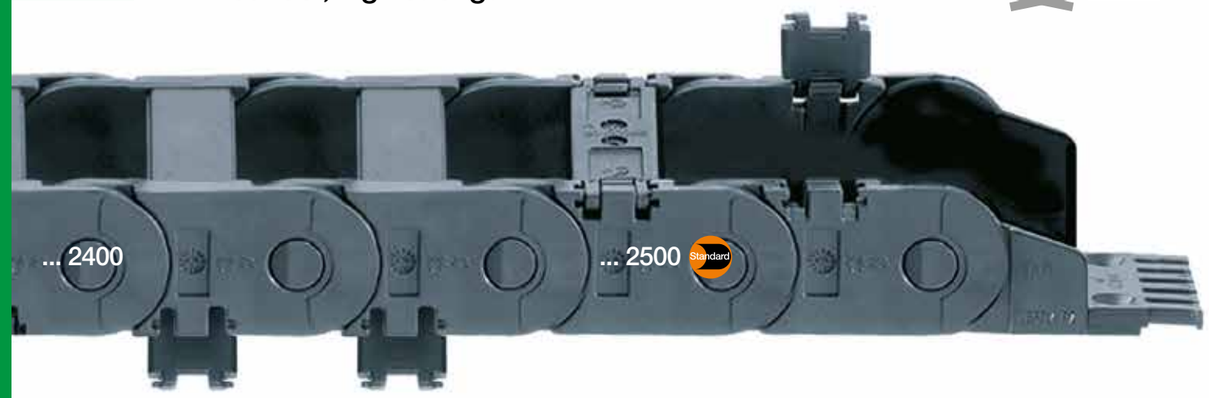


Delivery of an igus® readychain® - here system E2/000 complete with chainflex® cables pre-fitted

E2/000 | e-chains® 2400·2500 | Product range

25 25

All-rounder, high strength



e-chains® | Series 2400 | Crossbars openable along the inner radius, from both sides
e-chains® | Series 2500 | Crossbars openable along the outer radius, from both sides

Part No. e-chains® openable along inner radius	Part No. e-chains® openable along outer radius	*Bi* [mm]	*Ba* [mm]	*R* Available bend radii [mm]	2400 [kg/m]	2500 [kg/m]
2400.02.*R*.0	2500.02.*R*.0[1)]	25	41	| 055 | 075 | 100 | 125 | 150 | 175 | 200 | 225 | 250 |	≈ 0.77	≈ 0.77
2400.03.*R*.0	2500.03.*R*.0[1)]	38	54	| 055 | 075 | 100 | 125 | 150 | 175 | 200 | 225 | 250 |	≈ 0.83	≈ 0.83
2400.05.*R*.0	2500.05.*R*.0[1)]	57	73	| 055 | 075 | 100 | 125 | 150 | 175 | 200 | 225 | 250 |	≈ 0.91	≈ 0.91
2400.07.*R*.0	2500.07.*R*.0[1)]	77	93	| 055 | 075 | 100 | 125 | 150 | 175 | 200 | 225 | 250 |	≈ 1.01	≈ 1.01
2400.09.*R*.0	2500.09.*R*.0[1)]	89	105	| 055 | 075 | 100 | 125 | 150 | 175 | 200 | 225 | 250 |	≈ 1.08	≈ 1.08
2400.10.*R*.0	2500.10.*R*.0[1)]	103	119	| 055 | 075 | 100 | 125 | 150 | 175 | 200 | 225 | 250 |	≈ 1.15	≈ 1.15
2400.12.*R*.0	2500.12.*R*.0[1)]	125	141	| 055 | 075 | 100 | 125 | 150 | 175 | 200 | 225 | 250 |	≈ 1.22	≈ 1.22

1) ⚠ Available as ESD version from stock

Half e-tubes, series 2450 and full e-tube series 2480 ▶ **From page 386**

Complete Part No. with required radius (*R*). Example: **2500.03.100.0**

Reduce assembly time - E2/000 e-chain® opener

- Reduce opening times from 33 to 2 seconds
- Open a long e-chain® section in one go
- For widths *Bi* [mm]: 05, 07, 09
- **Part No. 908.254.2400** for series 2400/2500

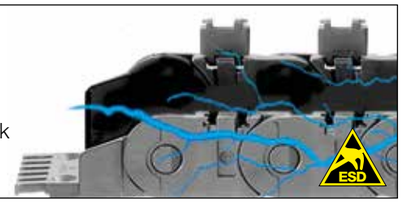
More information ▶ www.igus.eu/E2opener



ESD - many sizes from stock

- Standardised product made from igumid ESD
- ESD material tested with over 10 million cycles for the toughest requirements
- Short delivery times including mounting brackets and interior separation; 24hrs, from stock

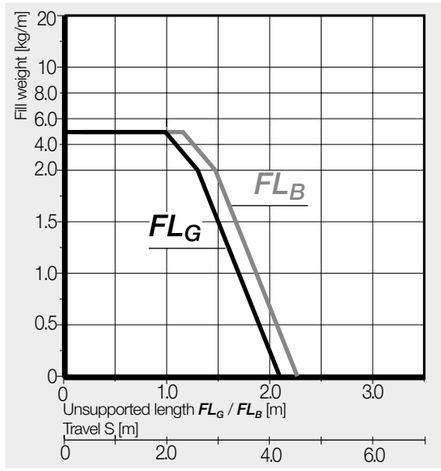
More information ▶ www.igus.eu/esd

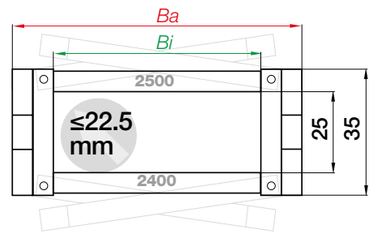


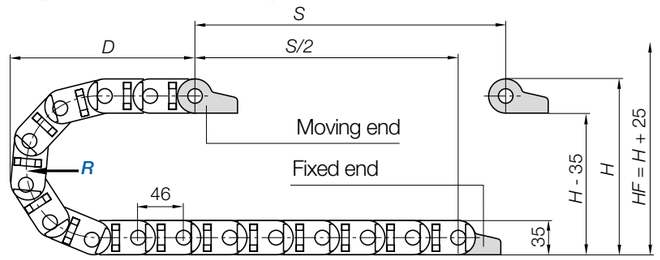
e-chains® 2400·2500 | Installation dimensions

▶ 1300 ▶ 1220

Unsupported applications | Short travels







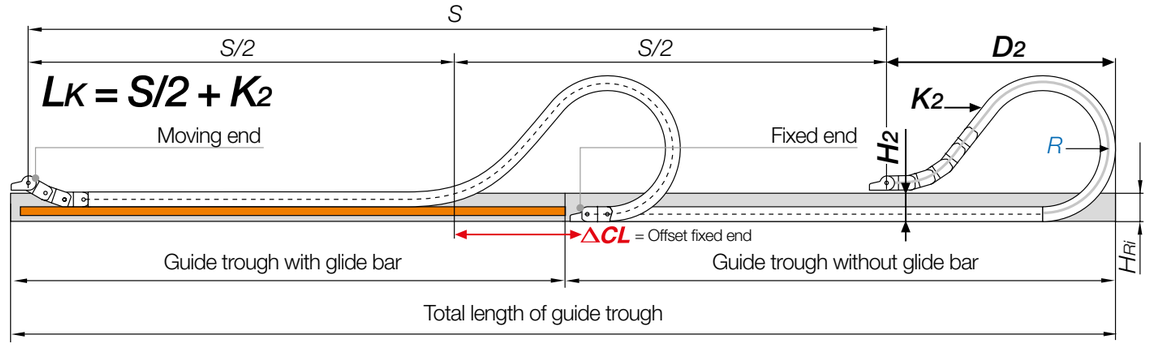
Inner height [mm]	25
Pitch [mm/link]	46
Links/m	22
corresponds to [mm]	1,012
e-chain® length	$L_K = S/2 + K$

R	055	075	100	125	150	175	200	225	250
H	145	185	235	285	335	385	435	485	535
D	142	162	187	212	237	262	287	312	337
K	265	330	410	485	565	645	725	800	880

The required clearance height: $H_F = H + 25$mm (with 1.5kg/m fill weight)

Before using series 2400 on long travels please consult igus®.

Gliding applications | For long travels from 10m to max. 100m



Note: before using series 2400/2450/2480 on long travels please consult igus®.

For long travels, igus® recommends series 2500 openable along the outer radius.

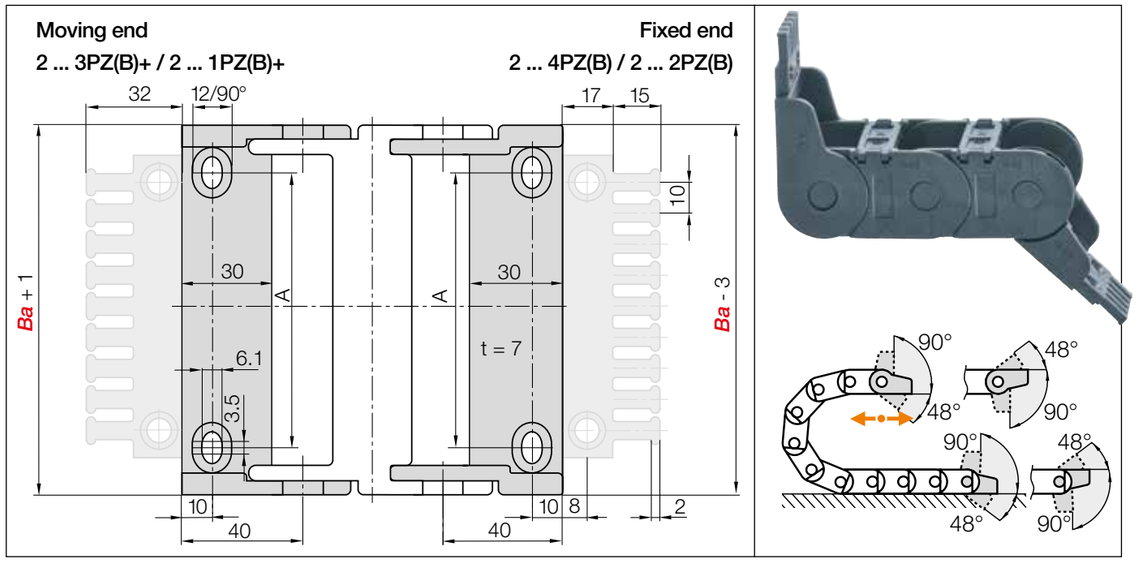
In case of travels between 4 and 10m we recommend an e-chain® with a longer unsupported length.

R	055	075	100	125	150	175	200	225	250
H_2	110	150	100	100	100	100	100	100	100
D_2^{+25}	142	162	380	440	590	755	950	1,040	1,130
K_2	265	330	644	736	1,012	1,242	1,472	1,610	1,794
ΔCL	–	–	204	244	364	504	674	754	804

Before using series 2400 on long travels please consult igus®.

E2/000 | e-chains® 2400·2500 | Accessories

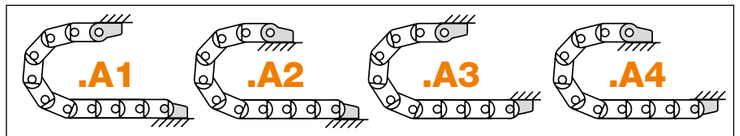
Mounting brackets, polymer | Pivoting | Locking



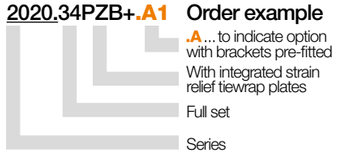
Polymer pivoting | Recommended for unsupported and gliding applications
Polymer locking | Recommended for vertical hanging and standing applications

Width index	Part No. full set **pivoting** with tiewrap plates	Part No. full set **pivoting** without tiewrap plate	Part No. full set **locking** with tiewrap plates	Part No. full set **locking** without tiewrap plate	A [mm]	Number of teeth
02. ▶	2020.34PZB+	2020.34PZ+	2020.12PZB+	2020.12PZ+	12	3
03. ▶	2030.34PZB+	2030.34PZ+	2030.12PZB+	2030.12PZ+	25	4
05. ▶	2050.34PZB+	2050.34PZ+	2050.12PZB+	2050.12PZ+	44	6
07. ▶	2070.34PZB+	2070.34PZ+	2070.12PZB+	2070.12PZ+	64	8
09. ▶	2090.34PZB+	2090.34PZ+	2090.12PZB+	2090.12PZ+	77	9
10. ▶	2100.34PZB+	2100.34PZ+	2100.12PZB+	2100.12PZ+	90	10
12. ▶	2125.34PZB+	2125.34PZ+	2125.12PZB+	2125.12PZ+	112	12

Full set with tiewrap plate + 10 cable tiewraps, please add index **K1**. Example: **2020.34PZBK1+**



Possible orientations for assembled mounting brackets. To receive brackets **pre-fitted** please add index **.A1**, **.A2**, **.A3** or **.A4**.

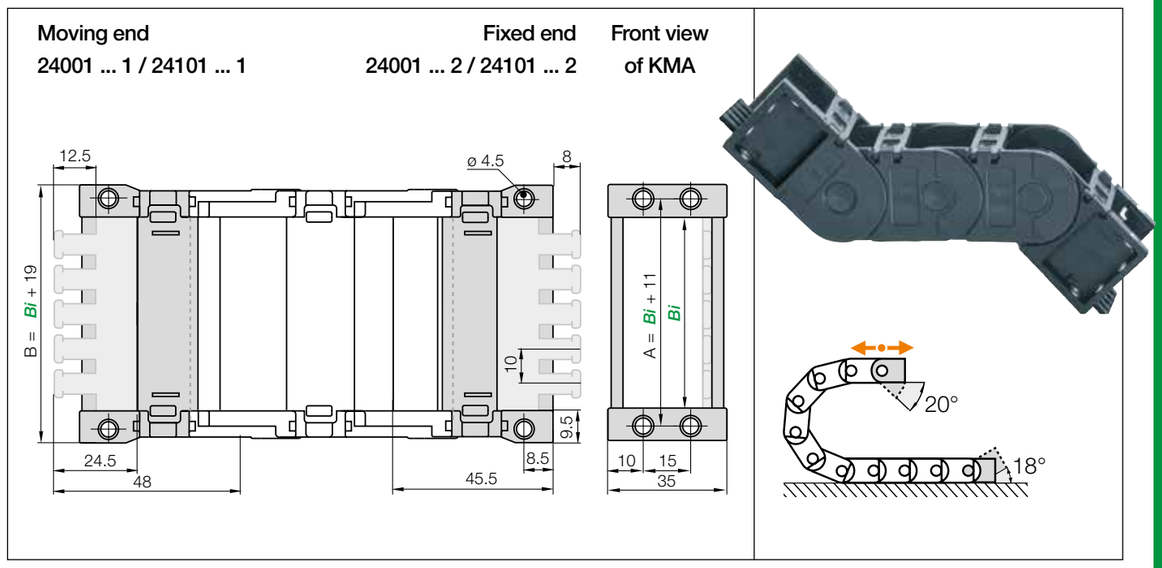


Strain relief e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with ordering options ▶ From page 1300

2400
2500

E2/000 | e-chains® 2400·2500 | Accessories

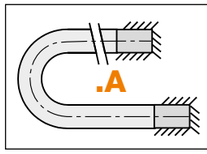
KMA mounting brackets | Attachment from any side | Pivoting | Locking



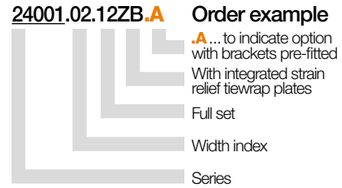
KMA pivoting | Recommended for unsupported and gliding applications
KMA locking | Recommended for vertical hanging and standing applications

Width index	Part No. full set KMA **pivoting** with tiewrap plates	Part No. full set KMA **pivoting** without tiewrap plate	Part No. full set KMA **locking** with tiewrap plates	Part No. full set KMA **locking** without tiewrap plate	A [mm]	B [mm]	Number of teeth
02. ▶	24001.02.12ZB	24001.02.12	24101.02.12ZB	24101.02.12	36	44	2
03. ▶	24001.03.12ZB	24001.03.12	24101.03.12ZB	24101.03.12	49	57	4
05. ▶	24001.05.12ZB	24001.05.12	24101.05.12ZB	24101.05.12	68	76	6
07. ▶	24001.07.12ZB	24001.07.12	24101.07.12ZB	24101.07.12	88	86	7
09. ▶	24001.09.12ZB	24001.09.12	24101.09.12ZB	24101.09.12	100	108	9
10. ▶	24001.10.12ZB	24001.10.12	24101.10.12ZB	24101.10.12	114	122	10
12. ▶	24001.12.12ZB	24001.12.12	24101.12.12ZB	24101.12.12	136	144	12

(KMA = polymer metal mounting bracket)



The bracket orientations are set automatically when using an igus® KMA mounting bracket. To receive KMA pre-fitted please add index **.A**





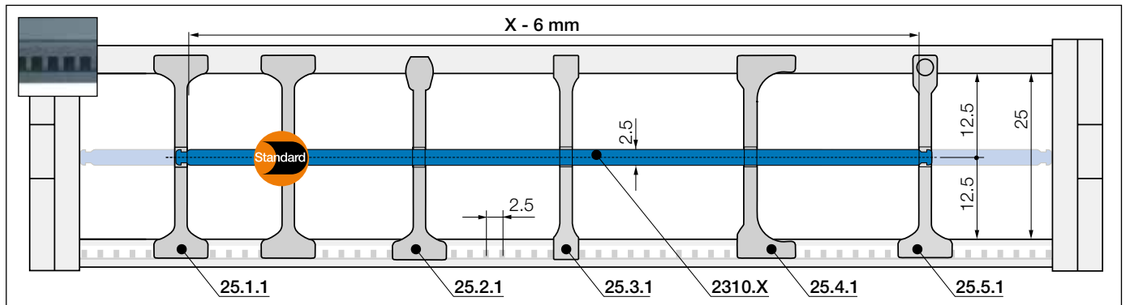
Option: steel mounting bracket, pivoting. For e-chains® and e-tubes, Part No. 2000.32
● Pivoting connections ● One part (2-piece) for all e-chain® widths ● Electrically conductive

Strain relief e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with ordering options ▶ From page 1300

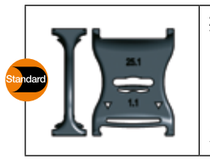
E2/000 | e-chains® 2400·2500 | Accessories

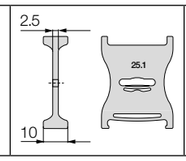
Interior separation | Increase cable service life

Previous generation of interior separation with other options ▶ www.igus.eu/2400 ▶ www.igus.eu/2500



No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-chain® link!



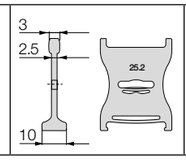


Standard separator, wide base	
unassembled	25.1
assembled	25.1.1

Standard - for any application

Separator with a wide base for maximum holding force in the e-chain®.



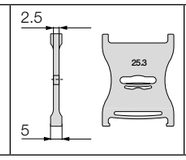


Separator, narrow top	
unassembled	25.2
assembled	25.2.1

For even faster installation

Wide on one side for high holding force, narrow on opposite side for easy cable fitting.



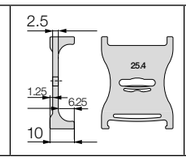


Separator, narrow	
unassembled	25.3
assembled	25.3.1

For small cables

Separator with a narrow base for a large number of small cables side by side. Saves space in the e-chain®.

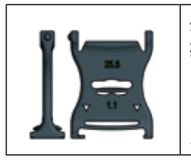


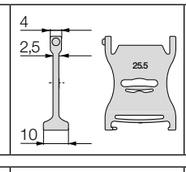


Separator, asymmetrical	
unassembled	25.4
assembled	25.4.1

For side-mounted applications

Asymmetrical separator, for defined gap distance. No additional spacers required.



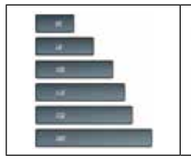


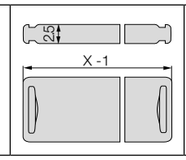
Notch separator for notched crossbar	
unassembled	25.5
assembled	25.5.1

Locks securely in preset increments

Notch separator for exact positioning in e-chains®. Recommended for side-mounted applications.

Note: For this series notches only on fixed crossbars, not on openable crossbars





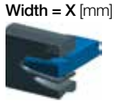
Shelf, lockable	
unassembled	2300.X
assembled	2310.X

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Shelves

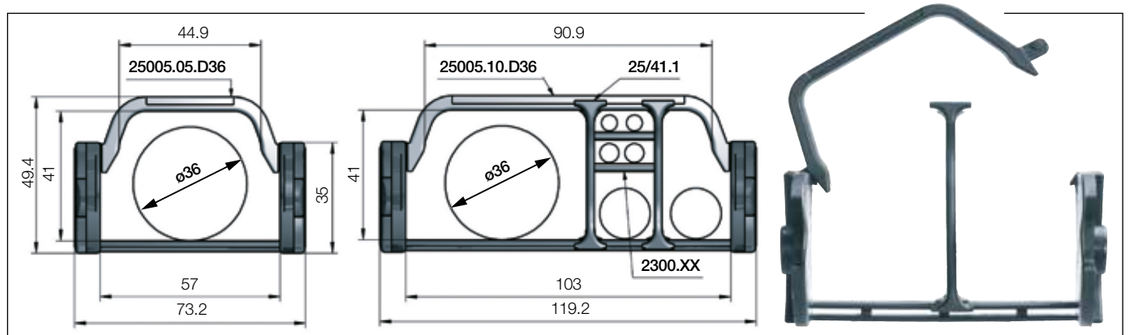
Width = X [mm]



X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
015	2300.015	2310.015	060	2300.060	2310.060	087	2300.087	2310.087
025	2300.025	2310.025	062	2300.062	2310.062	090	2300.090	2310.090
030	2300.030	2310.030	065	2300.065	2310.065	100	2300.100	2310.100
038	2300.038	2310.038	070	2300.070	2310.070	103	2300.103	2310.103
040	2300.040	2310.040	075	2300.075	2310.075	110	2300.110	2310.110
050	2300.050	2310.050	077	2300.077	2310.077	120	2300.120	2310.120
057	2300.057	2310.057	080	2300.080	2310.080	125	2300.125	2310.125

E2/000 | e-chains® 2400·2500 | Further accessories

e-chains® with extender crossbar | Product Range



e-chains® with extender crossbars - large increase of the interior space for the smooth guiding of large hoses.
Suitable for hoses with a maximum outer diameter of 36mm.

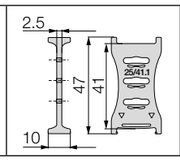
Part No. e-chains® extender crossbars openable along inner radius	Part No. e-chains® extender crossbars openable along outer radius	Bi [mm]	Ba [mm]	R Available bend radii [mm]
2400.05 D36 .R.0	2500.05 D36 .R.0	57	73	| 055* | 075 | 100 | 125 | 150 | 175 | 200 | 225 | 250 |
2400.10 D36 .R.0	2500.10 D36 .R.0	103	119	| 055* | 075 | 100 | 125 | 150 | 175 | 200 | 225 | 250 |

* Radius 055 only possible with e-chains® series 2500, openable along outer radius!

Complete Part No. with required radius (R). Example: 2500.05D36.100.0

Interior separation for e-chains® with extender crossbars

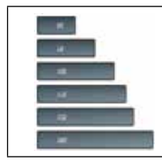


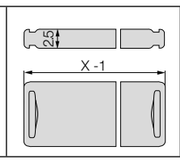


Separator e-chain® with extender crossbars	
unassembled	25/41.1
assembled	25/41.1.1

Standard separator, wide base

Separator with a wide base for maximum holding force in the e-chain®. As standard separators are fitted every 2nd e-chain® link!





Shelf, lockable	
unassembled	2300.X
assembled	2310.X

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Separator with integrated strain relief teeth

- Can be integrated into the mounting bracket or placed at any point in the e-chain®
- Combines strain relief and interior separation, for restricted space conditions
- Strain relief separator is easy to assemble without any screws

Part No. 2020.Z. More information ▶ From page 1326



Aluminium support tray

- Corrosion-resistant and seawater-resistant aluminium rails with adjustable width
- Noise-reducing glide strip integrated as standard
- Easy installation and connection of the e-chain®
- Open design - dirt and debris fall through

More information ▶ From page 1270



E2/000 | **e-tubes** 2450·2480 | Product range

25

Protection against dirt and swarf



Half e-tubes | Series 2450 | Crossbars openable along inner radius from both sides, closed along outer radius
Full e-tubes | Series 2480 | Lids openable along inner radius from both sides, fully enclosed

Part No. half e-tubes openable along the inner radius	Part No. full e-tubes openable along the inner radius	*Bi* [mm]	*Ba* [mm]	*R* Available bend radii [mm]	2450 [kg/m]	2480 [kg/m]
2450.02.*R*.0	2480.02.*R*.0	25	41	| 055* | 075 | 100 | 125 | 150 | 175 | 200 | 225 | 250	≈ 0.80	≈ 0.82
2450.03.*R*.0	2480.03.*R*.0	38	54	| 055* | 075 | 100 | 125 | 150 | 175 | 200 | 225 | 250	≈ 0.88	≈ 0.92
2450.05.*R*.0	2480.05.*R*.0	57	73	| 055 | 075 | 100 | 125 | 150 | 175 | 200 | 225 | 250	≈ 0.99	≈ 1.03
2450.07.*R*.0	2480.07.*R*.0	77	93	| 055 | 075 | 100 | 125 | 150 | 175 | 200 | 225 | 250	≈ 1.12	≈ 1.17
2450.09.*R*.0	2480.09.*R*.0	89	105	| 055* | 075 | 100 | 125 | 150 | 175 | 200 | 225 | 250	≈ 1.20	≈ 1.26
2450.10.*R*.0	2480.10.*R*.0	103	119	| 055* | 075 | 100 | 125 | 150 | 175 | 200 | 225 | 250	≈ 1.27	≈ 1.34
2450.12.*R*.0	2480.12.*R*.0	125	141	| 055* | 075 | 100 | 125 | 150 | 175 | 200 | 225 | 250	≈ 1.35	≈ 1.43

*Radius available upon request. Please consult igus® for price and delivery time.

For the 055 radius the e-tube is not completely enclosed. Please consult igus®.

Complete Part No. with required radius (*R*). Example: **2450.03.100.0**

Reduce assembly time - E2/000 e-chain® opener

- Reduce opening times from 33 to 2 seconds
- Open a long e-chain® section in one go
- For widths *Bi* [mm]: 05, 07, 09
- **Part No. 908.254.2400** for series 2450

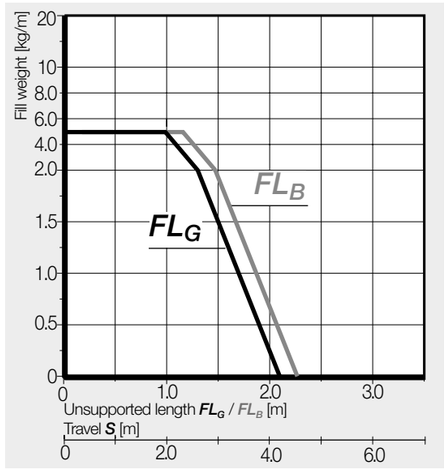
More information ▶ www.igus.eu/E2opener

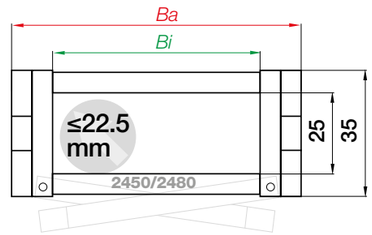


E2/000 | **e-tubes** 2450·2480 | Installation dimensions

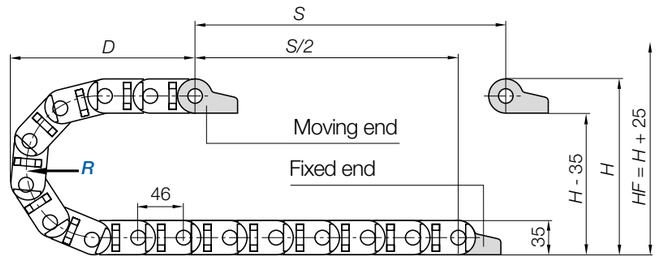
▶ 1300

Unsupported applications | Short travels





Inner height [mm]	25
Pitch [mm/link]	46
Links/m	22
corresponds to [mm]	1,012
e-chain® length	$L_K = S/2 + K$



R	055*	075	100	125	150	175	200	225	250
H	145	185	235	285	335	385	435	485	535
D	142	162	187	212	237	262	287	312	337
K	265	330	410	485	565	645	725	800	880

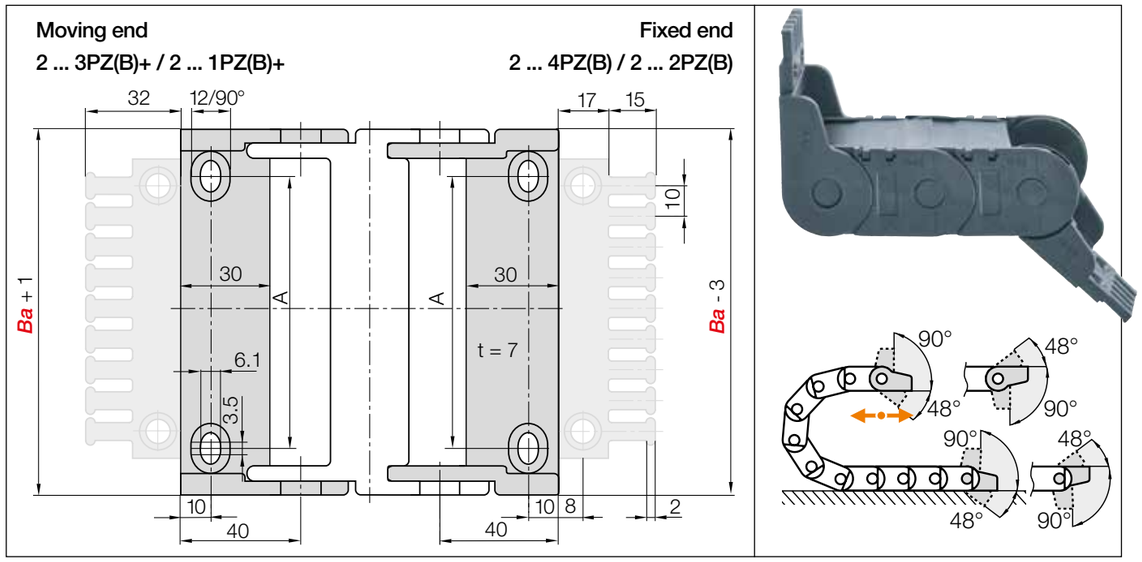
The required clearance height: $H_F = H + 25$mm (with 1.5kg/m fill weight)

*Radii for several widths available upon request (please see product range table). Before using series 2450/2480 on long travels please consult igus®.

If a gliding application is required for a long travel, please consult igus®.

E2/000 | **e-tubes** 2450·2480 | Accessories

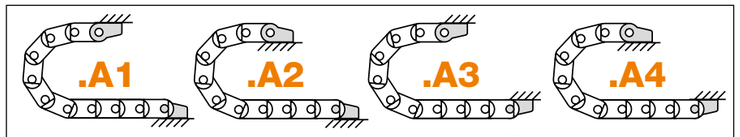
Mounting brackets, polymer | Pivoting | Locking



Polymer pivoting | Recommended for unsupported applications
Polymer locking | Recommended for vertical hanging and standing applications

Width index	Part No. full set **pivoting** with tiewrap plates	Part No. full set **pivoting** without tiewrap plate	Part No. full set **locking** with tiewrap plates	Part No. full set **locking** without tiewrap plate	A [mm]	Number of teeth
02. ▶	2020.34PZB+	2020.34PZ+	2020.12PZB+	2020.12PZ+	12	3
03. ▶	2030.34PZB+	2030.34PZ+	2030.12PZB+	2030.12PZ+	25	4
05. ▶	2050.34PZB+	2050.34PZ+	2050.12PZB+	2050.12PZ+	44	6
07. ▶	2070.34PZB+	2070.34PZ+	2070.12PZB+	2070.12PZ+	64	8
09. ▶	2090.34PZB+	2090.34PZ+	2090.12PZB+	2090.12PZ+	77	9
10. ▶	2100.34PZB+	2100.34PZ+	2100.12PZB+	2100.12PZ+	90	10
12. ▶	2125.34PZB+	2125.34PZ+	2125.12PZB+	2125.12PZ+	112	12

Full set with tiewrap plate + 10 cable tiewraps, please add index **K1**. Example: **2020.34PZBK1+**



Possible orientations for assembled mounting brackets. To receive brackets **pre-fitted** please add index **.A1**, **.A2**, **.A3** or **.A4**.

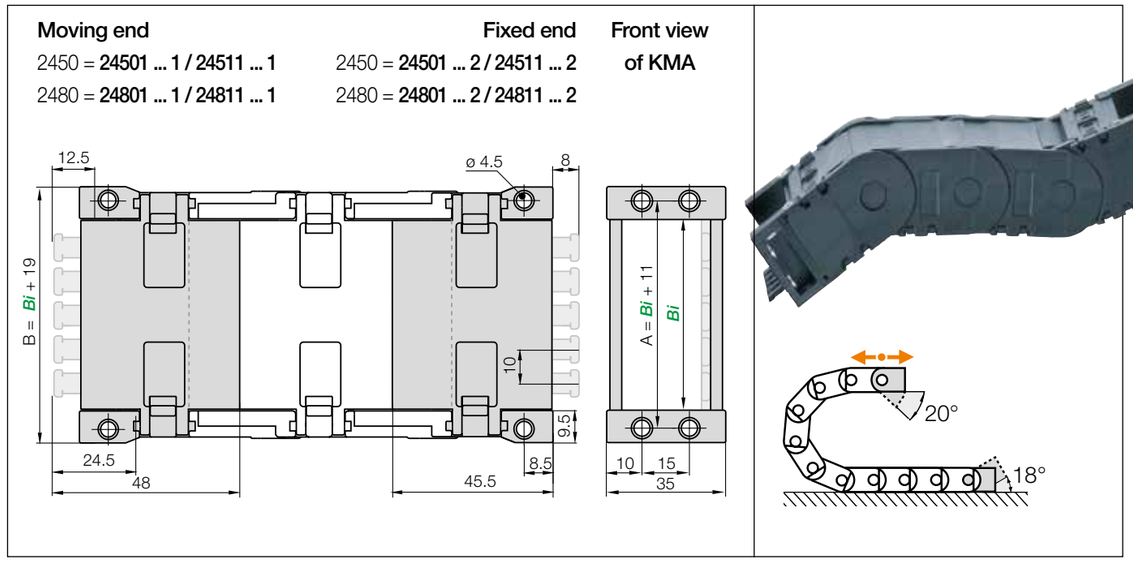
2020.34PZB+.A1 Order example

- **.A** ... to indicate option with brackets pre-fitted
- With integrated strain relief tiewrap plates
- Full set
- Series

Strain relief e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with ordering options ▶ From page 1300

E2/000 | **e-tubes** 2450·2480 | Accessories

KMA mounting brackets | Attachment from any side | Pivoting | Locking



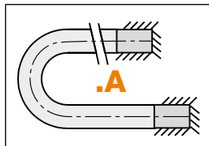
KMA pivoting | Recommended for unsupported applications
KMA locking | Recommended for vertical hanging and standing applications

Width index	Part No. full set KMA **pivoting**[1] with tiewrap plates	Part No. full set KMA **pivoting**[1] without tiewrap plate	Part No. full set KMA **locking**[2] with tiewrap plates	Part No. full set KMA **locking**[2] without tiewrap plate	A [mm]	B [mm]	Number of teeth
02. ▶	24501 | 24801 .02.12ZB	24501 | 24801 .02.12	24511 | 24811 .02.12ZB	24511 | 24811 .02.12	36	44	2
03. ▶	24501 | 24801 .03.12ZB	24501 | 24801 .03.12	24511 | 24811 .03.12ZB	24511 | 24811 .03.12	49	57	4
05. ▶	24501 | 24801 .05.12ZB	24501 | 24801 .05.12	24511 | 24811 .05.12ZB	24511 | 24811 .05.12	68	76	6
07. ▶	24501 | 24801 .07.12ZB	24501 | 24801 .07.12	24511 | 24811 .07.12ZB	24511 | 24811 .07.12	88	86	7
09. ▶	24501 | 24801 .09.12ZB	24501 | 24801 .09.12	24511 | 24811 .09.12ZB	24511 | 24811 .09.12	100	108	9
10. ▶	24501 | 24801 .10.12ZB	24501 | 24801 .10.12	24511 | 24811 .10.12ZB	24511 | 24811 .10.12	114	122	10
12. ▶	24501 | 24801 .12.12ZB	24501 | 24801 .12.12	24511 | 24811 .1212ZB	24511 | 24811 .12.12	136	144	12

1) KMA pivoting Part No. 24501 for half e-tube series 2450 / KMA pivoting Part No. 24801 for full e-tube series 2480

2) KMA locking Part No. 24511 for half e-tube series 2450 / KMA locking Part No. 24811 for full e-tube series 2480

(KMA = polymer metal mounting bracket)



The bracket orientations are set automatically when using an igus® KMA mounting bracket. To receive KMA pre-fitted please add index **.A**

24501.02.12ZB.A Order example

- **.A** ... to indicate option with brackets pre-fitted
- With integrated strain relief tiewrap plates
- Full set
- Width index
- Series



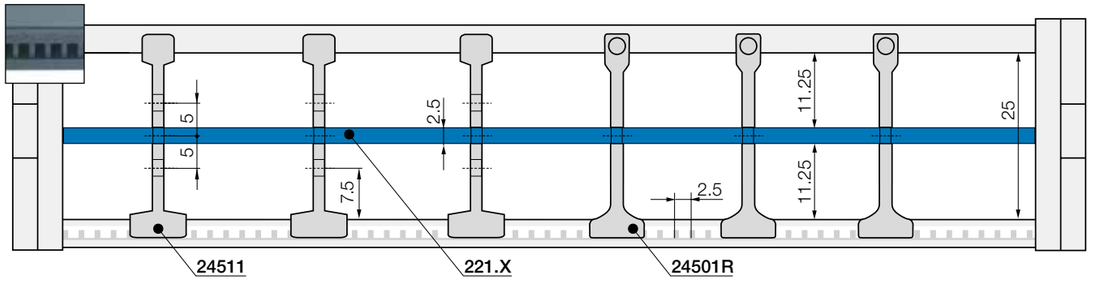
Option: steel mounting bracket, pivoting. For e-chains® and e-tubes, Part No. 2000.32

● Pivoting connections ● One part (2-piece) for all e-chain® widths ● Electrically conductive

Strain relief e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with ordering options ▶ From page 1300

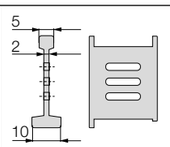
E2/000 | **e-tubes** 2450·2480 | Accessories

Interior separation



No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-chain® link!





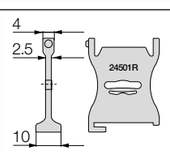
Slotted separator

unassembled	**24501**
assembled	**24511**

Slotted separator

Vertical separation in e-chains®. The slot allows basic vertical/ horizontal shelving arrangements.





Notch separator for notched crossbar

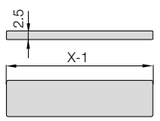
unassembled	**24501R**
assembled	**24501R.1**

Locks securely in preset increments

Notch separator for exact positioning in e-chains®. Recommended for side-mounted applications.

Note: For this series notches only on fixed crossbars, not on openable crossbars/lids





Full-width shelf for e-tubes

unassembled	**220.X**
assembled	**221.X**

Full-width shelf

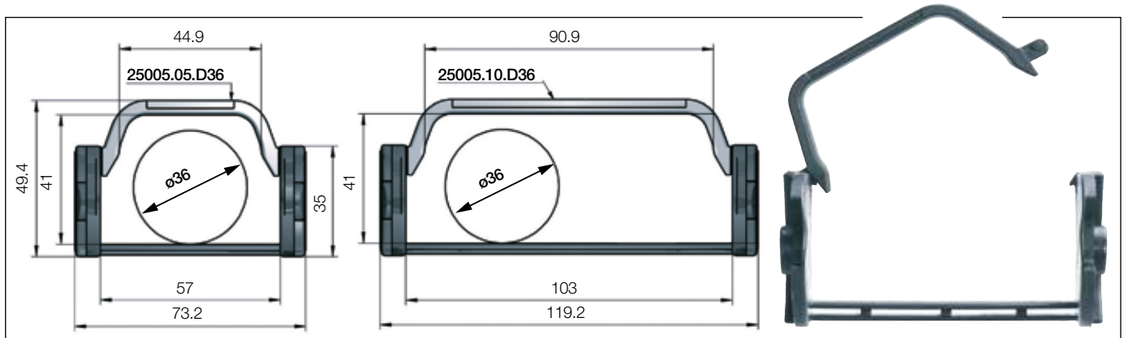
This option is for applications with many small cables with similar diameters. For full width separation.

Full-width shelves
Width = X [mm]

X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
025	**220.25**	**221.25**	077	**220.77**	**221.77**	125	**220.125**	**221.125**
038	**220.38**	**221.38**	090	**220.90**	**221.90**			
057	**220.57**	**221.57**	103	**220.103**	**221.103**			

E2/000 | **e-tubes** 2450 | Further accessories

e-chains® with extender crossbar | Product Range



e-chains® with extender crossbars only for series 2450 - large increase of the interior space for the smooth guiding of large hoses. Suitable for hoses with a maximum outer diameter of 36mm.

Part No. half e-tubes extender crossbars openable along the inner radius	*Bi* [mm]	*Ba* [mm]	*R* Available bend radii [mm]
2450.05 D36 .*R*.0	57	73	| 075 | 100 | 125 | 150 | 175 | 200 | 225 | 250 |
2450.10 D36 .*R*.0	103	119	| 075 | 100 | 125 | 150 | 175 | 200 | 225 | 250 |

Complete Part No. with required radius (*R*). Example: **2450.05D36.100.0**

Separator with integrated strain relief teeth

- Can be integrated into the mounting bracket or placed at any point in the e-chain®
- Combines strain relief and interior separation, for restricted space conditions
- Strain relief separator is easy to assemble without any screws

Part No. 2020.ZR. More information ▶ From page 1326



Aluminium support tray

- Corrosion-resistant and seawater-resistant aluminium rails with adjustable width
- Noise-reducing glide strip integrated as standard
- Easy installation and connection of the e-chain®
- Open design - dirt and debris fall through

More information ▶ From page 1270



E2/000 | e-chains® 2600·2700 | Product range

35 35

Medium inner height, high strength



e-chains® | Series 2600 | Crossbars openable along the inner radius, from both sides
e-chains® | Series 2700 | Crossbars openable along the outer radius, from both sides

Part No. e-chains® openable along inner radius	Part No. e-chains® openable along outer radius	Bi [mm]	Ba [mm]	R Available bend radii [mm]	2600 [kg/m]	2700 [kg/m]
2600.05.R.0	2700.05.R.0[1]	50	66	| 063 | 075 | 100 | 125 | 150 | 175 | 200 | 250 |	≈ 1.17	≈ 1.17
2600.06.R.0	2700.06.R.0[1]	65	81	| 063 | 075 | 100 | 125 | 150 | 175 | 200 | 250 |	≈ 1.24	≈ 1.24
2600.07.R.0	2700.07.R.0[1]	75	91	| 063 | 075 | 100 | 125 | 150 | 175 | 200 | 250 |	≈ 1.30	≈ 1.30
2600.09.R.0	2700.09.R.0[1]	90	106	| 063 | 075 | 100 | 125 | 150 | 175 | 200 | 250 |	≈ 1.37	≈ 1.37
2600.10.R.0	2700.10.R.0[1]	100	116	| 063 | 075 | 100 | 125 | 150 | 175 | 200 | 250 |	≈ 1.39	≈ 1.39
2600.12.R.0	2700.12.R.0[1]	125	141	| 063 | 075 | 100 | 125 | 150 | 175 | 200 | 250 |	≈ 1.48	≈ 1.48
2600.15.R.0	2700.15.R.0	150	166	| 063 | 075 | 100 | 125 | 150 | 175 | 200 | 250 |	≈ 1.62	≈ 1.62
2600.17.R.0	2700.17.R.0	175	194	| 063 | 075 | 100 | 125 | 150 | 175 | 200 | 250 |	≈ 1.85	≈ 1.85

1) ⚠ Available as ESD version from stock

Half e-tubes, series 2650 and full e-tubes, series 2680 ▶ **From page 400**

Complete Part No. with required radius (*R*). Example: **2700.05.100.0**

Reduce assembly time - E2/000 e-chain® opener

- Reduce opening times from 33 to 2 seconds
- Open a long e-chain® section in one go
- For widths *Bi* [mm]: 06, 07, 09, 10
- **Part No. 908.254.2600** for series 2600/2700

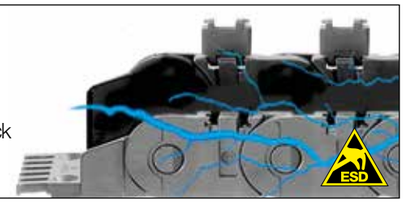
More information ▶ www.igus.eu/E2opener



ESD - many sizes from stock

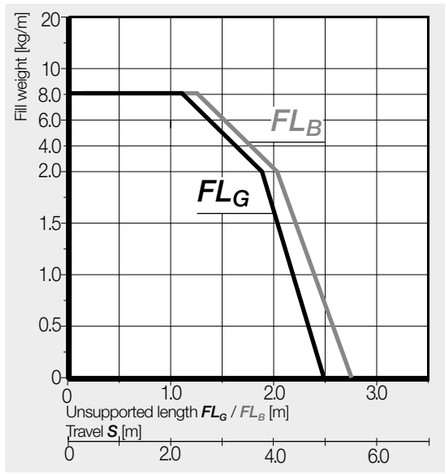
- Standardised product made from igumid ESD
- ESD material tested with over 10 million cycles for the toughest requirements
- Short delivery times including mounting brackets and interior separation; 24hrs, from stock

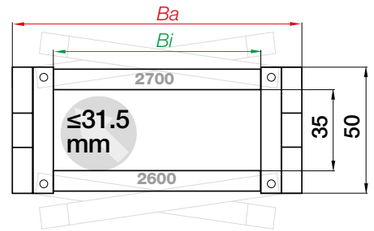
More information ▶ www.igus.eu/esd



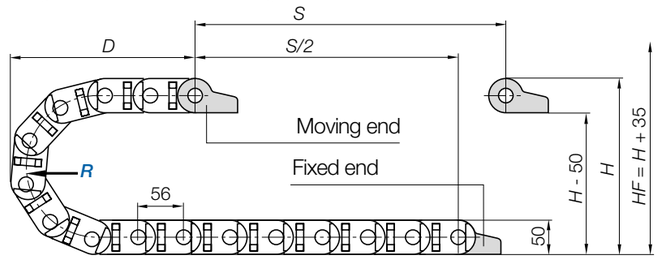
e-chains® 2600·2700 | Installation dimensions

Unsupported applications | Short travels





Inner height [mm]	35
Pitch [mm/link]	56
Links/m	18
corresponds to [mm]	1,008
e-chain® length	$L_K = S/2 + K$

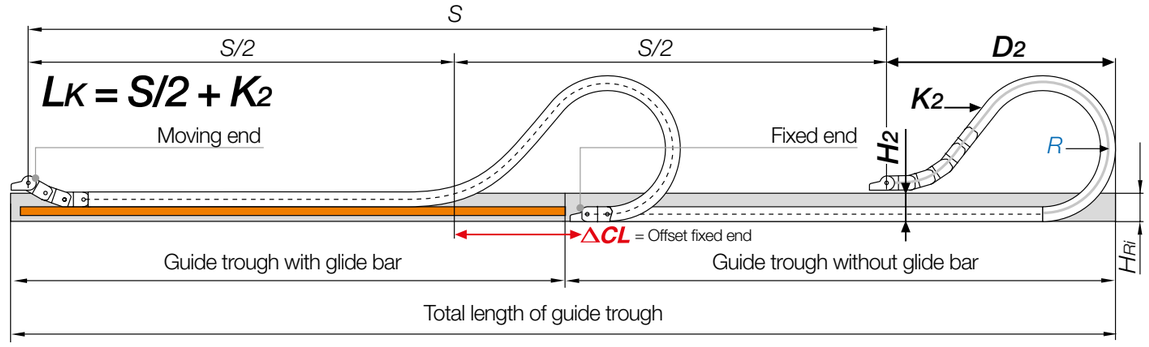


R	063	075	100	125	150	175	200	250
H	176	200	250	300	350	400	450	550
D	172	184	209	234	259	284	309	359
K	310	350	430	505	585	665	745	900

The required clearance height: $H_F = H + 35$mm (with 2.0kg/m fill weight)

Before using series 2600 on long travels please consult igus®.

Gliding applications | For long travels from 10m to max. 120m



Note: before using series 2600/2650/2680 on long travels please consult igus®.

For long travels, igus® recommends series 2700 openable along the outer radius.

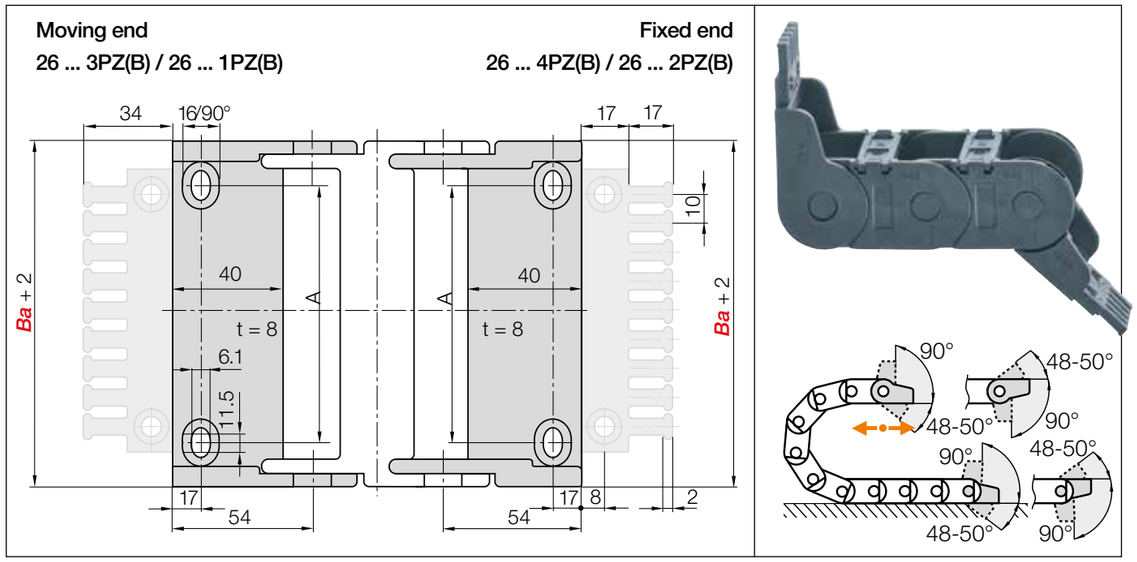
In case of travels between 5 and 10m we recommend an e-chain® with a longer unsupported length.

R	063	075	100	125	150	175	200	250
H_2	130	150	166	166	166	166	166	166
D_2^{+25}	140	150	395	510	545	700	805	995
K_2	335	375	616	784	896	1,120	1,288	1,624
ΔCL	–	–	144	244	244	374	464	594

Before using series 2600 on long travels please consult igus®.

E2/000 | e-chains® 2600·2700 | Accessories

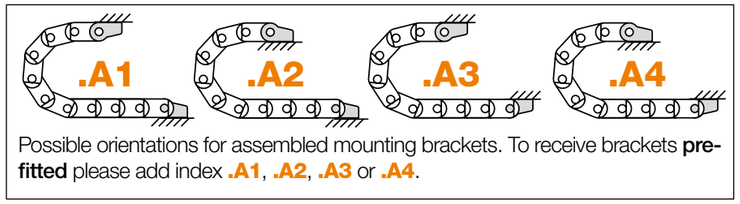
Mounting brackets, polymer | Pivoting | Locking



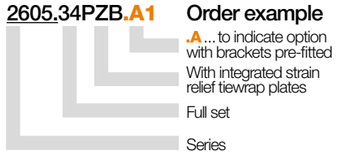
Standard **Polymer pivoting | Recommended for unsupported and gliding applications**
Polymer locking | Recommended for vertical hanging and standing applications

Width index	Part No. full set **pivoting** with tiewrap plates	Part No. full set **pivoting** without tiewrap plate	Part No. full set **locking** with tiewrap plates	Part No. full set **locking** without tiewrap plate	A [mm]	Number of teeth
05. ▶	2605.34PZB	2605.34PZ	2605.12PZB	2605.12PZ	30	5
06. ▶	2606.34PZB	2606.34PZ	2606.12PZB	2606.12PZ	45	5
07. ▶	2607.34PZB	2607.34PZ	2607.12PZB	2607.12PZ	55	7
09. ▶	2609.34PZB	2609.34PZ	2609.12PZB	2609.12PZ	70	9
10. ▶	2610.34PZB	2610.34PZ	2610.12PZB	2610.12PZ	80	10
12. ▶	2612.34PZB	2612.34PZ	2612.12PZB	2612.12PZ	105	12
15. ▶	2615.34PZB	2615.34PZ	2615.12PZB	2615.12PZ	130	15
17. ▶	2617.34PZB	2617.34PZ	2617.12PZB	2617.12PZ	155	17

Full set with tiewrap plate + 10 cable tiewraps, please add index **K1**. Example: **2605.34PZBK1**



Possible orientations for assembled mounting brackets. To receive brackets **pre-fitted** please add index **.A1**, **.A2**, **.A3** or **.A4**.

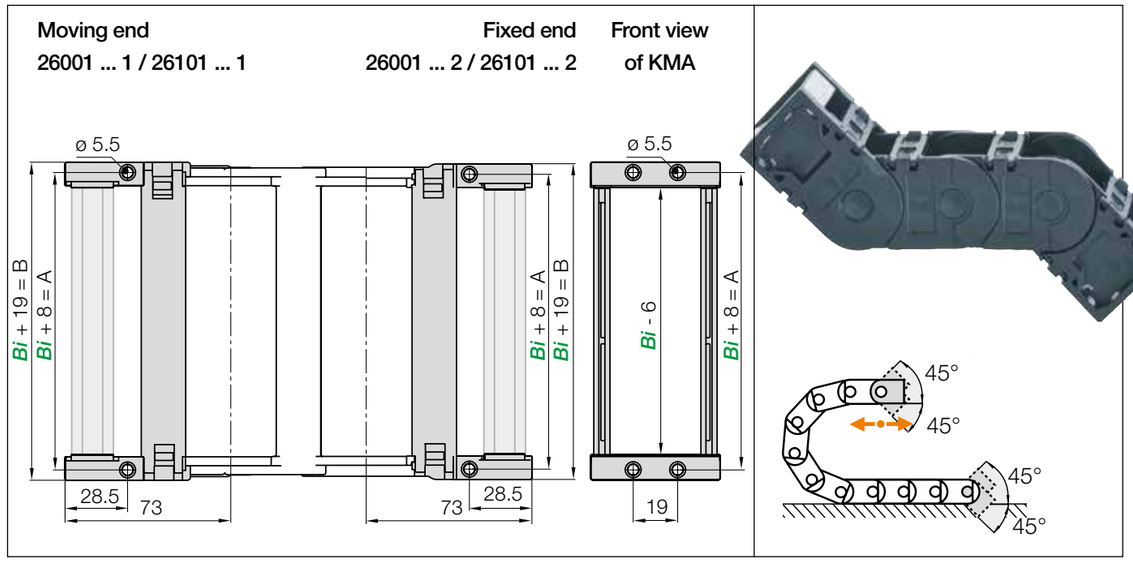


Order example

Strain relief e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with ordering options ▶ From page 1300

E2/000 | e-chains® 2600·2700 | Accessories

KMA mounting brackets | Attachment from any side | Pivoting | Locking

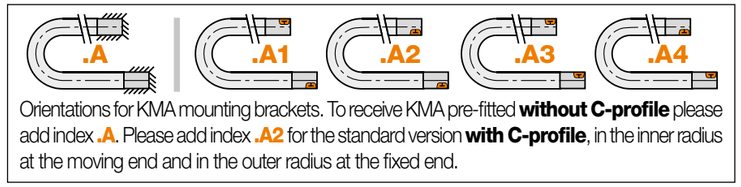


KMA pivoting | Recommended for unsupported and gliding applications
KMA locking | Recommended for vertical hanging and standing applications

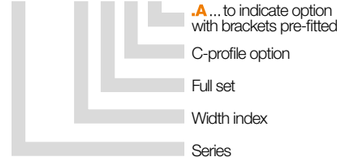
Width index	Part No. full set KMA **pivoting** with C-profile	Part No. full set KMA **pivoting** without C-profile	Part No. full set KMA **locking** with C-profile	Part No. full set KMA **locking** without C-profile	A [mm]	B [mm]
05. ▶	26001.05.12.C	26001.05.12	26101.05.12.C	26101.05.12	58	69
06. ▶	26001.06.12.C	26001.06.12	26101.06.12.C	26101.06.12	73	84
07. ▶	26001.07.12.C	26001.07.12	26101.07.12.C	26101.07.12	83	94
09. ▶	26001.09.12.C	26001.09.12	26101.09.12.C	26101.09.12	98	109
10. ▶	26001.10.12.C	26001.10.12	26101.10.12.C	26101.10.12	108	119
12. ▶	26001.12.12.C	26001.12.12	26101.12.12.C	26101.12.12	133	144
15. ▶	26001.15.12.C	26001.15.12	26101.15.12.C	26101.15.12	158	169
17. ▶	26001.17.12.C	26001.17.12	26101.17.12.C	26101.17.12	183	194

KMA pivoting to one end: moving end 26101...3 / fixed end 26101...4

(KMA = polymer metal mounting bracket)



Orientations for KMA mounting brackets. To receive KMA pre-fitted **without C-profile** please add index **.A**. Please add index **.A2** for the standard version **with C-profile**, in the inner radius at the moving end and in the outer radius at the fixed end.



Order example



Option: steel mounting bracket, locking. For e-chains® and e-tubes, Part No. 260.12

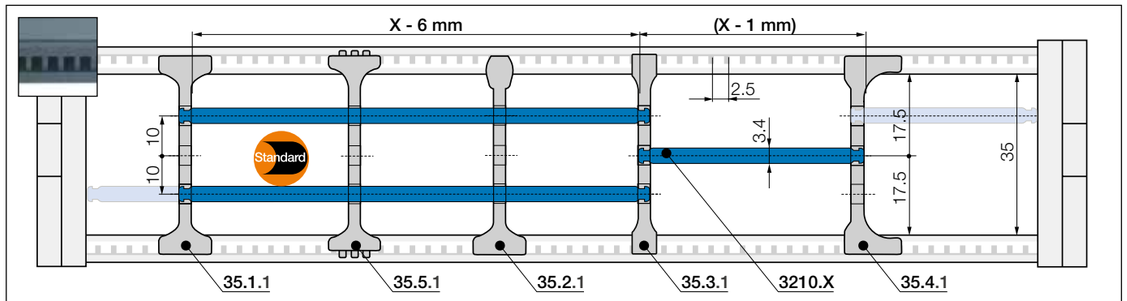
● Locking connections ● One part (2-piece) for all e-chain® widths ● Electrically conductive

Strain relief e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with ordering options ▶ From page 1300

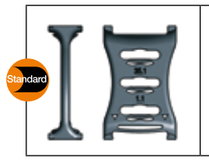
E2/000 | e-chains® 2600·2700 | Accessories

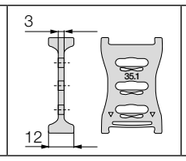
Interior separation | Increase cable service life

Previous generation of interior separation with other options ▶ www.igus.eu/2600 ▶ www.igus.eu/2700



No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-chain® link!

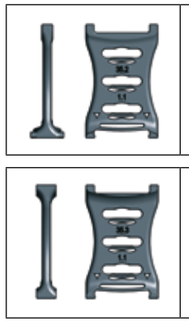


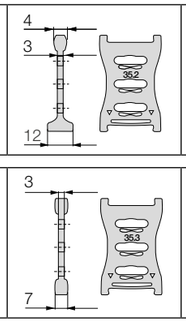


Standard separator, wide base	
unassembled	**35.1**
assembled	**35.1.1**

Standard - for any application

Separator with a wide base for maximum holding force in the e-chain®.





Separator, narrow top	
unassembled	**35.2**
assembled	**35.2.1**

For even faster installation

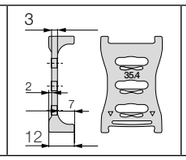
Wide on one side for high holding force, narrow on opposite side for easy cable fitting.

Separator, narrow	
unassembled	**35.3**
assembled	**35.3.1**

For small cables

Separator with a narrow base for a large number of small cables side by side. Saves space in the e-chain®.



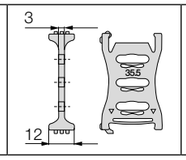


Separator, asymmetrical	
unassembled	**35.4**
assembled	**35.4.1**

For side-mounted applications

Asymmetrical separator, for defined gap distance. No additional spacers required.

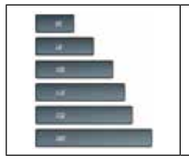


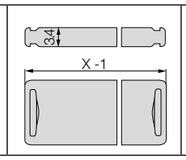


Notch separator for notched crossbar	
unassembled	**35.5**
assembled	**35.5.1**

Locks securely in preset increments

Notch separator for exact positioning in e-chains®. Recommended for side-mounted applications.





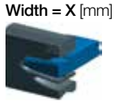
Shelf, lockable	
unassembled	**3200.X**
assembled	**3210.X**

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Shelves

Width = X [mm]

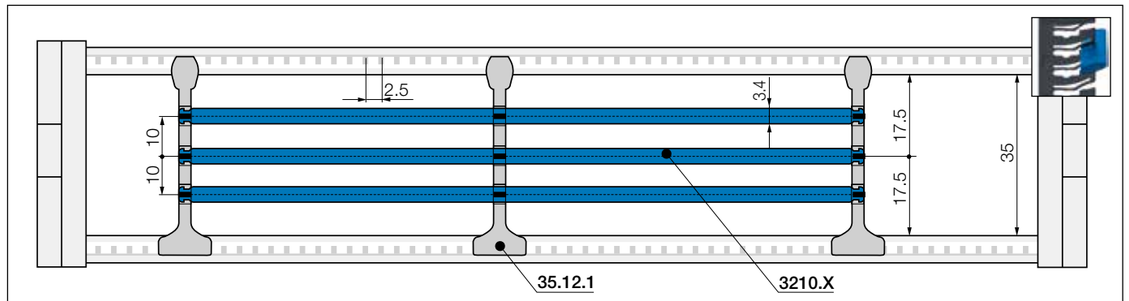


X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
050	**3200.050**	**3210.050**	125	**3200.125**	**3210.125**	225	**3200.225**	**3210.225**
075	**3200.075**	**3210.075**	150	**3200.150**	**3210.150**	250	**3200.250**	**3210.250**
100	**3200.100**	**3210.100**	175	**3200.175**	**3210.175**			
115	**3200.115**	**3210.115**	200	**3200.200**	**3210.200**			

E2/000 | e-chains® 2600·2700 | Accessories

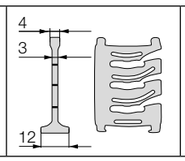
2600
2700

Interior separation | To allow faster filling New



No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-chain® link!





Lean separator	
unassembled	**35.12**
assembled	**35.12.1**

Lean separators

New design allows extremely fast fitting of shelves in several layers, which significantly reduces assembly time. Enables extremely fast replacement of individual cables in a very full e-chain®.

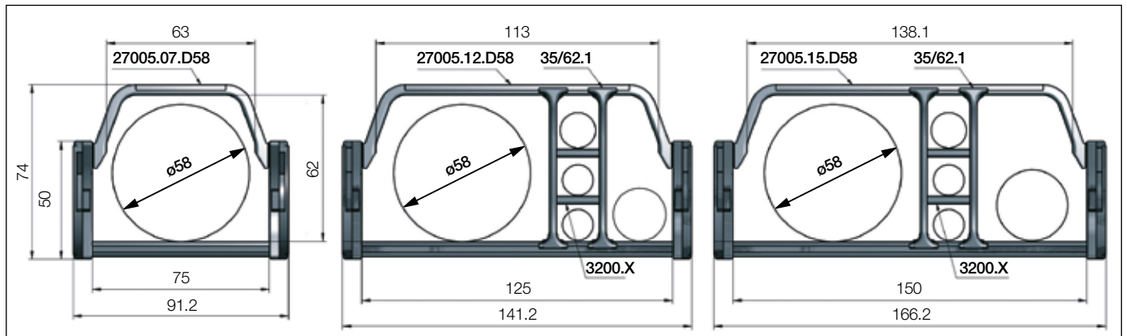
Lean separator design - several layers of cables fitted quickly, save up to 50%* assembly time

(*Lean separator vs. standard separator - measured on a 4m long e-chain® fitted with 12 cables in the igus® readychain® factory)



E2/000 | e-chains® 2600·2700 | Further accessories

e-chains® with extender crossbar | Product Range



e-chains® with extender crossbars - large increase of the interior space for the smooth guiding of large hoses. Suitable for hoses with a maximum outer diameter of 58mm.

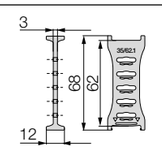
Part No. e-chains® extender crossbars openable along inner radius	Part No. e-chains® extender crossbars openable along outer radius	*Bi* [mm]	*Ba* [mm]	*R* Available bend radii [mm]
2600.07 D58 .*R*.0	2700.07 D58 .*R*.0	75	91	| 063* | 075* | 100 | 125 | 150 | 175 | 200 | 250 |
2600.12 D58 .*R*.0	2700.12 D58 .*R*.0	125	141	| 063* | 075* | 100 | 125 | 150 | 175 | 200 | 250 |
2600.15 D58 .*R*.0	2700.15 D58 .*R*.0	150	166	| 063* | 075* | 100 | 125 | 150 | 175 | 200 | 250 |

*Radius 063 and 075 only possible with e-chains® series 2700, openable along outer radius!

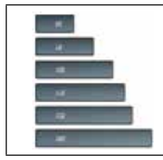
Complete Part No. with required radius (*R*). Example: **2700.15D58.100.0**

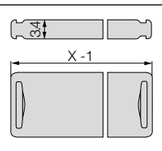
Interior separation for e-chains® with extender crossbars





Separator e-chain® with extender crossbars	
unassembled	**35/62.1**
assembled	**35/62.1.1**





Shelf, lockable	
unassembled	**3200.X**
assembled	**3210.X**

Standard separator, wide base

Separator with a wide base for maximum holding force in the e-chain®. As standard separators are fitted every 2nd e-chain® link!

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

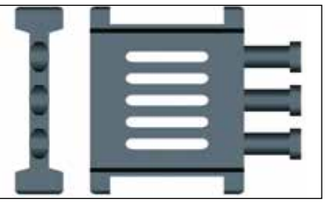
E2/000 | e-chains® 2600·2700 | Further accessories

2600
2700

Separator with integrated strain relief teeth

- Can be integrated into the mounting bracket or placed at any point in the e-chain®
- Combines strain relief and interior separation, for restricted space conditions
- Strain relief separator is easy to assemble without any screws

Part No. 262.Z. More information ▶ From page 1326



Aluminium support tray

- Corrosion-resistant and seawater-resistant aluminium rails with adjustable width
- Noise-reducing glide strip integrated as standard
- Easy installation and connection of the e-chain®
- Open design - dirt and debris fall through

More information ▶ From page 1270





Telescopic loader - an E2/000 e-chain® guides the hydraulic hoses via the telescopic mast to the attachment

E2/000 | e-tubes 2650·2680 | Product range

Protection against dirt and swarf



Half e-tubes | Series 2650 | Crossbars openable along inner radius from both sides, closed along outer radius
Full e-tubes | Series 2680 | Lids openable along inner radius from both sides, fully enclosed

Part No. half e-tubes openable along the inner radius	Part No. full e-tubes openable along the inner radius	*Bi* [mm]	*Ba* [mm]	*R* Available bend radii [mm]	2650 [kg/m]	2680 [kg/m]
2650.05.*R*.0	2680.05.*R*.0	50	66	| 063* | 075* | 100 | 125 | 150 | 175 | 200 | 250 |	≈ 1.25	≈ 1.33
2650.06.*R*.0	2680.06.*R*.0	65	81	| 063* | 075* | 100 | 125 | 150 | 175 | 200 | 250 |	≈ 1.36	≈ 1.43
2650.07.*R*.0	2680.07.*R*.0	75	91	| 063* | 075* | 100 | 125 | 150 | 175 | 200 | 250 |	≈ 1.40	≈ 1.51
2650.09.*R*.0	2680.09.*R*.0	90	106	| 063* | 075* | 100 | 125 | 150 | 175 | 200 | 250 |	≈ 1.55	≈ 1.62
2650.10.*R*.0	2680.10.*R*.0	100	116	| 063* | 075* | 100 | 125 | 150 | 175 | 200 | 250 |	≈ 1.61	≈ 1.81
2650.12.*R*.0	2680.12.*R*.0	125	141	| 063* | 075* | 100 | 125 | 150 | 175 | 200 | 250 |	≈ 1.70	≈ 1.99
2650.15.*R*.0	2680.15.*R*.0	150	166	| 063* | 075* | 100 | 125 | 150 | 175 | 200 | 250 |	≈ 1.80	≈ 2.17
2650.17.*R*.0	2680.17.*R*.0	175	194	| 063* | 075* | 100 | 125 | 150 | 175 | 200 | 250 |	≈ 2.00	≈ 2.35

*Radius available upon request. Please consult igus® for price and delivery time.

Radii 063, 075: the e-tube is not completely enclosed. Please consult igus®.

Complete Part No. with required radius (*R*). Example: **2650.05.100.0**

Reduce assembly time - E2/000 e-chain® opener

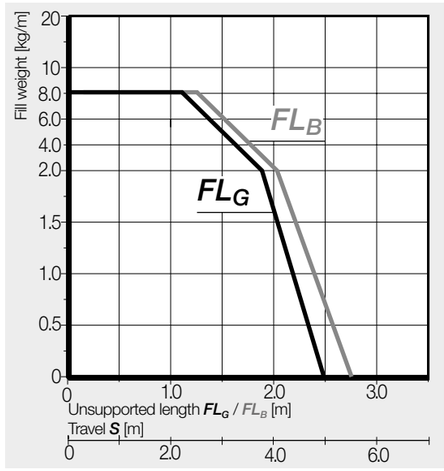
- Reduce opening times from 33 to 2 seconds
- Open a long e-chain® section in one go
- For widths *Bi* [mm]: 06, 07, 09, 10
- **Part No. 908.254.2600** for series 2650

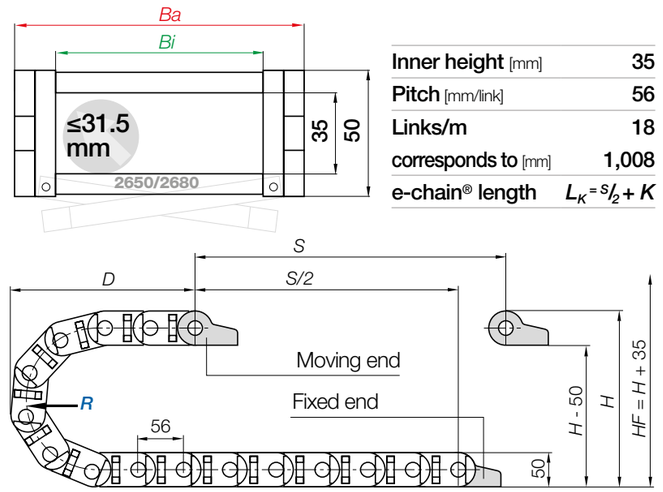
More information ▶ www.igus.eu/E2opener



E2/000 | e-tubes 2650·2680 | Installation dimensions

Unsupported applications | Short travels





Inner height [mm]	35
Pitch [mm/link]	56
Links/m	18
corresponds to [mm]	1,008
e-chain® length	$L_K = S/2 + K$

R	063*	075*	100	125	150	175	200	250
H	176	200	250	300	350	400	450	550
D	172	184	209	234	259	284	309	359
K	310	350	430	505	585	665	745	900

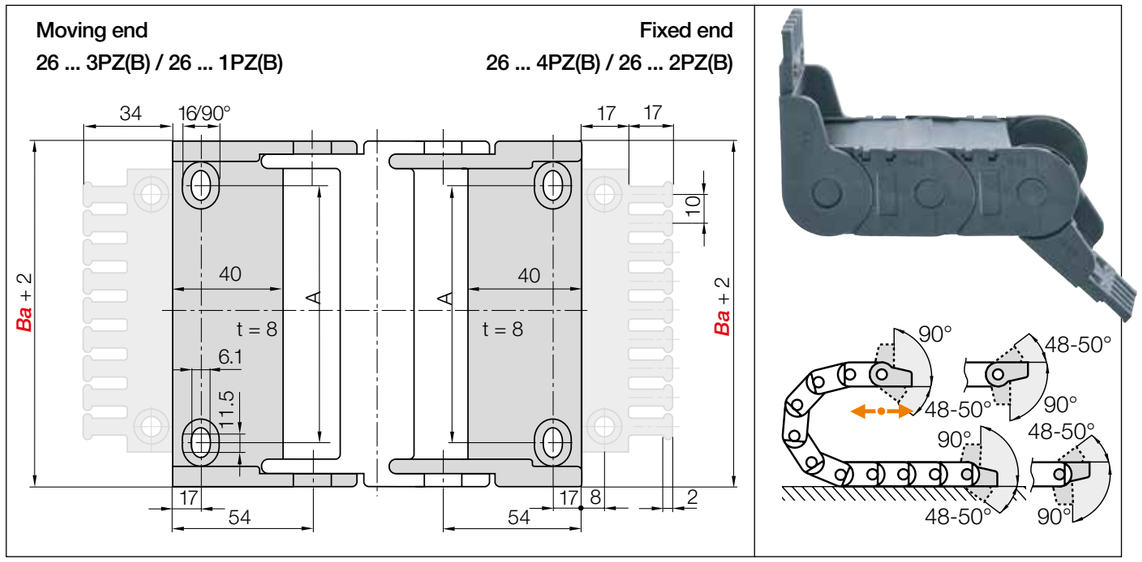
The required clearance height: $H_F = H + 35$mm (with 2.0kg/m fill weight)

*Radius available upon request. Please consult igus® for delivery time. Before using series 2650/2680 on long travels please consult igus®.

If a gliding application is required for a long travel, please consult igus®.

E2/000 | **e-tubes** 2650·2680 | Accessories

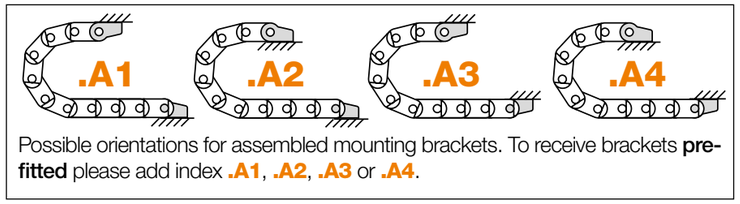
Mounting brackets, polymer | Pivoting | Locking



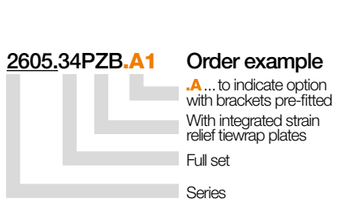
Standard **Polymer pivoting** | Recommended for unsupported applications
Polymer locking | Recommended for vertical hanging and standing applications

Width index	Part No. full set **pivoting** with tiewrap plates	Part No. full set **pivoting** without tiewrap plate	Part No. full set **locking** with tiewrap plates	Part No. full set **locking** without tiewrap plate	A [mm]	Number of teeth
05. ▶	2605.34PZB	2605.34PZ	2605.12PZB	2605.12PZ	30	5
06. ▶	2606.34PZB	2606.34PZ	2606.12PZB	2606.12PZ	45	5
07. ▶	2607.34PZB	2607.34PZ	2607.12PZB	2607.12PZ	55	7
09. ▶	2609.34PZB	2609.34PZ	2609.12PZB	2609.12PZ	70	9
10. ▶	2610.34PZB	2610.34PZ	2610.12PZB	2610.12PZ	80	10
12. ▶	2612.34PZB	2612.34PZ	2612.12PZB	2612.12PZ	105	12
15. ▶	2615.34PZB	2615.34PZ	2615.12PZB	2615.12PZ	130	15
17. ▶	2617.34PZB	2617.34PZ	2617.12PZB	2617.12PZ	155	17

Full set with tiewrap plate + 10 cable tiewraps, please add index **K1**. Example: **2605.34PZBK1**



Possible orientations for assembled mounting brackets. To receive brackets **pre-fitted** please add index **.A1**, **.A2**, **.A3** or **.A4**.

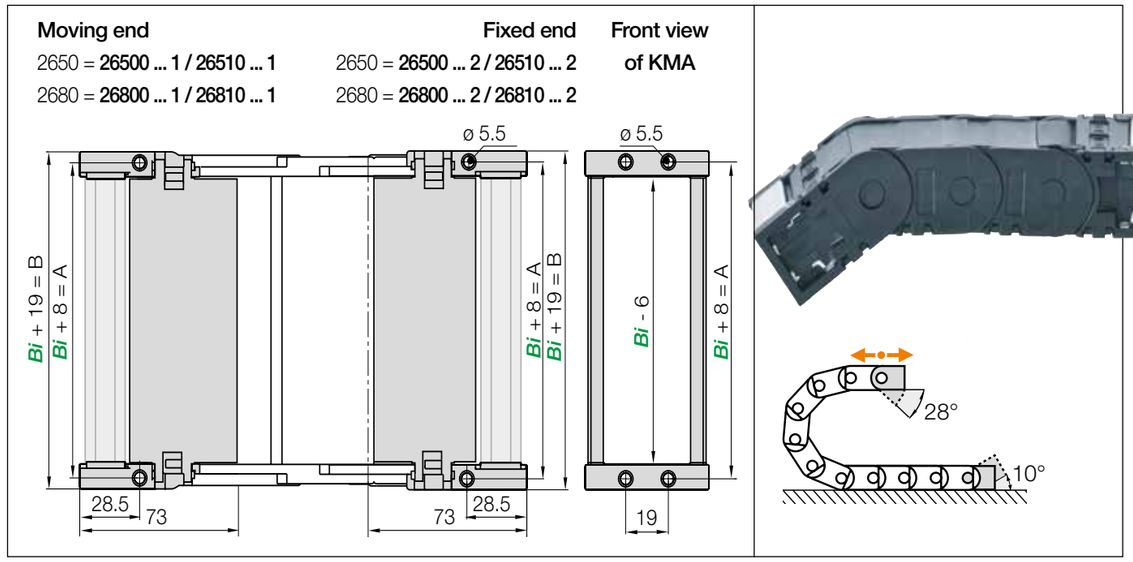


Order example

Strain relief **e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with ordering options ▶ From page 1300**

E2/000 | **e-tubes** 2650·2680 | Accessories

KMA mounting brackets | Attachment from any side | Pivoting | Locking



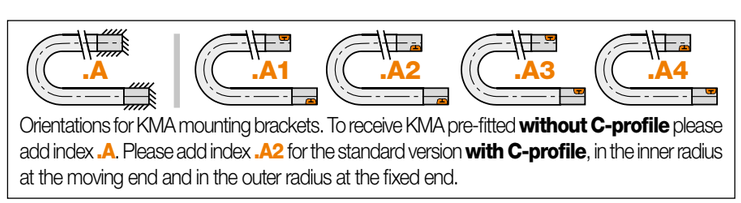
KMA pivoting | Recommended for unsupported applications
KMA locking | Recommended for vertical hanging and standing applications

Width index	Part No. full set KMA **pivoting**[1] with C-profile	Part No. full set KMA **pivoting**[1] without C-profile	Part No. full set KMA **locking**[2] with C-profile	Part No. full set KMA **locking**[2] without C-profile	A [mm]	B [mm]
05. ▶	26500 | 26800 .05.12.C	26500 | 26800 .05.12	26510 | 26810 .05.12.C	26510 | 26810 .05.12	58	69
06. ▶	26500 | 26800 .06.12.C	26500 | 26800 .06.12	26510 | 26810 .06.12.C	26510 | 26810 .06.12	73	84
07. ▶	26500 | 26800 .07.12.C	26500 | 26800 .07.12	26510 | 26810 .07.12.C	26510 | 26810 .07.12	83	94
09. ▶	26500 | 26800 .09.12.C	26500 | 26800 .09.12	26510 | 26810 .09.12.C	26510 | 26810 .09.12	98	109
10. ▶	26500 | 26800 .10.12.C	26500 | 26800 .10.12	26510 | 26810 .10.12.C	26510 | 26810 .10.12	108	119
12. ▶	26500 | 26800 .12.12.C	26500 | 26800 .12.12	26510 | 26810 .12.12.C	26510 | 26810 .12.12	133	144
15. ▶	26500 | 26800 .15.12.C	26500 | 26800 .15.12	26510 | 26810 .15.12.C	26510 | 26810 .15.12	158	169
17. ▶	26500 | 26800 .17.12.C	26500 | 26800 .17.12	26510 | 26810 .17.12.C	26510 | 26810 .17.12	183	194

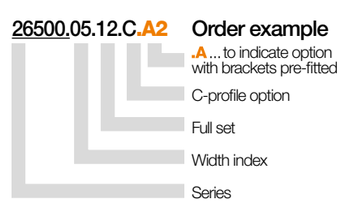
1) KMA pivoting Part No. 26500 for half e-tube series 2650 / KMA pivoting Part No. 26800 for full e-tube series 2680

2) KMA locking Part No. 26510 for half e-tube series 2650 / KMA locking Part No. 26810 for full e-tube series 2680

(KMA = polymer metal mounting bracket)



Orientations for KMA mounting brackets. To receive KMA pre-fitted **without C-profile** please add index **.A**. Please add index **.A2** for the standard version **with C-profile**, in the inner radius at the moving end and in the outer radius at the fixed end.



Order example



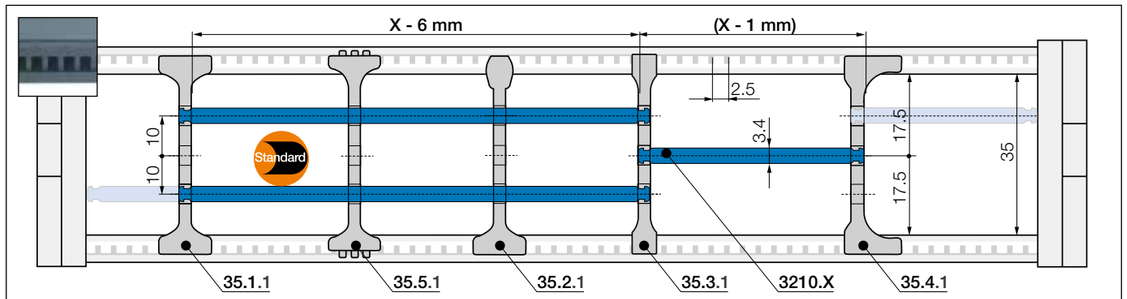
Option: steel mounting bracket, locking. For e-chains® and e-tubes, Part No. 260.12
● Locking connections ● One part (2-piece) for all e-chain® widths ● Electrically conductive

Strain relief **e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with ordering options ▶ From page 1300**

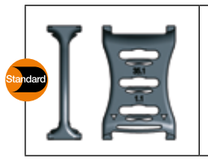
E2/000 | **e-tubes** 2650·2680 | Accessories

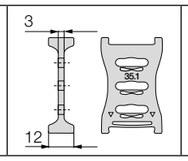
Interior separation | Increase cable service life

Previous generation of interior separation with other options ▶ **www.igus.eu/2650** ▶ **www.igus.eu/2680**



No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-chain® link!

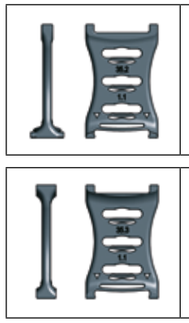


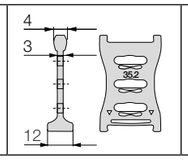


Standard separator, wide base	
unassembled	**35.1**
assembled	**35.1.1**

Standard - for any application

Separator with a wide base for maximum holding force in the e-chain®.

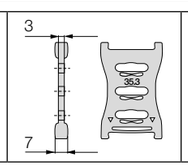




Separator, narrow top	
unassembled	**35.2**
assembled	**35.2.1**

For even faster installation

Wide on one side for high holding force, narrow on opposite side for easy cable fitting.

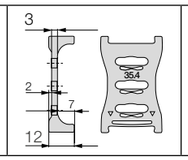


Separator, narrow	
unassembled	**35.3**
assembled	**35.3.1**

For small cables

Separator with a narrow base for a large number of small cables side by side. Saves space in the e-chain®.



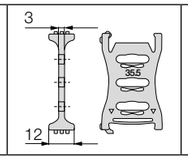


Separator, asymmetrical	
unassembled	**35.4**
assembled	**35.4.1**

For side-mounted applications

Asymmetrical separator, for defined gap distance. No additional spacers required.

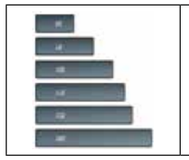


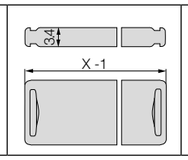


Notch separator for notched crossbar	
unassembled	**35.5**
assembled	**35.5.1**

Locks securely in preset increments

Notch separator for exact positioning in e-chains®. Recommended for side-mounted applications.





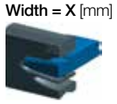
Shelf, lockable	
unassembled	**3200.X**
assembled	**3210.X**

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Shelves

Width = X [mm]

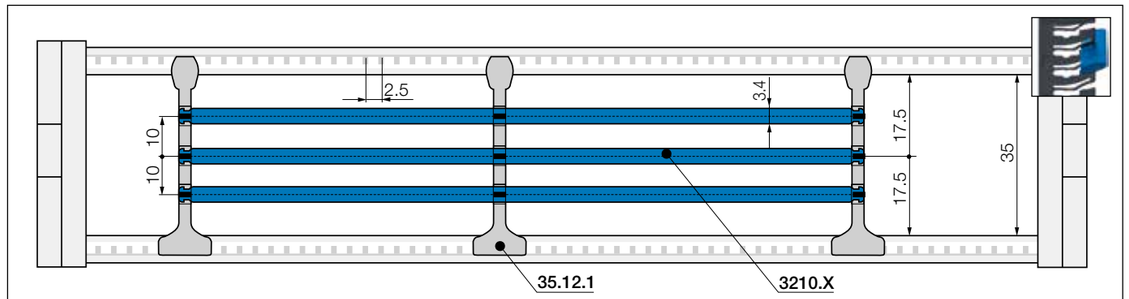


X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
050	**3200.050**	**3210.050**	125	**3200.125**	**3210.125**	225	**3200.225**	**3210.225**
075	**3200.075**	**3210.075**	150	**3200.150**	**3210.150**	250	**3200.250**	**3210.250**
100	**3200.100**	**3210.100**	175	**3200.175**	**3210.175**			
115	**3200.115**	**3210.115**	200	**3200.200**	**3210.200**			

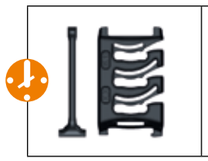
2650
2680

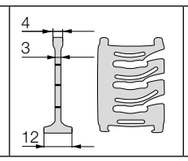
E2/000 | **e-tubes** 2650·2680 | Accessories

Interior separation | To allow faster filling New



No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-chain® link!





Lean separator	
unassembled	**35.12**
assembled	**35.12.1**

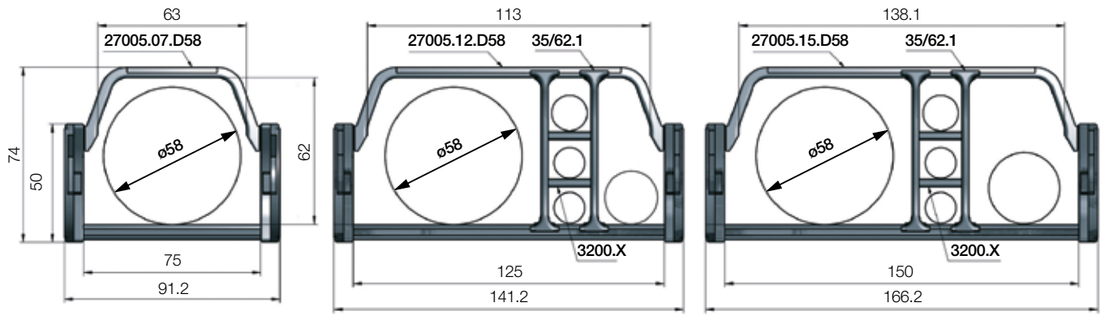
Lean separators

New design allows extremely fast fitting of shelves in several layers, which significantly reduces assembly time. Enables extremely fast replacement of individual cables in a very full e-chain®.

Lean separator design - several layers of cables fitted quickly, save up to 50%* assembly time

(*Lean separator vs. standard separator - measured on a 4m long e-chain® fitted with 12 cables in the igus® readychain® factory)





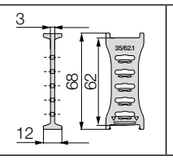
e-chains® with extender crossbars only for series 2650 - large increase of the interior space for the smooth guiding of large hoses. Suitable for hoses with a maximum outer diameter of 58mm.

Part No. half e-tubes extender crossbars openable along the inner radius	*Bi* [mm]	*Ba* [mm]	*R* Available bend radii [mm]
2650.07 D58 .*R*.0	75	91	| 100 | 125 | 150 | 175 | 200 | 250 |
2650.12 D58 .*R*.0	125	141	| 100 | 125 | 150 | 175 | 200 | 250 |
2650.15 D58 .*R*.0	150	166	| 100 | 125 | 150 | 175 | 200 | 250 |

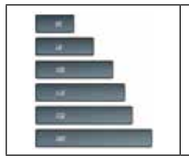
Complete Part No. with required radius (*R*). Example: **2650.15D58.100.0**

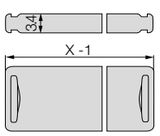
Interior separation for e-chains® with extender crossbars





Separator e-chain® with extender crossbars	
unassembled	**35/62.1**
assembled	**35/62.1.1**





Shelf, lockable	
unassembled	**3200.X**
assembled	**3210.X**

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Aluminium support tray

- Corrosion-resistant and seawater-resistant aluminium rails with adjustable width
- Noise-reducing glide strip integrated as standard
- Easy installation and connection of the e-chain®
- Open design - dirt and debris fall through

More information ▶ From page 1270



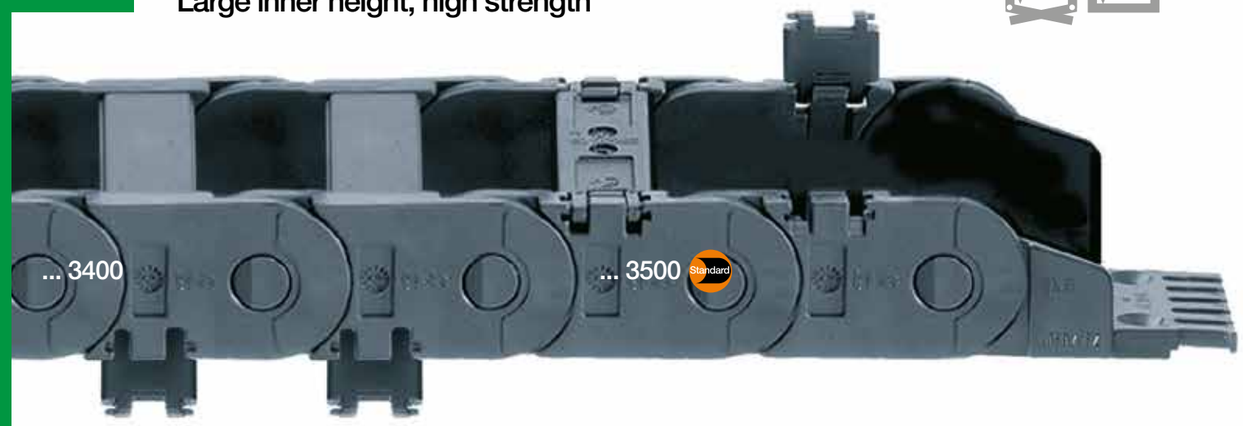


Flat knitting machine - the igus® E2/000 system is reliable even at high accelerations and for millions of cycles

E2/000 | e-chains® 3400·3500 | Product range

45 45

Large inner height, high strength



e-chains® | Series 3400 | Crossbars openable along the inner radius, from both sides
e-chains® | Series 3500 | Crossbars openable along the outer radius, from both sides

Part No. e-chains® openable along inner radius	Part No. e-chains® openable along outer radius	Bi [mm]	Ba [mm]	R Available bend radii [mm]	3400 [kg/m]	3500 [kg/m]
3400.050.R.0	3500.050.R.0	50	70	| 075 | 100 | 125 | 150 | 200 | 250 | 300 |	≈ 1.60	≈ 1.60
3400.075.R.0	3500.075.R.0	75	95	| 075 | 100 | 125 | 150 | 200 | 250 | 300 |	≈ 1.78	≈ 1.78
3400.100.R.0	3500.100.R.0	100	120	| 075 | 100 | 125 | 150 | 200 | 250 | 300 |	≈ 1.93	≈ 1.93
3400.115.R.0	3500.115.R.0	115	135	| 075 | 100 | 125 | 150 | 200 | 250 | 300 |	≈ 1.99	≈ 1.99
3400.125.R.0	3500.125.R.0	125	145	| 075 | 100 | 125 | 150 | 200 | 250 | 300 |	≈ 2.03	≈ 2.03
3400.150.R.0	3500.150.R.0	150	170	| 075 | 100 | 125 | 150 | 200 | 250 | 300 |	≈ 2.17	≈ 2.17
3400.175.R.0	3500.175.R.0	175	195	| 075 | 100 | 125 | 150 | 200 | 250 | 300 |	≈ 2.28	≈ 2.28
3400.200.R.0	3500.200.R.0	200	220	| 075 | 100 | 125 | 150 | 200 | 250 | 300 |	≈ 2.45	≈ 2.45
3400.225.R.0	3500.225.R.0	225	245	| 075 | 100 | 125 | 150 | 200 | 250 | 300 |	≈ 2.59	≈ 2.59
3400.250.R.0	3500.250.R.0	250	270	| 075 | 100 | 125 | 150 | 200 | 250 | 300 |	≈ 2.73	≈ 2.73

Half e-tubes, series 3450 and full e-tube series 3480 ▶ **From page 416**

Complete Part No. with required radius (*R*). Example: **3500.075.200.0**

Reduce assembly time - E2/000 e-chain® opener

- Reduce opening times from 33 to 2 seconds
- Open a long e-chain® section in one go
- For widths *Bi* [mm]: 050, 075, 100, 115
- **Part No. 908.254.3400** for series 3400/3500

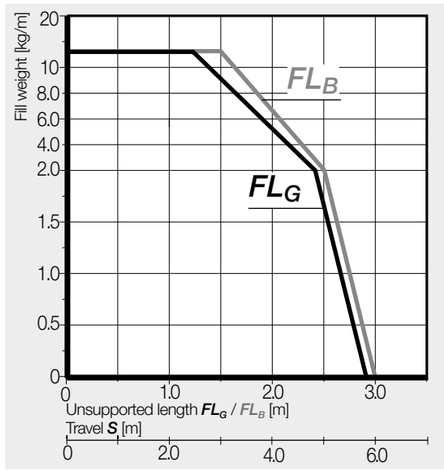
More information ▶ www.igus.eu/E2opener

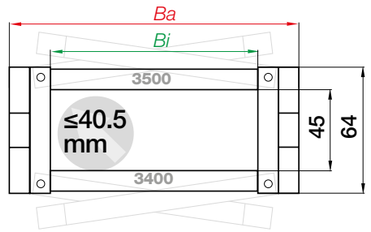


e-chains® 3400·3500 | Installation dimensions

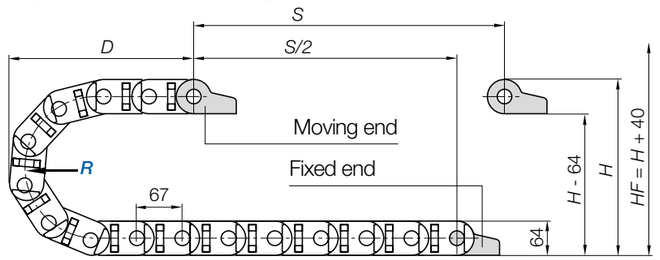
Unsupported applications | Short travels

▶ 1300 ▶ 1228





Inner height [mm]	45
Pitch [mm/link]	67
Links/m	15
corresponds to [mm]	1,005
e-chain® length	$L_K = S/2 + K$

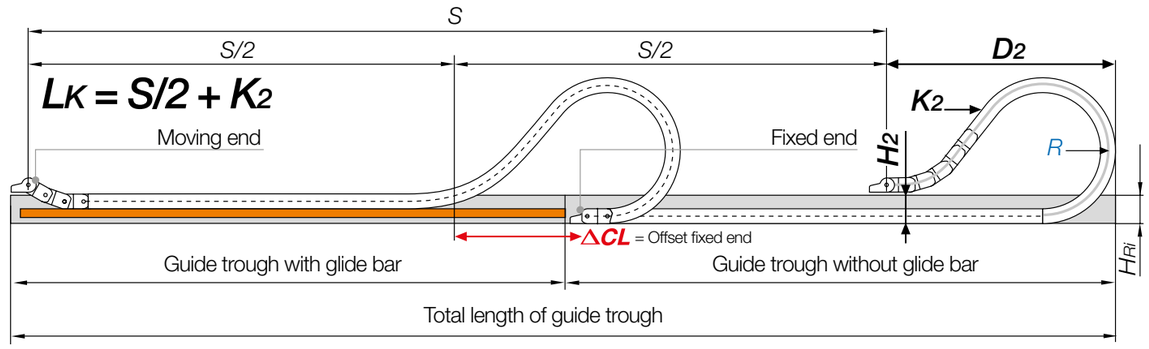


R	075	100	125	150	200	250	300
H	214	264	314	364	464	564	664
D	208	233	258	283	333	383	433
K	370	450	530	610	765	920	1,080

The required clearance height: $H_F = H + 40$mm (with 2.5kg/m fill weight)

Before using series 3400 on long travels please consult igus®.

Gliding applications | For long travels from 10m to max. 150m



Note: before using series 3400/3450/3480 on long travels please consult igus®.

For long travels, igus® recommends series 3500 openable along the outer radius.

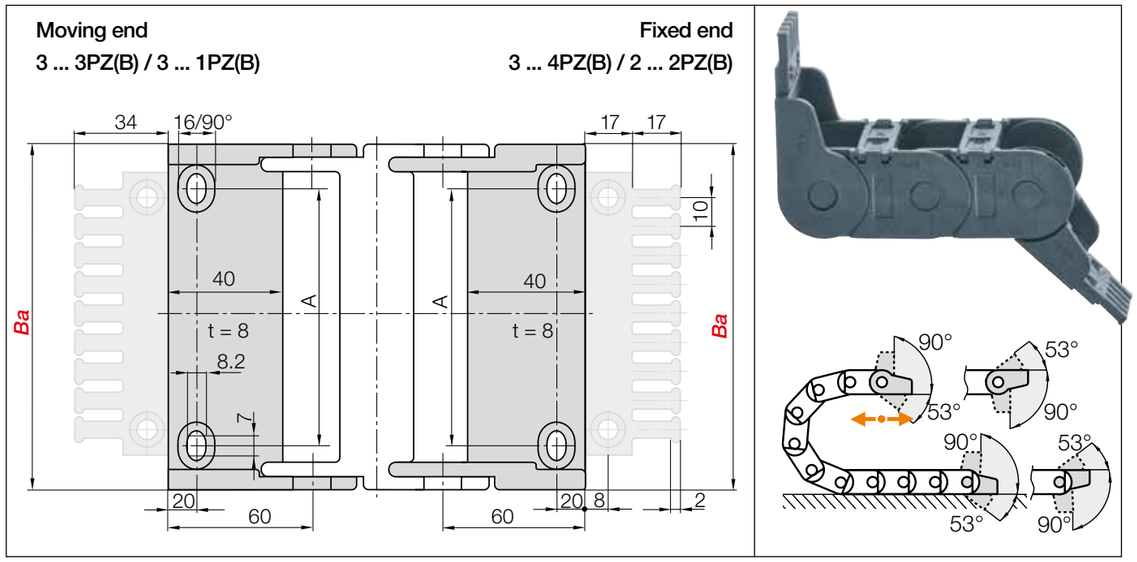
In case of travels between 6 and 10m we recommend an e-chain® with a longer unsupported length.

R	075	100	125	150	200	250	300
H_2	150	200	186	186	186	186	186
D_2^{+25}	208	233	475	570	780	1,010	1,150
K_2	370	450	804	1,005	1,340	1,675	1,943
ΔCL	–	–	233	303	463	643	733

Before using series 3400 on long travels please consult igus®.

E2/000 | e-chains® 3400·3500 | Accessories

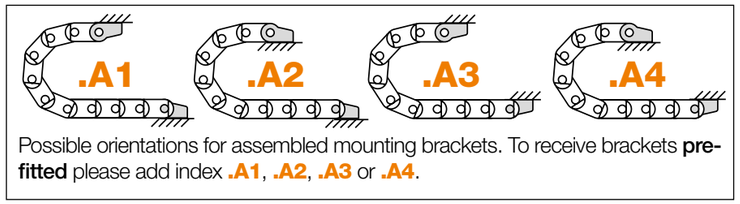
Mounting brackets, polymer | Pivoting | Locking



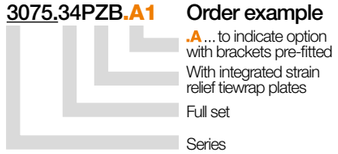
Polymer pivoting | Recommended for unsupported and gliding applications
Polymer locking | Recommended for vertical hanging and standing applications

Width index	Part No. full set **pivoting** with tiewrap plates	Part No. full set **pivoting** without tiewrap plate	Part No. full set **locking** with tiewrap plates	Part No. full set **locking** without tiewrap plate	A [mm]	Number of teeth
050. ▶	3050.34PZB	3050.34PZ	3050.12PZB	3050.12PZ	28	5
075. ▶	3075.34PZB	3075.34PZ	3075.12PZB	3075.12PZ	53	7
100. ▶	3100.34PZB	3100.34PZ	3100.12PZB	3100.12PZ	78	10
115. ▶	3115.34PZB	3115.34PZ	3115.12PZB	3115.12PZ	93	11
125. ▶	3125.34PZB	3125.34PZ	3125.12PZB	3125.12PZ	103	12
150. ▶	3150.34PZB	3150.34PZ	3150.12PZB	3150.12PZ	128	15
175. ▶	3175.34PZB	3175.34PZ	3175.12PZB	3175.12PZ	153	17
200. ▶	3200.34PZB	3200.34PZ	3200.12PZB	3200.12PZ	178	20
225. ▶	3225.34PZB	3225.34PZ	3225.12PZB	3225.12PZ	203	22
250. ▶	3250.34PZB	3250.34PZ	3250.12PZB	3250.12PZ	228	25

Full set with tiewrap plate + 10 cable tiewraps, please add index **K1.** Example: **3250.34PZBK1**



Possible orientations for assembled mounting brackets. To receive brackets **pre-fitted** please add index **.A1**, **.A2**, **.A3** or **.A4**.

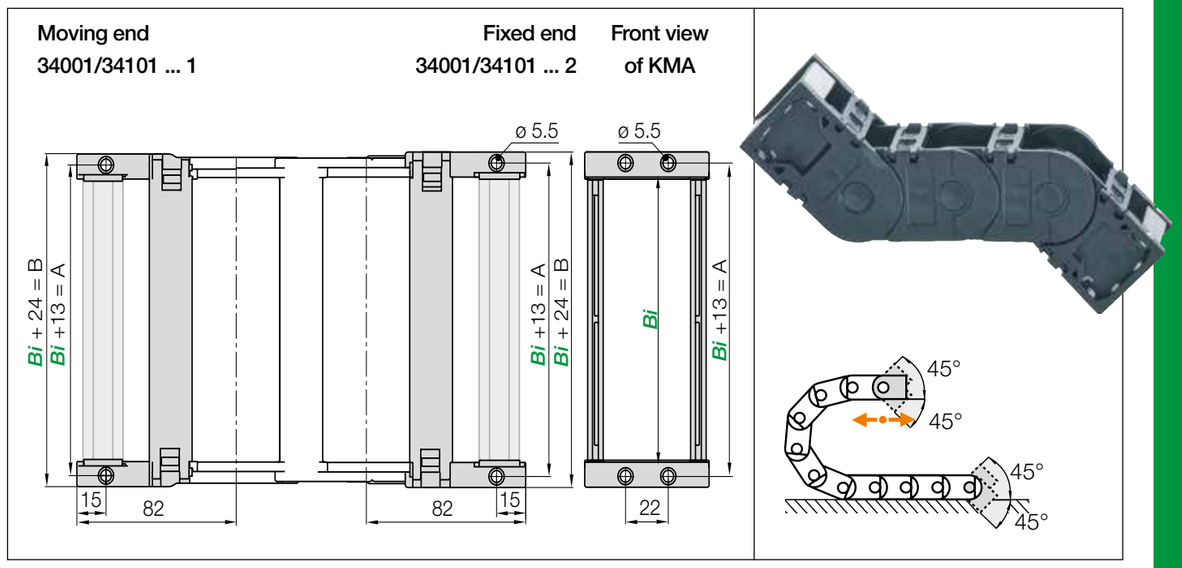


Order example

Strain relief **e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with ordering options ▶ From page 1300**

E2/000 | e-chains® 3400·3500 | Accessories

KMA mounting brackets | Attachment from any side | Pivoting | Locking

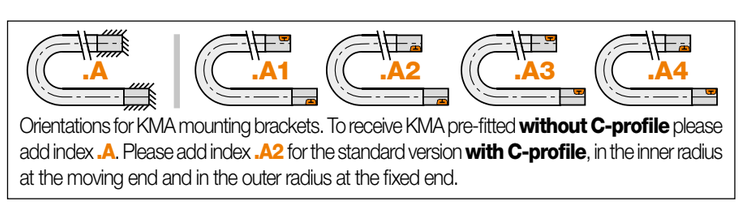


KMA pivoting | Recommended for unsupported and gliding applications
KMA locking | Recommended for vertical hanging and standing applications

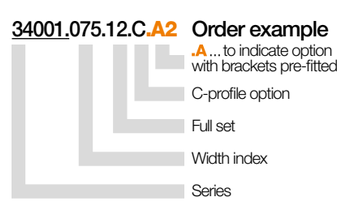
Width index	Part No. full set KMA **pivoting** with C-profile	Part No. full set KMA **pivoting** without C-profile	Part No. full set KMA **locking** with C-profile	Part No. full set KMA **locking** without C-profile	A [mm]	B [mm]
050. ▶	34001.050.12.C	34001.050.12	34101.050.12.C	34101.050.12	63	74
075. ▶	34001.075.12.C	34001.075.12	34101.075.12.C	34101.075.12	88	99
100. ▶	34001.100.12.C	34001.100.12	34101.100.12.C	34101.100.12	113	124
115. ▶	34001.115.12.C	34001.115.12	34101.115.12.C	34101.115.12	128	139
125. ▶	34001.125.12.C	34001.125.12	34101.125.12.C	34101.125.12	138	149
150. ▶	34001.150.12.C	34001.150.12	34101.150.12.C	34101.150.12	163	174
175. ▶	34001.175.12.C	34001.175.12	34101.175.12.C	34101.175.12	188	199
200. ▶	34001.200.12.C	34001.200.12	34101.200.12.C	34101.200.12	213	224
225. ▶	34001.225.12.C	34001.225.12	34101.225.12.C	34101.225.12	238	249
250. ▶	34001.250.12.C	34001.250.12	34101.250.12.C	34101.250.12	263	274

KMA pivoting to one end: moving end 34001...3 / fixed end 34001...4

(KMA = polymer metal mounting bracket)



Orientations for KMA mounting brackets. To receive KMA pre-fitted **without C-profile** please add index **.A**. Please add index **.A2** for the standard version **with C-profile**, in the inner radius at the moving end and in the outer radius at the fixed end.



Order example



Option: steel mounting bracket, pivoting. For e-chains® and e-tubes, Part No. 3000.12

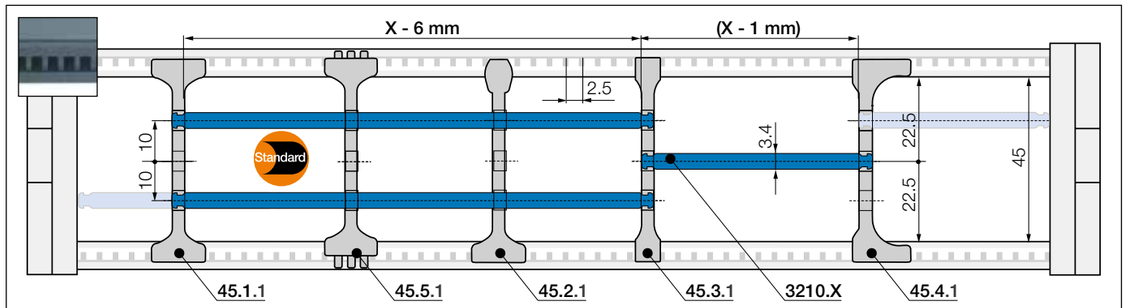
● Pivoting connections ● One part (2-piece) for all e-chain® widths ● Electrically conductive

Strain relief **e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with ordering options ▶ From page 1300**

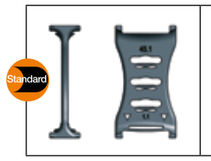
E2/000 | e-chains® 3400·3500 | Accessories

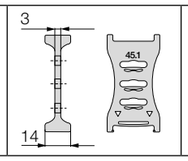
Interior separation | Increase cable service life

Previous generation of interior separation with other options ▶ www.igus.eu/3400 ▶ www.igus.eu/3500



No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-chain® link!



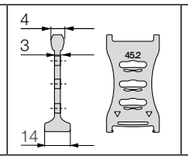


Standard separator, wide base	
unassembled	**45.1**
assembled	**45.1.1**

Standard - for any application

Separator with a wide base for maximum holding force in the e-chain®.



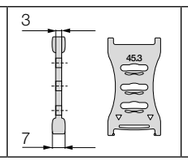


Separator, narrow top	
unassembled	**45.2**
assembled	**45.2.1**

For even faster installation

Wide on one side for high holding force, narrow on opposite side for easy cable fitting.



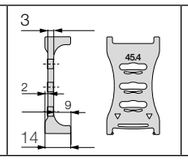


Separator, narrow	
unassembled	**45.3**
assembled	**45.3.1**

For small cables

Separator with a narrow base for a large number of small cables side by side. Saves space in the e-chain®.



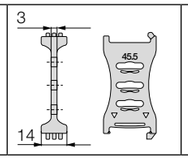


Separator, asymmetrical	
unassembled	**45.4**
assembled	**45.4.1**

For side-mounted applications

Asymmetrical separator, for defined gap distance. No additional spacers required.

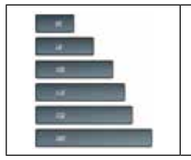


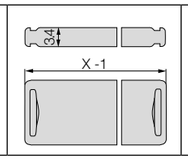


Notch separator for notched crossbar	
unassembled	**45.5**
assembled	**45.5.1**

Locks securely in preset increments

Notch separator for exact positioning in e-chains®. Recommended for side-mounted applications.





Shelf, lockable	
unassembled	**3200.X**
assembled	**3210.X**

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Shelves

Width = X [mm]

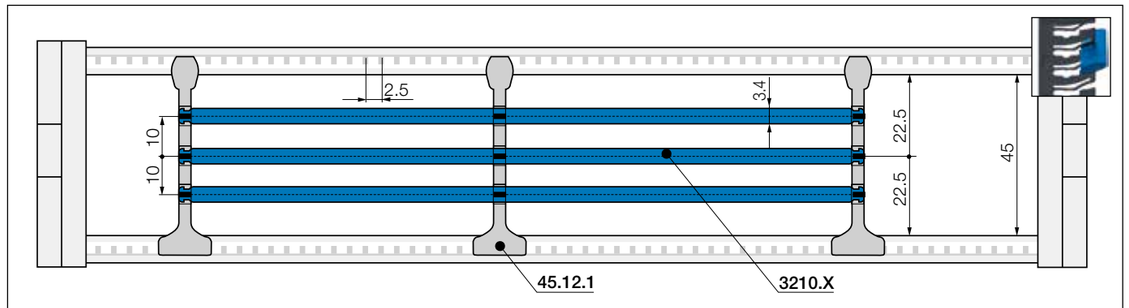


X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
050	**3200.050**	**3210.050**	125	**3200.125**	**3210.125**	225	**3200.225**	**3210.225**
075	**3200.075**	**3210.075**	150	**3200.150**	**3210.150**	250	**3200.250**	**3210.250**
100	**3200.100**	**3210.100**	175	**3200.175**	**3210.175**			
115	**3200.115**	**3210.115**	200	**3200.200**	**3210.200**			

3400
3500

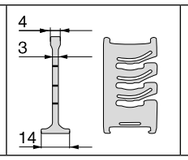
E2/000 | e-chains® 3400·3500 | Accessories

Interior separation | To allow faster filling New



No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-chain® link!





Lean separator	
unassembled	**45.12**
assembled	**45.12.1**

Lean separators

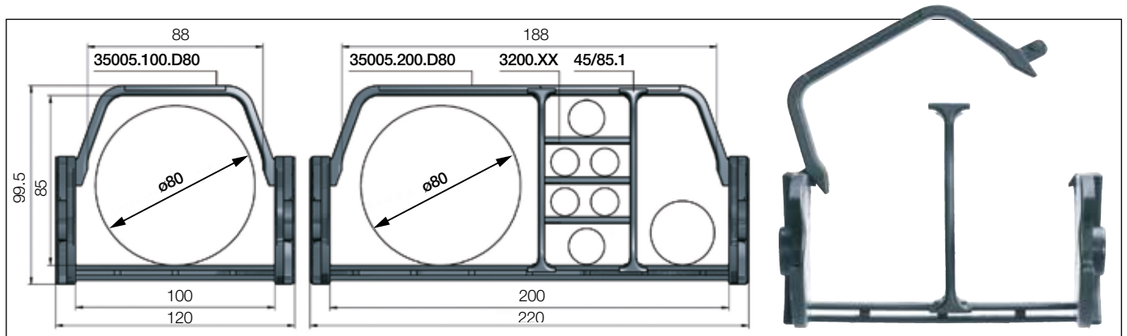
New design allows extremely fast fitting of shelves in several layers, which significantly reduces assembly time. Enables extremely fast replacement of individual cables in a very full e-chain®.

Lean separator design - several layers of cables fitted quickly, save up to 50%* assembly time

(*Lean separator vs. standard separator - measured on a 4m long e-chain® fitted with 12 cables in the igus® readychain® factory)



e-chains® with extender crossbar | Product Range



e-chains® with extender crossbars - large increase of the interior space for the smooth guiding of large hoses. Suitable for hoses with a maximum outer diameter of 80mm.

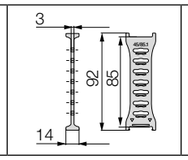
Part No. e-chains® extender crossbars openable along inner radius	Part No. e-chains® extender crossbars openable along outer radius	*Bi* [mm]	*Ba* [mm]	*R* Available bend radii [mm]
3400.100 D80.*R*.0	3500.100D80.*R*.0	100	120	| 075* | 100* | 125 | 150 | 200 | 250 | 300 |
3400.200 D80.*R*.0	3500.200D80.*R*.0	200	220	| 075* | 100* | 125 | 150 | 200 | 250 | 300 |

*Radius 075 and 100 only possible with e-chains® series 3500, openable along outer radius!

Complete Part No. with required radius (*R*). Example: **3500.100D80.200.0**

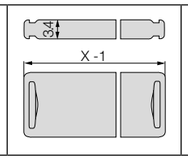
Interior separation for e-chains® with extender crossbars





Separator e-chain® with extender crossbars	
unassembled	**45/85.1**
assembled	**45/85.1.1**





Shelf, lockable	
unassembled	**3200.X**
assembled	**3210.X**

Standard separator, wide base

Separator with a wide base for maximum holding force in the e-chain®. As standard separators are fitted every 2nd e-chain® link!

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Separator with integrated strain relief teeth

- Can be integrated into the mounting bracket or placed at any point in the e-chain®
- Combines strain relief and interior separation, for restricted space conditions
- Strain relief separator is easy to assemble without any screws

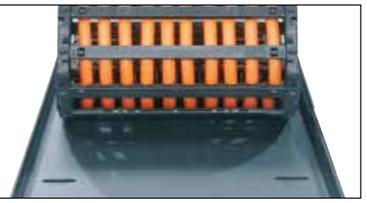
Part No. 301.Z. More information ▶ From page 1326

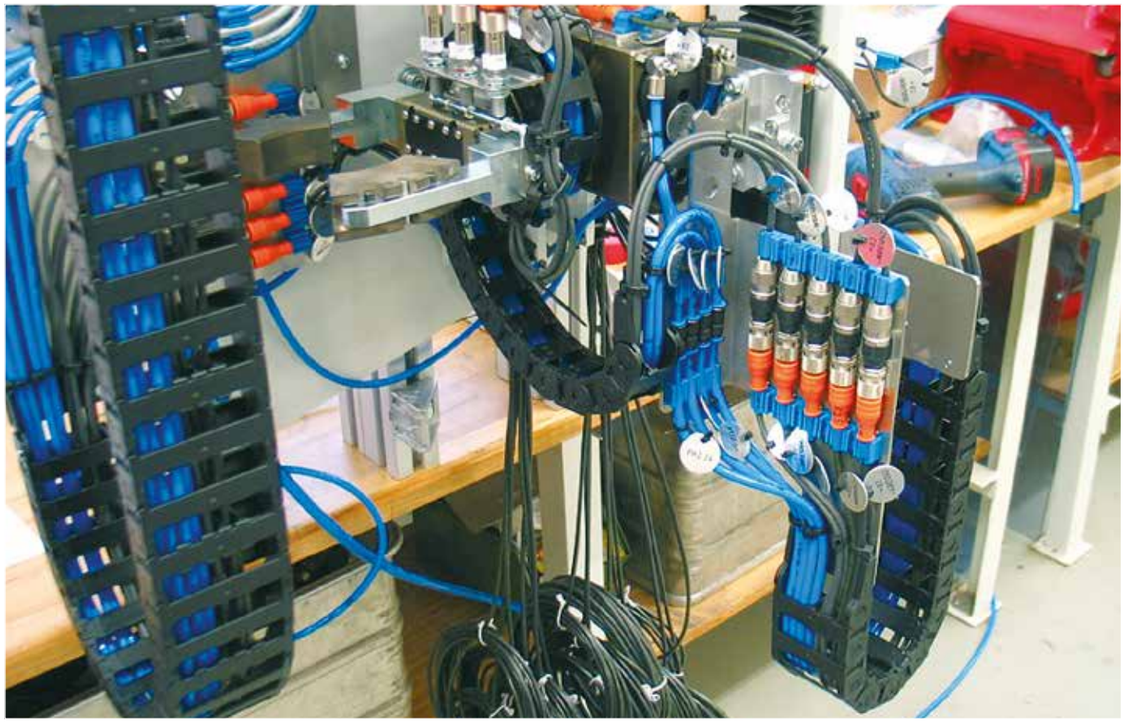


Steel support tray for support of the lower run

- Simple one-piece support trays for the lower run
- To your requirements and specification
- 4 options available

More information ▶ From page 1264





Strong and space-saving E2/000 e-chain® for different axes of a machine

E2/000 | e-tubes 3450·3480 | Product range

45

Protection against dirt and swarf



Half e-tubes | Series 3450 | Crossbars openable along inner radius from both sides, closed along outer radius
Full e-tubes | Series 3480 | Lids openable along inner radius from both sides, fully enclosed

Part No. half e-tubes openable along the inner radius	Part No. full e-tubes openable along the inner radius	*Bi* [mm]	*Ba* [mm]	*R* Available bend radii [mm]	3450 [kg/m]	3480 [kg/m]
3450.050.*R*.0	3480.050.*R*.0	50	70	| 075* | 100* | 125 | 150 | 200 | 250 | 300 |	≈ 1.77	≈ 1.96
3450.075.*R*.0	3480.075.*R*.0	75	95	| 075* | 100* | 125 | 150 | 200 | 250 | 300 |	≈ 1.95	≈ 2.07
3450.100.*R*.0	3480.100.*R*.0	100	120	| 075* | 100* | 125 | 150 | 200 | 250 | 300 |	≈ 2.15	≈ 2.30
3450.115.*R*.0	3480.115.*R*.0	115	135	| 075* | 100* | 125 | 150 | 200 | 250 | 300 |	≈ 2.30	≈ 2.46
3450.125.*R*.0	3480.125.*R*.0	125	145	| 075* | 100* | 125 | 150 | 200 | 250 | 300 |	≈ 2.42	≈ 2.49
3450.150.*R*.0	3480.150.*R*.0	150	170	| 075* | 100* | 125 | 150 | 200 | 250 | 300 |	≈ 2.60	≈ 2.62
3450.175.*R*.0	3480.175.*R*.0	175	195	| 075* | 100* | 125 | 150 | 200 | 250 | 300 |	≈ 2.75	≈ 2.80
3450.200.*R*.0	3480.200.*R*.0	200	220	| 075* | 100* | 125 | 150 | 200 | 250 | 300 |	≈ 2.90	≈ 2.94
3450.225.*R*.0	3480.225.*R*.0	225	245	| 075* | 100* | 125 | 150 | 200 | 250 | 300 |	≈ 3.12	≈ 3.15
3450.250.*R*.0	3480.250.*R*.0	250	270	| 075* | 100* | 125 | 150 | 200 | 250 | 300 |	≈ 3.30	≈ 3.28

*Radius available upon request. Please consult igus® for price and delivery time.

Radii 075, 100: the e-tube is not completely enclosed. Please consult igus®.

Complete Part No. with required radius (*R*). Example: **3450.075.200.0**

Reduce assembly time - E2/000 e-chain® opener

- Reduce opening times from 33 to 2 seconds
- Open a long e-chain® section in one go
- For widths *Bi* [mm]: 050, 075, 100, 115
- **Part No. 908.254.3400** for series 3450

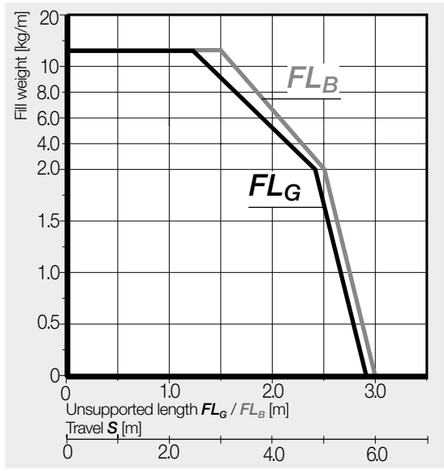
More information ▶ www.igus.eu/E2opener

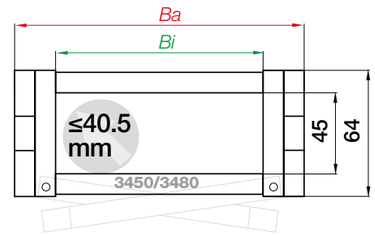


E2/000 | e-tubes 3450·3480 | Installation dimensions

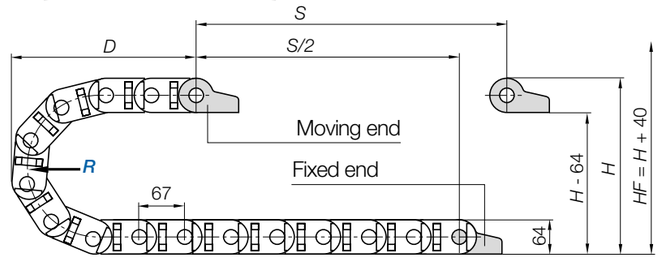
▶ 1300

Unsupported applications | Short travels





Inner height [mm]	45
Pitch [mm/link]	67
Links/m	15
corresponds to [mm]	1,005
e-chain® length	$L_K = S/2 + K$



R	075*	100*	125	150	200	250	300
H	214	264	314	364	464	564	664
D	208	233	258	283	333	383	433
K	370	450	530	610	765	920	1,080

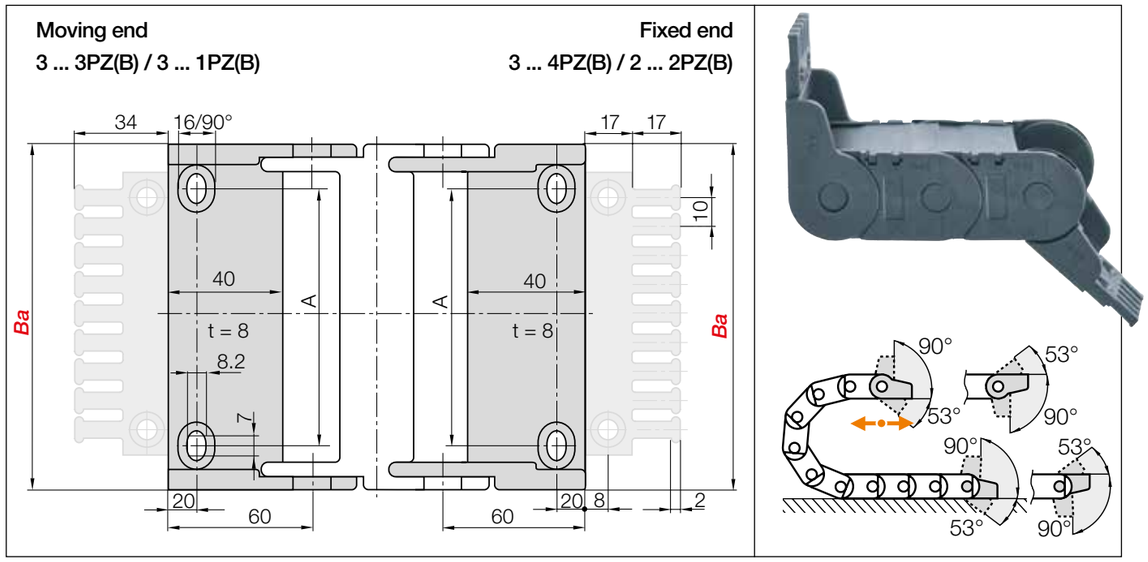
The required clearance height: $H_F = H + 40$mm (with 2.5kg/m fill weight)

*Radius available upon request. Please consult igus® for delivery time. Before using series 3450/3480 on long travels please consult igus®.

If a gliding application is required for a long travel, please consult igus®.

E2/000 | **e-tubes** 3450·3480 | Accessories

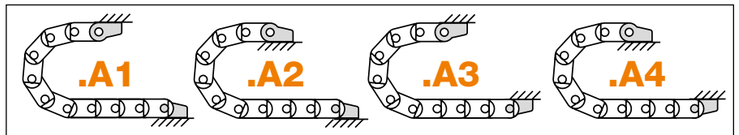
Mounting brackets, polymer | Pivoting | Locking



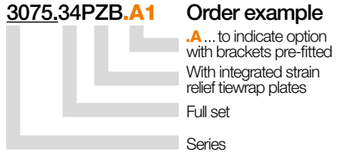
Standard **Polymer pivoting** | Recommended for unsupported applications
Polymer locking | Recommended for vertical hanging and standing applications

Width index	Part No. full set **pivoting** with tiewrap plates	Part No. full set **pivoting** without tiewrap plate	Part No. full set **locking** with tiewrap plates	Part No. full set **locking** without tiewrap plate	A [mm]	Number of teeth
050. ▶	3050.34PZB	3050.34PZ	3050.12PZB	3050.12PZ	28	5
075. ▶	3075.34PZB	3075.34PZ	3075.12PZB	3075.12PZ	53	7
100. ▶	3100.34PZB	3100.34PZ	3100.12PZB	3100.12PZ	78	10
115. ▶	3115.34PZB	3115.34PZ	3115.12PZB	3115.12PZ	93	11
125. ▶	3125.34PZB	3125.34PZ	3125.12PZB	3125.12PZ	103	12
150. ▶	3150.34PZB	3150.34PZ	3150.12PZB	3150.12PZ	128	15
175. ▶	3175.34PZB	3175.34PZ	3175.12PZB	3175.12PZ	153	17
200. ▶	3200.34PZB	3200.34PZ	3200.12PZB	3200.12PZ	178	20
225. ▶	3225.34PZB	3225.34PZ	3225.12PZB	3225.12PZ	203	22
250. ▶	3250.34PZB	3250.34PZ	3250.12PZB	3250.12PZ	228	25

Full set with tiewrap plate + 10 cable tiewraps, please add index **K1.** Example: **3250.34PZB<u>K1</u>**

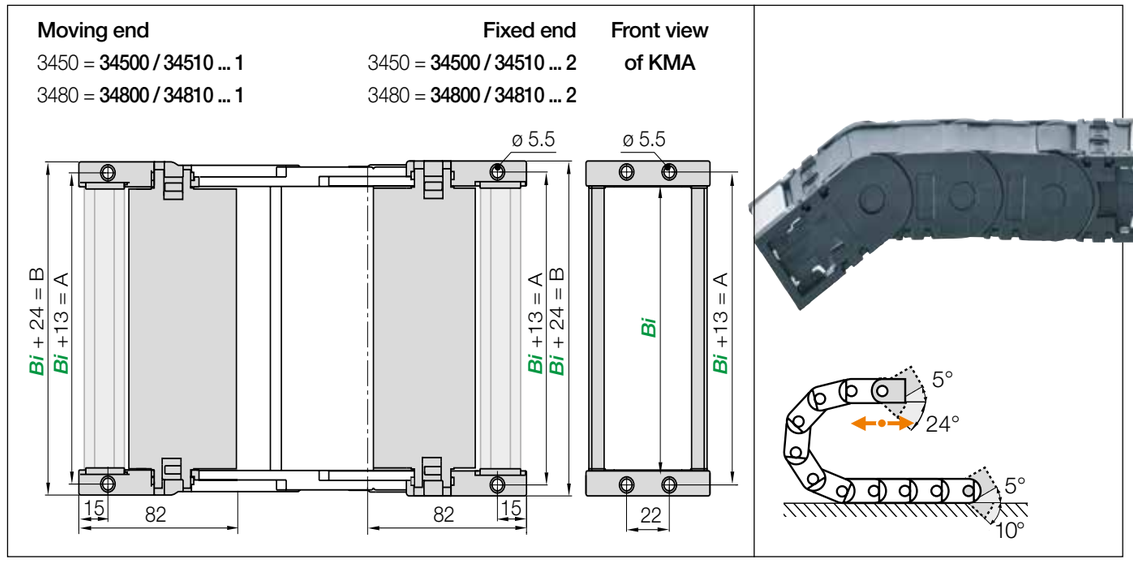


Possible orientations for assembled mounting brackets. To receive brackets **pre-fitted** please add index **.A1**, **.A2**, **.A3** or **.A4**.



Order example

Strain relief **e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with ordering options ▶ From page 1300**



KMA pivoting | Recommended for unsupported applications
KMA locking | Recommended for vertical hanging and standing applications

Width index	Part No. full set KMA **pivoting**[1] with C-profile	Part No. full set KMA **pivoting**[1] without C-profile	Part No. full set KMA **locking**[2] with C-profile	Part No. full set KMA **locking**[2] without C-profile	A [mm]	B [mm]
050. ▶	34500 | 34800 .050.12.C	34500 | 34800 .050.12	34510 | 34810 .050.12.C	34510 | 34810 .050.12	63	74
075. ▶	34500 | 34800 .075.12.C	34500 | 34800 .075.12	34510 | 34810 .075.12.C	34510 | 34810 .075.12	88	99
100. ▶	34500 | 34800 .100.12.C	34500 | 34800 .100.12	34510 | 34810 .100.12.C	34510 | 34810 .100.12	113	124
115. ▶	34500 | 34800 .115.12.C	34500 | 34800 .115.12	34510 | 34810 .115.12.C	34510 | 34810 .115.12	128	139
125. ▶	34500 | 34800 .125.12.C	34500 | 34800 .125.12	34510 | 34810 .125.12.C	34510 | 34810 .125.12	138	149
150. ▶	34500 | 34800 .150.12.C	34500 | 34800 .150.12	34510 | 34810 .150.12.C	34510 | 34810 .150.12	163	174
175. ▶	34500 | 34800 .175.12.C	34500 | 34800 .175.12	34510 | 34810 .175.12.C	34510 | 34810 .175.12	188	199
200. ▶	34500 | 34800 .200.12.C	34500 | 34800 .200.12	34510 | 34810 .200.12.C	34510 | 34810 .200.12	213	224
225. ▶	34500 | 34800 .225.12.C	34500 | 34800 .225.12	34510 | 34810 .225.12.C	34510 | 34810 .225.12	238	249
250. ▶	34500 | 34800 .250.12.C	34500 | 34800 .250.12	34510 | 34810 .250.12.C	34510 | 34810 .250.12	263	274

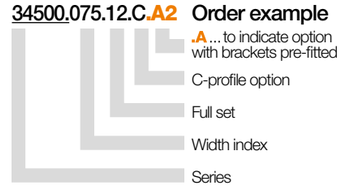
1) KMA pivoting Part No. 34500 for half e-tube series 3450 / KMA pivoting Part No. 34800 for full e-tube series 3480

2) KMA locking Part No. 34510 for half e-tube series 3450 / KMA locking Part No. 34810 for full e-tube series 3480

(KMA = polymer metal mounting bracket)



Orientations for KMA mounting brackets. To receive KMA pre-fitted **without C-profile** please add index **.A**. Please add index **.A2** for the standard version **with C-profile**, in the inner radius at the moving end and in the outer radius at the fixed end.



Order example



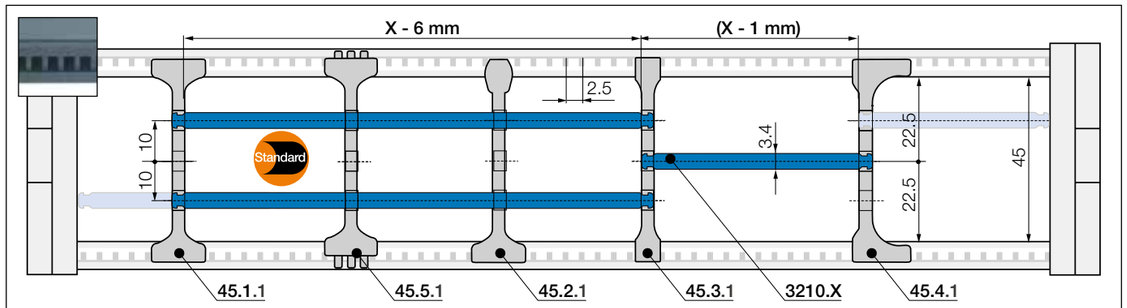
Option: steel mounting bracket, pivoting. For e-chains® and e-tubes, Part No. 3000.12
● Pivoting connections ● One part (2-piece) for all e-chain® widths ● Electrically conductive

Strain relief **e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with ordering options ▶ From page 1300**

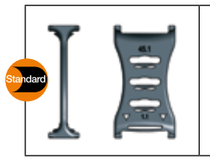
E2/000 | **e-tubes** 3450·3480 | Accessories

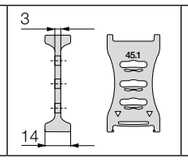
Interior separation | Increase cable service life

Previous generation of interior separation with other options ▶ **www.igus.eu/3450** ▶ **www.igus.eu/3480**



No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-chain® link!



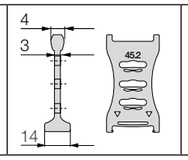


Standard separator, wide base	
unassembled	**45.1**
assembled	**45.1.1**

Standard - for any application

Separator with a wide base for maximum holding force in the e-chain®.



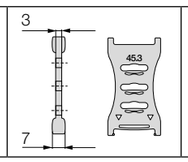


Separator, narrow top	
unassembled	**45.2**
assembled	**45.2.1**

For even faster installation

Wide on one side for high holding force, narrow on opposite side for easy cable fitting.



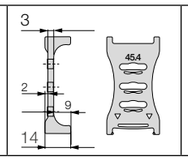


Separator, narrow	
unassembled	**45.3**
assembled	**45.3.1**

For small cables

Separator with a narrow base for a large number of small cables side by side. Saves space in the e-chain®.



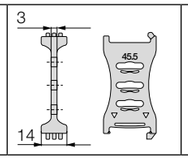


Separator, asymmetrical	
unassembled	**45.4**
assembled	**45.4.1**

For side-mounted applications

Asymmetrical separator, for defined gap distance. No additional spacers required.

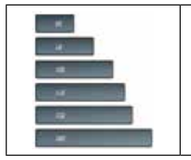


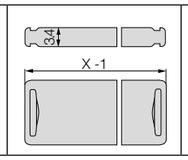


Notch separator for notched crossbar	
unassembled	**45.5**
assembled	**45.5.1**

Locks securely in preset increments

Notch separator for exact positioning in e-chains®. Recommended for side-mounted applications.





Shelf, lockable	
unassembled	**3200.X**
assembled	**3210.X**

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Shelves

Width = X [mm]

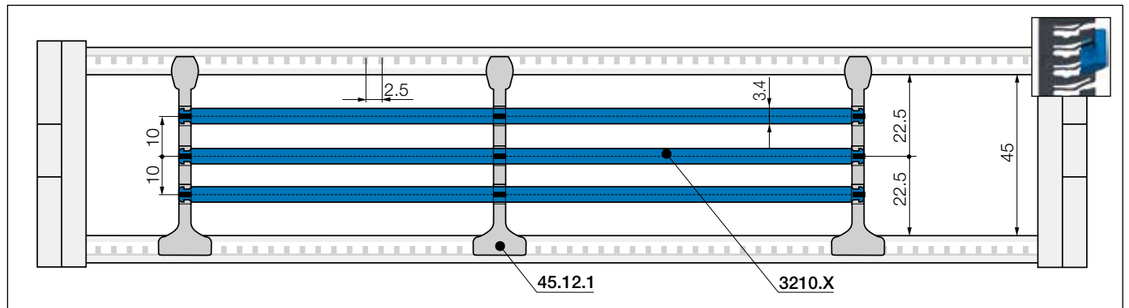


X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
050	**3200.050**	**3210.050**	125	**3200.125**	**3210.125**	225	**3200.225**	**3210.225**
075	**3200.075**	**3210.075**	150	**3200.150**	**3210.150**	250	**3200.250**	**3210.250**
100	**3200.100**	**3210.100**	175	**3200.175**	**3210.175**			
115	**3200.115**	**3210.115**	200	**3200.200**	**3210.200**			

3450
3480

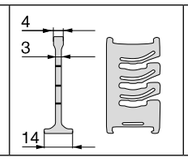
E2/000 | **e-tubes** 3450·3480 | Accessories

Interior separation | To allow faster filling New



No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-chain® link!





Lean separator	
unassembled	**45.12**
assembled	**45.12.1**

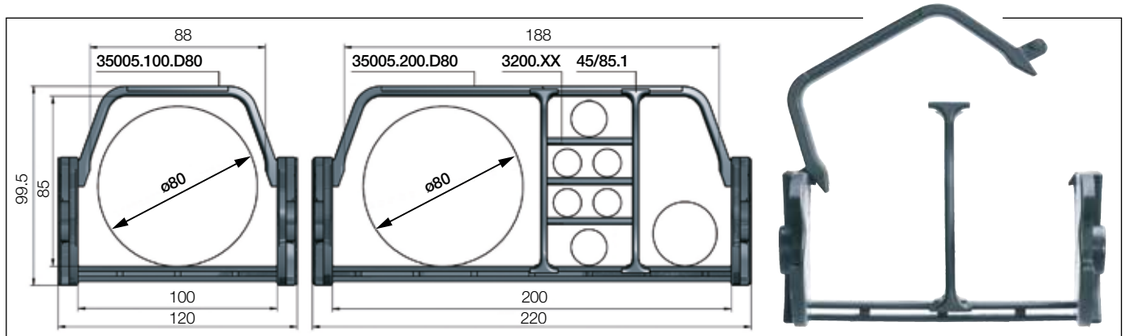
Lean separators

New design allows extremely fast fitting of shelves in several layers, which significantly reduces assembly time. Enables extremely fast replacement of individual cables in a very full e-chain®.

Lean separator design - several layers of cables fitted quickly, save up to 50%* assembly time

(*Lean separator vs. standard separator - measured on a 4m long e-chain® fitted with 12 cables in the igus® readychain® factory)



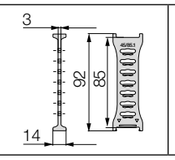


e-chains® with extender crossbars only for series 3450 - large increase of the interior space for the smooth guiding of large hoses. Suitable for hoses with a maximum outer diameter of 80mm.

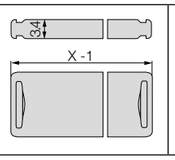
Part No. half e-tubes extender crossbars openable along the inner radius	*Bi* [mm]	*Ba* [mm]	*R* Available bend radii [mm]
3450.100 D80.*R*.0	100	120	| 125 | 150 | 200 | 250 | 300 |
3450.200 D80.*R*.0	200	220	| 125 | 150 | 200 | 250 | 300 |

Complete Part No. with required radius (*R*). Example: **3450.100D80.200.0**

Interior separation for e-chains® with extender crossbars

Separator e-chain® with extender crossbars	
unassembled	**45/85.1**
assembled	**45/85.1.1**

Shelf, lockable	
unassembled	**3200.X**
assembled	**3210.X**

Standard separator, wide base

Separator with a wide base for maximum holding force in the e-chain®. As standard separators are fitted every 2nd e-chain® link!

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Separator with integrated strain relief teeth

- Can be integrated into the mounting bracket or placed at any point in the e-chain®
- Combines strain relief and interior separation, for restricted space conditions
- Strain relief separator is easy to assemble without any screws

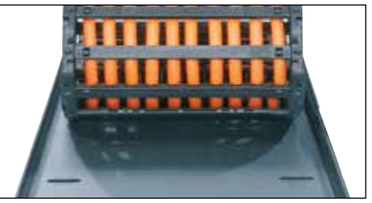
Part No. 34501.Z. More information ▶ From page 1326



Steel support tray for support of the lower run

- Simple one-piece support trays for the lower run
- To your requirements and specification
- 4 options available

More information ▶ From page 1264





E2/000 - robust energy supply even with constant air draught and the resulting pendulum movements in this 160m lift for the Post Tower, Bonn

E2 medium | e-chains® 255 | Product range

Small pitch, smooth running

24



e-chains® | Series 255 | Crossbars openable along the outer radius, from one side

Part No.	Bi	Ba	R Available bend radii	255
e-chains®	[mm]	[mm]	[mm]	[kg/m]
255. 03 .R.0	38	54	| 055 | 075 | 100 | 125 | 150 | 175 | 200 | 225 | 250 |	≈ 0.81
255. 05 .R.0	57	73	| 055 | 075 | 100 | 125 | 150 | 175 | 200 | 225 | 250 |	≈ 0.90
255. 07 .R.0	77	93	| 055 | 075 | 100 | 125 | 150 | 175 | 200 | 225 | 250 |	≈ 1.01
255. 10 .R.0	103	119	| 055 | 075 | 100 | 125 | 150 | 175 | 200 | 225 | 250 |	≈ 1.15

Complete Part No. with required radius (*R*). Example: **255.10.200.0**

Aluminium support tray

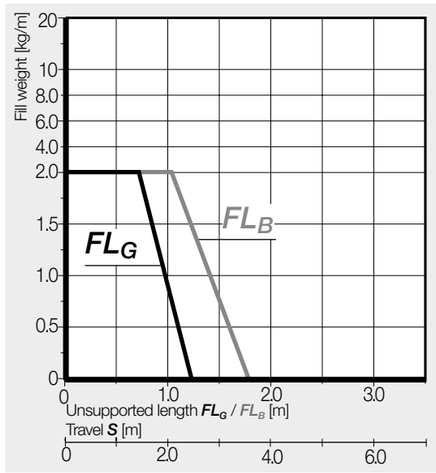
- Corrosion-resistant and seawater-resistant aluminium rails with adjustable width
- Noise-reducing glide strip integrated as standard
- Easy installation and connection of the e-chain®
- Open design - dirt and debris fall through

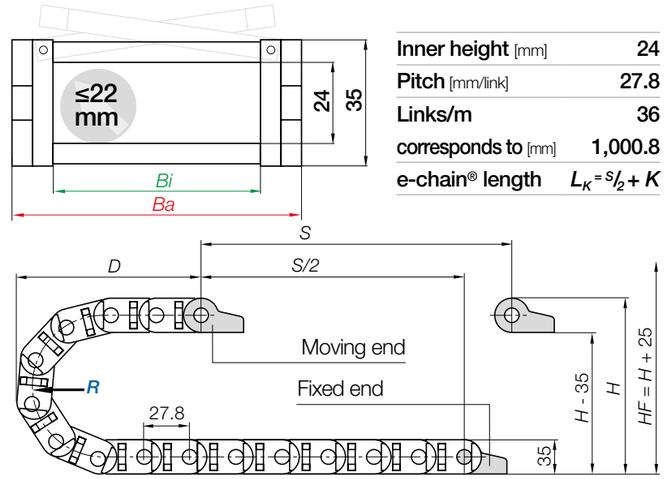
More information ▶ From page 1270



e-chains® 255 | Installation dimensions

Unsupported applications | Short travels



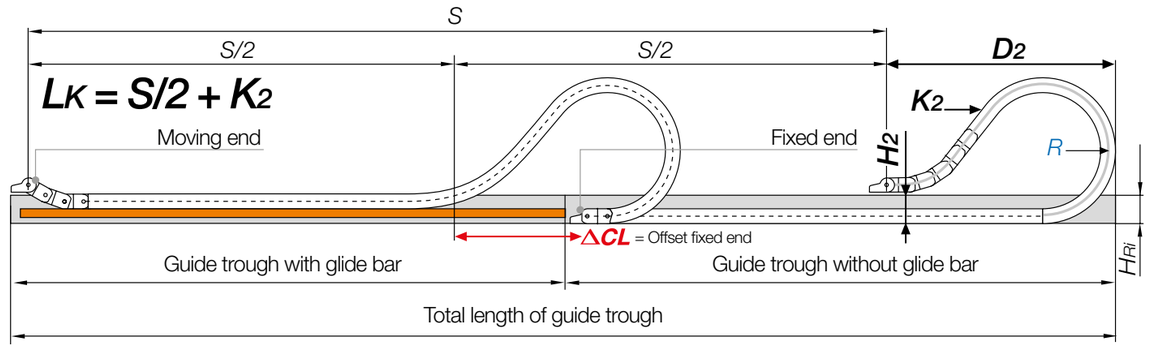


Inner height [mm]	24
Pitch [mm/link]	27.8
Links/m	36
corresponds to [mm]	1,000.8
e-chain® length	$L_K = S/2 + K$

R	055	075	100	125	150	175	200	225	250
H^{+4}_{0}	145	185	235	285	335	385	435	485	535
D	114	134	159	184	209	234	259	284	309
K	230	295	370	450	530	610	685	765	845

The required clearance height: $H_F = H + 25$mm (with 1.5kg/m fill weight)

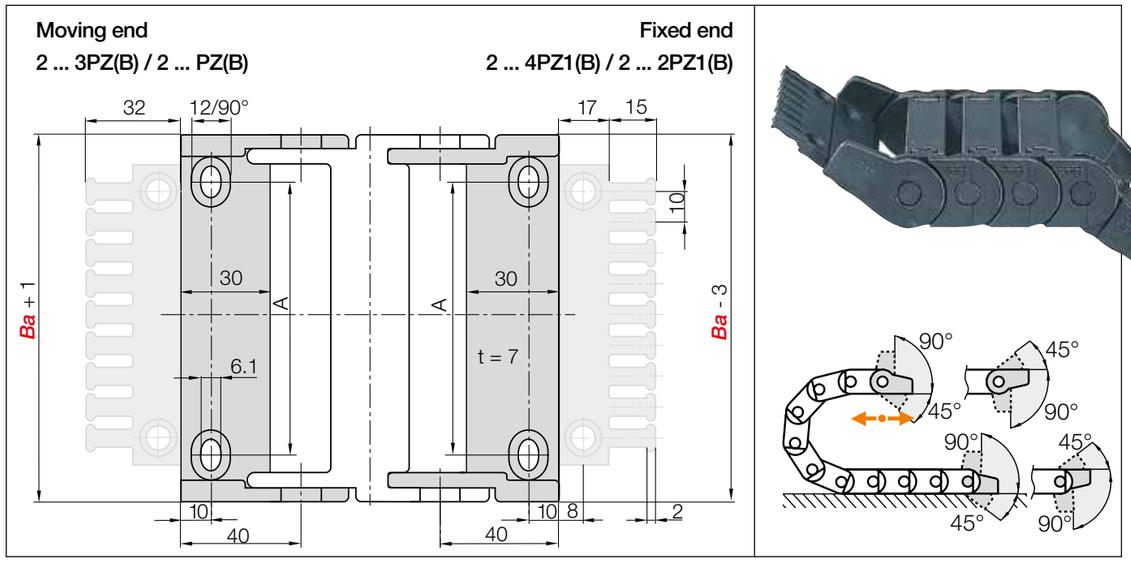
Gliding applications | For long travels from 10m to max. 100m



Note: We recommend the project planning of such a system to be carried out by igus®.
In case of travels between 4 and 10m we recommend an e-chain® with a longer unsupported length.

R	055	075	100	125	150	175	200	225	250
H_2	110	150	100	100	100	100	100	100	100
D_2^{+25}	114	134	380	495	570	665	740	1,040	1,130
K_2	230	295	612	806	945	1,112	1,223	1,610	1,779
ΔCL	–	–	222	322	372	437	497	*	822

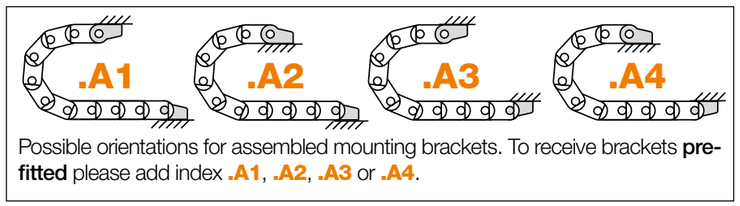
*Upon request



Standard **Polymer pivoting | Recommended for unsupported and gliding applications**
Polymer locking | Recommended for vertical hanging and standing applications

Width index	Part No. full set **pivoting** with tiewrap plates	Part No. full set **pivoting** without tiewrap plate	Part No. full set **locking** with tiewrap plates	Part No. full set **locking** without tiewrap plate	A [mm]	Number of teeth
03. ▶	**2030.34PZ1B**	**2030.34PZ1**	**2030.12PZ1B**	**2030.12PZ1**	25	4
05. ▶	**2050.34PZ1B**	**2050.34PZ1**	**2050.12PZ1B**	**2050.12PZ1**	44	6
07. ▶	**2070.34PZ1B**	**2070.34PZ1**	**2070.12PZ1B**	**2070.12PZ1**	64	8
10. ▶	**2100.34PZ1B**	**2100.34PZ1**	**2100.12PZ1B**	**2100.12PZ1**	90	10

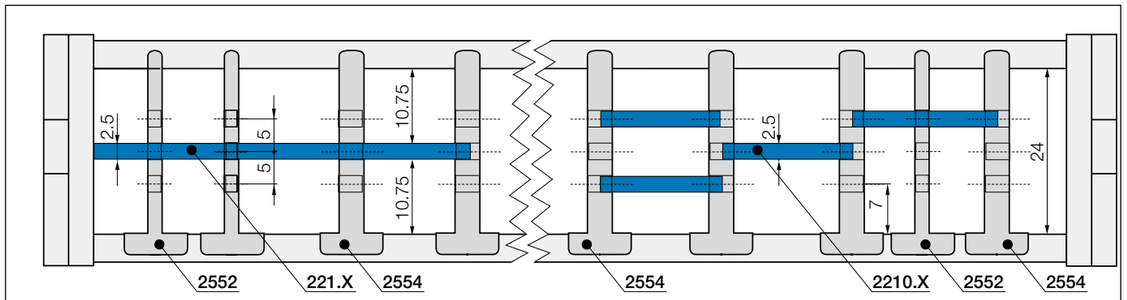
Full set with tiewrap plate + 10 cable tiewraps, please add index **K1.** Example: **2030.34PZ1BK1**



Possible orientations for assembled mounting brackets. To receive brackets **pre-fitted** please add index **.A1**, **.A2**, **.A3** or **.A4**.

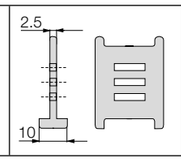
2100.34PZB.A1
Order example
.A ... to indicate option with brackets pre-fitted
With integrated strain relief tiewrap plates
Full set
Series

Strain relief e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with ordering options ▶ From page 1300



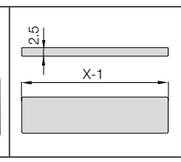
No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-chain® link!





Slotted separator	
unassembled	**2551**
assembled	**2552**





Full-width shelf for e-chains®	
unassembled	**220.X**
assembled	**221.X**

Option 1 | Full-width shelves

Slotted separator for full-width shelves

Vertical separation in e-chains®. The slot allows basic vertical/ horizontal shelving arrangements.

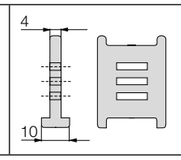
Full-width shelf

This option is for applications with many small cables with similar diameters. For full width separation.

Full-width shelves
Width = X [mm]

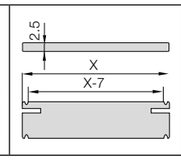
X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
038	**220.38**	**221.38**	077	**220.77**	**221.77**
057	**220.57**	**221.57**	103	**220.103**	**221.103**





Slotted separator	
unassembled	**2553**
assembled	**2554**





Shelf for e-chains®	
unassembled	**2200.X**
assembled	**2210.X**

Option 2 | Partial shelves

Slotted separator for partial shelves

Vertical separation in e-chains®. The slot allows basic vertical/ horizontal shelving arrangements.

Shelf

For applications involving many cables with different diameters, shelves can be fitted at different heights.

Shelves
Width = X [mm]

X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
018	**2200.18**	**2210.18**	038	**2200.38**	**2210.38**	068	**2200.68**	**2210.68**
023	**2200.23**	**2210.23**	043	**2200.43**	**2210.43**	073	**2200.73**	**2210.73**
028	**2200.28**	**2210.28**	048	**2200.48**	**2210.48**	088	**2200.88**	**2210.88**
033	**2200.33**	**2210.33**	058	**2200.58**	**2210.58**	099	**2200.99**	**2210.99**

E2 R100

e-tubes for cost-effective protection against dirt and swarf

Advantages of the E2 R100 series:

- High level of protection against swarf (including hot swarf)
- Lids openable along the inner or outer radius, from both sides
- Robust and sealed
- Space-efficient with optimised ratio of inner to outer dimensions
- Light, easy to install and cost-effective
- Recommended for short travels and unsupported applications

When to use another e-tube:

- When larger interior heights are required ▶ **R2.1 e-tubes, page 478**
- When even higher strength is required ▶ **R4.1L e-tubes, page 524**
- When no swarf protection is required ▶ **Series E2/000, page 360**
- For extremely swarf-resistant e-tubes ▶ **RX system, page 502**
- When a particularly quiet operation is required using a smaller pitch ▶ **E2 R e-tubes, page 454**



Protection against dirt and swarf, cost-effective - E2 R100 e-tubes

Cost-effective, for applications with low and medium speeds. E2 R100 e-tubes work in hot swarf areas, in areas of dirt and dust generated by woodworking, steel-mills, pulp and paper, textile, agriculture, coal-fired plants and many other hostile environments.

- High level of protection against swarf (including hot swarf)
- Robust and sealed
- Space-efficient with optimised ratio of inner to outer dimensions
- Modular interior separation
- Universal KMA mounting brackets with attachment options from any side

Typical industries and applications

● Machine tools ● Wood processing machines ● General mechanical engineering ● In all areas with dirt and swarf

e-tubes with igumid HT-Material for hot swarf up to +850°C available upon request

Electrically conductive ESD e-tubes upon request

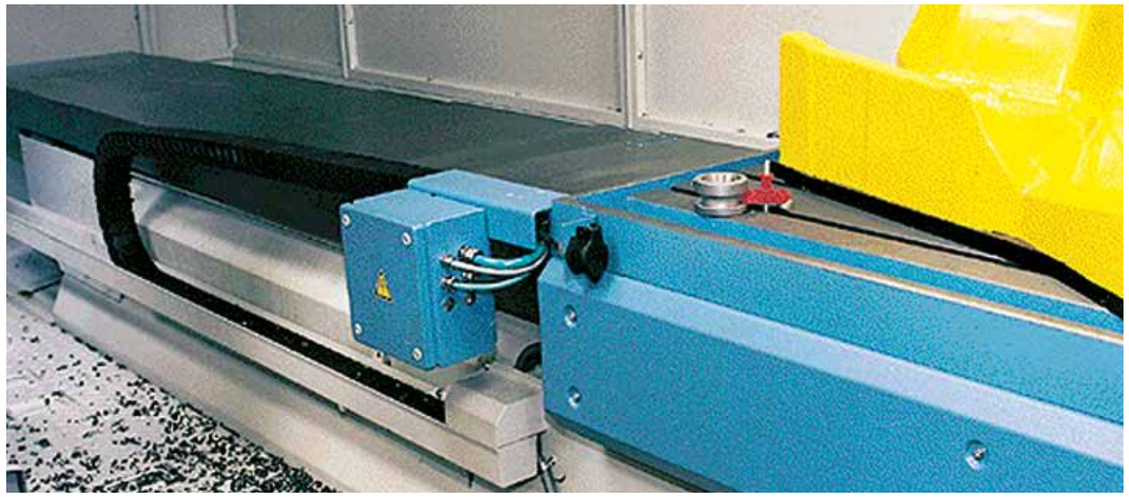
UL94-V0 classifications upon request

iF product design award
2000 series R117/R118

Series	Inner height *hi* [mm]	Inner width *Bi* [mm]	Outer width *Ba* [mm]	Outer height *ha* [mm]	Bend radius *R* [mm]	Unsupported length ≤ [m]	Page
							
E2 R100 e-tubes - lids openable along the inner radius, from both sides							
R117	21	20 - 100	32 - 112	28	063 - 180	1.20	**434**
R157	40	40 - 200	56 - 216	50	100 - 250	2.25	**440**
R167	50	50 - 250	68 - 268	64	100 - 300	2.50	**448**
							
E2 e-tubes R100 - lids openable along the outer radius, from both sides							
R118	21	25 - 80	37 - 92	28	063 - 180	1.20	**434**
R158	40	40 - 200	56 - 216	50	100 - 250	2.25	**440**
R168	50	50 - 200	68 - 218	64	100 - 300	2.50	**448**

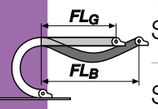
Available from stock. Ready to ship in 24 - 48hrs.*

*The delivery times indicated correspond to the average time until the ordered goods are dispatched.



igus® e-tubes provide safe protection for cables and can easily be opened

Technical data



Speed gliding[1] / acceleration gliding[1]	upon request
Speed FL_G / acceleration FL_G	≤ 10 [m/s] / ≤ 100 [m/s²]
Speed FL_B / acceleration FL_B	≤ 3 [m/s] / ≤ 6 [m/s²]
Material - permitted temperature °C, igumid G	-40°C / +120°C
Flammability class, igumid G	VDE 0304 IIC UL94-HB

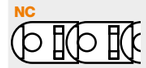
FL_G = unsupported with straight upper run FL_B = unsupported with permitted sag

1) Gliding applications for long travels are available upon request, please consult igus®.

Installation types, maximum travels

Series	Unsupported	Vertical hanging	Vertical standing	Side mounted unsupported
R117 / R118	≤ 2.5m	≤ 20m	≤ 2.0m	≤ 0.7m
R157 / R158	≤ 4.5m	≤ 40m	≤ 3.0m	≤ 1.0m
R167 / R168	≤ 5.0m	≤ 50m	≤ 3.0m	≤ 1.0m

Options with order keys | Examples based on series R167

Standard	*NC version - (No Camber) without pretension*	*No burning-in of hot swarf up to +850°C (+1562° F)*	*ESD - electrically conductive material*
Part No. Standard	Part No. NC version	Part No. igumid HT	Part No. igumid ESD
			
168.100.*R*.0	168.100.*R*.0.NC	168.100.*R*.0.HT	168.100.*R*.0.ESD
Ready to ship* in 24 - 48hrs.	Delivery time* 2-5 business days	Delivery time* 7-10 business days	Delivery time* 10 business days

*The delivery times indicated correspond to the average time until the ordered goods are dispatched.

Order example | Order key and colour examples | Examples based on series R168

Order example for complete e-tube (1.0m), colour black, with mounting brackets and interior separation:

e-tube (1.0m)	Please indicate e-tube length or number of links: 1.0m or 17 links	168.100.100.0
+ Mounting brackets	KMA - 1 set	1680.100.12
Interior separation	with 2 separators assembled every 2nd link	2 x 1686.01
Order text:		1 m 168.100.100.0 + 1680.100.12 + 2 x 1686.01

Order key

e-tube openable along the outer radius 168.100.100.0
e-tube openable along the inner radius 167.100.100.0

Series / Type
Width index (depends on *Bi*)
Bend radius *R*
Colour index (standard black)

Order index for colour options

Colour	Order index		Colour	Order index	
Black	Standard	.0	Orange	Special colour	.2
Silver-grey	Special colour	.31	Yellow	Special colour	.4
White	Special colour	.1	Light grey	Special colour	.14
Grey-white	Special colour	.1S			

Black e-tubes available from stock.
Above special colours upon request.

E2 R100 e-tubes | R117·R118 | Product range

21 21

Swarf protection, even against hot swarf, cost-effective



e-tubes | Series R117 | Lids openable along the inner radius, from both sides
e-tubes | Series R118 | Lids openable along the outer radius, from both sides

Part No. e-tubes openable along the inner radius	Part No. e-tubes openable along the outer radius	*Bi* [mm]	*Ba* [mm]	*R* Available bend radii [mm]	R117 [kg/m]	R118 [kg/m]
117.020.*R*.0	118.020.*R*.0*	20	32	| 063 | 075 | 100 | 110 | 125 | 145 | 180 |	≈ 0.43	≈ 0.43
117.025.*R*.0	118.025.*R*.0	25	37	| 063 | 075 | 100 | 110 | 125 | 145 | 180 |	≈ 0.46	≈ 0.46
117.038.*R*.0	118.038.*R*.0*	38	50	| 063 | 075 | 100 | 110 | 125 | 145 | 180 |	≈ 0.56	≈ 0.56
117.048.*R*.0	118.048.*R*.0	48	60	| 063 | 075 | 100 | 110 | 125 | 145 | 180 |	≈ 0.66	≈ 0.66
117.063.*R*.0	118.063.*R*.0*	63	75	| 063 | 075 | 100 | 110 | 125 | 145 | 180 |	≈ 0.76	≈ 0.76
117.080.*R*.0	118.080.*R*.0	80	92	| 063 | 075 | 100 | 110 | 125 | 145 | 180 |	≈ 0.89	≈ 0.89
117.100.*R*.0	118.100.*R*.0*	100	112	| 063 | 075 | 100 | 110 | 125 | 145 | 180 |	≈ 1.06	≈ 1.06

*Width available upon request. Please consult igus® for delivery time.

Complete Part No. with required radius (*R*). Example: **118.080.100.0.**

Hot swarf up to +850°C

- e-tubes to withstand 850°C swarf, as a special option
- No hot swarf melting or embedding into the chain
- igus® igumid HT material

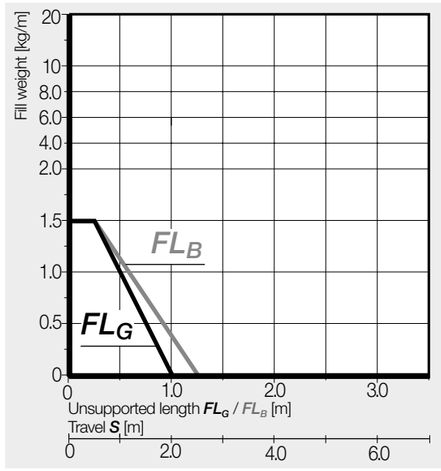
More information ▶ www.igus.eu/HT

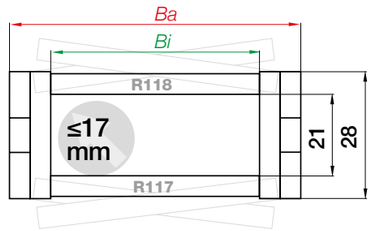


E2 R100 e-tubes | R117·R118 | Installation dimensions

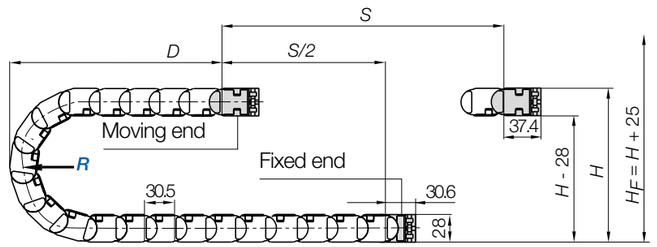
▶ 1300

Unsupported applications | Short travels





Inner height [mm]	21
Pitch [mm/link]	30.5
Links/m	33
corresponds to [mm]	1,006.5
e-tube length	$L_K = S/2 + K$



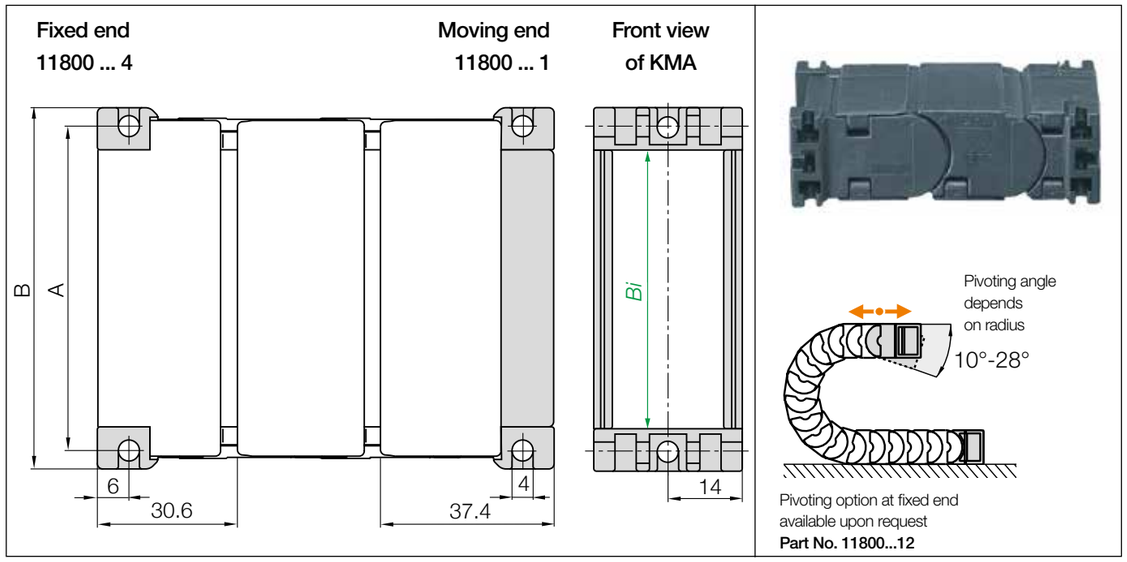
R	063	075	100	110	125	145	180
H	154	178	228	248	278	318	388
D	123	135	160	170	185	205	240
K	260	300	380	410	455	520	630

The required clearance height: $H_F = H + 25$mm (with 1.0kg/m fill weight)

If a gliding application is required for a long travel, please consult igus®.

R100 e-tubes | Series R117·R118 | Accessories

KMA mounting brackets | Attachment from any side | One end pivoting



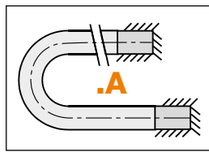
KMA, one end pivoting | Recommended for unsupported applications

Width index	Part No. full set **KMA one end pivoting**	Part No. full set **KMA locking**	A [mm]	B [mm]	*Bi* [mm]
020. ▶	**11800.020.14**	–	29	36	**20**
025. ▶	**11800.025.14**	–	34	41	**25**
038. ▶	**11800.038.14**	–	47	54	**38**
048. ▶	**11800.048.14**	–	57	64	**48**
063. ▶	**11800.063.14**	–	72	79	**63**
080. ▶	**11800.080.14**	–	89	96	**80**
100. ▶	**11800.100.14**	–	109	116	**100**

(KMA = polymer metal mounting bracket)

The mounting brackets are supplied with hexagon nuts and can be attached with M4 bolts,

or the mounting brackets may also be attached with M4 hexagon socket DIN 912 cap bolts.



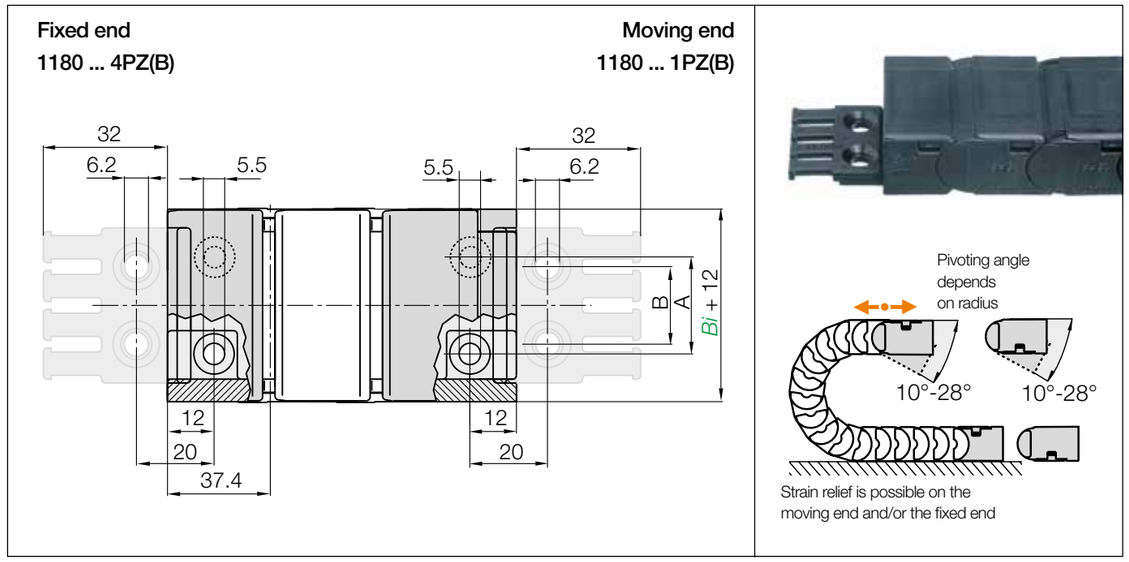
The bracket orientations are set automatically when using an igus® KMA mounting bracket. To receive KMA pre-fitted please add index **.A**

11800.020.14.A Order example

.A ... to indicate option with brackets pre-fitted
Full set
Width index
Series

Strain relief e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with ordering options ▶ From page 1300

Angled polymer bracket | One end pivoting

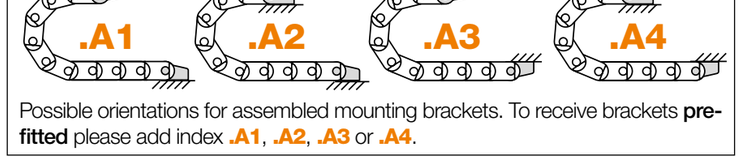


Angled polymer bracket one end pivoting | Recommended for unsupported applications

Width index	Part No. full set **with tiewrap plates**	Part No. full set **without tiewrap plates**	A [mm]	B [mm]	*Bi* [mm]	Number of teeth
025. ▶	**1180.025.14PZB**	**1180.025.14PZ**	12	15	**25**	3
038. ▶	**1180.038.14PZB**	**1180.038.14PZ**	25	20	**38**	4
048. ▶	**1180.048.14PZB**	**1180.048.14PZ**	35	30	**48**	5
063. ▶	**1180.063.14PZB**	**1180.063.14PZ**	50	40	**63**	6
080. ▶	**1180.080.14PZB**	**1180.080.14PZ**	67	60	**80**	8
100. ▶	**1180.100.14PZB**	**1180.100.14PZ**	87	80	**100**	10

The following parts are required for attachment of the mounting brackets:

● Countersunk bolt M5 DIN 912-8.8 Length depends on the thickness of the attachment base ● Hexagon nut M5 DIN 7991 ● Washer 5.3 DIN 125-ST



Possible orientations for assembled mounting brackets. To receive brackets **pre-fitted** please add index **.A1**, **.A2**, **.A3** or **.A4**.

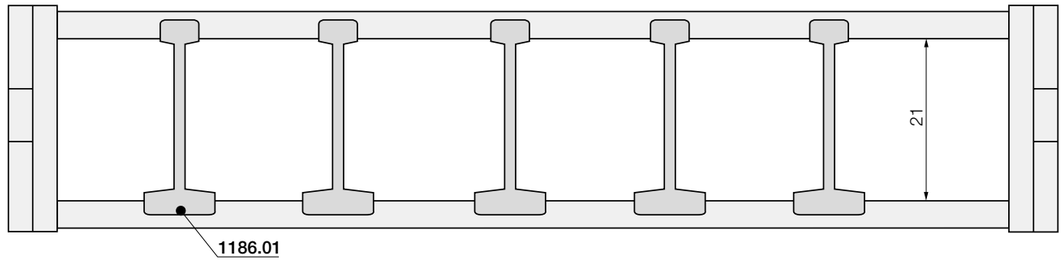
1180.048.14 PZB.A1 Order example

.A ... to indicate option with brackets pre-fitted
With integrated strain relief tiewrap plates
Full set
Width index
Series

Strain relief e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with ordering options ▶ From page 1300

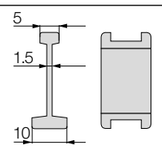
R100 e-tubes | Series R117·R118 | Accessories

Interior separation



No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-tube link!





Standard separator	
unassembled	**1185.01**
assembled	**1186.01**

Standard separator

For simple vertical subdivision. Offers security due to its wide base design, also when used with large cables or hoses.

E2 R100 e-tubes | Application example



Typical use of igus® E2 R100 e-tubes - standing application in a machine tool

E2 R100 e-tubes | R157·R158 | Product range

40 40

Swarf protection, even against hot swarf, cost-effective



e-tubes | Series R157 | Lids openable along the inner radius, from both sides
e-tubes | Series R158 | Lids openable along the outer radius, from both sides

Part No. e-tubes openable along the inner radius	Part No. e-tubes openable along the outer radius	*Bi* [mm]	*Ba* [mm]	*R* Available bend radii [mm]	R157 [kg/m]	R158 [kg/m]
157.040.*R*.0 1)	158.040.*R*.0 1)	40	56	| 100 | 125 | 150 | 175 | 200 | 250 |	≈ 1.21	≈ 1.21
157.050.*R*.0	158.050.*R*.0	50	66	| 100 | 125 | 150 | 175 | 200 | 250 |	≈ 1.30	≈ 1.30
157.075.*R*.0	158.075.*R*.0	75	91	| 100 | 125 | 150 | 175 | 200 | 250 |	≈ 1.50	≈ 1.50
157.088.*R*.0	158.088.*R*.0	88	104	| 100 | 125 | 150 | 175 | 200 | 250 |	≈ 1.57	≈ 1.57
157.090.*R*.0 2)	158.090.*R*.0 2)	88	104	| 100 | 125 | 150 | 175 | 200 | 250 |	≈ 1.63	≈ 1.63
157.100.*R*.0	158.100.*R*.0	100	116	| 100 | 125 | 150 | 175 | 200 | 250 |	≈ 1.71	≈ 1.71
157.125.*R*.0	158.125.*R*.0	125	141	| 100 | 125 | 150 | 175 | 200 | 250 |	≈ 1.92	≈ 1.92
157.135.*R*.0	158.135.*R*.0	135	150	| 100 | 125 | 150 | 175 | 200 | 250 |	≈ 2.10	≈ 2.10
157.150.*R*.0	158.150.*R*.0	150	166	| 100 | 125 | 150 | 175 | 200 | 250 |	≈ 2.13	≈ 2.13
157.175.*R*.0	158.175.*R*.0	175	191	| 100 | 125 | 150 | 175 | 200 | 250 |	≈ 2.34	≈ 2.34
157.200.*R*.0	158.200.*R*.0	200	216	| 100 | 125 | 150 | 175 | 200 | 250 |	≈ 2.55	≈ 2.55

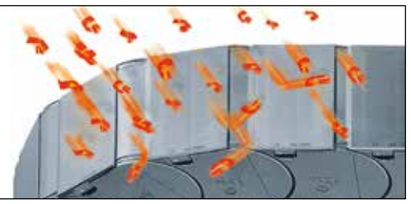
1) Lid removable only, not hinged 2) Same dimensions as 157.088 - less recent design, no hinged option

Complete Part No. with required radius (*R*). Example: **158.100.100.0.**

Hot swarf up to +850°C

- e-tubes to withstand 850°C swarf, as a special option
- No hot swarf melting or embedding into the chain
- igus® igumid HT material

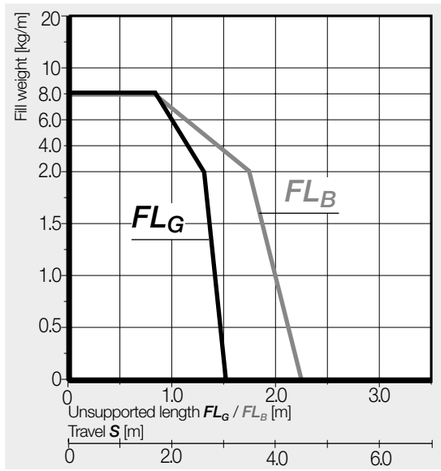
More information ▶ www.igus.eu/HT

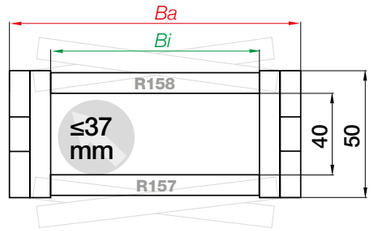


E2 R100 e-tubes | R157·R158 | Installation dimensions

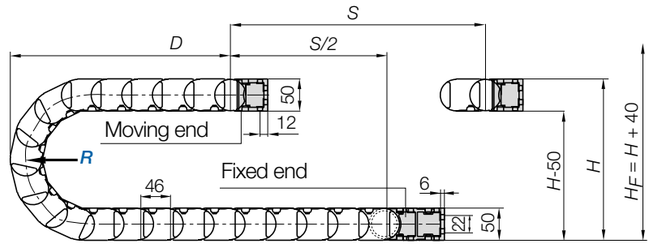
▶ 1300

Unsupported applications | Short travels





Inner height [mm]	40
Pitch [mm/link]	46
Links/m	22
corresponds to [mm]	1,012
e-tube length	$L_K = S/2 + K$



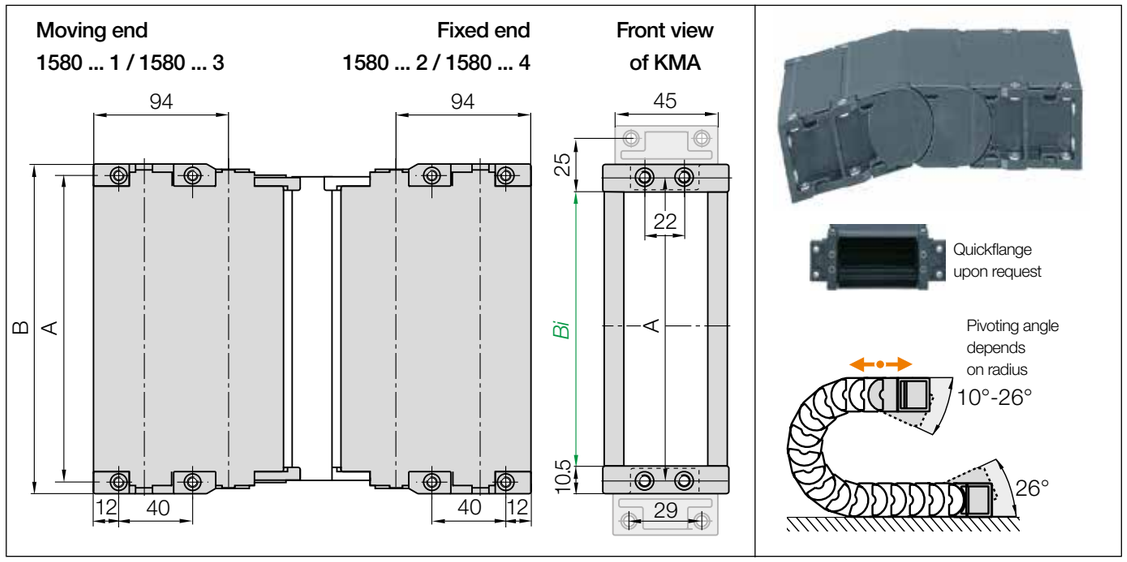
R	100	125	150	175	200	250
H	250	300	350	400	450	550
D	194	219	244	269	294	344
K	410	485	565	645	725	880

The required clearance height: $H_F = H + 40$mm (with 1.0kg/m fill weight)

If a gliding application is required for a long travel, please consult igus®.

E2 R100 e-tubes | Series R157·R158 | Accessories

KMA, **long** | Attachment from any side| Pivoting | Locking



KMA, long pivoting | Recommended for unsupported applications
KMA, long locking | Recommended for vertical hanging and standing applications

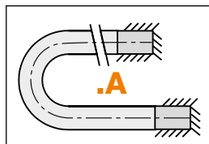
Width index	Standard	Part no. full set **KMA pivoting**	Part No. full set **KMA locking**	A [mm]	B [mm]	*Bi* [mm
040. ▶		**15801.040.12**	**15801.040.34**	50	61	**40**
050. ▶		**15800.050.12**	**15800.050.34**	60	71	**50**
075. ▶		**15800.075.12**	**15800.075.34**	85	96	**75**
088. ▶		**15800.088.12**	**15800.088.34**	98	109	**88**
090. ▶		**15801.090.12**	**15801.090.34**	98	109	**88**
100. ▶		**15800.100.12**	**15800.100.34**	110	121	**100**
125. ▶		**15800.125.12**	**15800.125.34**	135	146	**125**
135. ▶		**15800.135.12**	**15800.135.34**	145	156	**135**
150. ▶		**15800.150.12**	**15800.150.34**	160	171	**150**
175. ▶		**15800.175.12**	**15800.175.34**	185	196	**175**
200. ▶		**15800.200.12**	**15800.200.34**	210	221	**200**

(KMA = polymer metal mounting bracket)

The following parts are required for attachment of the mounting brackets:

● Socket head cap bolt M5 DIN 912-8.8 Length depends on the thickness of the attachment base ● Washer 5.3 DIN 125-ST ● Hexagon nut M5 DIN 934-8

To receive full sets with pre-fitted quickflange please add index QF ▶ For example: Part No. 15800.100.12.QF. Unassembled quickflange: Part No. 15800.QF



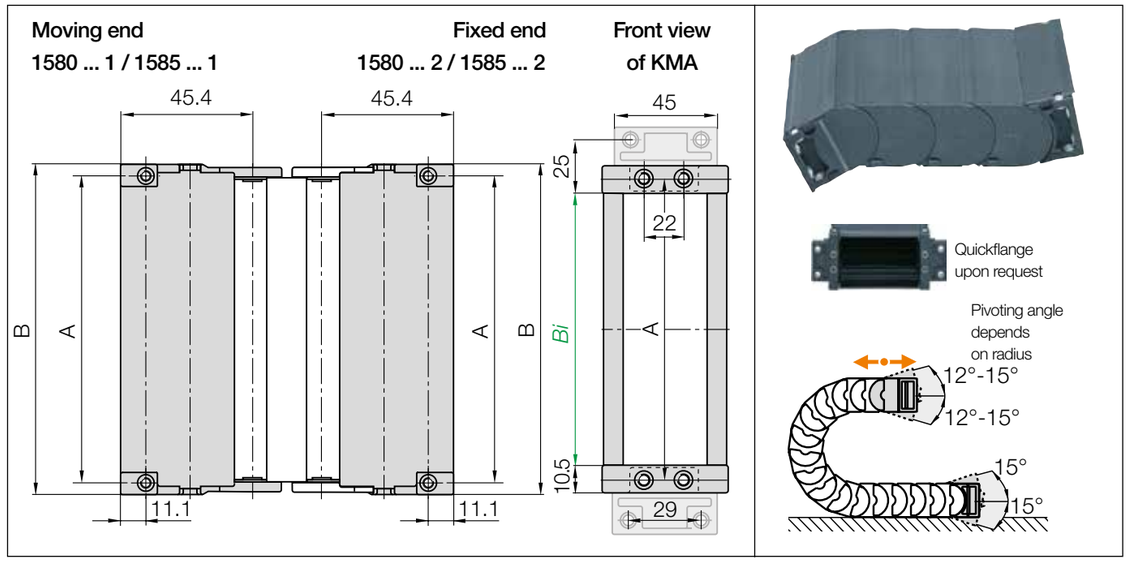
The bracket orientations are set automatically when using an igus® KMA mounting bracket. To receive KMA pre-fitted please add index **.A**



Strain relief e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with ordering options ▶ From page 1300

E2 R100 e-tubes | Series R157·R158 | Accessories

KMA, **short** | Attachment from any side | Pivoting | Locking



KMA, short pivoting | Recommended for unsupported applications
KMA, short locking | Recommended for vertical hanging and standing applications

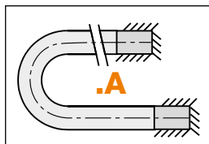
Width index	Part no. full set **KMA pivoting**	Part No. full set **KMA locking**	A [mm]	B [mm]	*Bi* [mm
040. ▶	**1580.040.12**	**1585.040.12**	50	61	**40**
050. ▶	**1580.050.12**	**1585.050.12**	60	71	**50**
075. ▶	**1580.075.12**	**1585.075.12**	85	96	**75**
088. ▶	**1580.088.12**	**1585.088.12**	98	109	**88**
090. ▶	**1580.090.12**	**1585.090.12**	98	109	**88**
100. ▶	**1580.100.12**	**1585.100.12**	110	121	**100**
125. ▶	**1580.125.12**	**1585.125.12**	135	146	**125**
135. ▶	**1580.135.12**	**1585.135.12**	145	156	**135**
150. ▶	**1580.150.12**	**1585.150.12**	160	171	**150**
175. ▶	**1580.175.12**	**1585.175.12**	185	196	**175**
200. ▶	**1580.200.12**	**1585.200.12**	210	221	**200**

(KMA = polymer metal mounting bracket)

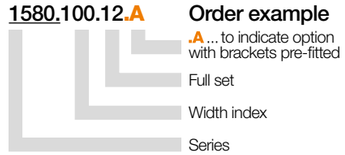
The following parts are required for attachment of the mounting brackets:

● Socket head cap bolt M5 DIN 912-8.8 Length depends on the thickness of the attachment base ● Washer 5.3 DIN 125-ST ● Hexagon nut M5 DIN 934-8

To receive full sets with pre-fitted quickflange please add index QF ▶ For example: Part No. 15800.100.12.QF. Unassembled quickflange: Part No. 15800.QF



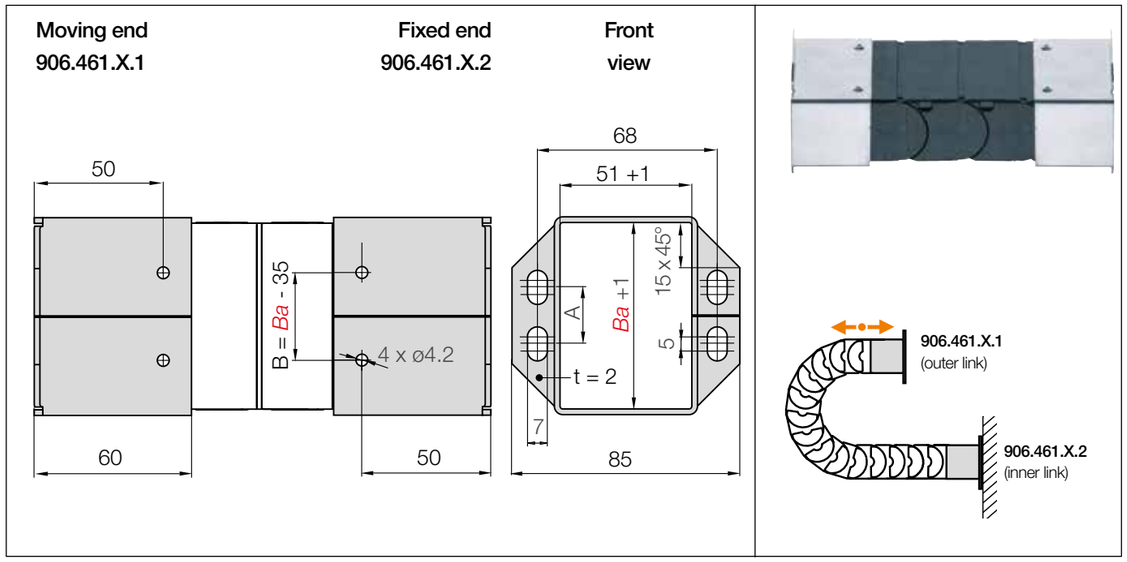
The bracket orientations are set automatically when using an igus® KMA mounting bracket. To receive KMA pre-fitted please add index **.A**



Strain relief e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with ordering options ▶ From page 1300

E2 R100 e-tubes | Series R157·R158 | Accessories

Mounting brackets, flange steel | Locking

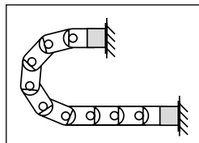


Steel flange, locking | Recommended for unsupported applications

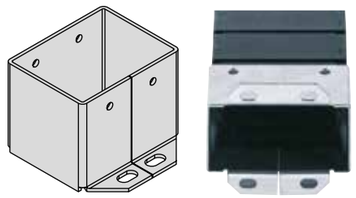
Width index	Hole pattern	Part No. full set steel flange	Bi [mm]	Ba [mm]	A [mm]	B [mm]
050. ▶	**58.05**	906.461.1.12*	50	66	20	31
075. ▶	**58.1**	906.461.2.12*	75	91	30	57

Mounting only with hexagon socket DIN 912 M6 and washer DIN 125, 6.3mm

*Available upon request. Please consult igus® for delivery time.



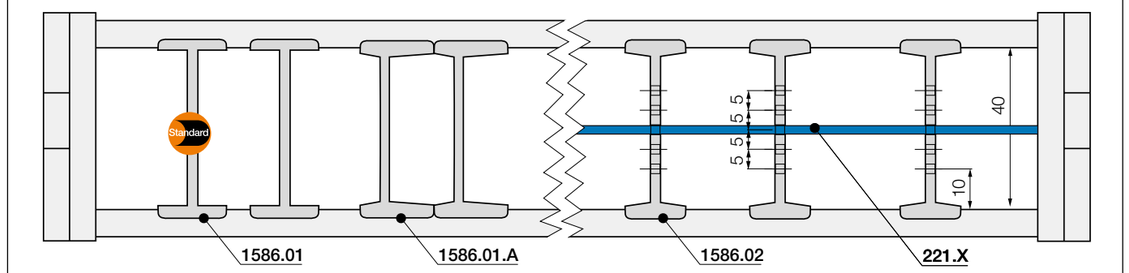
Metallic flange brackets with common hole patterns can easily replace alternatives, without having to alter the hole pattern. Flush attachment possibilities at both ends of the e-tube using flange mounting brackets made of steel.



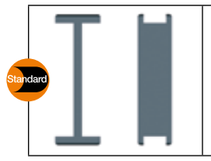
Strain relief e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with ordering options ▶ From page 1300

E2 R100 e-tubes | Series R157·R158 | Accessories

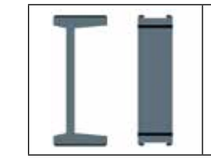
Interior separation | Option 1 | Option 2 | (Option 3 ▶ next page)



No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-tube link!



Standard separator	
unassembled	**1585.01**
assembled	**1586.01**



Separator, asymmetrical	
unassembled	**1585.01.A**
assembled	**1586.01.A**

Option 1 | Separators

Standard separator

For simple vertical subdivision. Offers security due to its wide base design, also when used with large cables or hoses.

Separator, asymmetrical

For side-mounted applications. Asymmetrical separator, no additional spacers necessary.



Slotted separator	
unassembled	**1585.02**
assembled	**1586.02**



Full-width shelf for e-tubes	
unassembled	**220.X**
assembled	**221.X**

Option 2 | Full-width shelves

Slotted separator for full-width shelves

Vertical separation in e-tubes. The slot allows basic vertical/ horizontal shelving arrangements.

Full-width shelf

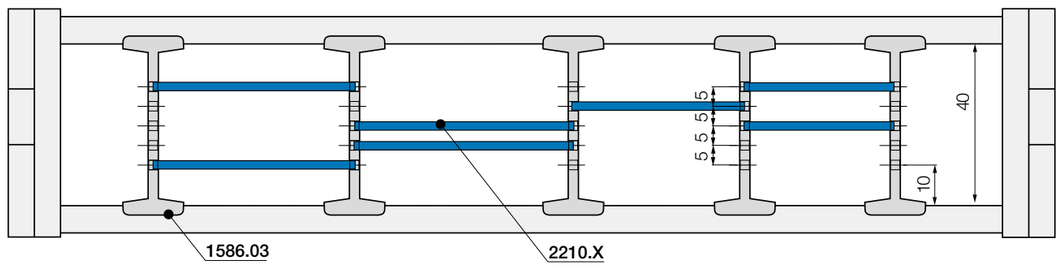
This option is for applications with many small cables with similar diameters. For full-width separation.

Full-width shelves
Width = X [mm]

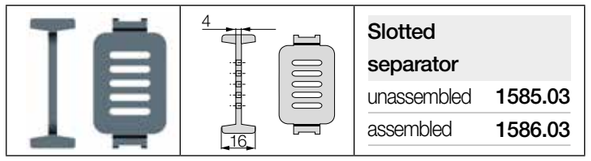
X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
040	**220.40**	**221.40**	100	**220.100**	**221.100**	175	**220.175**	**221.175**
050	**220.50**	**221.50**	125	**220.125**	**221.125**	200	**220.200**	**221.200**
075	**220.75**	**221.75**	135	**220.135**	**221.135**			
088	**220.88**	**221.88**	150	**220.150**	**221.150**			

E2 R100 e-tubes | Series R157·R158 | Accessories

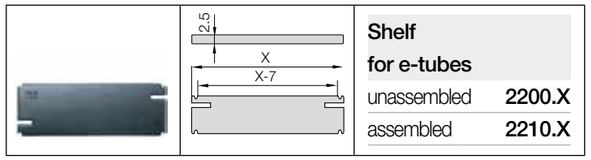
Interior separation | Option 3



No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-tube link!



Slotted separator	
unassembled	**1585.03**
assembled	**1586.03**



Shelf for e-tubes	
unassembled	**2200.X**
assembled	**2210.X**

Option 3 | Partial shelves

Slotted separator for partial shelves

Allows modular shelving arrangements.

Shelf

For applications involving many cables with different diameters, shelves can be fitted at different heights.

Shelves

Width = X [mm]

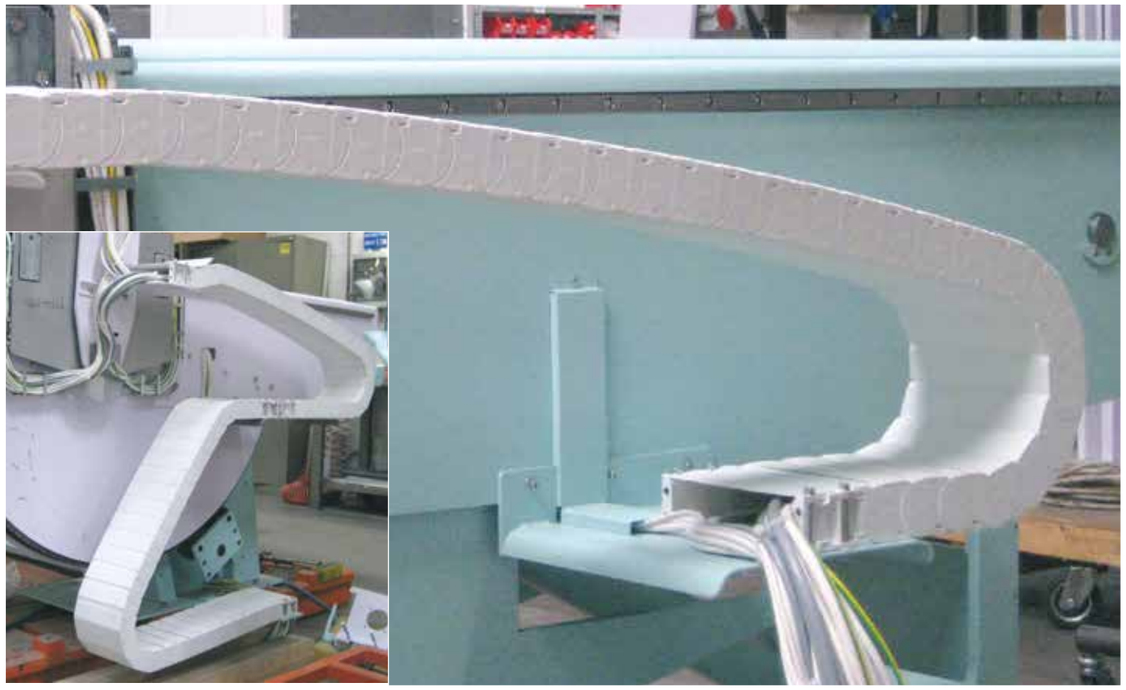
X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
018	**2200.18**	**2210.18**	043	**2200.43**	**2210.43**	088	**2200.88**	**2210.88**
023	**2200.23**	**2210.23**	048	**2200.48**	**2210.48**	099	**2200.99**	**2210.99**
028	**2200.28**	**2210.28**	058	**2200.58**	**2210.58**	124	**2200.124**	**2210.124**
033	**2200.33**	**2210.33**	068	**2200.68**	**2210.68**	149	**2200.149**	**2210.149**
038	**2200.38**	**2210.38**	073	**2200.73**	**2210.73**			

Separator with integrated strain relief teeth

- Can be integrated into the mounting bracket or placed at any point in the e-tube
- Combines strain relief and interior separation, for restricted space conditions
- Strain relief separator is easy to assemble without any screws

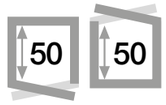
Part No. 1585.01.Z. More information ▶ From page 1326





White igus® e-tube series E2 R100 in a medical application

E2 R100 e-tubes | R167·R168 | Product range



Swarf protection, even against hot swarf, cost-effective



e-tubes | Series R167 | Lids openable along the inner radius, from both sides
e-tubes | Series R168 | Lids openable along the outer radius, from both sides

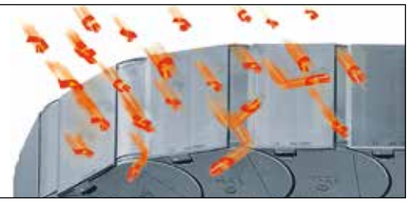
Part No. e-tubes openable along the inner radius	Part No. e-tubes openable along the outer radius	*Bi*	*Ba*	*R* Available bend radii	R167	R168
		[mm]	[mm]	[mm]	[kg/m]	[kg/m]
167.050.*R*.0	168.050.*R*.0	50	68	|100|125|150|175|200|225|250|300|	≈ 1.58	≈ 1.58
167.075.*R*.0	168.075.*R*.0	75	93	|100|125|150|175|200|225|250|300|	≈ 1.84	≈ 1.84
167.100.*R*.0	168.100.*R*.0	100	118	|100|125|150|175|200|225|250|300|	≈ 2.09	≈ 2.09
167.115.*R*.0	168.115.*R*.0	115	133	|100|125|150|175|200|225|250|300|	≈ 2.24	≈ 2.24
167.125.*R*.0	168.125.*R*.0*	125	143	|100|125|150|175|200|225|250|300|	≈ 2.35	≈ 2.35
167.150.*R*.0	168.150.*R*.0	150	168	|100|125|150|175|200|225|250|300|	≈ 2.60	≈ 2.60
167.175.*R*.0	168.175.*R*.0	175	193	|100|125|150|175|200|225|250|300|	≈ 2.86	≈ 2.86
167.200.*R*.0	168.200.*R*.0	200	218	|100|125|150|175|200|225|250|300|	≈ 3.11	≈ 3.11
167.225.*R*.0	168.225.*R*.0*	225	243	|100|125|150|175|200|225|250|300|	≈ 3.37	≈ 3.37
167.250.*R*.0	168.250.*R*.0*	250	268	|100|125|150|175|200|225|250|300|	≈ 3.62	≈ 3.62

*Width available upon request. Please consult igus® for delivery time.

Complete Part No. with required radius (*R*). Example: **168.100.100.0.**

Hot swarf up to +850°C
- e-tubes to withstand 850°C swarf, as a special option
- No hot swarf melting or embedding into the chain
- igus® igumid HT material

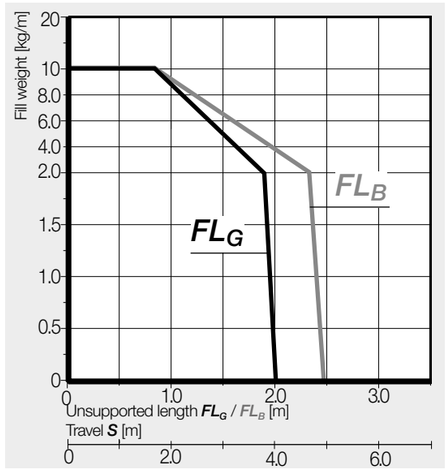
More information ▶ www.igus.eu/HT

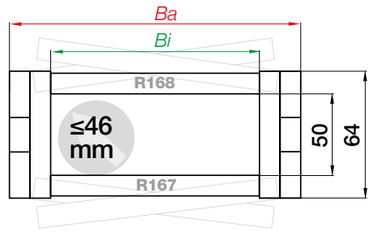


E2 R100 e-tubes | R167·R168 | Installation dimensions

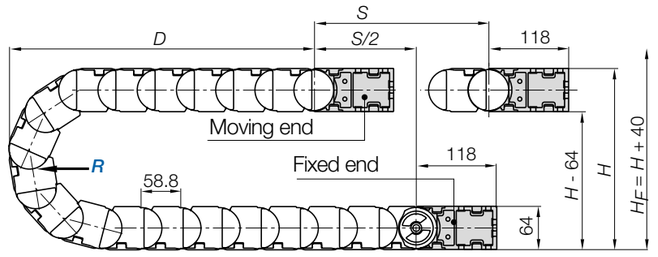
▶ 1300

Unsupported applications | Short travels



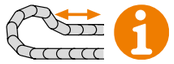


Inner height [mm]	50
Pitch [mm/link]	58.8
Links/m	17
corresponds to [mm]	999.6
e-tube length	$L_K = S/2 + K$



R	100	125	150	175	200	225	250	300
H	264	314	364	414	464	514	564	664
D	220	245	270	295	320	345	370	420
K	435	515	590	670	750	825	905	1,065

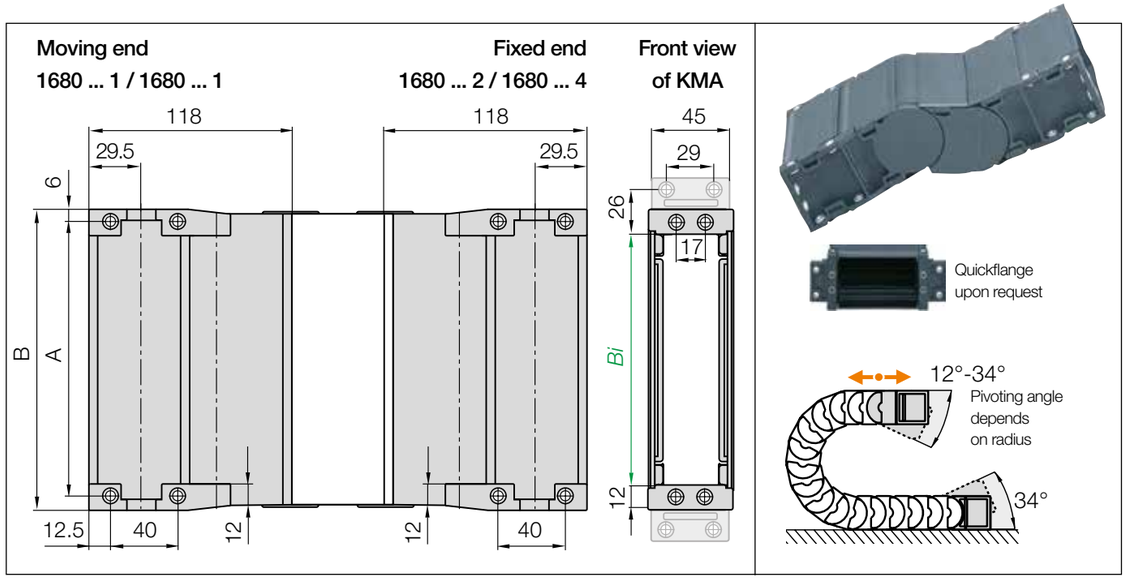
The required clearance height: $H_F = H + 40$mm (with 2.0kg/m fill weight)



If a gliding application is required for a long travel, please consult igus®.

E2 R100 e-tubes | Series R167·R168 | Accessories

KMA mounting brackets | Attachment from any side | Pivoting | Locking



KMA, pivoting | Recommended for unsupported applications
KMA, locking | Recommended for vertical hanging and standing applications

Width index	Part no. full set **KMA pivoting**	Part No. full set **KMA fixed end locking*:**	A [mm]	B [mm]	Bi [mm]
050. ▶	**1680.050.12**	**1680.050.14**	62	74	50
075. ▶	**1680.075.12**	**1680.075.14**	87	99	75
100. ▶	**1680.100.12**	**1680.100.14**	112	124	100
115. ▶	**1680.115.12**	**1680.115.14**	127	139	115
125. ▶	**1680.125.12**	**1680.125.14**	137	149	125
150. ▶	**1680.150.12**	**1680.150.14**	162	174	150
175. ▶	**1680.175.12**	**1680.175.14**	187	199	175
200. ▶	**1680.200.12**	**1680.200.14**	212	224	200
225. ▶	**1680.225.12**	**1680.225.14**	237	249	225
250. ▶	**1680.250.12**	**1680.250.14**	262	274	250

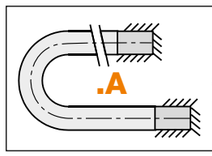
(KMA = polymer metal mounting bracket)

*only the fixed end is locking, the moving end is pivoting

The following parts are required for attachment of the mounting brackets:

● Socket head cap bolt M5 DIN 912-8.8 Length depends on the thickness of the attachment base ● Washer 5.3 DIN 125-ST ● Hexagon nut M5 DIN 934-8

To receive full sets with pre-fitted quickflange please add index QF ▶ For example: Part No. 1680.100.12.QF. Unassembled quick flange: Part No. 16800.QF



The bracket orientations are set automatically when using an igus® KMA mounting bracket. To receive KMA pre-fitted please add index **.A**

1680.100.12.A Order example

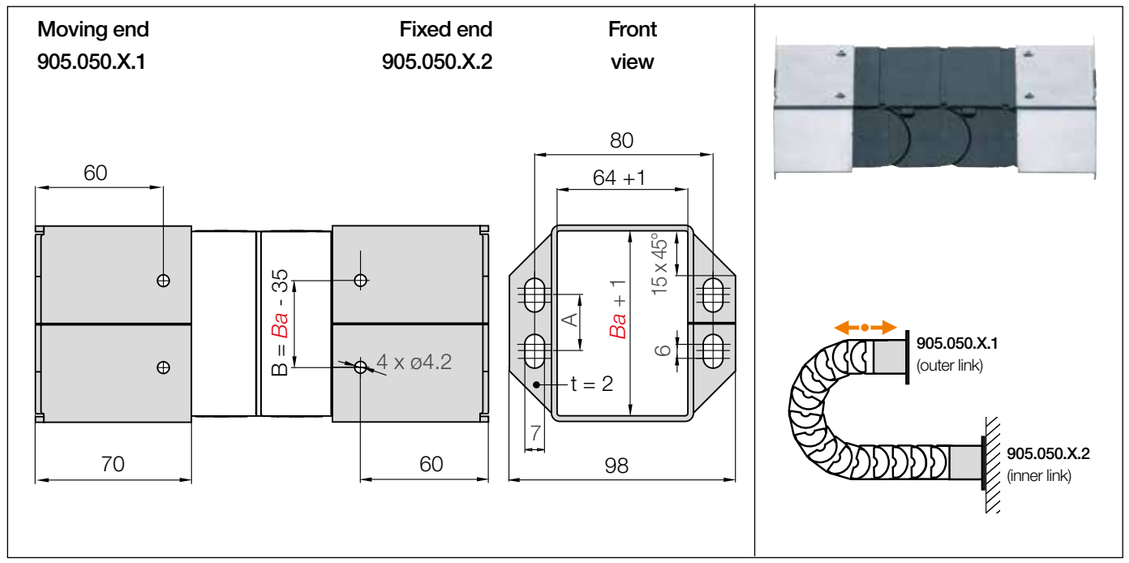
.A ... to indicate option with brackets pre-fitted
Full set
Width index
Series

Strain relief e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with ordering options ▶ From page 1300

R167
R168

E2 R100 e-tubes | Series R167·R168 | Accessories

Mounting brackets, flange steel | Locking

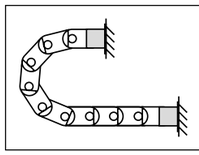


Steel flange, locking | Recommended for unsupported applications

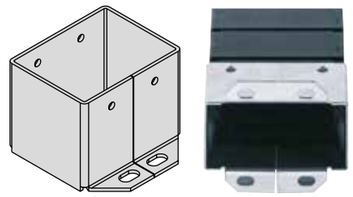
Width index	Hole pattern	Part No. full set **steel flange**	Bi [mm]	Ba [mm]	A [mm]	B [mm]
075. ▶	**68.01**	905.050.1.12*	75	93	30	58
115. ▶	**68.02**	905.050.2.12*	115	133	50	98
175. ▶	**68.03**	905.050.3.12*	175	193	100	158

Mounting only with hexagon socket DIN 912 M6 and washer DIN 125, 6.3mm

*Available upon request. Please consult igus® for delivery time.



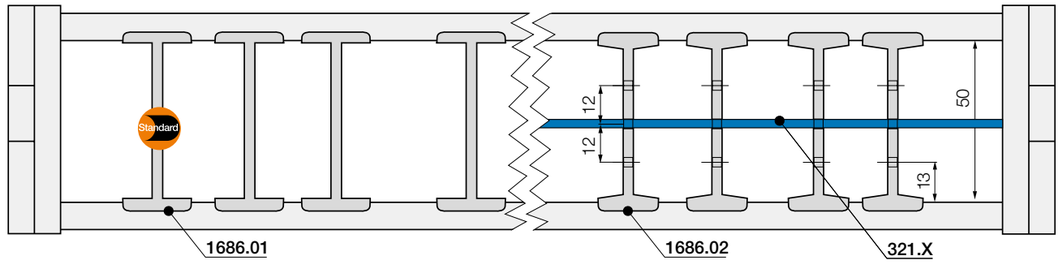
Metallic flange brackets with common hole patterns can easily replace alternatives, without having to alter the hole pattern. Flush attachment possibilities at both ends of the e-tube using flange mounting brackets made of steel.



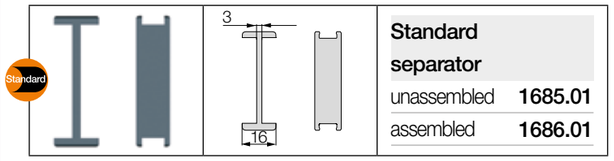
Strain relief e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with ordering options ▶ From page 1300

E2 R100 e-tubes | Series R167·R168 | Accessories

Interior separation | Option 1 | Option 2



No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-tube link!

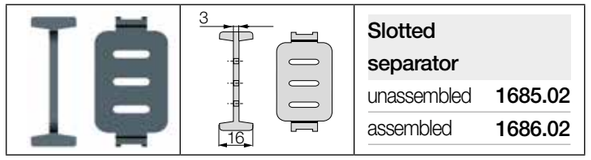


Standard separator	
unassembled	**1685.01**
assembled	**1686.01**

Option 1 | Separators

Standard separator

For simple vertical subdivision. Offers security due to its wide base design, also when used with large cables or hoses.

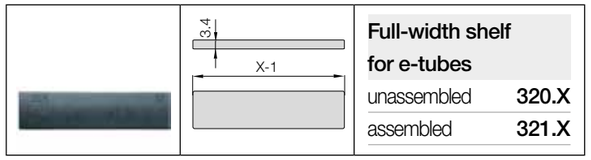


Slotted separator	
unassembled	**1685.02**
assembled	**1686.02**

Option 2 | Full-width shelves

Slotted separator for full-width shelves

Vertical separation in e-tubes. The slot allows basic vertical and horizontal shelving arrangements.



Full-width shelf for e-tubes	
unassembled	**320.X**
assembled	**321.X**

Full-width shelf

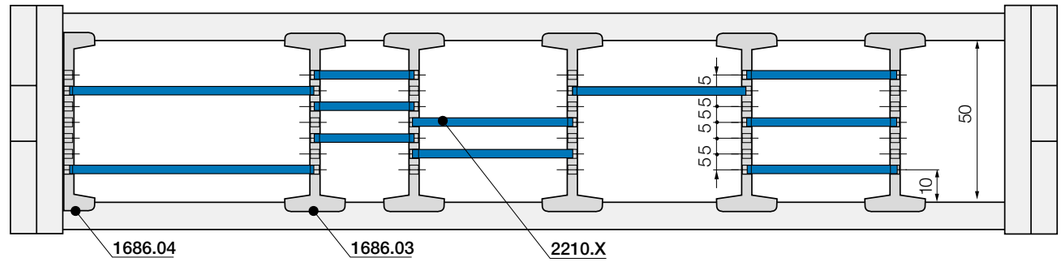
This option is for applications with many small cables with similar diameters. For full-width separation.

Full-width shelves
Width = X [mm]

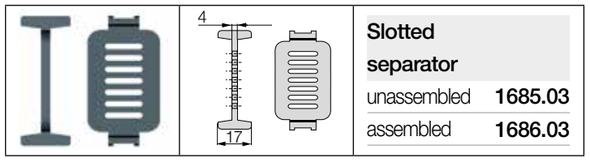
X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
050	**320.050**	**321.050**	150	**320.150**	**321.150**	250	**320.250**	**321.250**
075	**320.075**	**321.075**	175	**320.175**	**321.175**			
115	**320.115**	**321.115**	200	**320.200**	**321.200**			
125	**320.125**	**321.125**	225	**320.225**	**321.225**			

E2 R100 e-tubes | Series R167·R168 | Accessories

Interior separation | Option 3



No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-tube link!

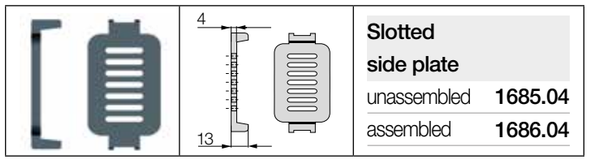


Slotted separator	
unassembled	**1685.03**
assembled	**1686.03**

Option 3 | Partial shelves

Slotted separator for partial shelves

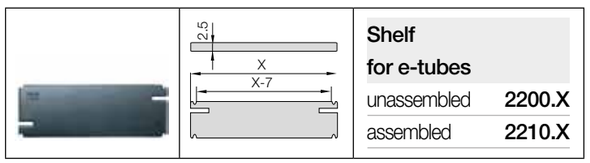
Allows modular shelving arrangements.



Slotted side plate	
unassembled	**1685.04**
assembled	**1686.04**

Slotted side plate

Allows modular shelving right up to the side links. No clearance required!



Shelf for e-tubes	
unassembled	**2200.X**
assembled	**2210.X**

Shelf

For applications involving many cables with different diameters, shelves can be fitted at different heights.

Shelves
Width = X [mm]

X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
018	**2200.18**	**2210.18**	043	**2200.43**	**2210.43**	088	**2200.88**	**2210.88**
023	**2200.23**	**2210.23**	048	**2200.48**	**2210.48**	099	**2200.99**	**2210.99**
028	**2200.28**	**2210.28**	058	**2200.58**	**2210.58**	124	**2200.124**	**2210.124**
033	**2200.33**	**2210.33**	068	**2200.68**	**2210.68**	149	**2200.149**	**2210.149**
038	**2200.38**	**2210.38**	073	**2200.73**	**2210.73**			

Separator with integrated strain relief teeth

- Can be integrated into the mounting bracket or placed at any point in the e-tube
- Combines strain relief and interior separation, for restricted space conditions
- Strain relief separator is easy to assemble without any screws

Part No.1685.01.Z. More information ▶ From page 1326



E2 R

e-tubes for swarf protection at higher speeds and smooth running

Advantages of the E2 R series:

- Strong e-tubes with small pitch for low noise, smooth running
- High level of protection against swarf (including hot swarf)
- Lids removable along the outer radius
- Robust and sealed
- Space-efficient with optimised ratio of inner to outer dimensions

When to use another e-tube:

- When a particularly cost-effective solution is required
  ► **R2.1 e-tubes, page 478**
- When no swarf protection is required
  ► **E2/000 e-chains®, page 360**
- For extremely swarf-resistant e-tubes
  ► **RX system, page 502**
- When even higher strength is required
  ► **R4.1L e-tubes, page 524**



Swarf protection at higher speeds and smooth running - E2 R e-tubes

E2 R e-tubes - small pitch for higher speeds and smooth motion. igus® e-tubes work in hot swarf areas, in areas of dirt and dust generated by woodworking, steel mills, pulp and paper, textile, agriculture, coal plant and many other hostile environments.

- High level of protection against swarf (including hot swarf)
- Robust and sealed
- Space-efficient with optimised ratio of inner to outer dimensions
- Modular interior separation
- Universal KMA mounting brackets with attachment options from any side

Typical industries and applications

● Machine tools ● Wood processing machines ● General mechanical engineering ● In all areas with dirt and swarf

e-tubes with igumid HT-Material for hot swarf up to +850°C available upon request

Electrically conductive ESD e-tubes upon request

UL94-V0 classifications upon request

iF product design award
1987 igus® series R68

Series	Inner height *hi* [mm]	Inner width *Bi* [mm]	Outer width *Ba* [mm]	Outer height *ha* [mm]	Bend radius *R* [mm]	Unsupported length ≤ [m]	Page
							
R48	25	25 - 130	36 - 141	36	060 - 250	1.50	**460**
R58	35	50 - 200	66 - 216	50	075 - 250	2.30	**466**
R68	45	50 - 250	68 - 268	64	100 - 300	2.50	**472**

E2 R e-tubes -
lids removable along the outer radius

Available from stock. Ready to ship in 24 - 48hrs.*

*The delivery times indicated correspond to the average time until the ordered goods are dispatched.



E2 e-tubes in swarf area of a machine tool. Resistant to swarf up to +850°C with special igumid HT material

Technical data

Speed gliding[1] / acceleration gliding[1]	≤ 3 [m/s] / ≤ 10 [m/s²]
Speed FL_G / acceleration FL_G	≤ 10 [m/s] / ≤ 100 [m/s²]
Speed FL_B / acceleration FL_B	≤ 3 [m/s] / ≤ 6 [m/s²]
Material - permitted temperature °C, igumid G	-40°C / +120°C
Flammability class, igumid G	VDE 0304 IIC UL94-HB

FL_G = unsupported with straight upper run FL_B = unsupported with permitted sag

1) Gliding applications for long travels are available upon request, please consult igus®.

Installation types, maximum travels

Series	Unsupported	Gliding[1]	Vertical hanging	Vertical standing	Side mounted unsupported	Zig-zag	Unsupported lower run
R48	≤ 3.00m	≤ 50m	≤ 50m	≤ 4.0m	≤ 1.5m	upon request	upon request
R58	≤ 4.50m	≤ 75m	≤ 50m	≤ 4.0m	≤ 2.0m	upon request	upon request
R68	≤ 5.00m	≤ 100m	≤ 60m	≤ 4.0m	≤ 2.0m	upon request	upon request

1) For gliding applications, please consult igus®.

Options with order keys | Examples based on series R58

	Standard	*NC version - (No Camber) without pretension*	*No burning-in of hot swarf up to +850°C (+1562° F)*	*ESD - electrically conductive material*
	Part No. Standard	Part No. NC version	Part No. igumid HT	Part No. igumid ESD
	58.100.*R*.0	58.100.*R*.0.NC	58.100.*R*.0.HT	58.100.*R*.0.ESD
	Ready to ship* in 24 - 48hrs.	Delivery time* 2-5 business days	Delivery time* 7-10 business days	Delivery time* 10 business days

*The delivery times indicated correspond to the average time until the ordered goods are dispatched.

Order example | Order key and colour examples | Examples based on series R58

Order example for complete e-tube (1.0m), colour black, with mounting brackets and interior separation:

e-tube (1.0m)	Please indicate e-tube length or number of links: 1.0m or 28 links	58.100.100.0
+ Mounting brackets	KMA - 1 set	580.100.12
Interior separation	with 2 separators assembled every 2nd link	2 x 582
Order text:	1 m 58.100.100.0 + 580.100.12 + 2 x 582	

Order key

e-tube - lids removable along the outer radius: **58.100.100.0**

- Series / Type
- Width index (depends on *Bi*)
- Bend radius *R*
- Colour index (standard black)

Order index for colour options

Colour	Order index		Colour	Order index	
Black	Standard	.0	Orange	Special colour	.2
Silver-grey	Special colour	.31	Yellow	Special colour	.4
White	Special colour	.1	Light grey	Special colour	.14
Grey-white	Special colour	.1S			

Black e-tubes available from stock.

Above special colours upon request.

E2 R e-tubes | Series R48 | Product range

25

Protection against dirt and debris, small pitch for smooth motion



e-tubes | Series R48 | Lids removable along the outer radius

Part No.	Bi	Ba	R Available bend radii	R48
e-tubes	[mm]	[mm]	[mm]	[kg/m]
48.025.R.0	25	36	| 060 | 075 | 100 | 125 | 150 | 175 | 200 | 250 |	≈ 0.64
48.050.R.0	50	61	| 060 | 075 | 100 | 125 | 150 | 175 | 200 | 250 |	≈ 0.84
48.075.R.0	75	86	| 060 | 075 | 100 | 125 | 150 | 175 | 200 | 250 |	≈ 1.03
48.100.R.0	100	111	| 060 | 075 | 100 | 125 | 150 | 175 | 200 | 250 |	≈ 1.23
48.130.R.0	130	141	| 060 | 075 | 100 | 125 | 150 | 175 | 200 | 250 |	≈ 1.46

Complete Part No. with required radius (*R*). Example: **48.100.100.0**

Hot swarf up to +850°C

- e-tubes to withstand 850°C swarf, as a special option
- No hot swarf melting or embedding into the chain
- igus® igumid HT material

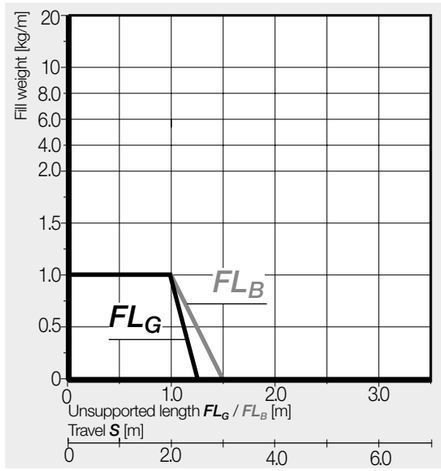
More information ▶ www.igus.eu/HT

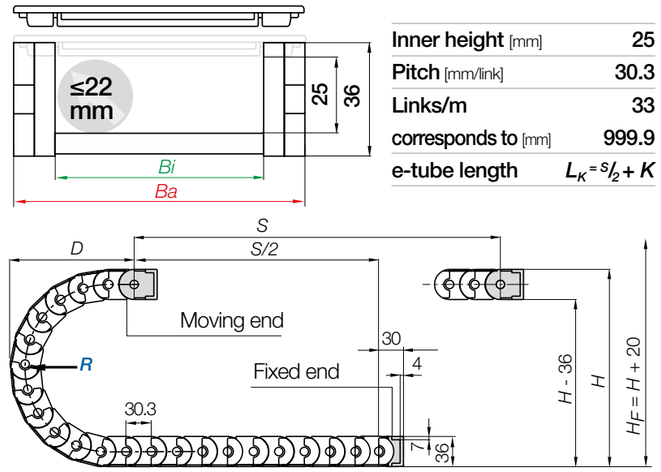


E2 R e-tubes | R48 | Installation dimensions

▶ 1300 ▶ 1220

Unsupported applications | Short travels



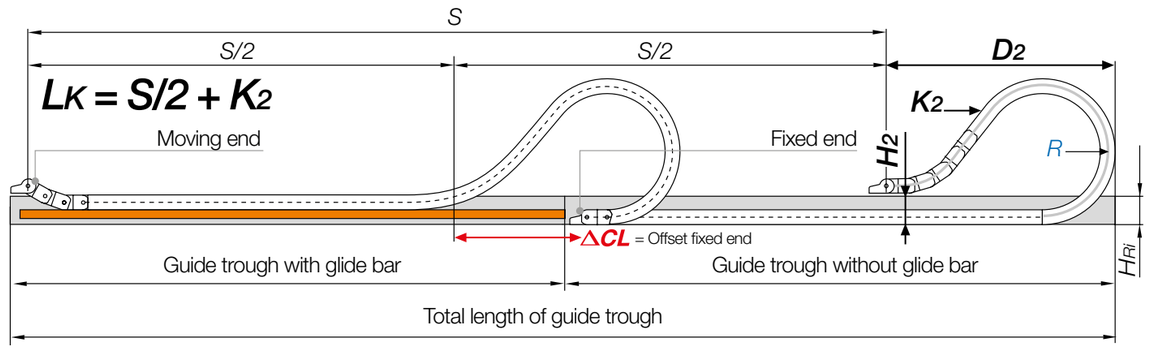


Inner height [mm]	25
Pitch [mm/link]	30.3
Links/m	33
corresponds to [mm]	999.9
e-tube length	$L_K = S/2 + K$

R	060	075	100	125	150	175	200	250
H	156	186	236	286	336	386	436	536
D	123	138	163	188	213	238	263	313
K	250	300	375	455	535	615	690	850

The required clearance height: $H_F = H + 20$mm (with 0.5kg/m fill weight)

Gliding applications | For long travels from 5m to max. 50m



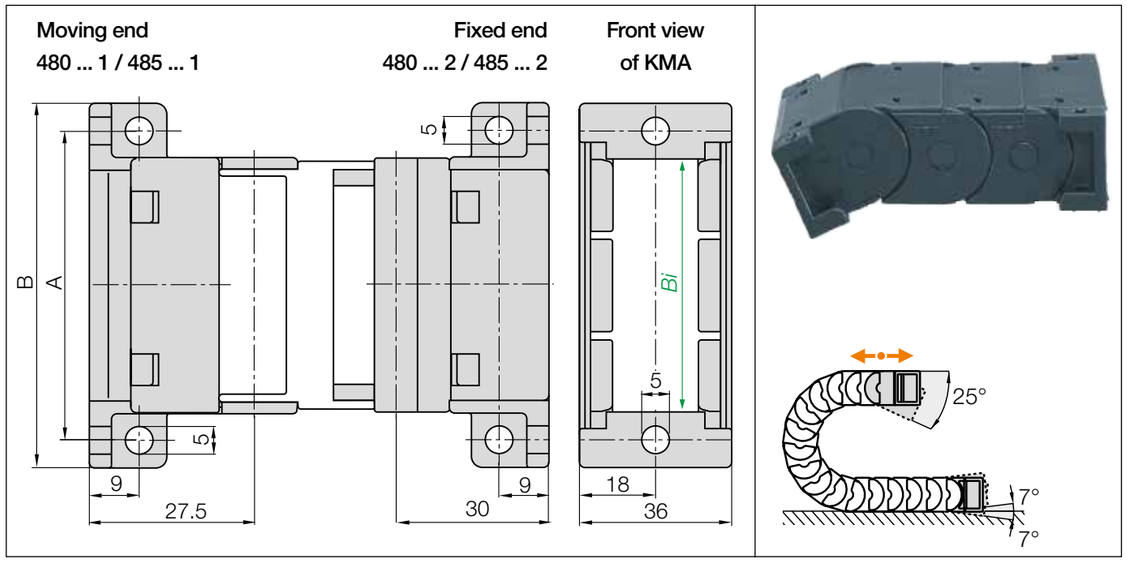
Note: We recommend the project planning of such a system to be carried out by igus®.
In case of travels between 2 and 5m we recommend an e-tube with a longer unsupported length.
If a gliding application is required for a long travel, please consult igus®.

R	060	075	100	125	150	175	200	250
H_2	156	186	176	176	176	176	176	*
D_2	110	125	330	450	610	730	690	*
K_2	250	300	545	758	970	1,151	1,182	*
ΔCL	*	*	170	270	380	470	*	*

*Values upon request

E2 R e-tubes | Series R48 | Accessories

KMA mounting brackets | Attachment from any side | Pivoting | Locking



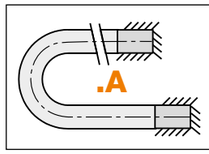
KMA pivoting | Recommended for unsupported applications
KMA locking | Recommended for vertical hanging and standing applications

Width index	Part no. full set **KMA pivoting**	Part No. full set **KMA locking**	A [mm]	B [mm]	*Bi* [mm]
025. ▶	**480.025.12**	**485.025.12**	45	55	**25**
050. ▶	**480.050.12**	**485.050.12**	70	80	**50**
075. ▶	**480.075.12**	**485.075.12**	95	105	**75**
100. ▶	**480.100.12**	**485.100.12**	120	130	**100**
130. ▶	**480.130.12**	**485.130.12**	150	160	**130**

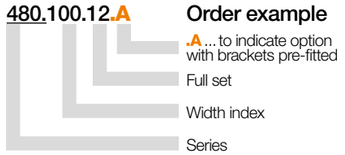
(KMA = polymer metal mounting bracket)

The following parts are required for attachment of the mounting brackets:

● Socket head cap bolt M5 DIN 912-8.8 Length depends on the thickness of the attachment base ● Washer 5.3 DIN 125-ST ● Hexagon nut M5 DIN 934-8



The bracket orientations are set automatically when using an igus® KMA mounting bracket. To receive KMA pre-fitted please add index **.A**

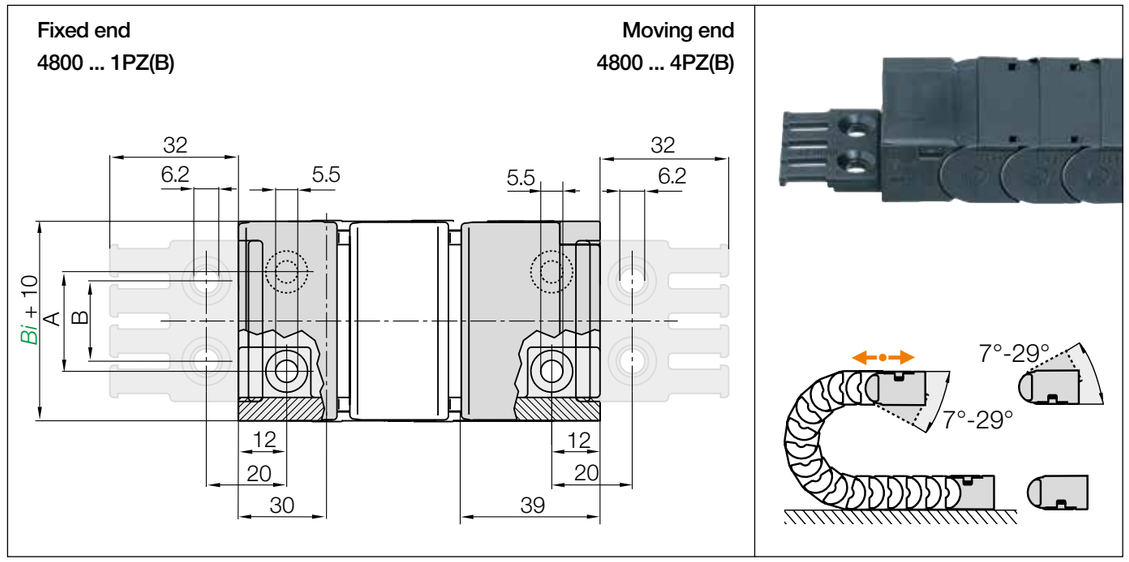


Order example

Strain relief **e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with ordering options ▶ From page 1300**

E2 R e-tubes | Series R48 | Accessories

Angled polymer bracket | One end pivoting

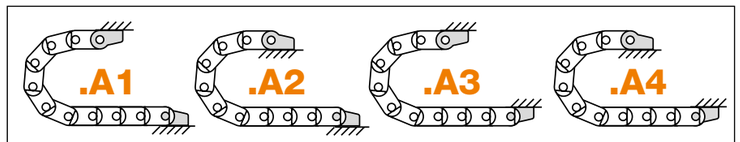


Angled polymer bracket | One end pivoting
Recommended for unsupported applications

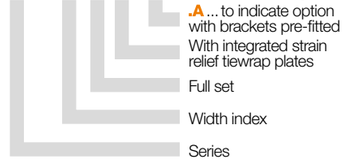
Width index	Part No. full set **with tiewrap plates**	Part No. full set **without tiewrap plates**	A [mm]	B [mm]	Number of teeth
025. ▶	**4800.025.12PZB**	**4800.025.12**	12	15	3
050. ▶	**4800.050.12PZB**	**4800.050.12**	37	30	5
075. ▶	**4800.075.12PZB**	**4800.075.12**	62	60	8
100. ▶	**4800.100.12PZB**	**4800.100.12**	87	80	10
130. ▶	–	**4800.130.12**	117	–	–

The following parts are required for attachment of the mounting brackets:

● Socket head cap bolt M5 DIN 912-8.8 Length depends on the thickness of the attachment base ● Hexagon nut M5 DIN 7991 ● Washer 5.3 DIN 125-ST



Possible orientations for assembled mounting brackets. To receive brackets **pre-fitted** please add index **.A1**, **.A2**, **.A3** or **.A4**.

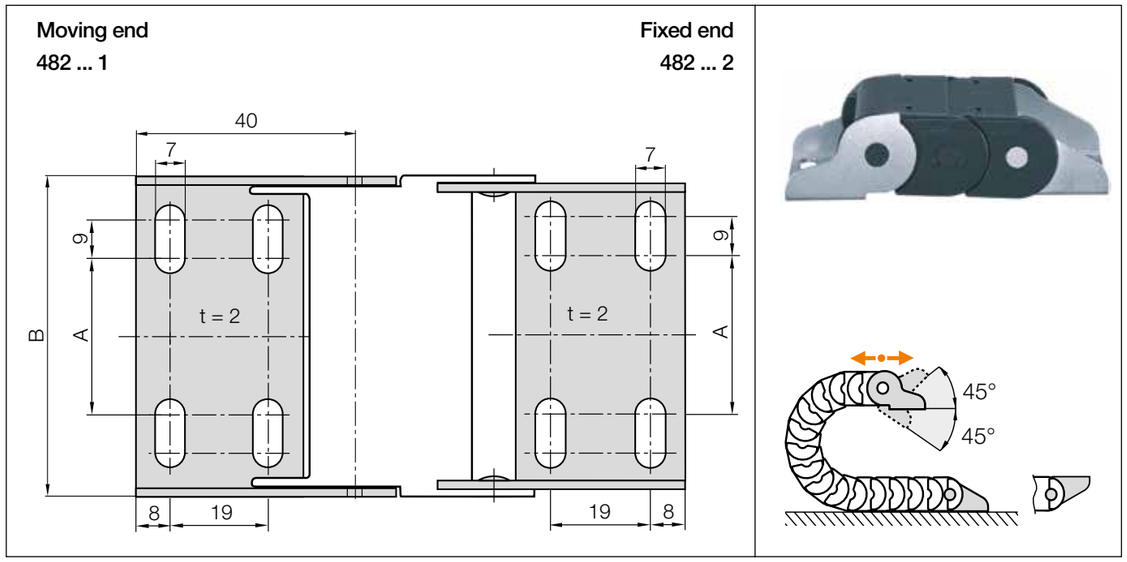


Order example

Strain relief **e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with ordering options ▶ From page 1300**

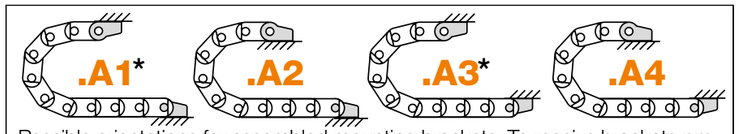
E2 R e-tubes | Series R48 | Accessories

Steel mounting brackets | One end pivoting



Steel mounting brackets | One end pivoting
Recommended for unsupported, vertical hanging, standing applications

Width index	Part No. full set Steel one end pivoting	A [mm]	B [mm]
025. ▶	**482.025 .12**	–	35
050. ▶	**482.050 .12**	22	60
075. ▶	**482.075 .12**	47	85
100. ▶	**482.100 .12**	72	110
130. ▶	**482.130 .12**	102	140



Possible orientations for assembled mounting brackets. To receive brackets **pre-fitted** please add index **.A1**, **.A2**, **.A3** or **.A4**.
(***A1+A3** only for moving end)

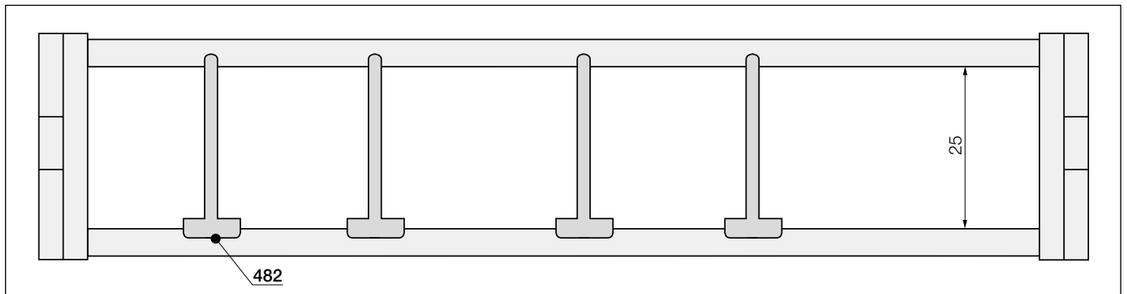
482.100.12.A1 Order example
- **.A** ... to indicate option with brackets pre-fitted
- Full set
- Width index
- Series

Strain relief **e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with ordering options ▶ From page 1300**

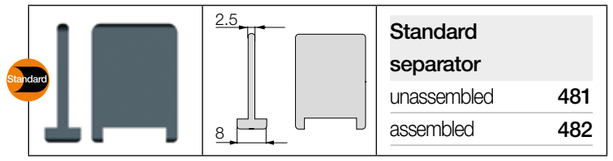
R48

E2 R e-tubes | Series R48 | Accessories

Interior separation



No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-tube link!



Standard separator	
unassembled	**481**
assembled	**482**

Standard separator

For simple vertical subdivision. Offers security due to its wide base design, also when used with large cables or hoses.

Separator with integrated strain relief teeth

- Can be integrated into the mounting bracket or placed at any point in the e-tube
- Combines strain relief and interior separation, for restricted space conditions
- Strain relief separator is easy to assemble without any screws

Part No. 481.ZR. More information ▶ From page 1326



E2 R e-tubes | Series R58 | Product range

35

Protection against dirt and debris, small pitch for smooth motion



e-tubes | Series R58 | Lids removable along the outer radius

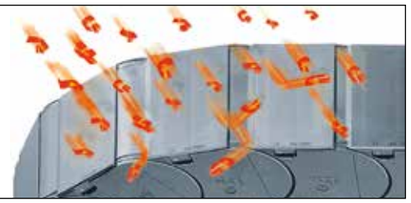
Part No.	Bi	Ba	R Available bend radii	R58
e-tubes	[mm]	[mm]	[mm]	[kg/m]
58. 050.R.0	50	66	| 075 | 100 | 125 | 150 | 200 | 250 |	≈ 1.50
58. 075.R.0	75	91	| 075 | 100 | 125 | 150 | 200 | 250 |	≈ 1.77
58. 100.R.0	100	116	| 075 | 100 | 125 | 150 | 200 | 250 |	≈ 2.04
58. 125.R.0	125	141	| 075 | 100 | 125 | 150 | 200 | 250 |	≈ 2.31
58. 150.R.0	150	166	| 075 | 100 | 125 | 150 | 200 | 250 |	≈ 2.61
58. 175.R.0	175	191	| 075 | 100 | 125 | 150 | 200 | 250 |	≈ 2.88
58. 200.R.0	200	216	| 075 | 100 | 125 | 150 | 200 | 250 |	≈ 3.15

Complete Part No. with required radius (*R*). Example: **58.100.100.0**

Hot swarf up to +850°C

- e-tubes to withstand 850°C swarf, as a special option
- No hot swarf melting or embedding into the chain
- igus® igumid HT material

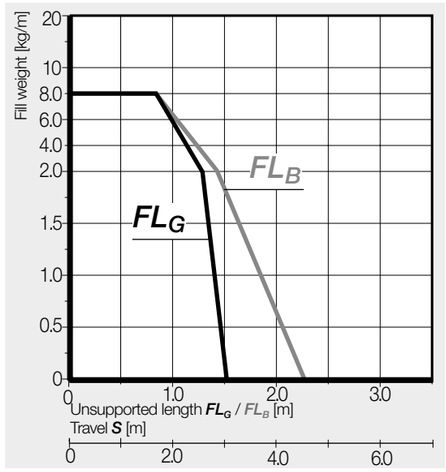
More information ▶ www.igus.eu/HT

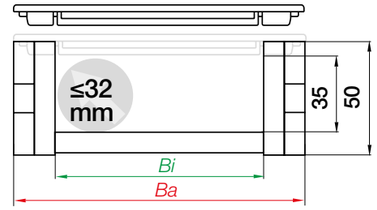


E2 R e-tubes | R58 | Installation dimensions

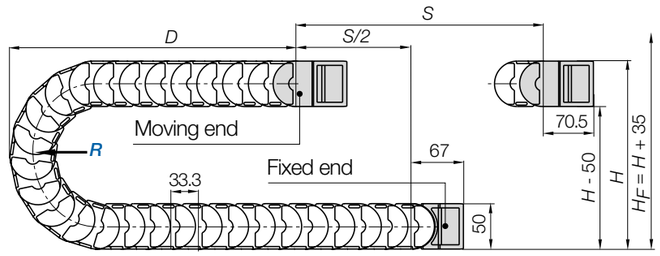
▶ 1300 ▶ 1226

Unsupported applications | Short travels





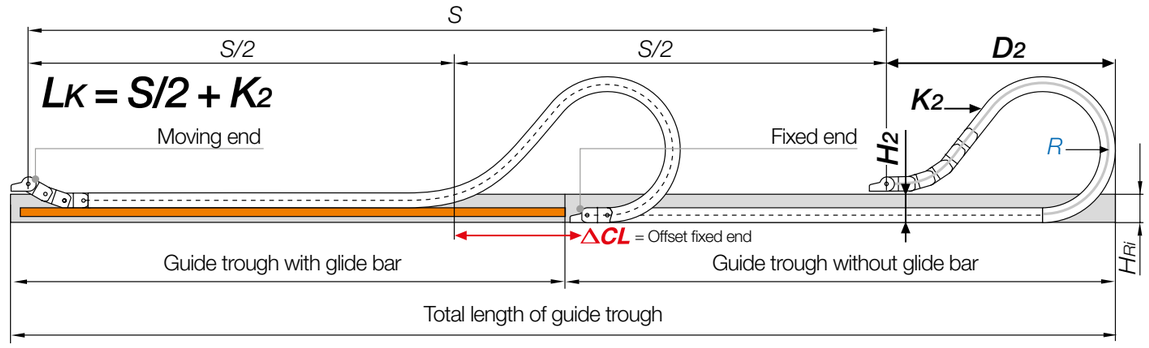
Inner height [mm]	35
Pitch [mm/link]	33.3
Links/m	30
corresponds to [mm]	999
e-tube length	$L_K = S/2 + K$



R	075	100	125	150	200	250
H	200	250	300	350	450	550
D	150	175	200	225	275	325
K	305	385	460	540	695	855

The required clearance height: $H_F = H + 35mm$ (with 0.5kg/m fill weight)

Gliding applications | For long travels from 5m to max. 75m



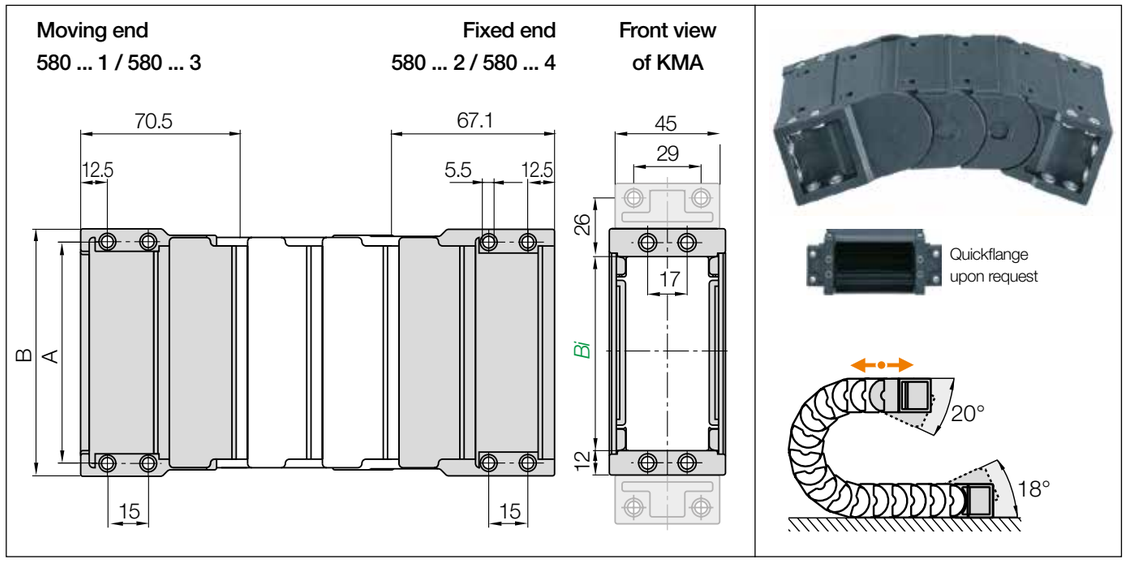
Note: We recommend the project planning of such a system to be carried out by igus®.
In case of travels between 3 and 5m we recommend an e-tube with a longer unsupported length.
If a gliding application is required for a long travel, please consult igus®.

R	075	100	125	150	200	250
H_2	150	166	166	166	166	166
D_2	150	310	380	480	800	1,050
K_2	375	500	699	866	1,265	1,665
ΔCL	*	122	167	247	512	717

*Values upon request

E2 R e-tubes | Series R58 | Accessories

KMA mounting brackets | Attachment from any side | Pivoting | Locking



Standard **KMA pivoting** | Recommended for unsupported applications
KMA locking | Recommended for vertical hanging and standing applications

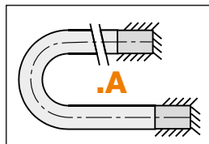
Width index	Standard	Part no. full set **KMA pivoting**	Part No. full set **KMA locking**	A [mm]	B [mm]	*Bi* [mm]
050. ▶		**580.050.12**	**580.050.34**	62	74	50
075. ▶		**580.075.12**	**580.075.34**	87	99	75
100. ▶		**580.100.12**	**580.100.34**	112	124	100
125. ▶		**580.125.12**	**580.125.34**	137	149	125
150. ▶		**580.150.12**	**580.150.34**	162	174	150
175. ▶		**580.175.12**	**580.175.34**	187	199	175
200. ▶		**580.200.12**	**580.200.34**	212	224	200

(KMA = polymer metal mounting bracket)

The following parts are required for attachment of the mounting brackets:

● Socket head cap bolt M5 DIN 912-8.8 Length depends on the thickness of the attachment base ● Washer 5.3 DIN 125-ST ● Hexagon nut M5 DIN 934-8

To receive full sets with pre-fitted quickflange please add index QF ▶ For example: Part No. 580.100.12.QF. Unassembled quick flange: Part No. 16800.QF



The bracket orientations are set automatically when using an igus® KMA mounting bracket. To receive KMA pre-fitted please add index **.A**

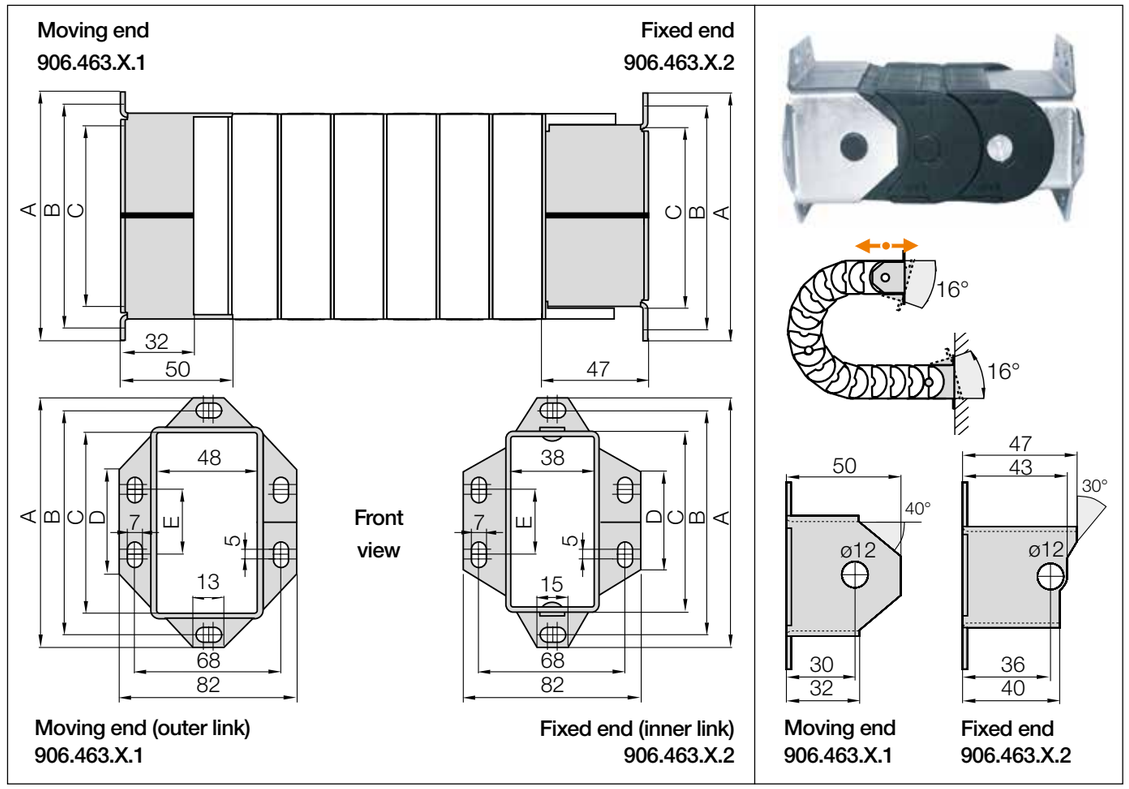
580.100.12.A Order example

.A ... to indicate option with brackets pre-fitted
Full set
Width index
Series

Strain relief e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with ordering options ▶ From page 1300

E2 R e-tubes | Series R58 | Accessories

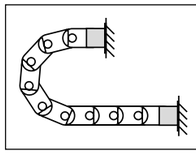
Mounting brackets, steel flange | Pivoting



Steel flange, pivoting | Recommended for unsupported applications

Width index	Hole pattern	Part No. moving end	*Bi* [mm]	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]
050. ▶	**58.05**	**906.463.05.1**	50	90.5	78.5	58.3	24.5	20
075. ▶	**58.1**	**906.463.1.1**	75	116	104	83.3	50	30

Width index	Hole pattern	Part No. fixed end	*Bi* [mm]	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]
050. ▶	**58.05**	**906.463.05.2**	50	90.5	78.5	57.5	28	20
075. ▶	**58.1**	**906.463.1.2**	75	116	104	82.5	45	30

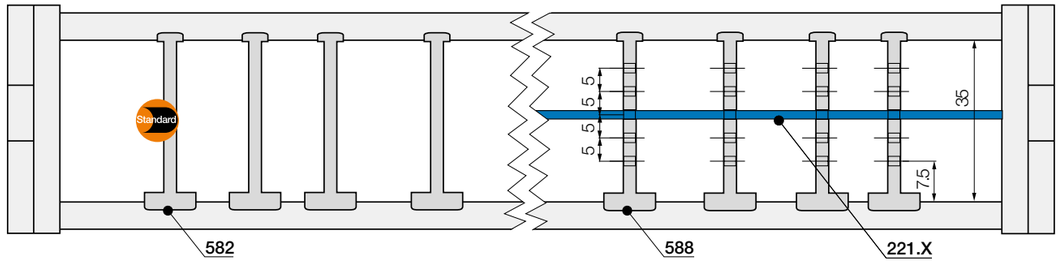


Metallic flange brackets with common hole patterns can easily replace alternatives, without having to alter the hole pattern. Flush attachment possibilities at both ends of the e-tube using flange mounting brackets made of steel.

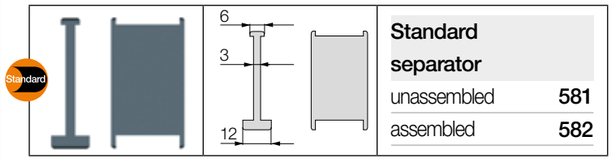
Strain relief e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with ordering options ▶ From page 1300

E2 R e-tubes | Series R58 | Accessories

Interior separation | Option 1 | Option 2



No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-tube link!

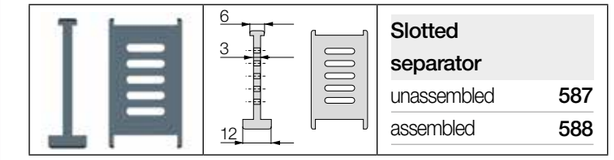


Standard separator	
unassembled	**581**
assembled	**582**

Option 1 | Separators

Standard separator

For simple vertical subdivision. Offers security due to its wide base design, also when used with large cables or hoses.

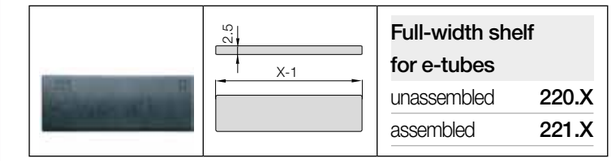


Slotted separator	
unassembled	**587**
assembled	**588**

Option 2 | Full-width shelves

Slotted separator for full-width shelves

Vertical separation in e-tubes. The slot allows basic vertical and horizontal shelving arrangements.



Full-width shelf for e-tubes	
unassembled	**220.X**
assembled	**221.X**

Full-width shelf

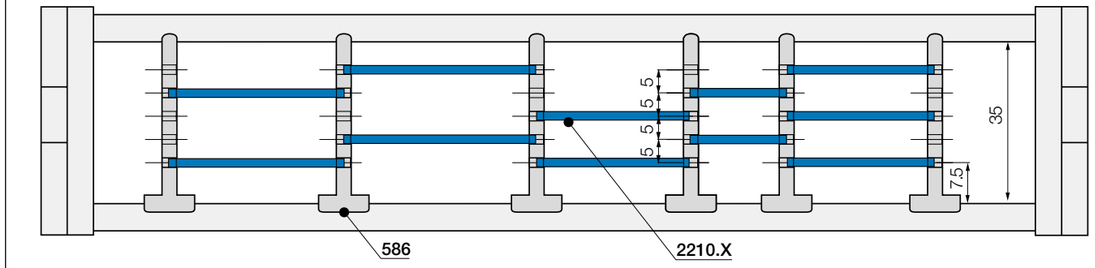
This option is for applications with many small cables with similar diameters. For full-width separation.

Full-width shelves
Width = X [mm]

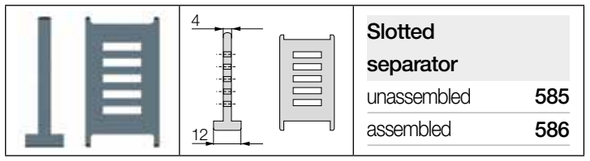
X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
050	**220.50**	**221.50**	125	**220.125**	**221.125**	200	**220.200**	**221.200**
075	**220.75**	**221.75**	150	**220.150**	**221.150**			
100	**220.100**	**221.100**	175	**220.175**	**221.175**			

E2 R e-tubes | Series R58 | Accessories

Interior separation | Option 3



No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-tube link!

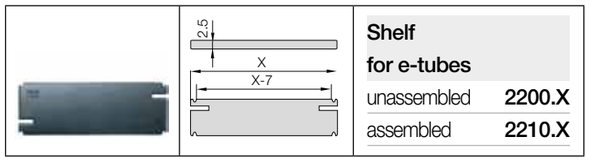


Slotted separator	
unassembled	**585**
assembled	**586**

Option 3 | Partial shelves

Slotted separator for partial shelves

Allows modular shelving arrangements.



Shelf for e-tubes	
unassembled	**2200.X**
assembled	**2210.X**

Shelf

For applications involving many cables with different diameters, shelves can be fitted at different heights.

Shelves
Width = X [mm]

X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
018	**2200.18**	**2210.18**	043	**2200.43**	**2210.43**	088	**2200.88**	**2210.88**
023	**2200.23**	**2210.23**	048	**2200.48**	**2210.48**	099	**2200.99**	**2210.99**
028	**2200.28**	**2210.28**	058	**2200.58**	**2210.58**	124	**2200.124**	**2210.124**
033	**2200.33**	**2210.33**	068	**2200.68**	**2210.68**	149	**2200.149**	**2210.149**
038	**2200.38**	**2210.38**	073	**2200.73**	**2210.73**			

E2 R e-tubes | Series R68 | Product range

45

Protection against dirt and debris, small pitch for smooth motion



e-tubes | Series R68 | Lids removable along the outer radius

Part No.	Bi	Ba	R Available bend radii	R68
e-tubes	[mm]	[mm]	[mm]	[kg/m]
68. 050 .R.0	50	68	| 100 | 125 | 150 | 175 | 200 | 225 | 250 | 300 |	≈ 1.90
68. 075 .R.0	75	93	| 100 | 125 | 150 | 175 | 200 | 225 | 250 | 300 |	≈ 2.18
68. 100 .R.0	100	118	| 100 | 125 | 150 | 175 | 200 | 225 | 250 | 300 |	≈ 2.46
68. 115 .R.0	115	133	| 100 | 125 | 150 | 175 | 200 | 225 | 250 | 300 |	≈ 2.63
68. 125 .R.0	125	143	| 100 | 125 | 150 | 175 | 200 | 225 | 250 | 300 |	≈ 2.77
68. 150 .R.0	150	168	| 100 | 125 | 150 | 175 | 200 | 225 | 250 | 300 |	≈ 3.05
68. 175 .R.0	175	193	| 100 | 125 | 150 | 175 | 200 | 225 | 250 | 300 |	≈ 3.36
68. 200 .R.0	200	218	| 100 | 125 | 150 | 175 | 200 | 225 | 250 | 300 |	≈ 3.64
68. 225 .R.0	225	243	| 100 | 125 | 150 | 175 | 200 | 225 | 250 | 300 |	≈ 3.92
68. 250 .R.0	250	268	| 100 | 125 | 150 | 175 | 200 | 225 | 250 | 300 |	≈ 4.23

Complete Part No. with required radius (*R*). Example: **68.100.100.0**

Hot swarf up to +850°C

- e-tubes to withstand 850°C swarf, as a special option
- No hot swarf melting or embedding into the chain
- igus® igumid HT material

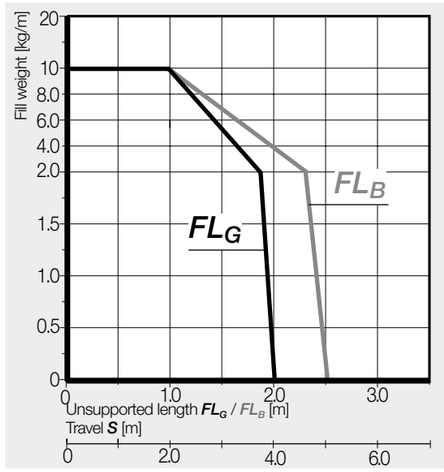
More information ▶ www.igus.eu/HT

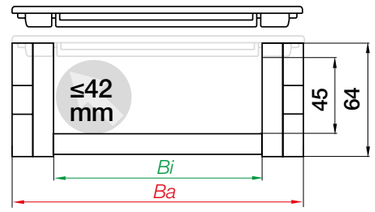


E2 R e-tubes | R68 | Installation dimensions

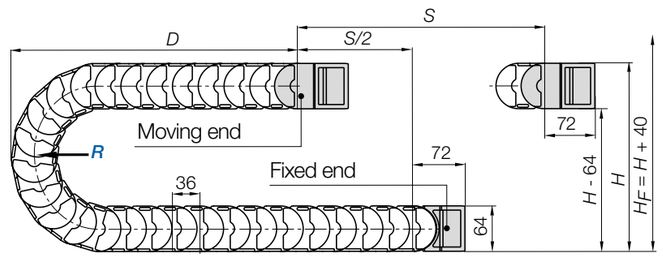
▶ 1300 ▶ 1228

Unsupported applications | Short travels





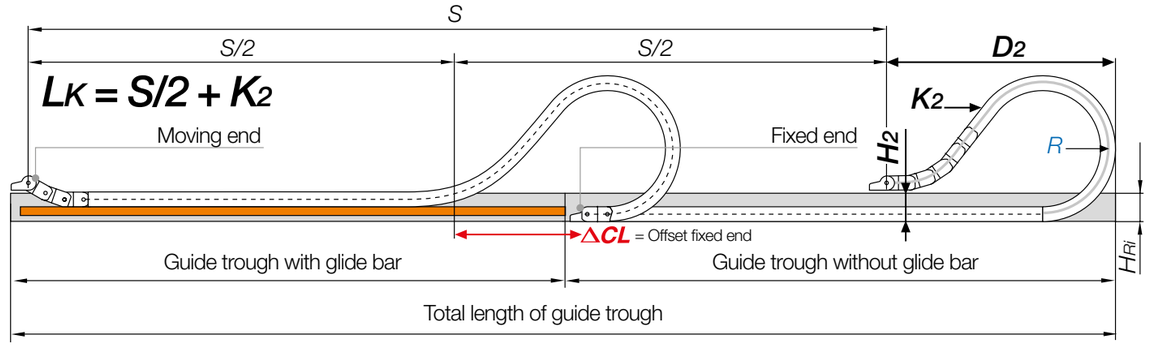
Inner height [mm]	45
Pitch [mm/link]	36
Links/m	28
corresponds to [mm]	1,008
e-tube length	$L_K = S/2 + K$



R	100	125	150	175	200	225	250	300
H	264	314	364	414	464	514	564	664
D	186	211	236	261	286	311	336	386
K	390	465	545	625	705	780	860	1,015

The required clearance height: $H_F = H + 40$mm (with 2.5kg/m fill weight)

Gliding applications | For long travels from 6m to max. 100m



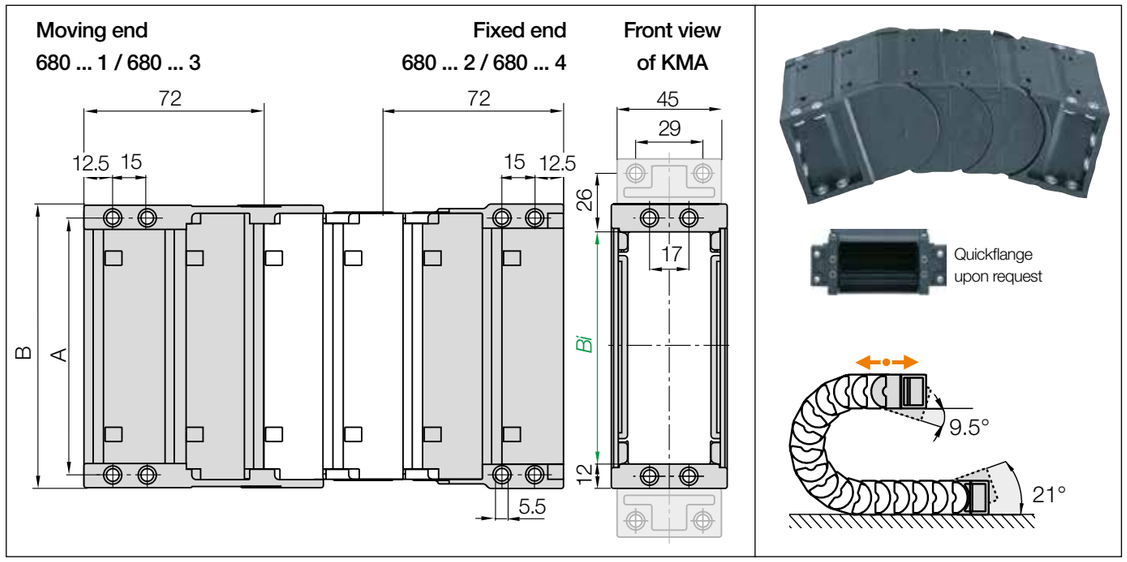
Note: We recommend the project planning of such a system to be carried out by igus®.
In case of travels between 4 and 6m we recommend an e-tube with a longer unsupported length.
If a gliding application is required for a long travel, please consult igus®.

R	100	125	150	175	200	225	250	300
H_2	201	220	220	220	220	220	220	220
D_2	200	370	440	540	650	700	850	1,050
K_2	500	648	792	900	1,116	1,269	1,476	1,800
ΔCL	*	164	204	294	364	439	514	664

*Values upon request

E2 R e-tubes | Series R68 | Accessories

KMA mounting brackets | Attachment from any side | Pivoting | Locking



Standard **KMA pivoting** | Recommended for unsupported applications
KMA locking | Recommended for vertical hanging and standing applications

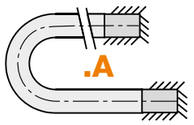
Width index	Standard	Part no. full set **KMA pivoting**	Part No. full set **KMA locking**	A [mm]	B [mm]	*Bi* [mm]
050. ▶		**680.050.12**	**680.050.34**	62	74	50
075. ▶		**680.075.12**	**680.075.34**	87	99	75
100. ▶		**680.100.12**	**680.100.34**	112	124	100
115. ▶		**680.115.12**	**680.115.34**	127	139	115
125. ▶		**680.125.12**	**680.125.34**	137	149	125
150. ▶		**680.150.12**	**680.150.34**	162	174	150
175. ▶		**680.175.12**	**680.175.34**	187	199	175
200. ▶		**680.200.12**	**680.200.34**	212	224	200
225. ▶		**680.225.12**	**680.225.34**	237	249	225
250. ▶		**680.250.12**	**680.250.34**	262	274	250

(KMA = polymer metal mounting bracket)

The following parts are required for attachment of the mounting brackets:

● Socket head cap bolt M5 DIN 912-8.8 Length depends on the thickness of the attachment base ● Washer 5.3 DIN 125-ST ● Hexagon nut M5 DIN 934-8

To receive full sets with pre-fitted quickflange please add index QF ▶ For example: Part No. 680.100.12.QF. Unassembled quick flange: Part No. 16800.QF



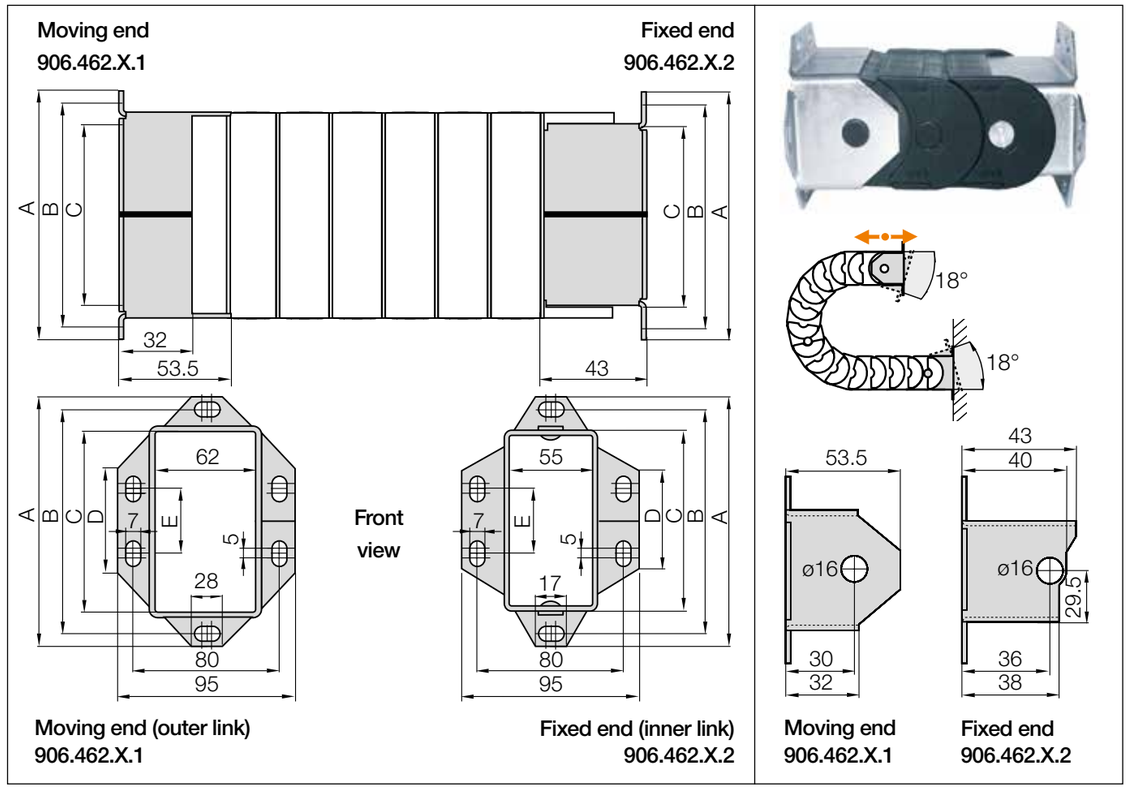
The bracket orientations are set automatically when using an igus® KMA mounting bracket. To receive KMA pre-fitted please add index **.A**

680.100.12.A Order example
.A ... to indicate option with brackets pre-fitted
Full set
Width index
Series

Strain relief e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with ordering options ▶ From page 1300

E2 R e-tubes | Series R68 | Accessories

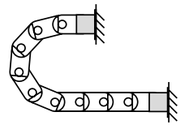
Mounting brackets, steel flange | Pivoting



Steel flange, pivoting | Recommended for unsupported applications

Width index	Hole pattern	Part No. moving end	*Bi* [mm]	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]
075. ▶	**68.1**	**906.462.1.1**	75	116	104	83.3	50	30
115. ▶	**68.2**	**906.462.2.1**	115	156	144	123.3	90	50
175. ▶	**68.3**	**906.462.3.1**	175	216	204	183.3	150	100

Width index	Hole pattern	Part No. fixed end	*Bi* [mm]	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]
075. ▶	**68.1**	**906.462.1.2**	75	116	104	83.4	38	30
115. ▶	**68.2**	**906.462.2.2**	115	156	144	123.4	78	50
175. ▶	**68.3**	**906.462.3.2**	175	216	204	183.4	138	100

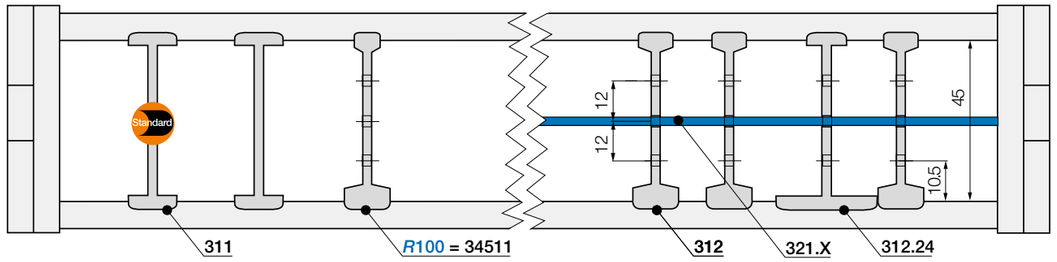


Metallic flange brackets with common hole patterns can easily replace alternatives, without having to alter the hole pattern. Flush attachment possibilities at both ends of the e-tube using flange mounting brackets made of steel.

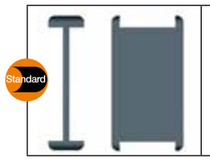
Strain relief e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with ordering options ▶ From page 1300

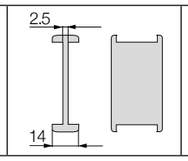
E2 R e-tubes | Series R68 | Accessories

Interior separation | Option 1 | Option 2

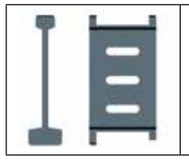


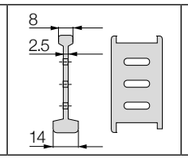
No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-tube link!





Standard separator	
unassembled	**301**
assembled	**311**





Separator for radius *R* 100	
unassembled	**34501**
assembled	**34511**

Option 1 | Separators

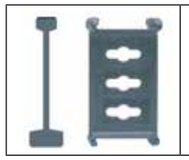
Standard separator

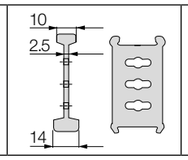
For simple vertical subdivision. Offers security due to its wide base design, also when used with large cables or hoses.

Not suitable for bend radius *R* 100!

Separator for radius *R* 100

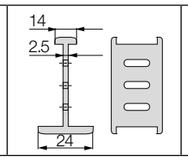
If you select this bend radius please use this separator for a vertical subdivision.





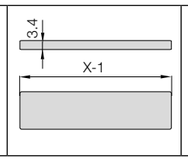
Slotted separator	
unassembled	**302**
assembled	**312**





Standard separator, wide base	
unassembled	**302.24**
assembled	**312.24**





Full-width shelf for e-tubes	
unassembled	**320.X**
assembled	**321.X**

Slotted separator for full-width shelves

Vertical separation in e-tubes. The slot allows basic vertical and horizontal shelving arrangements.

Slotted separator, wide base

If a wide space between the separators has to be kept or separators have to be fixed in their position.

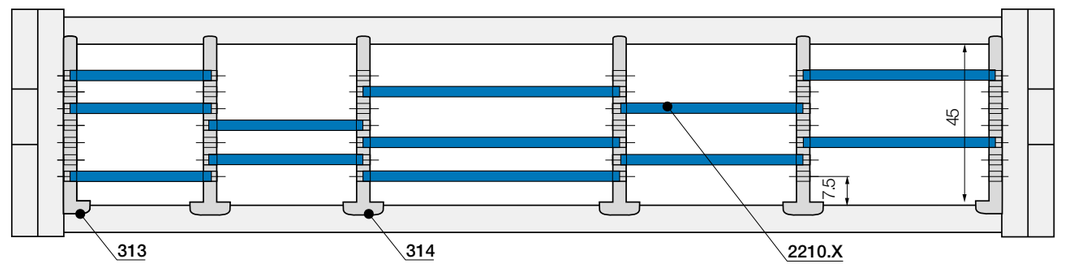
Full-width shelf

This option is for applications with many small cables with similar diameters. For full-width separation.

Full-width shelves
Width = X [mm]

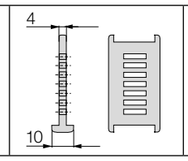
X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
050	**320.050**	**321.050**	150	**320.150**	**321.150**	250	**320.250**	**321.250**
075	**320.075**	**321.075**	175	**320.175**	**321.175**			
115	**320.115**	**321.115**	200	**320.200**	**321.200**			
125	**320.125**	**321.125**	225	**320.225**	**321.225**			

Interior separation | Option 3



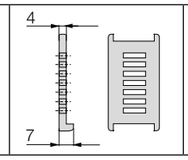
No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-tube link!





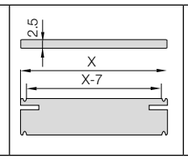
Slotted separator	
unassembled	**304**
assembled	**314**





Slotted side plate	
unassembled	**303**
assembled	**313**





Shelf for e-tubes	
unassembled	**2200.X**
assembled	**2210.X**

Option 3 | Partial shelves

Slotted separator for partial shelves

Allows modular shelving arrangements.

Slotted side plate

Allows modular shelving right up to the side links. No clearance required!

Shelf

For applications involving many cables with different diameters, shelves can be fitted at different heights.

Shelves
Width = X [mm]

X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
018	**2200.18**	**2210.18**	043	**2200.43**	**2210.43**	088	**2200.88**	**2210.88**
023	**2200.23**	**2210.23**	048	**2200.48**	**2210.48**	099	**2200.99**	**2210.99**
028	**2200.28**	**2210.28**	058	**2200.58**	**2210.58**	124	**2200.124**	**2210.124**
033	**2200.33**	**2210.33**	068	**2200.68**	**2210.68**	149	**2200.149**	**2210.149**
038	**2200.38**	**2210.38**	073	**2200.73**	**2210.73**			

R2.1

Cost-effective swarf protection

Advantages of the R2.1 system:

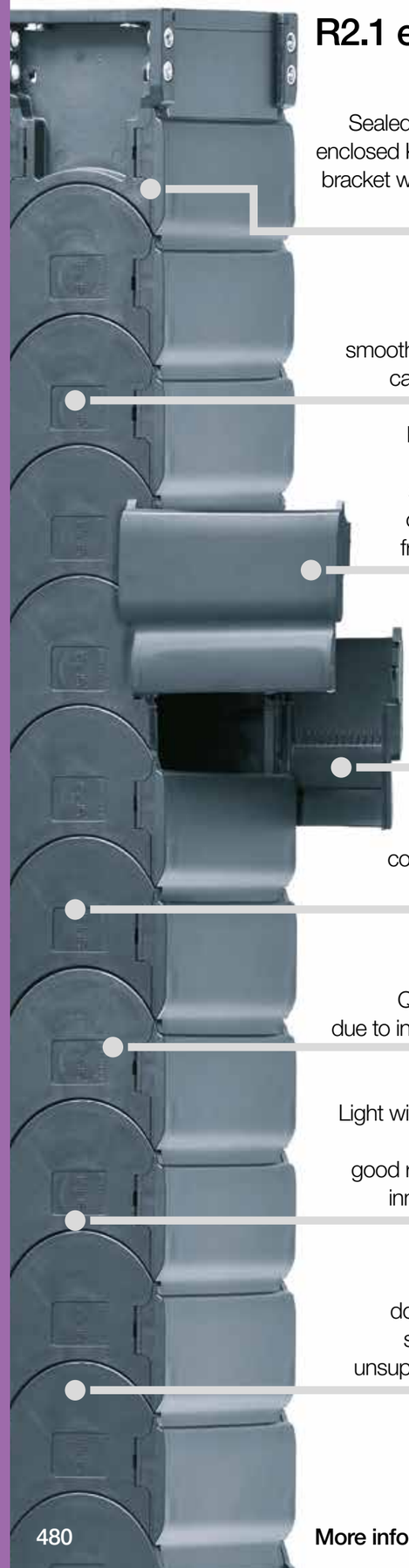
- Very light, ideal for high dynamics
- Large inner height and therefore cost-effective
- Cables are protected from swarf
- Easy to fill, lids openable along the inner or outer radius, from both sides
- Low noise operation due to integrated brake
- Notch separator, recommended for side-mounted applications

When to use another e-tube:

- Extremely swarf-resistant according to IP40
  ▶ **RX e-tubes, page 502**
- For higher fill weights and unsupported lengths
  ▶ **R4.1L e-tubes, page 524**

reddot design award
winner 2018





Cost-effective swarf protection - R2.1 e-tubes

Cost-effective, strong e-tubes with 26, 40, 48 and 75mm inner height. Openable and removable lids along inner or outer radius, openable from both sides. Very sealed design and strong double stop-dogs for high fill weights and unsupported lengths.

- Large inner height and therefore cost-effective
- Cables are protected from swarf
- Easy to fill, lids openable along the inner or outer radius, from both sides
- Low noise operation due to integrated brake
- Notch separator, recommended for side-mounted applications

Typical industries and applications

● Machine tools ● Wood processing machines ● Textile machines ● General mechanical engineering ● In all areas with dirt and swarf

e-tubes with igumid HT-Material for hot swarf up to +850°C available upon request

Electrically conductive ESD e-tubes upon request

UL94-V0 classifications upon request

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Series	Inner height *hi* [mm]	Inner width *Bi* [mm]	Outer width *Ba* [mm]	Outer height *ha* [mm]	Bend radius *R* [mm]	Unsupported length ≤ [m]	Page
							
R2i.1 e-tubes - lids openable along the inner radius, from both sides							
R2i.26	26	50 - 75	66 - 91	36	060 - 250	2.00	**486**
R2i.40	40	50 - 75	66.2 - 91.2	54	080 - 250	2.75	**490**
R2i.48 New	48	115	135	64	100 - 250	2.75	**494**
							
R2.1 e-tubes - lids openable along the outer radius, from both sides							
R2.26	26	50	66	36	060 - 250	2.00	**486**
R2.40	40	75	91.2	54	080 - 250	2.75	**490**
R2.48 New	48	115	135	64	100 - 250	2.75	**494**
R2.75	75	111 - 200	135 - 224	90	130 - 250	3.00	**498**

Available from stock. Ready to ship in 24 - 48hrs.*

*The delivery times indicated correspond to the average time until the ordered goods are dispatched.



Ideal for areas with swarf - R2.1 e-tubes are extremely tightly sealed



R2.1 e-tubes - lids with integrated separator notches openable along the inner and outer radius, either both sides



Pivoting and locking KMA mounting brackets for strong connection of the e-tube to the machine



Ideal for areas with swarf - R2.1 e-tubes are extremely tightly sealed



Special brake in the stop-dogs reduces noise level by up to 3dB(A)

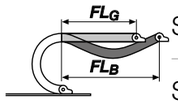


Aluminium support tray for support of the lower run available upon request



Lean separators enable extremely fast cable filling in several layers

Technical data



Speed gliding[1] / acceleration gliding[1]	upon request
Speed FL_G / acceleration FL_G	≤ 10 [m/s] / ≤ 100 [m/s²]
Speed FL_B / acceleration FL_B	≤ 3 [m/s] / ≤ 6 [m/s²]
Material - permitted temperature °C, igumid G	-40°C / +120°C
Flammability class, igumid G	VDE 0304 IIC UL94-HB

FL_G = unsupported with straight upper run FL_B = unsupported with permitted sag

1) Gliding applications for long travels are available upon request, please consult igus®.

Installation types, maximum travels

Series	Unsupported	Vertical hanging	Vertical standing	Side mounted unsupported
R2.26 / R2i.26	≤ 4.0m	≤ 30m	≤ 2.0m	≤ 0.7m
R2.40 / R2i.40	≤ 5.5m	≤ 40m	≤ 3.0m	≤ 1.0m
R2.48 / R2i.48	≤ 5.5m	≤ 50m	≤ 3.0m	≤ 1.0m
R2.75	≤ 6.0m	≤ 50m	≤ 5.0m	≤ 2.0m

Options with order keys | Examples based on series R2.75

	Standard	*NC version - (No Camber) without pretension*	*No burning-in of hot swarf up to +850°C (+1562° F)*	*ESD - electrically conductive material*
	Part No. Standard	**Part No. NC version**	**Part No. igumid HT**	**Part No. igumid ESD**
	R2.75.111.*R*.0	R2.75.111.*R*.0.NC	R2.75.111.*R*.0.HT	R2.75.111.*R*.0.ESD
	Ready to ship* in 24 - 48hrs.	Delivery time* 2-5 business days	Delivery time* 7-10 business days	Delivery time* 10 business days

*The delivery times indicated correspond to the average time until the ordered goods are dispatched.

Order example | Order key and colour examples | Examples based on series R2.75

Order example for complete e-tube (1.0m), colour black, with mounting brackets and interior separation:

e-tube (1.0m)	Please indicate e-tube length or number of links: 1.0m or 17 links	R2.75.111.130.0
+ Mounting brackets	KMA - 1 set	R2.750.111.12
Interior separation	with 2 separators assembled every 2nd link	2 x 75.1.1
Order text:	**1 m R2.75.111.130.0 + R2.750.111.12 + 2 x 75.1.1**	

Order key

Openable along the outer radius, from both sides

R2.75.111.130.0

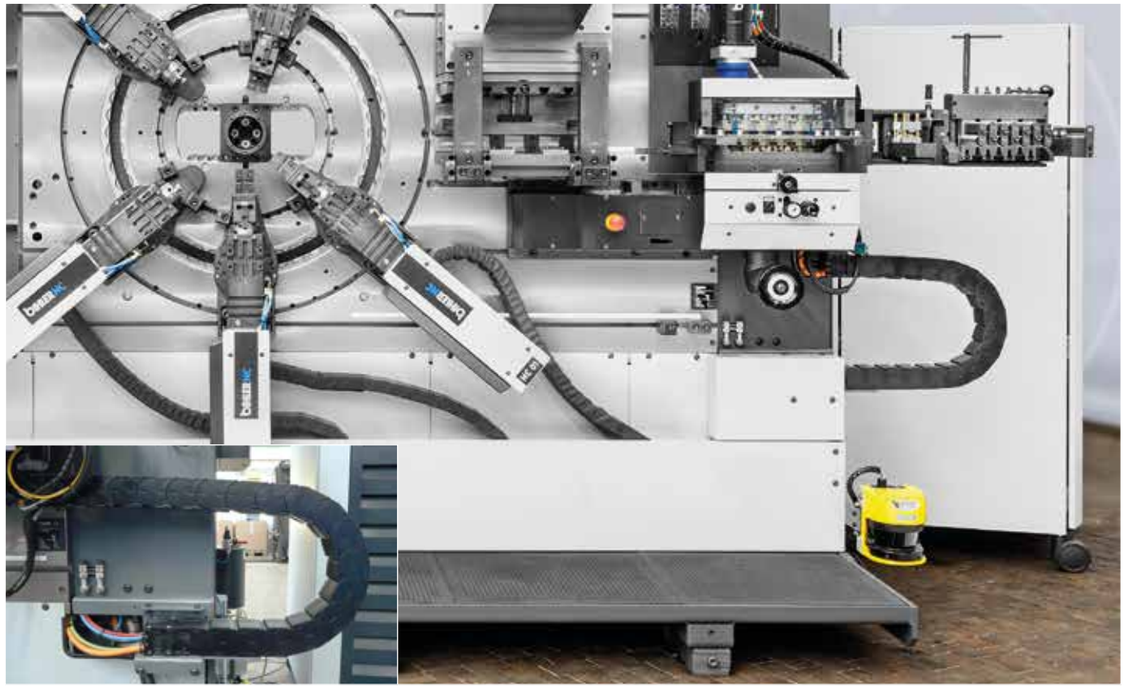
- Series / Type
- Inner height
- Width index (depends on *Bi*)
- Bend radius *R*
- Colour index (standard black)

Order index for colour options

Colour	Order index		Colour	Order index	
Black	Standard	**.0**	Orange	Special colour	.2
Silver-grey	Special colour	.31	Yellow	Special colour	.4
White	Special colour	.1	Light grey	Special colour	.14
Grey-white	Special colour	.1S			

Black e-tubes available from stock.

Above special colours upon request.

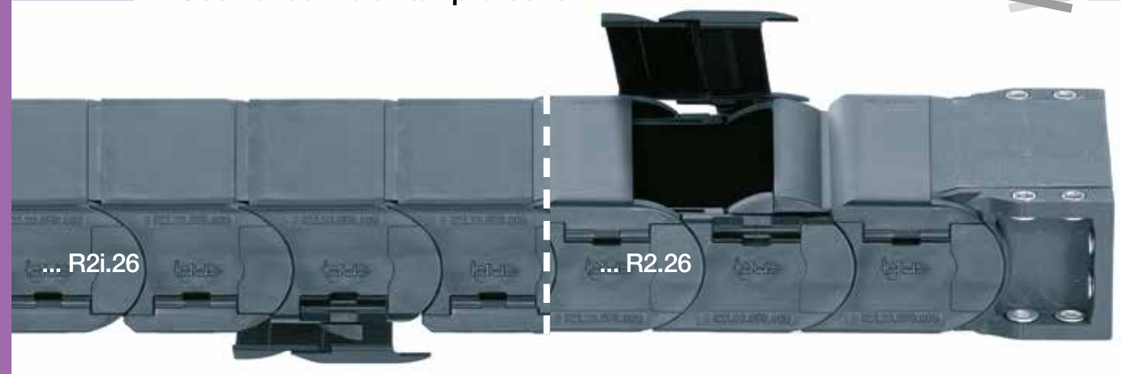


igus® R2.1 e-tube in operation in a fast stamping and bending machine to guide servo and encoder cables

R2.1 e-tubes | Series R2i.26·R2.26 | Product range

26 26

Cost-effective swarf protection



e-tubes | Series R2i.26 | Lids openable along the inner radius, from both sides
e-tubes | Series R2.26 | Lids openable along the outer radius, from both sides

Part No. e-tubes openable along the inner radius	Part No. e-tubes openable along the outer radius	*Bi* [mm]	*Ba* [mm]	*R* Available bend radii [mm]	R2i.26 [kg/m]	R2.26 [kg/m]
R2i.26.025.*R*.0**	R2.26.025.*R*.0**	25	41	060 | 075 | 100 | 125 | 150 | 175 | 200 | 250	≈ 0.870	≈ 0.870
R2i.26.038.*R*.0**	R2.26.038.*R*.0**	38	54	060 | 075 | 100 | 125 | 150 | 175 | 200 | 250	≈ 0.957	≈ 0.957
R2i.26.050.*R*.0	R2.26.050.*R*.0	50	66	060 | 075 | 100 | 125 | 150 | 175 | 200 | 250	≈ 1.044	≈ 1.044
R2i.26.075.*R*.0	R2.26.075.*R*.0**	75	91	060 | 075 | 100 | 125 | 150 | 175 | 200 | 250	≈ 1.218	≈ 1.218
R2i.26.100.*R*.0**	R2.26.100.*R*.0**	100	116	060 | 075 | 100 | 125 | 150 | 175 | 200 | 250	≈ 1.392	≈ 1.392
R2i.26.130.*R*.0**	R2.26.130.*R*.0**	130	146	060 | 075 | 100 | 125 | 150 | 175 | 200 | 250	≈ 1.600	≈ 1.600

**Width available upon request. Please consult igus® for delivery time.

Complete Part No. with required radius (*R*). Example: **R2i.26.050.060.0**

Hot swarf up to +850°C

- e-tubes to withstand 850°C swarf, as a special option
- No hot swarf melting or embedding into the chain
- igus® igumid HT material

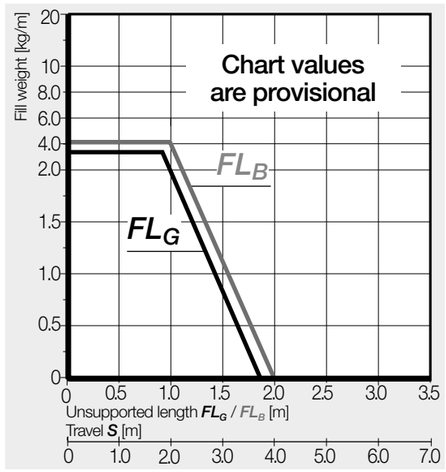
More information ▶ www.igus.eu/HT

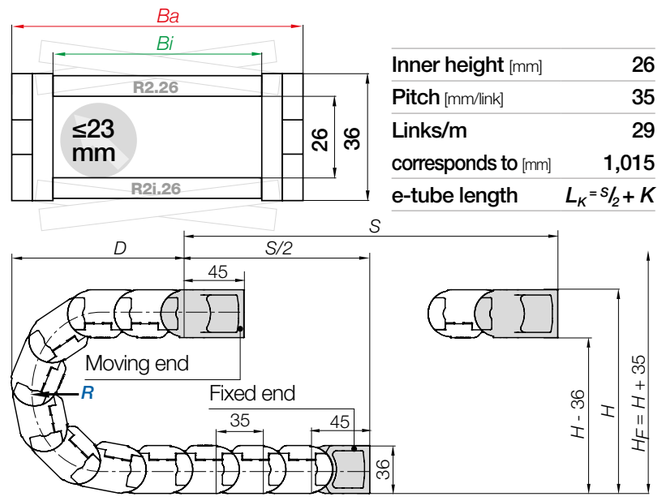


R2.1 | R2i.26·R2.26 | Installation dimensions

▶ 1300 ▶ upon request

Unsupported applications | Short travels





Inner height [mm]	26
Pitch [mm/link]	35
Links/m	29
corresponds to [mm]	1,015
e-tube length	$L_K = S/2 + K$

R	060	075	100	125	150	175	200	250
H	156	186	236	286	336	386	436	536
D	130.5	145.5	170.5	195.5	220.5	245.5	270	320.5
K	260	310	385	465	545	620	700	860

The required clearance height: $H_F = H + 35$mm (with 1.5kg/m fill weight)

If a gliding application is required for a long travel, please consult igus®.

Aluminium support tray

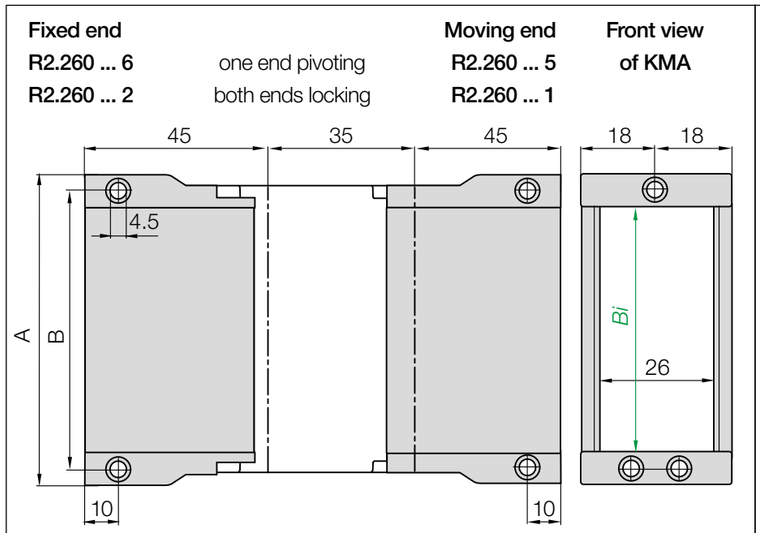
- Corrosion-resistant and seawater-resistant aluminium rails with adjustable width
- Noise-reducing glide strip integrated as standard
- Easy installation and connection of the e-tube
- Open design - dirt and debris fall through

Available upon request. Please consult igus® for delivery time.

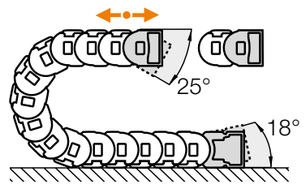


R2.1 e-tubes | Series R2i.26·R2.26 | Accessories

KMA mounting brackets | Attachment from any side | Pivoting | Locking



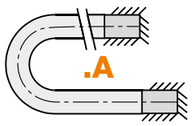




Standard **KMA, pivoting** | Recommended for unsupported applications
KMA, locking | Recommended for vertical hanging and standing applications

Width index	Standard	Part No. full set **KMA** one end pivoting	Part No. full set **KMA** both ends locking	A [mm]	B [mm]	*Bi* [mm]
025. ▶		**R2.260.025.56**	**R2.260.025.12**	34.5	43	25
038. ▶		**R2.260.038.56**	**R2.260.038.12**	47.5	56	38
050. ▶		**R2.260.050.56**	**R2.260.050.12**	59.5	68	50
075. ▶		**R2.260.075.56**	**R2.260.075.12**	84.5	93	75
100. ▶		**R2.260.100.56**	**R2.260.100.12**	109.5	118	100
130. ▶		**R2.260.130.56**	**R2.260.130.12**	139.5	148	130

(KMA = polymer metal mounting bracket)



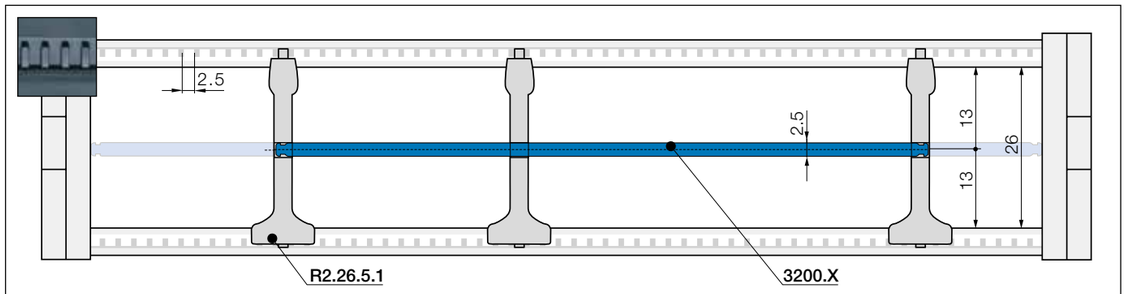
The bracket orientations are set automatically when using an igus® KMA mounting bracket. To receive KMA pre-fitted please add index **.A**

R2.260.050.12.A Order example
.A ... to indicate option with brackets pre-fitted
Full set
Width index
Series

Strain relief e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with ordering options ▶ From page 1300

R2.1 e-tubes | Series R2i.26·R2.26 | Accessories

Interior separation | Increase cable service life



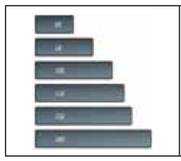
No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-tube link!



Notch separator for notched crossbar	
unassembled	**R2.26.5**
assembled	**R2.26.5.1**

Locks securely in preset increments

Notch separator for exact positioning in e-chains®. Recommended for side-mounted applications.

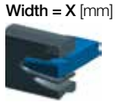


Shelf, lockable	
unassembled	**3200.X**
assembled	**3210.X**

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Shelves
Width = X [mm]



X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
050	**3200.050**	**3210.050**	115	**3200.115**	**3210.115**	175	**3200.175**	**3210.175**
075	**3200.075**	**3210.075**	125	**3200.125**	**3210.125**	200	**3200.200**	**3210.200**
100	**3200.100**	**3210.100**	150	**3200.150**	**3210.150**			

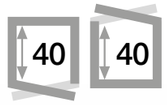
Separator with integrated strain relief teeth

- Can be integrated into the mounting bracket or placed at any point in the e-tube
- Combines strain relief and interior separation, for restricted space conditions
- Strain relief separator is easy to assemble without any screws

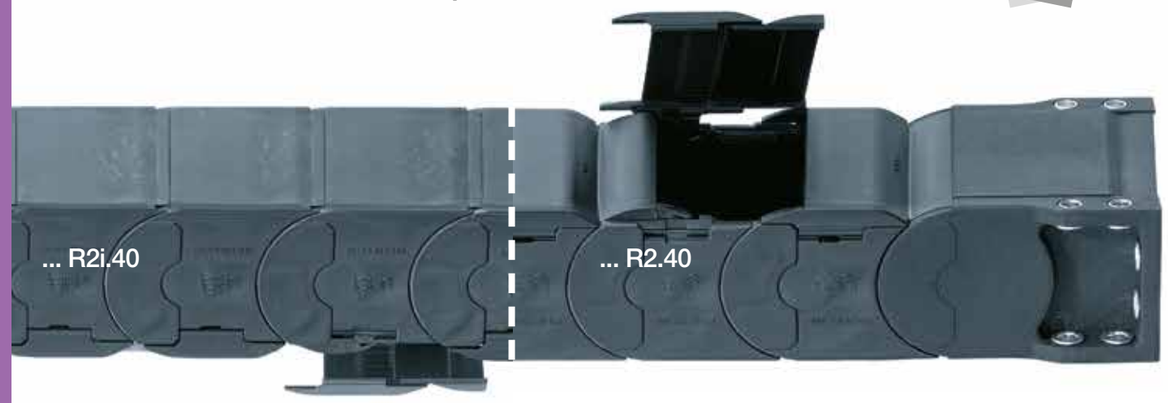
Part No. R2.26.Z. More information ▶ From page 1326



R2.1 e-tubes | Series R2i.40·R2.40 | Product range



Cost-effective swarf protection



e-tubes | Series R2i.40 | Lids openable along the inner radius, from both sides
e-tubes | Series R2.40 | Lids openable along the outer radius, from both sides

Part No. e-tubes openable along the inner radius	Part No. e-tubes openable along the outer radius	*Bi* [mm]	*Ba* [mm]	*R* Available bend radii [mm]	R2i.40 [kg/m]	R2.40 [kg/m]
R2i.40.050.*R*.0	R2.40.050.*R*.0**	50	66.2	| 080 | 100 | 125 | 150 | 175 | 200 | 250 |	≈ 1.25	≈ 1.25
R2i.40.075.*R*.0	R2.40.075.*R*.0	75	91.2	| 080 | 100 | 125 | 150 | 175 | 200 | 250 |	≈ 1.50	≈ 1.50
R2i.40.100.*R*.0**	R2.40.100.*R*.0**	100	116.2	| 080 | 100 | 125 | 150 | 175 | 200 | 250 |	≈ 1.75	≈ 1.75
R2i.40.125.*R*.0**	R2.40.125.*R*.0**	125	141.2	| 080 | 100 | 125 | 150 | 175 | 200 | 250 |	≈ 2.00	≈ 2.00
R2i.40.150.*R*.0**	R2.40.150.*R*.0**	150	166.2	| 080 | 100 | 125 | 150 | 175 | 200 | 250 |	≈ 2.25	≈ 2.25
R2i.40.175.*R*.0**	R2.40.175.*R*.0**	175	191.2	| 080 | 100 | 125 | 150 | 175 | 200 | 250 |	≈ 2.50	≈ 2.50
R2i.40.200.*R*.0**	R2.40.200.*R*.0**	200	216.2	| 080 | 100 | 125 | 150 | 175 | 200 | 250 |	≈ 2.75	≈ 2.75

**Width available upon request. Please consult igus® for delivery time.

Complete Part No. with required radius (*R*). Example: **R2i.40.075.080.0**

Hot swarf up to +850°C

- e-tubes to withstand 850°C swarf, as a special option
- No hot swarf melting or embedding into the chain
- igus® igumid HT material

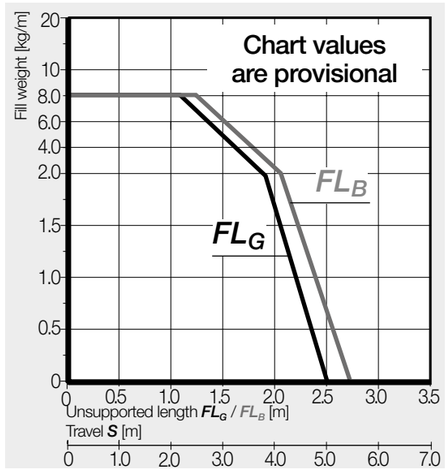
More information ▶ www.igus.eu/HT

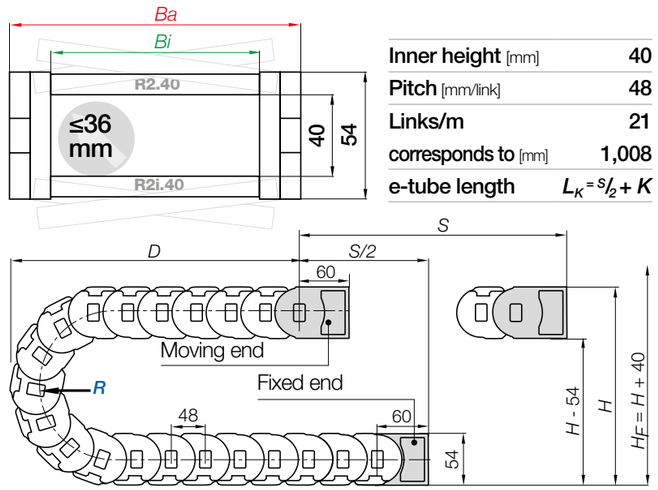


R2.1 | R2i.40·R2.40 | Installation dimensions

▶ 1326
▶ upon request

Unsupported applications | Short travels





Inner height [mm]	40
Pitch [mm/link]	48
Links/m	21
corresponds to [mm]	1,008
e-tube length	$L_K = S/2 + K$

R	080	100	125	150	175	200	250
H	214	254	304	354	404	454	554
D	179	199	224	249	274	299	349
K	350	415	490	570	650	725	885

The required clearance height: $H_F = H + 40$mm (with 2.0kg/m fill weight)

If a gliding application is required for a long travel, please consult igus®.

Aluminium support tray

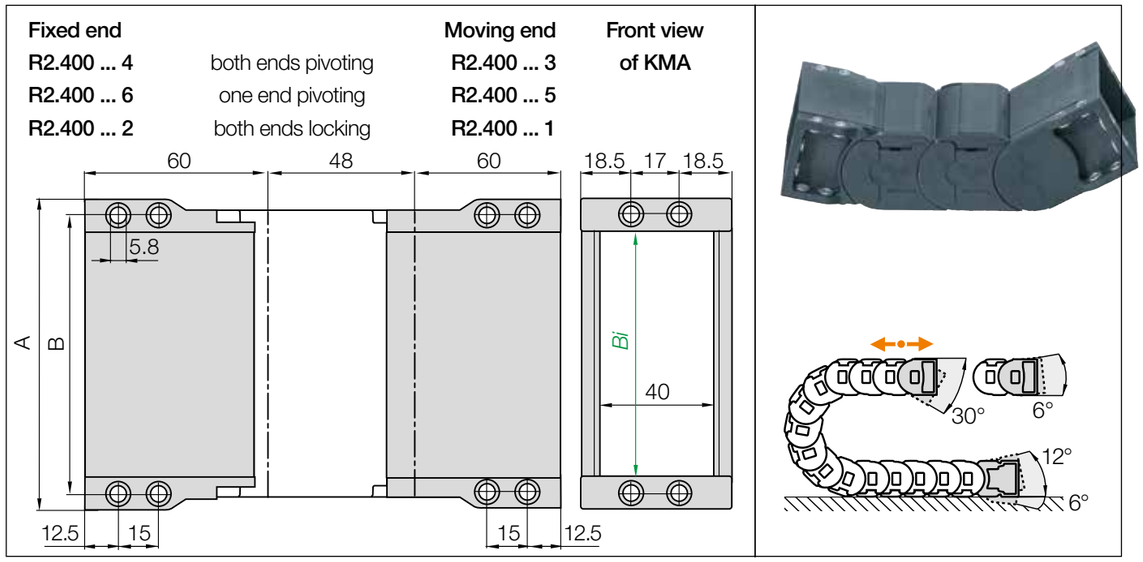
- Corrosion-resistant and seawater-resistant aluminium rails with adjustable width
- Noise-reducing glide strip integrated as standard
- Easy installation and connection of the e-tube
- Open design - dirt and debris fall through

Available upon request. Please consult igus® for delivery time.



R2.1 e-tubes | Series R2i.40·R2.40 | Accessories

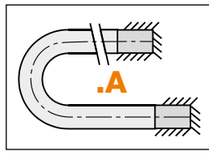
KMA mounting brackets | Attachment from any side | Pivoting | Locking



Standard **KMA, pivoting** | Recommended for unsupported applications
KMA, locking | Recommended for vertical hanging and standing applications

Width index	Standard	Part No. full set **KMA** both ends pivoting	Part No. full set **KMA** one end pivoting	Part No. full set **KMA** both ends locking	A [mm]	B [mm]	*Bi* [mm]
50. ▶		R2.400.050.34	R2.400.050.56	R2.400.050.12	74	62	50
75. ▶		R2.400.075.34	R2.400.075.56	R2.400.075.12	99	87	75
100. ▶		R2.400.100.34	R2.400.100.56	R2.400.100.12	124	112	100
125. ▶		R2.400.125.34	R2.400.125.56	R2.400.125.12	149	137	125
150. ▶		R2.400.150.34	R2.400.150.56	R2.400.150.12	174	162	150
175. ▶		R2.400.175.34	R2.400.175.56	R2.400.175.12	199	187	175
200. ▶		R2.400.200.34	R2.400.200.56	R2.400.200.12	224	212	200

(KMA = polymer metal mounting bracket)



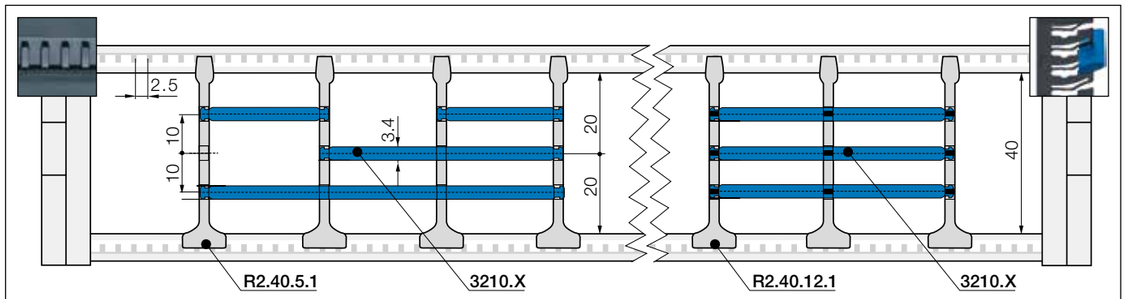
The bracket orientations are set automatically when using an igus® KMA mounting bracket. To receive KMA pre-fitted please add index **.A**

R2.400.075.56.A Order example
.A ... to indicate option with brackets pre-fitted
Full set
Width index
Series

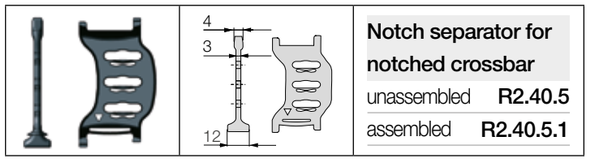
Strain relief e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with ordering options ▶ From page 1300

R2.1 e-tubes | Series R2i.40·R2.40 | Accessories

Interior separation | Increase cable service life



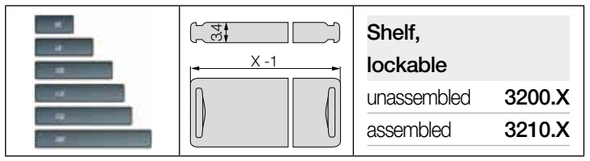
No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-tube link!



Notch separator for notched crossbar
unassembled **R2.40.5**
assembled **R2.40.5.1**

Locks securely in preset increments

Notch separator for exact positioning in e-chains®. Recommended for side-mounted applications.

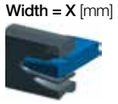


Shelf, lockable
unassembled **3200.X**
assembled **3210.X**

Horizontal separation

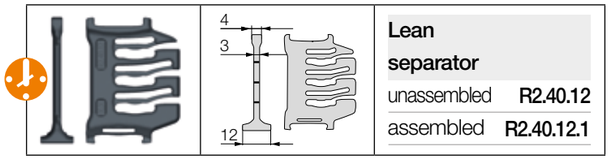
Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Shelves
Width = X [mm]



X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
050	**3200.050**	**3210.050**	115	**3200.115**	**3210.115**	175	**3200.175**	**3210.175**
075	**3200.075**	**3210.075**	125	**3200.125**	**3210.125**	200	**3200.200**	**3210.200**
100	**3200.100**	**3210.100**	150	**3200.150**	**3210.150**			

Interior separation | To allow faster filling New



Lean separator
unassembled **R2.40.12**
assembled **R2.40.12.1**

Lean separators

New design allows extremely fast fitting of shelves in several layers, which significantly reduces assembly time. Enables extremely fast replacement of individual cables in a very full e-tubes.

Lean separator design - several layers of cables fitted quickly, save up to 50%* assembly time
(*Lean separator vs. standard separator - measured on a 4m long e-chain® fitted with 12 cables in the igus® readychain® factory)



Separator with integrated strain relief teeth

- Can be integrated into the mounting bracket or placed at any point in the e-tube
- Combines strain relief and interior separation, for restricted space conditions
- Strain relief separator is easy to assemble without any screws

Part No. R2.40.Z. More information ▶ From page 490



R2.1 e-tubes | Series R2i.48·R2.48 | Product range

48 48

Cost-effective swarf protection New



e-tubes | Series R2i.48 | Lids openable along the inner radius, from both sides
e-tubes | Series R2.48 | Lids openable along the outer radius, from both sides

Part No. e-tubes openable along the inner radius	Part No. e-tubes openable along the outer radius	*Bi* [mm]	*Ba* [mm]	*R* Available bend radii [mm]	R2i.48 [kg/m]	R2.48 [kg/m]
R2i.48.050.*R*.0**	R2.48.050.*R*.0**	50	70	100 | 125 | 150 | 175 | 200 | 225 | 250	≈ 1.92	≈ 1.92
R2i.48.075.*R*.0**	R2.48.075.*R*.0**	75	95	100 | 125 | 150 | 175 | 200 | 225 | 250	≈ 2.23	≈ 2.23
R2i.48.100.*R*.0**	R2.48.100.*R*.0**	100	120	100 | 125 | 150 | 175 | 200 | 225 | 250	≈ 2.55	≈ 2.55
R2i.48.115.*R*.0	**R2.48.115.*R*.0**	115	135	100 | 125 | 150 | 175 | 200 | 225 | 250	≈ 2.74	≈ 2.74
R2i.48.125.*R*.0**	R2.48.125.*R*.0**	125	145	100 | 125 | 150 | 175 | 200 | 225 | 250	≈ 2.86	≈ 2.86
R2i.48.150.*R*.0**	R2.48.150.*R*.0**	150	170	100 | 125 | 150 | 175 | 200 | 225 | 250	≈ 3.18	≈ 3.18
R2i.48.175.*R*.0**	R2.48.175.*R*.0**	175	195	100 | 125 | 150 | 175 | 200 | 225 | 250	≈ 3.49	≈ 3.49
R2i.48.200.*R*.0**	R2.48.200.*R*.0**	200	220	100 | 125 | 150 | 175 | 200 | 225 | 250	≈ 3.81	≈ 3.81
R2i.48.225.*R*.0**	R2.48.225.*R*.0**	225	245	100 | 125 | 150 | 175 | 200 | 225 | 250	≈ 4.05	≈ 4.05
R2i.48.250.*R*.0**	R2.48.250.*R*.0**	250	270	100 | 125 | 150 | 175 | 200 | 225 | 250	≈ 4.44	≈ 4.44

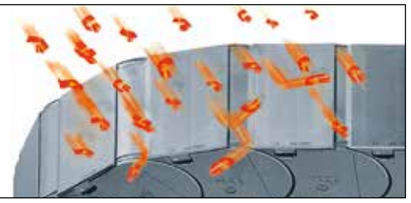
**Width available upon request. Please consult igus® for delivery time.

Complete Part No. with required radius (*R*). Example: **R2i.48.115.100.0**

Hot swarf up to +850°C

- e-tubes to withstand 850°C swarf, as a special option
- No hot swarf melting or embedding into the chain
- igus® igumid HT material

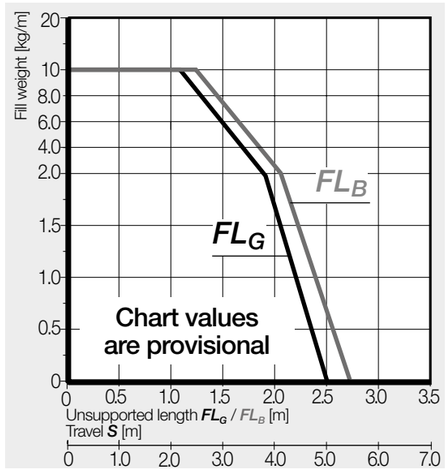
More information ▶ www.igus.eu/HT

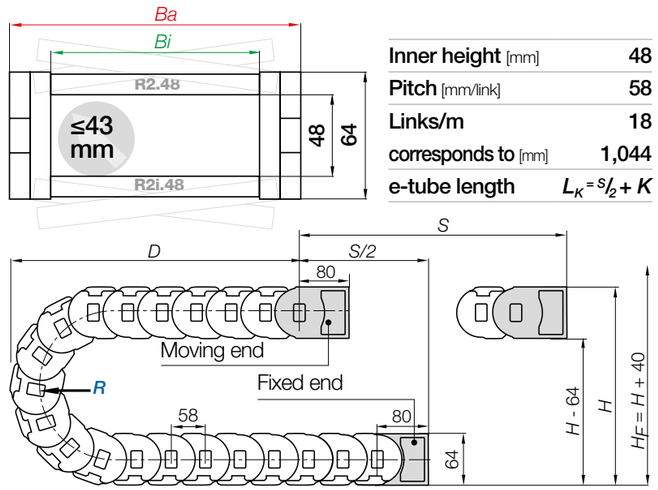


R2.1 | R2i.48·R2.48 | Installation dimensions

Unsupported applications | Short travels

▶ 1300 ▶ upon request





	Inner height [mm]	48					
	Pitch [mm/link]	58					
	Links/m	18					
	corresponds to [mm]	1,044					
	e-tube length	$L_K = S/2 + K$					

R	100	125	150	175	200	225	250
H	264	314	364	414	464	514	564
D	219	244	269	294	319	344	369
K	435	510	590	670	745	825	905

The required clearance height: $H_F = H + 40$mm (with 2.0kg/m fill weight)

If a gliding application is required for a long travel, please consult igus®.

Aluminium support tray

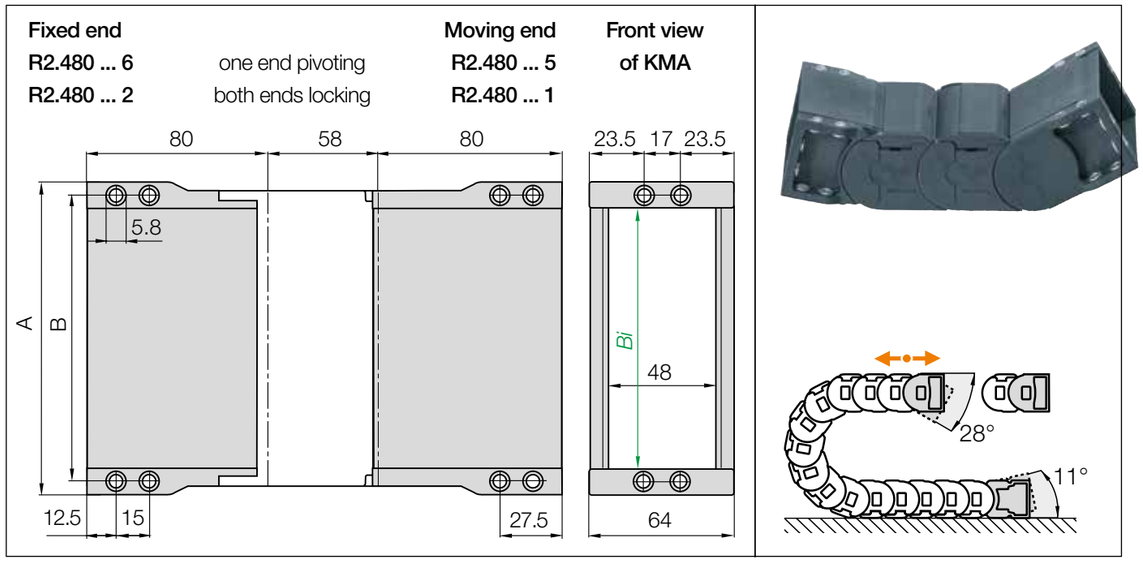
- Corrosion-resistant and seawater-resistant aluminium rails with adjustable width
- Noise-reducing glide strip integrated as standard
- Easy installation and connection of the e-tube
- Open design - dirt and debris fall through

Available upon request. Please consult igus® for delivery time.



R2.1 e-tubes | Series R2i.48·R2.48 | Accessories

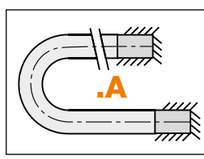
KMA mounting brackets | Attachment from any side | Pivoting | Locking



Standard **KMA, pivoting** | Recommended for unsupported applications
KMA, locking | Recommended for vertical hanging and standing applications

Width index	Standard	Part No. full set KMA one end pivoting	Part No. full set KMA both ends locking	A [mm]	B [mm]	Bi [mm]
050. ▶		R2.480.050.56	R2.480.050.12	74	62	50
075. ▶		R2.480.075.56	R2.480.075.12	99	87	75
100. ▶		R2.480.100.56	R2.480.100.12	124	112	100
115. ▶		R2.480.115.56	R2.480.115.12	139	127	115
125. ▶		R2.480.125.56	R2.480.125.12	149	137	125
150. ▶		R2.480.150.56	R2.480.150.12	174	162	150
175. ▶		R2.480.175.56	R2.480.175.12	199	187	175
200. ▶		R2.480.200.56	R2.480.200.12	224	212	200
225. ▶		R2.480.225.56	R2.480.225.12	249	237	225
250. ▶		R2.480.250.56	R2.480.250.12	274	262	250

(KMA = polymer metal mounting bracket) *Width available upon request. Please consult igus® for delivery time.



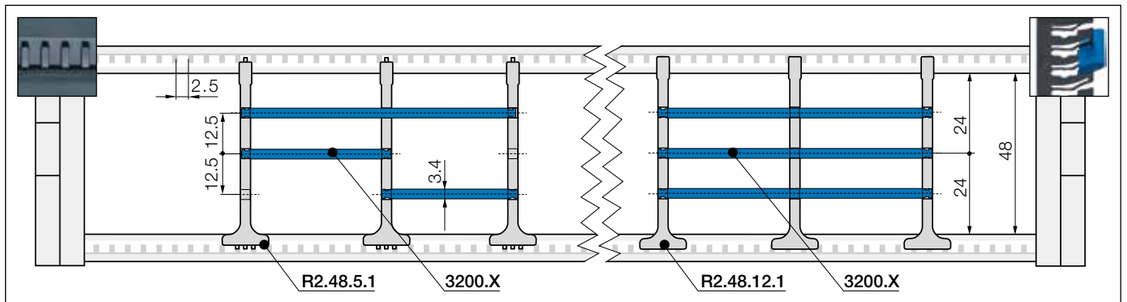
The bracket orientations are set automatically when using an igus® KMA mounting bracket. To receive KMA pre-fitted please add index **.A**

R2.480.115.56.A Order example
.A ... to indicate option with brackets pre-fitted
Full set
Width index
Series

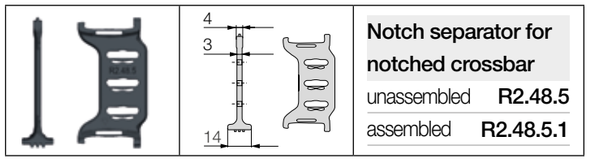
Strain relief e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with ordering options ▶ From page 1300

R2.1 e-tubes | Series R2i.48·R2.48 | Accessories

Interior separation | Increase cable service life



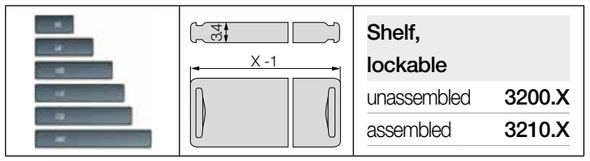
No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-tube link!



Notch separator for notched crossbar
unassembled **R2.48.5**
assembled **R2.48.5.1**

Locks securely in preset increments

Notch separator for exact positioning in e-chains®. Recommended for side-mounted applications.



Shelf, lockable
unassembled **3200.X**
assembled **3210.X**

Horizontal separation

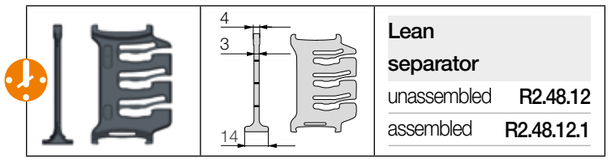
Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Shelves
Width = X [mm]



X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
050	**3200.050**	**3210.050**	125	**3200.125**	**3210.125**	225	**3200.225**	**3210.225**
075	**3200.075**	**3210.075**	150	**3200.150**	**3210.150**	250	**3200.250**	**3210.250**
100	**3200.100**	**3210.100**	175	**3200.175**	**3210.175**			
115	**3200.115**	**3210.115**	200	**3200.200**	**3210.200**			

Interior separation | To allow faster filling New



Lean separator
unassembled **R2.48.12**
assembled **R2.48.12.1**

Lean separators

New design allows extremely fast fitting of shelves in several layers, which significantly reduces assembly time. Enables extremely fast replacement of individual cables in a very full e-tubes.

Lean separator design - several layers of cables fitted quickly, save up to 50%* assembly time
(*Lean separator vs. standard separator - measured on a 4m long e-chain® fitted with 12 cables in the igus® readychain® factory)



R2.1 e-tubes | Series R2.75 | Product range

Cost-effective swarf protection

75



e-tubes | Series R2.75 | Lids openable along the outer radius, from both sides

Part No. e-tubes openable along the outer radius	Bi [mm]	Ba [mm]	R Available bend radii [mm]	R2.75 [kg/m]
R2.75.111.R.0	111	135	|130|150|200|250|300*|350*|400*|	≈ 3.175
R2.75.163.R.0	163	187	|130|150|200|250|300*|350*|400*|	≈ 3.672
R2.75.200.R.0	200	224	|130|150|200|250|300*|350*|400*|	≈ 4.012

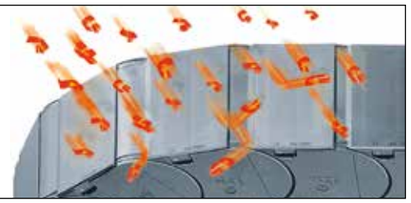
*Radius available upon request. Please consult igus® for delivery time.

Complete Part No. with required radius (*R*). Example: **R2.75.111.130.0**

Hot swarf up to +850°C

- e-tubes to withstand 850°C swarf, as a special option
- No hot swarf melting or embedding into the chain
- igus® igumid HT material

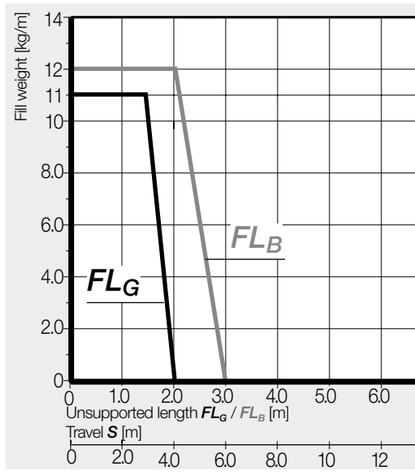
More information ▶ www.igus.eu/HT

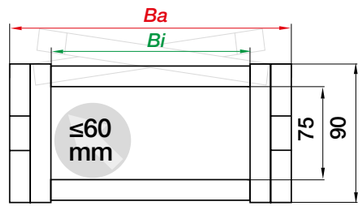


R2.1 e-tubes | R2.75 | Installation dimensions

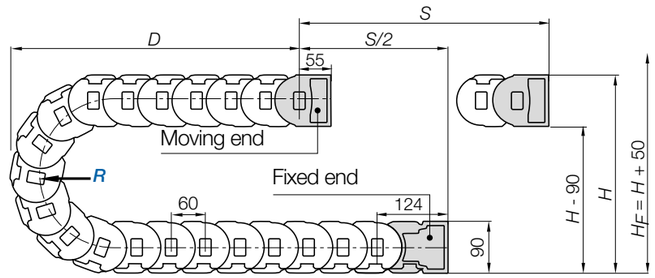
Unsupported applications | Short travels

▶ 1300 ▶ upon request





Inner height [mm]	75
Pitch [mm/link]	60
Links/m	17
corresponds to [mm]	1,020
e-tube length	$L_K = S/2 + K$



R	130	150	200	250	300*	350*	400*
H	350	390	490	590	690	790	890
D	265	285	335	385	435	485	535
K	530	595	750	910	1,065	1,220	1,380

The required clearance height: $H_F = H + 50$mm (with 3.0kg/m fill weight)

*Radius available upon request. Please consult igus® for delivery time.

If a gliding application is required for a long travel, please consult igus®.

Aluminium support tray

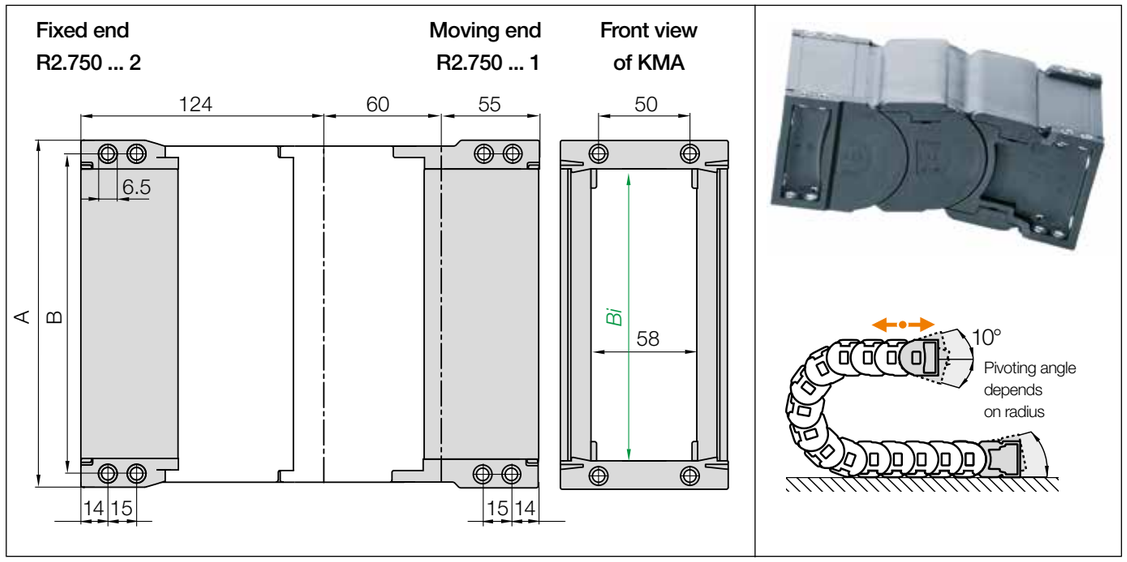
- Corrosion-resistant and seawater-resistant aluminium rails with adjustable width
- Noise-reducing glide strip integrated as standard
- Easy installation and connection of the e-tube
- Open design - dirt and debris fall through

Available upon request. Please consult igus® for delivery time.



R2.1 e-tubes | Series R2.75 | Accessories

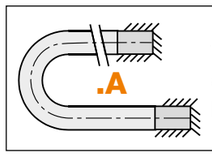
KMA mounting brackets | Attachment from any side | Pivoting



KMA pivoting | Recommended for unsupported applications

Width index	Standard	Part no. full set **KMA pivoting**	Part No. full set **KMA locking**	A [mm]	B [mm]	*Bi* [mm]
111 ▶		**R2.750.111.12**	–	141	127	**111**
163 ▶		**R2.750.163.12**	–	193	179	**163**
200 ▶		**R2.750.200.12**	–	230	216	**200**

(KMA = polymer metal mounting bracket)



The bracket orientations are set automatically when using an igus® KMA mounting bracket. To receive KMA pre-fitted please add index **.A**

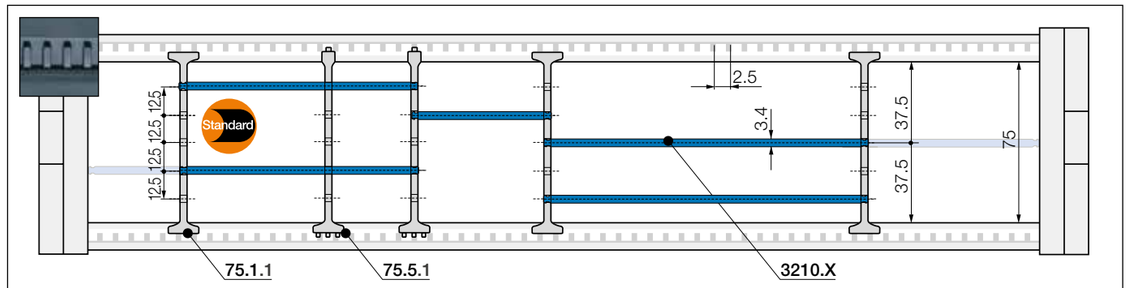
R2.750.111.12.A Order example

.A ... to indicate option with brackets pre-fitted
Full set
Width index
Series

Strain relief e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with ordering options ▶ From page 1300

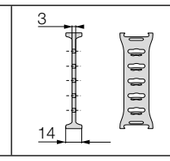
R2.1 e-tubes | Series R2.75 | Accessories

Interior separation | Increase cable service life



No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-tube link!





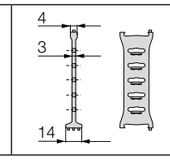
Standard separator, wide base

unassembled	**75.1**
assembled	**75.1.1**

Standard - for any application

Separator with a wide base for maximum holding force in the e-tube.



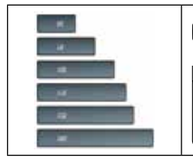


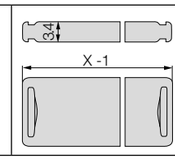
Notch separator for notched crossbar

unassembled	**75.5**
assembled	**75.5.1**

Locks securely in preset increments

Notch separator for exact positioning in e-chains®. Recommended for side-mounted applications.





Shelf, lockable

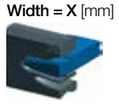
unassembled	**3200.X**
assembled	**3210.X**

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Shelves

Width = X [mm]



X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
050	**3200.050**	**3210.050**	115	**3200.115**	**3210.115**	175	**3200.175**	**3210.175**
075	**3200.075**	**3210.075**	125	**3200.125**	**3210.125**	200	**3200.200**	**3210.200**
100	**3200.100**	**3210.100**	150	**3200.150**	**3210.150**			



RX

Extremely swarf-resistant without undercuts or edges

Advantages of the RX system:

- Openable along the outer radius
- Round contour prevents swarf accumulation
- Injection-moulded seal between links
- No holes, gaps or undercuts
- RX e-tubes - IP40 tested
- Covered pin/bore connection and stop-dogs
- Interior separation and support tray available
- ***RBR*** version with Reverse Bend Radius available

When to use another e-tube:

- For swarf protection on gliding applications
  ► **R4.1 e-tubes, page 566**
- When a particularly cost-effective solution is required
  ► **R2.1 e-tubes, page 478**



Flush attachment: mounting bracket with strain relief option

Smooth design: without undercuts or edges

Keep order: modular separation available

Fast assembly: lids removable along the outer radius

Safe: covered pin/bore connection and stop-dogs

Fast opening: with inbuilt locking mechanism

Swarf-resistant design: round contour prevents swarf accumulation

Extremely swarf-resistant e-tubes - RX system

Problem solver for energy supply systems in areas with swarf; openable along the outer radius. Swarf and dirt can significantly reduce the service life of cables and hoses. With the RX system igus® offers an extremely tough but smoothly shaped polymer e-tube.

- Openable along the outer radius
- Round contour prevents swarf accumulation
- Injection-moulded seal between links
- No holes, gaps or undercuts
- Covered pin/bore connection and stop-dogs
- Series RX40 has been tested for IP protection class (IP40) (TÜV NORD CERT GmbH)
- ***RBR*** version with Reverse Bend Radius available

Typical industries and applications

● Machine tools ● All applications in swarf area ● With dust and dirt ● General mechanical engineering

IP40 RX e-tubes - IP tested
▶ **www.igus.eu/RX_tested**

Electrically conductive ESD e-tubes upon request

Optionally available with igumid HT-Material for hot swarf up to +850°C

UL94-V0 classifications upon request

product design award 2005

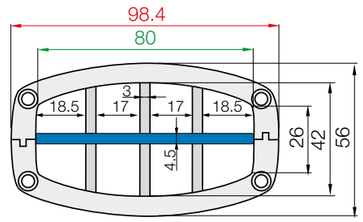
reddot design award honourable mention 2011

Series	Inner height *hi* [mm]	Inner width *Bi* [mm]	Outer width *Ba* [mm]	Outer height *ha* [mm]	Bend radius *R* [mm]	Unsupported length ≤ [m]	Page
 **RX system - extremely swarf-resistant e-tubes** lids removable along the outer radius							
RX32	26 / 42	80	98.4	56	080 - 175	1.70	**508**
RX40	32 / 52	100	123.0	70	100 - 300	1.80	**512**
RX48	35 / 62	120	147.6	84	120 - 150	2.10	**516**
RX56	41 / 73	140	172.2	98	140 - 250	2.30	**520**

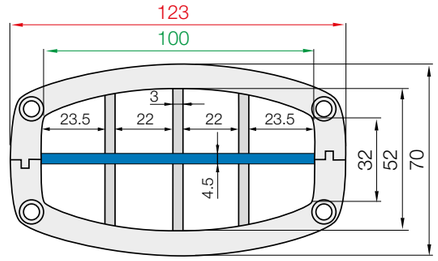
Available from stock. Ready to ship in 24 - 48hrs.*

*The delivery times indicated correspond to the average time until the ordered goods are dispatched.

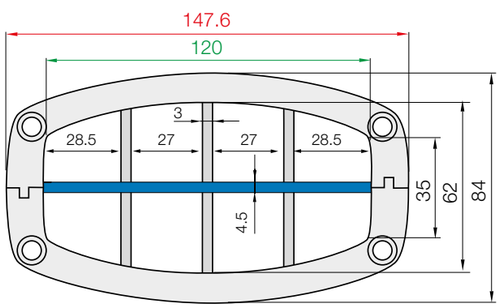
RX32



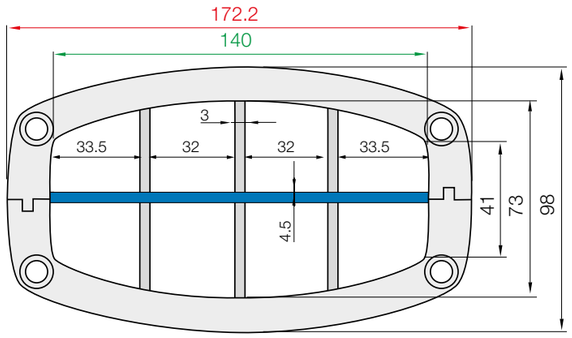
RX40



RX48



RX56



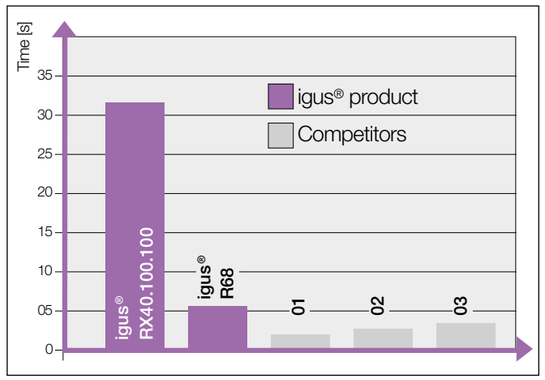
Technical data

Speed FL_G / acceleration FL_G	≤ 10 [m/s] / ≤ 100 [m/s²]
Speed FL_B / acceleration FL_B	≤ 3 [m/s] / ≤ 6 [m/s²]
Material - permitted temperature °C, igumid G	-40°C / +120°C
Flammability class, igumid G	VDE 0304 IIC UL94-HB

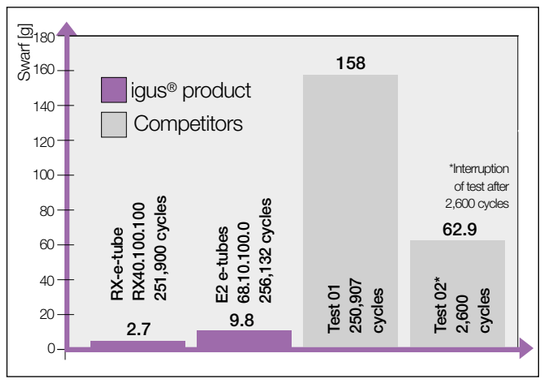
FL_G = unsupported with straight upper run FL_B = unsupported with permitted sag

Installation types, maximum travels

Series	Unsupported	Vertical hanging	Vertical standing	Side mounted unsupported	Rotary	Zig-zag
RX32	≤ 3.40m	upon request	upon request	upon request	with rework	upon request
RX40	≤ 3.80m	upon request	upon request	upon request	with rework	upon request
RX48	≤ 4.20m	upon request	upon request	upon request	with rework	upon request
RX56	≤ 4.60m	upon request	upon request	upon request	with rework	upon request



Sealed - various tube styles were tested under water. For the RX e-tube, it takes more than 30 sec. to fill up with water



Swarf ingress - various tube styles were covered with a defined quantity of swarf. After 251,900 cycles, only 2.7g of swarf were found in the interior of the RX tube

Options with order keys | Examples based on series RX40

	Standard	*Reverse Bend Radius (RBR) for circular movements*	*No burning-in of hot swarf up to +850°C (+1562° F)*	*ESD - electrically conductive material*
	Part No. Standard	Part No. *RBR*	Part No. igumid HT	Part No. igumid ESD
	RX40.100.*R*.0	RX40.100.*R1/R2*.0	RX40.100.*R*.0.HT	RX40.100.*R*.0.ESD
	Ready to ship* in 24 - 48hrs.	Delivery time* 5-10 business days	Delivery time* 7-10 business days	Delivery time* 10 business days

*The delivery times indicated correspond to the average time until the ordered goods are dispatched.

Order example | Order key and colour examples | Examples based on series RX40

Order example for complete e-tube (1.0m), colour black, with mounting brackets and interior separation:

e-tube (1.0m)	Please indicate e-tube length or number of links: 1.0m or 18 links	RX40.100.100.0
+ Mounting brackets	Set	RX401.100.12ZB
+ Interior separation	with 1 separator (central position) assembled every 2nd link	1 x RX40.1.1
+ Interior separation	with 2 separators (lateral position) assembled every 2nd link	2 x RX40.2.1
Order text:	1 m RX40.100.140.0 + RX401.100.12ZB + 1 x RX40.1.1 + 2 x RX40.2.1	

Order key

e-tube - lids removable along the outer radius

RX40.100.100.0

- Series / Type
- Width index (depends on *Bi*)
- Bend radius *R*
- Colour index (standard black)

Order index for colour options

Colour	Order index		Colour	Order index	
Black	Standard	.0	Orange	Special colour	.2
Silver-grey	Special colour	.31	Yellow	Special colour	.4
White	Special colour	.1	Light grey	Special colour	.14
Grey-white	Special colour	.1S			

Black e-tubes available from stock.

Above special colours upon request.

RX e-tubes | Series RX32 | Product range

42

Extremely swarf-resistant, medium size



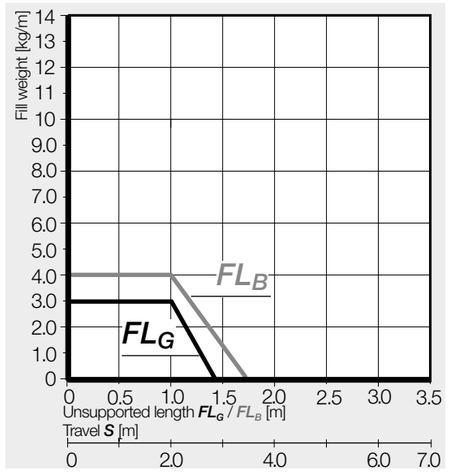
e-tubes | Series RX32 | Lids removable along the outer radius

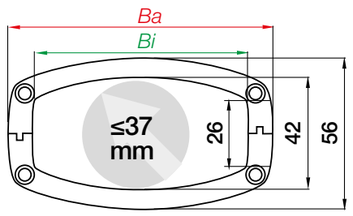
Part No.	*Bi*	*Ba*	*R* Available bend radii	RX32
e-tubes	[mm]	[mm]	[mm]	[kg/m]
RX32. 080 .*R*.0	80	98.4	| 080 | 100 | 125 | 150 | 175 | 200* | 225* | 250* |	≈ 1.23

*Radius available upon request. Please consult igus® for delivery time.

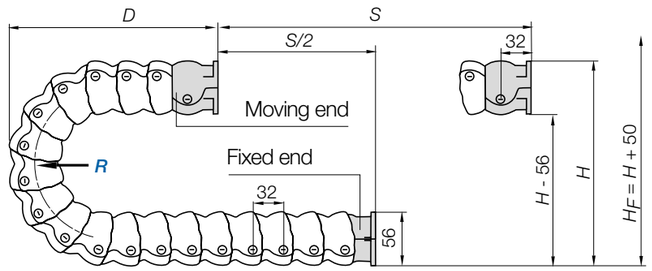
Complete Part No. with required radius (*R*). Example: **RX32.080.080.0**

Installation dimensions





Inner height [mm]	42
Pitch [mm/link]	32
Links/m	32
corresponds to [mm]	1,024
e-tube length	$L_K = S/2 + K$



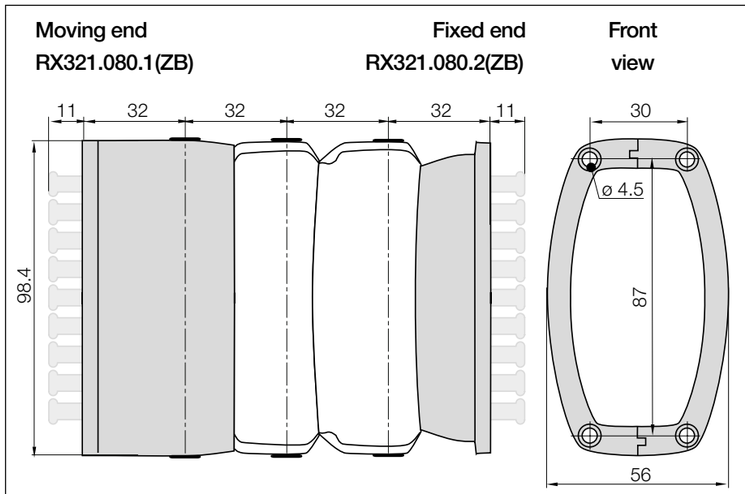
R	080	100	125	150	175	200*	225*	250*
H	216	256	306	356	406	456	506	556
D	156	176	201	226	251	276	301	326
K	320	380	460	540	615	695	775	850

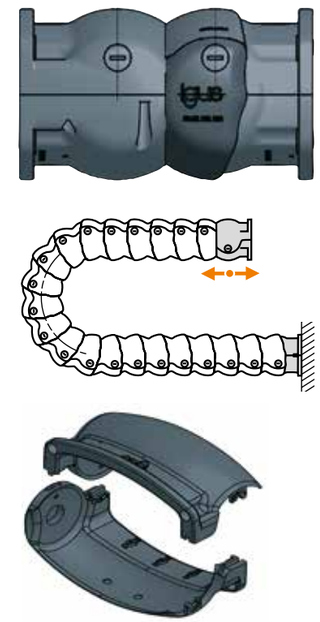
The required clearance height: $H_F = H + 50mm$ (with 0.5kg/m fill weight)

*Radius available upon request. Please consult igus® for delivery time.

RX e-tubes | Series RX32 | Accessories

Mounting brackets, flange | Polymer, two-piece | Locking

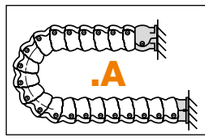




Two-piece mounting bracket with flange attachment

Mounting brackets, flange | Locking

Width index	Standard	Part No. full set with tiewrap plates	Part No. full set without tiewrap plates	Number of teeth
080. ▶		RX321.080.12ZB	RX321.080.12	8



Flange mounting brackets for flush attachment. Option: with M6 insert nuts. To receive brackets **pre-fitted** please add index **A**

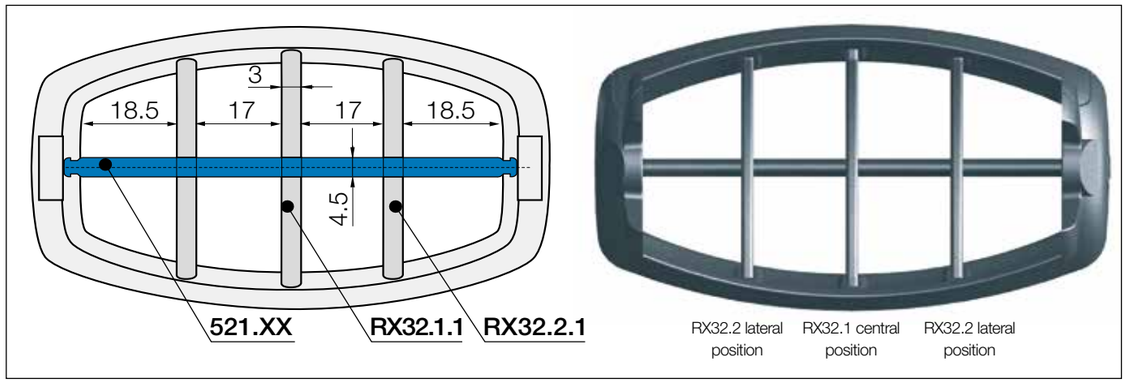
RX321.080.12ZB.A **Order example**

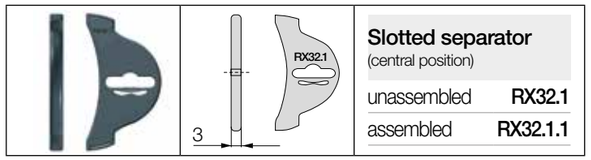
.A ... to indicate option with brackets pre-fitted
With integrated strain relief tiewrap plates
Full set
Width index
Series

Strain relief e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with ordering options ▶ From page 1300

RX e-tubes | Series RX32 | Accessories

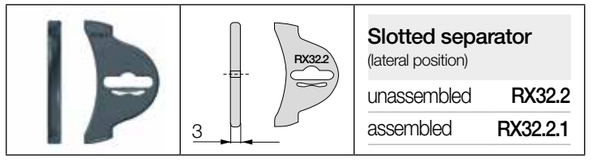
Interior separation





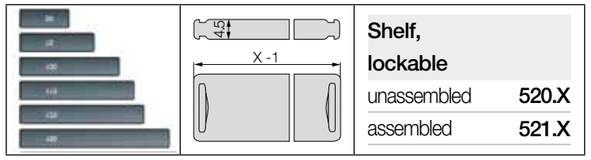
Slotted separator
(central position)

unassembled	**RX32.1**
assembled	**RX32.1.1**



Slotted separator
(lateral position)

unassembled	**RX32.2**
assembled	**RX32.2.1**



Shelf, lockable

unassembled	**520.X**
assembled	**521.X**

Vertical separation - slotted separators:

RX32.1 (central position)
RX32.2 (lateral position)

Vertical separation of the interior space using cable-friendly, polymer separators. Due to their slots, basic vertical and horizontal shelving arrangements are possible. As standard separators are fitted every 2nd e-tube link!

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.



Shelves

Width = X [mm]

X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
024	**520.24**	**521.24**	064	**520.64**	**521.64**
044	**520.44**	**521.44**	084	**520.84**	**521.84**

RX e-tubes | Series RX32 | Further accessories

Hot swarf up to +850°C

- e-tubes to withstand 850°C swarf, as a special option
- No hot swarf melting or embedding into the chain
- igus® igumid HT material

More information ▶ www.igus.eu/HT



Steel support tray for support of the lower run

- Simple one-piece support trays for the lower run
- Guides the RX e-tube safely and lets the swarf pass through easily
- Available in different lengths

More information ▶ www.igus.eu/RX

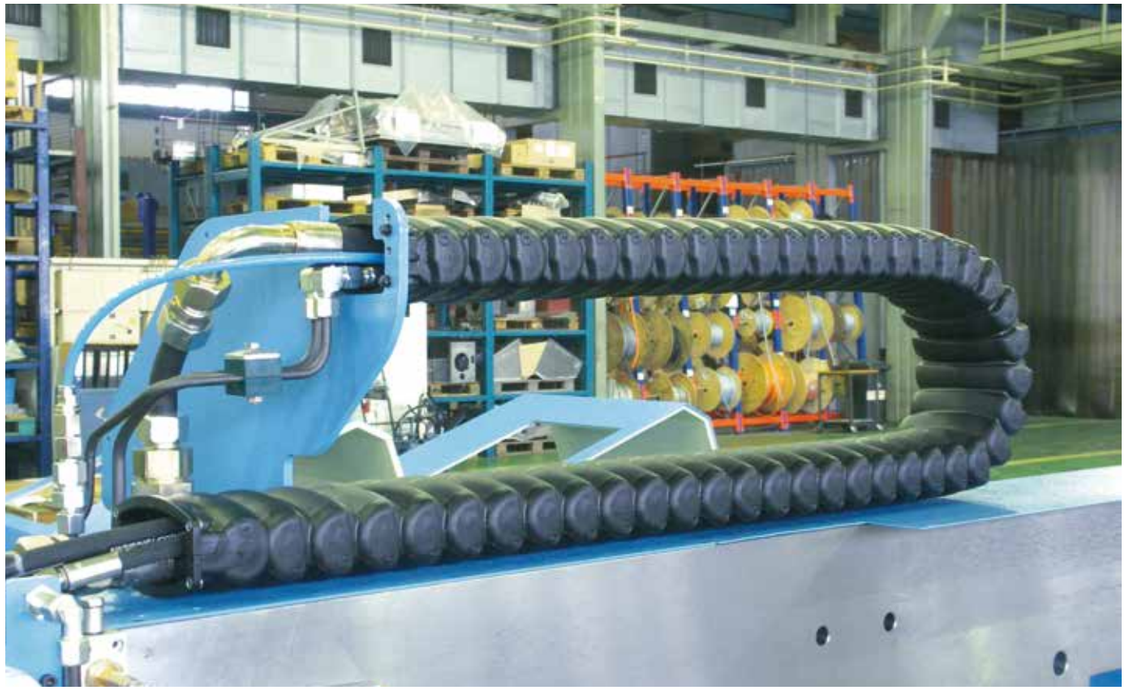


Strain relief block for flange mounting brackets

- Strain relief block to match cable layout
- Fast assembly
- Can be integrated in the RX e-tube flange mounting bracket

More information ▶ www.igus.eu/RX32





Supply of the main spindle in a tooling machine with igus® RX e-tube. The rounded contour of the energy supply repels all kinds of swarf

RX e-tubes | Series RX40 | Product range

Extremely swarf-resistant, medium size

52

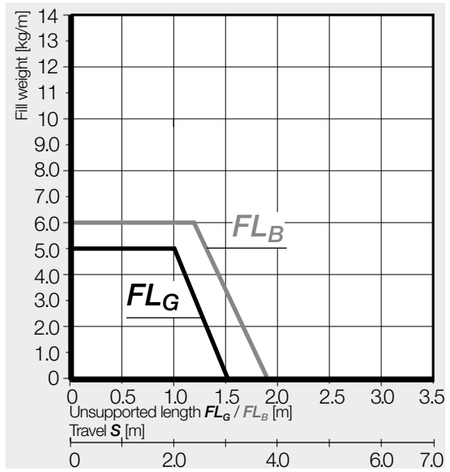


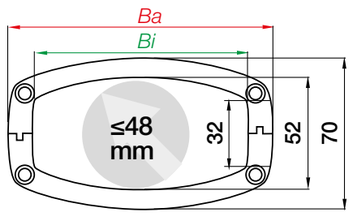
e-tubes | Series RX40 | Lids removable along the outer radius

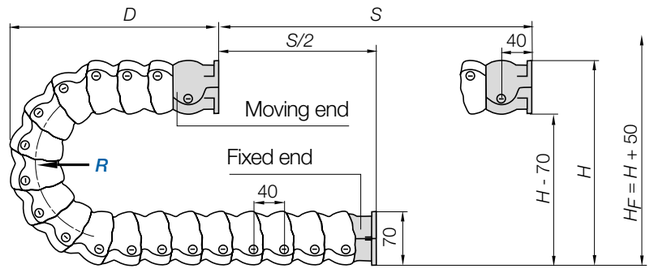
Part No.	*Bi*	*Ba*	*R* Available bend radii	RX40
e-tubes	[mm]	[mm]	[mm]	[kg/m]
RX40. 100 .*R*.0	100	123	| 100 | 125 | 150 | 175 | 200 | 225 | 250 | 275 | 300 |	≈ 1.89

Complete Part No. with required radius (*R*). Example: **RX40.080.080.0**

Installation dimensions







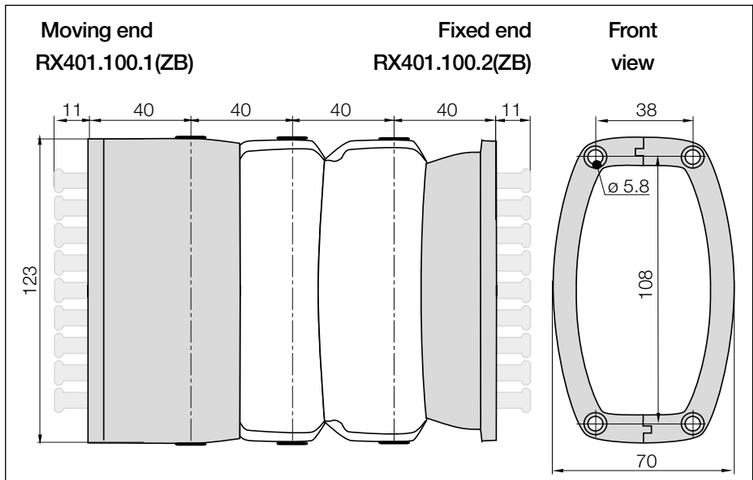
Inner height [mm]	52
Pitch [mm/link]	40
Links/m	25
corresponds to [mm]	1,000
e-tube length	$L_K = S/2 + K$

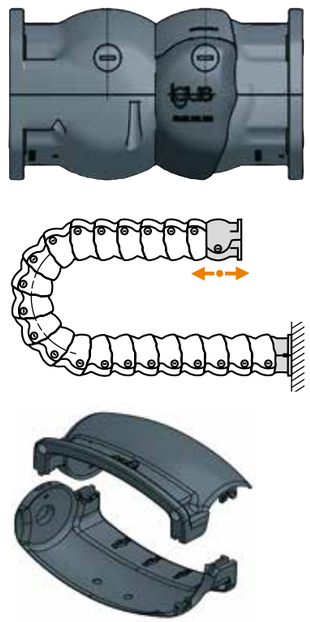
R	100	125	150	175	200	225	250	275	300
H	270	320	370	420	470	520	570	620	670
D	195	220	245	270	295	320	345	370	395
K	395	475	555	630	710	790	870	945	1,025

The required clearance height: $H_F = H$ + **50mm** (with 0.5kg/m fill weight)

RX e-tubes | Series RX40 | Accessories

Mounting brackets, flange | Polymer, two-piece | Locking

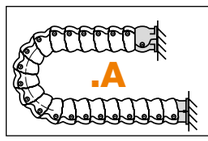




Two-piece mounting bracket with flange attachment

Mounting brackets, flange | Locking

Width index	Standard	Part No. full set with tiewrap plates	Part No. full set without tiewrap plates	Number of teeth
100. ▶		RX401.100.12ZB	RX401.100.12	10



Flange mounting brackets for flush attachment. Option: with M6 insert nuts. To receive brackets **pre-fitted** please add index **A**

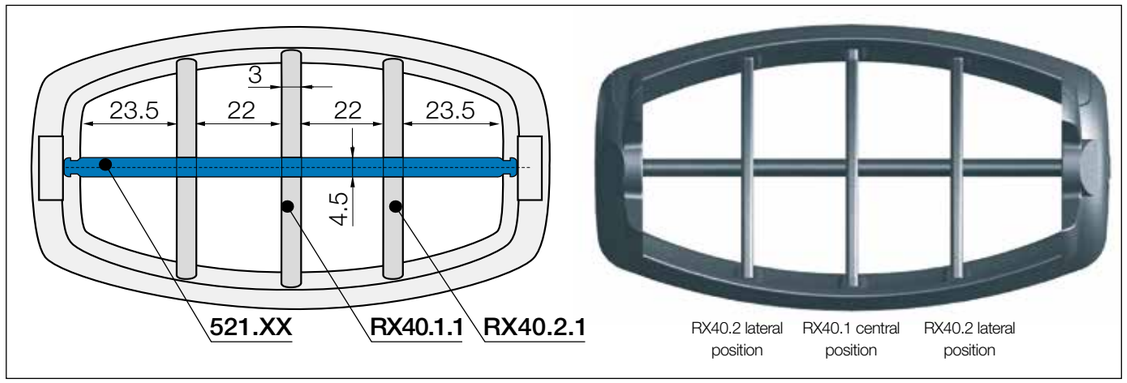
RX401.100.12ZB.A **Order example**

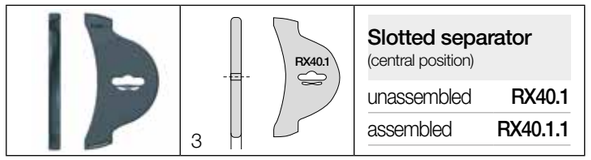
.A ... to indicate option with brackets pre-fitted
With integrated strain relief tiewrap plates
Full set
Width index
Series

Strain relief e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with ordering options ▶ From page 1300

RX e-tubes | Series RX40 | Accessories

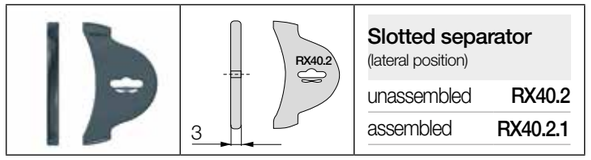
Interior separation





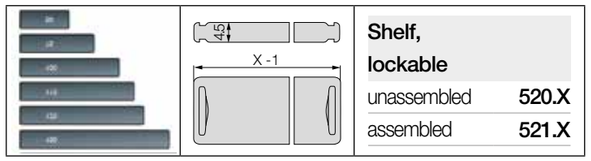
Slotted separator
(central position)

unassembled	**RX40.1**
assembled	**RX40.1.1**



Slotted separator
(lateral position)

unassembled	**RX40.2**
assembled	**RX40.2.1**



Shelf, lockable

unassembled	**520.X**
assembled	**521.X**

Vertical separation - slotted separators:

RX40.1 (central position)
RX40.2 (lateral position)

Vertical separation of the interior space using cable-friendly, polymer separators. Due to their slots, basic vertical and horizontal shelving arrangements are possible. As standard separators are fitted every 2nd e-tube link!

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.



Shelves

Width = X [mm]

X [mm]	unassembled	assembled
029	**520.29**	**521.29**
054	**520.54**	**521.54**
079	**520.79**	**521.79**
104	**520.104**	**521.104**

Hot swarf up to +850°C

- e-tubes to withstand 850°C swarf, as a special option
- No hot swarf melting or embedding into the chain
- igus® igumid HT material

More information ▶ www.igus.eu/HT



Steel support tray for support of the lower run

- Simple one-piece support trays for the lower run
- Guides the RX e-tube safely and lets the swarf pass through easily
- Available in different lengths

More information ▶ www.igus.eu/RX



Strain relief block for flange mounting brackets

- Strain relief block to match cable layout
- Fast assembly
- Can be integrated in the RX e-tube flange mounting bracket

More information ▶ www.igus.eu/RX40





Swarf tests at the igus® test lab prove the excellent sealing of igus® RX e-tube. **Video online ▶ www.igus.eu/RX_tested**

RX e-tubes | Series RX48 | Product range

62

Extremely swarf-resistant, large size



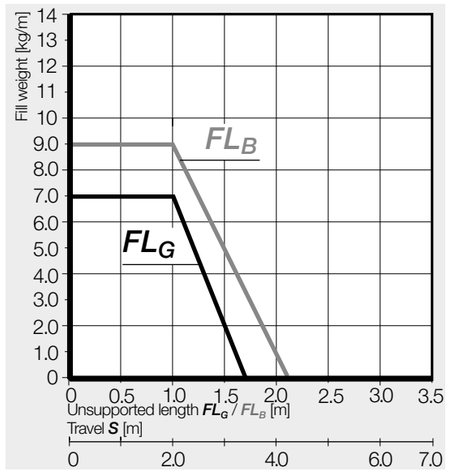
e-tubes | Series RX48 | Lids removable along the outer radius

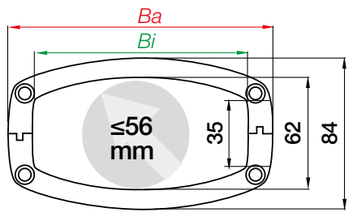
Part No.	*Bi*	*Ba*	*R* Available bend radii									RX48
e-tubes	[mm]	[mm]	[mm]									[kg/m]
RX48. 120 .*R*.0	120	147.6	120	150	175*	200*	225*	250*	275*	300*	325*	≈ 2.76

*Radius available upon request. Please consult igus® for delivery time.

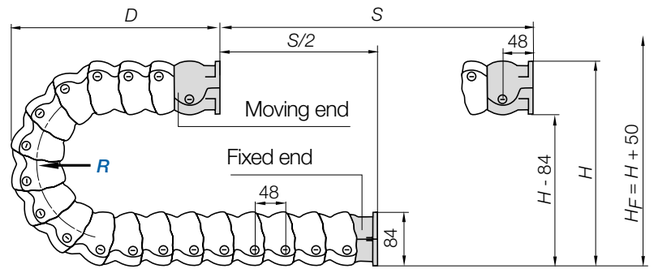
Complete Part No. with required radius (*R*). Example: **RX48.120.120.0**

Installation dimensions





Inner height [mm]	62
Pitch [mm/link]	48
Links/m	21
corresponds to [mm]	1,008
e-tube length	$L_K = S/2 + K$



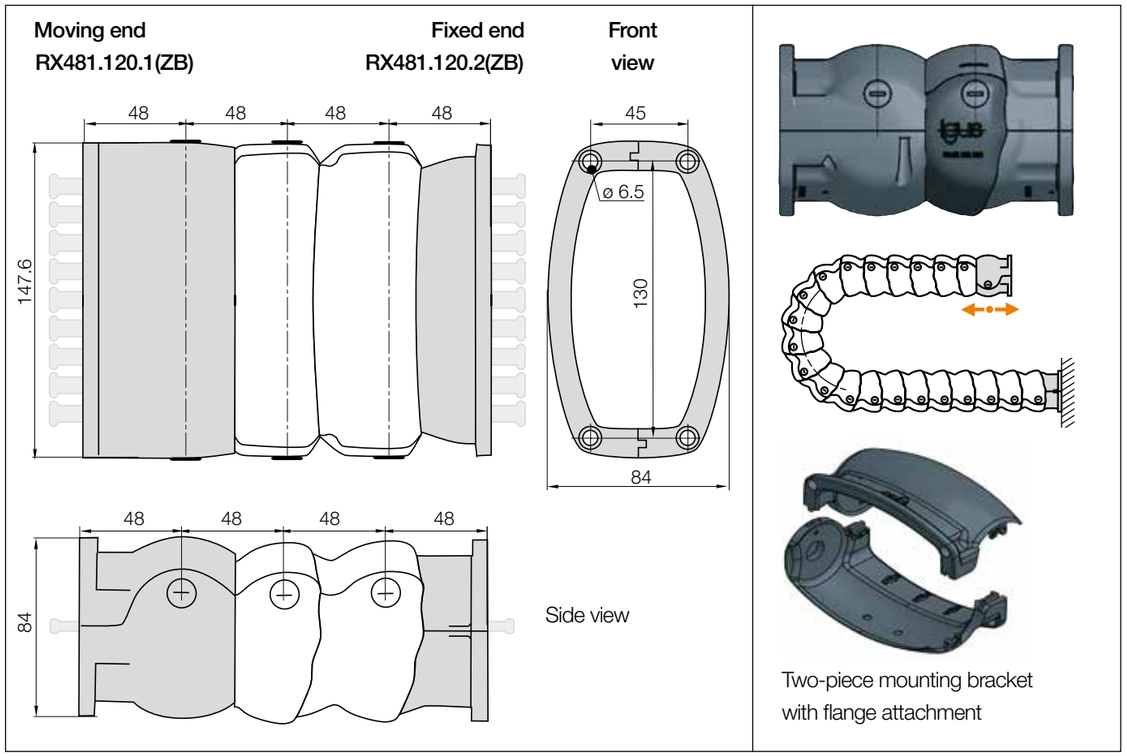
R	120	150	175*	200*	225*	250*	275*	300*	325*
H	324	384	434	484	534	584	634	684	734
D	234	264	289	314	339	364	389	414	439
K	475	570	650	725	805	885	960	1,040	1,120

The required clearance height: $H_F = H$ + **50mm** (with 0.5kg/m fill weight)

*Radius available upon request. Please consult igus® for delivery time.

RX e-tubes | Series RX48 | Accessories

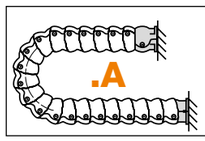
Mounting brackets, flange | Polymer, two-piece | Locking



Two-piece mounting bracket with flange attachment

Mounting brackets, flange | Locking

Width index	Standard	Part No. full set with tiewrap plates	Part No. full set without tiewrap plates	Number of teeth
120. ▶		RX481.120.12ZB	RX481.120.12	12



Flange mounting brackets for flush attachment. Option: with M6 insert nuts. To receive brackets **pre-fitted** please add index **A**

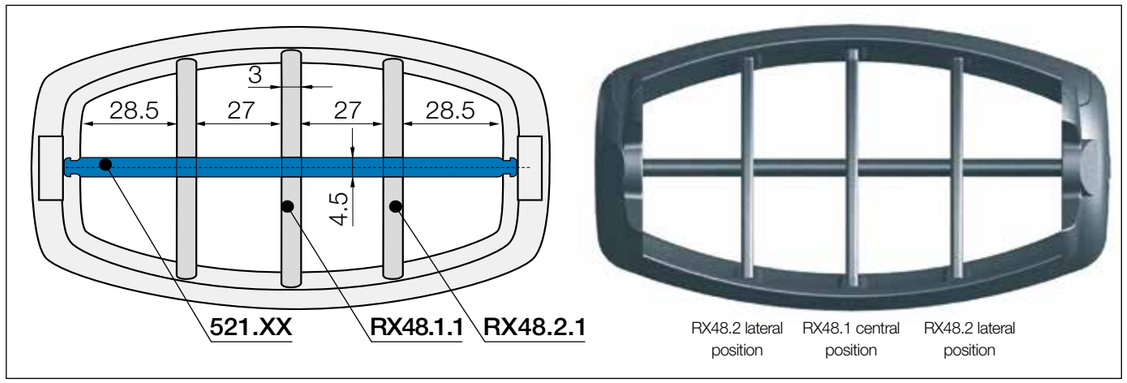
RX481.120.12ZB.A **Order example**

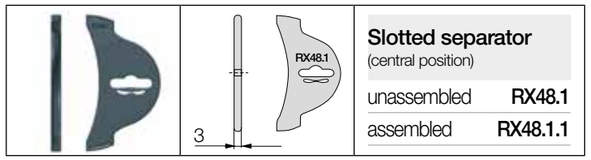
- .A ... to indicate option with brackets pre-fitted
- With integrated strain relief tiewrap plates
- Full set
- Width index
- Series

Strain relief e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with ordering options ▶ From page 1300

RX e-tubes | Series RX48 | Accessories

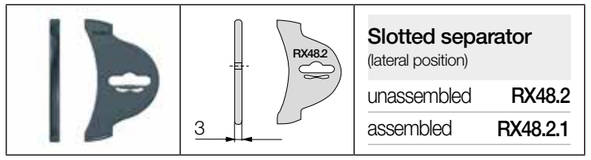
Interior separation





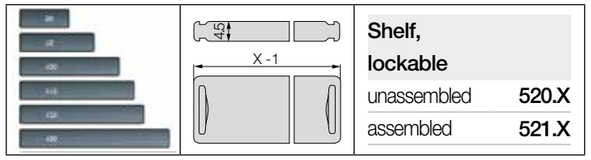
Slotted separator
(central position)

unassembled	**RX48.1**
assembled	**RX48.1.1**



Slotted separator
(lateral position)

unassembled	**RX48.2**
assembled	**RX48.2.1**



Shelf, lockable

unassembled	**520.X**
assembled	**521.X**

Vertical separation - slotted separators:

RX48.1 (central position)
RX48.2 (lateral position)

Vertical separation of the interior space using cable-friendly, polymer separators. Due to their slots, basic vertical and horizontal shelving arrangements are possible. As standard separators are fitted every 2nd e-tube link!

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.



Shelves

Width = X [mm]

X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
034	**520.34**	**521.34**	094	**520.94**	**521.94**
064	**520.64**	**521.64**	124	**520.124**	**521.124**

RX e-tubes | Series RX48 | Further accessories

Hot swarf up to +850°C

- e-tubes to withstand 850°C swarf, as a special option
- No hot swarf melting or embedding into the chain
- igus® igumid HT material

More information ▶ www.igus.eu/HT



Steel support tray for support of the lower run

- Simple one-piece support trays for the lower run
- Guides the RX e-tube safely and lets the swarf pass through easily
- Available in different lengths

More information ▶ www.igus.eu/RX



Strain relief block for flange mounting brackets

- Strain relief block to match cable layout
- Fast assembly
- Can be integrated in the RX e-tube flange mounting bracket

More information ▶ www.igus.eu/RX48





With the extremely swarf-resistant igus® RX e-tube and harnessed chainflex® cables, the service life of this woodworking machine was considerably increased. Because of dust and dirt, previous cables failed after one month

RX e-tubes | Series RX56 | Product range

Extremely swarf-resistant, very large size

73



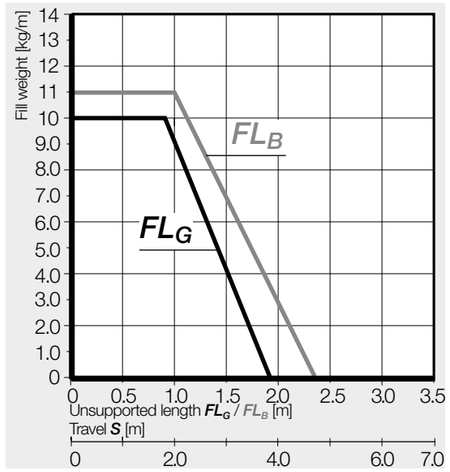
e-tubes | Series RX56 | Lids removable along the outer radius

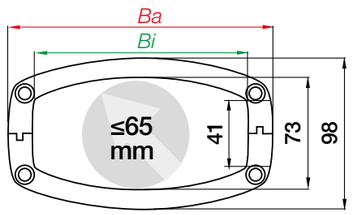
Part No.	Bi	Ba	R Available bend radii	RX56
e-tubes	[mm]	[mm]	[mm]	[kg/m]
RX56. 140 .R.0	140	172.2	| 140 | 175* | 200* | 225* | 250 | 275* | 300* | 325* | 350* |	≈ 3.83

*Radius available upon request. Please consult igus® for delivery time.

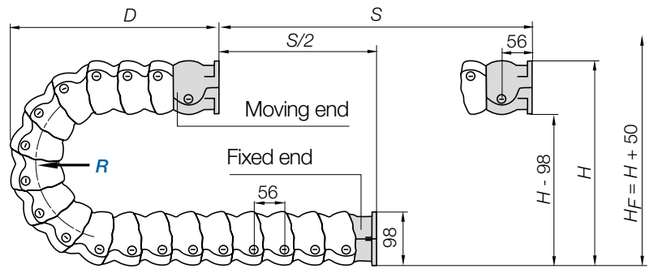
Complete Part No. with required radius (*R*). Example: **RX56.140.140.0**

Installation dimensions





Inner height [mm]	73
Pitch [mm/link]	56
Links/m	18
corresponds to [mm]	1,008
e-tube length	$L_K = S/2 + K$



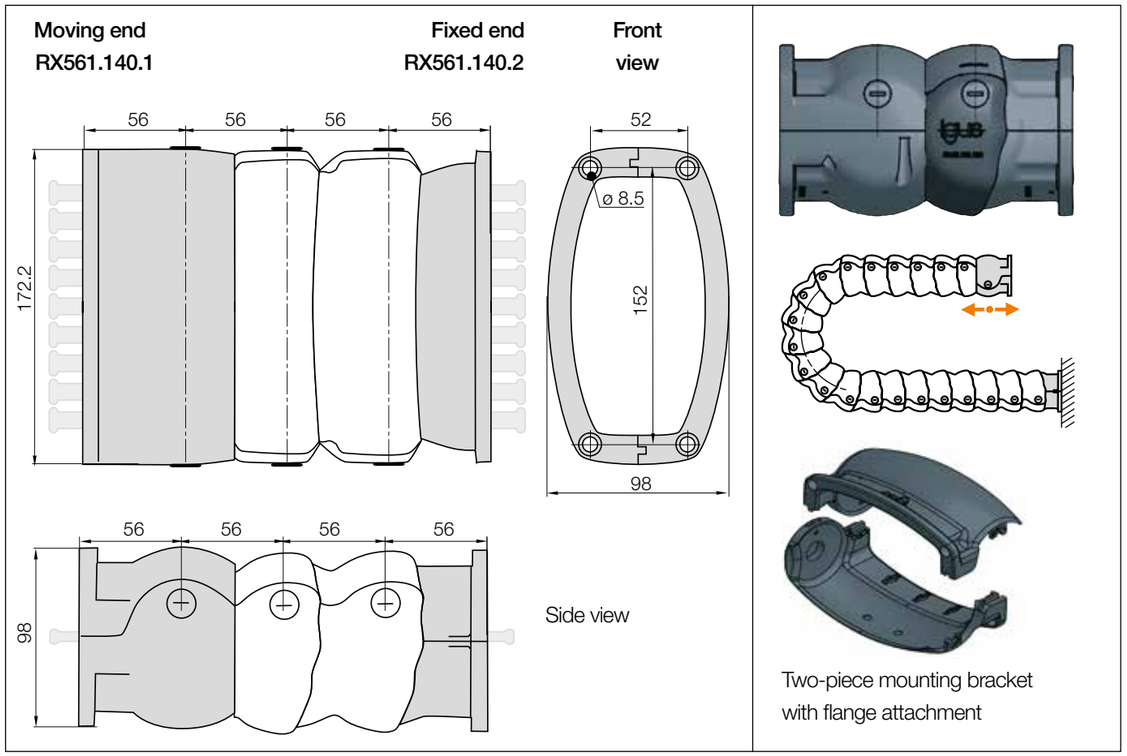
R	140	175*	200*	225*	250	275*	300*	325*	350*
H	378	448	498	548	598	648	698	748	798
D	273	308	333	358	383	408	433	458	483
K	555	665	745	820	900	980	1,055	1,135	1,215

The required clearance height: $H_F = H + 50mm$ (with 0.5kg/m fill weight)

*Radius available upon request. Please consult igus® for delivery time.

RX e-tubes | Series RX56 | Accessories

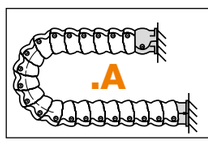
Mounting brackets, flange | Polymer, two-piece | Locking



Two-piece mounting bracket with flange attachment

Mounting brackets, flange | Locking

Width index	Standard	Part No. full set with tiewrap plates	Part No. full set without tiewrap plates	Number of teeth
140. ▶		upon request	RX561.140.12	upon request



Flange mounting brackets for flush attachment. Option: with M8 insert nuts. To receive brackets **pre-fitted** please add index **A**

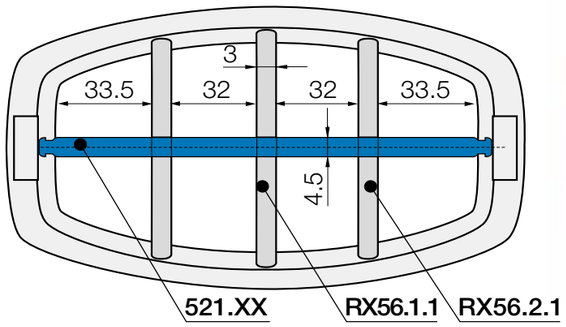
RX561.140.12.A **Order example**

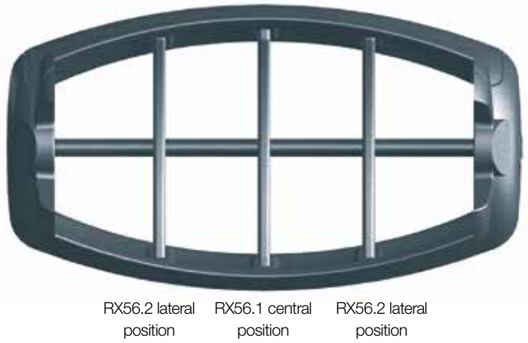
.A ... to indicate option with brackets pre-fitted
Full set
Width index
Series

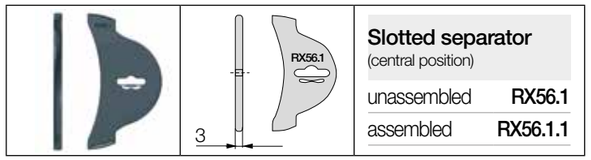
Strain relief e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with ordering options ▶ From page 1300

RX e-tubes | Series RX56 | Accessories

Interior separation

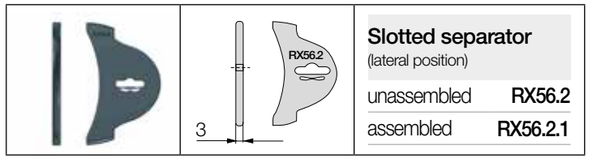






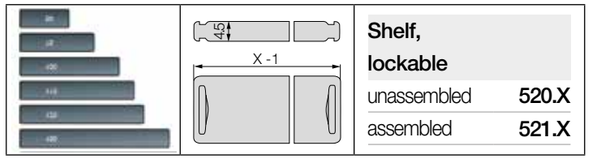
Slotted separator
(central position)

unassembled	**RX56.1**
assembled	**RX56.1.1**



Slotted separator
(lateral position)

unassembled	**RX56.2**
assembled	**RX56.2.1**



Shelf, lockable

unassembled	**520.X**
assembled	**521.X**

Vertical separation - slotted separators:

RX56.1 (central position)
RX56.2 (lateral position)

Vertical separation of the interior space using cable-friendly, polymer separators. Due to their slots, basic vertical and horizontal shelving arrangements are possible. As standard separators are fitted every 2nd e-tube link!

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.



Shelves

Width = X [mm]

X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
039	**520.39**	**521.39**	109	**520.109**	**521.109**
074	**520.74**	**521.74**	144	**520.144**	**521.144**

RX e-tubes | Series RX56 | Further accessories

Hot swarf up to +850°C

- e-tubes to withstand 850°C swarf, as a special option
- No hot swarf melting or embedding into the chain
- igus® igumid HT material

More information ▶ www.igus.eu/HT



Steel support tray for support of the lower run

- Simple one-piece support trays for the lower run
- Guides the RX e-tube safely and lets the swarf pass through easily
- Available in different lengths

More information ▶ www.igus.eu/RX



Strain relief block for flange mounting brackets

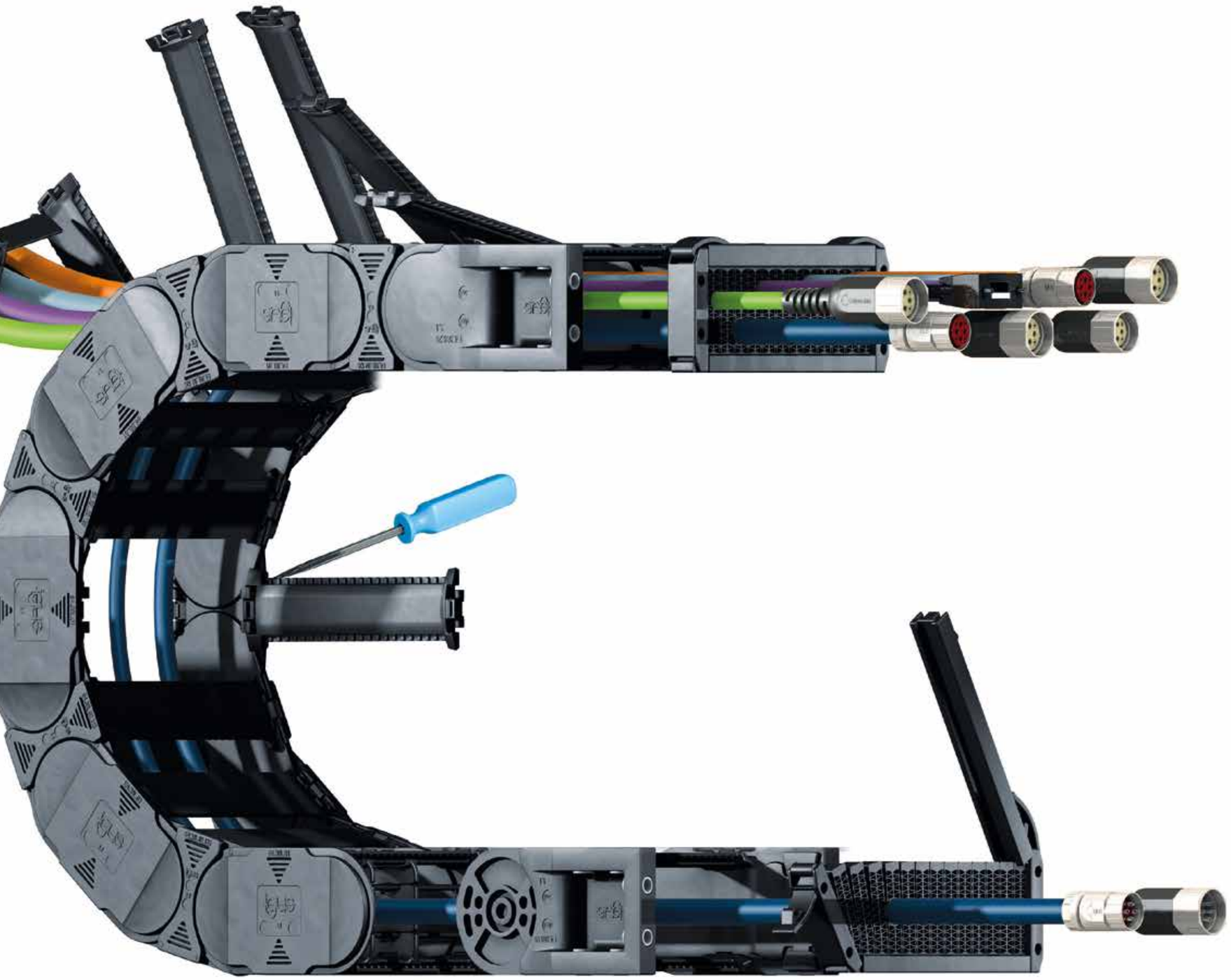
- Strain relief block to match cable layout
- Fast assembly
- Can be integrated in the RX e-tube flange mounting bracket

More information ▶ www.igus.eu/RX56





The RX e-tube used in this compact turning machine has Reverse Bend Radius (RBR) and operates even with the very restricted space



E4.1L

Reduce cost, time and weight

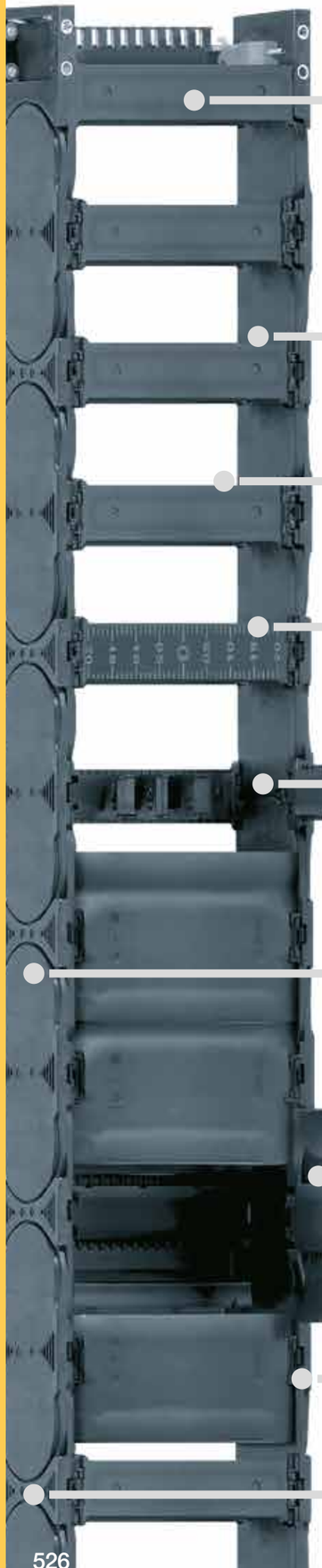
Moving energy made even easier - fast harnessing and time-less design

Advantages of the E4.1L system:

- 30% lighter and lower-priced than comparable E4.1 size
- Very cost-efficient: strong and light due to optimised e-chain® link design
- Ideal ratio of internal and external dimensions with thinner outer links and optimised crossbar geometry
- e-chains® and e-tubes openable along the inner and outer radius, from both sides
- Inside completely accessible for easy filling
- Very tightly fitting lids on the e-tubes, virtually no gaps or openings
- Also suitable for side-mounted, standing and hanging applications

When to use another e-chain® series:

- When the e-chain® needs to be extremely quiet (32dB(A)) with very low vibration
  ► **E6.1, from page 750**
- When the e-chain® is to be used in cleanrooms (cleanroom ISO Class 1)
  ► **E6.1, from page 750**
- If even higher strength is required
  ► **E4.1, from page 566**



Reduce cost, time and weight - E4.1L

Significantly reduce assembly and harnessing time with the E4.1L(ean). Whether as an e-chain® or a chip-proof energy tube, with its sleek design and matching accessories the E4.1L brings maximum efficiency at a cost-effective price. An easily accessible interior, improved crossbars and separators and the new honeycomb strain relief system result in an 80% faster installation. Easily adaptable to any application due to the modular design, this universal solution makes optimal use of the space, is lighter than the alternatives and yet extremely strong. A cable-friendly interior ensures a long service life for the cables. The E4.1L reduces downtime and the assembly and maintenance time whilst saving time and money in operation and acquisition.

Typical industries and applications

● Machine tools ● General mechanical engineering ● If the strength of the E2/000 is insufficient, but an E4.1 is oversized

Electrically conductive ESD e-chains® upon request

High torsional rigidity

iF product design award
2014 for series R4.1L

Series	Inner height *hi* [mm]	Inner width *Bi* [mm]	Outer width *Ba* [mm]	Outer height *ha* [mm]	Bend radius *R* [mm]	Unsupported length ≤ [m]	Page
 **e-chains® with crossbars every link** light design, openable along the inner and outer radius, from both sides							
E4.31L	31	40 - 175	54 - 189	42	055 - 250	2.00	**536**
E4.38L	38	50 - 300	66 - 316	54	063 - 300	2.75	**542**
E4.48L	48	50 - 300	70 - 320	64	075 - 350	3.75	**550**
E4.64L	64	87 - 175	113 - 201	84	100 - 400	4.00	**560**
 **e-tubes, fully enclosed** light design, excellent cable protection, openable along the inner and outer radius, from both sides							
R4.31L	31	50 - 100	64 - 114	42	075 - 250	2.00	**536**
R4.38L	38	50 - 250	66 - 266	54	125 - 300	2.75	**542**
R4.48L	48	50 - 250	70 - 270	64	125 - 350	3.75	**550**

Available from stock. Ready to ship in 24 - 48 hrs.*

*The delivery times indicated correspond to the average time until the ordered goods are dispatched.

What does "Lean" mean in the E4.1L system?

Making a system "lean" means that its individual components are ideally matched to each other, making it more optimised. The aim is to avoid waste and increase efficiency. This is achieved in two ways: from the customer's point of view in order to fulfil their requirements, and from the producer's point of view in order to improve productivity and efficiency. igus® implements these lean properties in its energy supply systems in order to make time-saving e-chain® assembly possible, while also enabling quick and easy harnessing with cables.



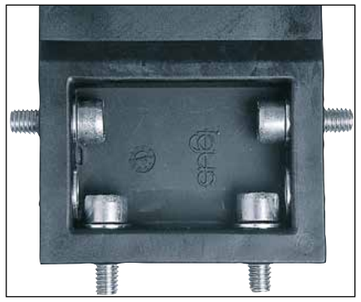
E4.1L e-chains® and R4.1L e-tube crossbars, lids and shelves are openable along the inner and outer radius, from both sides



Lean separators enable extremely fast cable filling in several layers



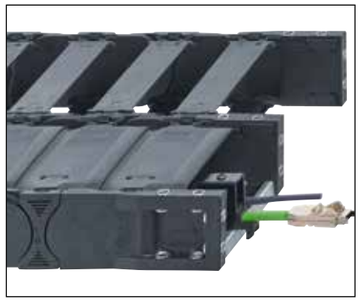
Assembled in seconds - honeycomb strain relief CFU. Simply insert cables and hoses into the honeycomb and close



KMA mounting brackets with attachment options from any side



Safe parallel guiding of corrugated tubes with the optional, external TUB guidance



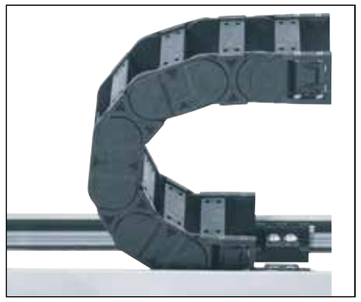
Extension links - for extremely wide e-chains® up to 2.0m with 50% more fill weight



Flexible extender crossbar range - e-chain® extender with crossbars for enlarging the interior

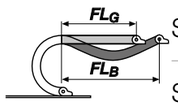


Aluminium SuperTrough - the standard igus® guide trough ▶ **From page 1208**



Aluminium and steel support tray for support of the lower run ▶ **From page 1264**

Technical data



Speed gliding[1] / acceleration gliding[1]	≤ 5 [m/s] / ≤ 25 [m/s²]
Speed FL_G / acceleration FL_G	≤ 20 [m/s] / ≤ 200 [m/s²]
Speed FL_B / acceleration FL_B	≤ 3 [m/s] / ≤ 6 [m/s²]
Material - permitted temperature °C, igumid G	-40°C / +120°C
Flammability class, igumid G	VDE 0304 IIC UL94-HB

FL_G = unsupported with straight upper run FL_B = unsupported with permitted sag

1) Series E4.31L / R4.31L: If a gliding application is required for a long travel, please consult igus®.

Installation types, maximum travels

Series	Unsupported	Gliding[1]	Vertical hanging	Vertical standing	Side mounted unsupported
E4.31L / R4.31L	≤ 4.0m	upon request	≤ 40m	≤ 2.5m	≤ 0.6m
E4.38L / R4.38L	≤ 5.5m	≤ 80m	≤ 50m	≤ 3.0m	≤ 1.0m
E4.48L / R4.48L	≤ 7.5m	≤ 100m	≤ 80m	≤ 3.0m	≤ 1.2m
E4.64L	≤ 4.0m	upon request	≤ 80m	≤ 8.0m	≤ 2.0m

1) Series E4.31L / R4.31L: If a gliding application is required for a long travel, please consult igus®.

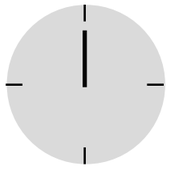


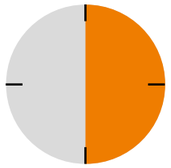
Swarf test in the igus® lab - protection proven in this test; stop-dogs completely free of swarf



The light and fully enclosed R4.1 L e-tubes from igus® are now available in a high-temperature version

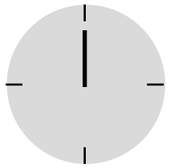
Interior separation

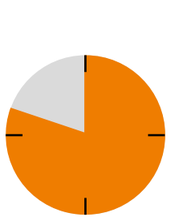






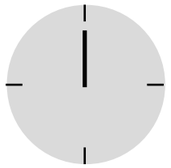
Strain relief

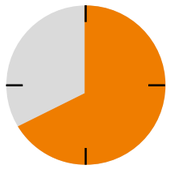






Opening crossbars and lids











Lean interior separation vs. standard interior separation - time saving due to easy shelf insertion

Time-saving lean separators - New

The new design of the igus® lean separators allows extremely fast fitting of shelves in several layers, which significantly reduces assembly time.

- Enable extremely fast replacement of individual cables in a very full e-chain®
- Several layers of cables fitted quickly
- Save up to 50%* assembly time

*Lean interior separation vs. standard interior separation. Measured on a 4m long e-chain® fitted with 12 cables in the igus® harnessing factory

▶ Save around 50% time*



Lean strain relief CFU vs. chainfix CFX - time-saving due to the honeycomb structure

Assembled in seconds - honeycomb strain relief CFU - New

80%* faster strain relief for different cable types in different chambers, fully flexible, with strong holding force and easy assembly.

- Strain relief of different cables in one slot
- Modified tribologically optimised honeycomb design for even higher holding force
- New side sections for assembly and disassembly in seconds
- Simplified parts
- Can be used for long travels

*Lean strain relief CFU vs. chainfix CFX. Measured on a 4m long e-chain® fitted with 12 cables in the igus® harnessing factory

▶ Save around 80% time*



Serie E4.48L vs. E4.42 - time-saving due to easy opening mechanism

E4.1L - fast to harness

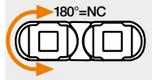
One of the quickest opening systems make the E4.1L the fastest e-chain® for harnessing.

- Save up to 67%* assembly time
- Lower weight, cable-friendly interior and improved ratio of inner to outer size
- Easy accessibility of the complete inner space, openable from both sides

*Series E4.48L vs. E4.42. Measured in the igus® harnessing factory

▶ Save around 67% time*

Options with order keys | Examples based on series E4.38L/R4.38L

	Standard	*Simply turn outer side link, no additional rework*	*Reverse Bend Radius (RBR) for circular movements*	*Unsupported lengths +25% possible*
	Part No. Standard	**Part No. NC-Version**	**Part No. *RBR***	**Part No. XXL material[2)]**
				
	E4.38L.100.*R*.0 e-chain® with crossbars every link	**E4.38L.100.*R*.0.NC** e-chain® with crossbars every link	**E4.38L.100.*R1/R2*.0** e-chain® with crossbars every link	**E4.38L.100.*R*.0.XXL** e-chain® with crossbars every link
	R4.38L.100.*R*.0 e-tube, closed	**R4.38L.100.*R*.0.NC** e-tube, closed	***RBR*** for e-tubes - please consult igus®	**R4.38L.100.*R*.0.XXL** e-tube, closed
	Ready to ship* in 24 - 48 hrs.	Ready to ship* in 24 - 48 hrs.	Delivery time*[1)] 5-10 business days	Delivery time* upon request

*The delivery times indicated correspond to the average time until the ordered goods are dispatched.

1) 2-5 business days with express surcharge 2) Side-bands made from XXL material

E4.1L | Options with order keys

	No burning-in of hot swarf up to +850°C (1562°F)	*ESD - electrically conductive material*
	Part No. igumid HT	**Part No. igumid ESD**
		
	–	**E4.38L.100.*R*.0.ESD** e-chain® with crossbars every link
	R4.38L.100.*R*.0.HT e-tube, closed	**R4.38L.100.*R*.0.ESD** e-tube, closed
	Delivery time* 7-10 business days	Delivery time* 10 business days

*The delivery times indicated correspond to the average time until the ordered goods are dispatched.

Order example | Examples based on series E4.38L

Order example for complete e-chain® (1.0m), colour black, with mounting brackets and interior separation:

e-chain® (1.0m)	Please indicate e-chain® length or number of links: 1.0m or 18 links	**E4.38L.100.150.0**
+ Mounting brackets	1 set (with odd number of links and integrated C-profiles)	**E4.380.100.1.12.C**
Interior separation	with 2 separators assembled every 2nd link	**2 x 38.1.1**
Order text:		**1m E4.38L.100.150.0 + E4.380.100.1.12.C + 2 x 38.1.1**

Order key and colour examples | Examples based on series E4.38L/R.4.38L

Order key

e-chain® with crossbars every link **E4.38L.100.150.0**

e-tube fully enclosed **R4.38L.100.150.0**

Series / Type

Inner height

Width index (depends on *Bi*)

Bend radius *R*

Colour index (standard black)

Order index for colour options

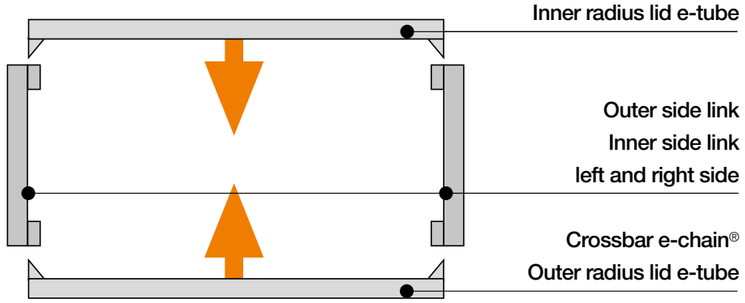
Colour	Order index		Colour	Order index	
Black	Standard	.0	Orange	Special colour	.2
Silver-grey	Special colour	.31	Yellow	Special colour	.4
White	Special colour	.1	Light grey	Special colour	.14
Grey-white	Special colour	.1S			

Black e-chains® available from stock.

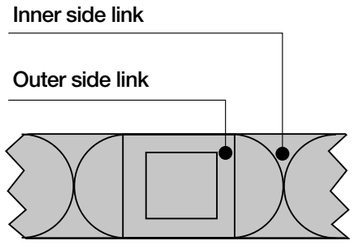
Above special colours upon request.

Four-piece e-chain® link as individual parts - E4.1L

e-chains®/e-tube link design



Inner/outer link principle



Part No. series	Crossbar[1] e-chain®	Inner radius lid[1] e-tube	Outer radius lid[1] e-tube	Outer side link[2]	Inner side link[3]
E4.31L / R4.31L	C414.*Bi*	E4.315.*Bi*	E4.316.*Bi*	E4.31L.01	E4.31L.02.*R*
E4.38L / R4.38L	C622.*Bi*	E4.385.*Bi*	E4.386.*Bi*	E4.38L.01	E4.38L.02.*R*
E4.48L / R4.48L	C622.*Bi*	E4.485.*Bi*	E4.486.*Bi*	E4.48L.01	E4.48L.02.*R*
E4.64L	C824.*Bi*	–	–	E4.64L.01	E4.64L.02.*R*

1) Crossbar / lid / shelf - append part number with the desired value in the width index ***Bi,*** e.g. **C622.**150

2) Outer link - suitable for any radius

3) Inner link - Part No. with required radius ***R***. Example: **E4.38L.02.**150

Available from stock. Ready to ship in 24 - 48 hrs.*

*The delivery times indicated correspond to the average time until the ordered goods are dispatched.

1



Line up inner and outer links alternately ...

2



... insert the undercut of the outer link into the groove on the inner link and click together

3



Click in crossbars into one side, close them and snap into place

4



To open, insert the screwdriver into the locking mechanism and prise it open outwards

An assembly video available online at ▶ www.igus.eu/E4.1L_assembly

E4.1L | Series E4.31L·R4.31L | Product range

Light design, high dynamics, cost-effective



e-chains® | E4.31L | Crossbars every link (openable along inner and outer radius, from both sides)
e-tubes | R4.31L | Fully enclosed (lids openable along inner and outer radius, from both sides)

Part No. e-chains®	Part No. e-tubes	Bi [mm]	Ba [mm]	E4.31L [kg/m]	R4.31L [kg/m]
E4.31L. 040.R.0	–	040	054	≈ 0.70	–
E4.31L. 050.R.0	R4.31L. 050.R.0	050	064	≈ 0.74	≈ 0.87
E4.31L. 062.R.0	–	062	076	≈ 0.76	–
E4.31L. 075.R.0	R4.31L. 075.R.0**	075	089	≈ 0.78	≈ 1.01
E4.31L. 087.R.0	–	087	101	≈ 0.83	–
E4.31L. 100.R.0	R4.31L. 100.R.0	100	114	≈ 0.88	≈ 1.10
E4.31L. 112.R.	–	112	126	≈ 0.93	–
E4.31L. 125.R.0	R4.31L. 125.R.0**	125	139	≈ 0.96	≈ 1.28
E4.31L. 137.R.0**	–	137	151	≈ 0.98	–
E4.31L. 150.R.0	R4.31L. 150.R.0**	150	164	≈ 1.00	≈ 1.40
E4.31L. 162.R.0	–	162	176	≈ 1.04	–
E4.31L. 175.R.0	R4.31L. 175.R.0**	175	189	≈ 1.13	≈ 1.55
E4.31L. 187.R.0**	–	187	201	≈ 1.17	–
E4.31L. 200.R.0**	R4.31L. 200.R.0**	200	214	≈ 1.17	≈ 1.68

**Width available upon request. Please consult igus® for delivery time.

1) Radius not available for e-tubes

Available bend radii

R [mm] | 055[1)] | 063[1)] | 075 | 100 | 125 | 150 | 175 | 200 | 250 |

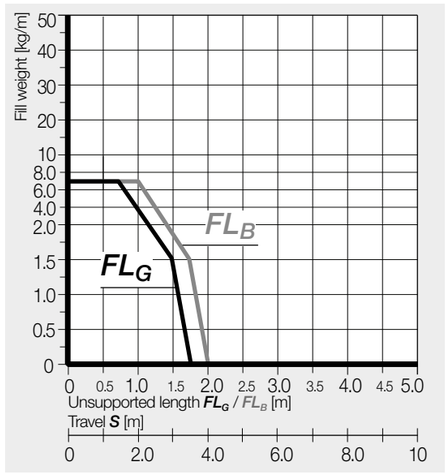
Complete Part No. with required radius (*R*). Example:

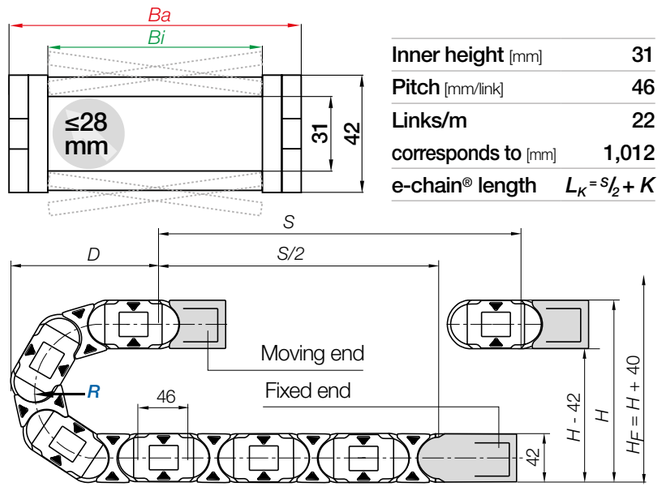
E4.31L.050.075.0 = crossbars every link / R4.31L.050.075.0 = fully enclosed

E4.1L | E4.31L·R4.31L | Installation dimensions

Unsupported applications | Short travel

▶ 1300 ▶ 1222



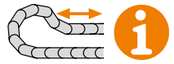


Inner height [mm]	31
Pitch [mm/link]	46
Links/m	22
corresponds to [mm]	1,012
e-chain® length	$L_K = S/2 + K$

R	055[1)]	063[1)]	075	100	125	150	175	200	250
H	152	168	192	242	292	342	392	442	542
D	145	153	165	190	215	240	265	290	340
K	265	290	330	410	485	565	645	725	880

The required clearance height: $H_F = H + 40$mm (with 1.0kg/m fill weight)

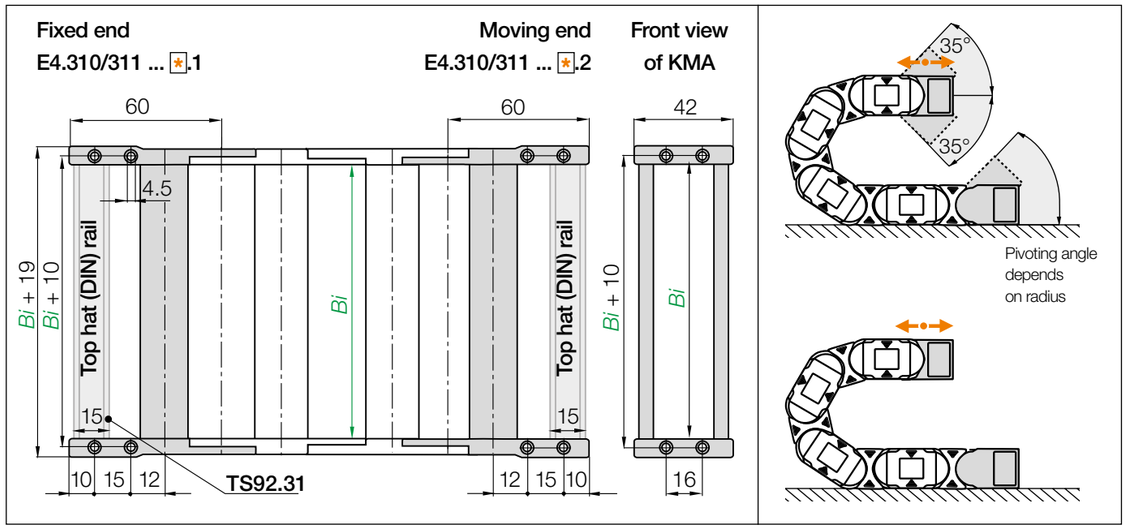
1) Radius not available for e-tubes



If a gliding application is required for a long travel, please consult igus®.

E4.1L | **e-chains®** E4.31L | Accessories

KMA mounting brackets | Attachment from any side | Pivoting | Locking



Standard KMA pivoting | Recommended for unsupported and gliding applications
KMA locking | Recommended for vertical hanging and standing applications

Width index	Part No. full set **KMA pivoting**	Part No. full set **KMA locking**	*Bi* [mm]	Width index	Part No. full set **KMA pivoting**	Part No. full set **KMA locking**	*Bi* [mm]
040. ▶	**E4.310.040.✱.12**.C	**E4.311.040.✱.12**.C	040	125. ▶	**E4.310.125.✱.12**.C	**E4.311.125.✱.12**.C	125
050. ▶	**E4.310.050.✱.12**.C	**E4.311.050.✱.12**.C	050	137. ▶	E4.310.137.✱.12.C*	E4.311.137.✱.12.C*	137
062. ▶	**E4.310.062.✱.12**.C	**E4.311.062.✱.12**.C	062	150. ▶	**E4.310.150.✱.12**.C	**E4.311.150.✱.12**.C	150
075. ▶	**E4.310.075.✱.12**.C	**E4.311.075.✱.12**.C	075	162. ▶	**E4.310.162.✱.12**.C	**E4.311.162.✱.12**.C	162
087. ▶	**E4.310.087.✱.12**.C	**E4.311.087.✱.12**.C	087	175. ▶	**E4.310.175.✱.12**.C	**E4.311.175.✱.12**.C	175
100. ▶	**E4.310.100.✱.12**.C	**E4.311.100.✱.12**.C	100	187. ▶	E4.310.187.✱.12.C*	E4.311.187.✱.12.C*	187
112. ▶	**E4.310.112.✱.12**.C	**E4.311.112.✱.12**.C	112	200. ▶	E4.310.200.✱.12.C*	E4.311.200.✱.12.C*	200

(KMA = polymer metal mounting bracket) For the TS92.31 top-hat (DIN) rail option please add index **.C**

*Width available upon request. Delivery time upon request. **Note:** If a gliding application is required for a long travel, please consult igus®.

Strain relief elements with tie-wrap teeth

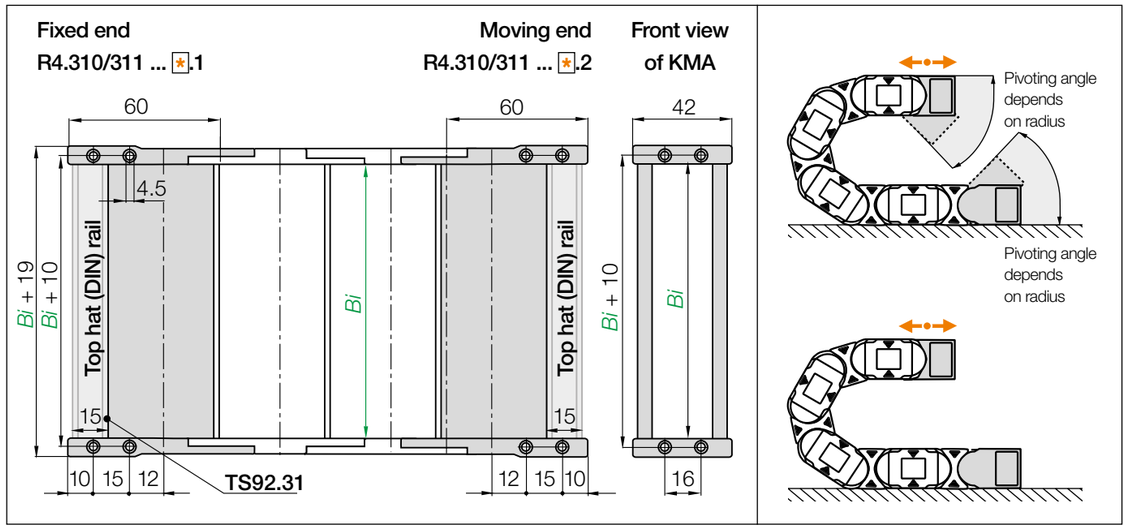
- Stepped strain relief element outside of the e-chain® cross section
- For e-chains® and e-tubes
- Easy to retrofit
- Simple installation into top hat (DIN) rail 15 (TS92.31)

Part No. CFV.31.N15 - more information ▶ From page 1330



E4.1L | **e-tubes** R4.31L | Accessories

KMA mounting brackets | Attachment from any side | Pivoting | Locking

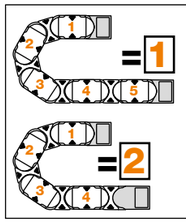


Standard KMA pivoting | Recommended for unsupported and gliding applications
KMA locking | Recommended for vertical hanging and standing applications

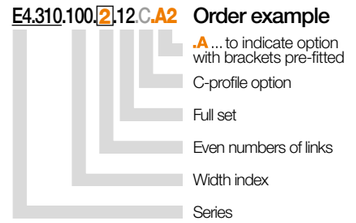
Width index	Part No. full set **KMA pivoting**	Part No. full set **KMA locking**	*Bi* [mm]	Width index	Part No. full set **KMA pivoting**	Part No. full set **KMA locking**	*Bi* [mm]
050. ▶	**R4.310.050.✱.12**.C	**R4.311.050.✱.12**.C	050	150. ▶	R4.310.150.✱.12.C*	R4.311.150.✱.12.C*	150
075. ▶	R4.310.075.✱.12.C*	R4.311.075.✱.12.C*	075	175. ▶	R4.310.175.✱.12.C*	R4.311.175.✱.12.C*	175
100. ▶	**R4.310.100.✱.12**.C	**R4.311.100.✱.12**.C	100	200. ▶	R4.310.200.✱.12.C*	R4.311.200.✱.12.C*	200
125. ▶	R4.310.125.✱.12.C*	R4.311.125.✱.12.C*	125				

(KMA = polymer metal mounting bracket) For the TS92.31 top-hat (DIN) rail option please add index **.C**

*Width available upon request. Delivery time upon request. **Note:** If a gliding application is required for a long travel, please consult igus®.



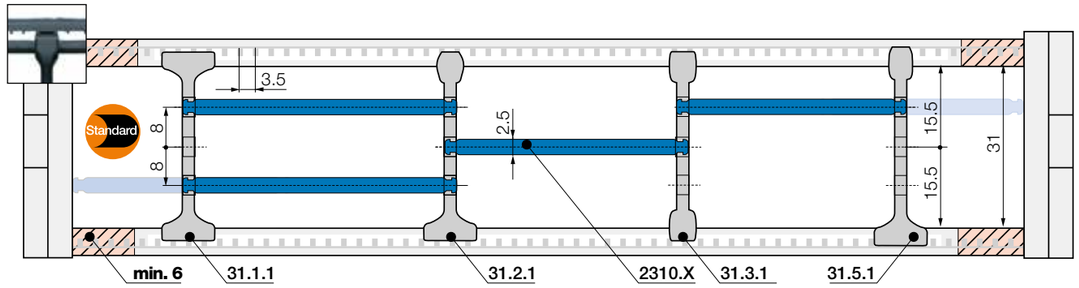
Note: ✱ The e-chains® may end with either an inner or an outer side link. An outer side link should always be the first e-chain® link at the moving end. Please specify the index 1 (for odd) or 2 (for even) depending on an even or odd number of links required. Please add the index **.A2** for the **preassembled** standard version, with C-profile in the inner radius at the moving end and in the outer radius at the fixed end.



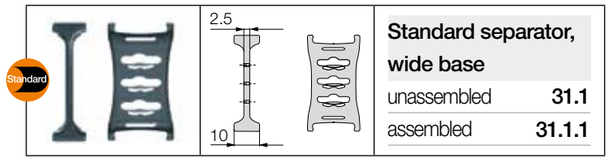
Strain relief e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with ordering options ▶ From page 1300

E4.1L | Series E4.31L·R4.31L | Accessories

Interior separation | Increase cable service life



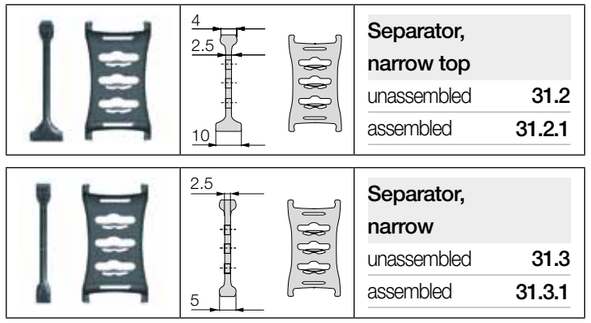
Note: Please be aware of the minimum lateral gap to the side links! **e-tube: 6mm** | **e-chain®: 6mm**
As standard separators are fitted every 2nd e-chain® link!



Standard separator, wide base	
unassembled	**31.1**
assembled	**31.1.1**

Standard - for any application

Separator with a wide base for maximum holding force in the e-chain®.



Separator, narrow top	
unassembled	**31.2**
assembled	**31.2.1**

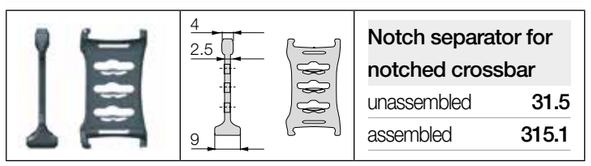
For even faster installation

Wide on one side for high holding force, narrow on opposite side for easy cable fitting.

Separator, narrow	
unassembled	**31.3**
assembled	**31.3.1**

For small cables

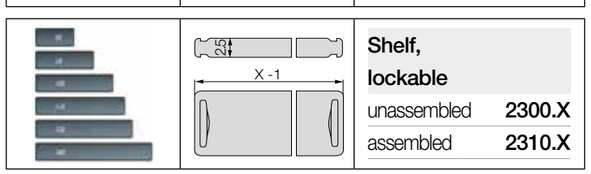
Separator with a narrow base for a large number of small cables side by side. Saves space in the e-chain®.



Notch separator for notched crossbar	
unassembled	**31.5**
assembled	**315.1**

Locks securely in preset increments

Notch separator for exact positioning in e-chains®. Recommended for side-mounted applications.



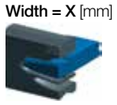
Shelf, lockable	
unassembled	**2300.X**
assembled	**2310.X**

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Shelves

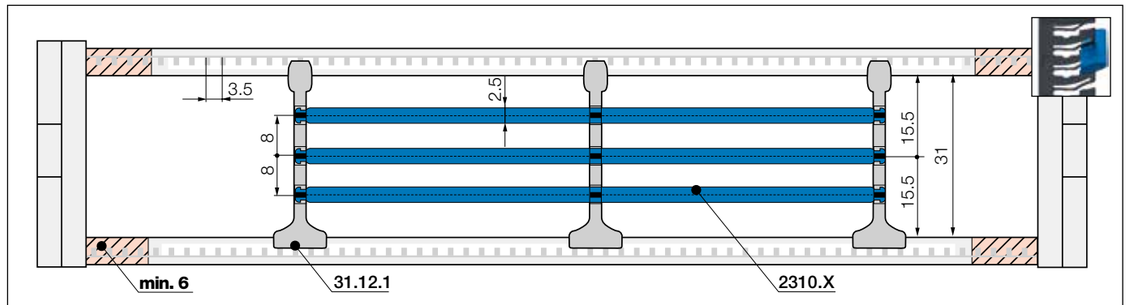
Width = X [mm]



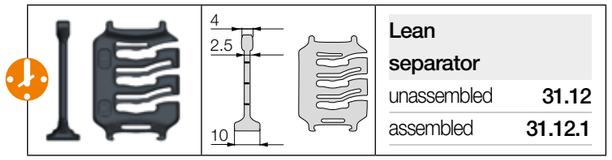
X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
015	**2300.015**	**2310.015**	060	**2300.060**	**2310.060**	087	**2300.87**	**2310.087**
025	**2300.025**	**2310.025**	062	**2300.062**	**2310.062**	090	**2300.90**	**2310.090**
030	**2300.030**	**2310.030**	065	**2300.065**	**2310.065**	100	**2300.100**	**2310.100**
038	**2300.038**	**2310.038**	070	**2300.070**	**2310.070**	103	**2300.103**	**2310.103**
040	**2300.040**	**2310.040**	075	**2300.075**	**2310.075**	110	**2300.110**	**2310.110**
050	**2300.050**	**2310.050**	077	**2300.077**	**2310.077**	120	**2300.120**	**2310.120**
057	**2300.057**	**2310.057**	080	**2300.080**	**2310.080**	125	**2300.125**	**2310.125**

E4.1L | Series E4.31L·R4.31L | Accessories

Interior separation | To allow faster filling New



Note: Please be aware of the minimum lateral gap to the side links! **e-tube: 6mm** | **e-chain®: 6mm**
As standard separators are fitted every 2nd e-chain® link!



Lean separator	
unassembled	**31.12**
assembled	**31.12.1**

Lean separators

New design allows extremely fast fitting of shelves in several layers, which significantly reduces assembly time. Enables extremely fast replacement of individual cables in a very full e-chain®.

Lean separator design - several layers of cables fitted quickly, save up to 50%* assembly time
(*Lean separator vs. standard separator - measured on a 4m long e-chain® fitted with 12 cables in the igus® harnessing factory)



Separator with integrated strain relief teeth

- Can be integrated into the mounting bracket or placed at any point in the e-chain®
- Combines strain relief and interior separation, for restricted space conditions
- Strain relief separator is easy to assemble without any tools

Part No. 31.Z. More information ▶ From page 1326



Aluminium support tray

- Corrosion-resistant and seawater-resistant aluminium rails with adjustable width
- Noise-reducing glide strip integrated as standard
- Easy installation and connection of the e-chain®
- Open design - dirt and debris fall through

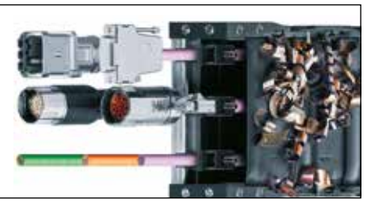
More information ▶ From page 1270



Swarf up to +850°C

- e-tubes to withstand +850°C swarf, as a special option
- No hot swarf melting or embedding into the chain
- igus® igumid HT material

More information ▶ www.igus.eu/HT



E4.1L | Series E4.38L·R4.38L | Product range

Light design, high dynamics, cost-effective

38



e-chains® | E4.38L | Crossbars every link (openable along inner and outer radius, from both sides)
e-tubes | R4.38L | Fully enclosed (lids openable along inner and outer radius, from both sides)

Part No. e-chains®	Part No. e-tubes	Bi [mm]	Ba [mm]	E4.38L [kg/m]	R4.38L [kg/m]
E4.38L. 050.*R*.0	R4.38L. 050.*R*.0	050	066	≈ 1.13	≈ 1.20
E4.38L. 062.*R*.0	–	062	078	≈ 1.19	–
E4.38L. 075.*R*.0	R4.38L. 075.*R*.0	075	091	≈ 1.26	≈ 1.38
E4.38L 087.*R*.0	–	087	103	≈ 1.30	–
E4.38L. 100.*R*.0	R4.38L. 100.*R*.0	100	116	≈ 1.37	≈ 1.60
E4.38L. 105.*R*.0	–	105	125	≈ 1.39	–
E4.38L. 112.*R*.0	–	112	128	≈ 1.44	–
E4.38L. 125.*R*.0	R4.38L. 125.*R*.0	125	141	≈ 1.50	≈ 1.75
E4.38L. 137.*R*.0	–	137	153	≈ 1.55	–
E4.38L. 150.*R*.0	R4.38L. 150.*R*.0	150	166	≈ 1.65	≈ 1.92
E4.38L. 162.*R*.0	–	162	178	≈ 1.69	–
E4.38L. 175.*R*.0	R4.38L. 175.*R*.0	175	191	≈ 1.74	≈ 2.10
E4.38L. 187.*R*.0**	–	187	203	≈ 1.80	–
E4.38L. 200.*R*.0	R4.38L. 200.*R*.0	200	216	≈ 1.86	≈ 2.29
E4.38L. 212.*R*.0**	–	212	228	≈ 1.90	–

Part No. e-chains®	Part No. e-tubes	Bi [mm]	Ba [mm]	E4.38L [kg/m]	R4.38L [kg/m]
E4.38L. 225.*R*.0	–	225	241	≈ 1.97	–
E4.38L. 237.*R*.0	–	237	253	≈ 2.05	–
E4.38L. 250.*R*.0	R4.38L. 250.*R*.0	250	266	≈ 2.11	≈ 2.65
E4.38L. 262.*R*.0	–	262	278	≈ 2.15	–
E4.38L. 275.*R*.0**	–	275	291	≈ 2.22	–
E4.38L. 287.*R*.0**	–	287	303	≈ 2.30	–
E4.38L. 300.*R*.0	R4.38L. 300.*R*.0**	300	316	≈ 2.36	≈ 3.00
E4.38L. 312.*R*.0**	–	312	328	≈ 2.40	–
E4.38L. 325.*R*.0**	–	325	341	≈ 2.47	–
E4.38L. 337.*R*.0**	–	337	353	≈ 2.55	–
E4.38L. 350.*R*.0**	–	350	366	≈ 2.57	–
E4.38L. 362.*R*.0**	–	362	378	≈ 2.60	–
E4.38L. 375.*R*.0**	–	375	391	≈ 2.65	–
E4.38L. 387.*R*.0**	–	387	403	≈ 2.76	–
E4.38L. 400.*R*.0**	–	400	416	≈ 2.83	–

**Width available upon request. Please consult igus® for delivery time.

*Radius available upon request. Please consult igus® for delivery time. 1) Radius not available for e-tubes

Available bend radii

R [mm] | 063[1)] | 075[1)] | 100[1)] | 125 | 150 | 175 | 200 | 250 | 300 | 350*|

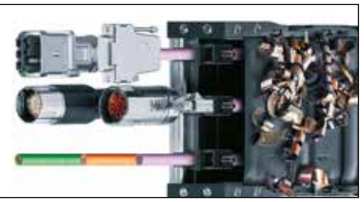
Complete Part No. with required radius (*R*). Example:

E4.38L.100.150.0 = crossbars every link / R4.38L.100.150.0 = fully enclosed

Swarf up to +850°C

- e-tubes to withstand +850°C swarf, as a special option
- No hot swarf melting or embedding into the chain
- igus® igumid HT material

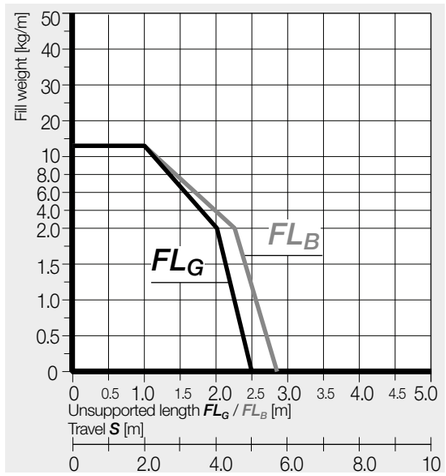
More information ▶ www.igus.eu/HT

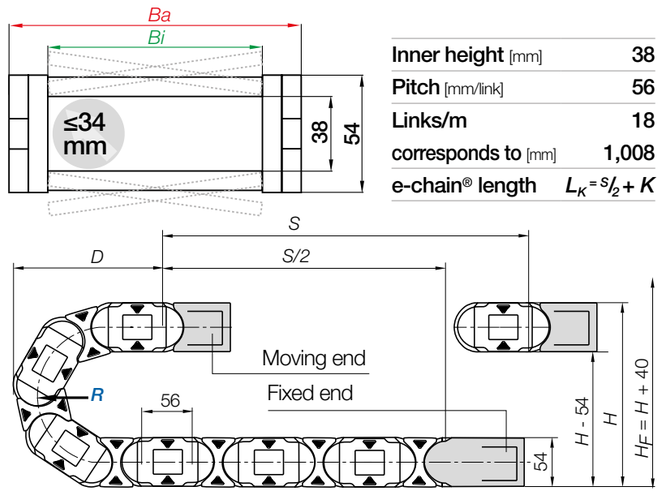


E4.1L | E4.38L·R4.38L | Installation dimensions

Unsupported applications | Short travel

▶ 1300 ▶ 1224





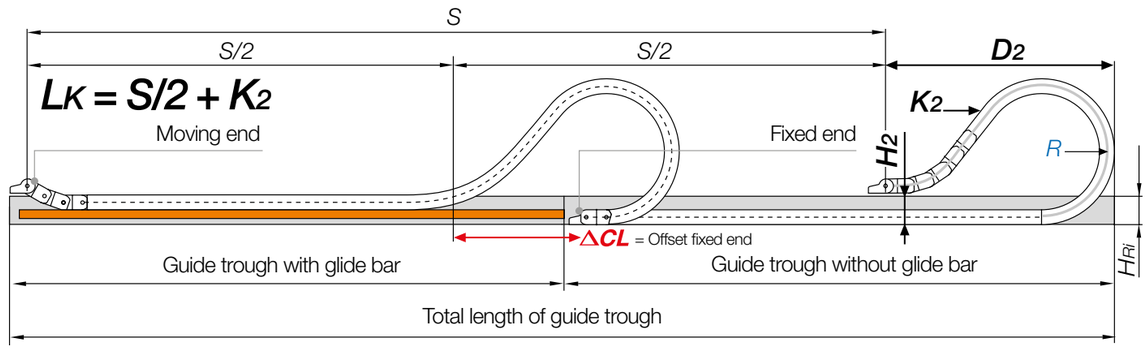
Inner height [mm]	38
Pitch [mm/link]	56
Links/m	18
corresponds to [mm]	1,008
e-chain® length	$L_K = S/2 + K$

R	063[1)]	075[1)]	100[1)]	125	150	175	200	250	300	350*
H	180	204	254	304	354	404	454	554	654	754
D	174	186	211	236	261	286	311	361	411	461
K	310	350	430	505	585	665	745	900	1,055	1,215

The required clearance height: $H_F = H + 40$mm (with 2.0kg/m fill weight)

*Radius available upon request. Please consult igus® for delivery time. 1) Radius not available for e-tubes

Gliding applications | For long travels from 10m to max. 80m



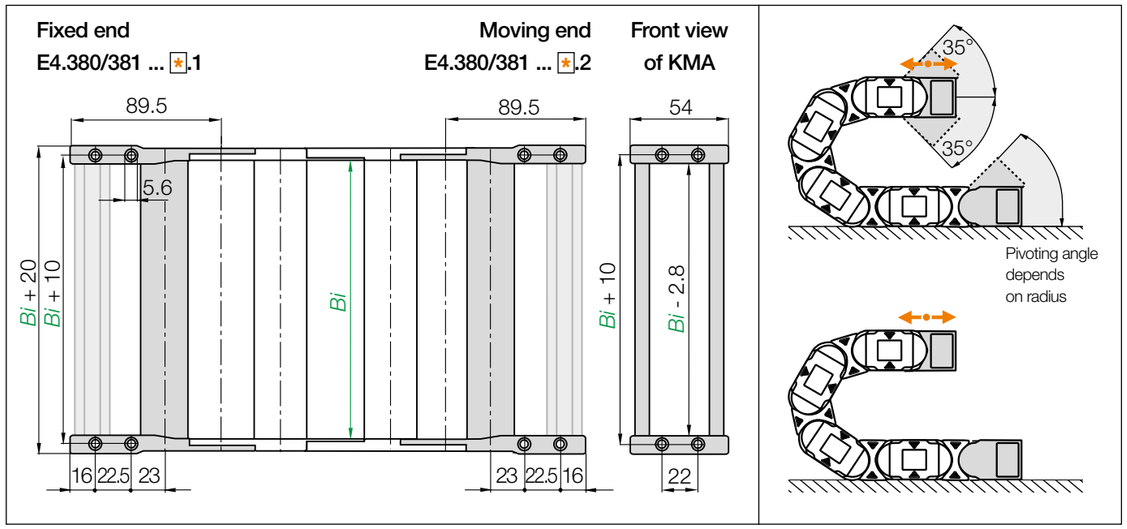
Note: We recommend the project planning of such a system to be carried out by igus®.
In case of travels between 5 and 10m we recommend an e-chain® with a longer unsupported length.

R	063[1)]	075[1)]	100[1)]	125	150	175	200	250[2)]	300[2)]	350[2)]
H_2	180	204	96	96	96	96	96	–	–	–
D_2	174	186	370	470	500	655	770	–	–	–
K_2	310	350	616	784	896	1,120	1,288	–	–	–
ΔCL	–	–	160	210	240	370	460	–	–	–

1) Radius not available for e-tubes 2) Radius not suitable for long travels. Please consult igus®.

E4.1L | **e-chains®** E4.38L | Accessories

KMA mounting brackets | Attachment from any side | Pivoting | Locking



Standard KMA pivoting | Recommended for unsupported and gliding applications
KMA locking | Recommended for vertical hanging and standing applications

Width index	Part No. full set **KMA pivoting**	Part No. full set **KMA locking**	*Bi* [mm]
050. ▶	**E4.380.050.✱.12.C**	**E4.381.050.✱.12.C**	050
062. ▶	**E4.380.062.✱.12.C**	**E4.381.062.✱.12.C**	062
075. ▶	**E4.380.075.✱.12.C**	**E4.381.075.✱.12.C**	075
087. ▶	**E4.380.087.✱.12.C**	**E4.381.087.✱.12.C**	087
100. ▶	**E4.380.100.✱.12.C**	**E4.381.100.✱.12.C**	100
105. ▶	**E4.380.105.✱.12.C**	**E4.381.105.✱.12.C**	105
112. ▶	**E4.380.112.✱.12.C**	**E4.381.112.✱.12.C**	112
125. ▶	**E4.380.125.✱.12.C**	**E4.381.125.✱.12.C**	125
137. ▶	**E4.380.137.✱.12.C**	**E4.381.137.✱.12.C**	137
150. ▶	**E4.380.150.✱.12.C**	**E4.381.150.✱.12.C**	150
162. ▶	**E4.380.162.✱.12.C**	**E4.381.162.✱.12.C**	162
175. ▶	**E4.380.175.✱.12.C**	**E4.381.175.✱.12.C**	175
187. ▶	E4.380.187.✱.12.C*	E4.381.187.✱.12.C*	187
200. ▶	**E4.380.200.✱.12.C**	**E4.381.200.✱.12.C**	200
212. ▶	E4.380.212.✱.12.C*	E4.381.212.✱.12.C*	212

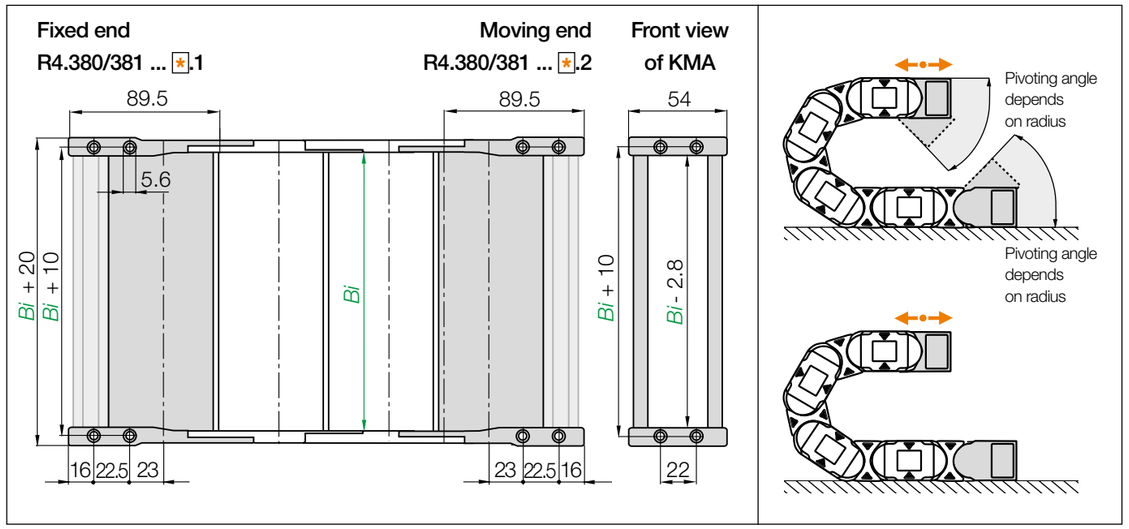
Width index	Part No. full set **KMA pivoting**	Part No. full set **KMA locking**	*Bi* [mm]
225. ▶	**E4.380.225.✱.12.C**	**E4.381.225.✱.12.C**	225
237. ▶	**E4.380.237.✱.12.C**	**E4.381.237.✱.12.C**	237
250. ▶	**E4.380.250.✱.12.C**	**E4.381.250.✱.12.C**	250
262. ▶	**E4.380.262.✱.12.C**	**E4.381.262.✱.12.C**	262
275. ▶	E4.380.275.✱.12.C*	E4.381.275.✱.12.C*	275
287. ▶	E4.380.287.✱.12.C*	E4.381.287.✱.12.C*	287
300. ▶	**E4.380.300.✱.12.C**	**E4.381.300.✱.12.C**	300
312. ▶	E4.380.312.✱.12.C*	E4.381.312.✱.12.C*	312
325. ▶	E4.380.325.✱.12.C*	E4.381.325.✱.12.C*	325
337. ▶	E4.380.337.✱.12.C*	E4.381.337.✱.12.C*	337
350. ▶	E4.380.350.✱.12.C*	E4.381.350.✱.12.C*	350
362. ▶	E4.380.362.✱.12.C*	E4.381.362.✱.12.C*	362
375. ▶	E4.380.375.✱.12.C*	E4.381.375.✱.12.C*	375
387. ▶	E4.380.387.✱.12.C*	E4.381.387.✱.12.C*	387
400. ▶	E4.380.400.✱.12.C*	E4.381.400.✱.12.C*	400

(KMA = polymer metal mounting bracket) For the C-profile option please add index **.C**

*Width available upon request. Please consult igus® for delivery time.

E4.1L | **e-tubes** R4.38L | Accessories

KMA mounting brackets | Attachment from any side | Pivoting | Locking



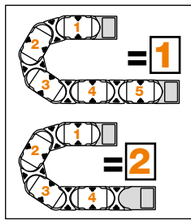
Standard KMA pivoting | Recommended for unsupported and gliding applications
KMA locking | Recommended for vertical hanging and standing applications

Width index	Part No. full set **KMA pivoting**	Part No. full set **KMA locking**	*Bi* [mm]
050. ▶	**R4.380.050.✱.12.C**	**R4.381.050.✱.12.C**	050
075. ▶	**R4.380.075.✱.12.C**	**R4.381.075.✱.12.C**	075
100. ▶	**R4.380.100.✱.12.C**	**R4.381.100.✱.12.C**	100
125. ▶	**R4.380.125.✱.12.C**	**R4.381.125.✱.12.C**	125
150. ▶	**R4.380.150.✱.12.C**	**R4.381.150.✱.12.C**	150

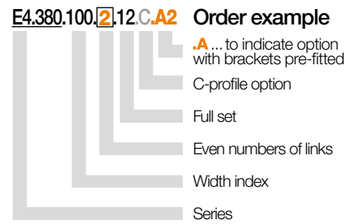
Width index	Part No. full set **KMA pivoting**	Part No. full set **KMA locking**	*Bi* [mm]
175. ▶	**R4.380.175.✱.12.C**	**R4.381.175.✱.12.C**	175
200. ▶	**R4.380.200.✱.12.C**	**R4.381.200.✱.12.C**	200
250. ▶	**R4.380.250.✱.12.C**	**R4.381.250.✱.12.C**	250
300. ▶	R4.380.300.✱.12.C*	R4.381.300.✱.12.C*	300

(KMA = polymer metal mounting bracket) For the C-profile option please add index **.C**

*Width available upon request. Please consult igus® for delivery time.



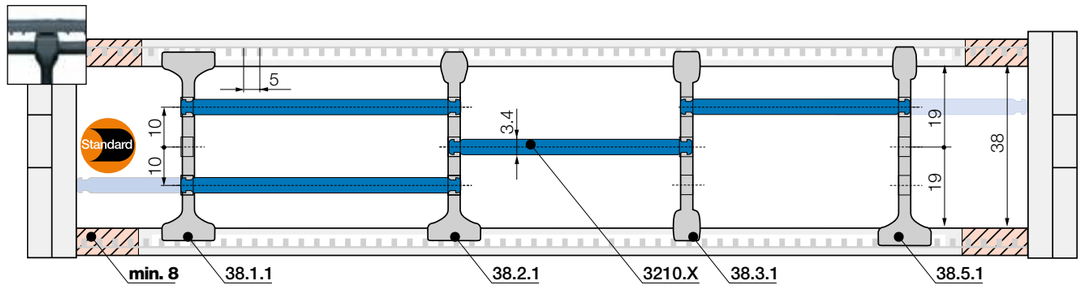
Note: ✱ The e-chains® may end with either an inner or an outer side link. An outer side link should always be the first e-chain® link at the moving end. Please specify the index **1** (for odd) or **2** (for even) depending on an even or odd number of links required. Please add the index **.A2** for the **preassembled** standard version, with C-profile in the inner radius at the moving end and in the outer radius at the fixed end.



Strain relief **e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with ordering options ▶ From page 1300**

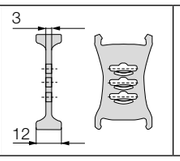
E4.1L | Series E4.38L·R4.38L | Accessories

Interior separation | Increase cable service life



Note: Please be aware of the minimum lateral gap to the side links! **e-tube: 8mm** | **e-chain®: 8mm**
As standard separators are fitted every 2nd e-chain® link!



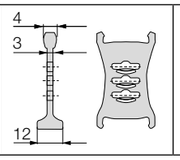


Standard separator, wide base	
unassembled	**38.1**
assembled	**38.1.1**

Standard - for any application

Separator with a wide base for maximum holding force in the e-chain®.



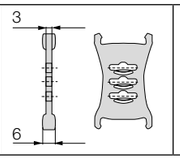


Separator, narrow top	
unassembled	**38.2**
assembled	**38.2.1**

For even faster installation

Wide on one side for high holding force, narrow on opposite side for easy cable fitting.



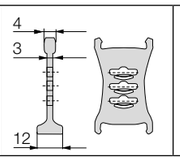


Separator, narrow	
unassembled	**38.3**
assembled	**38.3.1**

For small cables

Separator with a narrow base for a large number of small cables side by side. Saves space in the e-chain®.

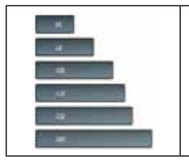


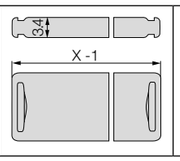


Notch separator for notched crossbar	
unassembled	**38.5**
assembled	**38.5.1**

Locks securely in preset increments

Notch separator for exact positioning in e-chains®. Recommended for side-mounted applications.





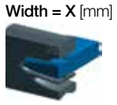
Shelf, lockable	
unassembled	**3200.X**
assembled	**3210.X**

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Shelves

Width = X [mm]

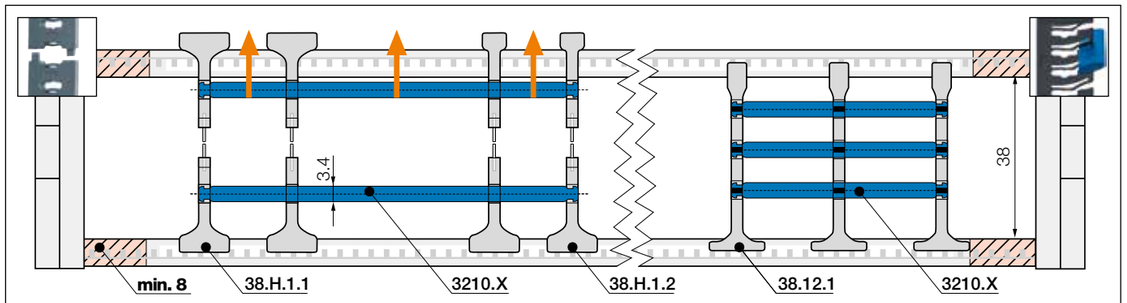


X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
050	**3200.050**	**3210.050**	125	**3200.125**	**3210.125**	225	**3200.225**	**3210.225**
075	**3200.075**	**3210.075**	150	**3200.150**	**3210.150**	250	**3200.250**	**3210.250**
100	**3200.100**	**3210.100**	175	**3200.175**	**3210.175**			
115	**3200.115**	**3210.115**	200	**3200.200**	**3210.200**			

E4.38L
R4.38L

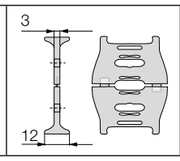
E4.1L | Series E4.38L·R4.38L | Accessories

Interior separation | To allow faster filling New



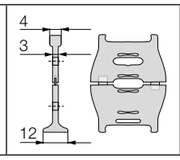
Note: Please be aware of the minimum lateral gap to the side links! **e-tube: 8mm** | **e-chain®: 8mm**
As standard separators are fitted every 2nd e-chain® link!





Split separator, wide base/top	
unassembled	**38.H.1**
assembled	**38.H.1.1**



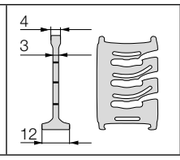


Split separator, narrow top	
unassembled	**38.H.2**
assembled	**38.H.2.1**

Split separators

In order to fill e-chains® more easily and effectively, these separators can be split in the middle. This allows easier access to middle shelf partitions. Fast assembly and easy retrofit. 2 types available: with wide or narrow top.





Lean separator	
unassembled	**38.12**
assembled	**38.12.1**

Lean separators

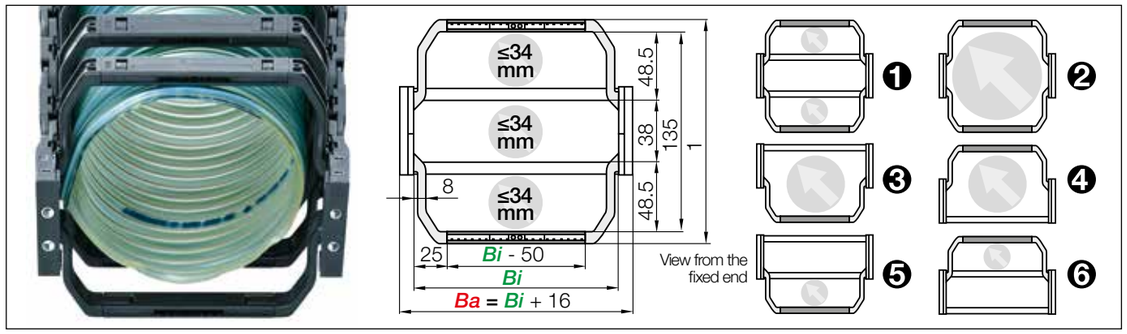
New design allows extremely fast fitting of shelves in several layers, which significantly reduces assembly time. Enables extremely fast replacement of individual cables in a very full e-chain®.

Lean separator design - several layers of cables fitted quickly, save up to 50%* assembly time
(*Lean separator vs. standard separator - measured on a 4m long e-chain® fitted with 12 cables in the igus® harnessing factory)



E4.1L | Series E4.38L·R4.38L | Further accessories

e-chain® with openable extender crossbars



Extender crossbars with flexible width | Safe guiding for large hoses

- For guiding and protecting large hoses
- With mounting for noise dampers
- Cable-friendly design, high crossbar holding force
- The openable extender crossbars can be fitted in different ways and combinations
- Optionally openable along the inner or outer radius

Versions e-chain® with extender crossbar	Hose Ø ≤ [mm]	Part No. e-chain® with extender crossbar
❶ Extender crossbar and standard crossbar alternating along the inner and outer radius [1]	34	E4.38L.XXXHB48.R.0
❷ Extender crossbar on both sides along the inner and outer radius [2]	122	E4.38L.XXXB48.R.0
❸ Extender crossbar along the outer radius [3]	78	E4.38L.XXXBE48.R.0
❹ Extender crossbar along the inner radius [2]	78	E4.38L.XXXBZ48.R.0
❺ Extender crossbar and standard crossbar alternating along the outer radius [3]	34	E4.38L.XXXHBE48.R.0
❻ Extender crossbar and standard crossbar alternating along inner radius [1]	34	E4.38L.XXXHBZ48.R.0

1) Minimum bend radius: R 125 2) Minimum bend radius: R 150 3) Minimum bend radius: R 063 *Width available upon request. Delivery time upon request

Bi [mm] Available inner widths

| 100 | 125 | 137 | 150 | 162 | 175 | 187 | 200 | 212 | 225 | 237 | 250 | 262* | 275* | 287* | 300* | 312* | 325* | 337* | 350* |

Complete Part No. with the width index XXX Bi and the radius (R). Example:

E4.38L.100B48.150.0 = extender crossbar on both sides along inner and outer radius



The E4.1L can be fitted with openable extender crossbars, which increase the size of the interior of the e-chain®. Crossbars can be fitted in various ways: from one or both sides, alternating with standard crossbars and or any combination

Aluminium support tray

- Corrosion-resistant and seawater-resistant aluminium rails with adjustable width
- Noise-reducing glide strip integrated as standard
- Easy installation and connection of the e-chain®
- Open design - dirt and debris fall through

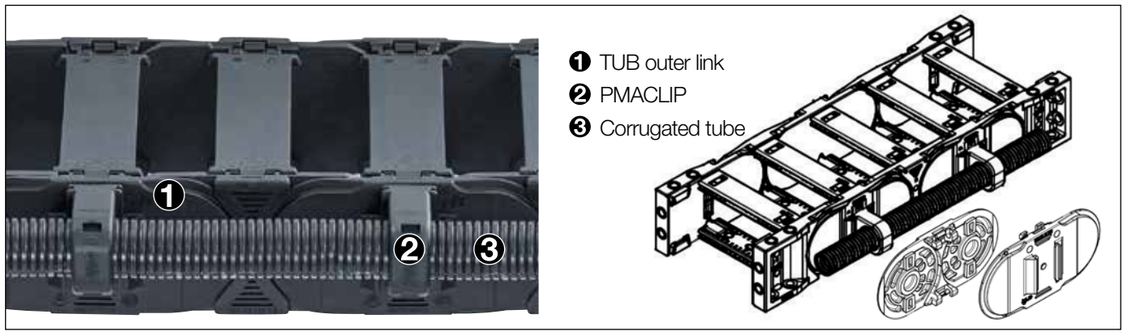
More information ▶ From page 1270



E4.1L | Series E4.38L·R4.38L | Further accessories

E4.38L
R4.38L

TUB New



TUB | Safe guidance for corrugated tubes parallel to the e-chain®

- Additional, simple guidance for corrugated tubes on the outside of the e-chain®
- PMACLIP allows corrugated tubes with nominal widths 07, 10 ,12, 17mm to be easily clipped on
- Easy access to the corrugated tubes, fast replacement of the hoses
- Reduce assembly time and cost - easy to assemble, without any additional screws or tools
- The part number includes the e-chain® with TUB side sections; the PMACLIP support and the hose are ordered separately

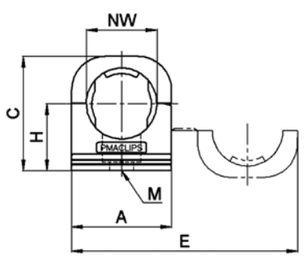
Part No. TUB Outer link right*	Part No. TUB Outer link left*	Part No. TUB Outer link at both ends*	For corrugated tube nominal diameter Ø [mm]
E4.38L.XXXTUBR.R.0	E4.38L.XXXTUBL.R.0	E4.38L.XXXTUB.R.0	07 / 10 / 12 / 17

*View from the fixed end

Part number appended with width index XXX Bi and radius (R) e.g.

E4.38L.100TUBR.150.0 = with TUB outer sections every 2nd right hand link

Product range | PMACLIP | Support, one-piece, with safety clip





PMACLIP support - one-piece construction with safety clip, suitable for corrugated tubes

Part No. PMACLIP	NW Ø [mm]	A mm	B mm	C mm	H mm	E mm	M mm
I-BFH-07-0	07	17.0	20.0	21.5	13.5	40.5	M4
I-BFH-10-0	10	20.5	20.0	24.5	15.5	47.5	M5
I-BFH-12-0	12	24.0	20.0	27.0	16.5	54.5	M5
I-BFH-17-0	17	30.0	20.0	34.0	20.0	68.0	M6

E4.1L | Series E4.48L·R4.48L | Product range

Light design, high dynamics, cost-effective

48



Standard **e-chains® | E4.48L | Crossbars every link** (openable along inner and outer radius, from both sides)
e-tubes | R4.48L | Fully enclosed (lids openable along inner and outer radius, from both sides)

Part No. e-chains®	Part No. e-tubes	Bi [mm]	Ba [mm]	E4.48L [kg/m]	R4.48L [kg/m]
E4.48L. 050.R.0	R4.48L. 050.R.0	050	070	≈ 1.53	≈ 1.64
E4.48L. 062.R.0	R4.48L. 062.R.0	062	082	≈ 1.58	≈ 1.69
E4.48L. 075.R.0	R4.48L. 075.R.0	075	095	≈ 1.64	≈ 1.82
E4.48L 087.R.0	R4.48L 087.R.0**	087	107	≈ 1.67	≈ 1.91
E4.48L. 100.R.0	R4.48L. 100.R.0	100	120	≈ 1.73	≈ 2.01
E4.48L. 105.R.0	–	105	125	≈ 1.74	–
E4.48L. 112. R.0	–	112	132	≈ 1.79	–
E4.48L. 125.R.0	R4.48L. 125.R.0	125	145	≈ 1.84	≈ 2.18
E4.48L. 137.R.0	–	137	157	≈ 1.88	–
E4.48L. 150.R.0	R4.48L. 150.R.0	150	170	≈ 1.97	≈ 2.36
E4.48L. 162.R.0	–	162	182	≈ 2.00	–
E4.48L. 175.R.0	R4.48L. 175.R.0	175	195	≈ 2.04	≈ 2.58
E4.48L. 187.R.0**	–	187	207	≈ 2.09	–
E4.48L. 200.R.0	R4.48L. 200.R.0	200	220	≈ 2.14	≈ 2.70
E4.48L. 212.R.0**	–	212	232	≈ 2.18	–

Part No. e-chains®	Part No. e-tubes	Bi [mm]	Ba [mm]	E4.48L [kg/m]	R4.48L [kg/m]
R4.48L. 225.R.0	–	225	245	≈ 2.24	–
R4.48L. 237.R.0	–	237	257	≈ 2.30	–
E4.48L. 250.R.0	R4.48L. 250.R.0	250	270	≈ 2.35	≈ 3.08
E4.48L. 262.R.0	–	262	282	≈ 2.39	–
E4.48L. 275.R.0**	–	275	295	≈ 2.45	–
E4.48L. 287.R.0**	–	287	307	≈ 2.51	–
E4.48L. 300.R.0	R4.48L. 300.R.0**	300	320	≈ 2.56	≈ 3.42
E4.48L. 312.R.0**	–	312	332	≈ 2.60	–
E4.48L. 325.R.0**	–	325	345	≈ 2.66	–
E4.48L. 337.R.0**	–	337	357	≈ 2.72	–
E4.48L. 350.R.0**	–	350	370	≈ 2.74	–
E4.48L. 362.R.0**	–	362	382	≈ 2.77	–
E4.48L. 375.R.0**	–	375	395	≈ 2.81	–
E4.48L. 387.R.0**	–	387	407	≈ 2.90	–
E4.48L. 400.R.0**	–	400	420	≈ 2.96	–

**Width available upon request. Please consult igus® for delivery time.

1) Radius not available for e-tubes

Available bend radii

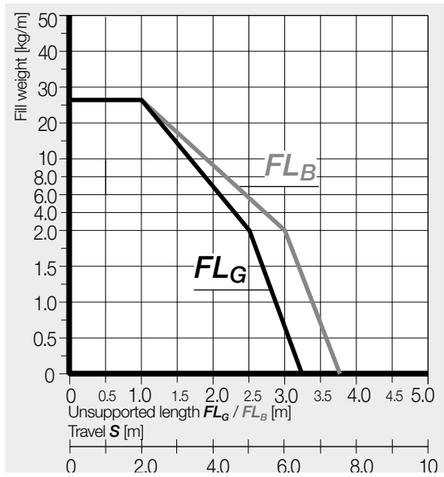
R [mm] | 075[1] | 100[1] | 125 | 150 | 175 | 200 | 250 | 300 | 350 |

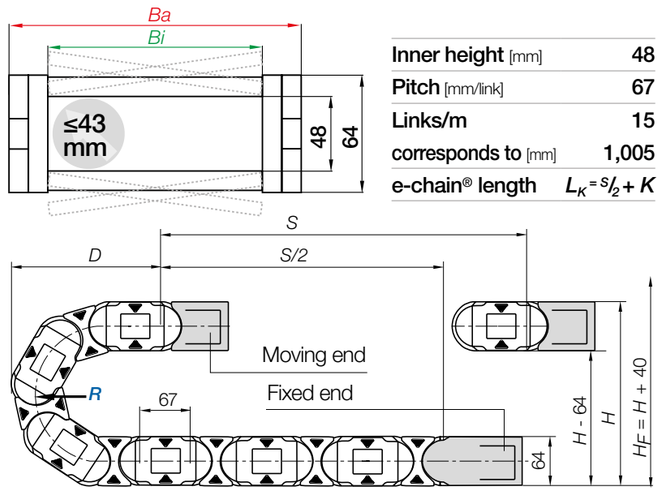
Complete Part No. with required radius (*R*). Example:

E4.48L.175.150.0 = crossbars every link / R4.48L.175.150.0 = fully enclosed

E4.1L | E4.48L·R4.48L | Installation dimensions

Unsupported applications | Short travels





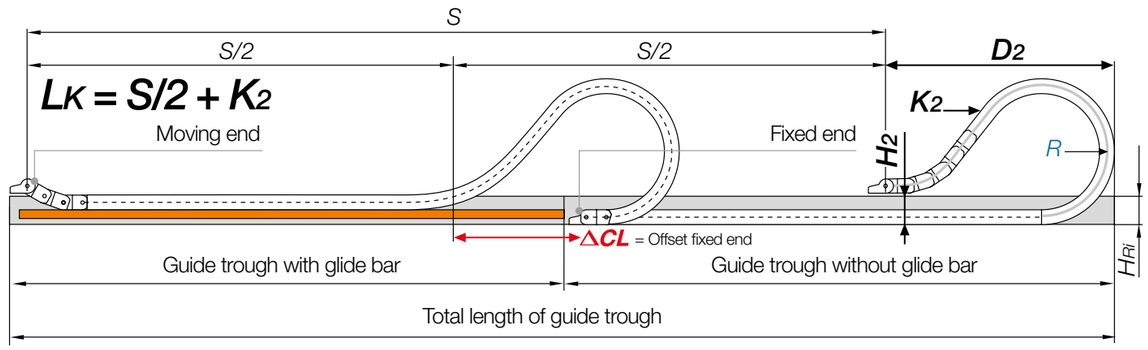
Inner height [mm]	48
Pitch [mm/link]	67
Links/m	15
corresponds to [mm]	1,005
e-chain® length	$L_K = S/2 + K$

R	075[1]	100[1]	125	150	175	200	250	300	350
H	214	264	314	364	414	464	564	664	764
D	208	233	258	283	308	333	383	433	483
K	370	450	530	610	685	765	920	1,080	1,235

The required clearance height: $H_F = H + 40$mm (with 2.5kg/m fill weight)

1) Radius not available for e-tubes

Gliding applications | For long travels from 10m to max. 100m



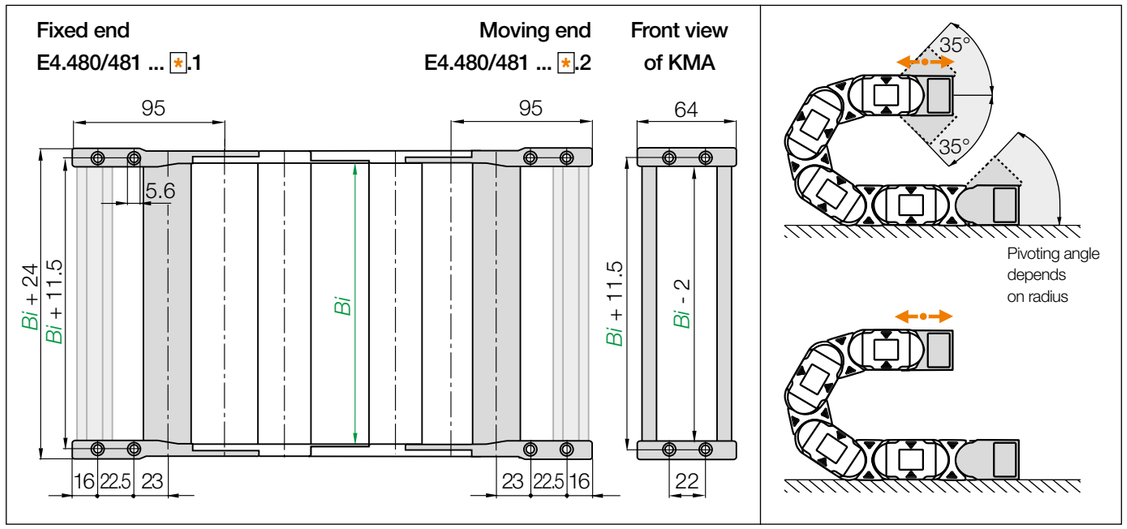
Note: We recommend the project planning of such a system to be carried out by igus®.
In case of travels between 5 and 10m we recommend an e-chain® with a longer unsupported length.

R	075[1]	100[1]	125	150	175	200	250	300[2]	350[2]
H_2	214	264	106	106	106	106	106	–	–
D_2	208	233	475	570	670	780	1,030	–	–
K_2	370	450	804	938	1,139	1,340	1,675	–	–
ΔCL	–	–	230	300	380	460	660	–	–

1) Radius not available for e-tubes 2) Radius not suitable for long travels. Please consult igus®.

E4.1L | **e-chains®** E4.48L | Accessories

KMA mounting brackets | Attachment from any side | Pivoting | Locking



Standard **KMA pivoting** | Recommended for unsupported and gliding applications
KMA locking | Recommended for vertical hanging and standing applications

Width index	Part No. full set **KMA pivoting**	Part No. full set **KMA locking**	*Bi* [mm]
050. ▶	E4.480.050.✱.12.C	E4.481.050.✱.12.C	050
062. ▶	E4.480.062.✱.12.C	E4.481.062.✱.12.C	062
075. ▶	E4.480.075.✱.12.C	E4.481.075.✱.12.C	075
087. ▶	E4.480.087.✱.12.C	E4.481.087.✱.12.C	087
100. ▶	E4.480.100.✱.12.C	E4.481.100.✱.12.C	100
105. ▶	E4.480.105.✱.12.C	E4.481.105.✱.12.C	105
112. ▶	E4.480.112.✱.12.C	E4.481.112.✱.12.C	112
125. ▶	E4.480.125.✱.12.C	E4.481.125.✱.12.C	125
137. ▶	E4.480.137.✱.12.C	E4.481.137.✱.12.C	137
150. ▶	E4.480.150.✱.12.C	E4.481.150.✱.12.C	150
162. ▶	E4.480.162.✱.12.C	E4.481.162.✱.12.C	162
175. ▶	E4.480.175.✱.12.C	E4.481.175.✱.12.C	175
187. ▶	E4.480.187.✱.12.C*	E4.481.187.✱.12.C*	187
200. ▶	E4.480.200.✱.12.C	E4.481.200.✱.12.C	200
212. ▶	E4.480.212.✱.12.C*	E4.481.212.✱.12.C*	212

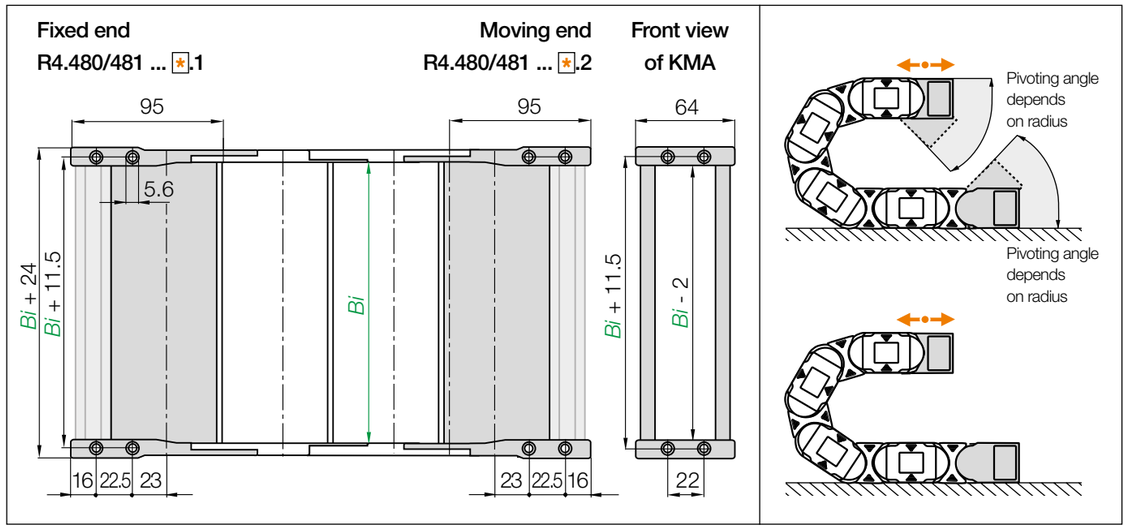
Width index	Part No. full set **KMA pivoting**	Part No. full set **KMA locking**	*Bi* [mm]
225. ▶	E4.480.225.✱.12.C	E4.481.225.✱.12.C	225
237. ▶	E4.480.237.✱.12.C	E4.481.237.✱.12.C	237
250. ▶	E4.480.250.✱.12.C	E4.481.250.✱.12.C	250
262. ▶	E4.480.262.✱.12.C	E4.481.262.✱.12.C	262
275. ▶	E4.480.275.✱.12.C*	E4.481.275.✱.12.C*	275
287. ▶	E4.480.287.✱.12.C*	E4.481.287.✱.12.C*	287
300. ▶	E4.480.300.✱.12.C	E4.481.300.✱.12.C	300
312. ▶	E4.480.312.✱.12.C*	E4.481.312.✱.12.C*	312
325. ▶	E4.480.325.✱.12.C*	E4.481.325.✱.12.C*	325
337. ▶	E4.480.337.✱.12.C*	E4.481.337.✱.12.C*	337
350. ▶	E4.480.350.✱.12.C*	E4.481.350.✱.12.C*	350
362. ▶	E4.480.362.✱.12.C*	E4.481.362.✱.12.C*	362
375. ▶	E4.480.375.✱.12.C*	E4.481.375.✱.12.C*	375
387. ▶	E4.480.387.✱.12.C*	E4.481.387.✱.12.C*	387
400. ▶	E4.480.400.✱.12.C*	E4.481.400.✱.12.C*	400

(KMA = polymer metal mounting bracket) For the C-profile option please add index **.C**

*Width available upon request. Please consult igus® for delivery time.

E4.1L | **e-tubes** R4.48L | Accessories

KMA mounting brackets | Attachment from any side | Pivoting | Locking



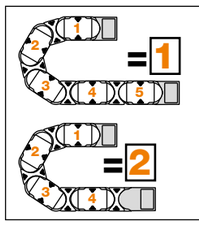
Standard **KMA pivoting** | Recommended for unsupported and gliding applications
KMA locking | Recommended for vertical hanging and standing applications

Width index	Part No. full set **KMA pivoting**	Part No. full set **KMA locking**	*Bi* [mm]
050. ▶	R4.480.050.✱.12.C	R4.481.050.✱.12.C	050
062. ▶	R4.480.062.✱.12.C	R4.481.062.✱.12.C	062
075. ▶	R4.480.075.✱.12.C	R4.481.075.✱.12.C	075
087. ▶	R4.480.087.✱.12.C*	R4.481.087.✱.12.C*	087
100. ▶	R4.480.100.✱.12.C	R4.481.100.✱.12.C	100
125. ▶	R4.480.125.✱.12.C	R4.481.125.✱.12.C	125

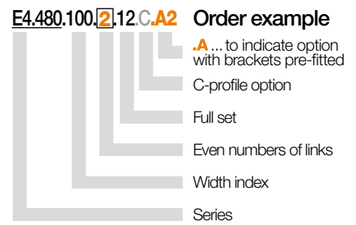
Width index	Part No. full set **KMA pivoting**	Part No. full set **KMA locking**	*Bi* [mm]
150. ▶	R4.480.150.✱.12.C	R4.481.150.✱.12.C	150
175. ▶	R4.480.175.✱.12.C	R4.481.175.✱.12.C	175
200. ▶	R4.480.200.✱.12.C	R4.481.200.✱.12.C	200
250. ▶	R4.480.250.✱.12.C	R4.481.250.✱.12.C	250
300. ▶	R4.480.300.✱.12.C*	R4.481.300.✱.12.C*	300

(KMA = polymer metal mounting bracket) For the C-profile option please add index **.C**

*Width available upon request. Please consult igus® for delivery time.



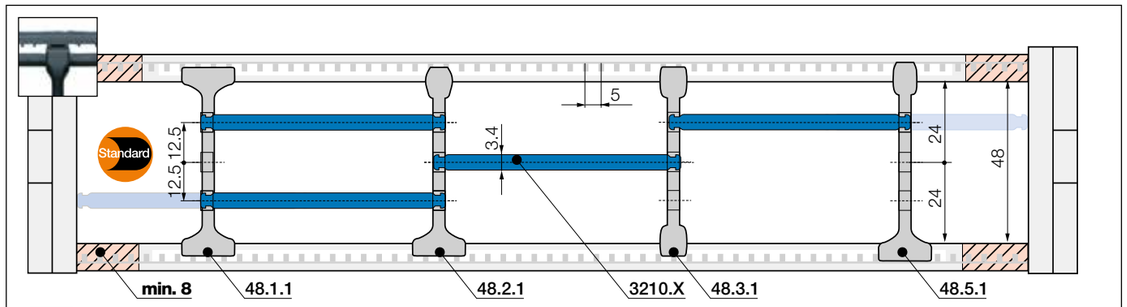
Note: ✱ The e-chains® may end with either an inner or an outer side link. An outer side link should always be the first e-chain® link at the moving end. Please specify the index 1 (for odd) or 2 (for even) depending on an even or odd number of links required. Please add the index **.A2** for the **preassembled** standard version, with C-profile in the inner radius at the moving end and in the outer radius at the fixed end.



Strain relief **e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with ordering options ▶ From page 1300**

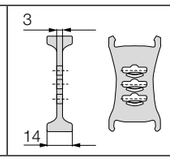
E4.1L | Series E4.48L·R4.48L | Accessories

Interior separation | Increase cable service life



Note: Please be aware of the minimum lateral gap to the side links! **e-tube: 8mm** | **e-chain®: 8mm**
As standard separators are fitted every 2nd e-chain® link!



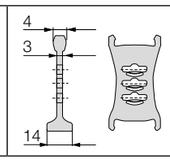


Standard separator, wide base	
unassembled	**48.1**
assembled	**48.1.1**

Standard - for any application

Separator with a wide base for maximum holding force in the e-chain®.



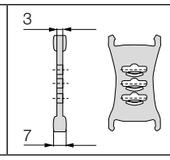


Separator, narrow top	
unassembled	**48.2**
assembled	**48.2.1**

For even faster installation

Wide on one side for high holding force, narrow on opposite side for easy cable fitting.



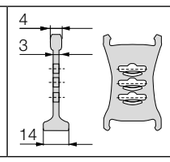


Separator, narrow	
unassembled	**48.3**
assembled	**48.3.1**

For small cables

Separator with a narrow base for a large number of small cables side by side. Saves space in the e-chain®.

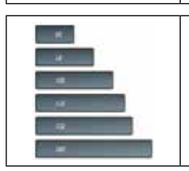


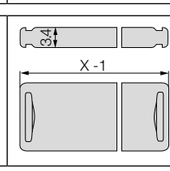


Notch separator for notched crossbar	
unassembled	**48.5**
assembled	**48.5.1**

Locks securely in preset increments

Notch separator for exact positioning in e-chains®. Recommended for side-mounted applications.





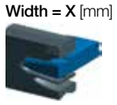
Shelf, lockable	
unassembled	**3200.X**
assembled	**3210.X**

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Shelves

Width = X [mm]

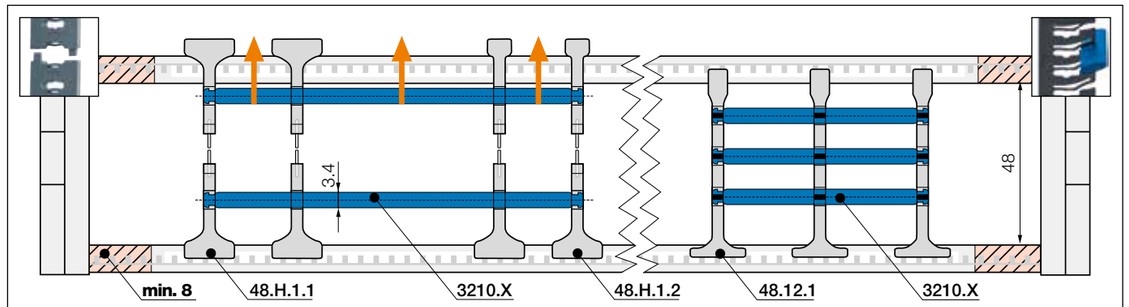


X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
050	**3200.050**	**3210.050**	125	**3200.125**	**3210.125**	225	**3200.225**	**3210.225**
075	**3200.075**	**3210.075**	150	**3200.150**	**3210.150**	250	**3200.250**	**3210.250**
100	**3200.100**	**3210.100**	175	**3200.175**	**3210.175**			
115	**3200.115**	**3210.115**	200	**3200.200**	**3210.200**			

E4.48L
R4.48L

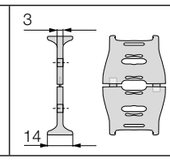
E4.1L | Series E4.48L·R4.48L | Accessories

Interior separation | To allow faster filling New



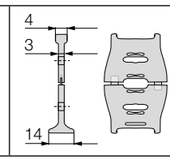
Note: Please be aware of the minimum lateral gap to the side links! **e-tube: 8mm** | **e-chain®: 8mm**
As standard separators are fitted every 2nd e-chain® link!





Split separator, wide base/top	
unassembled	**48.H.1**
assembled	**48.H.1.1**

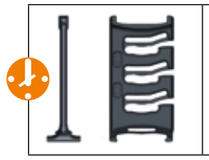


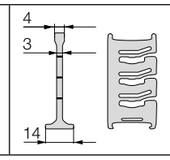


Split separator, narrow top	
unassembled	**48.H.2**
assembled	**48.H.2.1**

Split separators

In order to fill e-chains® more easily and effectively, these separators can be split in the middle. This allows easier access to middle shelf partitions. Fast assembly and easy retrofit. 2 types available: with wide or narrow top.





Lean separator	
unassembled	**48.12**
assembled	**48.12.1**

Lean separators

New design allows extremely fast fitting of shelves in several layers, which significantly reduces assembly time. Enables extremely fast replacement of individual cables in a very full e-chain®.

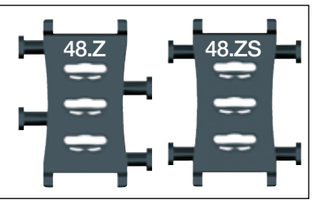
Lean separator design - several layers of cables fitted quickly, save up to 50%* assembly time
(*Lean separator vs. standard separator - measured on a 4m long e-chain® fitted with 12 cables in the igus® harnessing factory)



Separator with integrated strain relief teeth

- Can be integrated into the mounting bracket or placed at any point in the e-chain®
- Combines strain relief and interior separation, for restricted space conditions
- Strain relief separator is easy to assemble without any tools

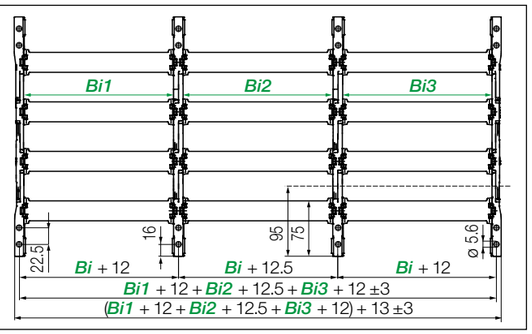
2 versions: Part No. 48.Z / Part No. 48.ZS. More information ▶ From page 1326



E4.1L | Series E4.48L·R4.48L | Further accessories

Extension links New





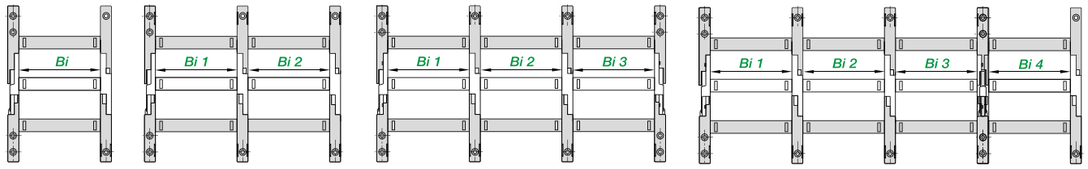
Extension links | For extremely wide e-chains® up to 2.0m with 50% more fill weight

- Extension link e-chains® for 50% higher fill weight extension link up to widths of 2.0m and more
- For heavy fill weights or e-chains® with many heavy cables next to each other
- e-chains® and e-tubes can be combined

Part No. Extension link e-chain®	Part No. Extension link e-tube	Part No. Extension link as an individual part
E4.48L.*Bi1*/*Bi2*/*Bi3*.*R*.0	R4.48L.*Bi1*/*Bi2*/*Bi3*.*R*.0	E4.48ML.*R*.

Complete Part No.with the width index *Bi1*/*Bi2*/*Bi3*/*etc.* and the radius (*R*). Example: **E4.48L.175/175/175.150.0**

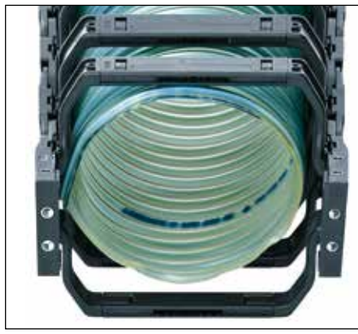
Increase of the fill weight per extension link

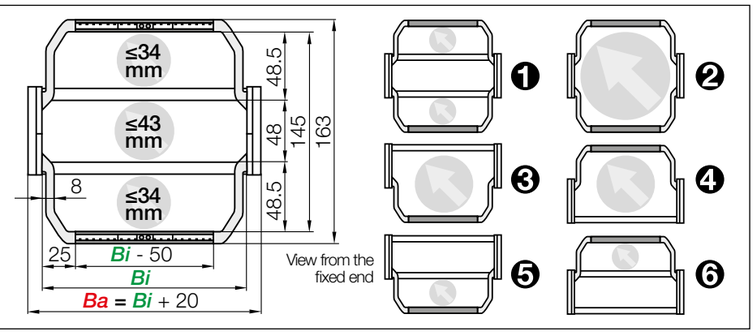


Normal fill weight | **+50% more fill weight** | **+100% more fill weight** | **+150% more fill weight**

E4.1L | Series E4.48L·R4.48L | Further accessories

e-chain® with openable extender crossbars





Extender crossbars with flexible width | Safe guiding for large hoses

- For guiding and protecting large hoses
- With mounting for noise dampers
- Cable-friendly design, high crossbar holding force
- The openable extender crossbars can be fitted in different ways and combinations
- Optionally openable along the inner or outer radius

Versions e-chain® with extender crossbar	Hose Ø ≤ [mm]	Part No. e-chain® with extender crossbar
❶ Extender crossbar and standard crossbar alternating along the inner and outer radius [1]	34	E4.48L.XXXHB48.*R*.0
❷ Extender crossbar on both sides along the inner and outer radius [2]	130	E4.48L.XXXB48.*R*.0
❸ Extender crossbar along the outer radius [3]	85	E4.48L.XXXBE48.*R*.0
❹ Extender crossbar along the inner radius [2]	85	E4.48L.XXXBZ48.*R*.0
❺ Extender crossbar and standard crossbar alternating along the outer radius [3]	34	E4.48L.XXXHBE48.*R*.0
❻ Extender crossbar and standard crossbar alternating along inner radius [1]	34	E4.48L.XXXHBZ48.*R*.0

1) Minimum bend radius: *R* 125 2) Minimum bend radius: *R* 150 3) Minimum bend radius: *R* 075 *Width available upon request. Delivery time upon request

Bi [mm] **Available inner widths**

| 100 | 125 | 137 | 150 | 162 | 175 | 187 | 200 | 212 | 225 | 237 | 250 | 262* | 275* | 287* | 300* | 312* | 325* | 337* | 350* |

Complete Part No. with the width index XXX *Bi* and the radius (*R*). Example:

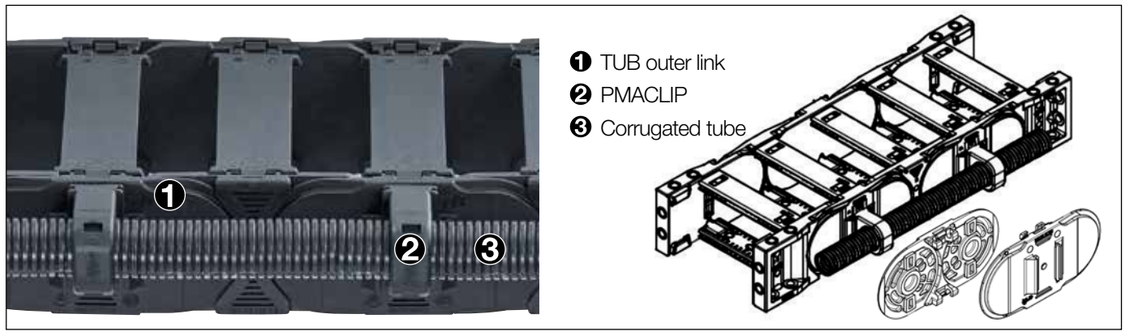
E4.48L.100B48.150.0 = extender crossbar on both sides along inner and outer radius



The E4.1L can be fitted with openable extender crossbars, which increase the size of the interior of the e-chain®. Crossbars can be fitted in various ways: from one or both sides, alternating with standard crossbars and or any combination

E4.1L | Series E4.48L·R4.48L | Further accessories

TUB New



❶ TUB outer link
❷ PMACLIP
❸ Corrugated tube

TUB | Safe guidance for corrugated tubes parallel to the e-chain®

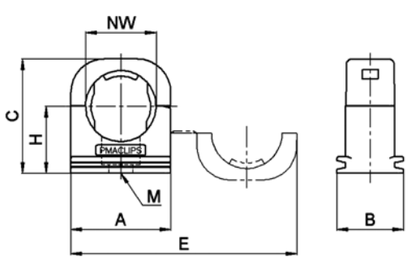
- Additional, simple guidance for corrugated tubes on the outside of the e-chain®
- PMACLIP allows corrugated tubes with nominal widths 7, 10 ,12, 17, 23, 29, 36mm to be easily clipped on
- Easy access to the corrugated tubes, fast replacement of the hoses
- Reduce assembly time and cost - easy to assemble, without any additional screws or tools
- The part number includes the e-chain® with TUB side sections; the PMACLIP support and the hose are ordered separately

Part No. TUB Outer link right*	Part No. TUB Outer link left*	Part No. TUB Outer link at both ends*	For corrugated tube nominal diameter Ø [mm]
E4.48L.XXXTUBR.R.0	E4.48L.XXXTUBL.R.0	E4.48L.XXXTUB.R.0	07 / 10 / 12 / 17 / 23 / 29 / 36

*View from the fixed end

Part number appended with width index XXX *Bi* and radius (*R*) e.g.
E4.48L.100TUBR.150.0 = with TUB outer sections every 2nd right hand link

Product range | PMACLIP | Support, one-piece, with safety clip





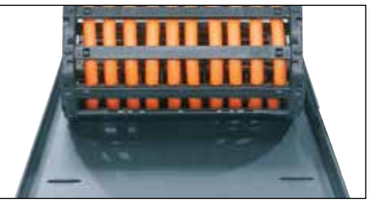
PMACLIP support - one-piece construction with safety clip, suitable for corrugated tubes

Part No. PMACLIP	NW Ø [mm]	A mm	B mm	C mm	H mm	E mm	M mm
I-BFH-07-0	07	17.0	20.0	21.5	13.5	40.5	M4
I-BFH-10-0	10	20.5	20.0	24.5	15.5	47.5	M5
I-BFH-12-0	12	24.0	20.0	27.0	16.5	54.5	M5
I-BFH-17-0	17	30.0	20.0	34.0	20.0	68.0	M6
I-BFH-23-0	23	38.5	20.0	42.0	24.0	85.0	M6
I-BFH-29-0	29	45.5	20.0	48.0	27.0	99.0	M6
I-BFH-36-0	36	55.5	20.0	56.0	31.0	119.0	M6

Steel support tray for support of the lower run

- Simple one-piece support trays for the lower run
- To your requirements and specification
- 4 options available

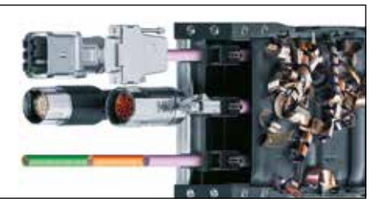
More information ▶ From page 1264



Swarf up to +850°C

- e-tubes to withstand +850°C swarf, as a special option
- No hot swarf melting or embedding into the chain
- igus® igumid HT material

More information ▶ www.igus.eu/HT



Assembled in seconds - honeycomb strain relief CFU

- Simply insert cables and hoses into the honeycomb and close
- Strain relief of different cables in one slot
- Easy to make changes to the filling
- Can be used in gliding applications
- **More information ▶ www.igus.eu/lean**

New



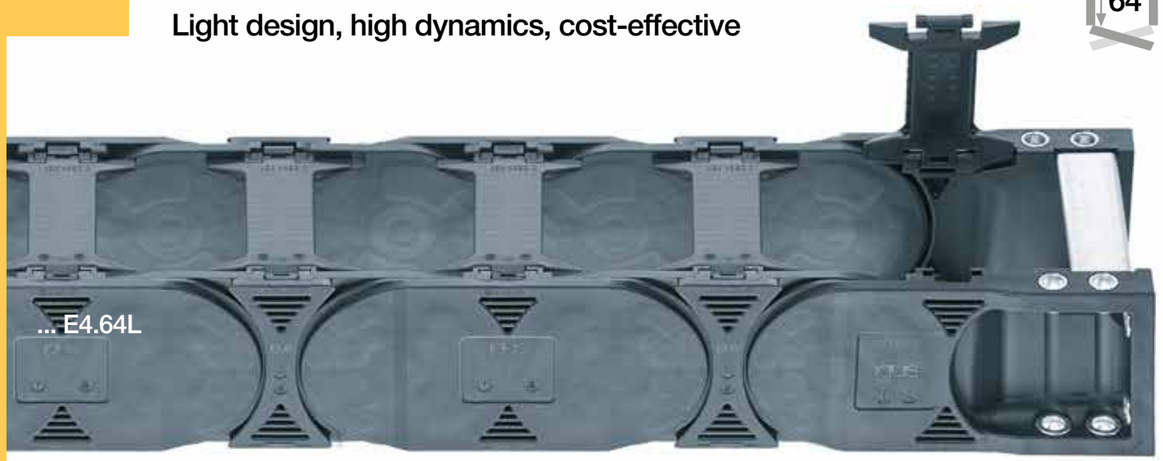


Due to the modular design, the E4.1L system can be adapted to almost any application. As an open version for cable guidance, with extender crossbars for large hoses, or enclosed chip-resistant tube complete with guide trough - just three of many options

E4.1L | Series E4.64L | Product range

Light design, high dynamics, cost-effective

64



e-chains® | E4.64L | Crossbars every link (openable along inner and outer radius, from both sides)

Part No. e-chains®	Bi [mm]	Ba [mm]	E4.64L [kg/m]
E4.64L. 050.R.0**	050	076	–
E4.64L. 062.R.0**	062	088	–
E4.64L. 075.R.0**	075	101	–
E4.64L. 087.R.0	087	113	≈ 2.49
E4.64L. 100.R.0	100	126	≈ 2.57
E4.64L. 112.R.0**	112	138	–
E4.64L. 125.R.0**	125	151	–
E4.64L. 137.R.0**	137	163	–
E4.64L. 150.R.0	150	176	≈ 2.72
E4.64L. 162.R.0**	162	188	–
E4.64L. 175.R.0	175	201	≈ 2.87
E4.64L. 187.R.0**	187	213	–
E4.64L. 200.R.0	200	226	≈ 2.97
E4.64L. 212.R.0**	212	238	–
E4.64L. 225.R.0**	225	251	–

Part No. e-chains®	Bi [mm]	Ba [mm]	E4.64L [kg/m]
E4.64L. 237.R.0**	237	263	–
E4.64L. 250.R.0**	250	276	–
E4.64L. 262.R.0**	262	288	–
E4.64L. 275.R.0**	275	301	–
E4.64L. 287.R.0**	287	313	–
E4.64L. 300.R.0**	300	326	–
E4.64L. 312.R.0**	312	338	–
E4.64L. 325.R.0**	325	351	–
E4.64L. 337.R.0**	337	363	–
E4.64L. 350.R.0**	350	376	–
E4.64L. 362.R.0**	362	388	–
E4.64L. 375.R.0**	375	401	–
E4.64L. 387.R.0**	387	413	–
E4.64L. 400.R.0**	400	426	–

**Width available upon request. Please consult igus® for delivery time.

Available bend radii

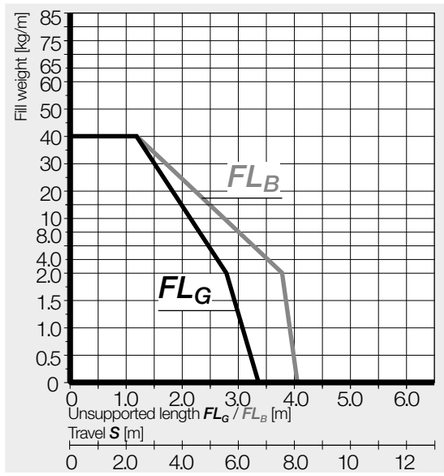
R [mm] | 100 | 125 | 150 | 175 | 200 | 250 | 300 | 350 | 400 |

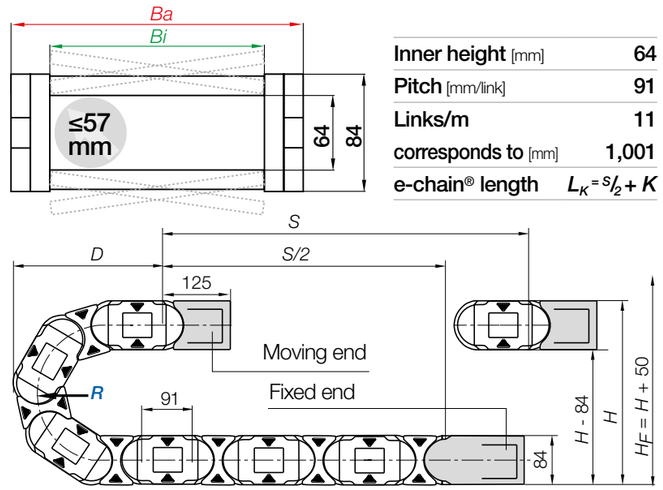
Complete Part No. with required radius (R). Example: **E4.64L.150.150.0 = crossbars every link**

E4.1L | Series E4.64L | Installation dimensions

▶ 1300 ▶ 1230

Unsupported applications | Short travels



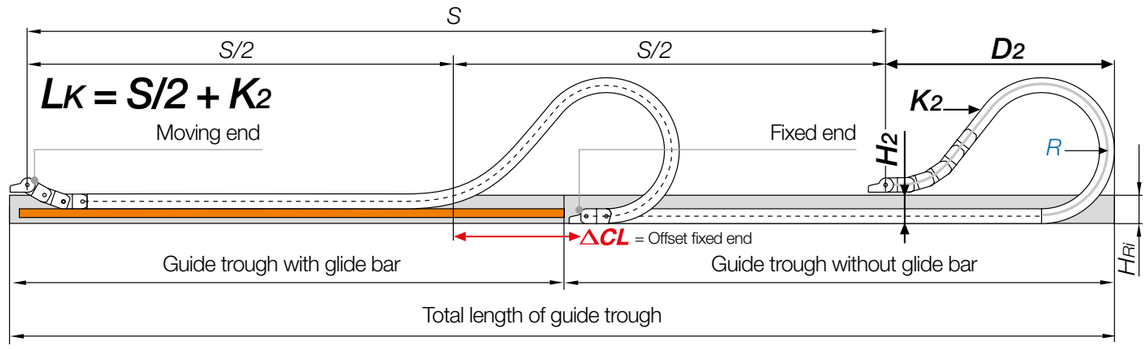


Inner height [mm]	64
Pitch [mm/link]	91
Links/m	11
corresponds to [mm]	1,001
e-chain® length	$L_K = S/2 + K$

R	100	125	150	175	200	250	300	350	400
H	284	334	384	434	484	584	684	784	884
D	279	304	329	354	379	429	479	529	579
K	500	575	655	735	815	970	1,125	1,285	1,440

The required clearance height: $H_F = H + 50$mm (with 2.0kg/m fill weight)

Gliding applications | For long travels, upon request



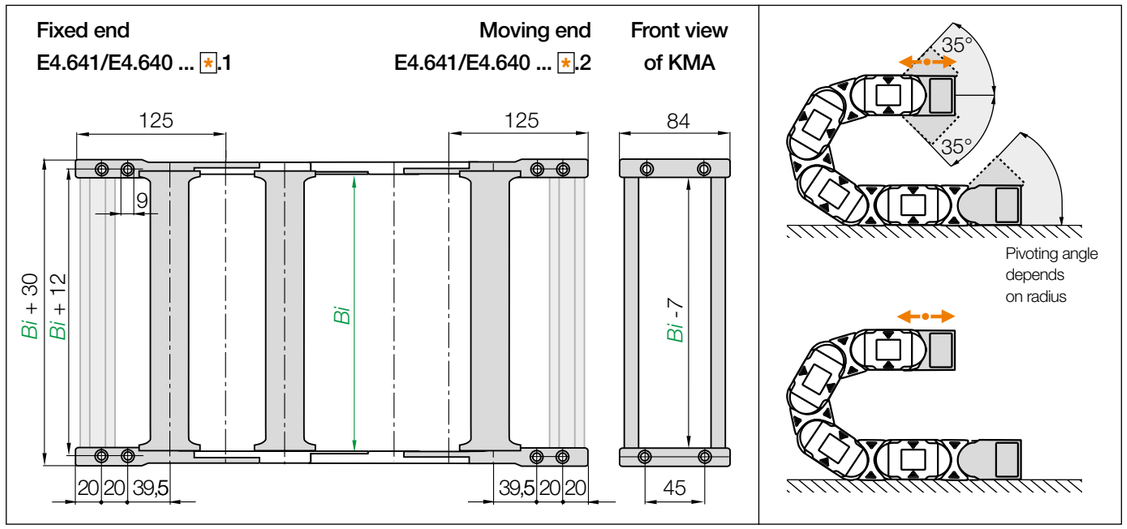
Note: We recommend the project planning of such a system to be carried out by igus®.
In case of travels between 5 and 10m we recommend an e-chain® with a longer unsupported length.

R	100	125	150	175	200	250	300	350	400
H_2	–	180	180	180	180	180	–	–	–
D_2	–	505	580	705	830	1,080	–	–	–
K_2	–	819	910	1,183	1,365	1,729	–	–	–
ΔCL	–	**	**	**	**	**	–	–	–

**Values upon request

E4.1L | e-chains® E4.64L | Accessories

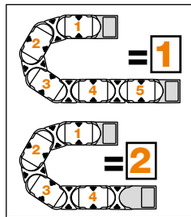
KMA mounting brackets | Attachment from any side | Pivoting | Locking



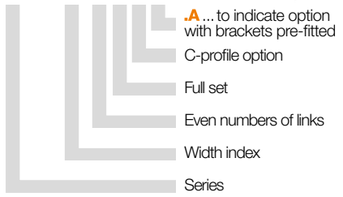
KMA pivoting | Recommended for unsupported and gliding applications
KMA locking | Recommended for vertical hanging and standing applications

Width index	Part No. full set KMA pivoting	Part No. full set KMA locking	Bi [mm]
05.	E4.640. 05 *.12.C*	E4.641. 05 *.12.C*	050
06.	E4.640. 06 *.12.C*	E4.641. 06 *.12.C*	062
07.	E4.640. 07 *.12.C*	E4.641. 07 *.12.C*	075
08.	**E4.640. 08 *.12.C**	**E4.641. 08 *.12.C**	087
10.	**E4.640. 10 *.12..C**	**E4.641. 10 *.12..C**	100
11.	E4.640. 11 *.12.C*	E4.641. 11 *.12.C*	112
12.	E4.640. 12 *.12.C*	E4.641. 12 *.12.C*	125
13.	E4.640. 13 *.12.C*	E4.641. 13 *.12.C*	137
15.	**E4.640. 15 *.12.C**	**E4.641. 15 *.12.C**	150
16.	E4.640. 16 *.12.C*	E4.641. 16 *.12.C*	162
17.	**E4.640. 17 *.12..C**	**E4.641. 17 *.12..C**	175
18.	E4.640. 18 *.12.C*	E4.641. 18 *.12.C*	187
20.	**E4.640. 20 *.12..C**	**E4.641. 20 *.12..C**	200
21.	E4.640. 21 *.12.C*	E4.641. 21 *.12.C*	212
22.	E4.640. 22 *.12.C*	E4.641. 22 *.12.C*	225
23.	E4.640. 23 *.12.C*	E4.641. 23 *.12.C*	237
25.	E4.640. 25 *.12.C*	E4.641. 25 *.12.C*	250
26.	E4.640. 26 *.12.C*	E4.641. 26 *.12.C*	262
27.	E4.640. 27 *.12.C*	E4.641. 27 *.12.C*	275
28.	E4.640. 28 *.12.C*	E4.641. 28 *.12.C*	287
30.	E4.640. 30 *.12.C*	E4.641. 30 *.12.C*	300
31.	E4.640. 31 *.12.C*	E4.641. 31 *.12.C*	312
32.	E4.640. 32 *.12.C*	E4.641. 32 *.12.C*	325
33.	E4.640. 33 *.12.C*	E4.641. 33 *.12.C*	337
35.	E4.640. 35 *.12.C*	E4.641. 35 *.12.C*	350
36.	E4.640. 36 *.12.C*	E4.641. 36 *.12.C*	362
37.	E4.640. 37 *.12.C*	E4.641. 37 *.12.C*	375
38.	E4.640. 38 *.12.C*	E4.641. 38 *.12.C*	387
40.	E4.640. 40 *.12.C*	E4.641. 40 *.12.C*	400

(KMA = polymer metal mounting bracket) For the C-profile option please add index **.C** *Width available upon request. Please consult igus® for delivery time.



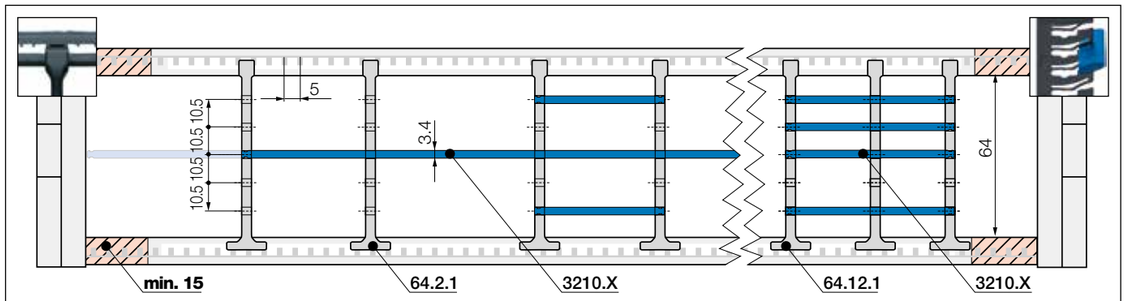
Note: * The e-chains® may end with either an inner or an outer side link. An outer side link should always be the first e-chain® link at the moving end. Please specify the index 1 (for odd) or 2 (for even) depending on an even or odd number of links required. Please add the index **.A2** for the **preassembled** standard version, with C-profile in the inner radius at the moving end and in the outer radius at the fixed end.



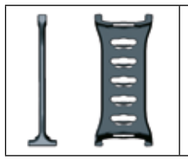
Strain relief e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with ordering options ▶ From page 1300

E4.1L | Series E4.64L | Accessories

Interior separation | Increase cable service life



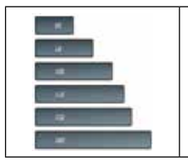
Note: Please be aware of the minimum lateral gap to the side links! **e-chain®: 15mm**
As standard separators are fitted every 2nd e-chain® link!



Separator, narrow top	
unassembled	64.2
assembled	64.2.1

For even faster installation

Wide on one side for high holding force, narrow on opposite side for easy cable fitting.



Shelf, lockable	
unassembled	3200.X
assembled	3210.X

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

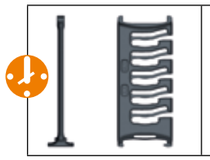
Shelves

Width = X [mm]



X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
050	**3200.050**	**3210.050**	125	**3200.125**	**3210.125**	225	**3200.225**	**3210.225**
075	**3200.075**	**3210.075**	150	**3200.150**	**3210.150**	250	**3200.250**	**3210.250**
100	**3200.100**	**3210.100**	175	**3200.175**	**3210.175**			
115	**3200.115**	**3210.115**	200	**3200.200**	**3210.200**			

Interior separation | To allow faster filling New



Lean separator	
unassembled	64.12
assembled	64.12.1

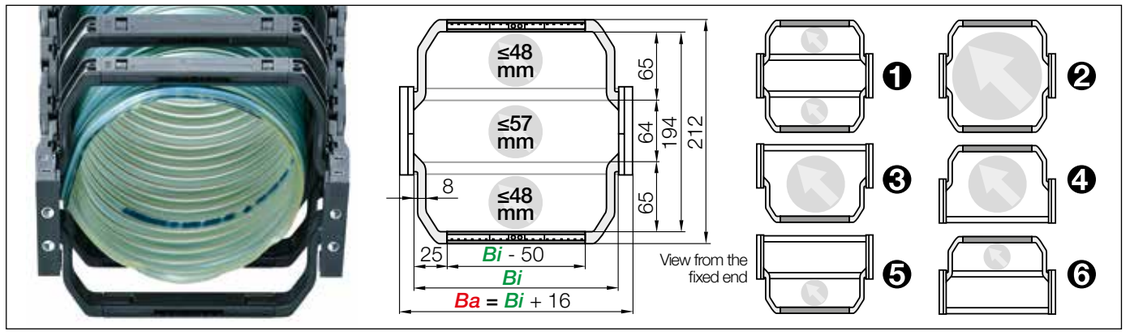
Lean separators

New design allows extremely fast fitting of shelves in several layers, which significantly reduces assembly time. Enables extremely fast replacement of individual cables in a very full e-chain®.

Lean separator design - several layers of cables fitted quickly, save up to 50%* assembly time
(*Lean separator vs. standard separator - measured on a 4m long e-chain® fitted with 12 cables in the igus® harnessing factory)



e-chain® with openable extender crossbars



Extender crossbars with flexible width | Safe guiding for large hoses

- For guiding and protecting large hoses
- With mounting for noise dampers
- Cable-friendly design, high crossbar holding force
- The openable extender crossbars can be fitted in different ways and combinations
- Optionally openable along the inner or outer radius

Versions e-chain® with extender crossbar	Hose Ø ≤ [mm]	Part No. e-chain® with extender crossbar
❶ Extender crossbar and standard crossbar alternating along the inner and outer radius [1]	48	E4.64L.XXXHB65.R.0
❷ Extender crossbar on both sides along the inner and outer radius [2]	170	E4.64L.XXXB65.R.0
❸ Extender crossbar along the outer radius [3]	115	E4.64L.XXXBE65.R.0
❹ Extender crossbar along the inner radius [2]	115	E4.64L.XXXBZ65.R.0
❺ Extender crossbar and standard crossbar alternating along the outer radius [3]	48	E4.64L.XXXHBE65.R.0
❻ Extender crossbar and standard crossbar alternating along inner radius [1]	48	E4.64L.XXXHBZ65.R.0

1) Minimum bend radius: R 125 2) Minimum bend radius: R 150 3) Minimum bend radius: R 100 *Width available upon request. Delivery time upon request

Bi [mm] Available inner widths

| 100 | 112 | 125 | 137 | 150 | 162 | 175 | 187 | 200 | 212 | 225 | 237 | 250 | 262* | 275* | 287* | 300* | 312* | 325* | 337* | 350* |

Complete Part No. with the width index XXX Bi and the radius (R). Example:

E4.64L.087B65.150.0 = extender crossbar on both sides along inner and outer radius

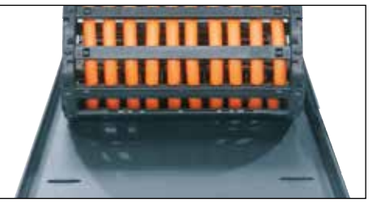


The E4.1L can be fitted with openable extender crossbars, which increase the size of the interior of the e-chain®. Crossbars can be fitted in various ways: from one or both sides, alternating with standard crossbars and or any combination

Steel support tray for support of the lower run

- Simple one-piece support trays for the lower run
- To your requirements and specification
- 4 options available

More information ▶ From page 1264





The R4.1L e-tubes are used to guide motor, encoder and sensor cables to supply the moving part of this bending machine

E4.1

ONE e-chain® series for almost any application

Advantages of the E4.1 system:

- Undercut design for high lateral stability, high strength for long travels and for large unsupported lengths
- Especially suited for side-mounted applications
- Noise-reducing brake and optional noise dampers
- Inner and outer links for quick assembly, with or without pretension
- Many modular options and accessories available

When to use another e-chain® series:

- When the e-chain® needs to be extremely quiet with very low vibration
  ► **E6.1, page 750**
- When an e-chain® must fulfil ISO Class 1 cleanroom standard
  ► **E6.1, page 750**
- When a light, cost-effective e-chain®/e-tube with higher dynamics is needed
  ► **E4.1L, page 524**
- When a larger inner space is required with the same exterior dimensions
  ► **E4.1L, page 524**



ONE series for almost any application - E4.1

System E4.1 combines all the advantages of the previous three versions and is the best igus® e-chain® in the product range. Series E4.1 is stronger whilst having the same or even smaller dimensions than previous versions. Almost all accessories and mounting dimensions are identical. You can increase the service life of your application with the igus® system E4.1 whilst reducing cost.

- Undercut design for high lateral stability
- High push/pull strength for long travels and large unsupported lengths
- Especially suited for side-mounted applications
- Noise-reducing brake and optional noise dampers
- Inner and outer links for quick assembly, with or without pretension

Typical industries and applications

● Cranes ● Indoor cranes ● Composting plants ● Sewage plants ● Machine tools ● General mechanical engineering ● Material handling technology ● Cooling technology ● Construction machinery ● Woodworking ● Robots and handling equipment

IPA Qualification Certificate - Report IG 1303-640-1:
ISO Class 2, according to DIN EN ISO 14644-1 for System E4.1, Series E4.32.10.063.0.CR at v = 0.5 / 1.0 / 2.0

41 dB(A) - level determined at the igus® test lab, v = 1.8m/s unsupported, series E4.21.060.038.0

Electrically conductive ESD e-chains® - several series available from stock

Explore the benefits ▶ www.igus.eu/best/E4.1

Series	Inner height *hi* [mm]	Inner width *Bi* [mm]	Outer width *Ba* [mm]	Outer height *ha* [mm]	Bend radius *R* [mm]	Unsupported length ≤ [m]	Page
					**e-chains® with crossbars every link** e-chains® for particularly demanding applications		
E4.21	21	30 - 140	44 - 154	28	038 - 200	2.50	**576**
E4.28	28	40 - 300	60 - 320	42	055 - 250	2.50	**582**
E4.32	32	50 - 400	73 - 423	54	063 - 300	3.30	**590**
E4.42	42	50 - 400	76 - 426	64	075 - 350	4.00	**600**
E4.56	56	50 - 600	84 - 634	84	135 - 500	5.00	**612**
E4.80	80	50 - 600	100 - 650	108	150 - 1.000	6.20	**624**
E4.112	112	50 - 600	102 - 652	140	200 - 1.000	6.50	**636**
E4.162	162	200 - 600	256 - 656	195	250 - 1.000	6.75	**644**
800	200	200 - 600	260 - 660	236	325 - 1.000	8.00	**648**
840	204	100 - 563	160 - 623	236	325 - 1.000	8.00	**652**
E4.350	350	400 - 800	540 - 940	450	500 - 1.000	6.20	**656**
					**e-chains® with crossbars every 2nd link** e-chains® for almost any application - standard		
H4.32	32	50 - 400	73 - 423	54	063 - 300	3.30	**590**
H4.42	42	50 - 400	76 - 426	64	075 - 350	4.00	**600**
H4.56	56	50 - 600	84 - 634	84	135 - 500	5.00	**612**
H4.80	80	50 - 600	100 - 650	108	150 - 1.000	6.20	**624**
					**e-tubes** fully enclosed, excellent cable protection		
R4.28	28	50 - 300	70 - 320	42	075 - 250	2.50	**582**
R4.32	32	50 - 300	73 - 323	54	125 - 300	3.30	**590**
R4.42	42	50 - 300	76 - 326	64	125 - 350	4.00	**600**
R4.56	56	75 - 462	109 - 497	84	135 - 500	5.00	**612**
R4.80	80	100 - 462	150 - 513	108	200 - 1.000	6.20	**624**
R4.112	108	200 - 500	252 - 552	140	250 - 1.000	6.50	**636**

Available from stock. Ready to ship in 24 - 48 hrs.*

*The delivery times indicated correspond to the average time until the ordered goods are dispatched.

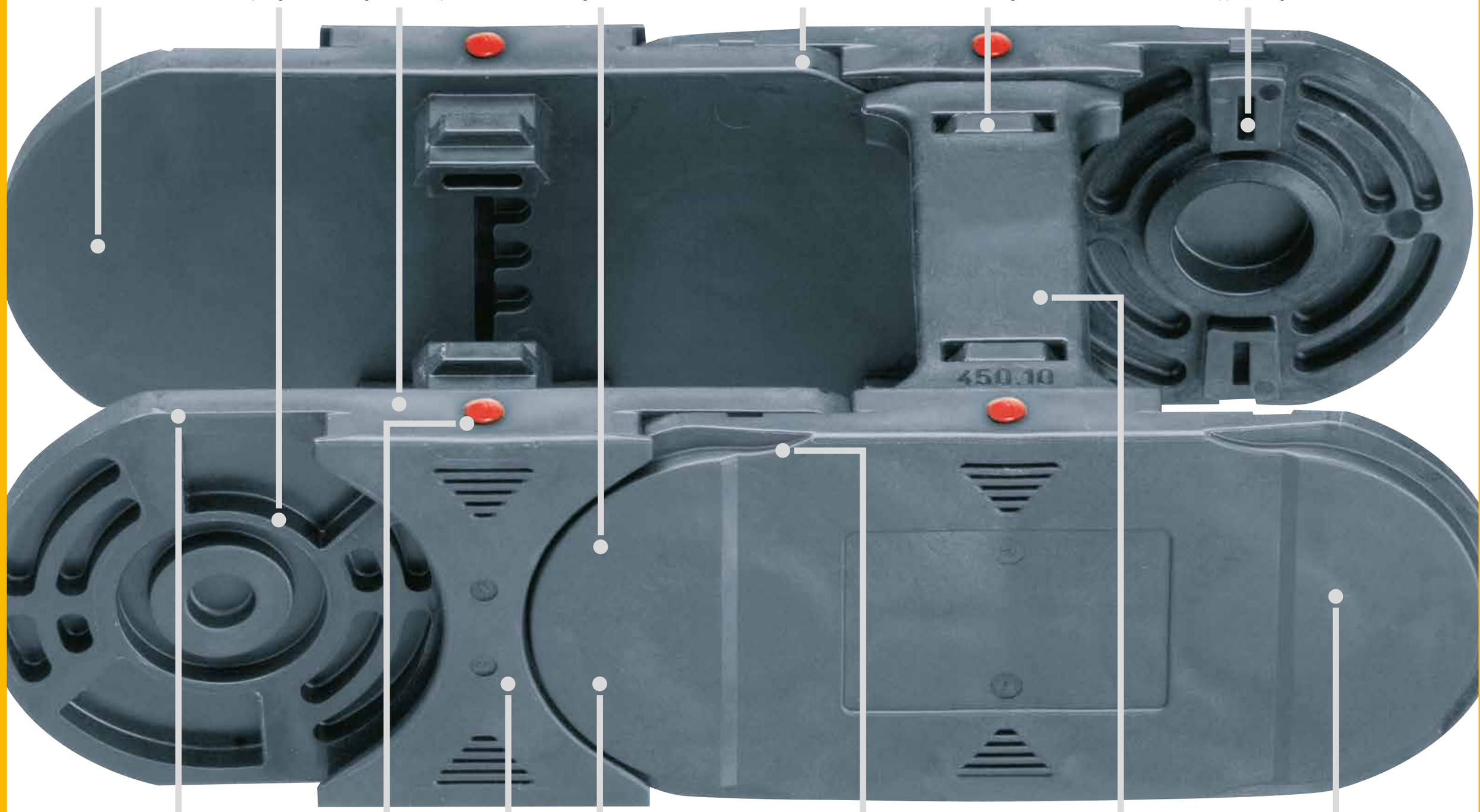
igus 3D CAD, configurators, service life calculation and more ▶ www.igus.eu/E4.1

System E4.1 | Any application with one e-chain®

Undercut design combined with the inner/outer-link solution

System E4.1 | Moving energy made easy

High stability and strength and easy installation



Smooth, cable-friendly inner surfaces

Low-noise operation due to integrated brake on the radial stop-dogs

Smooth and wear-resistant gliding surface - no additional glide shoes required

Option with or without camber simply by reversing outer links

ESD version ideal with large undercut contact area

Strong crossbars with double locking

Double vertical stop-dog system for larger unsupported lengths

Special e-chain® link contour provides low rolling noise

Optional noise dampers

Straight run and fast assembly due to inner/outer-link design

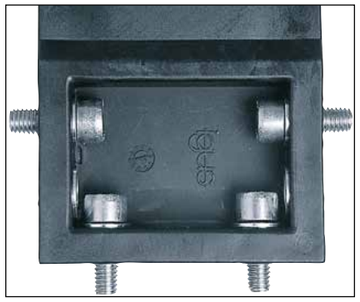
Very high stability due to the undercut design

Cable-friendly, rounded crossbar

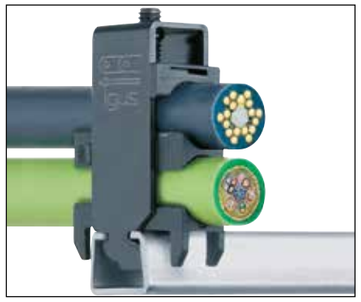
Integrated lateral wear pads for a long service life (also for side-mounted applications)



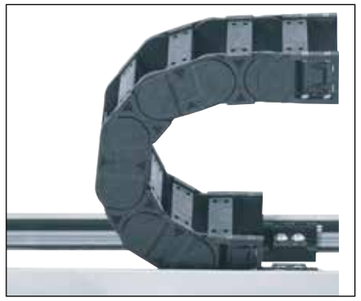
Lean separators enable extremely fast cable filling in several layers



KMA mounting brackets with attachment options from any side



Strain relief e.g. clamps, tiewrap plates, nuggets, etc. ▶ **From page 1300**



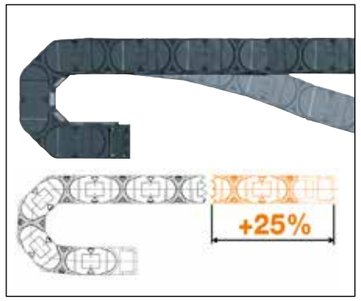
Aluminium and steel support tray for support of the lower run ▶ **From page 1264**



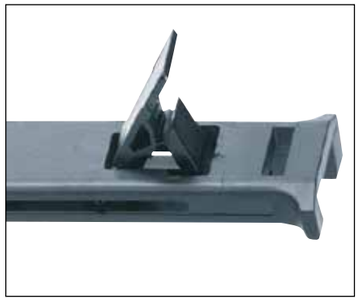
Aluminium"SuperTrough" - the standard igus® guide trough ▶ **From page 1208**



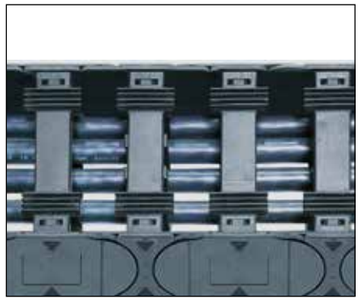
Safe parallel guiding of corrugated tubes with the optional, external TUB guidance



Up to 25% more unsupported length with XXL material ▶ **www.igus.eu/E4.1**



Quick opening crossbar - reduce assembly time up to 25% ▶ **www.igus.eu/E4.1**



autoglide crossbars - long travels without guide troughs



Flexible extender crossbar range - e-chain® extender for enlarging the interior, large range of widths possible

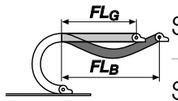


Round or square extender crossbar with fixed width - safe guiding for large hoses



The extension link design allows virtually unlimited side-by-side extension

Technical data



Speed gliding / acceleration gliding	**≤ 10 [m/s] / ≤ 50 [m/s²]**
Speed FL_G / acceleration FL_G	**≤ 20 [m/s] / ≤ 200 [m/s²]**
Speed FL_B / acceleration FL_B	**≤ 3 [m/s] / ≤ 6 [m/s²]**
Material - permitted temperature °C, igumid G	**-40°C / +120°C**
Flammability class, igumid G	**VDE 0304 IIC UL94-HB**

FL_G = unsupported with straight upper run FL_B = unsupported with permitted sag

Installation types, maximum travels

Series	Unsupported	Gliding	Vertical hanging	Vertical standing	Side mounted unsupported	Rotary	Zig-zag	Unsupported length lower run
E4.21	≤ 5.0m	≤ 120m	≤ 40m	≤ 3.0m	≤ 1.0m	with rework	upon request	upon request
E4.28/ R4.28	≤ 5.0m	≤ 200m	≤ 80m	≤ 5.0m	≤ 1.2m	with rework	upon request	upon request
E4.32/H4.32/ R4.32	≤ 6.6m	≤ 200m	≤ 80m	≤ 5.0m	≤ 1.5m	with rework	upon request	upon request
E4.42/H4.42/ R4.42	≤ 8.0m	≤ 300m	≤ 100m	≤ 6.0m	≤ 2.0m	with rework	upon request	upon request
E4.56/H4.56/ R4.56	≤ 10.0m	≤ 400m	≤ 100m	≤ 6.0m	≤ 2.5m	with rework	upon request	upon request
E4.80/H4.80/ R4.80	≤ 12.4m	≤ 400m	≤ 120m	≤ 6.0m	≤ 3.0m	with rework	upon request	upon request
E4.112/ R4.112	≤ 13.0m	≤ 450m	≤ 120m	≤ 6.0m	≤ 3.0m	with rework	upon request	upon request
E4.162	≤ 13.5m	≤ 450m	≤ 120m	≤ 6.0m	upon request	with rework	upon request	upon request
800	≤ 16.0m	≤ 450m	≤ 120m	≤ 6.0m	≤ 6.0m	with rework	upon request	upon request
840	≤ 16.0m	≤ 450m	≤ 120m	≤ 6.0m	≤ 6.0m	with rework	upon request	upon request
E4.350	≤ 13.0m	upon request	upon request	upon request	with rework	upon request	upon request	upon request

Options with order keys | Examples based on series E4.56/H4.56/R4.56

Standard | *Optional noise dampers* | *Quick opening crossbar - reduce assembly time by up to 25%*

Part No. Standard	Part No. - low noise (with dampers)	QuickLock crossbar along the inner radius	QuickLock crossbar along the outer radius	QuickLock crossbar on both sides
E4.56.30.*R*.0 e-chain® with crossbars every link	**ES4.56.30.*R*.0** e-chain® with crossbars every link	**E4.56.30QZ.*R*.0** e-chain® with crossbars every link	**E4.56.30QE.*R*.0** e-chain® with crossbars every link	**E4.56.30Q.*R*.0** e-chain® with crossbars every link
H4.56.30.*R*.0 e-chain® with crossbars every 2nd link	**HS4.56.30.*R*.0** e-chain® with crossbars every 2nd link	**H4.56.30QZ.*R*.0** e-chain® with crossbars every 2nd link	**H4.56.30QE.*R*.0** e-chain® with crossbars every 2nd link	**H4.56.30Q.*R*.0** e-chain® with crossbars every 2nd link
R4.56.30.*R*.0 e-tube, closed	**RS4.56.30.*R*.0** e-tube, closed			
Ready to ship* in 24 - 48 hrs.	Delivery time* 3-5 business days	Delivery time* 3-5 business days	Delivery time* 3-5 business days	Delivery time* 3-5 business days

*The delivery times indicated correspond to the average time until the ordered goods are dispatched.

Order example | Examples based on series E4.56

Order example for complete e-chain® (3.0m), colour black, with mounting brackets and interior separation:

e-chain® (3.0m)	Please indicate e-chain® length or number of links: 3.0m or 33 links	**E4.56.30.300.0**
+ Mounting brackets	1 set (with odd number of links and integrated C-profiles)	**E4.560.30.1.12.C**
Interior separation	with 2 separators assembled every 2nd link	**2 x 56.1.1**
Order text:	**3 m E4.56.30.300.0 + E4.560.30.1.12.C + 2 x 56.1.1**	

Magnetically detectable plastic e-chains®

- For the food and tobacco industry
- igumid DT - automatic detection by all common metal detection systems
- Particles as small as 1.0mm can be recognised for fragments passing at speeds of 20m/min

More information ▶ www.igus.eu/detectable-chain



Simply turn outer side link, no additional rework | *Reverse Bend Radius (RBR) for circular movements* | *Unsupported lengths +25% possible* | *No burning-in of hot swarf up to +850°C (1562°F)* | *ESD - electrically conductive material*

Part No. NC version	Part No. *RBR*	Part No. XXL material 2)	Part No. igumid HT	Part No. igumid ESD
E4.56.30.*R*.0.NC e-chain® with crossbars every link	**E4.56.30.*R1/R2*.0** e-chain® with crossbars every link	**E4.56.30.*R*.0.XXL** e-chain® with crossbars every link	**R4.56.30.*R*.0.HT** 3) Complete e-tube	**E4.56.30.*R*.0.ESD** e-chain® with crossbars every link
H4.56.30.*R*.0.NC e-chain® with crossbars every 2nd link	**H4.56.30.*R1/R2*.0** e-chain® with crossbars every 2nd link	**H4.56.30.*R*.0.XXL** e-chain® with crossbars every 2nd link	**R4.56.30HT.*R*.0** all lids	**H4.56.30.*R*.0.ESD** e-chain® with crossbars every 2nd link
R4.56.30.*R*.0.NC e-tube, closed	***RBR*** for e-tubes - please consult igus®	**R4.56.30.*R*.0.XXL** e-tube, closed	**R4.56.30HTZ.*R*.0** outer radius lid only	**R4.56.30.*R*.0.ESD** e-tube, closed
			R4.56.30HTE.*R*.0 inner radius lid only	
Ready to ship* in 24 - 48 hrs.	Delivery time* 1) 5-10 business days	Delivery time* 5 business days	Delivery time* 7-10 business days	Delivery time* several series from stock

*The delivery times indicated correspond to the average time until the ordered goods are dispatched.

1) 2-5 business days with express surcharge 2) Side-bands made from XXL material 3) Available upon request. Delivery time upon request

Order key and colour examples | Examples based on series E4.56/H4.56/R4.56

Order key

e-chain® with crossbars every link	E4.56.30.300.0
e-chain® with crossbars every 2nd link	H4.56.30.300.0
e-tube fully enclosed	R4.56.30.300.0

Series / Type
Inner height
Width index (depends on *Bi*)
Bend radius *R*
Colour index (standard black)

Order index for colour options

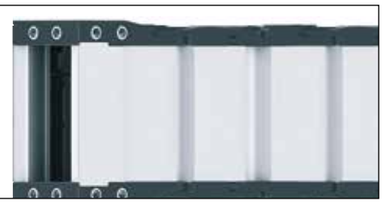
Colour	Order index		Colour	Order index	
Black	Standard	**.0**	Orange	Special colour	.2
Silver-grey	Special colour	.31	Yellow	Special colour	.4
White	Special colour	.1	Light grey	Special colour	.14
Grey-white	Special colour	.1S			

Black e-chains® available from stock.

Above special colours upon request.

Aluminium lid for plastic e-tube R4.1

- Lid notches allow easy positioning of the interior separation
- Special plastic clips facilitate easy assembly
- Any width possible, openable lids from both sides (material: aluminium EN AW-6060)
- **More information ▶ www.igus.eu/alulid**



E4.1 | Series E4.21 | Product range

Stable due to undercut design, small inner height

21



e-chains® | Series E4.21 | Crossbars every link (crossbars removable along the inner and outer radius)

Part No. e-chains®	Bi [mm]	Ba [mm]	E4.21 [kg/m]
E4.21.030.R.0[1)]	30	44	≈ 0.60
E4.21.040.R.0[1)]	40	54	≈ 0.64
E4.21.050.R.0[1)]	50	64	≈ 0.67
E4.21.060.R.0[1)]	60	74	≈ 0.71
E4.21.070.R.0[1)]	70	84	≈ 0.74
E4.21.080.R.0[1)]	80	94	≈ 0.78

Part No. e-chains®	Bi [mm]	Ba [mm]	E4.21 [kg/m]
E4.21.090.R.0	90	104	≈ 0.82
E4.21.100.R.0	100	114	≈ 0.85
E4.21.110.R.0	110	124	≈ 0.89
E4.21.120.R.0	120	134	≈ 0.92
E4.21.140.R.0	140	154	≈ 0.99

1) ⚠ Available as ESD-Version from stock

Available bend radii

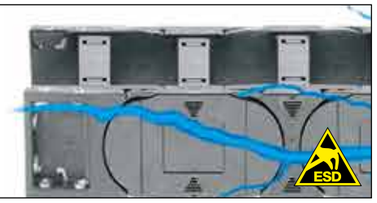
R [mm] | 038 | 048 | 063 | 075 | 100 | 150 | 200 |

Complete Part No. with required radius (R). Example: **E4.21.120.100.0 = crossbars every link**

ESD - many sizes from stock

- Standardised product made from igumid ESD
- ESD material tested with over 10 million cycles for the toughest requirements
- Short delivery times including mounting brackets and interior separation; 24hrs, from stock

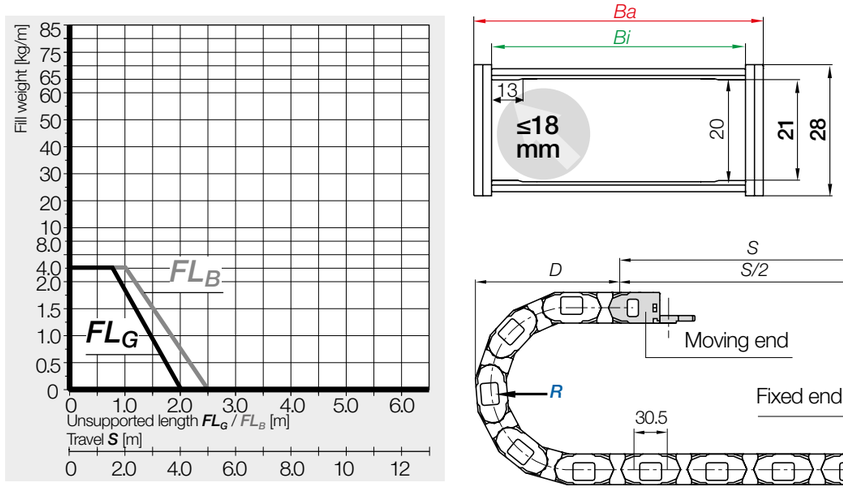
More information ▶ www.igus.eu/esd



E4.1 | Series E4.21 | Installation dimensions

Unsupported applications | Short travels

▶ 1300 ▶ 1218

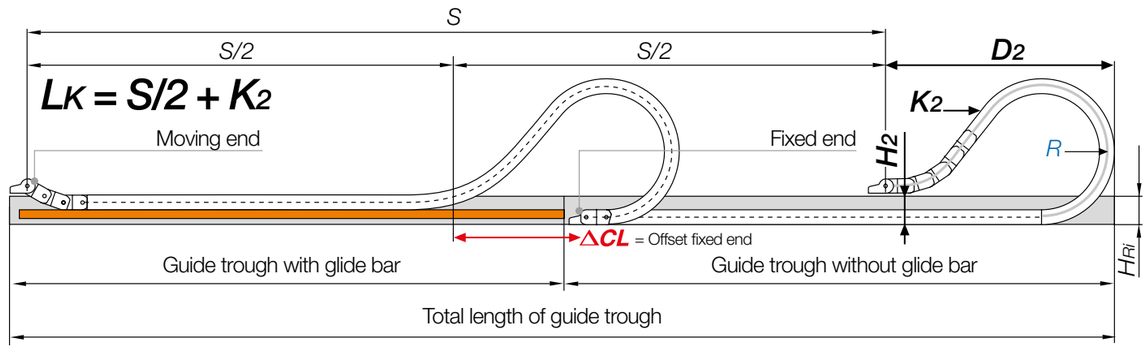


Inner height [mm]	21
Pitch [mm/link]	30.5
Links/m	33
corresponds to [mm]	1,007
e-chain® length	$L_K = S/2 + K$

R	038	048	063	075	100	150	200
H	104	124	154	178	228	328	428
D	98	108	123	135	160	210	260
K	185	215	260	300	380	535	690

The required clearance height: $H_F = H + 30$mm (with 1.5kg/m fill weight)

Gliding applications | For long travels from 10m to max. 120m



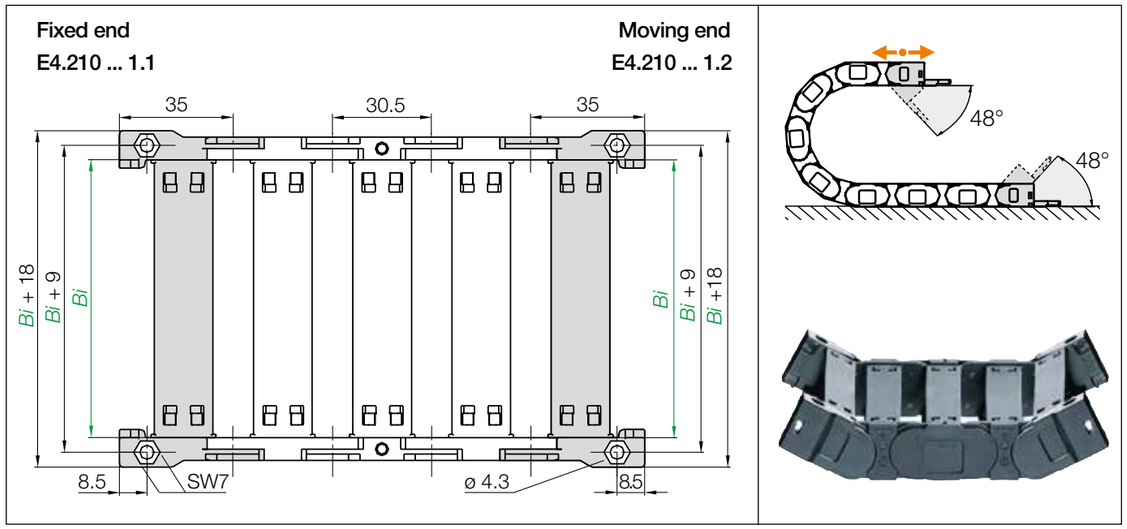
Note: We recommend the project planning of such a system to be carried out by igus®.

In case of travels between 4 and 10m we recommend an e-chain® with a longer unsupported length.

R	038	048	063	075	100	150	200
H_2	76	96	126	152	135	135	135
D_2	85	95	110	120	430	580	730
K_2	185	215	260	300	640.5	945.5	1250.5
ΔCL	–	–	–	–	270	370	470

E4.1 | Series E4.21 | Accessories

KMA mounting brackets | Attachment from any side | Pivoting



KMA pivoting | Recommended for unsupported and gliding applications

Width index	Part No. full set KMA pivoting	Bi [mm]
030. ▶	E4.210.030.1.12	30
040. ▶	E4.210.040.1.12	40
050. ▶	E4.210.050.1.12	50
060. ▶	E4.210.060.1.12	60
070. ▶	E4.210.070.1.12	70
080. ▶	E4.210.080.1.12	80
090. ▶	E4.210.090.1.12	90
100. ▶	E4.210.100.1.12	100
110. ▶	E4.210.110.1.12	110
120. ▶	E4.210.120.1.12	120
140. ▶	E4.210.140.1.12	140

(KMA = polymer metal mounting bracket)



Special mounting bracket feature - E4.21

- Special hexagonal design of the counterbore allowing the M4 nut and M4 hexagon socket-head screw to engage
- **Note:** Series E4.21 always needs to end with an inner link (odd number of links). To receive brackets **pre-fitted** please add index **.A**.

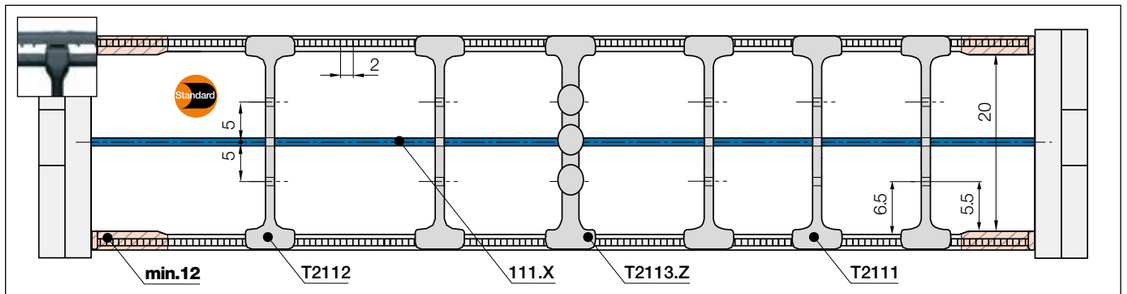
E4.210.120.1.12.A Order example

- **.A** ... To indicate option with brackets pre-fitted
- Full set
- Odd numbers of links
- Width index
- Series

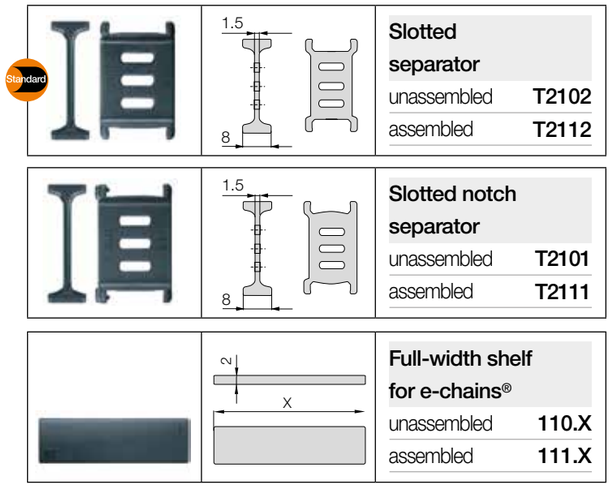
Strain relief e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with ordering options ▶ From page 1300

E4.1 | Series E4.21 | Accessories

Interior separation



Note: Please be aware of the minimum lateral gap to the side links! **e-chain® = 12mm**
As standard separators are fitted every 2nd e-chain® link!



Slotted separator		
unassembled	**T2102**	
assembled	**T2112**	
Slotted notch separator		
unassembled	**T2101**	
assembled	**T2111**	
Full-width shelf for e-chains®		
unassembled	**110.X**	
assembled	**111.X**	

Slotted separator*

For a vertical subdivision. The slot allows basic vertical/ horizontal shelving arrangements.

Slotted notch separator*

Can be locked/fixed securely due to special recesses on the crossbars of the e-chain®. The separator cannot slide sideways during operation.

Full-width shelf

This option is for applications with many small cables with similar diameters. For full width separation.

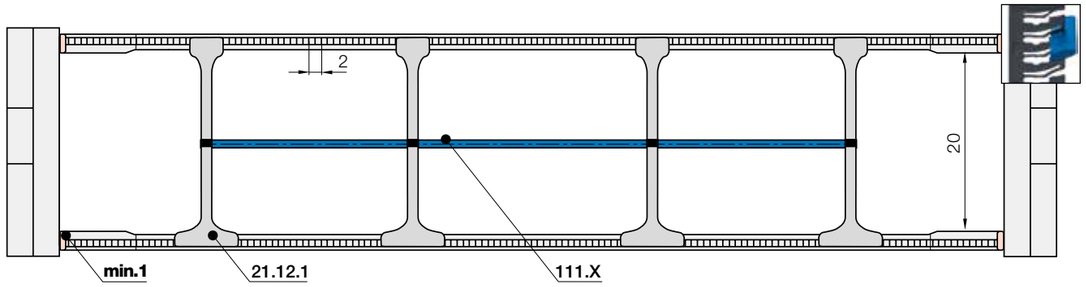
*Note: not suitable for *Bi* 030

Full-width shelves
Width = X [mm]

X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
030	**110.30**	**111.30**	070	**110.70**	**111.70**	110	**110.110**	**111.110**
040	**110.40**	**111.40**	080	**110.80**	**111.80**	120	**110.120**	**111.120**
050	**110.50**	**111.50**	090	**110.90**	**111.90**			
060	**110.60**	**111.60**	100	**110.100**	**111.100**			

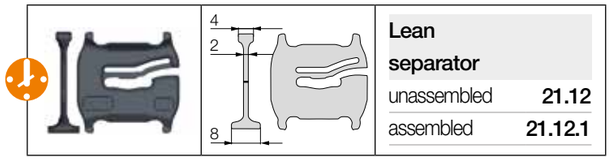
E4.1 | Series E4.21 | Accessories

Interior separation | To allow faster filling



Note: Please be aware of the minimum lateral gap to the side links! **e-chain® = 1mm**

As standard separators are fitted every 2nd e-chain® link!



Lean separator	
unassembled	**21.12**
assembled	**21.12.1**

Lean separators New

New design allows extremely fast fitting of shelves in several layers, which significantly reduces assembly time. Enables extremely fast replacement of individual cables in a very full e-chain®.

Lean separator design - several layers of cables fitted quickly, save up to 50%* assembly time

(*Lean separator vs. standard separator - measured on a 4m long e-chain® fitted with 12 cables in the igus® readychain® factory)



E4.1 | Series E4.21 | Further accessories

Aluminium support tray

- Corrosion-resistant and seawater-resistant aluminium rails with adjustable width
- Noise-reducing glide strip integrated as standard
- Easy installation and connection of the e-chain®
- Open design - dirt and debris fall through

More information ▶ From page 1270



Reduce assembly time - E4 e-chain® opener

- e-chain® opener tools for easy opening and closing of e-chains®
- Simple opening and closing of e-chain® crossbars
- Also for use in hard to reach locations
- Significant assembly time reduction

More information ▶ www.igus.eu/E4savetime



Separator with integrated strain relief teeth

- Can be integrated into the mounting bracket or placed at any point in the e-chain®
- Combines strain relief and interior separation, for restricted space conditions
- Strain relief separator is easy to assemble without any screws

Part No. T2103.Z. More information ▶ From page 1326





Many e-chains® are used in this customised CNC-machine for the woodworking industry

E4.1 | Series E4.28·R4.28 | Product range

Stable due to undercut design, small inner height



e-chains®| Series E4.28 | Crossbars every link (crossbars removable along the inner and outer radius)
e-tubes | Series R4.28 | Fully enclosed (lids openable along the outer radius, from one side)

Part No. e-chains® / e-tubes	Bi [mm]	Ba [mm]	E4.28 [kg/m]	R4.28 [kg/m]
E4.[1] – 28. 040.*R*.0	40	60	≈ 1.06	–
E4.[1] R4. 28. 050.*R*.0	50	70	≈ 1.11	≈ 2.20
E4. – 28. 052.*R*.0	52	72	≈ 1.13	–
E4.[1] – 28. 062.*R*.0	62	82	≈ 1.17	–
E4.[1] – 28. 070.*R*.0	70	90	≈ 1.20	–
E4.[1] R4. 28. 075.*R*.0	75	95	≈ 1.23	≈ 2.32
E4.[1] – 28. 087.*R*.0	87	107	≈ 1.28	–
E4.[1] R4. 28. 100.*R*.0	100	120	≈ 1.37	≈ 2.54

Part No. e-chains® / e-tubes	Bi [mm]	Ba [mm]	E4.28 [kg/m]	R4.28 [kg/m]
E4.[1] R4. 28. 125.*R*.0	125	145	≈1.51	≈ 2.78
E4. R4. 28. 150.*R*.0	150	170	≈ 1.61	≈ 3.02
E4. R4. 28. 175.*R*.0	175	195	≈ 1.71	≈ 3.26
E4. R4. 28. 200.*R*.0	200	220	≈ 1.84	≈ 3.50
E4. R4. 28. 225.*R*.0	225	245	≈ 1.99	≈ 3.82
E4. R4. 28. 250.*R*.0	250	270	≈ 2.14	≈ 3.98
E4. – 28. 275.*R*.0	275	295	≈ 2.27	–
E4. R4. 28. 300.*R*.0	300	320	≈ 2.39	≈ 4.46

1) ⚠ Available as ESD-Version from stock

*Radius not available for e-tubes

Available bend radii

R [mm] | 055* | 063* | 075 | 100 | 125 | 150 | 175 | 200 | 250 |

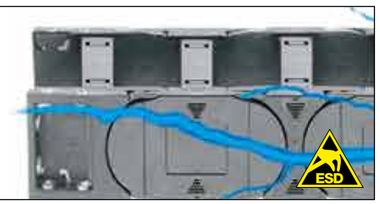
Complete Part No. with required radius (*R*). Example:

E4.28.100.100.0 = crossbars every link / R4.28.105.100.0 = fully enclosed

ESD - many sizes from stock

- Standardised product made from igumid ESD
- ESD material tested with over 10 million cycles for the toughest requirements
- Short delivery times including mounting brackets and interior separation; 24hrs, from stock

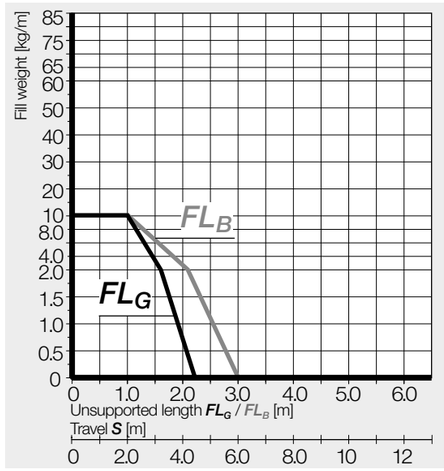
More information ▶ www.igus.eu/esd

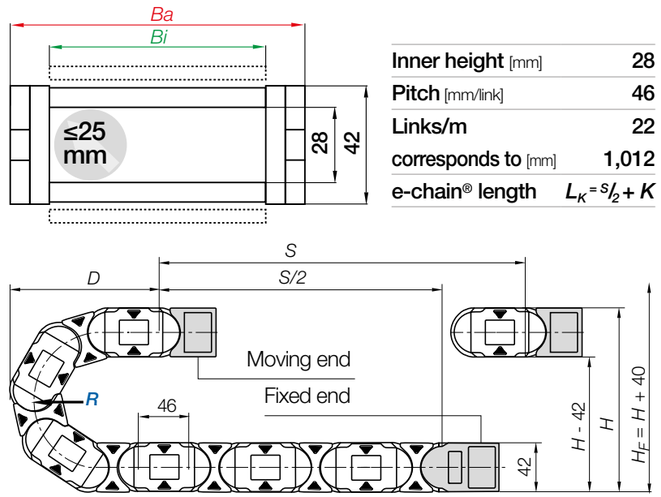


E4.1 | E4.28·R4.28 | Installation dimensions

Unsupported applications | Short travels

▶ 1300 ▶ 1222





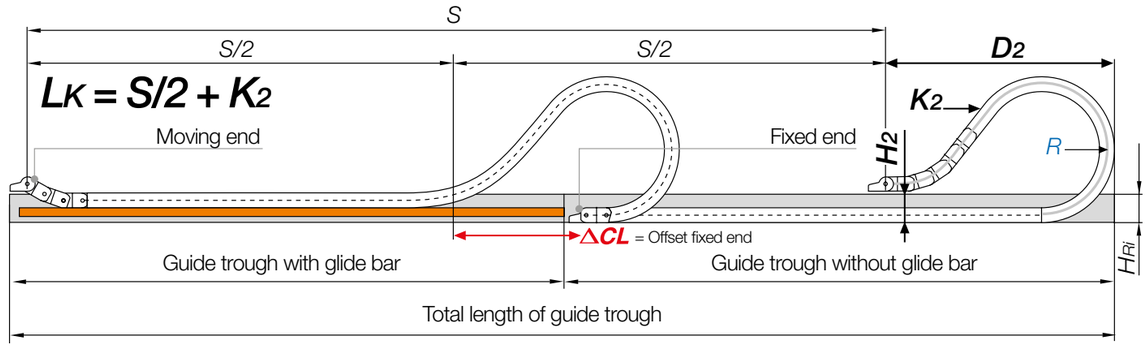
Inner height [mm]	28
Pitch [mm/link]	46
Links/m	22
corresponds to [mm]	1,012
e-chain® length	$L_K = S/2 + K$

R	055*	063*	075	100	125	150	175	200	250
H	152	168	192	242	292	342	392	442	542
D	145	153	165	190	215	240	265	290	340
K	265	290	330	410	485	565	645	725	880

The required clearance height: $H_F = H + 40$mm (with 1.0kg/m fill weight)

*Radius not available for e-tubes

Gliding applications | For long travels from 10m to max. 200m



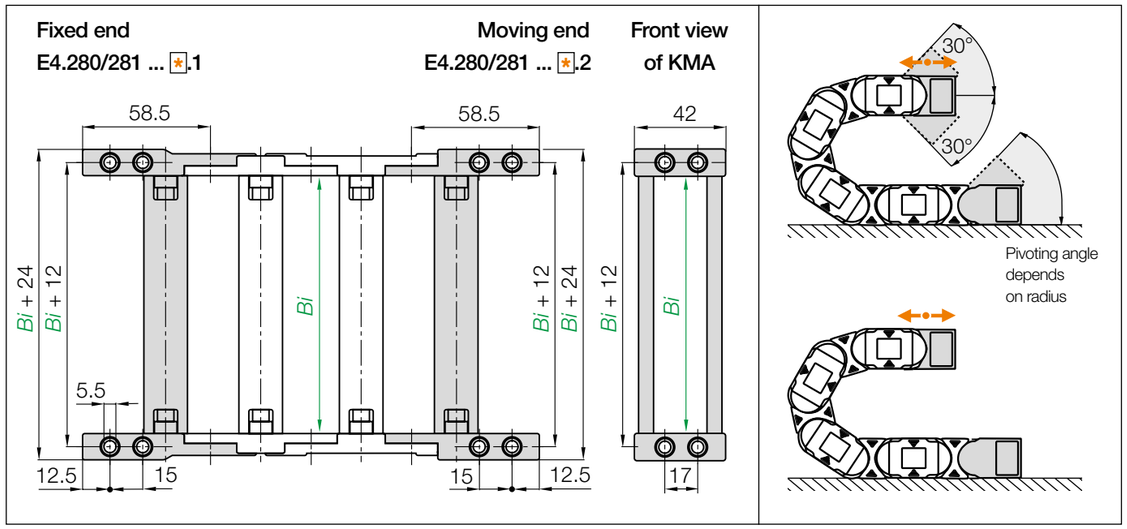
Note: We recommend the project planning of such a system to be carried out by igus®.
In case of travels between 5 and 10m we recommend an e-chain® with a longer unsupported length.

R	055*	063*	075	100	125	150	175	200	250
H_2	110	126	150	158	158	158	158	158	158
D_2^{+25}	122	130	142	350	490	530	665	730	935
K_2	265	290	330	598	782	920	1,104	1,242	1,610
ΔCL	–	–	–	150	270	300	400	450	600

*Radius not available for e-tubes

E4.1 | e-chains® E4.28 | Accessories

KMA mounting brackets | Attachment from any side | Pivoting | Locking



Standard KMA pivoting | Recommended for unsupported and gliding applications
KMA locking | Recommended for vertical hanging and standing applications

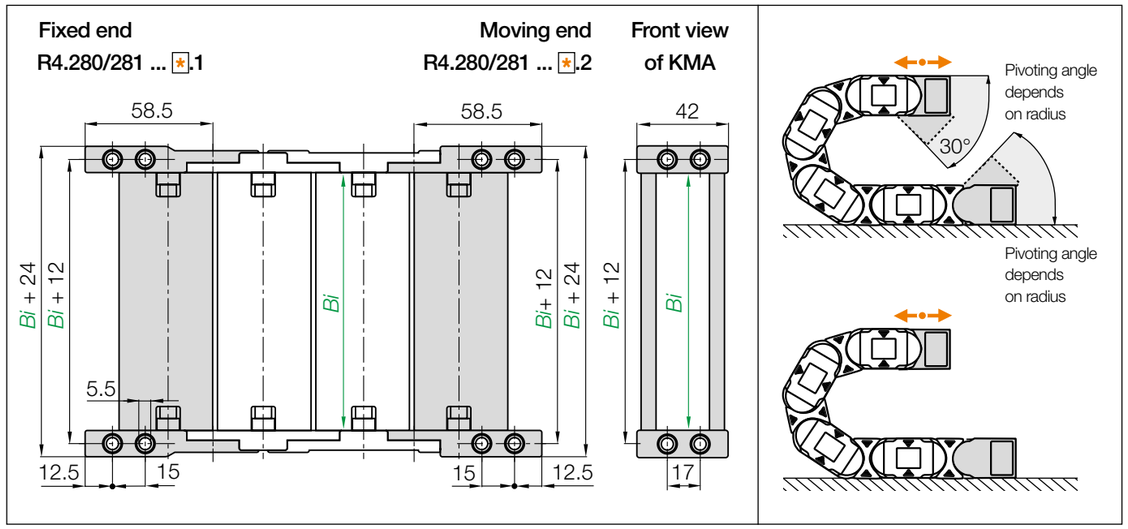
Width index	Part No. full set KMA pivoting	Part No. full set KMA locking	Bi [mm]
040. ▶	E4.280.040.✱.12	E4.281.040.✱.12	40
050. ▶	E4.280.050.✱.12	E4.281.050.✱.12	50
052. ▶	E4.280.052.✱.12	E4.281.052.✱.12	52
062. ▶	E4.280.062.✱.12	E4.281.062.✱.12	62
070. ▶	E4.280.070.✱.12	E4.281.070.✱.12	70
075. ▶	E4.280.075.✱.12	E4.281.075.✱.12	75
087. ▶	E4.280.087.✱.12	E4.281.087.✱.12	87
100. ▶	E4.280.100.✱.12	E4.281.100.✱.12	100

Width index	Part No. full set KMA pivoting	Part No. full set KMA locking	Bi [mm]
125. ▶	E4.280.125.✱.12	E4.281.125.✱.12	125
150. ▶	E4.280.150.✱.12	E4.281.150.✱.12	150
175. ▶	E4.280.175.✱.12	E4.281.175.✱.12	175
200. ▶	E4.280.200.✱.12	E4.281.200.✱.12	200
225. ▶	E4.280.225.✱.12	E4.281.225.✱.12	225
250. ▶	E4.280.250.✱.12	E4.281.250.✱.12	250
275. ▶	E4.280.275.✱.12	E4.281.275.✱.12	275
300. ▶	E4.280.300.✱.12	E4.281.300.✱.12	300

(KMA = polymer metal mounting bracket)

E4.1 | e-tubes R4.28 | Accessories

KMA mounting brackets | Attachment from any side | Pivoting | Locking

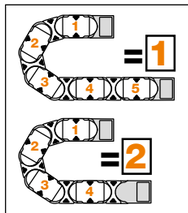


Standard KMA pivoting | Recommended for unsupported and gliding applications
KMA locking | Recommended for vertical hanging and standing applications

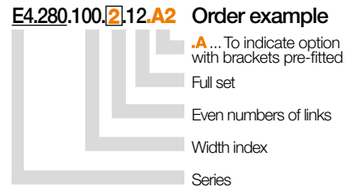
Width index	Part No. full set KMA pivoting	Part No. full set KMA locking	Bi [mm]
050. ▶	R4.280.050.✱.12	R4.281.050.✱.12	50
075. ▶	R4.280.075.✱.12	R4.281.075.✱.12	75
100. ▶	R4.280.100.✱.12	R4.281.100.✱.12	100
125. ▶	R4.280.125.✱.12	R4.281.125.✱.12	125
150. ▶	R4.280.150.✱.12	R4.281.150.✱.12	150

Width index	Part No. full set KMA pivoting	Part No. full set KMA locking	Bi [mm]
175. ▶	R4.280.175.✱.12	R4.281.175.✱.12	175
200. ▶	R4.280.200.✱.12	R4.281.200.✱.12	200
225. ▶	R4.280.225.✱.12	R4.281.225.✱.12	225
250. ▶	R4.280.250.✱.12	R4.281.250.✱.12	250
300. ▶	R4.280.300.✱.12	R4.281.300.✱.12	300

(KMA = polymer metal mounting bracket)



Note: ✱ The e-chains® may end with either an inner or an outer side link. An outer side link should always be the first e-chain® link at the moving end. Please specify the index 1 (for odd) or 2 (for even) depending on an even or odd number of links required. Please add the index **.A2** for the **preassembled** standard version, with C-profile in the inner radius at the moving end and in the outer radius at the fixed end.

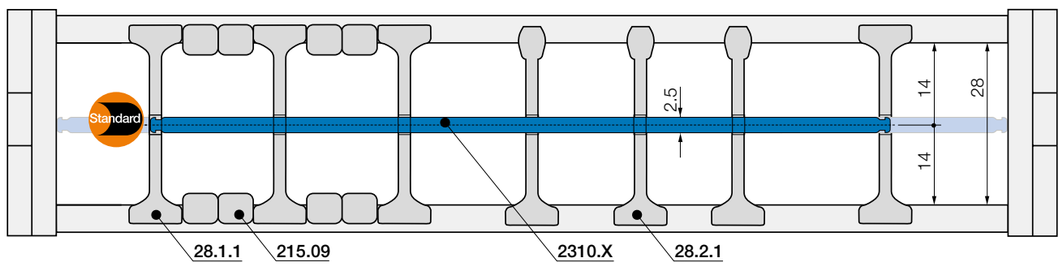


Strain relief e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with ordering options ▶ From page 1300

E4.1 | e-chains® E4.28 | Accessories

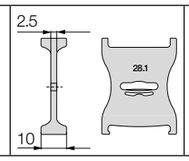
Interior separation | Increase cable service life | Only for e-chains®

Previous generation of interior separation with other options ▶ **www.igus.eu/E4.28**



No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-chain® link!



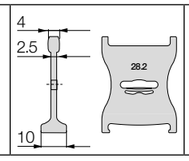


Standard separator, wide base	
unassembled	**28.1**
assembled	**28.1.1**

Standard - for any application

Separator with a wide base for maximum holding force in the e-chain®.



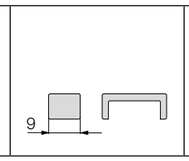


Separator, narrow top	
unassembled	**28.2**
assembled	**28.2.1**

For even faster installation

Wide on one side for high holding force, narrow on opposite side for easy cable fitting.

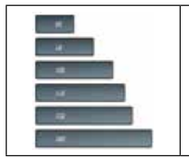


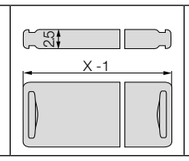


Spacer for e-chains®	
unassembled	**205.09**
assembled	**215.09**

Spacer

Separators can be fixed in position using spacers. The available interior height is reduced by 2mm per spacer (4mm when spacers are fitted on both sides). To avoid this, the parts can also be installed on the outside of the opening crossbar.





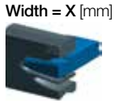
Shelf, lockable	
unassembled	**2300.X**
assembled	**2310.X**

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Shelves

Width = X [mm]



X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
015	**2300.015**	**2310.015**	060	**2300.060**	**2310.060**	087	**2300.87**	**2310.087**
025	**2300.025**	**2310.025**	062	**2300.062**	**2310.062**	090	**2300.90**	**2310.090**
030	**2300.030**	**2310.030**	065	**2300.065**	**2310.065**	100	**2300.100**	**2310.100**
038	**2300.038**	**2310.038**	070	**2300.070**	**2310.070**	103	**2300.103**	**2310.103**
040	**2300.040**	**2310.040**	075	**2300.075**	**2310.075**	110	**2300.110**	**2310.110**
050	**2300.050**	**2310.050**	077	**2300.077**	**2310.077**	120	**2300.120**	**2310.120**
057	**2300.057**	**2310.057**	080	**2300.080**	**2310.080**	125	**2300.125**	**2310.125**

Separator with integrated strain relief teeth

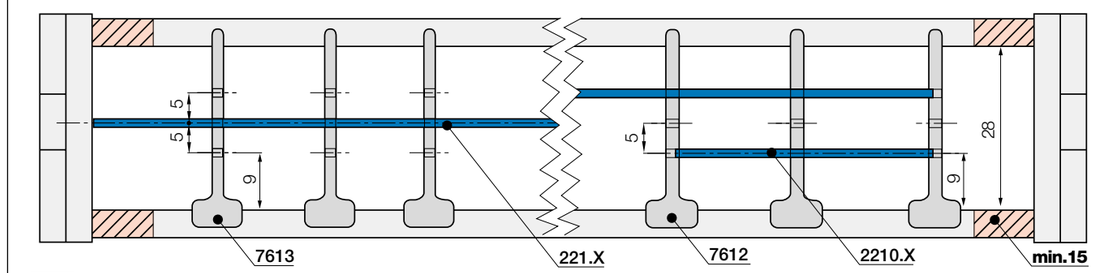
- Can be integrated into the mounting bracket or placed at any point in the e-chain®
- Combines strain relief and interior separation, for restricted space conditions
- Strain relief separator is easy to assemble without any screws

Part No. 28.Z (e-chains®) / Part No. 28.ZT (e-tubes)
More information ▶ From page 1326



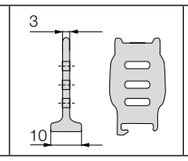
E4.1 | e-tubes R4.28 | Accessories

Interior separation | Option 1 | Option 2 | Only for e-tubes



Note: Please be aware of the minimum lateral gap to the side links! **e-tubes: 15mm**
As standard separators are fitted every 2nd e-chain® link!





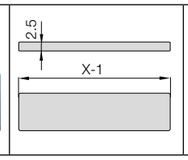
Slotted separator	
unassembled	**7603**
assembled	**7613**

Option 1 | Full-width shelves

Slotted separator for full-width shelves

For a vertical subdivision. The slot allows basic vertical/ horizontal shelving arrangements.





Full-width shelf for e-tubes	
unassembled	**220.X**
assembled	**221.X**

Full-width shelf

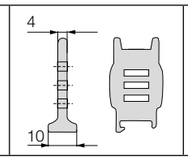
This option is for applications with many small cables with similar diameters. For full width separation.

Full-width shelves

Width = X [mm]

X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
040	**220.40**	**221.40**	075	**220.75**	**221.75**	150	**220.150**	**221.150**
050	**220.50**	**221.50**	087	**220.87**	**221.87**	175	**220.175**	**221.175**
062	**220.62**	**221.62**	100	**220.100**	**221.100**	200	**220.200**	**221.200**
070	**220.70**	**221.70**	125	**220.125**	**221.125**			





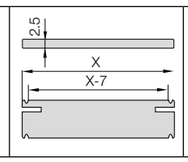
Slotted separator	
unassembled	**7602**
assembled	**7612**

Option 2 | Shelves

Slotted separator for partial shelves

Allows modular shelving arrangements.





Shelf for e-tubes	
unassembled	**2200.X**
assembled	**2210.X**

Shelf

For applications involving many cables with different diameters, shelves can be fitted at different heights.

Shelves

Width = X [mm]

X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
018	**2200.18**	**2210.18**	043	**2200.43**	**2210.43**	088	**2200.88**	**2210.088**
023	**2200.23**	**2210.23**	048	**2200.48**	**2210.48**	099	**2200.99**	**2210.099**
028	**2200.28**	**2210.28**	058	**2200.58**	**2210.58**	124	**2200.124**	**2210.124**
033	**2200.33**	**2210.33**	068	**2200.68**	**2210.68**	149	**2200.149**	**2210.149**
038	**2200.38**	**2210.38**	073	**2200.73**	**2210.73**			

E4.1 | Series E4.28·R4.28 | Further accessories

Aluminium support tray

- Corrosion-resistant and seawater-resistant aluminium rails with adjustable width
- Noise-reducing glide strip integrated as standard
- Easy installation and connection of the e-chain®
- Open design - dirt and debris fall through

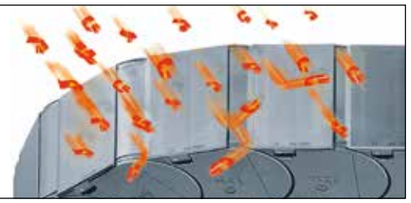
More information ▶ From page 1270



Swarf up to +850°C

- e-tubes to withstand 850°C swarf, as a special option
- No hot swarf melting or embedding into the chain
- igus® igumid HT material

More information ▶ www.igus.eu/HT



Reduce assembly time - E4 e-chain® opener

- e-chain® opener tools for easy opening and closing of e-chains®
- Simple opening and closing of e-chain® crossbars
- Also for use in hard to reach locations
- Significant assembly time reduction

More information ▶ www.igus.eu/E4savetime



E4.1 | Application example



E4.1 e-chains®, supplied as readychains®, reliably supply power and data to different axes of this machine tool

E4.1 | Series E4.32·H4.32·R4.32 | Product range

32 32

Stable due to undercut design, medium inner height



e-chains® | Series E4.32 | Crossbars every link (crossbars removable along the inner and outer radius)
Standard **e-chains® | Series H4.32 | Crossbars every 2nd link** (crossbars removable along the inner and outer radius)
e-tubes | Series R4.32 | Fully enclosed (lids openable along the outer radius, from one side)

Part No. e-chains® / e-tubes	Bi [mm]	Ba [mm]	E4.32 [kg/m]	H4.32 [kg/m]	R4.32 [kg/m]
E4.[1] H4. R4.[2] 32. 05. R.0	50	73	≈ 1.68	≈ 1.62	≈ 1.83
E4.[1] H4. – 32. 06. R.0	68	91	≈ 1.81	≈ 1.68	–
E4.[1] H4. R4. 32. 07. R.0	75	98	≈ 1.85	≈ 1.70	≈ 2.11
E4.[1] H4. – 32. 087. R.0	87	110	≈ 1.92	≈ 1.73	–
E4. H4. – 32. 097. R.0	97	120	≈ 1.98	≈ 1.76	–
E4.[1] H4. R4. 32. 10. R.0	100	123	≈ 2.00	≈ 1.78	≈ 2.33
E4. H4. – 32. 11. R.0	108	131	≈ 2.06	≈ 1.80	≈ 2.39
E4. H4. – 32. 112. R.0	112	136	≈ 2.07	≈ 1.81	–
E4. H4. R4. 32. 12. R.0	125	148	≈ 2.18	≈ 1.87	≈ 2.57
E4. H4. – 32. 137. R.0	137	161	≈ 2.24	≈ 1.89	–
E4.[1] H4. R4. 32. 15. R.0	150	173	≈ 2.33	≈ 1.94	≈ 2.84
E4. H4. – 32. 162. R.0	162	186	≈ 2.36	≈ 1.95	–
E4. H4. R4. 32. 17. R.0	168	191	≈ 2.44	≈ 1.99	≈ 3.00
E4.[1] H4. – 32. 18. R.0	175	198	≈ 2.46	≈ 2.00	–
E4. H4. – 32. 187. R.0	187	211	≈ 2.51	≈ 2.03	–
E4.[1] H4. R4. 32. 20. R.0	200	223	≈ 2.63	≈ 2.09	≈ 3.35
E4. H4. – 32. 212. R.0	212	236	≈ 2.68	≈ 2.12	–
E4. H4. – 32. 23. R.0	225	248	≈ 2.78	≈ 2.17	–
E4. H4. – 32. 237. R.0	237	261	≈ 2.81	≈ 2.18	–
E4. H4. R4. 32. 25. R.0	250	273	≈ 2.95	≈ 2.25	≈ 4.15
E4. H4. – 32. 262. R.0	262	286	≈ 3.03	≈ 2.29	–
E4. H4. – 32. 28. R.0	275	298	≈ 3.10	≈ 2.33	–
E4. H4. – 32. 29. R.0	287	311	≈ 3.14	≈ 2.34	–
E4. H4. R4. 32. 30. R.0	300	323	≈ 3.27	≈ 2.41	≈ 4.69
E4. H4. – 32. 312. R.0	312	336	≈ 3.29	≈ 2.42	–
E4. H4. – 32. 325. R.0	325	348	≈ 3.39	≈ 2.47	–
E4. H4. – 32. 337. R.0	337	361	≈ 3.45	≈ 2.50	–
E4. H4. – 32. 350. R.0	350	373	≈ 3.68	≈ 2.61	–
E4. H4. – 32. 362. R.0	362	386	≈ 3.78	≈ 2.66	–
E4. H4. – 32. 375. R.0	375	398	≈ 3.85	≈ 2.70	–
E4. H4. – 32. 387. R.0	387	411	≈ 3.92	≈ 2.73	–
E4. H4. – 32. 400. R.0	400	423	≈ 3.98	≈ 2.77	–

1) ESD version available from stock 2) Removable lid, non-openable

*Radius not available for e-tubes

Available bend radii

R [mm] | 063* | 075* | 100* | 125 | 150 | 175 | 200 | 220 | 250 | 300 |

Complete Part No. with required radius (*R*). Example:

E4.32.30.300.0 = crossbars every link / H4.32.30.300.0 = crossbars every 2nd link / R4.32.30.300.0 = fully enclosed

ESD - many sizes from stock

- Standardised product made from igumid ESD
- ESD material tested with over 10 million cycles for the toughest requirements
- Short delivery times including mounting brackets and interior separation; 24hrs, from stock

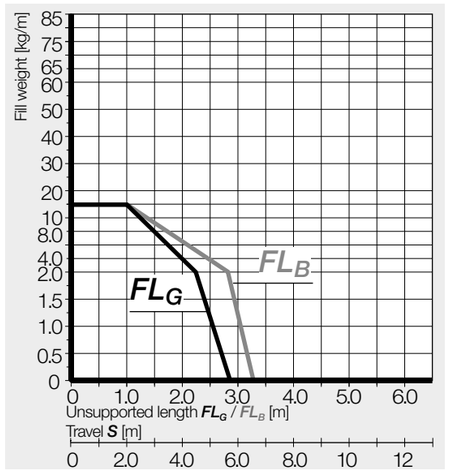
More information ▶ www.igus.eu/esd

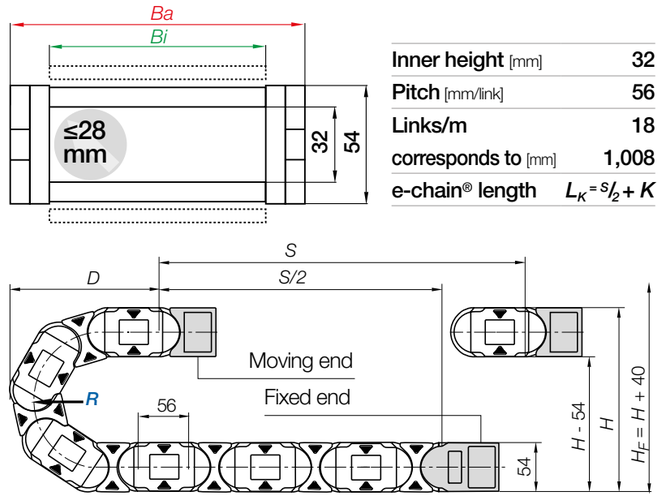


E4.1 | E4.32·H4.32·R4.32 | Installation dimensions

▶ 1300 ▶ 1224

Unsupported applications | Short travels





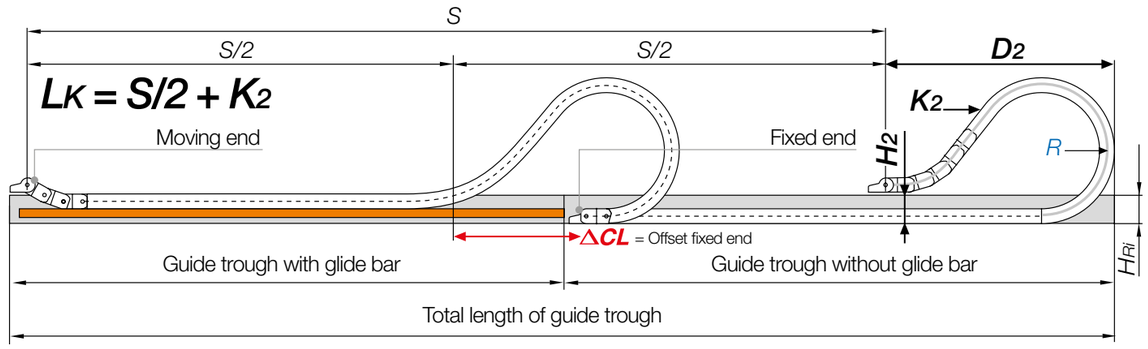
Inner height [mm]	32
Pitch [mm/link]	56
Links/m	18
corresponds to [mm]	1,008
e-chain® length	$L_K = S/2 + K$

R	063*	075*	100*	125	150	175	200	220	250	300
H +20 0	180	204	254	304	354	404	454	494	554	654
D	174	186	211	236	261	286	311	331	361	411
K	310	350	430	505	585	665	745	805	900	1,055

The required clearance height: $H_F = H + 40$mm (with 2.0kg/m fill weight)

*Radius not available for e-tubes

Gliding applications | For long travels from 10m to max. 200m



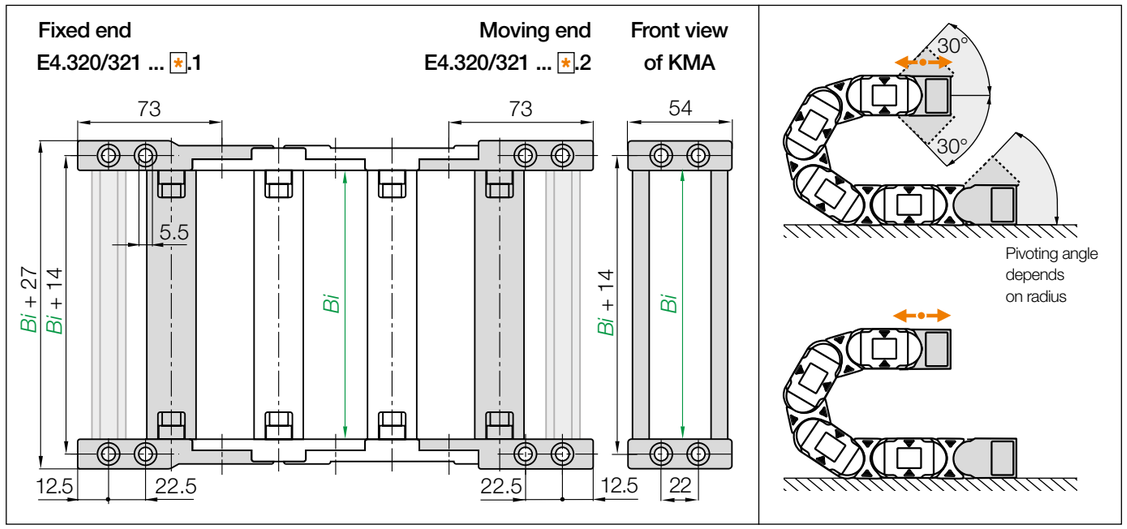
Note: We recommend the project planning of such a system to be carried out by igus®.
In case of travels between 7 and 10m we recommend an e-chain® with a longer unsupported length.

R	063*	075*	100*	125	150	175	200	220	250	300
H_2	126	150	166	166	166	166	166	166	166	166
D_2 +25	146	158	370	470	500	655	770	900	930	1,100
K_2	310	350	616	784	896	1,120	1,288	1,456	1,568	1,904
ΔCL	–	–	160	210	240	370	460	540	570	690

*Radius not available for e-tubes

E4.1 | **e-chains® E4.32·H4.32** | Accessories

KMA mounting brackets | Attachment from any side | Pivoting | Locking



Standard **KMA pivoting** | Recommended for unsupported and gliding applications
KMA locking | Recommended for vertical hanging and standing applications

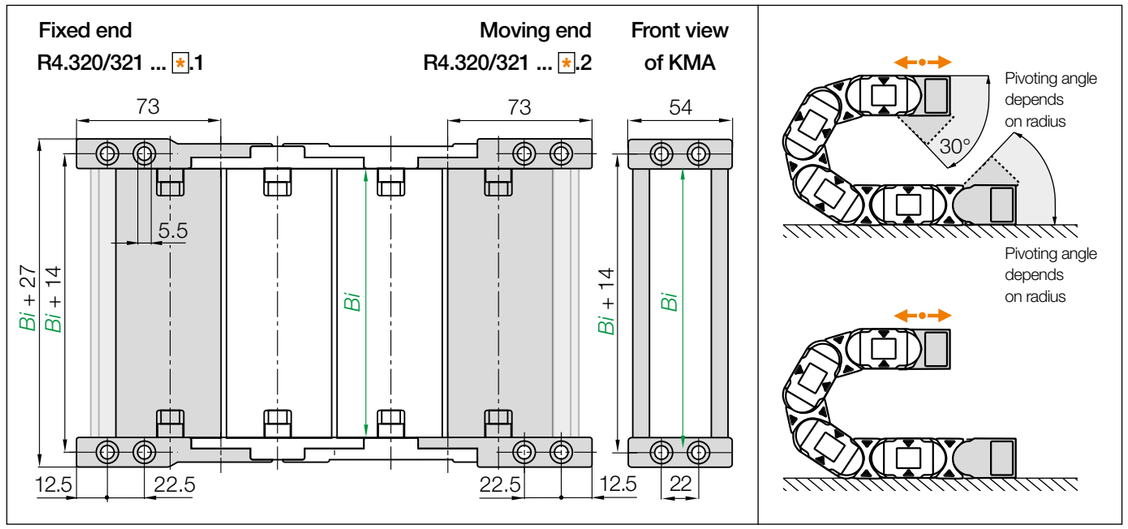
Width index	Part No. full set **KMA pivoting**	Part No. full set **KMA locking**	*Bi* [mm]
05. ▶	E4.320.05 .✱.12.C	E4.321.05 .✱.12.C	50
06. ▶	E4.320.06 .✱.12.C	E4.321.06 .✱.12.C	68
07. ▶	E4.320.07 .✱.12.C	E4.321.07 .✱.12.C	75
087. ▶	E4.320.087.✱.12.C	E4.321.087.✱.12.C	87
09. ▶	E4.320.097.✱.12.C	E4.321.097.✱.12.C	97
10. ▶	E4.320.10 .✱.12.C	E4.321.10 .✱.12.C	100
11. ▶	E4.320.11 .✱.12.C	E4.321.11 .✱.12.C	108
112. ▶	E4.320.112.✱.12.C	E4.321.112.✱.12.C	112
12. ▶	E4.320.12 .✱.12.C	E4.321.12 .✱.12.C	125
137. ▶	E4.320.137.✱.12.C	E4.321.137.✱.12.C	137
15. ▶	E4.320.15 .✱.12.C	E4.321.15 .✱.12.C	150
162. ▶	E4.320.162.✱.12.C	E4.321.162.✱.12.C	162
17. ▶	E4.320.17 .✱.12.C	E4.321.17 .✱.12.C	168
18. ▶	E4.320.18 .✱.12.C	E4.321.18 .✱.12.C	175
187. ▶	E4.320.187.✱.12.C	E4.321.187.✱.12.C	187
20. ▶	E4.320.20 .✱.12.C	E4.321.20 .✱.12.C	200

Width index	Part No. full set **KMA pivoting**	Part No. full set **KMA locking**	*Bi* [mm]
212. ▶	E4.320.212.✱.12.C	E4.321.212.✱.12.C	212
23. ▶	E4.320.23 .✱.12.C	E4.321.23 .✱.12.C	225
237. ▶	E4.320.237.✱.12.C	E4.321.237.✱.12.C	237
25. ▶	E4.320.25 .✱.12.C	E4.321.25 .✱.12.C	250
262. ▶	E4.320.262.✱.12.C	E4.321.262.✱.12.C	262
28. ▶	E4.320.28 .✱.12.C	E4.321.28 .✱.12.C	275
29. ▶	E4.320.29 .✱.12.C	E4.321.29 .✱.12.C	287
30. ▶	E4.320.30 .✱.12.C	E4.321.30 .✱.12.C	300
312. ▶	E4.320.312.✱.12.C	E4.321.312.✱.12.C	312
325. ▶	E4.320.325.✱.12.C	E4.321.325.✱.12.C	325
337. ▶	E4.320.337.✱.12.C	E4.321.337.✱.12.C	337
350. ▶	E4.320.350.✱.12.C	E4.321.350.✱.12.C	350
362. ▶	E4.320.362.✱.12.C	E4.321.362.✱.12.C	362
375. ▶	E4.320.375.✱.12.C	E4.321.375.✱.12.C	375
387. ▶	E4.320.387.✱.12.C	E4.321.387.✱.12.C	387
400. ▶	E4.320.400.✱.12.C	E4.321.400.✱.12.C	400

(KMA = polymer metal mounting bracket) For the C-profile option please add index **.C**

E4.1 | **e-tubes R4.32** | Accessories

KMA mounting brackets | Attachment from any side | Pivoting | Locking

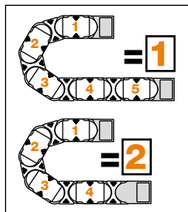


Standard **KMA pivoting** | Recommended for unsupported and gliding applications
KMA locking | Recommended for vertical hanging and standing applications

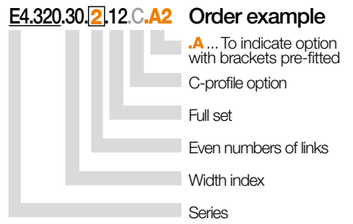
Width index	Part No. full set **KMA pivoting**	Part No. full set **KMA locking**	*Bi* [mm]
05. ▶	R4.320.05 .✱.12.C	R4.321.05 .✱.12.C	50
07. ▶	R4.320.07 .✱.12.C	R4.321.07 .✱.12.C	75
10. ▶	R4.320.10 .✱.12.C	R4.321.10 .✱.12.C	100
11. ▶	R4.320.11 .✱.12.C	R4.321.11 .✱.12.C	108
12. ▶	R4.320.12 .✱.12.C	R4.321.12 .✱.12.C	125

Width index	Part No. full set **KMA pivoting**	Part No. full set **KMA locking**	*Bi* [mm]
15. ▶	R4.320.15 .✱.12.C	R4.321.15 .✱.12.C	150
17. ▶	R4.320.17 .✱.12.C	R4.321.17 .✱.12.C	168
20. ▶	R4.320.20 .✱.12.C	R4.321.20 .✱.12.C	200
25. ▶	R4.320.25 .✱.12.C	R4.321.25 .✱.12.C	250
30. ▶	R4.320.30 .✱.12.C	R4.321.30 .✱.12.C	300

(KMA = polymer metal mounting bracket) For the C-profile option please add index **.C**



Note: ✱ The e-chains® may end with either an inner or an outer side link. An outer side link should always be the first e-chain® link at the moving end. Please specify the index 1 (for odd) or 2 (for even) depending on an even or odd number of links required. Please add index **.A2** for the **preassembled** standard version with C-profile, in the inner radius at the moving end and in the outer radius at the fixed end.

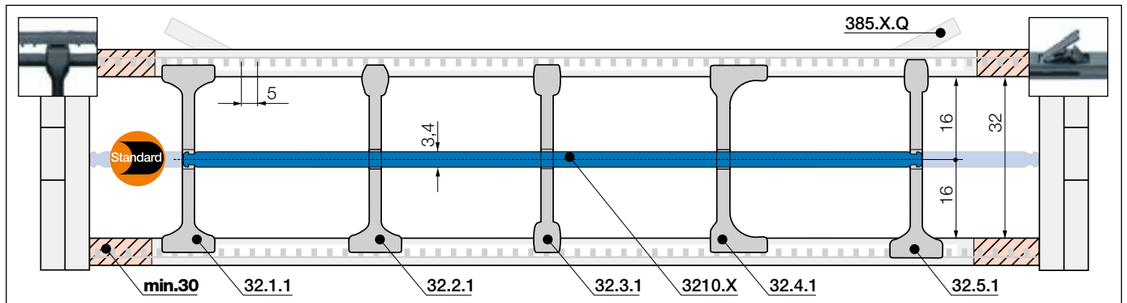


Strain relief **e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with ordering options ▶ From page 1300**

E4.1 | Series E4.32·H4.32·R4.32 | Accessories

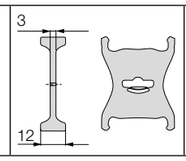
Interior separation | Increase cable service life

Previous generation of interior separation with other options ▶ **www.igus.eu/E4.32**



Note: Please be aware of the minimum lateral gap to the side links! **e-tubes: 30mm**
As standard separators are fitted every 2nd e-chain® link!



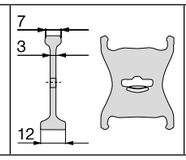


Standard separator, wide base	
unassembled	**32.1**
assembled	**32.1.1**

Standard - for any application

Separator with a wide base for maximum holding force in the e-chain®.



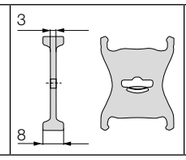


Separator for QuickLock crossbar	
unassembled	**32.2**
assembled	**32.2.1**

For even faster installation

Separator for igus® QuickLock crossbar **385.X.Q**. Wide on one side for high holding force, narrow on opposite side for easy cable fitting.



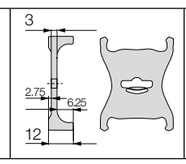


Separator, narrow	
unassembled	**32.3**
assembled	**32.3.1**

For small cables

Separator with a narrow base for a large number of small cables side by side. Saves space in the e-chain®. Also available for QuickLock crossbars.



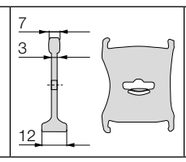


Separator, asymmetrical	
unassembled	**32.4**
assembled	**32.4.1**

For side-mounted applications

Asymmetrical separator, for defined gap distance. No additional spacers required.

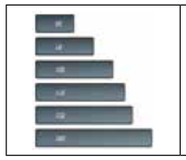


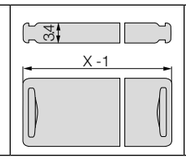


Notch separator for notched crossbar	
unassembled	**32.5**
assembled	**32.5.1**

Locks securely in preset increments

Notch separator for exact positioning in e-chains®. Recommended for side-mounted applications.





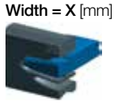
Shelf, lockable	
unassembled	**3200.X**
assembled	**3210.X**

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Shelves

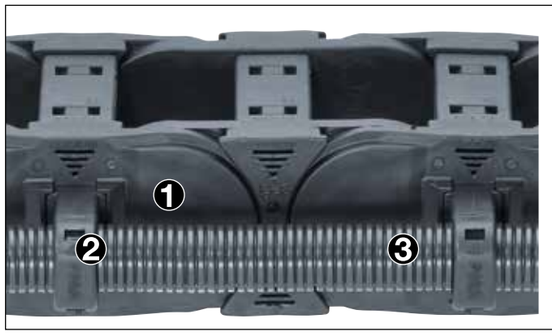
Width = X [mm]



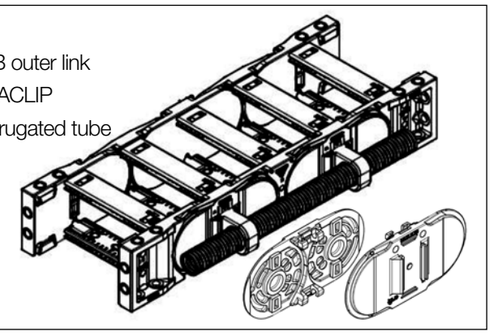
X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
050	**3200.050**	**3210.050**	125	**3200.125**	**3210.125**	225	**3200.225**	**3210.225**
075	**3200.075**	**3210.075**	150	**3200.150**	**3210.150**	250	**3200.250**	**3210.250**
100	**3200.100**	**3210.100**	175	**3200.175**	**3210.175**			
115	**3200.115**	**3210.115**	200	**3200.200**	**3210.200**			

E4.1 | Series E4.32·H4.32·R4.32 | Further accessories

TUB New



❶ TUB outer link
❷ PMACLIP
❸ Corrugated tube



TUB | Safe guidance for corrugated tubes parallel to the e-chain®

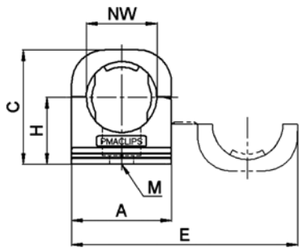
- Additional, simple guidance for corrugated tubes on the outside of the e-chain®
- PMACLIP allows corrugated tubes with nominal widths 07, 10 ,12, 17mm to be easily clipped on
- Easy access to the corrugated tubes, fast replacement of the hoses
- Reduce assembly time and cost - easy to assemble, without any additional screws or tools
- The part number includes the e-chain® with TUB side sections; the PMACLIP support and the hose are ordered separately

Part No. TUB Outer link right*	Part No. TUB Outer link left*	Part No. TUB Outer link at both ends*	For corrugated tube nominal diameter Ø [mm]
E4.32.XXXTUBR.R.0	E4.32.XXXTUBL.R.0	E4.32.XXXTUB.R.0	07 / 10 / 12 / 17

*As viewed from the fixed end

Part number appended with width index XXX *Bi* and radius (*R*) e.g.
E4.32L.100TUBR.150.0 = with TUB outer sections every 2nd right hand link

Product range | PMACLIP | Support, one-piece, with safety clip



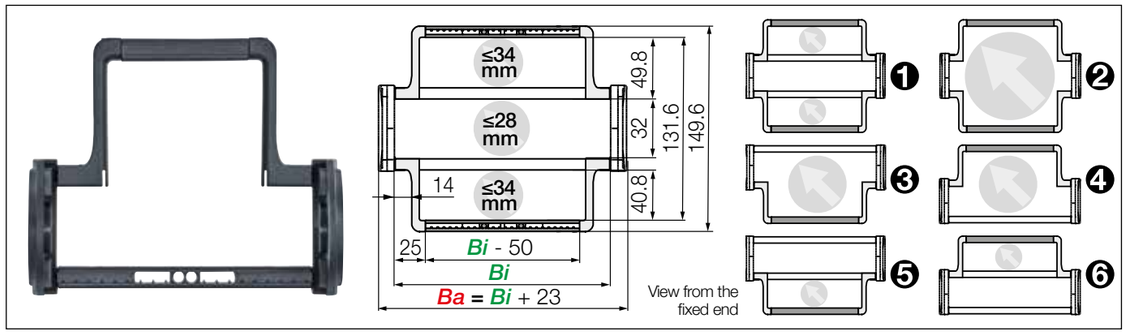


PMACLIP support - one-piece construction with safety clip, suitable for corrugated tubes

Part No. PMACLIP	NW Ø [mm]	A mm	B mm	C mm	H mm	E mm	M mm
I-BFH-07-0	07	17.0	20.0	21.5	13.5	40.5	M4
I-BFH-10-0	10	20.5	20.0	24.5	15.5	47.5	M5
I-BFH-12-0	12	24.0	20.0	27.0	16.5	54.5	M5
I-BFH-17-0	17	30.0	20.0	34.0	20.0	68.0	M6

E4.1 | Series E4.32·H4.32·R4.32 | Further accessories

e-chain® with openable extender crossbars New



Extender crossbars with flexible width | Safe guiding for large hoses

- For guiding and protecting large hoses
- With mounting for noise dampers
- Cable-friendly design, high crossbar holding force
- The openable extender crossbars can be fitted in different ways and combinations
- Optionally openable along the inner or outer radius

Versions e-chain® with extender crossbar	Hose Ø ≤ [mm]	Part No. crossbars every link	Part No. crossbars every 2nd link
❶ Extender crossbar and standard crossbar alternating along the inner and outer radius [1]	34	E4.32.XXXHB50.R.0	–
❷ Extender crossbar on both sides along the inner and outer radius [2]	120	E4.32.XXXB50.R.0	H4.32.XXXB50.R.0 [2]
❸ Extender crossbar along the outer radius [3]	72	E4.32.XXXBE50.R.0	H4.32.XXXBE50.R.0 [2]
❹ Extender crossbar along the inner radius [2]	72	E4.32.XXXBZ50.R.0	H4.32.XXXBZ50.R.0 [2]
❺ Extender crossbar and standard crossbar alternating along the outer radius [3]	34	E4.32.XXXHBE50.R.0	–
❻ Extender crossbar and standard crossbar alternating along inner radius [1]	34	E4.32.XXXHBZ50.R.0	–

1) Minimum bend radius: R 125 2) Minimum bend radius: R 150 3) Minimum bend radius: R 063

Bi [mm] **Available inner widths**

| 100 | 125 | 137 | 150 | 162 | 175 | 187 | 200 | 212 | 225 | 237 | 250 |
| 262 | 275 | 287 | 300 | 312 | 325 | 337 | 350 | 362 | 375 | 387 | 400 |

Complete Part No. with the width index XXX Bi and the minimum bend radius (R). Example:
E4.32.100B50.150.0 = crossbars every link, extender crossbar on both sides along the inner and outer radius



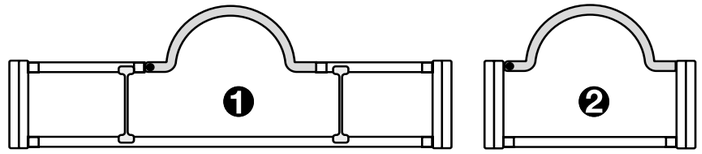
The E4.1 can be fitted with openable extender crossbars, which increase the size of the interior of the e-chain®. Crossbars can be fitted in various ways: from one or both sides, alternating with standard crossbars and or any combination

E4.1 | Series E4.32·H4.32·R4.32 | Further accessories

Extender crossbar with fixed width



Round extender crossbar ❶ combined with openable crossbars or ❷ attached directly on the side link (as viewed from the fixed end)



Extender crossbars with fixed width | Safe guiding for large hoses

- Suitable for hoses with a maximum outer diameter of 105mm.
- Variant ❶ extender crossbar with fixed width to combine with standard crossbars
- Variant ❷ extender crossbar with fixed width attached directly on the side link
- Optionally openable along the inner "Z" or outer "E" radius
- Gliding with crossbars assembled along the outer radius and a special guide trough

Part No. extender crossbar with fixed width, as individual parts	Hose Ø ≤ [mm]	Extender crossbar shape	❷ Fitted to side link	❶ Combine with openable crossbars
385.15RHD115	105	O round	No	Yes
385.18RD115	105	O round	Yes	No

Order example: ❶ combined with openable crossbars

To receive extender crossbar RHD115 pre-fitted along the outer radius of the-chain®, please add index E: **E4.32.10/15RHDE115/10.R.0**

To receive extender crossbar RHD115 pre-fitted along the inner radius of the-chain®, please add index Z: **E4.32.10/15RHDZ115/10.R.0**

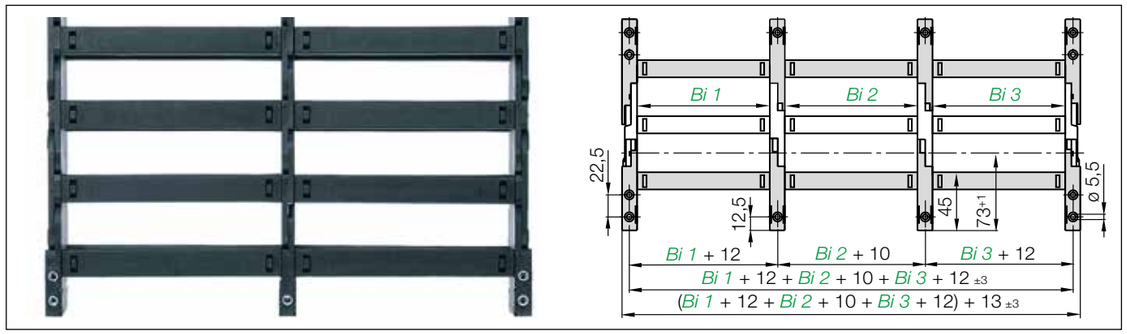
Order example: ❷ fitted to side link

To receive extender crossbar RD115 pre-fitted along the outer radius of the-chain®, please add index E: **E4.32.18RDE115.R.0**

To receive extender crossbar RD115 pre-fitted along the inner radius of the-chain®, please add index Z: **E4.32.18RDZ115.R.0**

E4.1 | Series E4.32·H4.32·R4.32 | Further accessories

Extension links | Hinged crossbars | Swivel clip

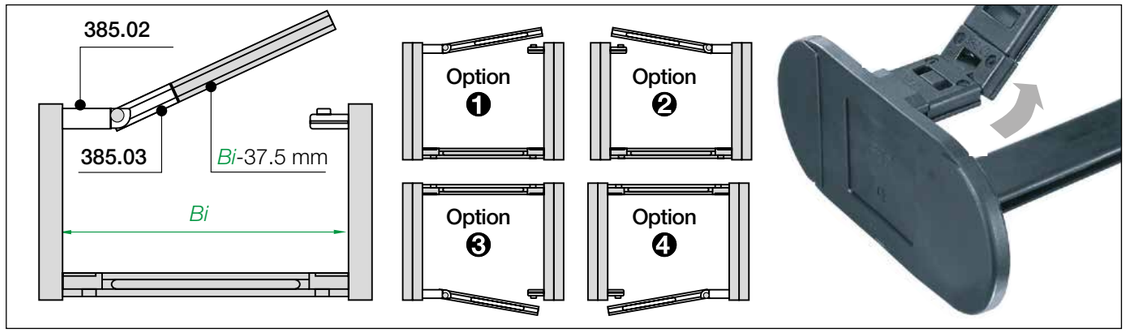


Extension links | For extremely wide e-chains® up to 3.0m

- Virtually unlimited side-by-side extension
- For extremely wide e-chains® up to 3,000mm
- Unsupported length FL_G max. can be increased when heavy fill weights are required
- e-chains® and e-tubes can be combined
- Attached with KMA or steel mounting brackets

Part No. Extension link e-chain®	Part No. Extension link e-tube	Part No. Extension link as an individual part
E4.32.*Bi1*/*Bi2*/*Bi3*.*R*.0	R4.32.*Bi1*/*Bi2*/*Bi3*.*R*.0	284.*R*.

Complete Part No.with the width index *Bi1*/*Bi2*/*Bi3*/*etc.* and the radius (*R*). Example: **E4.32.10/20/10.200.0**



Hinged crossbars | Swivel clip | Openable crossbar remains attached to the e-chain®

- When opening crossbars must remain attached to the e-chain®
- Hinged crossbars consist of a swivel clip and a shortened crossbar
- Openable crossbar (shortened): *Bi*-37.5mm (smallest inner width *Bi* = 87.5)
- Please consult igus® for assistance with this product

Part No. e-chain® with hinged crossbar	Part No. swivel clip as an individual part	Part No. openable crossbar as an individual part
E4.32.*Bi*.*Z*.*R*.0	385.02	385.03

Complete Part No. with the width index *Bi*, the index **Z** for the required option and the radius (*R*). Example: **E4.32.137.1.200.0**

E4.1 | Series E4.32·H4.32·R4.32 | Further accessories

E4.32
H4.32
R4.32

Aluminium support tray

- Corrosion-resistant and seawater-resistant aluminium rails with adjustable width
- Noise-reducing glide strip integrated as standard
- Easy installation and connection of the e-chain®
- Open design - dirt and debris fall through

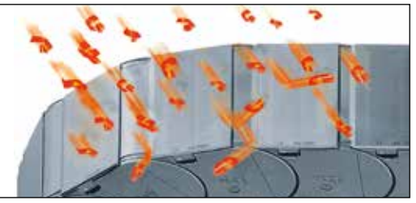
More information ▶ From page 1270



Swarf up to +850°C

- e-tubes to withstand 850°C swarf, as a special option
- No hot swarf melting or embedding into the chain
- igus® igumid HT material

More information ▶ www.igus.eu/HT



Reduce assembly time - E4 e-chain® opener

- e-chain® opener tools for easy opening and closing of e-chains®
- Simple opening and closing of e-chain® crossbars
- Also for use in hard to reach locations
- Significant assembly time reduction

More information ▶ www.igus.eu/E4savetime



Roller crossbars - increase the service life of cables and hoses

- Significantly reduce jacket abrasion of very stiff cables and hoses with rolling contact surfaces equipped with tribo-optimised bearings
- For sensitive hoses in restricted space
- Usable along the inner and/or outer radius, retrofit possible

More information ▶ www.igus.eu/roller-crossbar



E4.1 | Series E4.42·H4.42·R4.42 | Product range

42 42

Stable due to undercut design, medium inner height



e-chains® | Series E4.42 | **Crossbars every link** (crossbars removable along the inner and outer radius)
Standard e-chains® | Series H4.42 | **Crossbars every 2nd link** (crossbars removable along the inner and outer radius)
e-tubes | Series R4.42 | **Fully enclosed** (lids openable along the outer radius, from one side)

Part No. e-chains® / e-tubes	Bi [mm]	Ba [mm]	E4.42 [kg/m]	H4.42 [kg/m]	R4.42 [kg/m]
E4.[1] H4. R4.[2] 42. 05. R.0	50	76	≈ 2.10	≈ 2.05	≈ 2.74
E4.[1] H4. – 42. 06. R.0	68	94	≈ 2.21	≈ 2.10	–
E4.[1] H4. R4. 42. 07. R.0	75	101	≈ 2.24	≈ 2.12	≈ 3.05
E4.[1] H4. R4. 42. 087. R.0	87	114	≈ 2.30	≈ 2.15	≈ 3.20
E4. H4. – 42. 097. R.0	97	123	≈ 2.35	≈ 2.17	–
E4.[1] H4. R4. 42. 10. R.0	100	126	≈ 2.37	≈ 2.18	≈ 3.34
E4. H4. R4. 42. 11. R.0	108	134	≈ 2.42	≈ 2.20	≈ 3.39
E4. H4. – 42. 112. R.0	112	139	≈ 2.43	≈ 2.21	–
E4. H4. R4. 42. 12. R.0	125	151	≈ 2.52	≈ 2.26	≈ 3.58
E4. H4. – 42. 137. R.0	137	164	≈ 2.57	≈ 2.28	–
E4.[1] H4. R4. 42. 15. R.0	150	176	≈ 2.64	≈ 2.32	≈ 3.87
E4. H4. – 42. 162. R.0	162	189	≈ 2.66	≈ 2.33	–
E4. H4. R4. 42. 17. R.0	168	194	≈ 2.73	≈ 2.36	≈ 4.10
E4.[1] H4. – 42. 18. R.0	175	201	≈ 2.75	≈ 2.37	–
E4. H4. – 42. 187. R.0	187	214	≈ 2.79	≈ 2.39	–
E4.[1] H4. R4. 42. 20. R.0	200	226	≈ 2.90	≈ 2.44	≈ 4.44

Part No. e-chains® / e-tubes	Bi [mm]	Ba [mm]	E4.42 [kg/m]	H4.42 [kg/m]	R4.42 [kg/m]
E4. H4. – 42. 212. R.0	212	239	≈ 2.94	≈ 2.46	–
E4. H4. – 42. 23. R.0	225	251	≈ 3.02	≈ 2.51	–
E4. H4. – 42. 237. R.0	237	264	≈ 3.05	≈ 2.52	–
E4. H4. R4. 42. 25. R.0	250	276	≈ 3.16	≈ 2.58	≈ 5.44
E4. H4. – 42. 262. R.0	262	289	≈ 3.23	≈ 2.61	–
E4. H4. – 42. 28. R.0	275	301	≈ 3.29	≈ 2.64	–
E4. H4. – 42. 29. R.0	287	314	≈ 3.32	≈ 2.65	–
E4. H4. R4. 42. 30. R.0	300	326	≈ 3.42	≈ 2.71	≈ 6.09
E4. H4. – 42. 312. R.0	312	339	≈ 3.44	≈ 2.72	–
E4. H4. – 42. 325. R.0	325	351	≈ 3.53	≈ 2.76	–
E4. H4. – 42. 337. R.0	337	364	≈ 3.58	≈ 2.79	–
E4. H4. – 42. 350. R.0	350	376	≈ 3.77	≈ 2.88	–
E4. H4. – 42. 362. R.0	362	389	≈ 3.85	≈ 2.92	–
E4. H4. – 42. 375. R.0	375	402	≈ 3.91	≈ 2.95	–
E4. H4. – 42. 387. R.0	387	414	≈ 3.97	≈ 2.98	–
E4. H4. – 42. 400. R.0	400	426	≈ 4.02	≈ 3.01	–

1) ESD version available from stock 2) Removable lid, non-openable

*Radius not available for e-tubes

Available bend radii

R [mm] | 075* | 100* | 115* | 125 | 150 | 160 | 175 | 200 | 250 | 300 | 350 |

Complete Part No. with required radius (*R*). Example:

E4.42.30.300.0 = crossbars every link / H4.42.30.300.0 = crossbars every 2nd link / R4.42.30.300.0 = fully enclosed

ESD - many sizes from stock

- Standardised product made from igumid ESD
- ESD material tested with over 10 million cycles for the toughest requirements
- Short delivery times including mounting brackets and interior separation; 24hrs, from stock

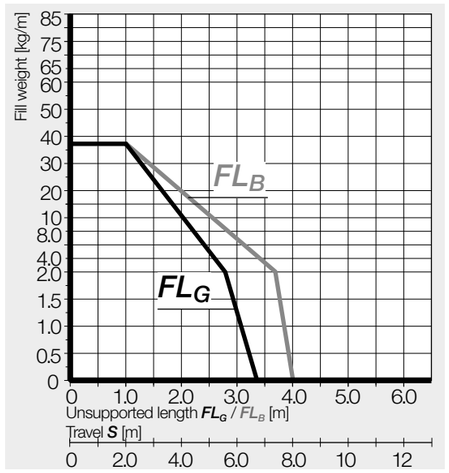
More information ▶ www.igus.eu/esd

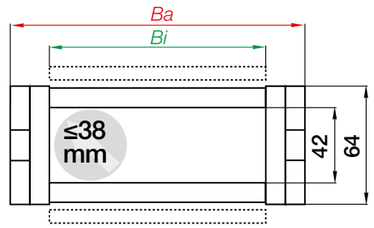


E4.1 | E4.42·H4.42·R4.42 | Installation dimensions

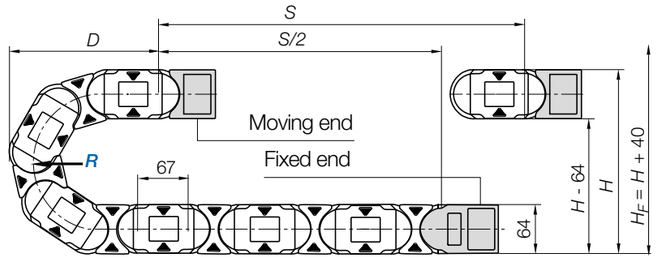
▶ 1300 ▶ 1228

Unsupported applications | Short travels





Inner height [mm]	42
Pitch [mm/link]	67
Links/m	15
corresponds to [mm]	1,005
e-chain® length	$L_K = S/2 + K$

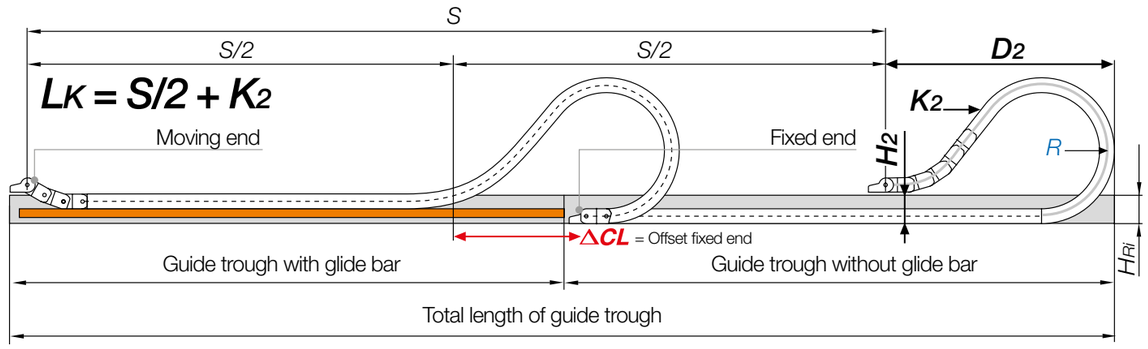


R	075*	100*	115*	125	150	160	175	200	250	300	350
H_{-0}^{+25}	214	264	294	314	364	384	414	464	564	664	764
D	208	233	248	258	283	293	308	333	383	433	483
K	370	450	500	530	610	640	685	765	920	1,080	1,235

The required clearance height: $H_F = H + 40$mm (with 3.0kg/m fill weight)

*Radius not available for e-tubes

Gliding applications | For long travels from 12m to max. 300m



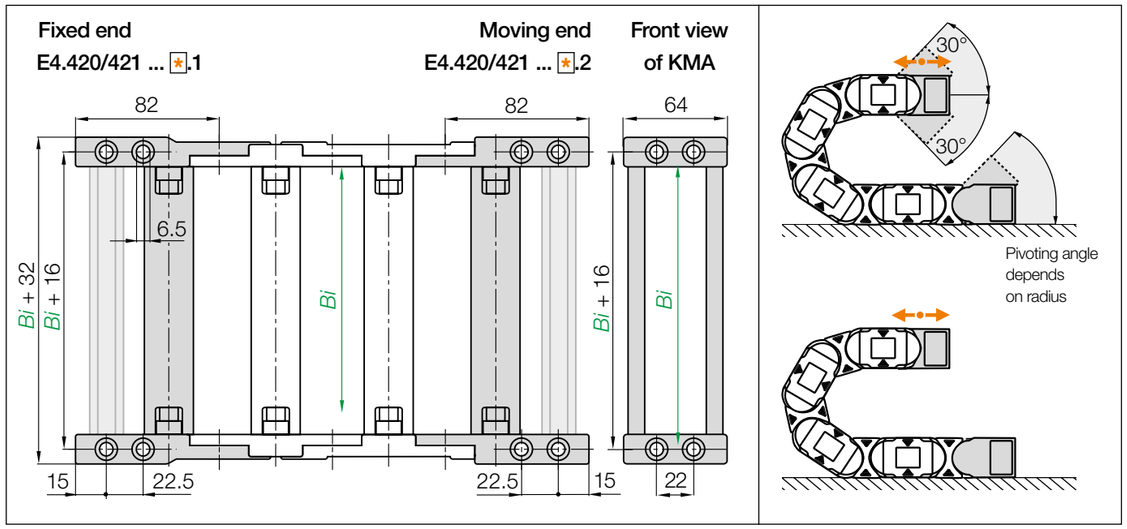
Note: We recommend the project planning of such a system to be carried out by igus®.
In case of travels between 8 and 12m we recommend an e-chain® with a longer unsupported length.

R	075*	100*	115*	125	150	160	175	200	250	300	350
H_2	150	200	230	186	186	186	186	186	186	186	186
D_2^{+25}	174	199	435	475	570	623	670	780	1,030	1,150	1,500
K_2	370	450	737	804	938	1,072	1,139	1,340	1,675	1,943	2,412
ΔCL	–	–	200	230	300	380	380	460	660	730	1,030

*Radius not available for e-tubes

E4.1 | e-chains® E4.42·H4.42 | Accessories

KMA mounting brackets | Attachment from any side | Pivoting | Locking



Standard **KMA pivoting** | Recommended for unsupported and gliding applications
KMA locking | Recommended for vertical hanging and standing applications

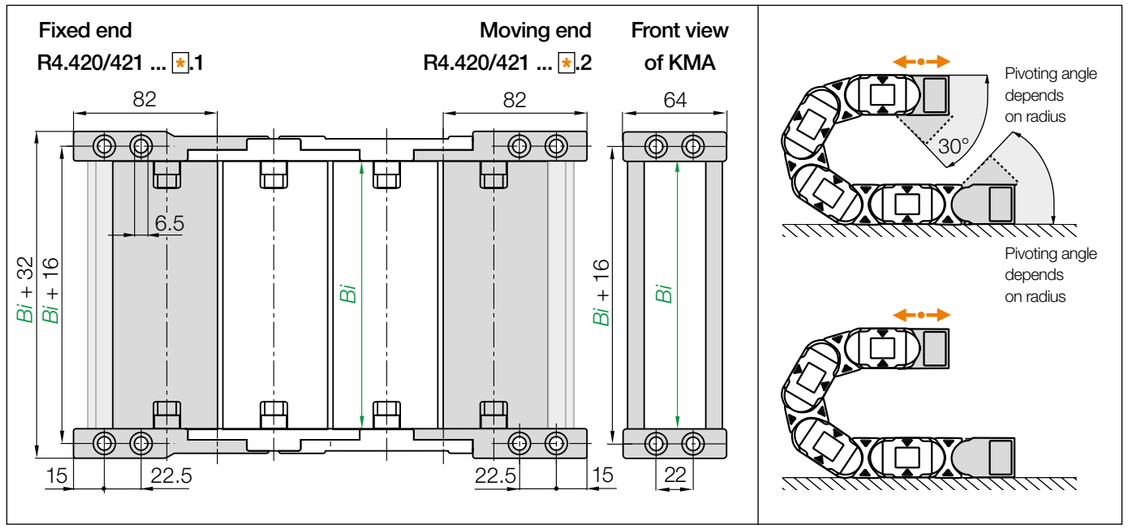
Width index	Part No. full set **KMA pivoting**	Part No. full set **KMA locking**	*Bi* [mm]
05. ▶	E4.420.05 .✱.12.C	E4.421.05 .✱.12.C	50
06. ▶	E4.420.06 .✱.12.C	E4.421.06 .✱.12.C	68
07. ▶	E4.420.07 .✱.12.C	E4.421.07 .✱.12.C	75
087. ▶	E4.420.087.✱.12.C	E4.421.087.✱.12.C	87
09. ▶	E4.420.097.✱.12.C	E4.421.097.✱.12.C	97
10. ▶	E4.420.10 .✱.12.C	E4.421.10 .✱.12.C	100
11. ▶	E4.420.11 .✱.12.C	E4.421.11 .✱.12.C	108
112. ▶	E4.420.112.✱.12.C	E4.421.112.✱.12.C	112
12. ▶	E4.420.12 .✱.12.C	E4.421.12 .✱.12.C	125
137. ▶	E4.420.137.✱.12.C	E4.421.137.✱.12.C	137
15. ▶	E4.420.15 .✱.12.C	E4.421.15 .✱.12.C	150
162. ▶	E4.420.162.✱.12.C	E4.421.162.✱.12.C	162
17. ▶	E4.420.17 .✱.12.C	E4.421.17 .✱.12.C	168
18. ▶	E4.420.18 .✱.12.C	E4.421.18 .✱.12.C	175
187. ▶	E4.420.187.✱.12.C	E4.421.187.✱.12.C	187
20. ▶	E4.420.20 .✱.12.C	E4.421.20 .✱.12.C	200

Width index	Part No. full set **KMA pivoting**	Part No. full set **KMA locking**	*Bi* [mm]
212. ▶	E4.420.212.✱.12.C	E4.421.212.✱.12.C	212
23. ▶	E4.420.23 .✱.12.C	E4.421.23 .✱.12.C	225
237. ▶	E4.420.237.✱.12.C	E4.421.237.✱.12.C	237
25. ▶	E4.420.25 .✱.12.C	E4.421.25 .✱.12.C	250
262. ▶	E4.420.262.✱.12.C	E4.421.262.✱.12.C	262
28. ▶	E4.420.28 .✱.12.C	E4.421.28 .✱.12.C	275
29. ▶	E4.420.29 .✱.12.C	E4.421.29 .✱.12.C	287
30. ▶	E4.420.30 .✱.12.C	E4.421.30 .✱.12.C	300
312. ▶	E4.420.312.✱.12.C	E4.421.312.✱.12.C	312
325. ▶	E4.420.325.✱.12.C	E4.421.325.✱.12.C	325
337. ▶	E4.420.337.✱.12.C	E4.421.337.✱.12.C	337
350. ▶	E4.420.350.✱.12.C	E4.421.350.✱.12.C	350
362. ▶	E4.420.362.✱.12.C	E4.421.362.✱.12.C	362
375. ▶	E4.420.375.✱.12.C	E4.421.375.✱.12.C	375
387. ▶	E4.420.387.✱.12.C	E4.421.387.✱.12.C	387
400. ▶	E4.420.400.✱.12.C	E4.421.400.✱.12.C	400

(KMA = polymer metal mounting bracket) For the C-profile option please add index **.c**

E4.1 | e-tubes R4.42 | Accessories

KMA mounting brackets | Attachment from any side | Pivoting | Locking

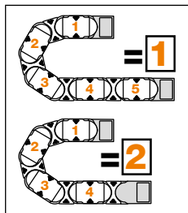


Standard **KMA pivoting** | Recommended for unsupported and gliding applications
KMA locking | Recommended for vertical hanging and standing applications

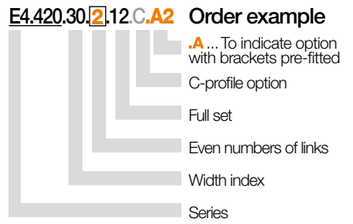
Width index	Part No. full set **KMA pivoting**	Part No. full set **KMA locking**	*Bi* [mm]
05. ▶	R4.420.05 .✱.12.C	R4.421.05 .✱.12.C	50
07. ▶	R4.420.07 .✱.12.C	R4.421.07 .✱.12.C	75
087. ▶	R4.420.087.✱.12.C	R4.421.087.✱.12.C	087
10. ▶	R4.420.10 .✱.12.C	R4.421.10 .✱.12.C	100
11. ▶	R4.420.11 .✱.12.C	R4.421.11 .✱.12.C	108
12. ▶	R4.420.12. .✱.12.C	R4.421.12 .✱.12.C	125

Width index	Part No. full set **KMA pivoting**	Part No. full set **KMA locking**	*Bi* [mm]
15. ▶	R4.420.15 .✱.12.C	R4.421.15 .✱.12.C	150
17. ▶	R4.420.17 .✱.12.C	R4.421.17 .✱.12.C	168
20. ▶	R4.420.20 .✱.12.C	R4.421.20 .✱.12.C	200
25. ▶	R4.420.25 .✱.12.C	R4.421.25 .✱.12.C	250
30. ▶	R4.420.30 .✱.12.C	R4.421.30 .✱.12.C	300

(KMA = polymer metal mounting bracket) For the C-profile option please add index **.c**



Note: ✱ The e-chains® may end with either an inner or an outer side link. An outer side link should always be the first e-chain® link at the moving end. Please specify the index 1 (for odd) or 2 (for even) depending on an even or odd number of links required. Please add index **.A2** for the **preassembled** standard version with C-profile, in the inner radius at the moving end and in the outer radius at the fixed end.

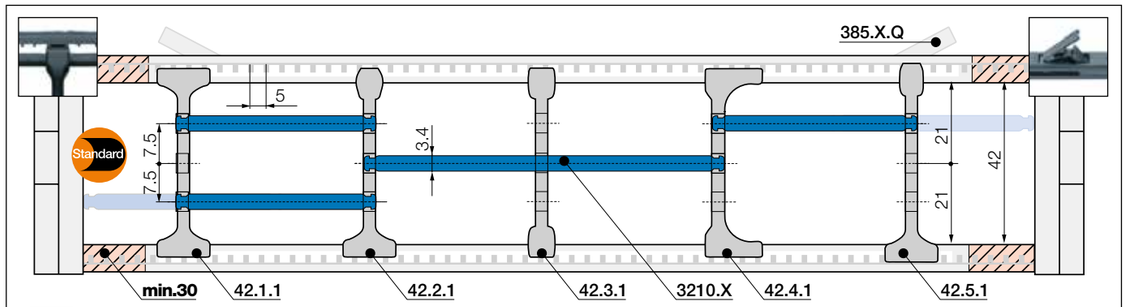


Strain relief **e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with ordering options ▶ From page 1300**

E4.1 | Series E4.42·H4.42·R4.42 | Accessories

Interior separation | Increase cable service life

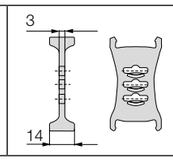
Previous generation of interior separation with other options ▶ **www.igus.eu/E4.42**



Note: Please be aware of the minimum lateral gap to the side links! **e-tubes: 30mm**

As standard separators are fitted every 2nd e-chain® link!



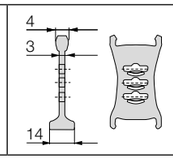


Standard separator, wide base	
unassembled	**42.1**
assembled	**42.1.1**

Standard - for any application

Separator with a wide base for maximum holding force in the e-chain®.



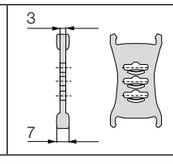


Separator for QuickLock crossbar	
unassembled	**42.2**
assembled	**42.2.1**

For even faster installation

Separator for igus® QuickLock crossbar **385.X.Q**. Wide on one side for high holding force, narrow on opposite side for easy cable fitting.



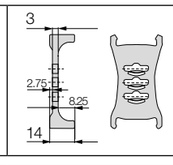


Separator, narrow	
unassembled	**42.3**
assembled	**42.3.1**

For small cables

Separator with a narrow base for a large number of small cables side by side. Saves space in the e-chain®. Also available for QuickLock crossbars.



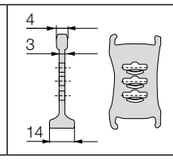


Separator, asymmetrical	
unassembled	**42.4**
assembled	**42.4.1**

For side-mounted applications

Asymmetrical separator, for defined gap distance. No additional spacers required.

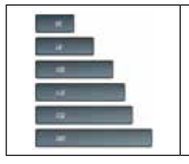


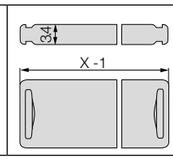


Notch separator for notched crossbar	
unassembled	**42.5**
assembled	**42.5.1**

Locks securely in preset increments

Notch separator for exact positioning in e-chains®. Recommended for side-mounted applications.





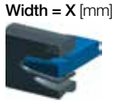
Shelf, lockable	
unassembled	**3200.X**
assembled	**3210.X**

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Shelves

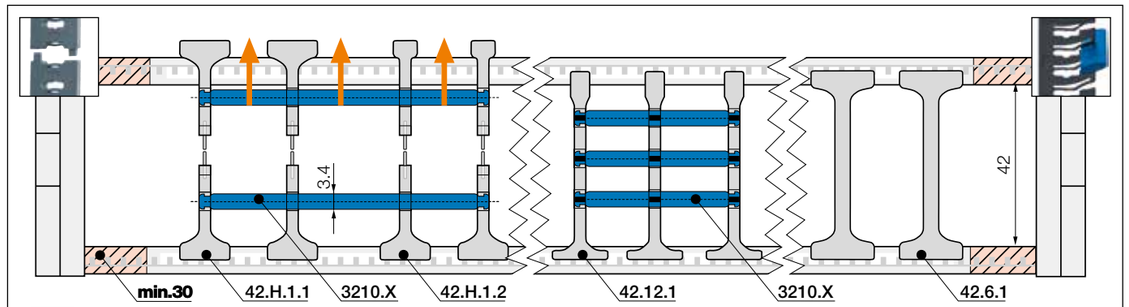
Width = X [mm]



X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
050	**3200.050**	**3210.050**	125	**3200.125**	**3210.125**	225	**3200.225**	**3210.225**
075	**3200.075**	**3210.075**	150	**3200.150**	**3210.150**	250	**3200.250**	**3210.250**
100	**3200.100**	**3210.100**	175	**3200.175**	**3210.175**			
115	**3200.115**	**3210.115**	200	**3200.200**	**3210.200**			

E4.1 | Series E4.42·H4.42·R4.42 | Accessories

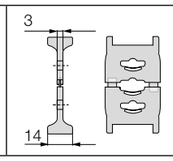
Interior separation | To allow faster filling



Note: Please be aware of the minimum lateral gap to the side links! **e-tubes: 30mm**

As standard separators are fitted every 2nd e-chain® link!

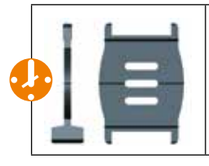


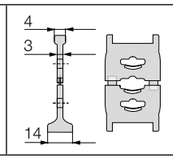


Split separator, wide base/top	
unassembled	**42.H.1**
assembled	**42.H.1.1**

Split separators

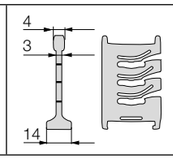
In order to fill e-chains® more easily and effectively, these separators can be split in the middle. This allows easier access to middle shelf partitions. Fast assembly and easy retrofit. 2 types available: with wide or narrow top.





Split separator, narrow top	
unassembled	**42.H.2**
assembled	**42.H.2.1**





Lean separator	
unassembled	**42.12**
assembled	**42.12.1**

Lean separators New

New design allows extremely fast fitting of shelves in several layers, which significantly reduces assembly time. Enables extremely fast replacement of individual cables in a very full e-chain®.

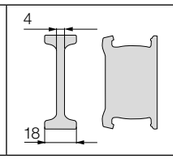
Lean separator design - several layers of cables fitted quickly, save up to 50%* assembly time

(*Lean separator vs. standard separator - measured on a 4m long e-chain® fitted with 12 cables in the igus® readychain® factory)



More interior separation options





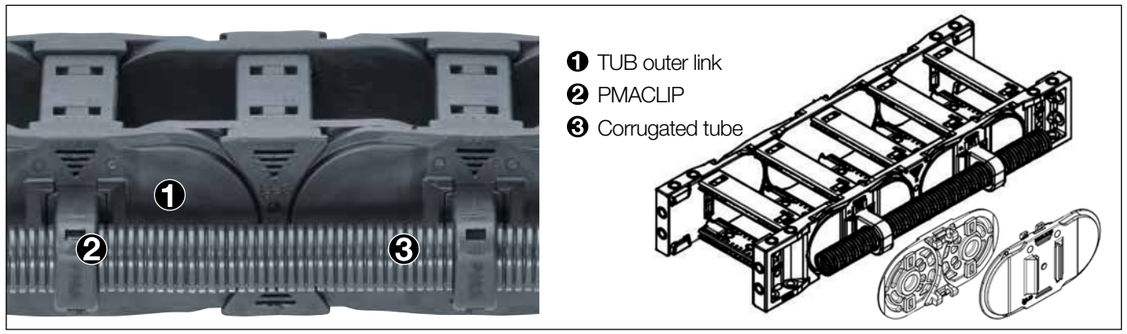
Notch locking separator	
unassembled	**42.6**
assembled	**42.6.1**

Notch locking separator for increased holding force

Notch locking separators offer higher crossbar opening forces for high humidity and/or large hydraulic hoses. They can be positioned precisely and then locked in position.

E4.1 | Series E4.42·H4.42·R4.42 | Further accessories

TUB New



TUB | Safe guidance for corrugated tubes parallel to the e-chain®

- Additional, simple guidance for corrugated tubes on the outside of the e-chain®
- PMACLIP allows corrugated tubes with nominal widths 07, 10 ,12, 17mm to be easily clipped on
- Easy access to the corrugated tubes, fast replacement of the hoses
- Reduce assembly time and cost - easy to assemble, without any additional screws or tools
- The part number includes the e-chain® with TUB side sections; the PMACLIP support and the hose are ordered separately

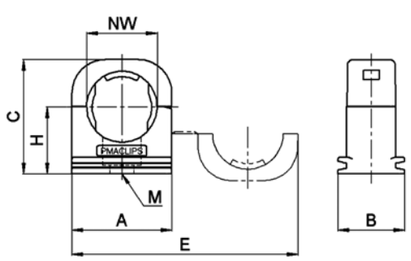
Part No. TUB Outer link right*	Part No. TUB Outer link left*	Part No. TUB Outer link at both ends*	For corrugated tube nominal diameter Ø [mm]
E4.42.XXXTUBR.*R*.0	E4.42.XXXTUBL.*R*.0	E4.42.XXXTUB.*R*.0	07 / 10 / 12 / 17

*As viewed from the fixed end

Part number appended with width index XXX *Bi* and radius (*R*) e.g.

E4.42.100TUBR.150.0 = with TUB outer sections every 2nd right hand link

Product range | PMACLIP | Support, one-piece, with safety clip



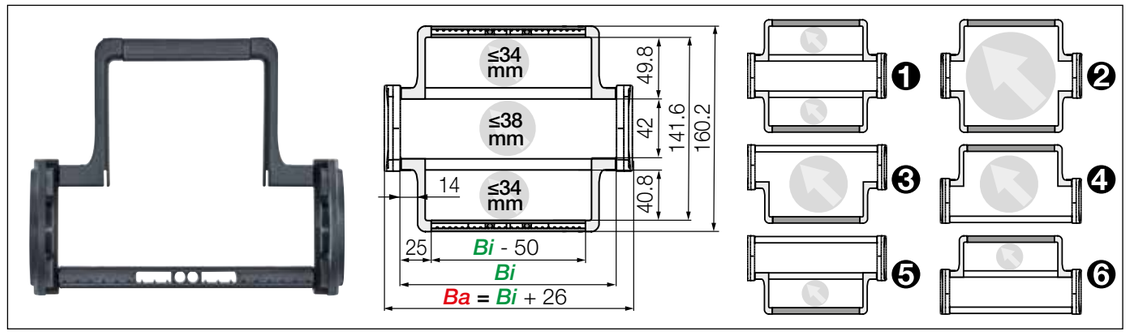


PMACLIP support - one-piece construction with safety clip, suitable for corrugated tubes

Part No. PMACLIP	NW Ø [mm]	A mm	B mm	C mm	H mm	E mm	M mm
I-BFH-07-0	07	17.0	20.0	21.5	13.5	40.5	M4
I-BFH-10-0	10	20.5	20.0	24.5	15.5	47.5	M5
I-BFH-12-0	12	24.0	20.0	27.0	16.5	54.5	M5
I-BFH-17-0	17	30.0	20.0	34.0	20.0	68.0	M6

E4.1 | Series E4.42·H4.42·R4.42 | Further accessories

e-chain® with openable extender crossbars New



Extender crossbars with flexible width | Safe guiding for large hoses

- For guiding and protecting large hoses
- With mounting for noise dampers
- Cable-friendly design, high crossbar holding force
- The openable extender crossbars can be fitted in different ways and combinations
- Optionally openable along the inner or outer radius

Versions e-chain® with extender crossbar	Hose Ø ≤ [mm]	Part No. crossbars every link	Part No. crossbars every 2nd link
❶ Extender crossbar and standard crossbar alternating along the inner and outer radius [1]	34	E4.42.XXXHB50.*R*.0	–
❷ Extender crossbar on both sides along the inner and outer radius [2]	130	E4.42.XXXB50.*R*.0	H4.42.XXXB50.*R*.0 [2]
❸ Extender crossbar along the outer radius [3]	85	E4.42.XXXBE50.*R*.0	H4.42.XXXBE50.*R*.0 [2]
❹ Extender crossbar along the inner radius [2]	85	E4.42.XXXBZ50.*R*.0	H4.42.XXXBZ50.*R*.0 [2]
❺ Extender crossbar and standard crossbar alternating along the outer radius [3]	34	E4.42.XXXHBE50.*R*.0	–
❻ Extender crossbar and standard crossbar alternating along inner radius [1]	34	E4.42.XXXHBZ50.*R*.0	–

1) Minimum bend radius: *R* 125 2) Minimum bend radius: *R* 150 3) Minimum bend radius: *R* 075

Bi [mm] **Available inner widths**

100	125	137	150	162	175	187	200	212	225	237	250
262	275	287	300	312	325	337	350	362	375	387	400

Complete Part No. with the width index XXX *Bi* and the minimum bend radius (*R*). Example:

E4.42.100B50.150.0 = crossbars every link, extender crossbar on both sides along the inner and outer radius



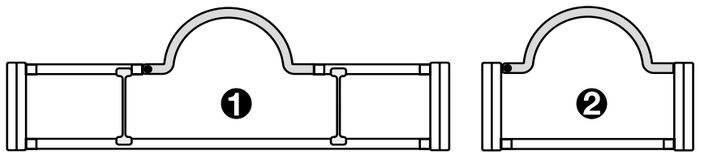
The E4.1 can be fitted with openable extender crossbars, which increase the size of the interior of the e-chain®. Crossbars can be fitted in various ways: from one or both sides, alternating with standard crossbars and or any combination

E4.1 | Series E4.42·H4.42·R4.42 | Further accessories

Extender crossbar with fixed width



Round extender crossbar ❶ combined with openable crossbars or ❷ attached directly on the side link (as viewed from the fixed end)



Extender crossbars with fixed width | Safe guiding for large hoses

- Suitable for hoses with a maximum outer diameter of 105mm.
- Variant ❶ extender crossbar with fixed width to combine with standard crossbars
- Variant ❷ extender crossbar with fixed width attached directly on the side link
- Optionally openable along the inner "**Z**" or outer "**E**" radius
- Gliding with crossbars assembled along the outer radius and a special guide trough

Part No. extender crossbar with fixed width, as individual parts	Hose Ø ≤ [mm]	Extender crossbar shape	❷ Fitted to side link	❶ Combine with openable crossbars
385.15RHD115	105	○ round	No	Yes
385.18RD115	105	○ round	Yes	No

Order example: ❶ combined with openable crossbars

To receive extender crossbar RHD115 pre-fitted along the outer radius of the-chain®, please add index **E**: **E4.42.10/15RHD*E*115/10.*R*.0**

To receive extender crossbar RHD115 pre-fitted along the inner radius of the-chain®, please add index **Z**: **E4.42.10/15RHD*Z*115/10.*R*.0**

Order example: ❷ fitted to side link

To receive extender crossbar RD115 pre-fitted along the outer radius of the-chain®, please add index **E**: **E4.42.18RD*E*115.*R*.0**

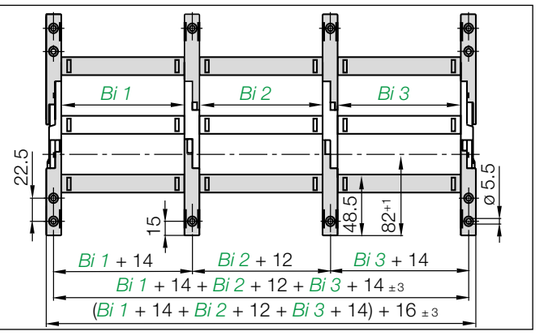
To receive extender crossbar RD115 pre-fitted along the inner radius of the-chain®, please add index **Z**: **E4.42.18RD*Z*115.*R*.0**

E4.42
H4.42
R4.42

E4.1 | Series E4.42·H4.42·R4.42 | Further accessories

Extension links | Hinged crossbars | Swivel clip



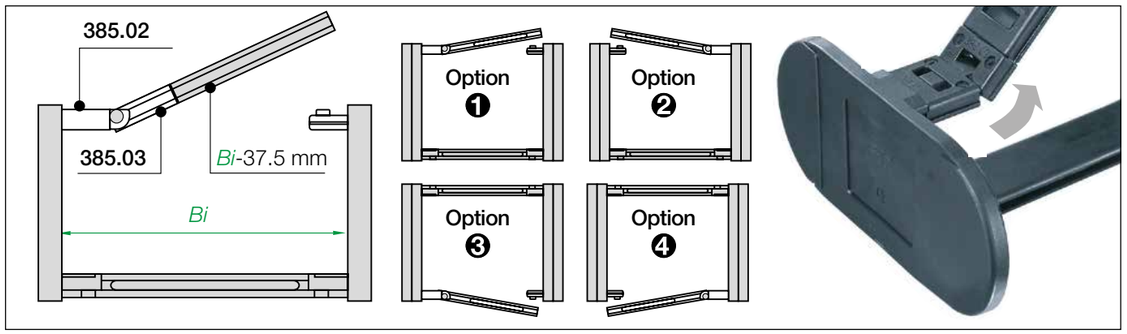


Extension links | For extremely wide e-chains® up to 3.0m

- Virtually unlimited side-by-side extension
- For extremely wide e-chains® up to 3,000mm
- Unsupported length FL_G max. can be increased when heavy fill weights are required
- e-chains® and e-tubes can be combined
- Attached with KMA or steel mounting brackets

Part No. Extension link e-chain®	Part No. Extension link e-tube	Part No. Extension link as an individual part
E4.42.*Bi1*/*Bi2*/*Bi3*.*R*.0	**R4.42.*Bi1*/*Bi2*/*Bi3*.*R*.0**	**384.*R*.**

Complete Part No.with the width index ***Bi1*/*Bi2*/*Bi3*/*etc.*** and the radius (***R***). Example: **E4.42.10/20/10.200.0**



Hinged crossbars | Swivel clip | Openable crossbar remains attached to the e-chain®

- When opening crossbars must remain attached to the e-chain®
- Hinged crossbars consist of a swivel clip and a shortened crossbar
- Openable crossbar (shortened): ***Bi***-37.5mm (smallest inner width ***Bi*** = 87.5)
- Please consult igus® for assistance with this product

Part No. e-chain® with hinged crossbar	Part No. swivel clip as an individual part	Part No. openable crossbar as an individual part
E4.42.*Bi*.*Z*.*R*.0	**385.02**	**385.03**

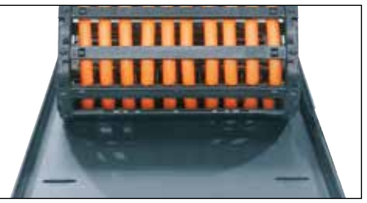
Complete Part No. with the width index ***Bi***, the index **Z** for the required option and the radius (***R***). Example: **E4.42.137.1.200.0**

E4.1 | Series E4.42·H4.42·R4.42 | Further accessories

Steel support tray for support of the lower run

- Simple one-piece support trays for the lower run
- To your requirements and specification
- 4 options available

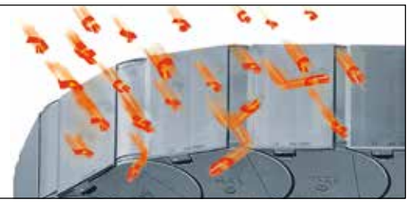
More information ▶ From page 1264



Swarf up to +850°C

- e-tubes to withstand 850°C swarf, as a special option
- No hot swarf melting or embedding into the chain
- igus® igumid HT material

More information ▶ www.igus.eu/HT



Reduce assembly time - E4 e-chain® opener

- e-chain® opener tools for easy opening and closing of e-chains®
- Simple opening and closing of e-chain® crossbars
- Also for use in hard to reach locations
- Significant assembly time reduction

More information ▶ www.igus.eu/E4savetime



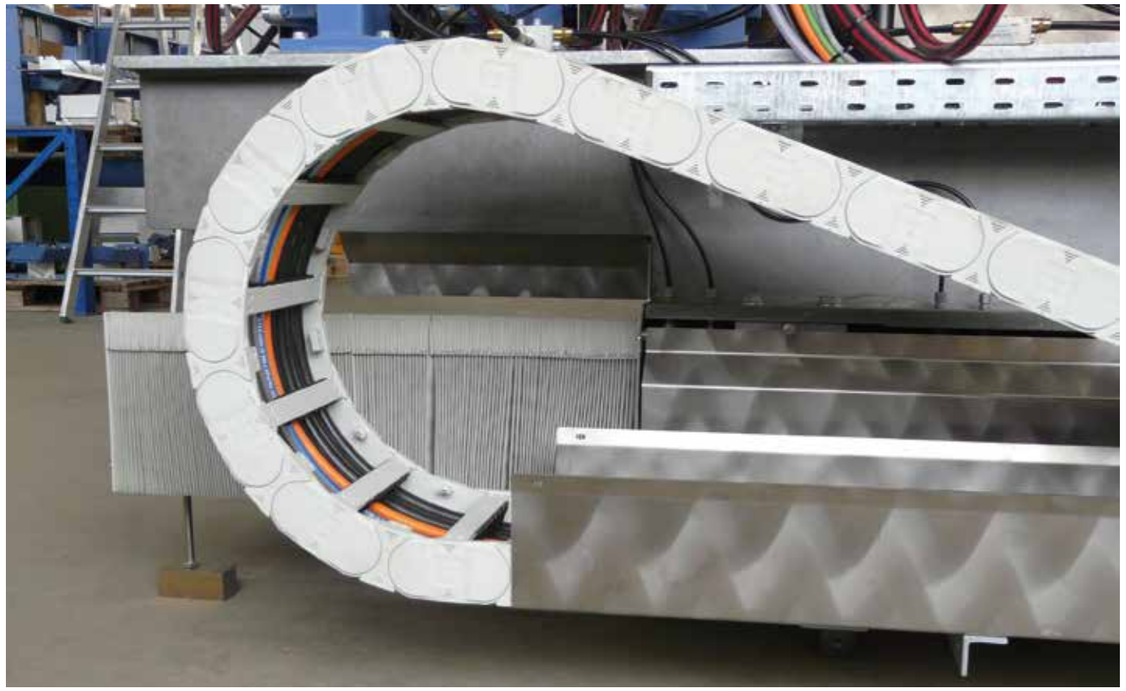
Roller crossbars - increase the service life of cables and hoses

- Significantly reduce jacket abrasion of very stiff cables and hoses with rolling contact surfaces equipped with tribo-optimised bearings
- For sensitive hoses in restricted space
- Usable along the inner and/or outer radius, retrofit possible

More information ▶ www.igus.eu/roller-crossbar



E4.1 | Application example



igus® e-chains® can even withstand the difficult conditions in stone processing facilities.The task of this e-chain® is to supply the tool carriage with energy (up to 100 A), signals, compressed air and water. It can travel up to 12m and achieves speeds of up to 32m/min.

E4.1 | Series E4.56·H4.56·R4.56 | Product range

56 56

Stable due to undercut design, large inner height



e-chains® | Series E4.56 | Crossbars every link (crossbars removable along the inner and outer radius)

Standard **e-chains® | Series H4.56 | Crossbars every 2nd link** (crossbars removable along the inner and outer radius)

e-tubes | Series R4.56 | Fully enclosed (lids openable along the outer radius, from one side)

Part No. e-chains® / e-tubes	Bi [mm]	Ba [mm]	E4.56 [kg/m]	H4.56 [kg/m]	R4.56 [kg/m]
E4. H4. – 56. 05. R.0	50	84	≈ 3.60	≈ 3.59	–
E4. H4. – 56. 055. R.0	55	89	≈ 3.65	≈ 3.62	–
E4. H4. – 56. 06. R.0	65	99	≈ 3.69	≈ 3.63	–
E4.1) H4. R4.2) 56. 07. R.0	75	109	≈ 3.76	≈ 3.67	≈ 4.31
E4. H4. – 56. 08. R.0	87	121	≈ 3.85	≈ 3.71	–
E4. H4. R4. 56. 10. R.0	100	134	≈ 3.93	≈ 3.75	≈ 4.65
E4. H4. – 56. 11. R.0	112	147	≈ 4.05	≈ 3.81	–
E4.1) H4. R4. 56. 12. R.0	125	159	≈ 4.13	≈ 3.85	≈ 5.01
E4. H4. – 56. 13. R.0	137	172	≈ 4.26	≈ 3.92	–
E4.1) H4. R4. 56. 15. R.0	150	184	≈ 4.28	≈ 3.93	≈ 5.36
E4. H4. – 56. 16. R.0	162	197	≈ 4.41	≈ 3.99	–
E4. H4. – 56. 169. R.0	169	204	≈ 4.49	≈ 4.03	–
E4. H4. R4. 56. 17. R.0	175	209	≈ 4.55	≈ 4.06	≈ 5.73
E4. H4. – 56. 182. R.0	182	217	≈ 4.59	≈ 4.08	–
E4. H4. – 56. 18. R.0	187	222	≈ 4.66	≈ 4.12	–
E4.1) H4. R4. 56. 20. R.0	200	234	≈ 4.71	≈ 4.14	≈ 5.96
E4. H4. – 56. 207. R.0	207	242	≈ 4.77	≈ 4.17	–
E4. H4. – 56. 21. R.0	212	247	≈ 4.78	≈ 4.18	–
E4. H4. – 56. 22. R.0	225	259	≈ 4.85	≈ 4.21	–
E4. H4. – 56. 23. R.0	237	272	≈ 4.96	≈ 4.27	–
E4.1) H4. R4. 56. 25. R.0	250	284	≈ 4.93	≈ 4.25	≈ 6.64
E4. H4. – 56. 26. R.0	262	297	≈ 5.16	≈ 4.37	–
E4. H4. R4. 56. 27. R.0	275	309	≈ 5.27	≈ 4.42	≈ 6.97
E4. H4. – 56. 28. R.0	287	322	≈ 5.32	≈ 4.45	–
E4.1) H4. R4. 56. 30. R.0	300	334	≈ 5.48	≈ 4.53	≈ 7.31
E4. H4. – 56. 31. R.0	312	347	≈ 5.51	≈ 4.54	–
E4. H4. – 56. 32. R.0	325	359	≈ 5.62	≈ 4.60	–
E4. H4. – 56. 33. R.0	337	372	≈ 5.74	≈ 4.66	–
E4. H4. R4. 56. 35. R.0	350	384	≈ 5.88	≈ 4.73	≈ 8.00
E4. H4. – 56. 36. R.0	362	397	≈ 5.90	≈ 4.74	–
E4. H4. – 56. 37. R.0	375	409	≈ 6.02	≈ 4.79	–
E4. H4. – 56. 38. R.0	387	422	≈ 6.06	≈ 4.82	–
E4. H4. R4. 56. 40. R.0	400	434	≈ 6.01	≈ 4.79	≈ 8.68
E4. H4. – 56. 41. R.0	412	447	≈ 6.25	≈ 4.91	–
E4. H4. – 56. 42. R.0	425	459	≈ 6.37	≈ 4.97	–
E4. H4. – 56. 43. R.0	437	472	≈ 6.46	≈ 5.01	–
E4. H4. – 56. 45. R.0	450	484	≈ 6.65	≈ 5.11	–
E4. H4. R4. 56. 46. R.0	462	497	≈ 6.70	≈ 5.14	≈ 9.52
E4. H4. – 56. 47. R.0	475	509	≈ 6.73	≈ 5.15	–
E4. H4. – 56. 48. R.0	487	522	≈ 6.80	≈ 5.19	–
E4. H4. – 56. 50. R.0	500	534	≈ 6.96	≈ 5.26	–
E4. H4. – 56. 51. R.0	512	547	≈ 7.01	≈ 5.29	–
E4. H4. – 56. 52. R.0	525	559	≈ 7.14	≈ 5.36	–
E4. H4. – 56. 53. R.0	537	572	≈ 7.23	≈ 5.40	–
E4. H4. – 56. 55. R.0	550	584	≈ 7.65	≈ 5.61	–
E4. H4. – 56. 60. R.0	600	634	≈ 7.38	≈ 5.48	–

1) ESD version available from stock 2) Removable lid, non-openable *Radius not available for e-tubes

Available bend radii

R [mm] | 135* | 150 | 175 | 200 | 240 | 250 | 300 | 350 | 400 | 450 | 500 |

Complete Part No. with required radius (R). Example:

E4.56.30.300.0 = crossbars every link / H4.56.30.300.0 = crossbars every 2nd link / R4.56.30.300.0 = fully enclosed

ESD - many sizes from stock

- Standardised product made from igumid ESD
- ESD material tested with over 10 million cycles for the toughest requirements
- Short delivery times including mounting brackets and interior separation; 24hrs, from stock

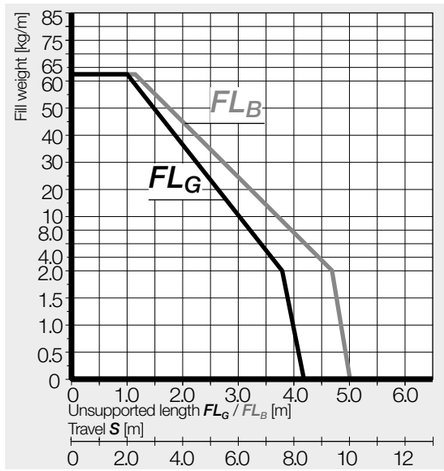
More information ▶ www.igus.eu/esd

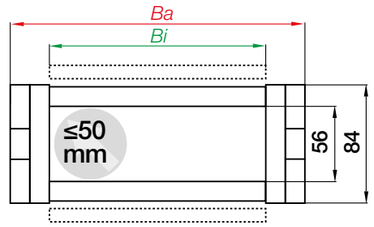


E4.1 | E4.56·H4.56·R4.56 | Installation dimensions

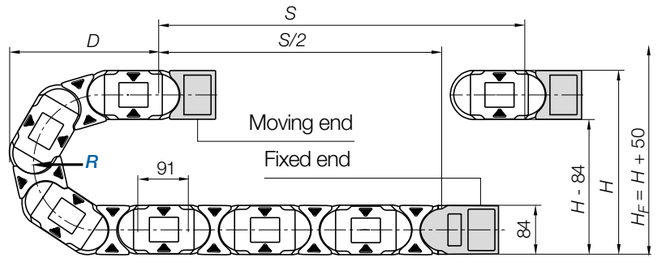
▶ 1300 ▶ 1230

Unsupported applications | Short travels





Inner height [mm]	56
Pitch [mm/link]	91
Links/m	11
corresponds to [mm]	1,001
e-chain® length	$L_K = S/2 + K$

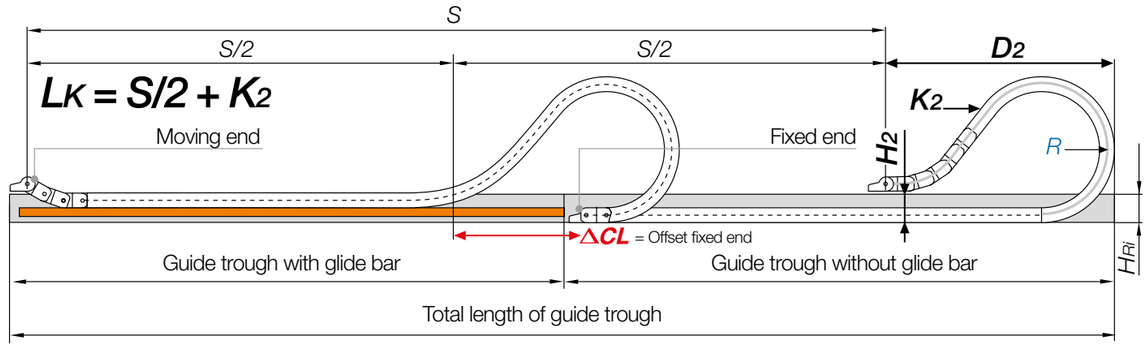


R	135*	150	175	200	240	250	300	350	400	450	500
H^{-0}_{+25}	354	384	434	484	564	584	684	784	884	984	1084
D	314	329	354	379	419	429	479	529	579	629	679
K	610	655	735	815	940	970	1,125	1,285	1,440	1,600	1,755

The required clearance height: $H_F = H + 50$mm (with 3.0kg/m fill weight)

*Radius not available for e-tubes

Gliding applications | For long travels from 12m to max. 400m



Note: We recommend the project planning of such a system to be carried out by igus®.

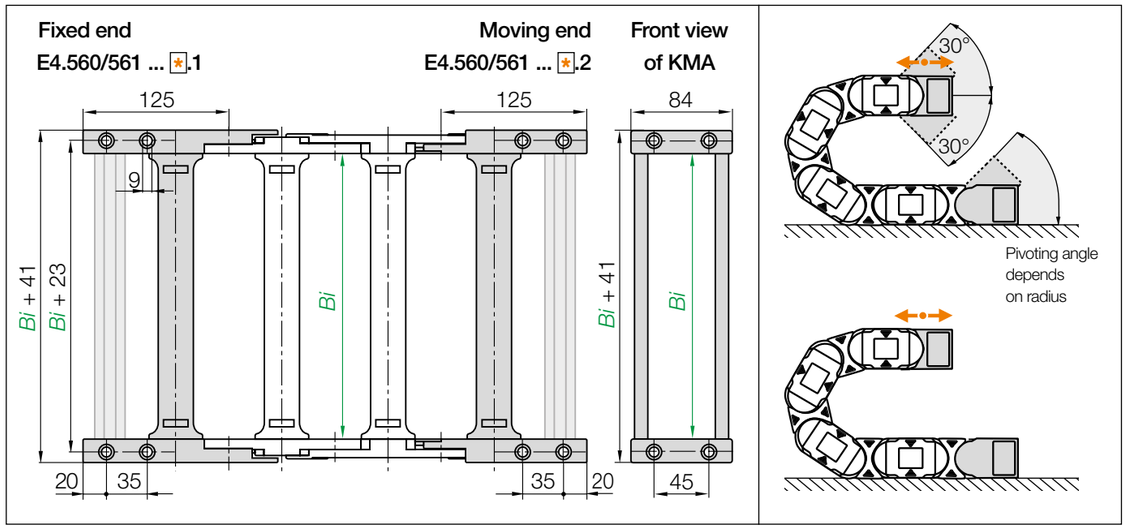
In case of travels between 10 and 12m we recommend an e-chain® with a longer unsupported length.

R	135*	150	175	200	240	250	300	350	400	450	500
H_2	270	266	266	266	266	266	266	266	266	266	266
D_2^{+25}	268	450	580	710	900	980	1,180	1,440	1,530	1,700	1,850
K_2	610	819	1,092	1,274	1,547	1,638	2,002	2,275	2,548	2,912	3,276
ΔCL	–	159	259	359	509	559	709	909	959	1,059	1,159

*Radius not available for e-tubes

E4.1 | e-chains® E4.56·H4.56 | Accessories

KMA mounting brackets | Attachment from any side | Pivoting | Locking



Standard KMA pivoting | Recommended for unsupported and gliding applications
KMA locking | Recommended for vertical hanging and standing applications

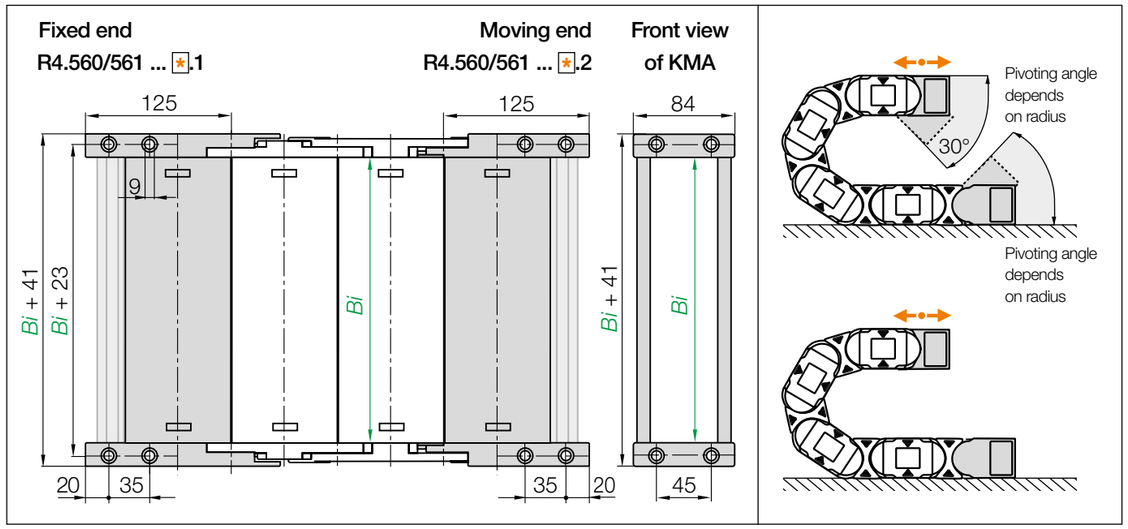
Width index	Part No. full set KMA pivoting	Part No. full set KMA locking	Bi [mm]
05. ▶	E4.560.05 .✱.12.C	E4.561.05 .✱.12.C	50
055. ▶	E4.560.055.✱.12.C	E4.561.055.✱.12.C	55
06. ▶	E4.560.06 .✱.12.C	E4.561.06 .✱.12.C	65
07. ▶	E4.560.07 .✱.12.C	E4.561.07 .✱.12.C	75
08. ▶	E4.560.08 .✱.12.C	E4.561.08 .✱.12.C	87
10. ▶	E4.560.10 .✱.12.C	E4.561.10 .✱.12.C	100
11. ▶	E4.560.11 .✱.12.C	E4.561.11 .✱.12.C	112
12. ▶	E4.560.12 .✱.12.C	E4.561.12 .✱.12.C	125
13. ▶	E4.560.13 .✱.12.C	E4.561.13 .✱.12.C	137
15. ▶	E4.560.15 .✱.12.C	E4.561.15 .✱.12.C	150
16. ▶	E4.560.16 .✱.12.C	E4.561.16 .✱.12.C	162
169. ▶	E4.560.169.✱.12.C	E4.561.169.✱.12.C	169
17. ▶	E4.560.17 .✱.12.C	E4.561.17 .✱.12.C	175
182. ▶	E4.560.182.✱.12.C	E4.561.182.✱.12.C	182
18. ▶	E4.560.18 .✱.12.C	E4.561.18 .✱.12.C	187
20. ▶	E4.560.20 .✱.12.C	E4.561.20 .✱.12.C	200
207. ▶	E4.560.207.✱.12.C	E4.561.207.✱.12.C	207
21. ▶	E4.560.21 .✱.12.C	E4.561.21 .✱.12.C	212
22. ▶	E4.560.22 .✱.12.C	E4.561.22 .✱.12.C	225
23. ▶	E4.560.23 .✱.12.C	E4.561.23 .✱.12.C	237
25. ▶	E4.560.25 .✱.12.C	E4.561.25 .✱.12.C	250
26. ▶	E4.560.26 .✱.12.C	E4.561.26 .✱.12.C	262
27. ▶	E4.560.27 .✱.12.C	E4.561.27 .✱.12.C	275

Width index	Part No. full set KMA pivoting	Part No. full set KMA locking	Bi [mm]
28. ▶	E4.560.28 .✱.12.C	E4.561.28 .✱.12.C	287
30. ▶	E4.560.30 .✱.12.C	E4.561.30 .✱.12.C	300
31. ▶	E4.560.31 .✱.12.C	E4.561.31 .✱.12.C	312
32. ▶	E4.560.32 .✱.12.C	E4.561.32 .✱.12.C	325
33. ▶	E4.560.33 .✱.12.C	E4.561.33 .✱.12.C	337
35. ▶	E4.560.35 .✱.12.C	E4.561.35 .✱.12.C	350
36. ▶	E4.560.36 .✱.12.C	E4.561.36 .✱.12.C	362
37. ▶	E4.560.37 .✱.12.C	E4.561.37 .✱.12.C	375
38. ▶	E4.560.38 .✱.12.C	E4.561.38 .✱.12.C	387
40. ▶	E4.560.40 .✱.12.C	E4.561.40 .✱.12.C	400
41. ▶	E4.560.41 .✱.12.C	E4.561.41 .✱.12.C	412
42. ▶	E4.560.42 .✱.12.C	E4.561.42 .✱.12.C	425
43. ▶	E4.560.43 .✱.12.C	E4.561.43 .✱.12.C	437
45. ▶	E4.560.45 .✱.12.C	E4.561.45 .✱.12.C	450
46. ▶	E4.560.46 .✱.12.C	E4.561.46 .✱.12.C	462
47. ▶	E4.560.47 .✱.12.C	E4.561.47 .✱.12.C	475
48. ▶	E4.560.48 .✱.12.C	E4.561.48 .✱.12.C	487
50. ▶	E4.560.50 .✱.12.C	E4.561.50 .✱.12.C	500
51. ▶	E4.560.51 .✱.12.C	E4.561.51 .✱.12.C	512
52. ▶	E4.560.52 .✱.12.C	E4.561.52 .✱.12.C	525
53. ▶	E4.560.53 .✱.12.C	E4.561.53 .✱.12.C	537
55. ▶	E4.560.55 .✱.12.C	E4.561.55 .✱.12.C	550
60. ▶	E4.560.60 .✱.12.C	E4.561.60 .✱.12.C	600

(KMA = polymer metal mounting bracket) For the C-profile option please add index **.C**

E4.1 | e-tubes R4.56 | Accessories

KMA mounting brackets | Attachment from any side | Pivoting | Locking

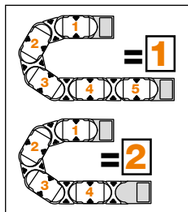


Standard KMA pivoting | Recommended for unsupported and gliding applications
KMA locking | Recommended for vertical hanging and standing applications

Width index	Part No. full set KMA pivoting	Part No. full set KMA locking	Bi [mm]
07. ▶	R4.560.07 .✱.12.C	R4.561.07 .✱.12.C	75
10. ▶	R4.560.10 .✱.12.C	R4.561.10 .✱.12.C	100
12. ▶	R4.560.12 .✱.12.C	R4.561.12 .✱.12.C	112
15. ▶	R4.560.15 .✱.12.C	R4.561.15 .✱.12.C	150
17. ▶	R4.560.17 .✱.12.C	R4.561.17 .✱.12.C	175
20. ▶	R4.560.20 .✱.12.C	R4.561.20 .✱.12.C	200

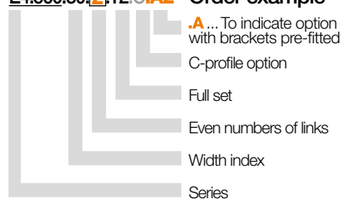
Width index	Part No. full set KMA pivoting	Part No. full set KMA locking	Bi [mm]
25. ▶	R4.560.25 .✱.12.C	R4.561.25 .✱.12.C	250
27. ▶	R4.560.27 .✱.12.C	R4.561.27 .✱.12.C	275
30. ▶	R4.560.30 .✱.12.C	R4.561.30 .✱.12.C	300
35. ▶	R4.560.35 .✱.12.C	R4.561.35 .✱.12.C	350
40. ▶	R4.560.40 .✱.12.C	R4.561.40 .✱.12.C	400
46. ▶	R4.560.46 .✱.12.C	R4.561.46 .✱.12.C	462

(KMA = polymer metal mounting bracket) For the C-profile option please add index **.C**



Note: ✱ The e-chains® may end with either an inner or an outer side link. An outer side link should always be the first e-chain® link at the moving end. Please specify the index 1 (for odd) or 2 (for even) depending on an even or odd number of links required. Please add index **.A2** for the **preassembled** standard version with C-profile, in the inner radius at the moving end and in the outer radius at the fixed end.

E4.560.30.2.12.C.A2 **Order example**

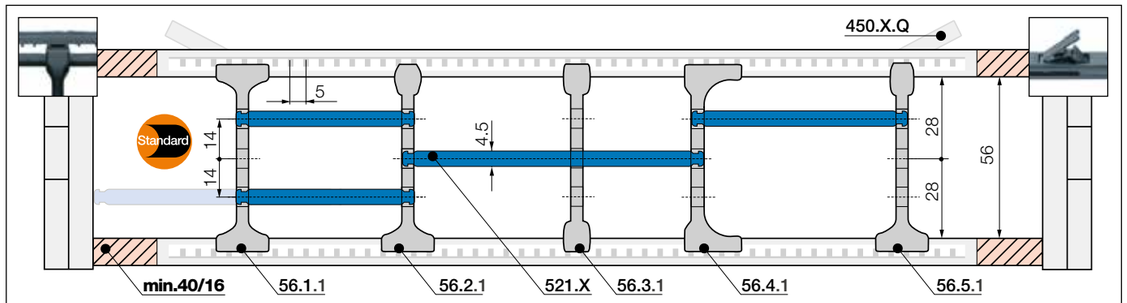


Strain relief **e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with ordering options ▶ From page 1300**

E4.1 | Series E4.56·H4.56·R4.56 | Accessories

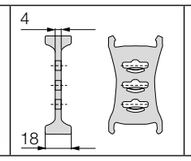
Interior separation | Increase cable service life

Previous generation of interior separation with other options ▶ **www.igus.eu/E4.56**



Note: Please be aware of the minimum lateral gap to the side links! **e-tube: 40mm** | **e-chain®: 16mm**
As standard separators are fitted every 2nd e-chain® link!



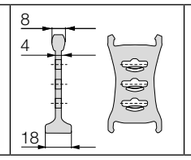


Standard separator, wide base	
unassembled	**56.1**
assembled	**56.1.1**

Standard - for any application

Separator with a wide base for maximum holding force in the e-chain®.



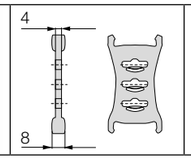


Separator for QuickLock crossbar	
unassembled	**56.2**
assembled	**56.2.1**

For even faster installation

Separator for igus® QuickLock crossbar **450.X.Q**. Wide on one side for high holding force, narrow on opposite side for easy cable fitting.



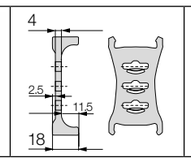


Separator, narrow	
unassembled	**56.3**
assembled	**56.3.1**

For small cables

Separator with a narrow base for a large number of small cables side by side. Saves space in the e-chain®. Also available for QuickLock crossbars.



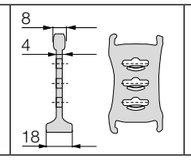


Separator, asymmetrical	
unassembled	**56.4**
assembled	**56.4.1**

For side-mounted applications

Asymmetrical separator, for defined gap distance. No additional spacers required.

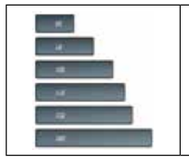


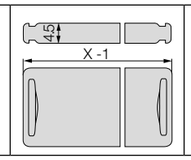


Notch separator for notched crossbar	
unassembled	**56.5**
assembled	**56.5.1**

Locks securely in preset increments

Notch separator for exact positioning in e-chains®. Recommended for side-mounted applications.





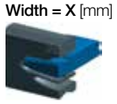
Shelf, lockable	
unassembled	**520.X**
assembled	**521.X**

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Shelves

Width = X [mm]

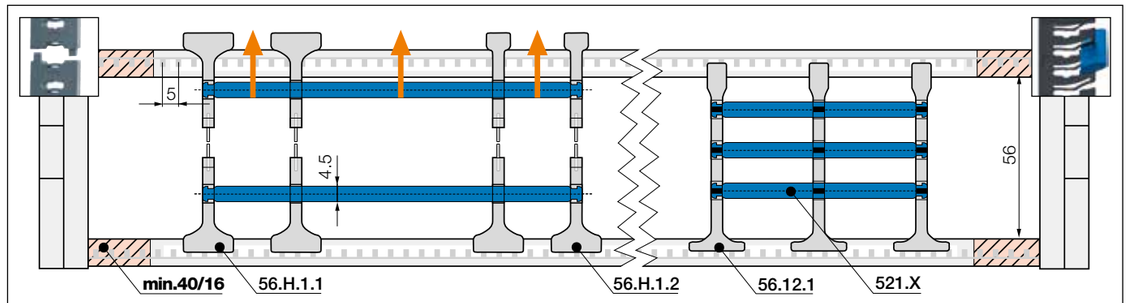


X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
050	**520.050**	**521.050**	150	**520.150**	**521.150**	300	**520.300**	**521.300**
065	**520.065**	**521.065**	175	**520.175**	**521.175**	350	**520.350**	**521.350**
075	**520.075**	**521.075**	200	**520.200**	**521.200**	375	**520.375**	**520.375**
100	**520.100**	**521.100**	225	**520.225**	**521.225**	387	**520.387**	**520.387**
125	**520.125**	**521.125**	250	**520.250**	**521.250**	450	**520.450**	**521.450**

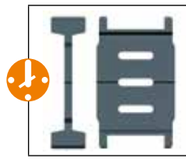
E4.56
H4.56
R4.56

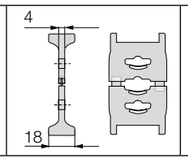
E4.1 | Series E4.56·H4.56·R4.56 | Accessories

Interior separation | To allow faster filling



Note: Please be aware of the minimum lateral gap to the side links! **e-tube: 40mm** | **e-chain®: 16mm**
As standard separators are fitted every 2nd e-chain® link!

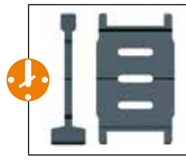


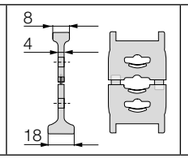


Split separator, wide base/top	
unassembled	**56.H.1**
assembled	**56.H.1.1**

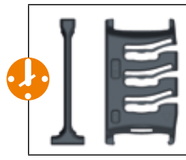
Split separators

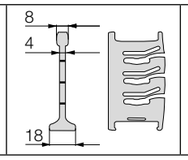
In order to fill e-chains® more easily and effectively, these separators can be split in the middle. This allows easier access to middle shelf partitions. Fast assembly and easy retrofit. 2 types available: with wide or narrow top.





Split separator, narrow top	
unassembled	**56.H.2**
assembled	**56.H.2.1**





Lean separator	
unassembled	**56.12**
assembled	**56.12.1**

Lean separators New

New design allows extremely fast fitting of shelves in several layers, which significantly reduces assembly time. Enables extremely fast replacement of individual cables in a very full e-chain®.

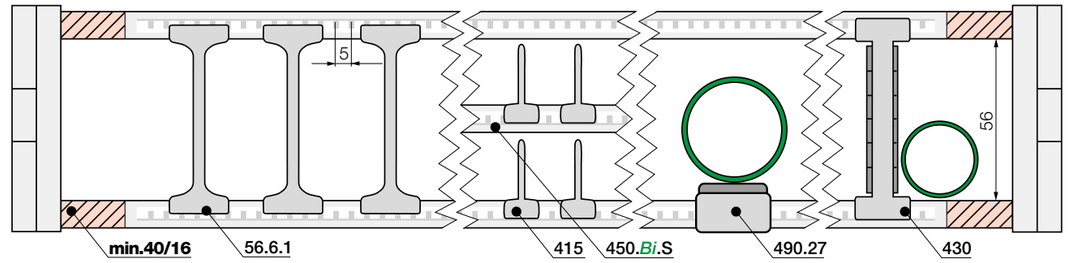
Lean separator design - several layers of cables fitted quickly, save up to 50%* assembly time

(*Lean separator vs. standard separator - measured on a 4m long e-chain® fitted with 12 cables in the igus® readychain® factory)

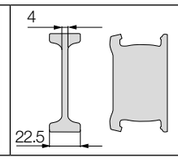


E4.1 | Series E4.56·H4.56·R4.56 | Accessories

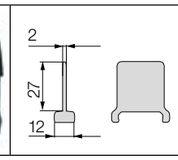
More interior separation options



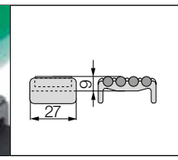
Note: Please be aware of the minimum lateral gap to the side links! **e-tube: 40mm** | **e-chain®: 16mm**
As standard separators are fitted every 2nd e-chain® link!

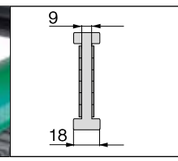
Notch locking separator	
unassembled	56.6
assembled	56.6.1

Partial height separator*	
unassembled	405
assembled	415

Rollclip* for e-chains®	
unassembled	489.27
assembled	490.27

Roller separator* for e-chains®	
unassembled	429
assembled	430

Notch locking separator for increased holding force

Notch locking separators offer higher crossbar opening forces for high humidity and/or large hydraulic hoses. They can be positioned precisely and then locked in position.

Partial height separator*

In conjunction with an additional opening crossbar, **part no. 450.*Bi*.S**, it provides the option to separate the upper and lower halves of the e-chain® independently of each other.

Rollclip*

Minimises abrasion of sensitive hoses. Simply clamps onto the opening crossbar. The movable rollers compensate for relative movement between the e-chain® and hose.

Roller separator*

The roller separator is used in a similar way to the rollclip. It is used like a separator. For rigid cables and hoses.

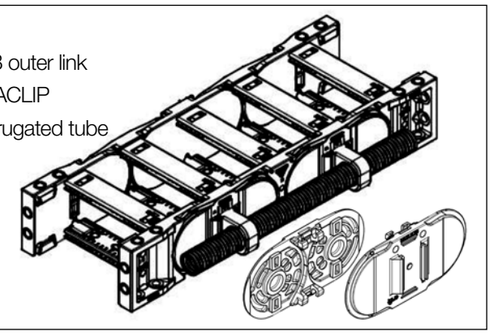
*Only for e-chains®

E4.1 | Series E4.56·H4.56·R4.56 | Further accessories

TUB New



❶ TUB outer link
❷ PMACLIP
❸ Corrugated tube



TUB | Safe guidance for corrugated tubes parallel to the e-chain®

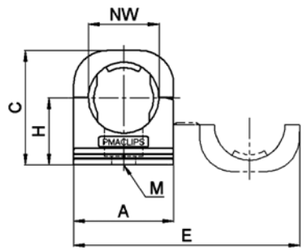
- Additional, simple guidance for corrugated tubes on the outside of the e-chain®
- PMACLIP allows corrugated tubes with nominal widths 17, 23, 29, 36, 48mm to be easily clipped on
- Easy access to the corrugated tubes, fast replacement of the hoses
- Reduce assembly time and cost - easy to assemble, without any additional screws or tools
- The part number includes the e-chain® with TUB side sections; the PMACLIP support and the hose are ordered separately

Part No. TUB Outer link right*	Part No. TUB Outer link left*	Part No. TUB Outer link at both ends*	For corrugated tube nominal diameter Ø [mm]
E4.56.XXXTUBR.*R*.0	E4.56.XXXTUBL.*R*.0	E4.56.XXXTUB.*R*.0	17 / 23 / 29 / 36 / 48

*As viewed from the fixed end

Part number appended with width index ***XXX Bi*** and radius (***R***) e.g.
E4.56.100TUBR.150.0 = with TUB outer sections every 2nd right hand link

Product range | PMACLIP | Support, one-piece, with safety clip



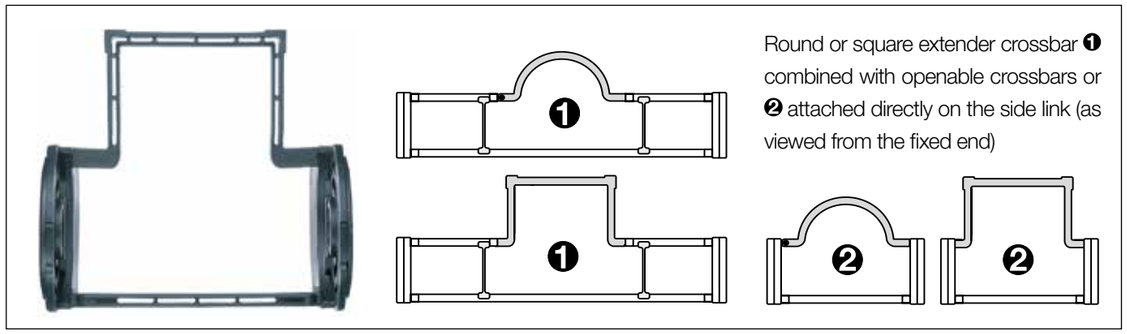


PMACLIP support - one-piece construction with safety clip, suitable for corrugated tubes

Part No. PMACLIP	NW Ø [mm]	A mm	B mm	C mm	H mm	E mm	M mm
I-BFH-17-0	17	30.0	20.0	34.0	20.0	68.0	M6
I-BFH-23-0	23	38.5	20.0	42.0	24.0	85.0	M6
I-BFH-29-0	29	45.5	20.0	48.0	27.0	99.0	M6
I-BFH-36-0	36	55.5	20.0	56.0	31.0	119.0	M6
I-BFH-48-0	48	67.5	20.0	68.0	37.0	143.0	M6

E4.1 | Series E4.56·H4.56·R4.56 | Further accessories

Extender crossbar with fixed width



Extender crossbars with fixed width | Safe guiding for large hoses

- Suitable for hoses with a maximum outer diameter of 245mm.
- Variant ❶ extender crossbar with fixed width to combine with standard crossbars
- Variant ❷ extender crossbar with fixed width attached directly on the side link
- Optionally openable along the inner "**Z**" or outer "**E**" radius
- Gliding with crossbars assembled along the outer radius and a special guide trough

Part No. extender crossbar with fixed width, as individual parts	Hose Ø ≤ [mm]	Extender crossbar shape	❷ Fitted to side link	❶ Combine with openable crossbars
450.15RHD115	115	○ round	No	Yes
450.17RD115	115	○ round	Yes	No
450.25D150	150	□ square	Yes	No
450.30D200	180	□ square	Yes	No
450.35D250	195	□ square	Yes	No
450.40D300	245	□ square	Yes	No
450.20HD150	150	□ square	No	Yes
450.25HD200	180	□ square	No	Yes
450.30HD250	195	□ square	No	Yes

Order example: ❶ combined with openable crossbars

To receive extender crossbar RHD115 pre-fitted along the outer radius of the-chain®, please add index **E**: **E4.56.10/15RHD*E*115/10.*R*.0**

To receive extender crossbar RHD115 pre-fitted along the inner radius of the-chain®, please add index **Z**: **E4.56.10/15RHD*Z*115/10.*R*.0**

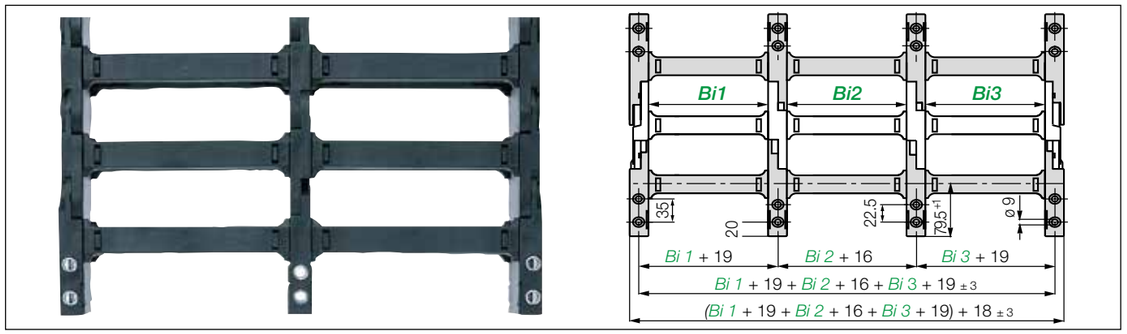
Order example: ❷ fitted to side link

To receive extender crossbar RD115 pre-fitted along the outer radius of the-chain®, please add index **E**: **E4.56.17RD*E*115.*R*.0**

To receive extender crossbar RD115 pre-fitted along the inner radius of the-chain®, please add index **Z**: **E4.56.17RD*Z*115.*R*.0**

E4.1 | Series E4.56·H4.56·R4.56 | Further accessories

Extension links



Extension links | For extremely wide e-chains® up to 3.0m

- Virtually unlimited side-by-side extension
- For extremely wide e-chains® up to 3,000mm
- Unsupported length FL_G max. can be increased when heavy fill weights are required
- e-chains® and e-tubes can be combined
- Attached with KMA or steel mounting brackets

Part No. Extension link e-chain®	Part No. Extension link e-tube	Part No. Extension link as an individual part
E4.56.*Bi1*/*Bi2*/*Bi3*.*R*.0	**R4.56.*Bi1*/*Bi2*/*Bi3*.*R*.0**	**422.*R*.**

Complete Part No.with the width index ***Bi1*/*Bi2*/*Bi3*/*etc.*** and the radius (***R***). Example: **E4.56.10/20/10.200.0**



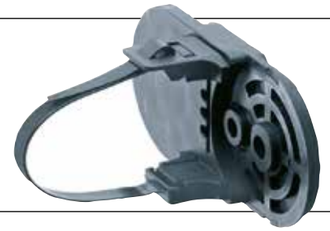
With the E4.1 TUB, corrugated tubes can be reliably guided in parallel, saving space

E4.1 | Series E4.56·H4.56·R4.56 | Further accessories

E4 snapclip - clip-on tiewrap

- For side-mounted applications, compatible with many E4 e-chains®
- Serves as a clip-on, lateral guide for hoses and cables on e-chains®
- The loops can be adjusted as required

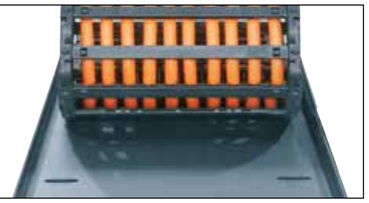
More information ▶ www.igus.eu/E4.56



Steel support tray for support of the lower run

- Simple one-piece support trays for the lower run
- To your requirements and specification
- 4 options available

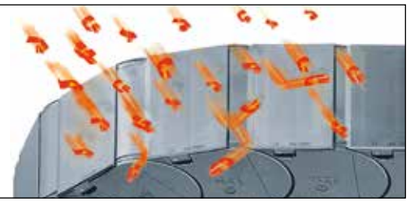
More information ▶ From page 1264



Swarf up to +850°C

- e-tubes to withstand 850°C swarf, as a special option
- No hot swarf melting or embedding into the chain
- igus® igumid HT material

More information ▶ www.igus.eu/HT



Reduce assembly time - E4 e-chain® opener

- e-chain® opener tools for easy opening and closing of e-chains®
- Simple opening and closing of e-chain® crossbars
- Also for use in hard to reach locations
- Significant assembly time reduction

More information ▶ www.igus.eu/E4savetime



Heavy-duty version - for very long travels or heavy fill weights

- High torsional rigidity and tensile strength
- Robust steel mounting brackets
- For long-term operation in very humid environments

Series 4040HD·R8840HD. More information ▶ www.igus.eu/4040HD



Roller crossbars - increase the service life of cables and hoses

- Significantly reduce jacket abrasion of very stiff cables and hoses with rolling contact surfaces equipped with tribo-optimised bearings
- For sensitive hoses in restricted space
- Usable along the inner and/or outer radius, retrofit possible

More information ▶ www.igus.eu/roller-crossbar



E4.1 | Application example



E4.1 as a noise-optimised version with extension links. Unsupported application with high fill weight. Harnessed with rigid hydraulic hoses. The max. noise level can be reduced up to 9dB(A) using the optional rubber dampers

E4.1 | Series E4.80·H4.80·R4.80 | Product range

80 80

Stable due to undercut design, new very large inner height



e-chains® | Series E4.80 | Crossbars every link (crossbars removable along the inner and outer radius)

Standard **e-chains® | Series H4.80 | Crossbars every 2nd link** (crossbars removable along the inner and outer radius)

e-tubes | Series R4.80 | Fully enclosed (lids openable along the outer radius, from one side)

Part No. e-chains® / e-tubes	Bi [mm]	Ba [mm]	E4.80 [kg/m]	H4.80 [kg/m]	R4.80 [kg/m]
E4. H4. – 80. 05. R.0	50	100	≈ 5.73	≈ 5.72	–
E4. H4. – 80. 055. R.0	55	105	≈ 5.77	≈ 5.74	–
E4. H4. – 80. 06. R.0	65	115	≈ 5.80	≈ 5.76	–
E4.1) H4. R4. 80. 07. R.0	75	125	≈ 5.86	≈ 5.78	–
E4. H4. – 80. 08. R.0	87	137	≈ 5.93	≈ 5.82	–
E4. H4. R4. 80. 10. R.0	100	150	≈ 6.00	≈ 5.85	≈ 6.70
E4. H4. – 80. 11. R.0	112	163	≈ 6.10	≈ 5.90	–
E4.1) H4. R4. 80. 12. R.0	125	175	≈ 6.16	≈ 5.93	–
E4. H4. – 80. 13. R.0	137	188	≈ 6.27	≈ 5.99	–
E4.1) H4. R4. 80. 15. R.0	150	200	≈ 6.30	≈ 6.01	≈ 7.34
E4. H4. – 80. 16. R.0	162	213	≈ 6.39	≈ 6.05	–
E4. H4. – 80. 169. R.0	169	220	≈ 6.46	≈ 6.08	–
E4. H4. R4. 80. 17. R.0	175	225	≈ 6.50	≈ 6.11	–
E4. H4. – 80. 182. R.0	182	233	≈ 6.54	≈ 6.12	–
E4. H4. – 80. 18. R.0	187	238	≈ 6.59	≈ 6.15	–
E4.1) H4. R4. 80. 20. R.0	200	250	≈ 6.64	≈ 6.17	≈ 8.09
E4. H4. – 80. 207. R.0	207	258	≈ 6.68	≈ 6.20	–
E4. H4. – 80. 21. R.0	212	263	≈ 6.70	≈ 6.20	–
E4. H4. – 80. 22. R.0	225	275	≈ 6.76	≈ 6.23	–
E4. H4. – 80. 23. R.0	237	288	≈ 6.84	≈ 6.28	–
E4.1) H4. R4. 80. 25. R.0	250	300	≈ 6.94	≈ 6.32	≈ 8.47
E4. H4. – 80. 26. R.0	262	313	≈ 7.01	≈ 6.36	–
E4. H4. R4. 80. 27. R.0	275	325	≈ 7.09	≈ 6.40	–
E4. H4. – 80. 28. R.0	287	338	≈ 7.14	≈ 6.42	–
E4.1) H4. R4. 80. 30. R.0	300	350	≈ 7.27	≈ 6.49	≈ 9.22
E4. H4. – 80. 31. R.0	312	363	≈ 7.30	≈ 6.50	–
E4. H4. – 80. 32. R.0	325	375	≈ 7.38	≈ 6.54	–
E4. H4. – 80. 33. R.0	337	388	≈ 7.48	≈ 6.59	–
E4. H4. R4. 80. 35. R.0	350	400	≈ 7.59	≈ 6.65	≈ 9.90
E4. H4. – 80. 36. R.0	362	413	≈ 7.61	≈ 6.66	–
E4. H4. – 80. 37. R.0	375	425	≈ 7.71	≈ 6.71	–
E4. H4. – 80. 38. R.0	387	438	≈ 7.74	≈ 6.73	–
E4. H4. R4. 80. 40. R.0	400	450	≈ 7.84	≈ 6.77	≈ 10.52
E4. H4. – 80. 41. R.0	412	463	≈ 7.90	≈ 6.80	–
E4. H4. – 80. 42. R.0	425	475	≈ 8.00	≈ 6.85	–
E4. H4. – 80. 43. R.0	437	488	≈ 8.07	≈ 6.89	–
E4. H4. – 80. 45. R.0	450	500	≈ 8.23	≈ 6.97	–
E4. H4. R4. 80. 46. R.0	462	513	≈ 8.26	≈ 6.99	≈ 11.33
E4. H4. – 80. 47. R.0	475	525	≈ 8.29	≈ 7.00	–
E4. H4. – 80. 48. R.0	487	538	≈ 8.35	≈ 7.03	–
E4. H4. – 80. 50. R.0	500	550	≈ 8.48	≈ 7.09	–
E4. H4. – 80. 51. R.0	512	563	≈ 8.52	≈ 7.11	–
E4. H4. – 80. 52. R.0	525	575	≈ 8.63	≈ 7.17	–
E4. H4. – 80. 53. R.0	537	588	≈ 8.70	≈ 7.21	–
E4. H4. – 80. 55. R.0	550	600	≈ 9.05	≈ 7.38	–
E4. H4. – 80. 60. R.0	600	650	≈ 9.23	≈ 7.47	–

1) ⚠ ESD version available from stock *Radius not available for e-tubes

Available bend radii

R [mm] | 150* | 200 | 250 | 300 | 350 | 400 | 500 | 550 | 600 | 1.000 |

Complete Part No. with required radius (R). Example:

E4.80.30.300.0 = crossbars every link / H4.80.30.300.0 = crossbars every 2nd link / R4.80.30.300.0 = fully enclosed

ESD - many sizes from stock

- Standardised product made from igumid ESD
- ESD material tested with over 10 million cycles for the toughest requirements
- Short delivery times including mounting brackets and interior separation; 24hrs, from stock

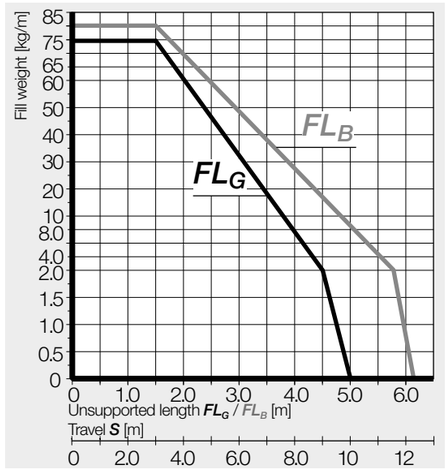
More information ▶ www.igus.eu/esd

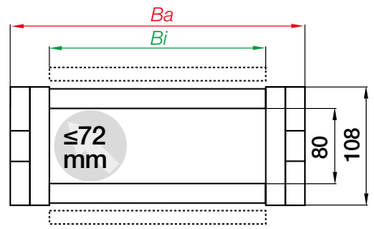


E4.1 | E4.80·H4.80·R4.80 | Installation dimensions

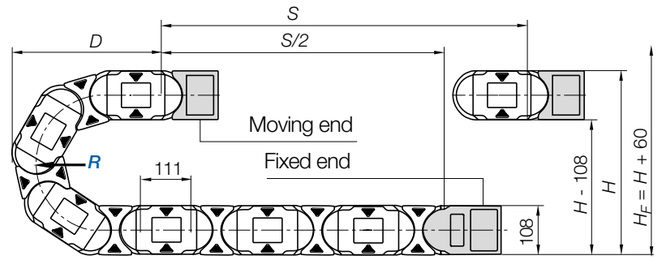
▶ 1300 ▶ 1232

Unsupported applications | Short travels





Inner height [mm]	80
Pitch [mm/link]	111
Links/m	9
corresponds to [mm]	999
e-chain® length	$L_K = S/2 + K$

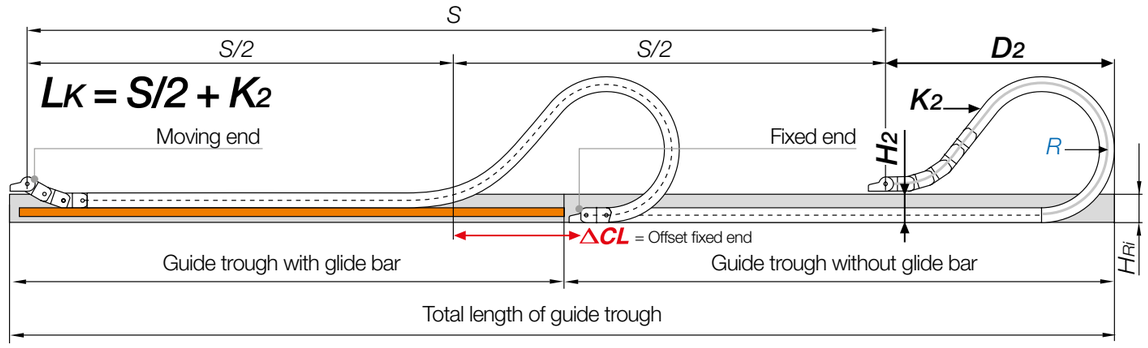


R	150*	200	250	300	350	400	500	550	600	1.000
H_{+25}^{0}	408	508	608	708	808	908	1,108	1,208	1,308	2,108
D	371	421	471	521	571	621	721	771	821	1,221
K	695	855	1,010	1,165	1,325	1,480	1,795	1,950	2,110	3,365

The required clearance height: $H_F = H + 60$mm (with 3.0kg/m fill weight)

*Radius not available for e-tubes

Gliding applications | For long travels from 12m to max. 400m



Note: We recommend the project planning of such a system to be carried out by igus®.

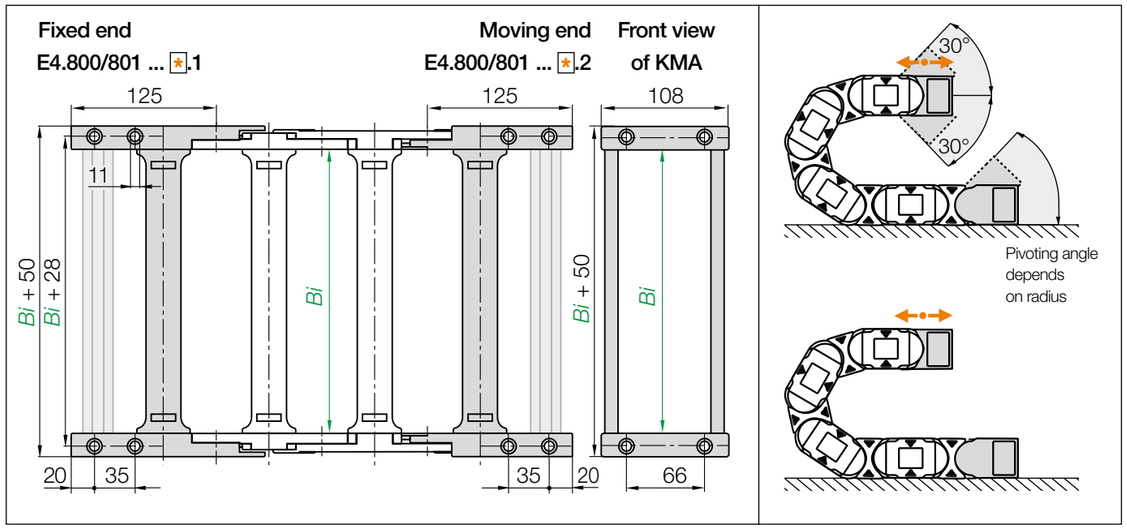
In case of travels between 10 and 12m we recommend an e-chain® with a longer unsupported length.

R	150*	200	250	300	350	400	500	550	600	1.000
H_2	242	242	242	242	242	242	242	–	–	–
D_{2}^{+25}	550	800	1,000	1,200	1,450	1,600	2,100	–	–	–
K_2	890	1,330	1,665	2,000	2,330	2,660	3,440	–	–	–
ΔCL	189	389	539	689	889	989	1,389	–	–	–

*Radius not available for e-tubes

E4.1 | e-chains® E4.80·H4.80 | Accessories

KMA mounting brackets | Attachment from any side | Pivoting | Locking



Standard **KMA pivoting** | Recommended for unsupported and gliding applications
KMA locking | Recommended for vertical hanging and standing applications

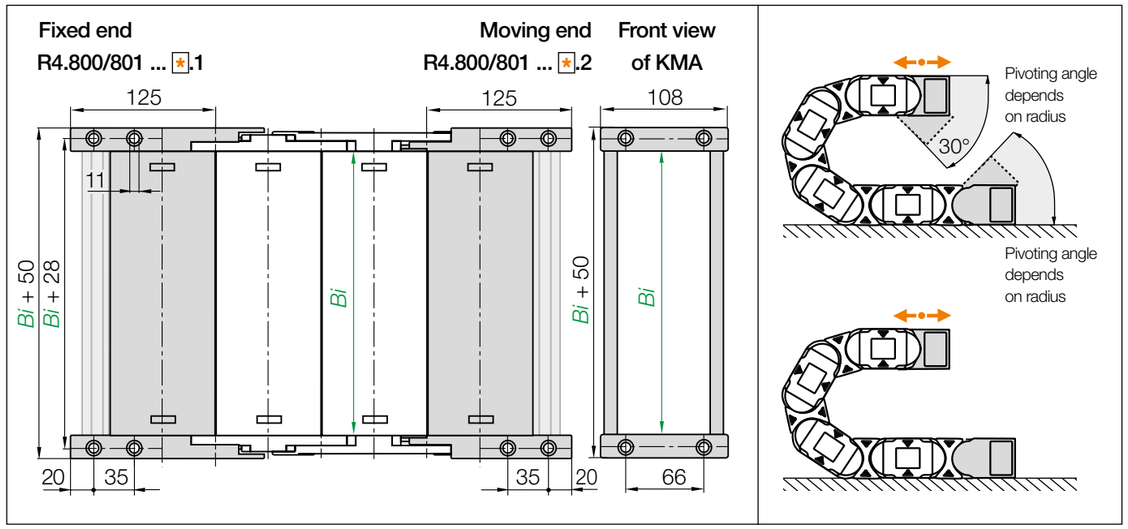
Width index	Part No. full set KMA pivoting	Part No. full set KMA locking	Bi [mm]
05. ▶	E4.800.05 .✱.12.C	E4.801.05 .✱.12.C	50
055. ▶	E4.800.055.✱.12.C	E4.801.055.✱.12.C	55
06. ▶	E4.800.06 .✱.12.C	E4.801.06 .✱.12.C	65
07. ▶	E4.800.07 .✱.12.C	E4.801.07 .✱.12.C	75
08. ▶	E4.800.08 .✱.12.C	E4.801.08 .✱.12.C	87
10. ▶	E4.800.10 .✱.12.C	E4.801.10 .✱.12.C	100
11. ▶	E4.800.11 .✱.12.C	E4.801.11 .✱.12.C	112
12. ▶	E4.800.12 .✱.12.C	E4.801.12 .✱.12.C	125
13. ▶	E4.800.13 .✱.12.C	E4.801.13 .✱.12.C	137
15. ▶	E4.800.15 .✱.12.C	E4.801.15 .✱.12.C	150
16. ▶	E4.800.16 .✱.12.C	E4.801.16 .✱.12.C	162
169. ▶	E4.800.169.✱.12.C	E4.801.169.✱.12.C	169
17. ▶	E4.800.17 .✱.12.C	E4.801.17 .✱.12.C	175
182. ▶	E4.800.182.✱.12.C	E4.801.182.✱.12.C	182
18. ▶	E4.800.18 .✱.12.C	E4.801.18 .✱.12.C	187
20. ▶	E4.800.20 .✱.12.C	E4.801.20 .✱.12.C	200
207. ▶	E4.800.207.✱.12.C	E4.801.207.✱.12.C	207
21. ▶	E4.800.21 .✱.12.C	E4.801.21 .✱.12.C	212
22. ▶	E4.800.22 .✱.12.C	E4.801.22 .✱.12.C	225
23. ▶	E4.800.23 .✱.12.C	E4.801.23 .✱.12.C	237
25. ▶	E4.800.25 .✱.12.C	E4.801.25 .✱.12.C	250
26. ▶	E4.800.26 .✱.12.C	E4.801.26 .✱.12.C	262
27. ▶	E4.800.27 .✱.12.C	E4.801.27 .✱.12.C	275

Width index	Part No. full set KMA pivoting	Part No. full set KMA locking	Bi [mm]
28. ▶	E4.800.28 .✱.12.C	E4.801.28 .✱.12.C	287
30. ▶	E4.800.30 .✱.12.C	E4.801.30 .✱.12.C	300
31. ▶	E4.800.31 .✱.12.C	E4.801.31 .✱.12.C	312
32. ▶	E4.800.32 .✱.12.C	E4.801.32 .✱.12.C	325
33. ▶	E4.800.33 .✱.12.C	E4.801.33 .✱.12.C	337
35. ▶	E4.800.35 .✱.12.C	E4.801.35 .✱.12.C	350
36. ▶	E4.800.36 .✱.12.C	E4.801.36 .✱.12.C	362
37. ▶	E4.800.37 .✱.12.C	E4.801.37 .✱.12.C	375
38. ▶	E4.800.38 .✱.12.C	E4.801.38 .✱.12.C	387
40. ▶	E4.800.40 .✱.12.C	E4.801.40 .✱.12.C	400
41. ▶	E4.800.41 .✱.12.C	E4.801.41 .✱.12.C	412
42. ▶	E4.800.42 .✱.12.C	E4.801.42 .✱.12.C	425
43. ▶	E4.800.43 .✱.12.C	E4.801.43 .✱.12.C	437
45. ▶	E4.800.45 .✱.12.C	E4.801.45 .✱.12.C	450
46. ▶	E4.800.46 .✱.12.C	E4.801.46 .✱.12.C	462
47. ▶	E4.800.47 .✱.12.C	E4.801.47 .✱.12.C	475
48. ▶	E4.800.48 .✱.12.C	E4.801.48 .✱.12.C	487
50. ▶	E4.800.50 .✱.12.C	E4.801.50 .✱.12.C	500
51. ▶	E4.800.51 .✱.12.C	E4.801.51 .✱.12.C	512
52. ▶	E4.800.52 .✱.12.C	E4.801.52 .✱.12.C	525
53. ▶	E4.800.53 .✱.12.C	E4.801.53 .✱.12.C	537
55. ▶	E4.800.55 .✱.12.C	E4.801.55 .✱.12.C	550
60. ▶	E4.800.60 .✱.12.C	E4.801.60 .✱.12.C	600

(KMA = polymer metal mounting bracket) For the C-profile option please add index **.C**

E4.1 | e-tubes R4.80 | Accessories

KMA mounting brackets | Attachment from any side | Pivoting | Locking

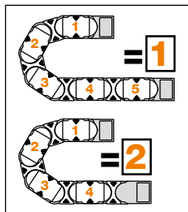


Standard **KMA pivoting** | Recommended for unsupported and gliding applications
KMA locking | Recommended for vertical hanging and standing applications

Width index	Part No. full set KMA pivoting	Part No. full set KMA locking	Bi [mm]
10. ▶	R4.800.10 .✱.12.C	R4.801.10 .✱.12.C	100
15. ▶	R4.800.15 .✱.12.C	R4.801.15 .✱.12.C	150
20. ▶	R4.800.20 .✱.12.C	R4.801.20 .✱.12.C	200
25. ▶	R4.800.25 .✱.12.C	R4.801.25 .✱.12.C	250

Width index	Part No. full set KMA pivoting	Part No. full set KMA locking	Bi [mm]
30. ▶	R4.800.30 .✱.12.C	R4.801.30 .✱.12.C	300
35. ▶	R4.800.35 .✱.12.C	R4.801.35 .✱.12.C	350
40. ▶	R4.800.40 .✱.12.C	R4.801.40 .✱.12.C	400
46. ▶	R4.800.46 .✱.12.C	R4.801.46 .✱.12.C	462

(KMA = polymer metal mounting bracket) For the C-profile option please add index **.C**



Note: ✱ The e-chains® may end with either an inner or an outer side link. An outer side link should always be the first e-chain® link at the moving end. Please specify the index 1 (for odd) or 2 (for even) depending on an even or odd number of links required. Please add index **.A2** for the **preassembled** standard version with C-profile, in the inner radius at the moving end and in the outer radius at the fixed end.

E4.800.30.2.12.C.A2 **Order example**

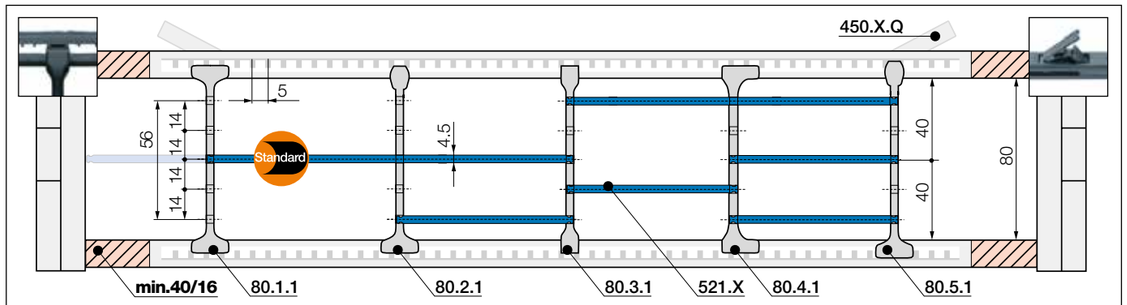
- .A ... To indicate option with brackets pre-fitted
- C-profile option
- Full set
- Even numbers of links
- Width index
- Series

Strain relief **e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with ordering options ▶ From page 1300**

E4.1 | Series E4.80·H4.80·R4.80 | Accessories

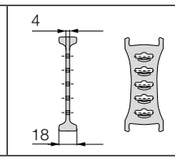
Interior separation | Increase cable service life

Previous generation of interior separation with other options ▶ **www.igus.eu/E4.80**



Note: Please be aware of the minimum lateral gap to the side links! **e-tube: 40mm** | **e-chain®: 16mm**
As standard separators are fitted every 2nd e-chain® link!



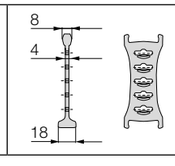


Standard separator, wide base	
unassembled	**80.1**
assembled	**80.1.1**

Standard - for any application

Separator with a wide base for maximum holding force in the e-chain®.



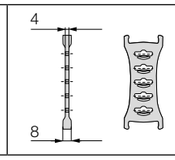


Separator for QuickLock crossbar	
unassembled	**80.2**
assembled	**80.2.1**

For even faster installation

Separator for igus® QuickLock crossbar **450.X.Q**. Wide on one side for high holding force, narrow on opposite side for easy cable fitting.



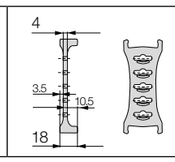


Separator, narrow	
unassembled	**80.3**
assembled	**80.3.1**

For small cables

Separator with a narrow base for a large number of small cables side by side. Saves space in the e-chain®. Also available for QuickLock crossbars.



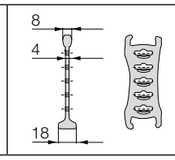


Separator, asymmetrical	
unassembled	**80.4**
assembled	**80.4.1**

For side-mounted applications

Asymmetrical separator, for defined gap distance. No additional spacers required.

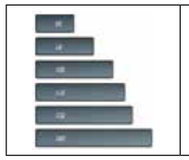


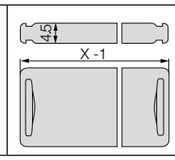


Notch separator for notched crossbar	
unassembled	**80.5**
assembled	**80.5.1**

Locks securely in preset increments

Notch separator for exact positioning in e-chains®. Recommended for side-mounted applications.





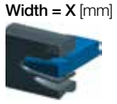
Shelf, lockable	
unassembled	**520.X**
assembled	**521.X**

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Shelves

Width = X [mm]

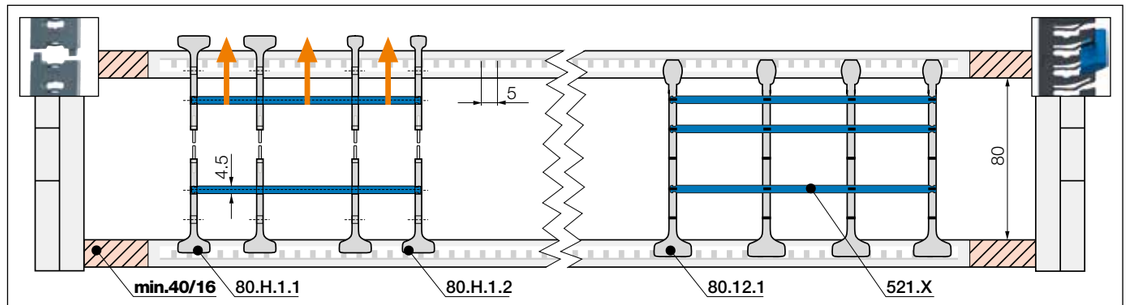


X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
050	**520.050**	**521.050**	150	**520.150**	**521.150**	300	**520.300**	**521.300**
065	**520.065**	**521.065**	175	**520.175**	**521.175**	350	**520.350**	**521.350**
075	**520.075**	**521.075**	200	**520.200**	**521.200**	375	**520.375**	**520.375**
100	**520.100**	**521.100**	225	**520.225**	**521.225**	387	**520.387**	**520.387**
125	**520.125**	**521.125**	250	**520.250**	**521.250**	450	**520.450**	**521.450**

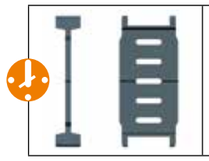
E4.80
H4.80
R4.80

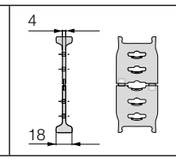
E4.1 | Series E4.80·H4.80·R4.80 | Accessories

Interior separation | To allow faster filling



Note: Please be aware of the minimum lateral gap to the side links! **e-tube: 40mm** | **e-chain®: 16mm**
As standard separators are fitted every 2nd e-chain® link!

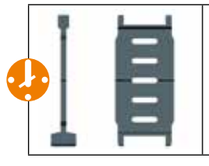


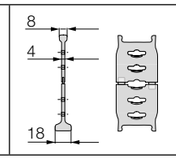


Split separator, wide base/top	
unassembled	**80.H.1**
assembled	**80.H.1.1**

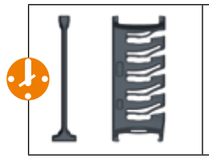
Split separators

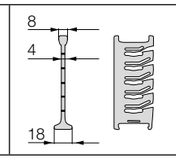
In order to fill e-chains® more easily and effectively, these separators can be split in the middle. This allows easier access to middle shelf partitions. Fast assembly and easy retrofit. 2 types available: with wide or narrow top.





Split separator, narrow top	
unassembled	**80.H.2**
assembled	**80.H.2.1**





Lean separator	
unassembled	**80.12**
assembled	**80.12.1**

Lean separators New

New design allows extremely fast fitting of shelves in several layers, which significantly reduces assembly time. Enables extremely fast replacement of individual cables in a very full e-chain®.

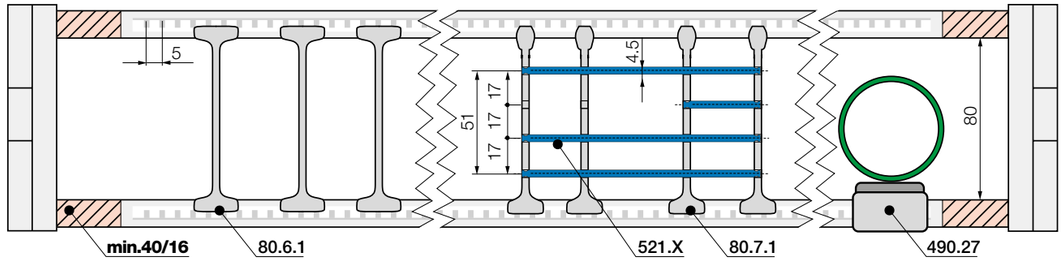
Lean separator design - several layers of cables fitted quickly, save up to 50%* assembly time

(*Lean separator vs. standard separator - measured on a 4m long e-chain® fitted with 12 cables in the igus® readychain® factory)



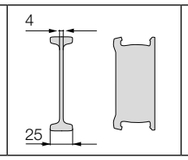
E4.1 | Series E4.80·H4.80·R4.80 | Accessories

More interior separation options



Note: Please be aware of the minimum lateral gap to the side links! **e-tube: 40mm** | **e-chain®: 16mm**
As standard separators are fitted every 2nd e-chain® link!



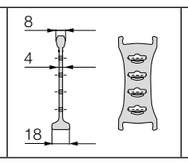


Notch locking separator	
unassembled	80.6
assembled	80.6.1

Notch locking separator for increased holding force

Notch locking separators offer higher crossbar opening forces for high humidity and/or large hydraulic hoses. They can be positioned precisely and then locked in position.



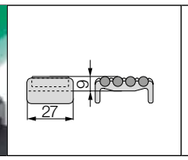


Separator, one end locking	
unassembled	80.7
assembled	80.7.1

Separator, one end locking

Offset slots for more variability





Rollclip* for e-chains®	
unassembled	489.27
assembled	490.27

Rollclip*

Minimises abrasion of sensitive hoses. Simply clamps onto the opening crossbar. The movable rollers compensate for relative movement between the e-chain® and hose.

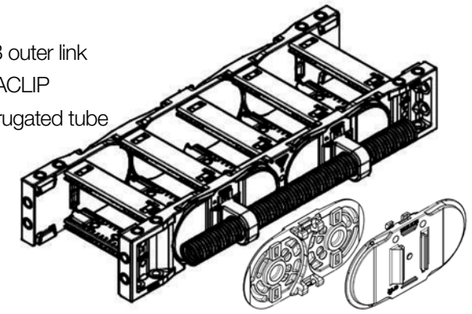
*Only for e-chains®

E4.1 | Series E4.80·H4.80·R4.80 | Further accessories

TUB New



❶ TUB outer link
❷ PMACLIP
❸ Corrugated tube



TUB | Safe guidance for corrugated tubes parallel to the e-chain®

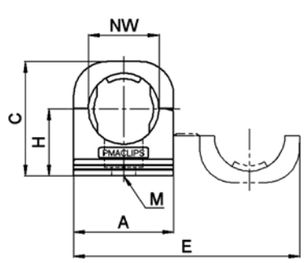
- Additional, simple guidance for corrugated tubes on the outside of the e-chain®
- PMACLIP allows corrugated tubes with nominal widths 17, 23, 29, 36, 48mm to be easily clipped on
- Easy access to the corrugated tubes, fast replacement of the hoses
- Reduce assembly time and cost - easy to assemble, without any additional screws or tools
- The part number includes the e-chain® with TUB side sections; the PMACLIP support and the hose are ordered separatel

Part No. TUB Outer link right*	Part No. TUB Outer link left*	Part No. TUB Outer link at both ends*	For corrugated tube nominal diameter Ø [mm]
E4.80.XXXTUBR.R.0	E4.80.XXXTUBL.R.0	E4.80.XXXTUB.R.0	17 / 23 / 29 / 36 / 48

*As viewed from the fixed end

Part number appended with width index XXX *Bi* and radius (*R*) e.g.
E4.80.100TUBR.150.0 = with TUB outer sections every 2nd right hand link

Product range | PMACLIP | Support, one-piece, with safety clip



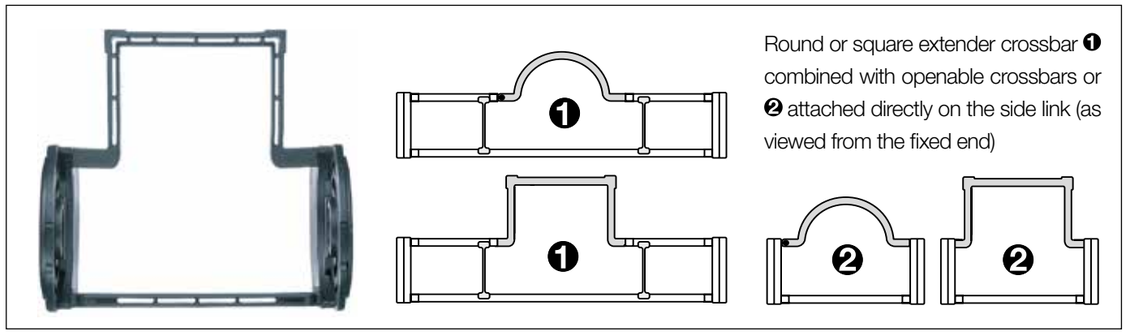


PMACLIP support - one-piece construction with safety clip, suitable for corrugated tubes

Part No. PMACLIP	NW Ø [mm]	A mm	B mm	C mm	H mm	E mm	M mm
I-BFH-17-0	17	30.0	20.0	34.0	20.0	68.0	M6
I-BFH-23-0	23	38.5	20.0	42.0	24.0	85.0	M6
I-BFH-29-0	29	45.5	20.0	48.0	27.0	99.0	M6
I-BFH-36-0	36	55.5	20.0	56.0	31.0	119.0	M6
I-BFH-48-0	48	67.5	20.0	68.0	37.0	143.0	M6

E4.1 | Series E4.80·H4.80·R4.80 | Further accessories

Extender crossbar with fixed width



Round or square extender crossbar ❶ combined with openable crossbars or ❷ attached directly on the side link (as viewed from the fixed end)

Extender crossbars with fixed width | Safe guiding for large hoses

- Suitable for hoses with a maximum outer diameter of 270mm
- Variant ❶ extender crossbar with fixed width to combine with standard crossbars
- Variant ❷ extender crossbar with fixed width attached directly on the side link
- Optionally openable along the inner "**Z**" or outer "**E**" radius
- Gliding with crossbars assembled along the outer radius and a special guide trough

Part No. extender crossbar with fixed width, as individual parts	Hose Ø ≤ [mm]	Extender crossbar shape	❷ Fitted to side link	❶ Combine with openable crossbars
450.15RHD115	115	○ round	No	Yes
450.17RD115	115	○ round	Yes	No
450.25D150	150	□ square	Yes	No
450.30D200	200	□ square	Yes	No
450.35D250	220	□ square	Yes	No
450.40D300	270	□ square	Yes	No
450.20HD150	150	□ square	No	Yes
450.25HD200	200	□ square	No	Yes
450.30HD250	220	□ square	No	Yes

Order example: ❶ combined with openable crossbars

To receive extender crossbar RHD115 pre-fitted along the outer radius of the-chain®, please add index **E**: **E4.80.10/15RHD*E*115/10.*R*.0**

To receive extender crossbar RHD115 pre-fitted along the inner radius of the-chain®, please add index **Z**: **E4.80.10/15RHD*Z*115/10.*R*.0**

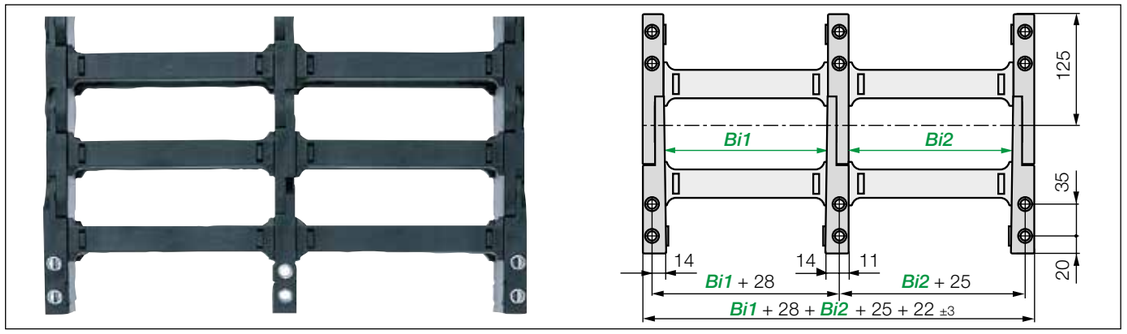
Order example: ❷ fitted to side link

To receive extender crossbar RD115 pre-fitted along the outer radius of the-chain®, please add index **E**: **E4.80.17RD*E*115.*R*.0**

To receive extender crossbar RD115 pre-fitted along the inner radius of the-chain®, please add index **Z**: **E4.80.17RD*Z*115.*R*.0**

E4.1 | Series E4.80·H4.80·R4.80 | Further accessories

Extension links

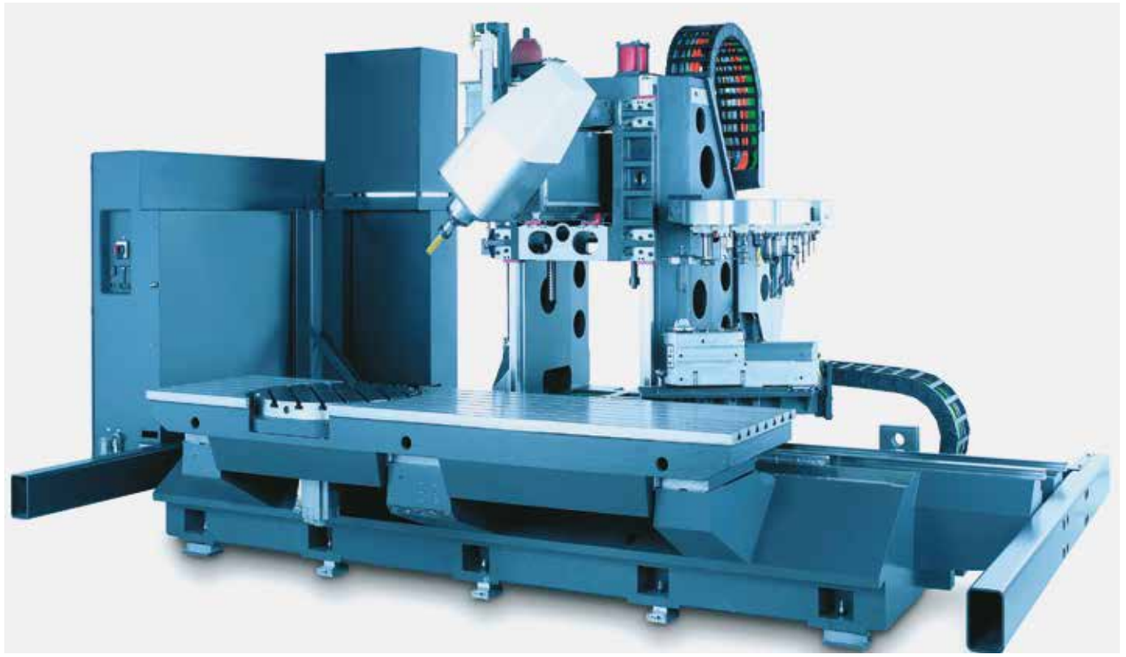


Extension links | For extremely wide e-chains® up to 3.0m

- Virtually unlimited side-by-side extension
- For extremely wide e-chains® up to 3,000mm
- Unsupported length FL_G max. can be increased when heavy fill weights are required
- e-chains® and e-tubes can be combined
- Attached with KMA or steel mounting brackets

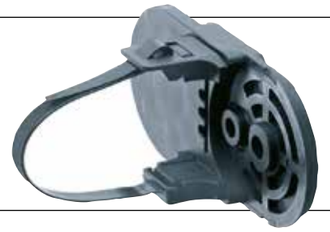
Part No. Extension link e-chain®	Part No. Extension link e-tube	Part No. extention link as an individual part Outer link	Inner link
E4.80.*Bi1*/*Bi2*/*Bi3*.*R*.0	**R4.80.*Bi1*/*Bi2*/*Bi3*.*R*.0**	**E4.80M.01**	**E4.80M.02.*R*.**

Complete Part No.with the width index ***Bi1*/*Bi2*/*Bi3*/*etc.*** and the radius (***R***). Example: **E4.80.10/20/10.200.0**



Due to the undercut design igus® E4.1 series feature high lateral stability. High lateral accelerations of up to 8m/s² can be managed on this milling machine for bicycles

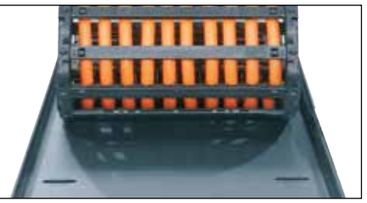
E4 snapclip - clip-on tiewrap



- For side-mounted applications, compatible with many E4 e-chains®
- Serves as a clip-on, lateral guide for hoses and cables on e-chains®
- The loops can be adjusted as required

More information ▶ www.igus.eu/E4.80

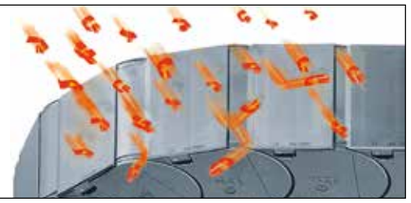
Steel support tray for support of the lower run



- Simple one-piece support trays for the lower run
- To your requirements and specification
- 4 options available

More information ▶ From page 1264

Swarf up to +850°C



- e-tubes to withstand 850°C swarf, as a special option
- No hot swarf melting or embedding into the chain
- igus® igumid HT material

More information ▶ www.igus.eu/HT

Reduce assembly time - E4 e-chain® opener



- e-chain® opener tools for easy opening and closing of e-chains®
- Simple opening and closing of e-chain® crossbars
- Also for use in hard to reach locations
- Significant assembly time reduction

More information ▶ www.igus.eu/E4savetime

Heavy-duty version - for very long travels or heavy fill weights



- High torsional rigidity and tensile strength
- Robust steel mounting brackets
- For long-term operation in very humid environments

Series 5050HD·R9850HD. More information ▶ www.igus.eu/5050HD

Roller crossbars - increase the service life of cables and hoses



- Significantly reduce jacket abrasion of very stiff cables and hoses with rolling contact surfaces equipped with tribo-optimised bearings
- For sensitive hoses in restricted space
- Usable along the inner and/or outer radius, retrofit possible

More information ▶ www.igus.eu/roller-crossbar

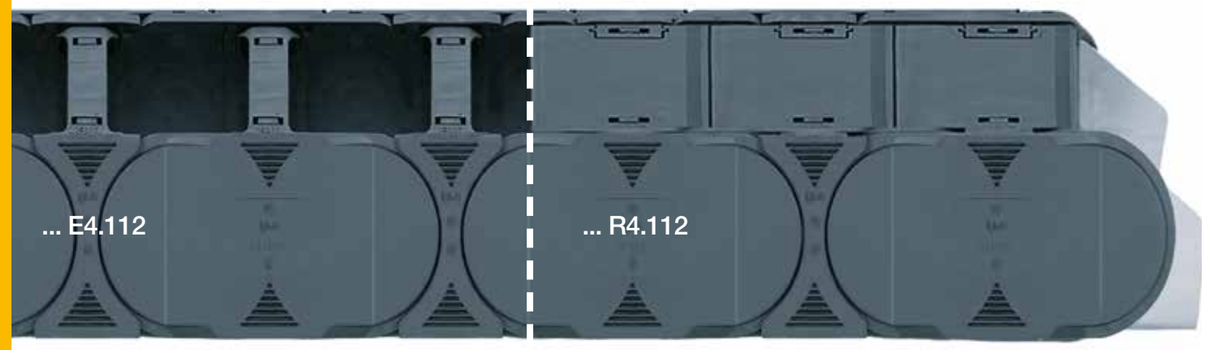


igus® E4.1 in an earth drilling machine. This vertically standing installation works even under strong vibration and harsh environments due to its plastic construction and having no loose parts such as rivets or screws

E4.1 | Series E4.112·R4.112 | Product range

Stable due to undercut design, new very large inner height

112 e-chain® | 108 e-tube



e-chains® | Series E4.112 | Crossbars every link (crossbars removable along the inner and outer radius)
e-tubes | Series R4.112 | Fully enclosed (lids openable along the outer radius, from one side)

Part No. e-chains® / e-tubes	Bi [mm]	Ba [mm]	E4.112 [kg/m]	R4.112 [kg/m]
E4. – 112.05. R.0	50	102	≈ 7.78	–
E4. – 112.055. R.0	55	107	≈ 7.81	–
E4. – 112.06. R.0	65	117	≈ 7.84	–
E4. – 112.07. R.0	75	127	≈ 7.88	–
E4. – 112.08. R.0	87	139	≈ 7.94	–
E4. – 112.10. R.0	100	152	≈ 7.99	–
E4. – 112.11. R.0	112	164	≈ 8.07	–
E4. – 112.12. R.0	125	177	≈ 8.12	–
E4. – 112.13. R.0	137	189	≈ 8.20	–
E4. – 112.15. R.0	150	202	≈ 8.23	–
E4. – 112.16. R.0	162	214	≈ 8.30	–
E4. – 112.169. R.0	169	222	≈ 8.35	–
E4. – 112.17. R.0	175	227	≈ 8.38	–
E4. – 112.182. R.0	182	235	≈ 8.41	–
E4. – 112.18. R.0	187	239	≈ 8.45	–
E4. R4. 112.20. R.0	200	252	≈ 8.49	≈ 10.15
E4. – 112.207. R.0	207	260	≈ 8.52	–
E4. – 112.21. R.0	212	264	≈ 8.53	–
E4. – 112.22. R.0	225	277	≈ 8.58	–
E4. – 112.23. R.0	237	289	≈ 8.65	–
E4. R4. 112.25. R.0	250	302	≈ 8.72	≈ 10.79
E4. – 112.26. R.0	262	314	≈ 8.78	–
E4. – 112.27. R.0	275	327	≈ 8.84	–

Part No. e-chains® / e-tubes	Bi [mm]	Ba [mm]	E4.112 [kg/m]	R4.112 [kg/m]
E4. – 28. R.0	287	339	≈ 8.88	–
E4. R4. 30. R.0	300	352	≈ 8.97	≈ 11.42
E4. – 31. R.0	312	364	≈ 9.00	–
E4. – 32. R.0	325	377	≈ 9.06	–
E4. – 33. R.0	337	389	≈ 9.14	–
E4. R4. 35. R.0	350	402	≈ 9.27	≈ 12.07
E4. – 36. R.0	362	414	≈ 9.21	–
E4. – 37. R.0	375	427	≈ 9.27	–
E4. – 38. R.0	387	439	≈ 9.35	–
E4. R4. 40. R.0	400	452	≈ 9.52	≈ 12.71
E4. – 41. R.0	412	464	≈ 9.47	–
E4. – 42. R.0	425	477	≈ 9.66	
E4. – 43. R.0	437	489	≈ 9.56	–
E4. – 45. R.0	450	502	≈ 9.77	–
E4. – 46. R.0	462	514	≈ 9.74	–
E4. – 47. R.0	475	527	≈ 9.76	–
E4. – 48. R.0	487	539	≈ 9.92	–
E4. R4. 50. R.0	500	552	≈ 9.98	≈ 13.99
E4. – 51. R.0	512	564	≈ 9.92	–
E4. – 52. R.0	525	577	≈ 10.03	–
E4. – 53. R.0	537	589	≈ 10.09	–
E4. – 55. R.0	550	602	≈ 10.36	–
E4. – 60. R.0	600	652	≈ 10.51	–

*Radius not available for e-tubes

Available bend radii

R [mm] | 200* | 250 | 300 | 350 | 400 | 450 | 500 | 550 | 600 | 750 | 1.000 |

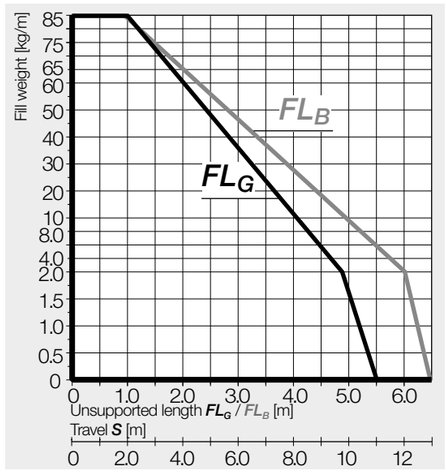
Complete Part No. with required radius (R). Example:

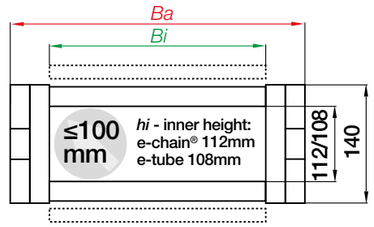
E4.112.30.300.0 = crossbars every link / R4.112.30.300.0 = fully enclosed

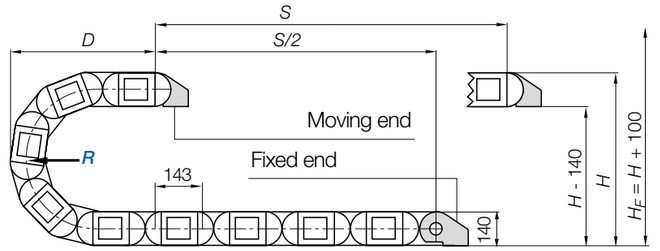
E4.1 | E4.112·R4.112 | Installation dimensions

Unsupported applications | Short travels

▶ 1300 ▶ 1258







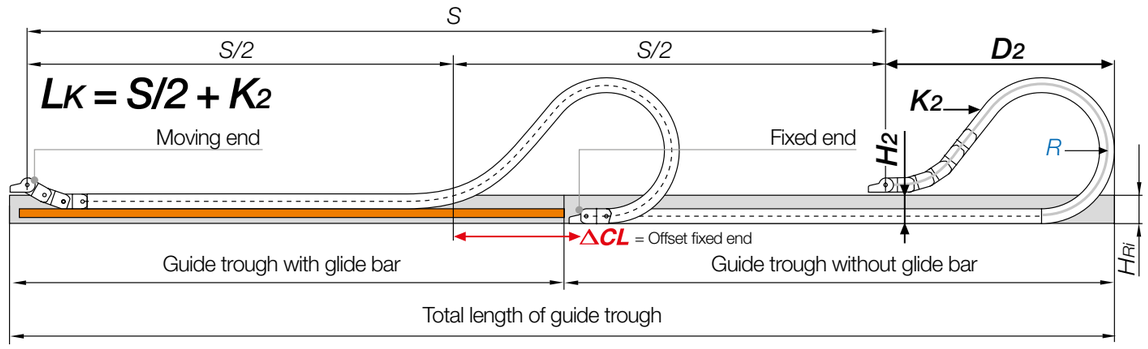
E4.112 Inner height [mm]	112
R4.112 Inner height [mm]	108
Pitch [mm/link]	143
Links/m	7
corresponds to [mm]	1,001
e-chain® length	$L_K = S/2 + K$

R	200*	250	300	350	400	450	500	550	600	750	1.000
H	545	645	745	845	945	1,045	1,145	1,245	1,345	1,645	2,145
D	415	465	515	565	615	665	715	765	815	965	1,215
K	915	1,075	1,230	1,390	1,545	1,700	1,860	2,015	2,175	2,645	3,430

The required clearance height: $H_F = H + 100$mm (with 5.0kg/m fill weight)

*Radius not available for e-tubes

Gliding applications | For long travels from 14m to max. 450m



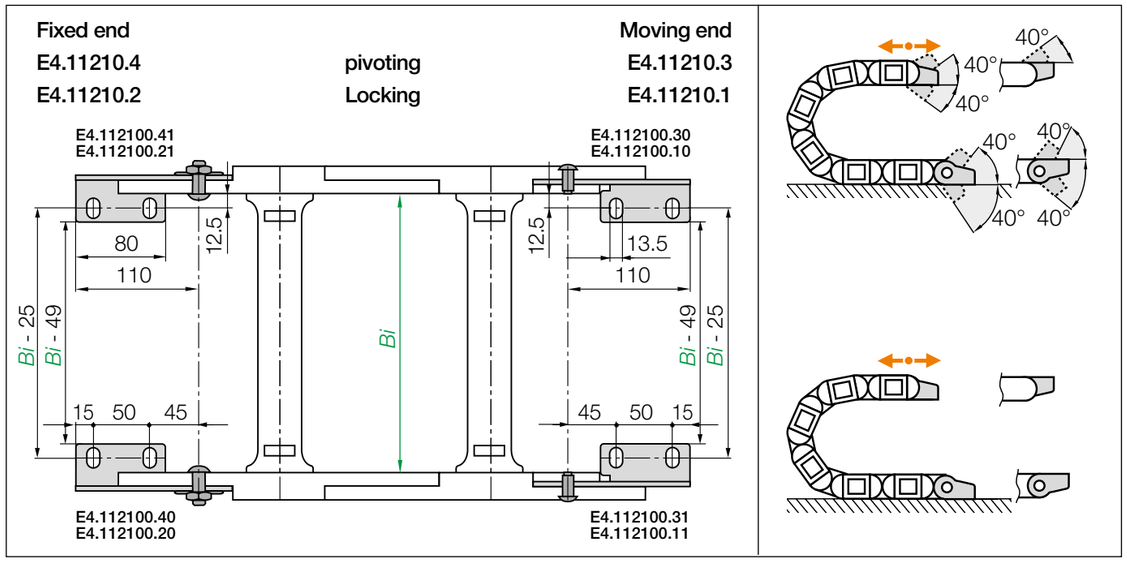
Note: We recommend the project planning of such a system to be carried out by igus®.
In case of travels between 11 and 14m we recommend an e-chain® with a longer unsupported length.

R	200*	250	300	350	400	450	500	550	600	750	1.000
H_2	325	325	325	325	325	325	325	325	325	–	–
D_2	900	1,000	1,100	1,250	1,450	1,600	1,700	1,900	2,050	–	–
K_2	1,573	1,716	1,859	2,288	2,574	2,860	3,146	3,432	3,861	–	–
ΔCL	450	500	550	650	800	900	950	1,100	1,200	–	–

*Radius not available for e-tubes

E4.1 | Series E4.112·R4.112 | Accessories

Steel mounting brackets | Pivoting | Locking



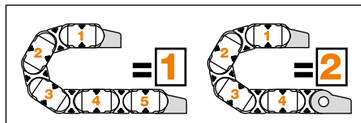
Steel pivoting | Recommended for unsupported and gliding applications
Steel locking | Recommended for vertical hanging and vertical standing applications

Part No. full set **steel pivoting**	Description mounting bracket
E4.11210.1.34.VS.E	Full set (both ends), ending with outer side link, **screwed** - standard
E4.11210.2.34.VS.E	Full set (both ends) - beginning with outer side link (moving end) - ending with inner side link (fixed end), **screwed** - standard

Stainless steel version available. Please add index **.E**! (Material: stainless steel 1.4301)

Part No. full set **steel locking**	Description mounting bracket
E4.11210.1.12.VS.E	Full set (both ends), ending with outer side link, **screwed** - standard
E4.11210.2.12.VS.E	Full set (both ends) - beginning with outer side link (moving end) - ending with inner side link (fixed end), **screwed** - standard

Stainless steel version available. Please add index **.E**! (Material: stainless steel 1.4301)



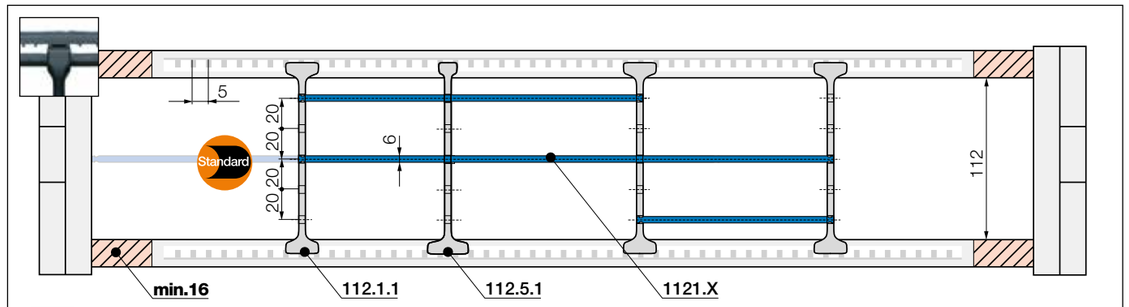
Note: Depending on the chain length, the e-chain® may end with 1 either an outer or an 2 inner side link. For the best appearance,make sure the e-chain® ends with 1 outer side links whenever possible. (with odd number of links)

Strain relief **e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with ordering options ▶ From page 1300**

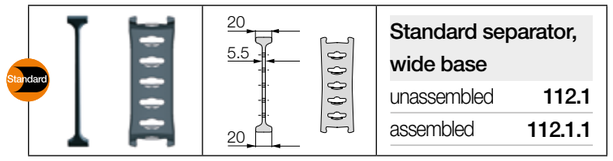
E4.1 | e-chains® E4.112 | Accessories (e-tubes ▸ next page)

Interior separation | Increase cable service life | Only for e-chains®

Previous generation of interior separation with other options ▶ **www.igus.eu/E4.112**



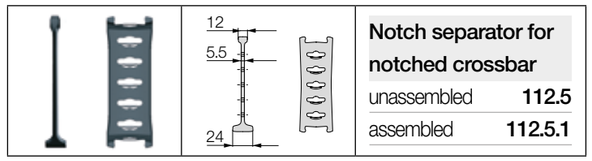
Note: Please be aware of the minimum lateral gap to the side links! **e-chain®: 16mm**
As standard separators are fitted every 2nd e-chain® link!



Standard separator, wide base
unassembled **112.1**
assembled **112.1.1**

Standard - for any application

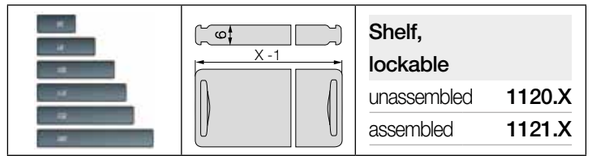
Separator with a wide base for maximum holding force in the e-chain®.



Notch separator for notched crossbar
unassembled **112.5**
assembled **112.5.1**

Locks securely in preset increments

Notch separator for exact positioning in e-chains®. Recommended for side-mounted applications.



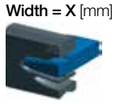
Shelf, lockable
unassembled **1120.X**
assembled **1121.X**

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Shelves

Width = X [mm]

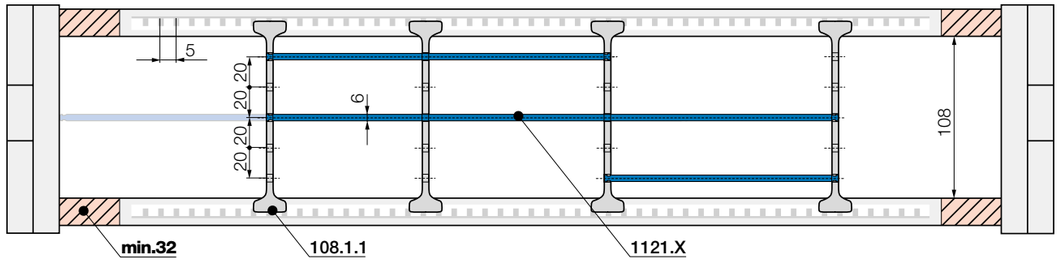


X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
050	**1120.050**	**1121.050**	150	**1120.150**	**1121.150**	300	**1120.300**	**1121.300**
065	**1120.065**	**1121.065**	175	**1120.175**	**1121.175**	350	**1120.350**	**1121.350**
075	**1120.075**	**1121.075**	200	**1120.200**	**1121.200**	375	**1120.375**	**1121.375**
100	**1120.100**	**1121.100**	225	**1120.225**	**1121.225**	387	**1120.387**	**1121.387**
125	**1120.125**	**1121.125**	250	**1120.250**	**1121.250**	450	**1120.450**	**1121.450**

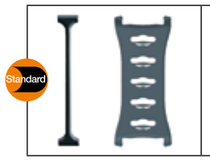
E4.1 | **e-tubes** R4.112 | Accessories (e-chains® ▶ previous page)

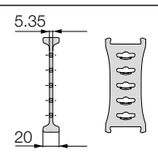
Interior separation | Increase cable service life | Only for e-tubes

Previous generation of interior separation with other options ▶ **www.igus.eu/R4.112**



Note: Please be aware of the minimum lateral gap to the side links! **e-tubes: 32mm**
As standard separators are fitted every 2nd e-chain® link!

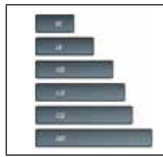


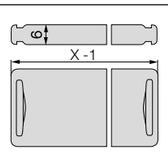


Standard separator, wide base	
unassembled	**108.1**
assembled	**108.1.1**

Standard - for any application

Separator with a wide base for maximum holding force in the e-chain®.





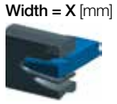
Shelf, lockable	
unassembled	**1120.X**
assembled	**1121.X**

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Shelves

Width = X [mm]



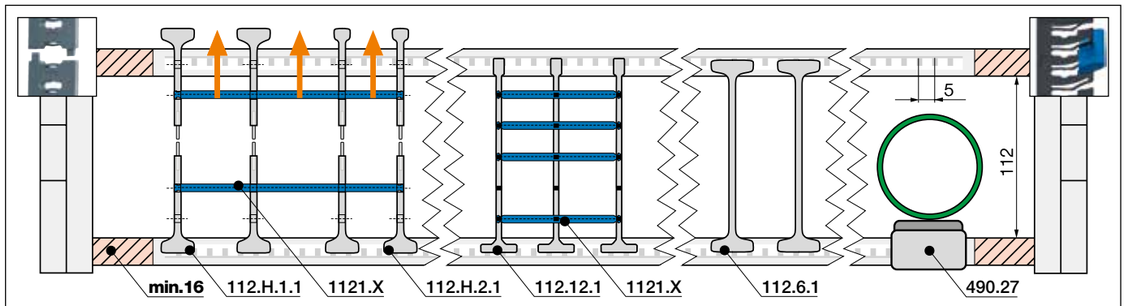
X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
050	**1120.050**	**1121.050**	150	**1120.150**	**1121.150**	300	**1120.300**	**1121.300**
065	**1120.065**	**1121.065**	175	**1120.175**	**1121.175**	350	**1120.350**	**1121.350**
075	**1120.075**	**1121.075**	200	**1120.200**	**1121.200**	375	**1120.375**	**1121.375**
100	**1120.100**	**1121.100**	225	**1120.225**	**1121.225**	387	**1120.387**	**1121.387**
125	**1120.125**	**1121.125**	250	**1120.250**	**1121.250**	450	**1120.450**	**1121.450**



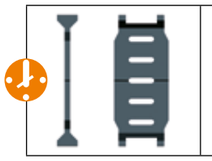
Compact design, custom configuration: two nested E4.112 e-chains® each around 12m long carry very heavy fill weights

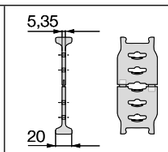
E4.1 | **e-chains® E4.112** | Accessories

Interior separation | To allow faster filling

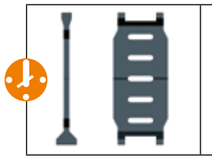


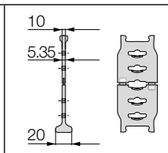
Note: Please be aware of the minimum lateral gap to the side links! **e-chain®: 16mm**
As standard separators are fitted every 2nd e-chain® link!





Split separator, wide base/top*	
unassembled	**112.H.1**
assembled	**112.H.1.1**

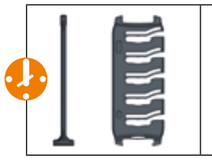


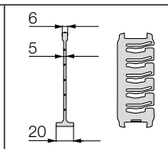


Split separator, narrow top*	
unassembled	**112.H.2**
assembled	**112.H.2.1**

Split separators*

In order to fill e-chains® more easily and effectively, these separators can be split in the middle. This allows easier access to middle shelf partitions. Fast assembly and easy retrofit. 2 types available: with wide or narrow top.





Lean separator*	
unassembled	**112.12**
assembled	**112.12.1**

Lean separators* New

New design allows extremely fast fitting of shelves in several layers, which significantly reduces assembly time. Enables extremely fast replacement of individual cables in a very full e-chain®.

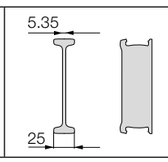
*Only for e-chains®

Lean separator design - several layers of cables fitted quickly, save up to 50%* assembly time
(*Lean separator vs. standard separator - measured on a 4m long e-chain® fitted with 12 cables in the igus® readychain® factory)



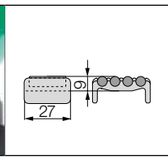
More interior separation options





Notch locking separator*, lockable	
unassembled	**112.6**
assembled	**112.6.1**





Rollclip* for e-chains®	
unassembled	**489.27**
assembled	**490.27**

Notch locking separator for increased holding force

Notch locking separators* offer higher crossbar opening forces with high humidity and/or large hydraulic hoses. They can be positioned precisely and then locked in position.

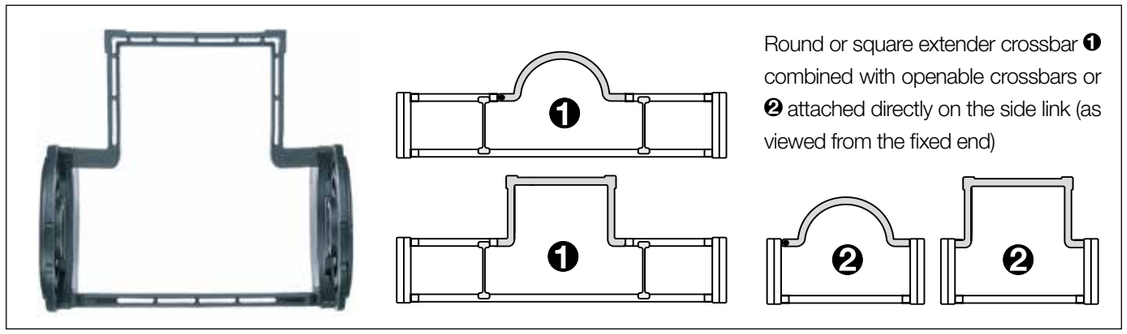
Rollclip*

Minimises abrasion of sensitive hoses. Simply clamps onto the opening crossbar. The movable rollers compensate for relative movement between the e-chain® and hose.

*Only for e-chains®

E4.1 | Series E4.112·R4.112 | Further accessories

Extender crossbar with fixed width



Round or square extender crossbar ❶ combined with openable crossbars or ❷ attached directly on the side link (as viewed from the fixed end)

Extender crossbars with fixed width | Safe guiding for large hoses

- Suitable for hoses with a maximum outer diameter of 270mm
- Variant ❶ extender crossbar with fixed width to combine with standard crossbars
- Variant ❷ extender crossbar with fixed width attached directly on the side link
- Optionally openable along the inner "**Z**" or outer "**E**" radius
- Gliding with crossbars assembled along the outer radius and a special guide trough

Part No. extender crossbar with fixed width, as individual parts	Hose Ø ≤ [mm]	Extender crossbar shape	❷ Fitted to side link	❶ Combine with openable crossbars
450.15RHD115	115	○ round	No	Yes
450.17RD115	115	○ round	Yes	No
450.25D150	150	□ square	Yes	No
450.30D200	200	□ square	Yes	No
450.35D250	220	□ square	Yes	No
450.40D300	270	□ square	Yes	No
450.20HD150	150	□ square	No	Yes
450.25HD200	200	□ square	No	Yes
450.30HD250	220	□ square	No	Yes

Order example: ❶ combined with openable crossbars

To receive extender crossbar RHD115 pre-fitted along the outer radius of the-chain®, please add index **E**: **E4.112.10/15RHD<u>E</u>115/10.*R*.0**

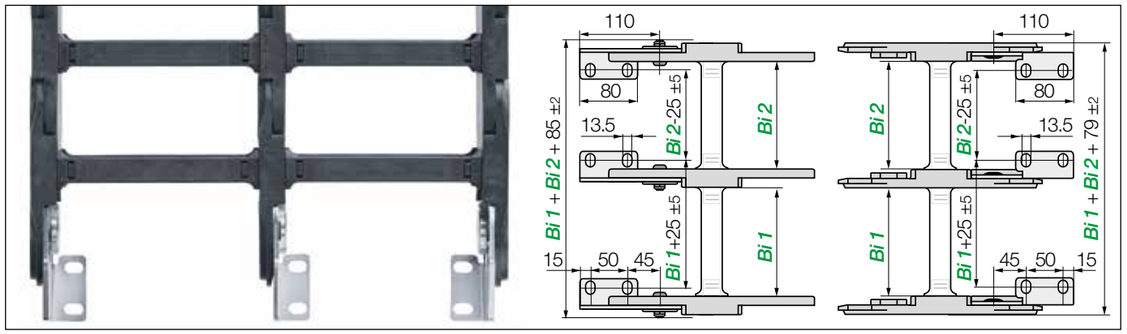
To receive extender crossbar RHD115 pre-fitted along the inner radius of the-chain®, please add index **Z**: **E4.112.10/15RHD<u>Z</u>115/10.*R*.0**

Order example: ❷ fitted to side link

To receive extender crossbar RD115 pre-fitted along the outer radius of the-chain®, please add index **E**: **E4.112.17RD<u>E</u>115.*R*.0**

To receive extender crossbar RD115 pre-fitted along the inner radius of the-chain®, please add index **Z**: **E4.112.17RD<u>Z</u>115.*R*.0**

Extension links



Extension links | For extremely wide e-chains® up to 3.0m

- Virtually unlimited side-by-side extension
- For extremely wide e-chains® up to 3,000mm
- Unsupported length FL_G max. can be increased when heavy fill weights are required
- e-chains® and e-tubes can be combined
- Attached with KMA or steel mounting brackets

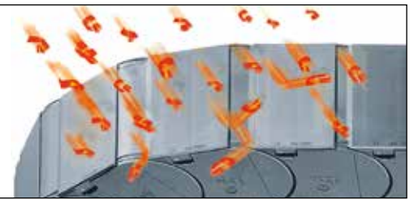
Part No. Extension link e-chain®	Part No. Extension link e-tube	Part No. Extension link as an individual part
E4.112.*Bi1*/*Bi2*/*Bi3*.*R*.0	**R4.112.*Bi1*/*Bi2*/*Bi3*.*R*.0**	**6022.*R*.**

Complete Part No.with the width index ***Bi1*/*Bi2*/*Bi3*/*etc.*** and the radius (***R***). Example: **E4.112.10/20/10.200.0**

Swarf up to +850°C

- e-tubes to withstand 850°C swarf, as a special option
- No hot swarf melting or embedding into the chain
- igus® igumid HT material

More information ▶ www.igus.eu/HT



Reduce assembly time - E4 e-chain® opener

- e-chain® opener tools for easy opening and closing of e-chains®
- Simple opening and closing of e-chain® crossbars
- Also for use in hard to reach locations
- Significant assembly time reduction

More information ▶ www.igus.eu/E4savetime



Roller crossbars - increase the service life of cables and hoses

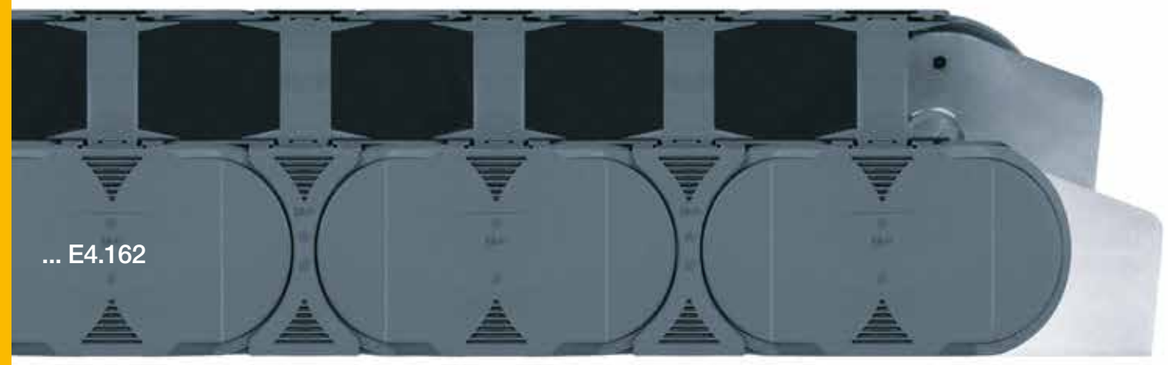
- Significantly reduce jacket abrasion of very stiff cables and hoses with rolling contact surfaces equipped with tribo-optimised bearings
- For sensitive hoses in restricted space
- Usable along the inner and/or outer radius, retrofit possible

More information ▶ www.igus.eu/roller-crossbar



E4.1 | Series E4.162 | Product range

heavy fill weights, new large inner height



e-chains® | Series E4.162 | Crossbars every link (crossbars removable along the inner and outer radius)

Part No. e-chains®	Bi [mm]	Ba [mm]	E4.162 [kg/m]
E4.162.20.R.0	200	256	≈ 10.45
E4.162.25.R.0	250	306	≈ 10.74
E4.162.30.R.0	300	356	≈ 10.99
E4.162.32.R.0	325	381	≈ 11.02
E4.162.35.R.0	350	406	≈ 11.21

Part No. e-chains®	Bi [mm]	Ba [mm]	E4.162 [kg/m]
E4.162.40.R.0	400	456	≈ 11.51
E4.162.45.R.0	450	506	≈ 11.65
E4.162.50.R.0	500	556	≈ 11.83
E4.162.55.R.0	550	606	≈ 12.11
E4.162.60.R.0	600	656	≈ 12.45

Available bend radii

R [mm] | 250 | 300 | 350 | 400 | 450 | 500 | 550 | 600 | 750 | 1.000 |

Complete Part No. with required radius (R). Example: **E4.162.40.350.0 = crossbars every link**

Reduce assembly time - E4 e-chain® opener

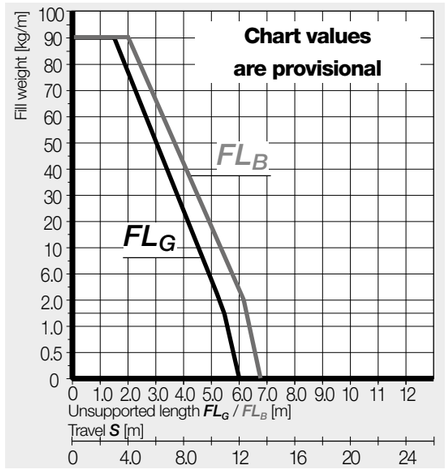
- e-chain® opener tools for easy opening and closing of e-chains®
- Simple opening and closing of e-chain® crossbars
- Also for use in hard to reach locations
- Significant assembly time reduction

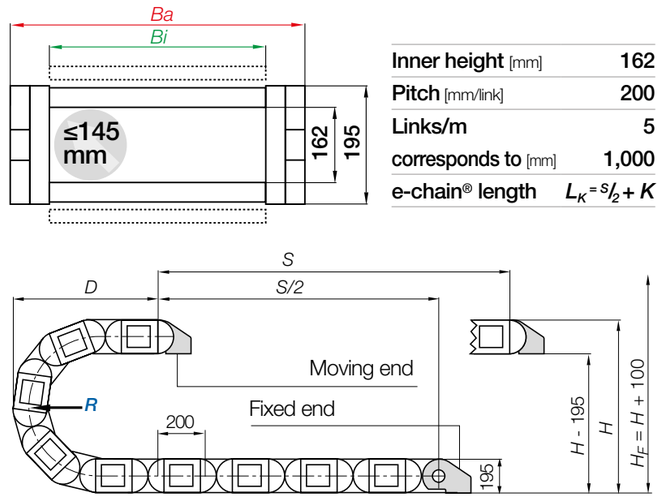
More information ▶ www.igus.eu/E4savetime



E4.1 | Series E4.162 | Installation dimensions

Unsupported applications | Short travels



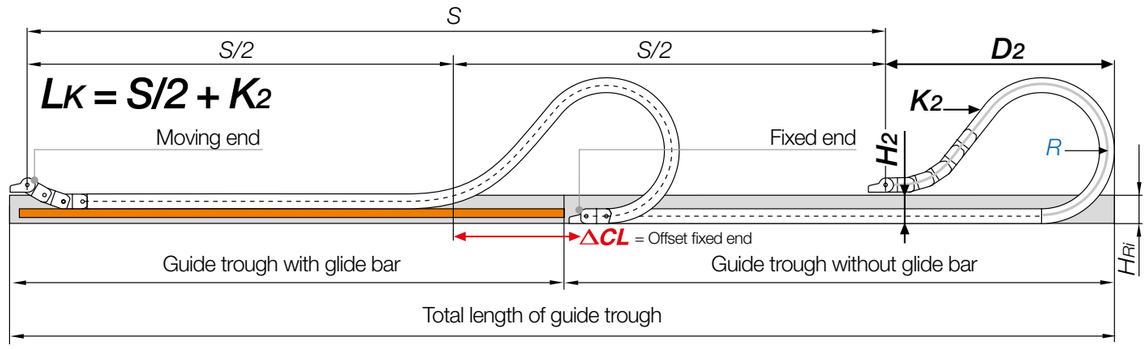


Inner height [mm]	162
Pitch [mm/link]	200
Links/m	5
corresponds to [mm]	1,000
e-chain® length	$L_K = S/2 + K$

R	250	300	350	400	450	500	550	600	750	1.000
H	700	800	900	1,000	1,100	1,200	1,300	1,400	1,700	2,200
D	648	698	748	798	848	898	948	998	1,148	1,398
K	1,190	1,345	1,500	1,660	1,815	1,975	2,130	2,285	2,760	3,545

The required clearance height: $H_F = H + 100$mm (with 5.0kg/m fill weight)

Gliding applications | For long travels from 14m to max. 450m



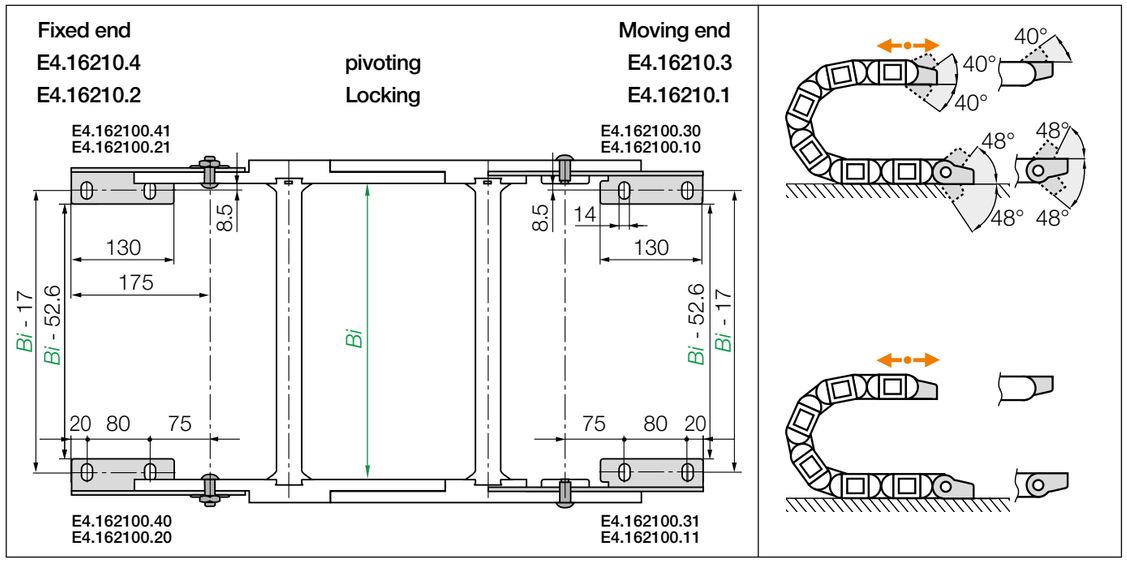
Note: We recommend the project planning of such a system to be carried out by igus®.
In case of travels between 12 and 14m we recommend an e-chain® with a longer unsupported length.

R	250	300	350	400	450	500	550	600	750	1.000
H_2	*	580	580	580	580	580	580	580	**	**
D_2	*	950	1,050	1,350	1,600	1,950	2,050	2,400	**	**
K_2	*	1,600	1,800	2,400	2,800	3,200	3,400	3,800	**	**
ΔCL	*	300	350	600	800	1,100	1,150	1,450	**	**

*Values such as unsupported applications **Values upon request

E4.1 | Series E4.162 | Accessories

Steel mounting brackets | Pivoting | Locking



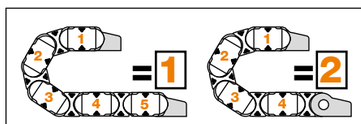
Steel pivoting | Recommended for unsupported and gliding applications
Steel locking | Recommended for vertical hanging and vertical standing applications

Part No. full set	Description
steel pivoting	mounting bracket
E4.16210.1.34.VS.E	Full set (both ends), ending with outer side link, **screwed** - standard
E4.16210.2.34.VS.E	Full set (both ends) - beginning with outer side link (moving end) - ending with inner side link (fixed end), **screwed** - standard

Stainless steel version available. Please add index **.E**! (Material: stainless steel 1.4301)

Part No. full set	Description
steel locking	mounting bracket
E4.16210.1.12.VS.E	Full set (both ends), ending with outer side link, **screwed** - standard
E4.16210.2.12.VS.E	Full set (both ends) - beginning with outer side link (moving end) - ending with inner side link (fixed end), **screwed** - standard

Stainless steel version available. Please add index **.E**! (Material: stainless steel 1.4301)

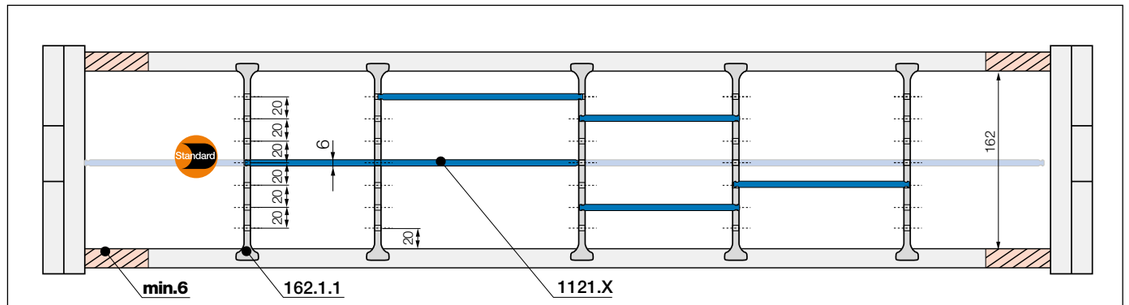


Note: Depending on the chain length, the e-chain® may end with 1 either an outer or an 2 inner side link. For the best appearance,make sure the e-chain® ends with 1 outer side links whenever possible. (with odd number of links)

Strain relief **e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with ordering options ▶ From page 1300**

E4.1 | Series E4.162 | Accessories

Interior separation | Increase cable service life



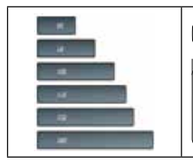
Note: Please be aware of the minimum lateral gap to the side links! **e-chain®: 6mm**
As standard separators are fitted every 2nd e-chain® link!



Standard separator, wide base	
unassembled	**162.1**
assembled	**162.1.1**

Standard - for any application

Separator with a wide base for maximum holding force in the e-chain®.



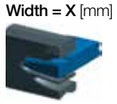
Shelf, lockable	
unassembled	**1120.X**
assembled	**1121.X**

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Shelves

Width = X [mm]



X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
050	**1120.050**	**1121.050**	150	**1120.150**	**1121.150**	300	**1120.300**	**1121.300**
065	**1120.065**	**1121.065**	175	**1120.175**	**1121.175**	350	**1120.350**	**1121.350**
075	**1120.075**	**1121.075**	200	**1120.200**	**1121.200**	375	**1120.375**	**1121.375**
100	**1120.100**	**1121.100**	225	**1120.225**	**1121.225**	387	**1120.387**	**1121.387**
125	**1120.125**	**1121.125**	250	**1120.250**	**1121.250**	450	**1120.450**	**1121.450**

E4.1 | Series 800 | Product range

For tough applications, very large inner height

200



e-chains® | Series 800 | Crossbars every link (crossbars removable along the inner and outer radius)

Part No. e-chains®	Bi [mm]	Ba [mm]	800 [kg/m]
800.20. R.0	200	260	≈ 15.09
800.25. R.0	250	310	≈ 15.50
800.30. R.0	300	360	≈ 15.89
800.32. R.0	325	385	≈ 16.05
800.35. R.0	350	410	≈ 16.22

Part No. e-chains®	Bi [mm]	Ba [mm]	800 [kg/m]
800.40. R.0	400	460	≈ 16.74
800.45. R.0	450	510	≈ 16.88
800.50. R.0	500	560	≈ 17.23
800.55. R.0	550	610	≈ 17.63
800.60. R.0	600	660	≈ 18.19

Available bend radii

R [mm] | 325 | 350 | 400 | 450 | 500 | 600 | 750 | 1.000 |

Complete Part No. with required radius (R). Example: **800.40.400.0 = crossbars every link**

Reduce assembly time - E4 e-chain® opener

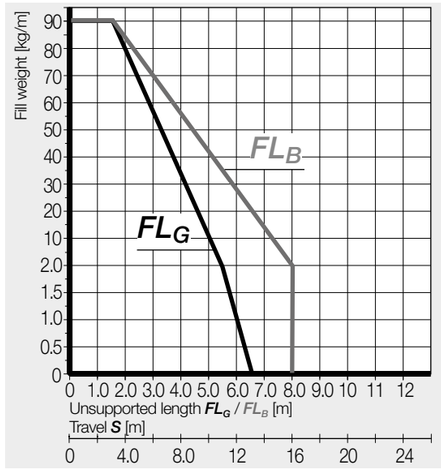
- e-chain® opener tools for easy opening and closing of e-chains®
- Simple opening and closing of e-chain® crossbars
- Also for use in hard to reach locations
- Significant assembly time reduction

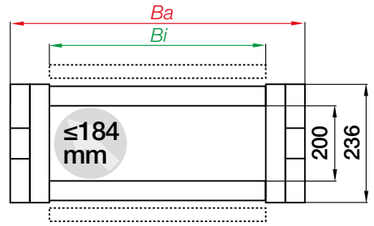
More information ▶ www.igus.eu/E4savetime



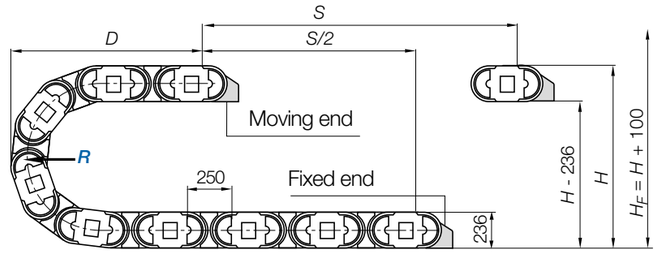
E4.1 | Series 800 | Installation dimensions

Unsupported applications | Short travels





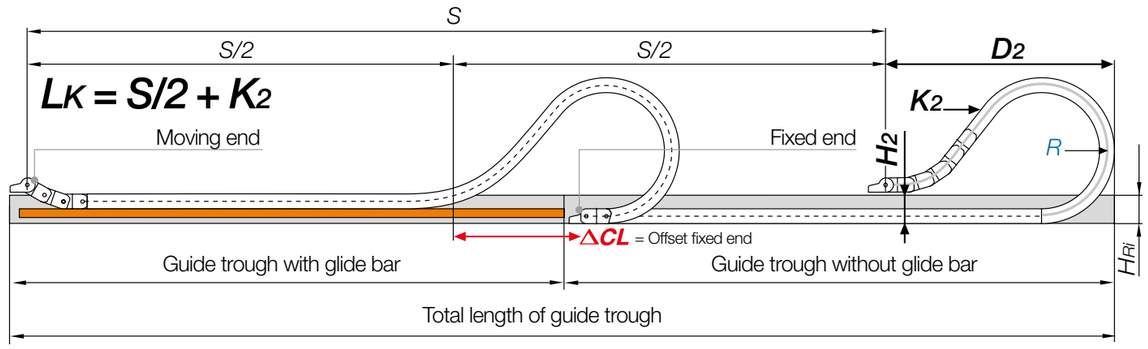
Inner height [mm]	200
Pitch [mm/link]	250
Links/m	4
corresponds to [mm]	1,000
e-chain® length	$L_K = S/2 + K$



R	325	350	400	450	500	600	750	1.000
H	886	936	1,036	1,136	1,236	1,436	1,736	2,236
D	818	843	893	943	993	1,093	1,243	1,493
K	1,525	1,600	1,760	1,915	2,075	2,385	2,860	3,645

The required clearance height: $H_F = H + 100$mm (with 5.0kg/m fill weight)

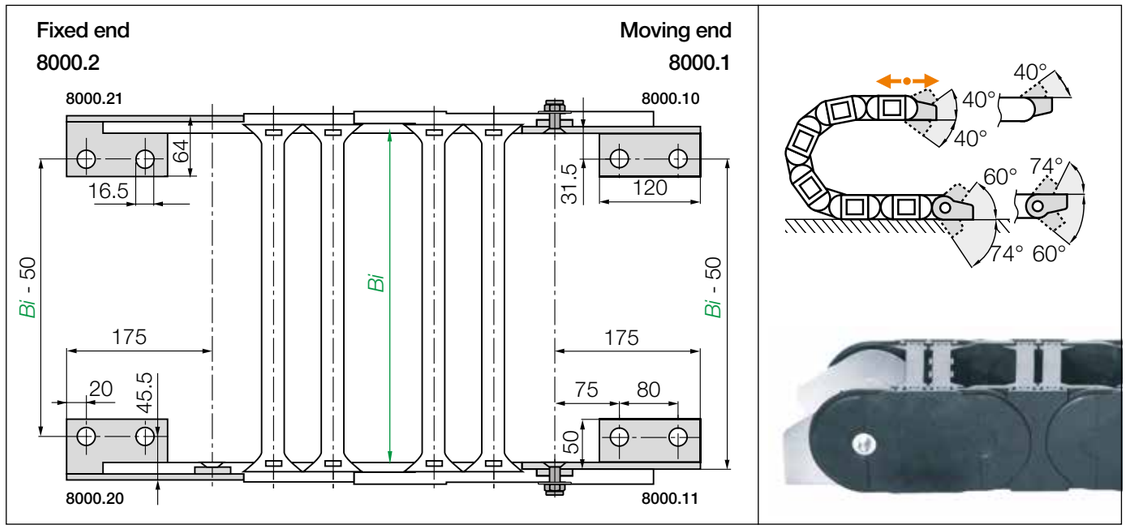
Gliding applications | For long travels from 15m to max. 450m



Note: We recommend the project planning of such a system to be carried out by igus®.
In case of travels between 12 and 15m we recommend an e-chain® with a longer unsupported length.

R	325	350	400	450	500	600	750	1.000
H_2	580	580	580	580	580	580	580	580
D_2^{+25}	1,030	1,080	1,380	1,610	2,000	2,480	*	*
K_2	2,000	2,000	2,500	3,000	3,250	4,000	*	*
ΔCL	250	300	550	750	1,050	1,400	*	*

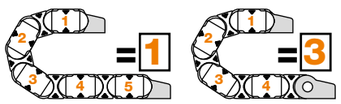
*Values upon request



Steel pivoting | For unsupported, gliding, vertical hanging and vertical standing applications

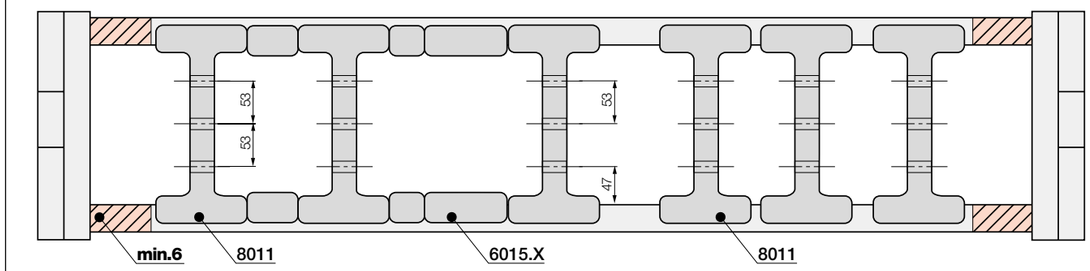
Part No. full set **steel pivoting**	Description **mounting bracket**
8000.1.12.VS.E	Full set (both ends), ending with outer side link, **screwed** - standard
8000.3.12.VS.E	Full set (both ends) - beginning with outer side link (moving end) - ending with inner side link (fixed end), **screwed only on the moving end**- standard

Stainless steel version available. Please add index **.E**! (Material: stainless steel 1.4301)



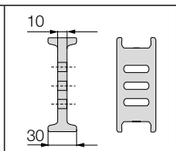
Note: Depending on the chain length, the e-chain® may end with 1 either an outer or an 3 inner side link. For the best appearance,make sure the e-chain® ends with 1 outer side links whenever possible. (with odd number of links)

Strain relief **e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with ordering options ▶ From page 1300**



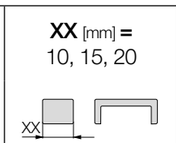
Note: Please be aware of the minimum lateral gap to the side links! **e-chain®: 6mm**
As standard separators are fitted every 2nd e-chain® link!





Slotted separator	
unassembled	**8001**
assembled	**8011**





XX [mm] =
10, 15, 20

Spacer for e-chains®	
unassembled	**6005.XX**
assembled	**6015.XX**

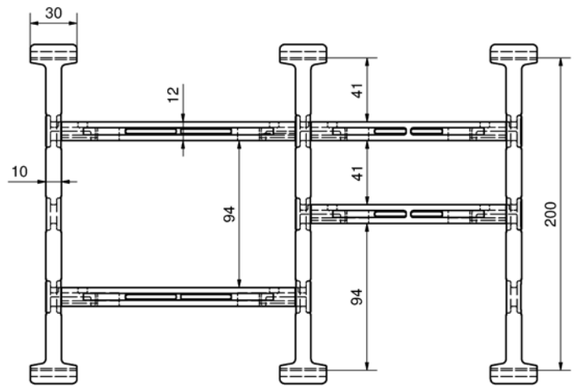
Slotted separator

For a vertical subdivision. The slot allows basic vertical/ horizontal shelving arrangements.

Spacer

Separators can be fixed in position using spacers. The available interior height is reduced by 2mm per spacer (4mm when spacers are fitted on both sides). To avoid this, the parts can also be installed on the outside of the opening crossbar.

Modular shelving system | Series 800





● Secure separation even for large cables ● Easy assembly
● Robust, even for large cable diameters ● Modular ● Widths from 50 to 600mm

Part No. unassembled	Part No. assembled	Design Snap in tab	Part No. Separator	Part No. Crossbar	Width [mm]
8001H1	8011H1	❶ one side	❸ 8001	❹ 450.XX.A	50-600
8001H2	8011H2	❷ both sides	❸ 8001	❹ 450.XX.A	50-600

E4.1 | Series 840 | Product range

For tough applications, very large inner height

204



e-chains® | Series 840 | Crossbars every link (crossbars removable along the inner and outer radius)

Part No. e-chains®	Bi [mm]	Ba [mm]	840 [kg/m]
840.13. R.0	100	160	≈ 13.84
840.15. R.0	113	173	≈ 13.87
840.16. R.0	125	185	≈ 13.95
840.17. R.0	138	198	≈ 14.04
840.18. R.0	150	210	≈ 14.13
840.20. R.0	163	223	≈ 14.17
840.21. R.0	175	235	≈ 14.22
840.22. R.0	188	248	≈ 14.27
840.23. R.0	200	260	≈ 14.35
840.25. R.0	213	273	≈ 14.43
840.26. R.0	225	285	≈ 14.49
840.27. R.0	238	298	≈ 14.57
840.28. R.0	250	310	≈ 14.61
840.30. R.0	263	323	≈ 14.72
840.31. R.0	275	335	≈ 14.75
840.32. R.0	288	348	≈ 14.82
840.33. R.0	300	360	≈ 14.91
840.35. R.0	313	373	≈ 15.06

Part No. e-chains®	Bi [mm]	Ba [mm]	840 [kg/m]
840.36. R.0	325	385	≈ 15.09
840.37. R.0	338	398	≈ 15.11
840.38. R.0	350	410	≈ 15.15
840.40. R.0	363	423	≈ 15.34
840.41. R.0	375	435	≈ 15.39
840.42. R.0	388	448	≈ 15.50
840.43. R.0	400	460	≈ 15.57
840.45. R.0	413	473	≈ 15.63
840.46. R.0	425	485	≈ 15.69
840.47. R.0	438	498	≈ 15.72
840.48. R.0	450	510	≈ 15.80
840.50. R.0	463	523	≈ 15.87
840.51. R.0	475	535	≈ 15.91
840.52. R.0	488	548	≈ 15.93
840.53. R.0	500	560	≈ 16.00
840.55. R.0	513	573	≈ 16.31
840.60. R.0	563	623	≈ 16.47

Available bend radii

R [mm] | 325 | 350 | 400 | 450 | 500 | 600 | 750 | 1.000 |

Complete Part No. with required radius (R). Example: **840.40.400.0 = crossbars every link**

Reduce assembly time - E4 e-chain® opener

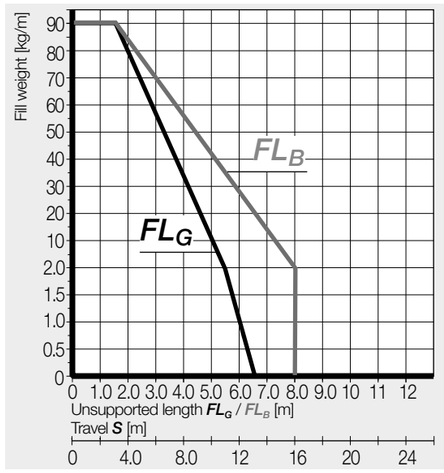
- e-chain® opener tools for easy opening and closing of e-chains®
- Simple opening and closing of e-chain® crossbars
- Also for use in hard to reach locations
- Significant assembly time reduction

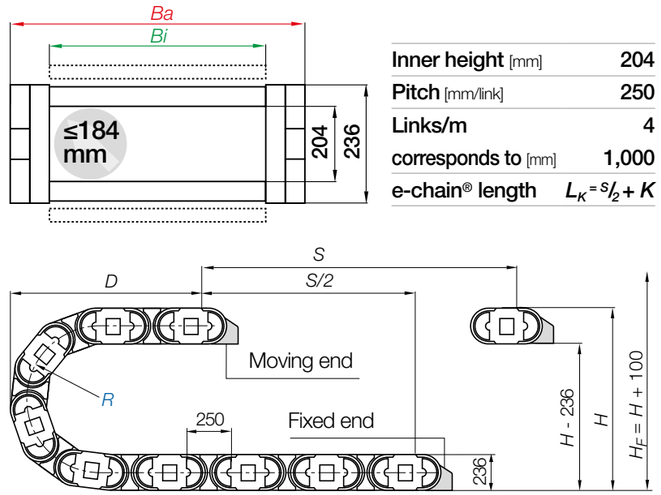
More information ▶ www.igus.eu/E4savetime



E4.1 | Series 840 | Installation dimensions

Unsupported applications | Short travels





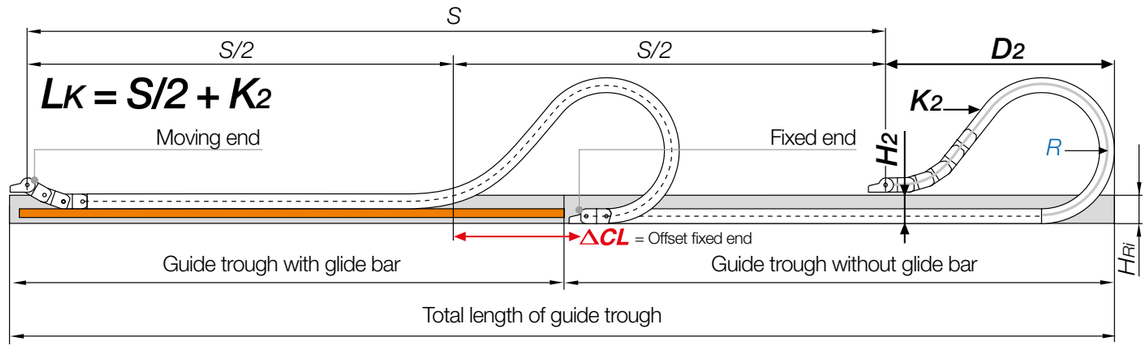
Inner height [mm]	204
Pitch [mm/link]	250
Links/m	4
corresponds to [mm]	1,000
e-chain® length	$L_K = S/2 + K$

R	325	350	400	450	500	600	750	1.000
$H\ ^{0}_{+25}$	886	936	1,036	1,136	1,236	1,436	1,736	2,236
D	818	843	893	943	993	1,093	1,243	1,493
K	1,525	1,600	1,760	1,915	2,075	2,385	2,860	3,645

The required clearance height: $H_F = H + 100$mm (with 5.0kg/m fill weight)

*Radius not available for e-tubes

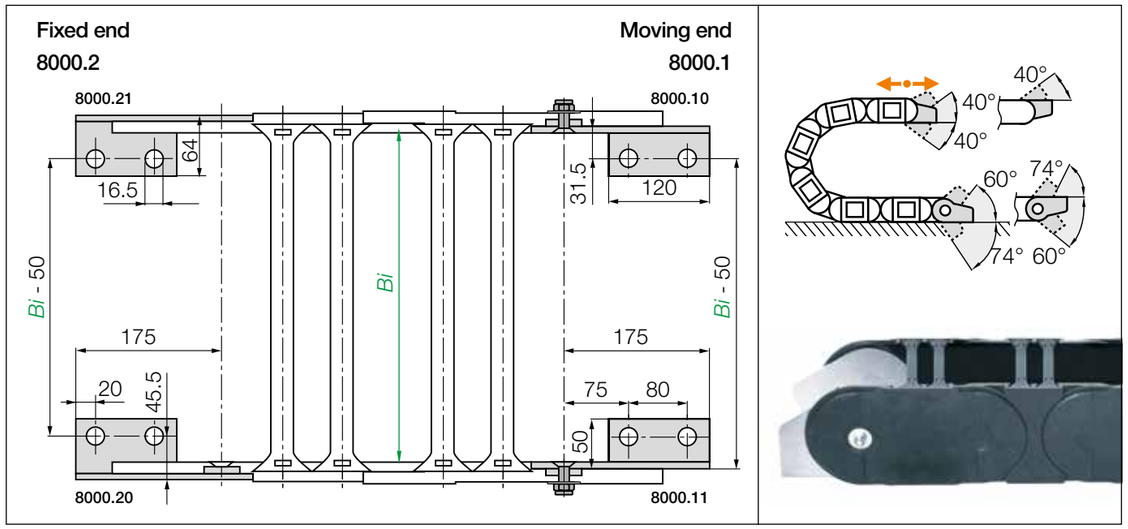
Gliding applications | For long travels from 15m to max. 450m



Note: We recommend the project planning of such a system to be carried out by igus®.
In case of travels between 12 and 15m we recommend an e-chain® with a longer unsupported length.

R	325	350	400	450	500	600	750	1.000
H_2	580	580	580	580	580	580	580	580
D_2^{+25}	1,030	1,080	1,380	1,610	2,000	2,480	*	*
K_2	2,000	2,000	2,500	3,000	3,250	4,000	*	*
ΔCL	250	300	550	750	1,050	1,400	*	*

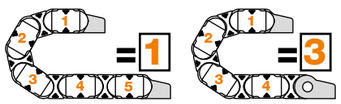
*Values upon request



Steel pivoting | For unsupported, gliding, vertical hanging and vertical standing applications

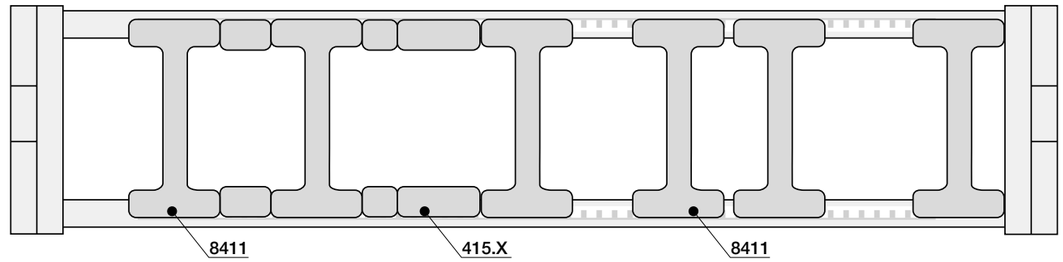
Part No. full set **steel pivoting**	Description mounting bracket
8000.1.12.VS.E	Full set (both ends), ending with outer side link, **screwed** - standard
8000.3.12.VS.E	Full set (both ends) - beginning with outer side link (moving end) - ending with inner side link (fixed end), **screwed only on the moving end**- standard

Stainless steel version available. Please add index **.E**! (Material: stainless steel 1.4301)



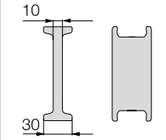
Note: Depending on the chain length, the e-chain® may end with 1 either an outer or an 3 inner side link. For the best appearance,make sure the e-chain® ends with 1 outer side links whenever possible. (with odd number of links)

Strain relief **e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with ordering options ▶ From page 1300**



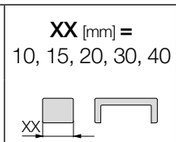
No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-chain® link!





Separator, for e-chains®	
unassembled	**8401**
assembled	**8411**





XX [mm] =
10, 15, 20, 30, 40

Spacer for e-chains®	
unassembled	**405.XX**
assembled	**415.XX**

Separator

For a vertical subdivision. Offers security due to its wide base design, also when used with large cables or hoses.

Spacer

Separators can be fixed in position using spacers. The available interior height is reduced by 2mm per spacer (4mm when spacers are fitted on both sides). To avoid this, the parts can also be installed on the outside of the opening crossbar.

E4.1 | Series E4.350 | Product range

The largest plastic e-chain® - inner height 350mm

350



e-chains® | Series E4.350 | Crossbars every link (crossbars removable along the inner and outer radius)

Part No. e-chains®	Bi [mm]	Ba [mm]	E4.350 [kg/m]
E4.350.400.R.0	400	540	≈ 61.9
E4.350.500.R.0	500	640	≈ 65.7
E4.350.600.R.0	600	740	≈ 69.6
E4.350.700.R.0	700	840	≈ 73.4
E4.350.800.R.0	800	940	≈ 77.2

Available bend radii

R [mm] | 500 | 750 | 1.000 |

Complete Part No. with required radius (R). Example: **E4.350.500.500.0 = crossbars every link**

igus® Series E4.350 - inner height: 350mm

- Please ask for our advice when using this series
- Please design with support from the igus® project team

Please consult igus® ▶ Phone +49 2203 9649-800



Series E4.350 now available as ESD-version

- Safe electrostatic discharge through material and design
- Permanently constant discharge due to a positive connection of the e-chain® links to one another

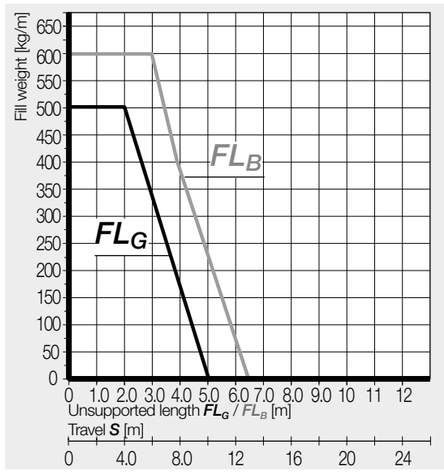
More information ▶ www.igus.eu/ESD

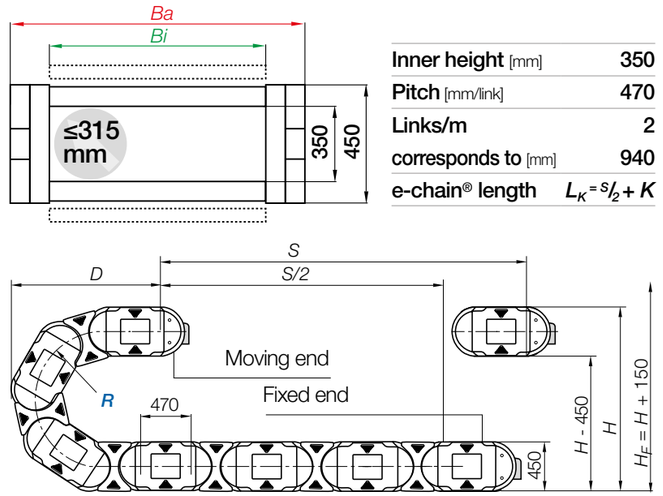


E4.1 | Series E4.350 | Installation dimensions

Unsupported applications | Short travels

upon request ▶ upon request





Inner height [mm]	350
Pitch [mm/link]	470
Links/m	2
corresponds to [mm]	940
e-chain® length	$L_K = S/2 + K$

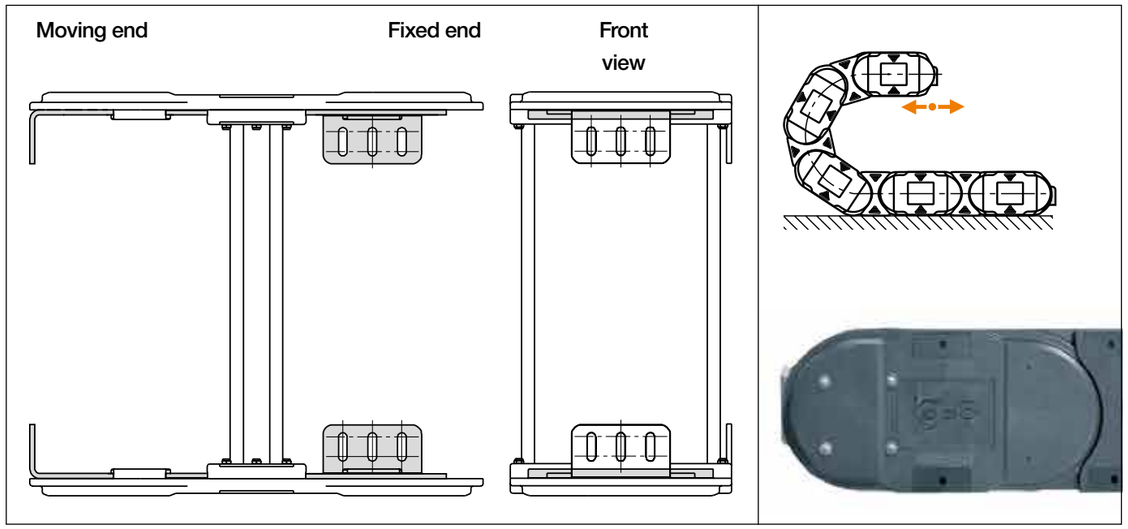
R	500	750	1.000
$H\ ^{0}_{+25}$	1,450	1,950	2,450
D	1,430	1,680	1,930
K	2,515	3,300	4,085

The required clearance height: $H_F = H + 150$mm

If a gliding application is required for a long travel, please consult igus®.



The world's largest polymer e-chain®: lighter than comparable steel chains, it effortlessly carries more than 100kg of fill weight per metre on a 138m travel



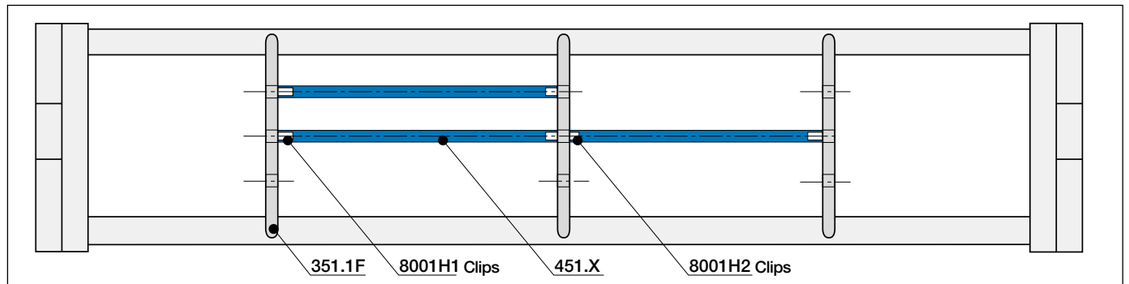
Steel mounting brackets

Mounting brackets for series E4.350 according to your requirements.
Steel or stainless steel available. (Material: stainless steel 1.4301)

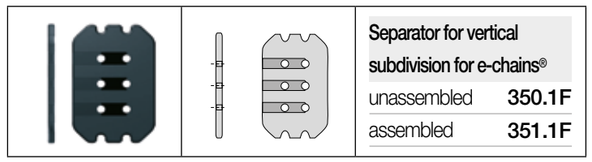




Robust steel mounting bracket for secure fixation and connection



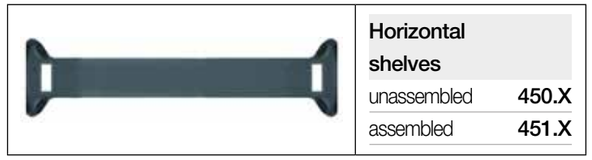
No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-chain® link!



Separator for vertical subdivision for e-chains®	
unassembled	**350.1F**
assembled	**351.1F**

Separator for vertical subdivision

For a vertical separation with 450.X



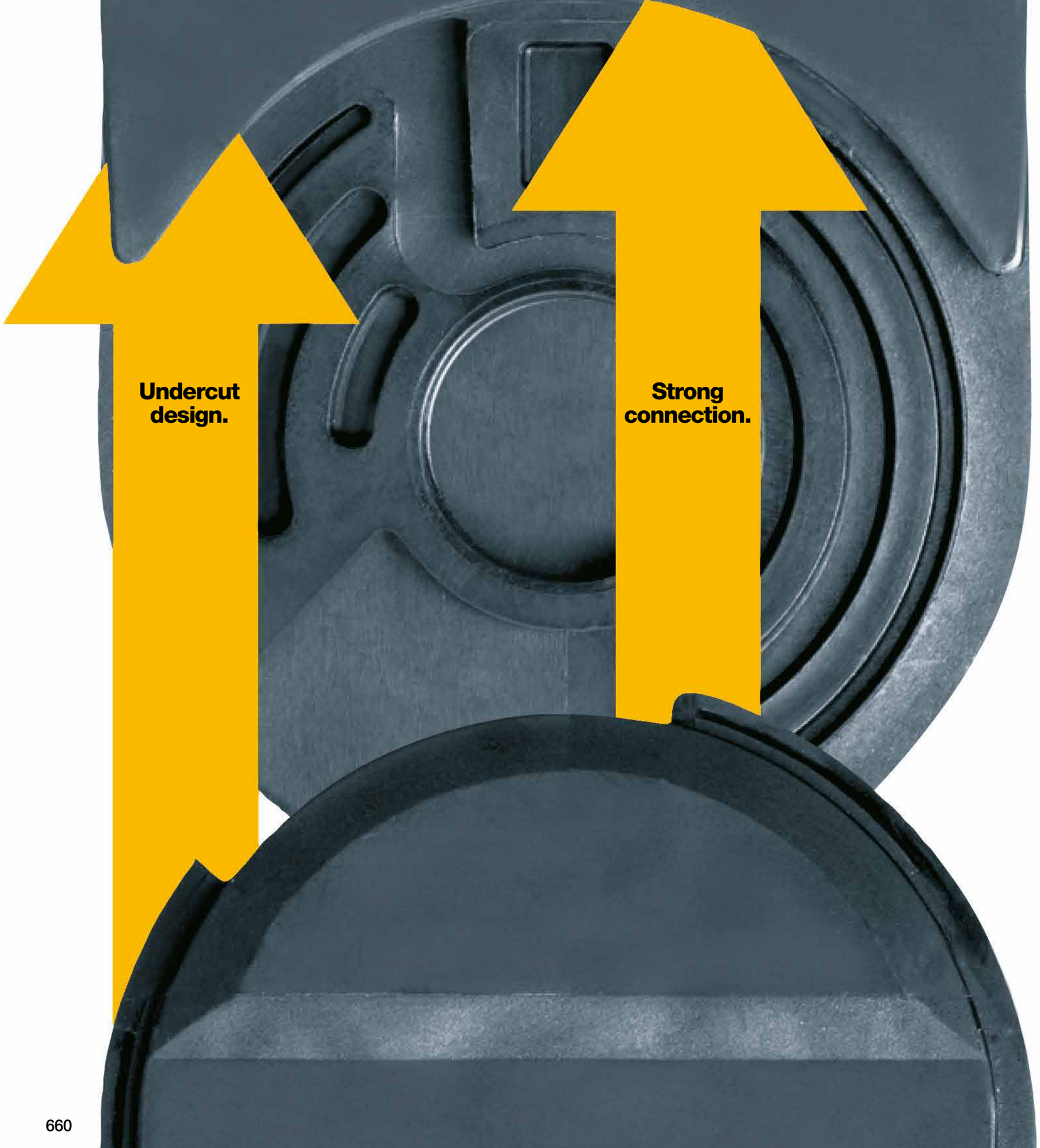
Horizontal shelves	
unassembled	**450.X**
assembled	**451.X**

Horizontal shelves

For horizontal separation with clips separators for vertical subdivision. Horizontal shelves of various widths can be fitted at 3 different heights.

Horizontal shelves
Width = X [mm]

X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
50	**450.050**	**451.050**	225	**450.220**	**451.220**	412	**450.410**	**451.410**
55	**450.055**	**451.055**	237	**450.230**	**451.230**	425	**450.420**	**451.420**
65	**450.060**	**451.060**	250	**450.250**	**451.250**	437	**450.430**	**451.430**
75	**450.070**	**451.070**	262	**450.260**	**451.260**	450	**450.450**	**451.450**
87	**450.080**	**451.080**	275	**450.270**	**451.270**	462	**450.460**	**451.460**
100	**450.100**	**451.100**	287	**450.280**	**451.280**	475	**450.470**	**451.470**
112	**450.110**	**451.110**	300	**450.300**	**451.300**	487	**450.480**	**451.480**
125	**450.120**	**451.120**	312	**450.310**	**451.310**	500	**450.500**	**451.500**
137	**450.130**	**451.130**	325	**450.320**	**451.320**	512	**450.510**	**451.510**
150	**450.150**	**451.150**	337	**450.330**	**451.330**	525	**450.520**	**451.520**
162	**450.160**	**451.160**	350	**450.350**	**451.350**	537	**450.530**	**451.530**
175	**450.170**	**451.170**	362	**450.360**	**451.360**	550	**450.550**	**451.550**
187	**450.180**	**451.180**	375	**450.370**	**451.370**	600	**450.600**	**451.600**
200	**450.200**	**451.200**	387	**450.380**	**451.380**			
212	**450.210**	**451.210**	400	**450.400**	**451.400**			



E4/light

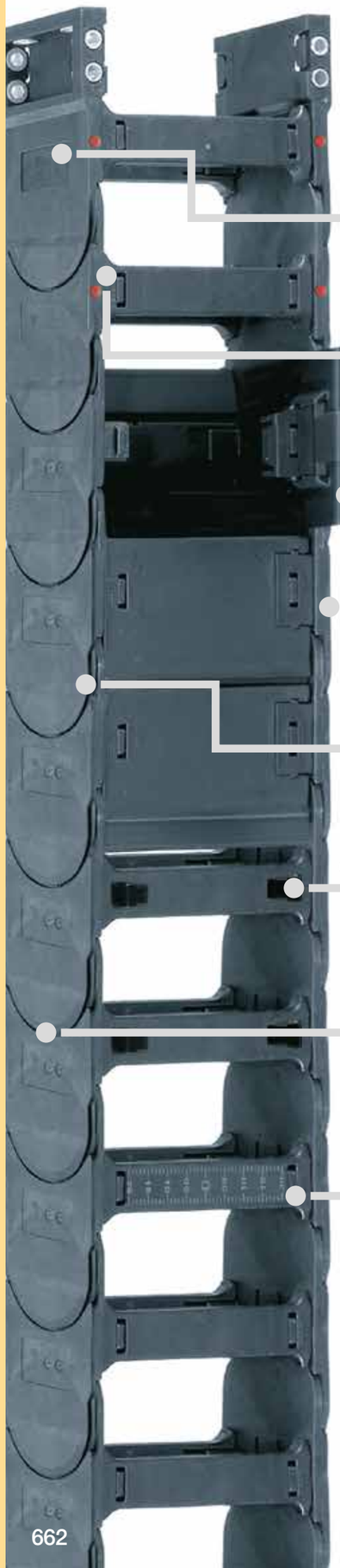
Large, light and strong

Advantages of the E4/light system:

- Large inner heights combined with low weight
- E4/light e-chains® offer optimum price and performance solutions for many applications
- Especially suitable for short travel distances, hanging and standing designs

When to use another e-chain® series:

- When the e-chain® needs to be extremely quiet with very low vibration
  ► **E6.1, page 750**
- When the e-chain® is to be used in cleanrooms
  ► **E6.1, page 750**
- If large unsupported lengths are required for side-mounted applications
  ► **E4.1, page 566**
- When longer unsupported lengths and longer travels are required
  ► **E4.1, page 566**
- When the current standard up to 64mm is preferred
  ► **E4.1L, page 524**



Attachment from any side: with KMA mounting brackets

Quiet operation: optional noise dampers

Swarf protection: openable lids

Long service life: lateral gliding surfaces

High strength: due to undercut design

25% faster: easy assembly with QuickLock crossbars

Quiet operation: due to integrated brake

Precise separation: notch crossbar with visual scale

Large, light and strong - E4/light system

Weight reduction, a larger interior space and a reduced price. The characteristics of the E4/light system: thinner side links (for all types) and a thinner crossbar (for some types: 14240, 14340). E4/light e-chains® represent solutions with an optimum price/performance ratio for many applications. Especially for short travels, hanging and small standing applications. E4/light types are often first choice.

Typical industries and applications

● Machine tools ● Material handling equipment ● Stone-cutting machines ● Woodworking machines ● Vehicles ● Construction machinery ● Limited application for long travel distances ● General mechanical engineering etc.

Electrically conductive ESD e-chains® - several series available from stock

Side-mounted - unsupported

High torsional rigidity

More information ▶ www.igus.eu/E4light

Series	Inner height *hi* [mm]	Inner width *Bi* [mm]	Outer width *Ba* [mm]	Outer height *ha* [mm]	Bend radius *R* [mm]	Unsupported length ≤ [m]	Page
 **e-chains® with crossbars every link** e-chains® for particularly demanding applications							
14040	56	50 - 600	76 - 626	84	135 - 500	4.0	**668**
14240	62	50 - 400	76 - 426	84	135 - 500	4.0	**678**
14550	70	50 - 600	77 - 627	98	150 - 600	4.2	**686**
15050	80	50 - 600	80 - 630	108	150 - 600	4.6	**694**
15250	86	50 - 400	80 - 430	108	150 - 600	4.6	**704**
1640	112	50 - 600	84 - 634	140	200 - 600	4.5	**712**
 **e-chains® with crossbars every 2nd link** e-chains® for almost any application - standard							
14140	56	50 - 600	76 - 626	84	135 - 500	4.0	**668**
14340	62	50 - 400	76 - 426	84	135 - 500	4.0	**678**
14650	70	50 - 600	77 - 627	98	150 - 600	4.2	**686**
15150	80	50 - 600	80 - 630	108	150 - 600	4.6	**694**
15350	86	50 - 400	80 430	108	150 - 600	4.6	**704**
 **e-tubes** fully enclosed, excellent cable protection							
R18840	56	75 - 462	101 - 489	84	150 - 500	4.0	**668**
R19050	70	75 - 462	102 - 489	98	200 - 600	4.2	**686**
R19850	80	75 - 462	105 - 493	108	200 - 500	4.6	**694**
R1608	108	200 - 500	234 - 534	140	250 - 600	4.5	**712**

Available from stock. Ready to ship in 24 - 48 hrs.*

*The delivery times indicated correspond to the average time until the ordered goods are dispatched.

3D CAD, service life calculation, configurators and more ▶ www.igus.eu/E4light



E4/light undercut design, for high stability and strength



E4/light - high strength even for side-mounted applications



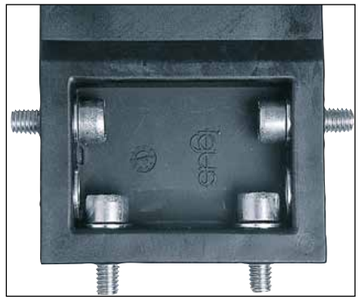
Crossbars openable on both sides



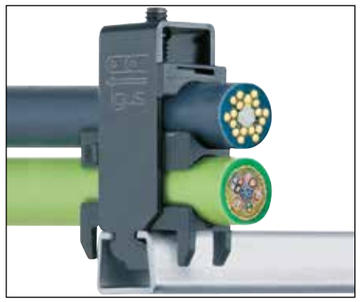
Flexible extender crossbar range - e-chain® extender for enlarging the interior, large range of widths possible



The extension link design allows virtually unlimited side-by-side extension



KMA mounting brackets with attachment options from any side



Strain relief e.g. clamps, tiewrap plates, nuggets, etc. ▶ **From page 1300**

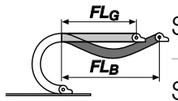


Aluminium"SuperTrough" - the standard igus® guide trough ▶ **From page 1208**



Support tray kit - for support of the lower run ▶ **From page 1264**

Technical data



Speed gliding / acceleration gliding	≤ 5 [m/s] / ≤ 50 [m/s²]
Speed FL_G / acceleration FL_G	≤ 20 [m/s] / ≤ 200 [m/s²]
Speed FL_B / acceleration FL_B	≤ 3 [m/s] / ≤ 6 [m/s²]
Material - permitted temperature °C, igumid G	-40°C / +120°C
Flammability class, igumid G	VDE 0304 IIC UL94-HB

FL_G = unsupported with straight upper run FL_B = unsupported with permitted sag

Installation types, maximum travels

Series	Unsupported	Gliding	Vertical hanging	Vertical standing	Side mounted unsupported	Rotary	Zig-zag	Unsupported length lower run
14040/14140/ R18840	≤ 8.0m	≤ 150m	≤ 80m	≤ 6.0m	≤ 2.0m	with rework	upon request	upon request
14240/14340	≤ 8.0m	≤ 150m	≤ 80m	≤ 6.0m	≤ 2.0m	with rework	upon request	upon request
14550/14650/ R19050	≤ 8.4m	≤ 250m	≤ 90m	≤ 6.0m	≤ 2.0m	with rework	upon request	upon request
15050/15150/ R19850	≤ 9.2m	≤ 250m	≤ 100m	≤ 6.0m	≤ 2.0m	with rework	upon request	upon request
15250/15350	≤ 9.2m	≤ 250m	≤ 100m	≤ 6.0m	≤ 2.0m	with rework	upon request	upon request
1640/R1608	≤ 9.0m	≤ 400m	≤ 100m	≤ 5.0m	≤ 2.0m	with rework	upon request	upon request

Options with order keys | Examples based on series 14040/14140/18840

Standard

Quick opening crossbar - reduce assembly time by up to 25%

Part No. Standard	QuickLock crossbar along the inner radius	QuickLock crossbar along the outer radius	QuickLock crossbar on both sides
14040.30.*R*.0 e-chain® with crossbars every link	14040.30QZ.*R*.0 e-chain® with crossbars every link	14040.30QE.*R*.0 e-chain® with crossbars every link	14040.30Q.*R*.0 e-chain® with crossbars every link
14140.30.*R*.0 e-chain® with crossbars every 2nd link	14140.30QZ.*R*.0 e-chain® with crossbars every 2nd link	14140.30QE.*R*.0 e-chain® with crossbars every 2nd link	14140.30Q.*R*.0 e-chain® with crossbars every 2nd link
18840.30.*R*.0 e-tube, closed			
Ready to ship* in 24 - 48 hrs.	Delivery time* 3-5 business days	Delivery time* 3-5 business days	Delivery time* 3-5 business days

*The delivery times indicated correspond to the average time until the ordered goods are dispatched.

NC version - (No Camber) without pretension

Reverse Bend Radius (RBR) for circular movements

Unsupported lengths +25% possible

No burning-in of hot swarf up to +850°C (1562°F)

ESD - electrically conductive material

Part No. NC-Version	Part No. *RBR*	Part No. XXL material[2]	Part No. igumid HT	Part No. igumid ESD
14040.30.*R*.0.NC e-chain® with crossbars every link	14040.30.*R1/R*2.0 e-chain® with crossbars every link	14040.30.*R*.0.XXL e-chain® with crossbars every link	18840.30.*R*.0.HT[3] Complete e-tube	14040.30.*R*.0.ESD e-chain® with crossbars every link
14140.30.*R*.0.NC e-chain® with crossbars every 2nd link	14140.30.*R1/R*2.0 e-chain® with crossbars every 2nd link	14140.30.*R*.0.XXL e-chain® with crossbars every 2nd link	18840.30HT.*R*.0 all lids	14140.30.*R*.0.ESD e-chain® with crossbars every 2nd link
18840.30.*R*.0.NC e-tube, closed	*RBR* for e-tubes - please consult igus®	18840.30.*R*.0.XXL e-tube, closed	18840.30HTZ.*R*.0 outer radius lid only	18840.30.*R*.0.ESD e-tube, closed
			18840.30HTE.*R*.0 inner radius lid only	
Delivery time* 2-5 business days	Delivery time*[1] 5-10 business days	Delivery time* 5 business days	Delivery time* 7-10 business days	Delivery time* several series from stock

*The delivery times indicated correspond to the average time until the ordered goods are dispatched.

1) 2-5 business days with express surcharge 2) Side-bands made from XXL material 3) Available upon request. Delivery time upon request

Order example | Examples based on series 14040

Order example for complete e-chain® (3.0m), colour black, with mounting brackets and interior separation:

e-chain® (3.0m)	Please indicate e-chain® length or number of links: 3.0m or 33 links	14040.30.300.0
+ Mounting brackets	1 set (with integrated C-profiles)	140400.30.12.C
Interior separation	with 2 separators assembled every 2nd link	2 x 56.1.1
Order text:		**3 m 140400.30.300.0 + 141400.30.12.C + 2 x 56.1.1**

Order key and colour examples | Examples based on series 14040/14140/18840

Order key

e-chain® with crossbars every link 14040.30.300.0
e-chain® with crossbars every 2nd link 14140.30.300.0
e-tube fully enclosed 18840.30.300.0

- Series / Type
- Width index (depends on *B*)
- Bend radius *R*
- Colour index (standard black)

Order index for colour options

Colour	Order index		Colour	Order index	
Black	Standard	.0	Orange	Special colour	.2
Silver-grey	Special colour	.31	Yellow	Special colour	.4
White	Special colour	.1	Light grey	Special colour	.14
Grey-white	Special colour	.1S			

Black e-chains® available from stock.

Above special colours upon request.

E4/light | 14040·14140·R18840 | Product range

56 56

"Light" design, large inner height



e-chains® | Series 14040 | Crossbars every link (crossbars removable along the inner and outer radius)
Standard **e-chains® | Series 14140 | Crossbars every 2nd link** (crossbars removable along the inner and outer radius)
e-tubes | Series R18840 | Fully enclosed (lids openable along the outer radius, from one side)

Part No. e-chains® / e-tubes	Bi [mm]	Ba [mm]	14040 [kg/m]	14140 [kg/m]	18840 [kg/m]
14040. 14140. – 05. R.0	50	76	≈ 2.47	≈ 2.48	–
14040. 14140. – 055.R.0	55	81	≈ 2.57	≈ 2.50	–
14040. 14140. – 06. R.0	65	91	≈ 2.66	≈ 2.51	–
14040. 14140. 18840.[1] 07. R.0	75	101	≈ 2.75	≈ 2.25	≈ 3.20
14040. 14140. – 08. R.0	87	113	≈ 2.84	≈ 2.44	–
14040. 14140. 18840. 10. R.0	100	126	≈ 2.93	≈ 2.61	≈ 3.49
14040. 14140. – 11. R.0	112	139	≈ 3.06	≈ 2.67	–
14040. 14140. 18840. 12. R.0	125	151	≈ 3.12	≈ 2.71	≈ 3.85
14040. 14140. – 13. R.0	137	164	≈ 3.26	≈ 2.77	–
14040. 14140. 18840. 15. R.0	150	176	≈ 3.32	≈ 2.81	≈ 4.28
14040. 14140. – 16. R.0	162	189	≈ 3.43	≈ 2.86	–
14040. 14140. – 169.R.0	196	196	≈ 3.51	≈ 2.90	–
14040. 14140. 18840. 17. R.0	175	201	≈ 3.54	≈ 2.92	≈ 4.54
14040. 14140. – 182.R.0	182	209	≈ 3.58	≈ 2.94	–
14040. 14140. – 18. R.0	187	214	≈ 3.65	≈ 2.97	–
14040. 14140. 18840. 20. R.0	200	226	≈ 3.67	≈ 2.98	≈ 4.85
14040. 14140. – 207.R.0	207	234	≈ 3.73	≈ 3.01	–
14040. 14140. – 21. R.0	212	239	≈ 3.78	≈ 3.04	–
14040. 14140. – 22. R.0	225	251	≈ 3.85	≈ 3.07	–
14040. 14140. – 23. R.0	237	264	≈ 3.98	≈ 3.14	–
14040. 14140. 18840. 25. R.0	250	276	≈ 4.07	≈ 3.18	≈ 5.58
14040. 14140. – 26. R.0	262	289	≈ 4.16	≈ 3.22	–
14040. 14140. 18840. 27. R.0	275	301	≈ 4.27	≈ 3.28	≈ 5.85
14040. 14140. – 28. R.0	287	314	≈ 4.29	≈ 3.29	–
14040. 14140. 18840. 30. R.0	300	326	≈ 4.51	≈ 3.40	≈ 6.24
14040. 14140. – 31. R.0	312	339	≈ 4.57	≈ 3.42	–
14040. 14140. – 32. R.0	325	351	≈ 4.60	≈ 3.44	–
14040. 14140. – 33. R.0	337	364	≈ 4.77	≈ 3.53	–
14040. 14140. 18840. 35. R.0	350	376	≈ 4.93	≈ 3.61	≈ 6.99
14040. 14140. – 36. R.0	362	389	≈ 4.94	≈ 3.61	–
14040. 14140. – 37. R.0	375	401	≈ 4.95	≈ 3.62	–
14040. 14140. – 38. R.0	387	414	≈ 5.04	≈ 3.66	–
14040. 14140. 18840. 40. R.0	400	426	≈ 5.24	≈ 3.76	≈ 7.94
14040. 14140. – 41. R.0	412	439	≈ 5.39	≈ 3.84	–
14040. 14140. – 42. R.0	425	451	≈ 5.54	≈ 3.92	–
14040. 14140. – 43. R.0	437	464	≈ 5.61	≈ 3.95	–
14040. 14140. – 45. R.0	450	476	≈ 5.68	≈ 3.98	–
14040. 14140. 18840. 46. R.0	462	489	≈ 5.70	≈ 3.99	≈ 8.40
14040. 14140. – 47. R.0	475	501	≈ 5.83	≈ 4.06	–
14040. 14140. – 48. R.0	487	514	≈ 5.86	≈ 4.08	–
14040. 14140. – 50. R.0	500	526	≈ 5.96	≈ 4.13	–
14040. 14140. – 51. R.0	512	539	≈ 5.98	≈ 4.14	–
14040. 14140. – 52. R.0	525	551	≈ 6.03	≈ 4.16	–
14040. 14140. – 53. R.0	537	564	≈ 6.18	≈ 4.24	–
14040. 14140. – 55. R.0	550	576	≈ 6.67	≈ 4.48	–
14040. 14140. – 60. R.0	600	626	≈ 6.98	≈ 4.58	–

1) Lid removable, non-openable *Radius not available for e-tubes

Available bend radii

R [mm] | 135* | 150 | 175 | 200 | 250 | 300 | 400 | 500 |

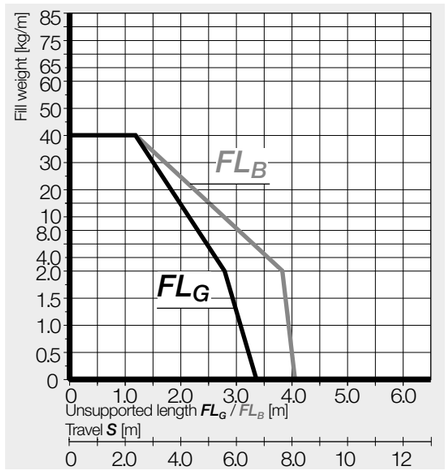
Complete Part No. with required radius (R). Example:

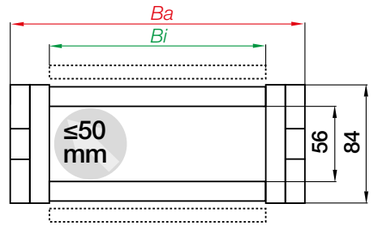
14040.30.300.0 = crossbars every link / 14140.30.300.0 = crossbars every 2nd link / 18840.30.300.0 = fully enclosed

14040·14140·R18840 | Installation dimensions

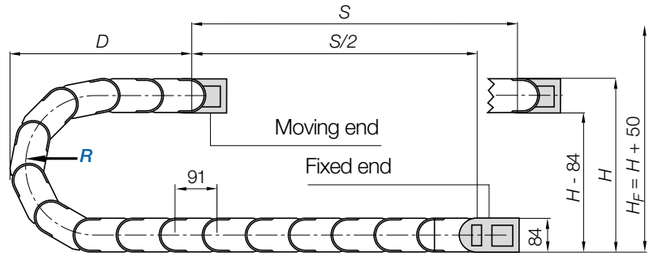
▶ 1300 ▶ 1230

Unsupported applications | Short travels





Inner height [mm]	56
Pitch [mm/link]	91
Links/m	11
corresponds to [mm]	1,001
e-chain® length	$L_K = S/2 + K$

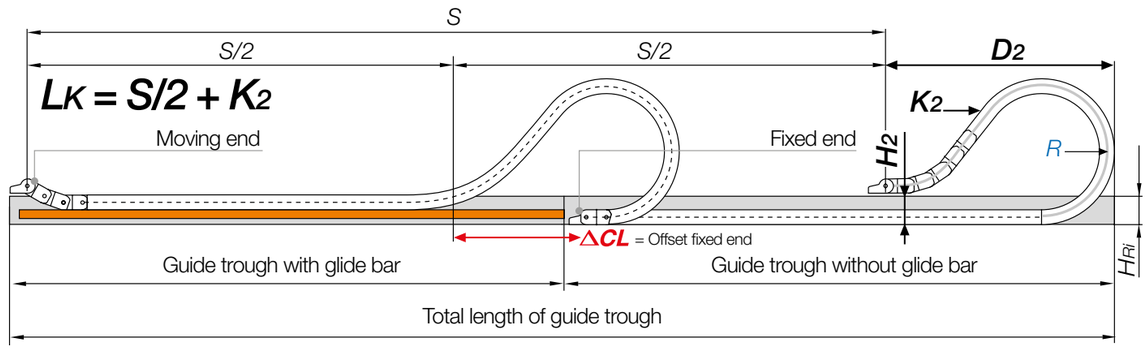


R	135*	150	175	200	250	300	400	500
H^{0}_{+25}	354	384	434	484	584	684	884	1,084
D	314	329	354	379	429	479	579	679
K	610	655	735	815	970	1,125	1,440	1,755

The required clearance height: $H_F = H + 50$mm (with 2.0kg/m fill weight)

*Radius not available for e-tubes

Gliding applications | For long travels from 12m to max. 150m



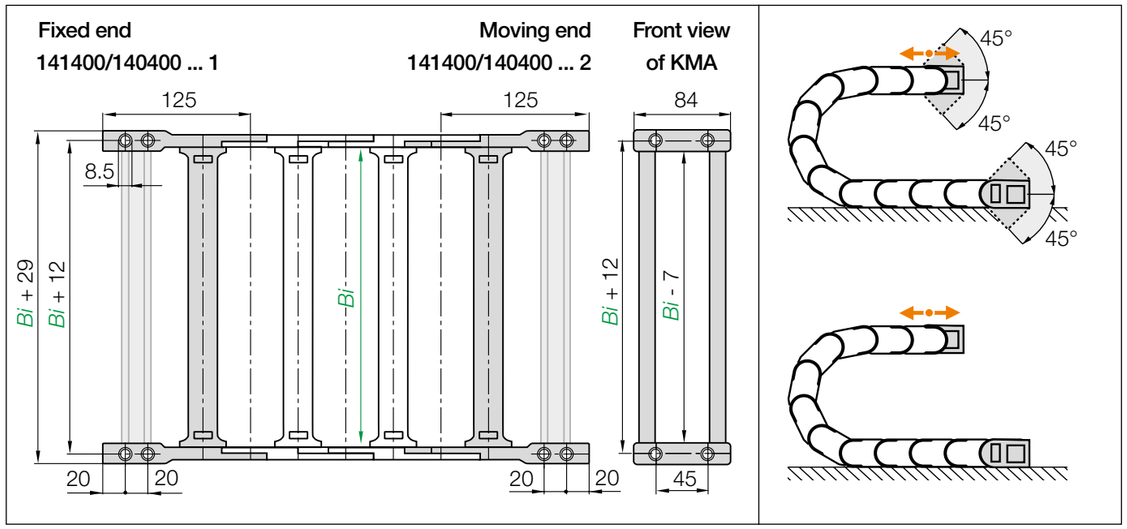
Note: We recommend the project planning of such a system to be carried out by igus®.
In case of travels between 8 and 12m we recommend an e-chain® with a longer unsupported length.

R	135*	150	175	200	250	300	400	500
H_2	266	266	266	266	266	266	266	266
D_2^{+25}	390	450	530	710	920	1,120	1,530	1,830
K_2	728	819	1,001	1,274	1,638	1,911	2,548	3,185
ΔCL	124	159	209	359	509	659	959	1,159

*Radius not available for e-tubes

E4/light | **e-chains®** 14040·14140 | Accessories

KMA mounting brackets | Attachment from any side | Pivoting | Locking



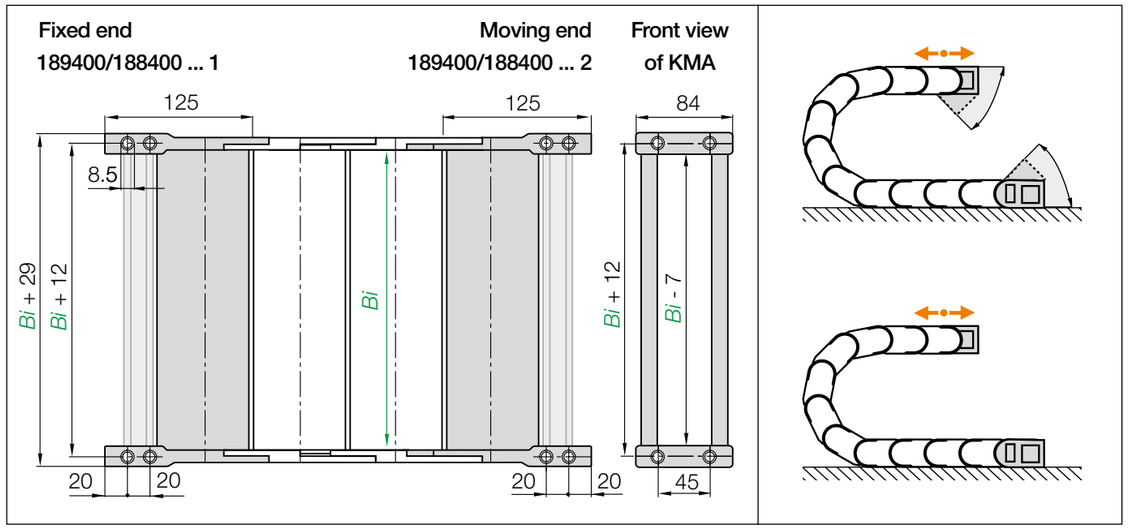
Standard KMA pivoting | Recommended for unsupported and gliding applications
KMA locking | Recommended for vertical hanging and standing applications

Width index	Part No. full set **KMA pivoting**	Part No. full set **KMA locking**	*Bi* [mm]	Width index	Part No. full set **KMA pivoting**	Part No. full set **KMA locking**	*Bi* [mm]
05. ▶	141400. 05 .12.C	140400. 05 .12.C	50	28. ▶	141400. 28 .12.C	140400. 28 .12.C	287
055. ▶	141400. 055 .12.C	140400. 055 .12.C	55	30. ▶	141400. 30 .12.C	140400. 30 .12.C	300
06. ▶	141400. 06 .12.C	140400. 06 .12.C	65	31. ▶	141400. 31 .12.C	140400. 31 .12.C	312
07. ▶	141400. 07 .12.C	140400. 07 .12.C	75	32. ▶	141400. 32 .12.C	140400. 32 .12.C	325
08. ▶	141400. 08 .12.C	140400. 08 .12.C	87	33. ▶	141400. 33 .12.C	140400. 33 .12.C	337
10. ▶	141400. 10 .12.C	140400. 10 .12.C	100	35. ▶	141400. 35 .12.C	140400. 35 .12.C	350
11. ▶	141400. 11 .12.C	140400. 11 .12.C	112	36. ▶	141400. 36 .12.C	140400. 36 .12.C	362
12. ▶	141400. 12 .12.C	140400. 12 .12.C	125	37. ▶	141400. 37 .12.C	140400. 37 .12.C	375
13. ▶	141400. 13 .12.C	140400. 13 .12.C	137	38. ▶	141400. 38 .12.C	140400. 38 .12.C	387
15. ▶	141400. 15 .12.C	140400. 15 .12.C	150	40. ▶	141400. 40 .12.C	140400. 40 .12.C	400
16. ▶	141400. 16 .12.C	140400. 16 .12.C	162	41. ▶	141400. 41 .12.C	140400. 41 .12.C	412
169. ▶	141400. 169 .12.C	140400. 169 .12.C	169	42. ▶	141400. 42 .12.C	140400. 42 .12.C	425
17. ▶	141400. 17 .12.C	140400. 17 .12.C	175	43. ▶	141400. 43 .12.C	140400. 43 .12.C	437
182. ▶	141400. 182 .12.C	140400. 182 .12.C	182	45. ▶	141400. 45 .12.C	140400. 45 .12.C	450
18. ▶	141400. 18 .12.C	140400. 18 .12.C	187	46. ▶	141400. 46 .12.C	140400. 46 .12.C	462
20. ▶	141400. 20 .12.C	140400. 20 .12.C	200	47. ▶	141400. 47 .12.C	140400. 47 .12.C	475
207. ▶	141400. 207 .12.C	140400. 207 .12.C	207	48. ▶	141400. 48 .12.C	140400. 48 .12.C	487
21. ▶	141400. 21 .12.C	140400. 21 .12.C	212	50. ▶	141400. 50 .12.C	140400. 50 .12.C	500
22. ▶	141400. 22 .12.C	140400. 22 .12.C	225	51. ▶	141400. 51 .12.C	140400. 51 .12.C	512
23. ▶	141400. 23 .12.C	140400. 23 .12.C	237	52. ▶	141400. 52 .12.C	140400. 52 .12.C	525
25. ▶	141400. 25 .12.C	140400. 25 .12.C	250	53. ▶	141400. 53 .12.C	140400. 53 .12.C	537
26. ▶	141400. 26 .12.C	140400. 26 .12.C	262	55. ▶	141400. 55 .12.C	140400. 55 .12.C	550
27. ▶	141400. 27 .12.C	140400. 27 .12.C	275	60. ▶	141400. 60 .12.C	140400. 60 .12.C	600

(KMA = polymer metal mounting bracket) For the C-profile option please add index **.C**

E4/light | **e-tubes** R18840 | Accessories

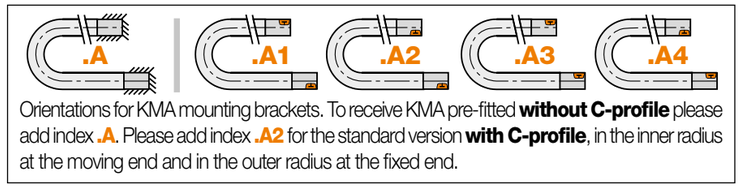
KMA mounting brackets | Attachment from any side | Pivoting | Locking



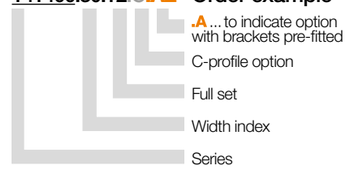
Standard KMA pivoting | Recommended for unsupported and gliding applications
KMA locking | Recommended for vertical hanging and standing applications

Width index	Part No. full set **KMA pivoting**	Part No. full set **KMA locking**	*Bi* [mm]	Width index	Part No. full set **KMA pivoting**	Part No. full set **KMA locking**	*Bi* [mm]
07. ▶	189400. 07 .12.C	188400. 07 .12.C	75	25. ▶	189400. 25 .12.C	188400. 25 .12.C	250
10. ▶	189400. 10 .12.C	188400. 10 .12.C	100	27. ▶	189400. 27 .12.C	188400. 27 .12.C	275
12. ▶	189400. 12 .12.C	188400. 12 .12.C	125	30. ▶	189400. 30 .12.C	188400. 30 .12.C	300
15. ▶	189400. 15 .12.C	188400. 15 .12.C	150	35. ▶	189400. 35 .12.C	188400. 35 .12.C	350
17. ▶	189400. 17 .12.C	188400. 17 .12.C	175	40. ▶	189400. 40 .12.C	188400. 40 .12.C	400
20. ▶	189400. 20 .12.C	188400. 20 .12.C	200	46. ▶	189400. 46 .12.C	188400. 46 .12.C	462

(KMA = polymer metal mounting bracket) For the C-profile option please add index **.C**



Orientations for KMA mounting brackets. To receive KMA pre-fitted **without C-profile** please add index **.A**. Please add index **.A2** for the standard version **with C-profile**, in the inner radius at the moving end and in the outer radius at the fixed end.

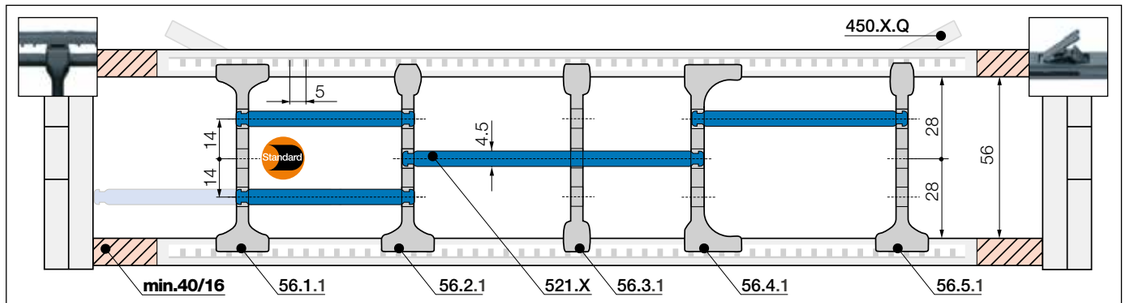


Strain relief **e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with ordering options ▶ From page 1300**

E4/light | Series 14040·14140·R18840 | Accessories

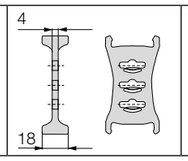
Interior separation | Increase cable service life

Previous generation of interior separation with other options ▶ **www.igus.eu/14040**



Note: Please be aware of the minimum lateral gap to the side links! **e-tube: 40mm** | **e-chain®: 16mm**
As standard separators are fitted every 2nd e-chain® link!



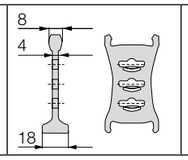


Standard separator, wide base	
unassembled	**56.1**
assembled	**56.1.1**

Standard - for any application

Separator with a wide base for maximum holding force in the e-chain®.



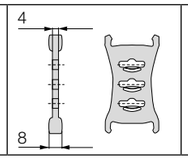


Separator for QuickLock crossbar	
unassembled	**56.2**
assembled	**56.2.1**

For even faster installation

Separator for igus® QuickLock crossbar **450.X.Q**. Wide on one side for high holding force, narrow on opposite side for easy cable fitting.



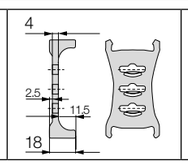


Separator, narrow	
unassembled	**56.3**
assembled	**56.3.1**

For small cables

Separator with a narrow base for a large number of small cables side by side. Saves space in the e-chain®. Also available for QuickLock crossbars.



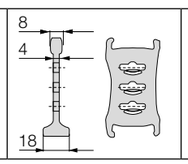


Separator, asymmetrical	
unassembled	**56.4**
assembled	**56.4.1**

For side-mounted applications

Asymmetrical separator, for defined gap distance. No additional spacers required.

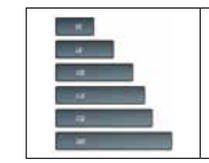


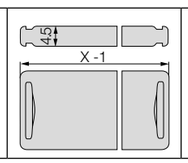


Notch separator for notched crossbar	
unassembled	**56.5**
assembled	**56.5.1**

Locks securely in preset increments

Notch separator for exact positioning in e-chains®. Recommended for side-mounted applications.





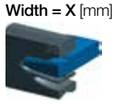
Shelf, lockable	
unassembled	**520.X**
assembled	**521.X**

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Shelves

Width = X [mm]

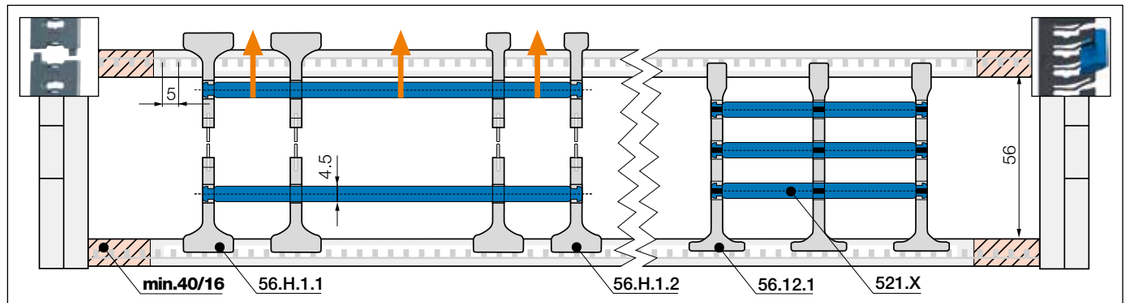


X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
050	**520.050**	**521.050**	150	**520.150**	**521.150**	300	**520.300**	**521.300**
065	**520.065**	**521.065**	175	**520.175**	**521.175**	350	**520.350**	**521.350**
075	**520.075**	**521.075**	200	**520.200**	**521.200**	375	**520.375**	**520.375**
100	**520.100**	**521.100**	225	**520.225**	**521.225**	387	**520.387**	**520.387**
125	**520.125**	**521.125**	250	**520.250**	**521.250**	450	**520.450**	**521.450**

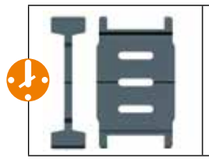
14040
14140
R18840

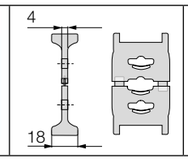
E4/light | Series 14040·14140·R18840 | Accessories

Interior separation | To allow faster filling

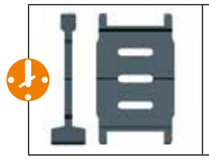


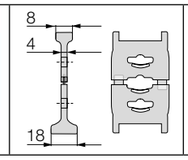
Note: Please be aware of the minimum lateral gap to the side links! **e-tube: 40mm** | **e-chain®: 16mm**
As standard separators are fitted every 2nd e-chain® link!





Split separator, wide base/top	
unassembled	**56.H.1**
assembled	**56.H.1.1**

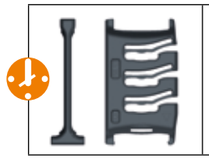


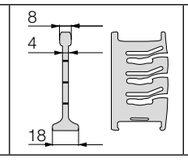


Split separator, narrow top	
unassembled	**56.H.2**
assembled	**56.H.2.1**

Split separators

In order to fill e-chains® more easily and effectively, these separators can be split in the middle. This allows easier access to middle shelf partitions. Fast assembly and easy retrofit. 2 types available: with wide or narrow top.





Lean separator	
unassembled	**56.12**
assembled	**56.12.1**

Lean separators New

New design allows extremely fast fitting of shelves in several layers, which significantly reduces assembly time. Enables extremely fast replacement of individual cables in a very full e-chain®.

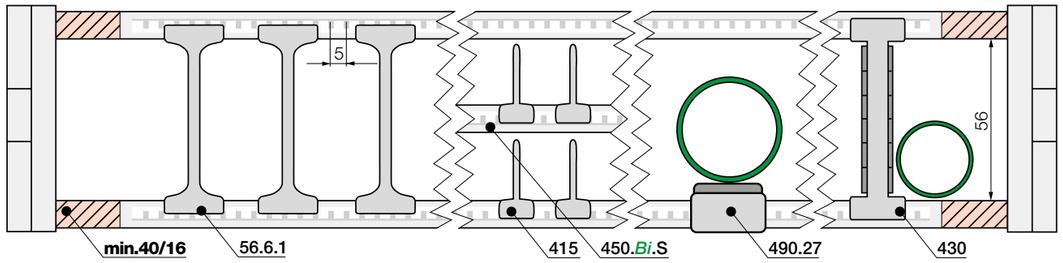
Lean separator design - several layers of cables fitted quickly, save up to 50%* assembly time

(*Lean separator vs. standard separator - measured on a 4m long e-chain® fitted with 12 cables in the igus® readychain® factory)



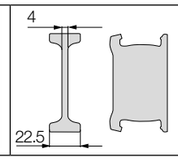
E4/light | Series 14040·14140·R18840 | Accessories

More interior separation options



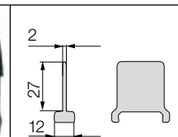
Note: Please be aware of the minimum lateral gap to the side links! **e-tube: 40mm** | **e-chain®: 16mm**
As standard separators are fitted every 2nd e-chain® link!





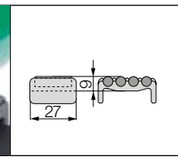
Notch locking separator	
unassembled	56.6
assembled	56.6.1





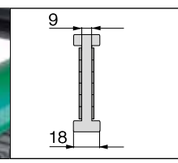
Partial height separator*	
unassembled	405
assembled	415





Rollclip for e-chains®	
unassembled	489.27
assembled	490.27





Roller separator* for e-chains®	
unassembled	429
assembled	430

Notch locking separator for increased holding force

Notch locking separators offer higher crossbar opening forces for high humidity and/or large hydraulic hoses. They can be positioned precisely and then locked in position.

Partial height separator*

In conjunction with an additional opening crossbar, **part no. 450.*Bi*.S**, it provides the option to separate the upper and lower halves of the e-chain® independently of each other.

Rollclip*

Minimises abrasion of sensitive hoses. Simply clamps onto the opening crossbar. The movable rollers compensate for relative movement between the e-chain® and hose.

Roller separator*

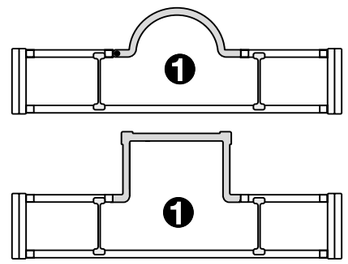
The roller separator is used in a similar way to the rollclip. It is used like a separator. For rigid cables and hoses.

*Only for e-chains®

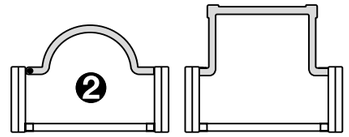
E4/light | Series 14040·14140·R18840 | Further accessories

Extender crossbar with fixed width





Round or square extender crossbar ❶ combined with openable crossbars or ❷ attached directly on the side link (as viewed from the fixed end)



Extender crossbars with fixed width | Safe guiding for large hoses

- Suitable for hoses with a maximum outer diameter of 245mm.
- Option ❶ extender crossbars with fixed width to combine with openable crossbars
- Option ❷ extender crossbars with fixed width attached directly on the side link
- Optionally openable along the inner "**Z**" or the outer radius "**E**"
- Gliding with crossbars assembled along the outer radius and a special guide trough

Part No. extender crossbar with fixed width, as individual parts	Hose Ø ≤ [mm]	Extender crossbar shape	❷ Fitted to side link	❶ Combine with openable crossbars
450.15RHD115	115	○ round	No	Yes
450.17RD115	115	○ round	Yes	No
450.25D150	150	□ square	Yes	No
450.30D200	180	□ square	Yes	No
450.35D250	195	□ square	Yes	No
450.40D300	245	□ square	Yes	No
450.20HD150	150	□ square	No	Yes
450.25HD200	180	□ square	No	Yes
450.30HD250	195	□ square	No	Yes

Order example: ❶ combined with openable crossbars

To receive extender crossbar RHD115 pre-fitted along the outer radius of the-chain®, please add index **E**: **14040.10/15RHD*E*115/10.*R*.0**

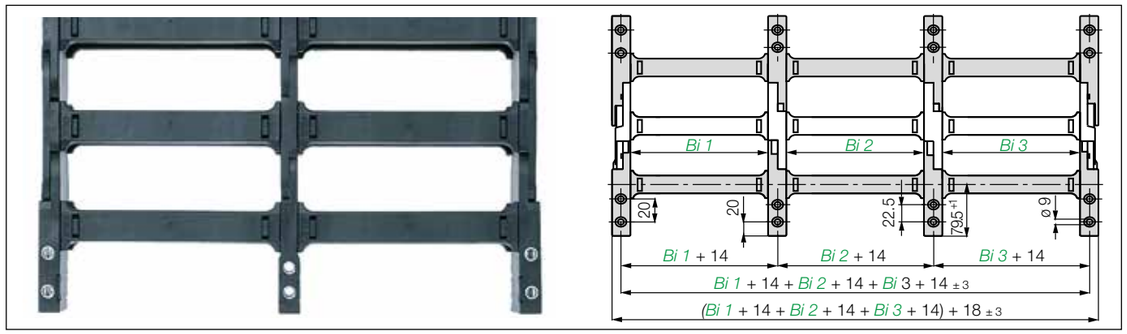
To receive extender crossbar RHD115 pre-fitted along the inner radius of the-chain®, please add index **Z**: **14040.10/15RHD*Z*115/10.*R*.0**

Order example: ❷ fitted to side link

To receive extender crossbar RD115 pre-fitted along the outer radius of the-chain®, please add index **E**: **14040.17RD*E*115.*R*.0**

To receive extender crossbar RD115 pre-fitted along the inner radius of the-chain®, please add index **Z**: **14040.17RD*Z*115.*R*.0**

Extension links



Extension links | For extremely wide e-chains® up to 3.0m

- Virtually unlimited side-by-side extension
- For extremely wide e-chains® up to 3000mm
- Unsupported length FL_G max. can be increased when heavy fill weights are required
- e-chains® and e-tubes can be combined
- Attached with KMA or steel mounting brackets

Part No. Extension link e-chain®	Part No. Extension link e-tube	Part No. Extension link as an individual part
14040.*Bi1*/*Bi2*/*Bi3*.*R*.0	R18840.*Bi1*/*Bi2*/*Bi3*.*R*.0	422.*R*.

Complete Part No.with the width index *Bi1*/*Bi2*/*Bi3*/*etc.* and the radius (*R*). Example: **14040.10/20/10.200.0**



Paint spraying robot with system E4 e-chains® in ESD version. High rates of acceleration of up to 6m/s² and high braking rates for a robot weight of approx. one ton

E4/light | Series 14040·14140·R18840 | Further accessories

14040
14140
R18840

E4 snapclip - clip-on tiewrap

- For side-mounted applications, compatible with many E4 e-chains®
- Serves as a clip-on, lateral guide for hoses and cables on e-chains®
- The loops can be adjusted as required

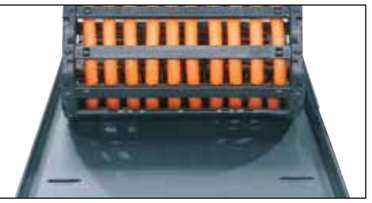
More information ▶ www.igus.eu/14040



Steel support tray for support of the lower run

- Simple one-piece support trays for the lower run
- To your requirements and specification
- 4 options available

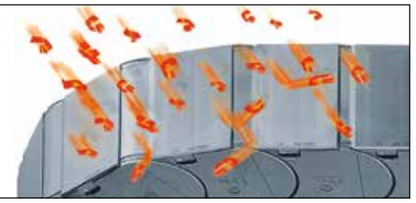
More information ▶ From page 1264



Hot swarf up to +850°C

- e-tubes to withstand 850°C hot swarf, as a special option
- No hot swarf melting or embedding into the chain
- igus® igumid HT material

More information ▶ www.igus.eu/HT



Reduce assembly time - E4 e-chain® opener

- e-chain® opener tools for easy opening and closing of e-chains®
- Simple opening and closing of e-chain® crossbars
- Also for use in hard to reach locations
- Significant assembly time reduction

More information ▶ www.igus.eu/E4savetime



Roller crossbars - increase the service life of cables and hoses

- Significantly reduce jacket abrasion of very stiff cables and hoses with rolling contact surfaces equipped with tribo-optimised bearings
- For sensitive hoses in restricted space
- Usable along the inner and/or outer radius, retrofit possible

More information ▶ www.igus.eu/roller-crossbar



E4/light | Series 14240·14340 | Product range

62

Stable due to undercut design, large inner height



e-chains® | Series 14240 | Crossbars every link (crossbars removable along the inner and outer radius)

Standard **e-chains® | Series 14340 | Crossbars every 2nd link** (crossbars removable along the inner and outer radius)

Part No. e-chains®	Bi [mm]	Ba [mm]	14240 [kg/m]	14340 [kg/m]
14240.[1] 14340. 05. R.0	50	76	≈ 2.37	≈ 2.32
14240.[1] 14340. 06. R.0	68	94	≈ 2.40	≈ 2.33
14240. 14340. 07. R.0	75	101	≈ 2.42	≈ 2.34
14240. 14340. 087.R.0	87	114	≈ 2.47	≈ 2.36
14240. 14340. 097.R.0	97	123	≈ 2.51	≈ 2.38
14240.[1] 14340. 10. R.0	100	126	≈ 2.52	≈ 2.39
14240. 14340. 11. R.0	108	134	≈ 2.55	≈ 2.40
14240. 14340. 112.R.0	112	139	≈ 2.55	≈ 2.41
14240. 14340. 12. R.0	125	151	≈ 2.62	≈ 2.44
14240. 14340. 137.R.0	137	164	≈ 2.66	≈ 2.46
14240.[1] 14340. 15. R.0	150	176	≈ 2.72	≈ 2.49
14240. 14340. 162.R.0	162	189	≈ 2.73	≈ 2.49
14240. 14340. 17. R.0	168	194	≈ 2.79	≈ 2.52
14240.[1] 14340. 18. R.0	175	201	≈ 2.82	≈ 2.53
14240. 14340. 187.R.0	187	214	≈ 2.84	≈ 2.55
14240.[1] 14340. 20. R.0	200	226	≈ 2.89	≈ 2.58

Part No. e-chains®	Bi [mm]	Ba [mm]	14240 [kg/m]	14340 [kg/m]
14240. 14340. 212.R.0	212	239	≈ 2.95	≈ 2.60
14240. 14340. 23. R.0	225	251	≈ 3.01	≈ 2.63
14240. 14340. 237.R.0	237	264	≈ 3.04	≈ 2.65
14240. 14340. 25. R.0	250	276	≈ 3.10	≈ 2.68
14240. 14340. 262.R.0	262	289	≈ 3.11	≈ 2.69
14240. 14340. 28. R.0	275	301	≈ 3.19	≈ 2.72
14240. 14340. 29. R.0	287	314	≈ 3.20	≈ 2.73
14240. 14340. 30. R.0	300	326	≈ 3.30	≈ 2.78
14240. 14340. 312 R.0	312	339	≈ 3.31	≈ 2.79
14240. 14340. 325.R.0	325	351	≈ 3.37	≈ 2.81
14240. 14340. 337.R.0	337	364	≈ 3.40	≈ 2.83
14240. 14340. 350.R.0	350	376	≈ 3.56	≈ 2.91
14240. 14340. 362 R.0	362	389	≈ 3.61	≈ 2.93
14240. 14340. 375.R.0	375	401	≈ 3.64	≈ 2.95
14240. 14340. 387.R.0	387	414	≈ 3.69	≈ 2.97
14240. 14340. 400.R.0	400	426	≈ 3.73	≈ 2.99

1) ⚠ Available as ESD version from stock

Available bend radii

R [mm] | 135 | 150 | 175 | 200 | 250 | 300 | 400 | 500 |

Complete Part No. with required radius (R). Example:

14240.20.300.0 = crossbars every link / 14340.20.300.0 = crossbars every 2nd link

ESD - many sizes from stock

- Standardised product made from igumid ESD
- ESD material tested with over 10 million cycles for the toughest requirements
- Short delivery times including mounting brackets and interior separation; 24hrs, from stock

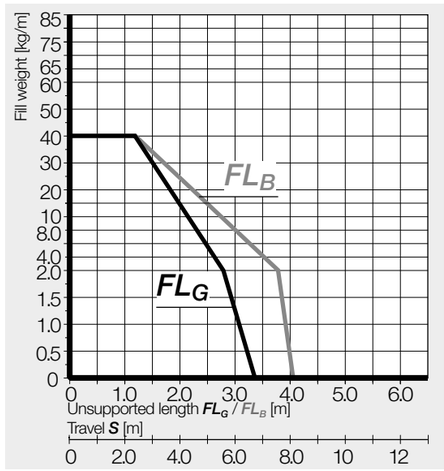
More information ▶ www.igus.eu/esd

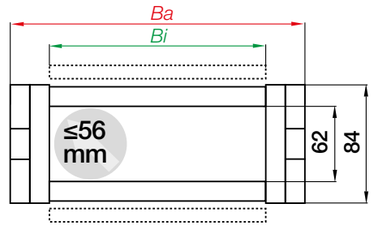


E4/light | 14240·14340 | Installation dimensions

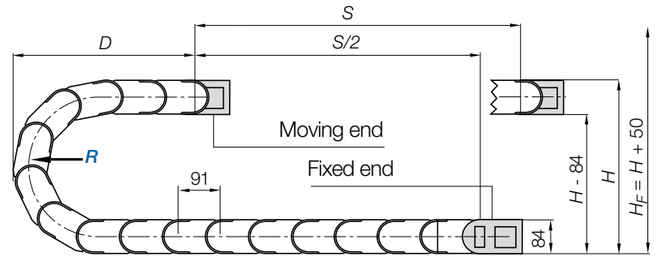
▶ 1300 ▶ 1230

Unsupported applications | Short travels





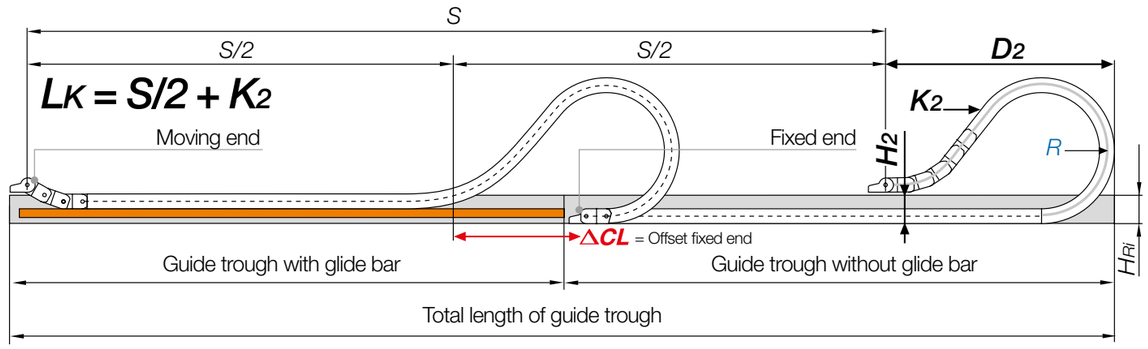
Inner height [mm]	62
Pitch [mm/link]	91
Links/m	11
corresponds to [mm]	1,001
e-chain® length	$L_K = S/2 + K$



R	135	150	175	200	250	300	400	500
H^{0}_{+25}	354	384	434	484	584	684	884	1,084
D	314	329	354	379	429	479	579	679
K	610	655	735	815	970	1,125	1,440	1,755

The required clearance height: $H_F = H + 50$mm (with 2.0kg/m fill weight)

Gliding applications | For long travels from 12m to max. 250m



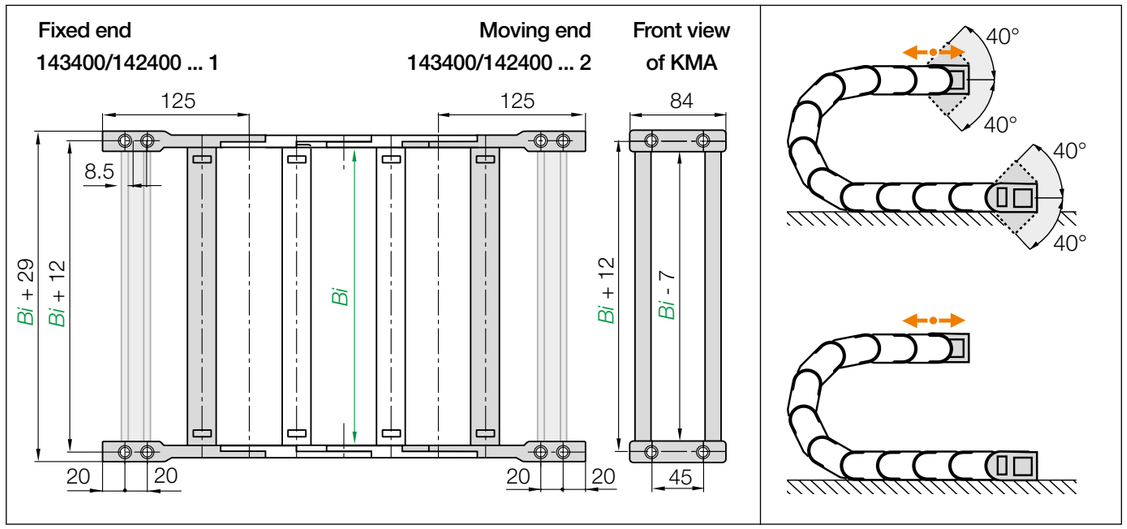
Note: We recommend the project planning of such a system to be carried out by igus®.

In case of travels between 9 and 12m we recommend an e-chain® with a longer unsupported length.

R	135	150	175	200	250	300	400	500
H_2	266	266	266	266	266	266	266	266
D_2^{+25}	390	450	550	710	920	1,120	1,530	1,850
K_2	728	819	1,001	1,274	1,638	1,911	2,548	3,185
ΔCL	124	159	209	359	509	659	959	1,159

E4/light | e-chains® 14240·14340 | Accessories

KMA mounting brackets | Attachment from any side | Pivoting | Locking



Standard **KMA pivoting** | Recommended for unsupported and gliding applications
KMA locking | Recommended for vertical hanging and standing applications

Width index	Part No. full set KMA pivoting	Part No. full set KMA locking	Bi [mm]
05. ▶	143400. 05 .12.C	142400. 05 .12.C	50
06. ▶	143400. 06 .12.C	142400. 06 .12.C	68
07. ▶	143400. 07 .12.C	142400. 07 .12.C	75
087. ▶	143400. 087 .12.C	142400. 087 .12.C	87
097. ▶	143400. 097 .12.C	142400. 097 .12.C	97
10. ▶	143400. 10 .12.C	142400. 10 .12.C	100
11. ▶	143400. 11 .12.C	142400. 11 .12.C	108
112. ▶	143400. 112 .12.C	142400. 112 .12.C	112
12. ▶	143400. 12 .12.C	142400. 12 .12.C	125
137. ▶	143400. 137 .12.C	142400. 137 .12.C	137
15. ▶	143400. 15 .12.C	142400. 15 .12.C	150
162. ▶	143400. 162 .12.C	142400. 162 .12.C	162
17. ▶	143400. 17 .12.C	142400. 17 .12.C	168
18. ▶	143400. 18 .12.C	142400. 18 .12.C	175
187. ▶	143400. 187 .12.C	142400. 187 .12.C	187
20. ▶	143400. 20 .12.C	142400. 20 .12.C	200

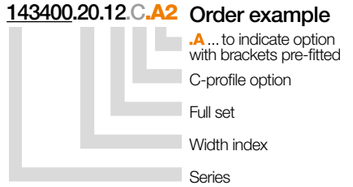
Width index	Part No. full set KMA pivoting	Part No. full set KMA locking	Bi [mm]
212. ▶	143400. 212 .12.C	142400. 212 .12.C	212
23. ▶	143400. 23 .12.C	142400. 23 .12.C	225
237. ▶	143400. 237 .12.C	142400. 237 .12.C	237
25. ▶	143400. 25 .12.C	142400. 25 .12.C	250
262. ▶	143400. 262 .12.C	142400. 262 .12.C	262
28. ▶	143400. 28 .12.C	142400. 28 .12.C	275
29. ▶	143400. 29 .12.C	142400. 29 .12.C	287
30. ▶	143400. 30 .12.C	142400. 30 .12.C	300
312 ▶	143400. 312 .12.C	142400. 312 .12.C	312
325. ▶	143400. 325 .12.C	142400. 325 .12.C	325
337. ▶	143400. 337 .12.C	142400. 337 .12.C	337
350. ▶	143400. 350 .12.C	142400. 350 .12.C	350
362 ▶	143400. 362 .12.C	142400. 362 .12.C	362
375. ▶	143400. 375 .12.C	142400. 375 .12.C	375
387. ▶	143400. 387 .12.C	142400. 387 .12.C	387
400. ▶	143400. 400 .12.C	142400. 400 .12.C	400

(KMA = polymer metal mounting bracket) For the C-profile option please add index **C**



Orientations for KMA mounting brackets. To receive KMA pre-fitted **without C-profile** please add index **.A**. Please add index **.A2** for the standard version **with C-profile**, in the inner radius at the moving end and in the outer radius at the fixed end.

143400.20.12.C.A2 **Order example**

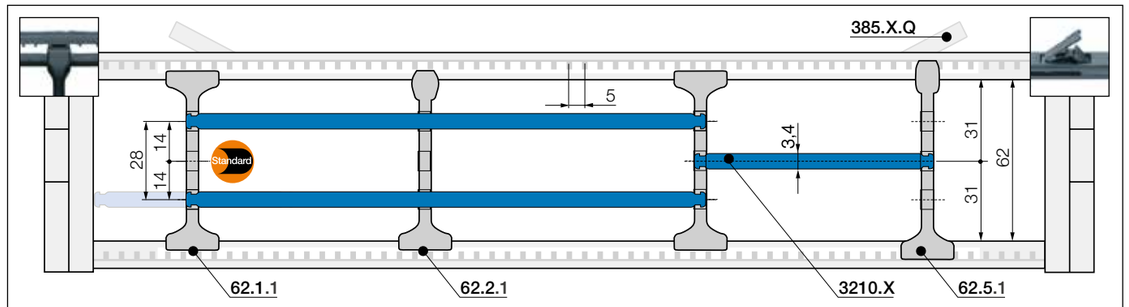


Strain relief **e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with ordering options ▶ From page 1300**

E4/light | Series 14240·14340 | Accessories

Interior separation | Increase cable service life

Previous generation of interior separation with other options ▶ **www.igus.eu/14240**



No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-chain® link!



Standard separator, wide base
unassembled **62.1**
assembled **62.1.1**

Standard - for any application

Separator with a wide base for maximum holding force in the e-chain®.



Separator for QuickLock crossbar
unassembled **62.2**
assembled **62.2.1**

For even faster installation

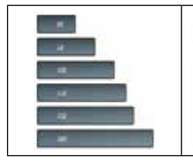
Separator for igus® QuickLock crossbar **385.X.Q**. Wide on one side for high holding force, narrow on opposite side for easy cable fitting.



Notch separator for notched crossbar
unassembled **62.5**
assembled **62.5.1**

Locks securely in preset increments

Notch separator for exact positioning in e-chains®. Recommended for side-mounted applications.

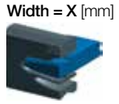


Shelf, lockable
unassembled **3200.X**
assembled **3210.X**

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

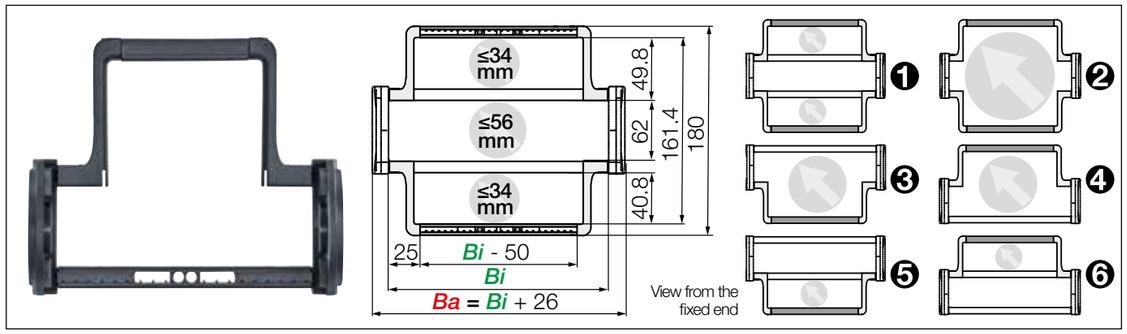
Shelves
Width = X [mm]



X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
050	**3200.050**	**3210.050**	125	**3200.125**	**3210.125**	225	**3200.225**	**3210.225**
075	**3200.075**	**3210.075**	150	**3200.150**	**3210.150**	250	**3200.250**	**3210.250**
100	**3200.100**	**3210.100**	175	**3200.175**	**3210.175**			
115	**3200.115**	**3210.115**	200	**3200.200**	**3210.200**			

E4/light | Series 14240·14340 | Further accessories

e-chain® with openable extender crossbars New



Extender crossbars with flexible width | Safe guiding for large hoses

- For guiding and protecting large hoses
- With mounting for noise dampers
- Cable-friendly design, high crossbar holding force
- The openable extender crossbars can be fitted in different ways and combinations
- Optionally openable along the inner or outer radius

Versions e-chain® with extender crossbar	Hose Ø ≤ [mm]	Part No. crossbars every link	Part No. crossbars every 2nd link
❶ Extender crossbar and standard crossbar alternating along the inner and outer radius [1]	34	14240.XXXHB50.*R*.0	–
❷ Extender crossbar on both sides along the inner and outer radius [2]	140	14240.XXXB50.*R*.0	14340.XXXB50.*R*.0 [2]
❸ Extender crossbar along the outer radius [3]	100	14240.XXXBE50.*R*.0	14340.XXXBE50.*R*.0 [2]
❹ Extender crossbar along the inner radius [2]	100	14240.XXXBZ50.*R*.0	14340.XXXBZ50.*R*.0 [2]
❺ Extender crossbar and standard crossbar alternating along the outer radius [3]	34	14240.XXXHBE50.*R*.0	–
❻ Extender crossbar and standard crossbar alternating along inner radius [1]	34	14240.XXXHBZ50.*R*.0	–

1) Minimal bend radius: *R* 135 2) Minimal bend radius: *R* 150 3) Minimal bend radius: *R* 135

Bi [mm]

| 100 | 125 | 137 | 150 | 162 | 175 | 187 | 200 | 212 | 225 | 237 | 250 |
| 262 | 275 | 287 | 300 | 312 | 325 | 337 | 350 | 362 | 375 | 387 | 400 |

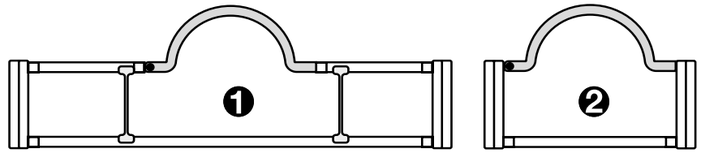


The E4/light can be fitted with openable extender crossbars, which increase the size of the interior of the e-chain®. Crossbars can be fitted in various ways: from one or both sides, alternating with standard crossbars and or any combination

Extender crossbar with fixed width



Round extender crossbar ❶ combined with openable crossbars or ❷ attached directly on the side link (as viewed from the fixed end)



Extender crossbars with fixed width | Safe guiding for large hoses

- Suitable for hoses with a maximum outer diameter of 115mm.
- Option ❶ extender crossbars with fixed width to combine with openable crossbars
- Option ❷ extender crossbars with fixed width attached directly on the side link
- Optionally openable along the inner "**Z**" or the outer radius "**E**"
- Gliding with crossbars assembled along the outer radius and a special guide trough

Part No. extender crossbar with fixed width, as individual parts	Hose Ø ≤ [mm]	Extender crossbar shape	❷ Fitted to side link	❶ Combine with openable crossbars
385.15RHD115	115	○ round	No	Yes
385.18RD115	115	○ round	Yes	No

Order example: ❶ combined with openable crossbars

To receive extender crossbar RHD115 pre-fitted along the outer radius of the-chain®, please add index **E**: **14240.10/15RHDE115/10.*R*.0**

To receive extender crossbar RHD115 pre-fitted along the inner radius of the-chain®, please add index **Z**: **14240.10/15RHDZ115/10.*R*.0**

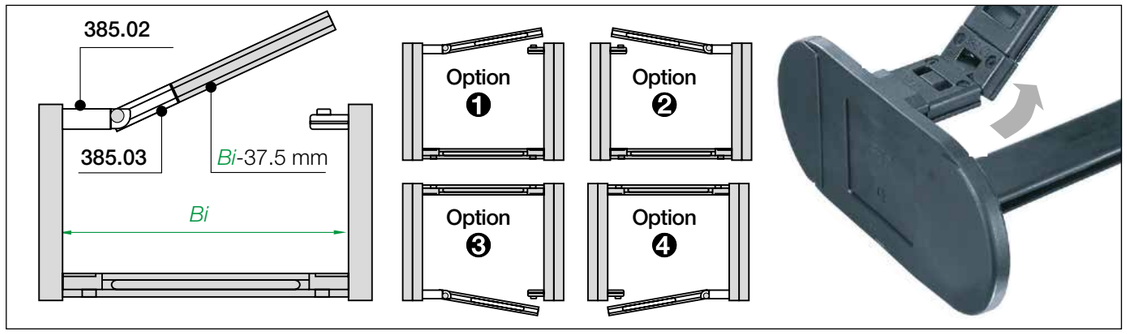
Order example: ❷ fitted to side link

To receive extender crossbar RD115 pre-fitted along the outer radius of the-chain®, please add index **E**: **14240.18RDE115.*R*.0**

To receive extender crossbar RD115 pre-fitted along the inner radius of the-chain®, please add index **Z**: **14240.18RDZ115.*R*.0**

E4/light | Series 14240·14340 | Further accessories

Hinged crossbar | Swivel clips



Hinged crossbars | Swivel clip | Openable crossbar remains attached to the e-chain®

- When opening crossbars must remain attached to the e-chain®
- Hinged crossbars consist of a swivel clip and a shortened crossbar
- Openable crossbar (shortened): ***Bi***-37.5mm (smallest inner width ***Bi*** = 87.5)
- Please consult igus® for assistance with this product

Part No. e-chain® with hinged crossbar	Part No. swivel clip as an individual part	Part No. openable crossbar as an individual part
14240.*Bi*.Z.*R*.0	385.02	385.03

Complete Part No. with the width index ***Bi***, the index **Z** for the required option and the radius (***R***). Example: **14240.137.1.200.0**



E4/light e-tubes protect cables and hoses against dirt and swarf

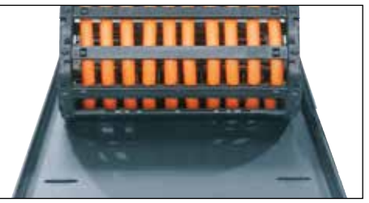
E4/light | Series 14240·14340 | Further accessories

14240
14340

Steel support tray for support of the lower run

- Simple one-piece support trays for the lower run
- To your requirements and specification
- 4 options available

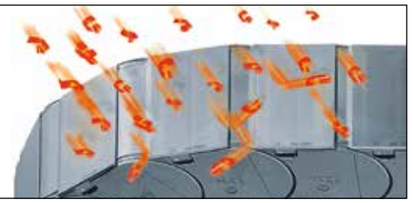
More information ▶ From page 1264



Hot swarf up to +850°C

- e-tubes to withstand 850°C hot swarf, as a special option
- No hot swarf melting or embedding into the chain
- igus® igumid HT material

More information ▶ www.igus.eu/HT



Reduce assembly time - E4 e-chain® opener

- e-chain® opener tools for easy opening and closing of e-chains®
- Simple opening and closing of e-chain® crossbars
- Also for use in hard to reach locations
- Significant assembly time reduction

More information ▶ www.igus.eu/E4savetime



Roller crossbars - increase the service life of cables and hoses

- Significantly reduce jacket abrasion of very stiff cables and hoses with rolling contact surfaces equipped with tribo-optimised bearings
- For sensitive hoses in restricted space
- Usable along the inner and/or outer radius, retrofit possible

More information ▶ www.igus.eu/roller-crossbar



E4/light | 14550·14650·R19050 | Product range

70 70

"Light" design, large inner height



e-chains® | Series 14550 | Crossbars every link (crossbars removable along the inner and outer radius)
e-chains® | Series 14650 | Crossbars every 2nd link (crossbars removable along the inner and outer radius)
e-tubes | Series R19050 | Fully enclosed (lids openable along the outer radius, from one side)

Part No. e-chains® / e-tubes	Bi [mm]	Ba [mm]	14550 [kg/m]	14650 [kg/m]	19050 [kg/m]
14550. 14650. – 05. R.0	50	77	≈ 3.28	≈ 3.27	–
14550. 14650. – 055.R.0	55	82	≈ 3.33	≈ 3.29	–
14550. 14650. – 06. R.0	65	92	≈ 3.37	≈ 3.31	–
14550. 14650. 19050. 07. R.0	75	102	≈ 3.44	≈ 3.35	≈ 4.00
14550. 14650. – 08. R.0	87	114	≈ 3.52	≈ 3.38	–
14550. 14650. 19050. 10. R.0	100	127	≈ 3.61	≈ 3.43	≈ 4.33
14550. 14650. – 11. R.0	112	139	≈ 3.73	≈ 3.49	–
14550. 14650. 19050. 12. R.0	125	152	≈ 3.81	≈ 3.53	≈ 4.70
14550. 14650. – 13. R.0	137	164	≈ 3.94	≈ 3.60	–
14550. 14650. 19050. 15. R.0	150	177	≈ 3.98	≈ 3.62	≈ 5.04
14550. 14650. – 16. R.0	162	189	≈ 4.09	≈ 3.67	–
14550. 14650. – 169.R.0	169	197	≈ 4.18	≈ 3.71	–
14550. 14650. 19050. 17. R.0	175	202	≈ 4.23	≈ 3.74	≈ 5.41
14550. 14650. – 182.R.0	182	210	≈ 4.27	≈ 3.76	–
14550. 14650. – 18. R.0	187	214	≈ 4.34	≈ 3.80	–
14550. 14650. 19050. 20. R.0	200	227	≈ 4.39	≈ 3.82	≈ 5.64
14550. 14650. – 207.R.0	207	235	≈ 4.44	≈ 3.84	–
14550. 14650. – 21. R.0	212	239	≈ 4.46	≈ 3.86	–
14550. 14650. – 22. R.0	225	252	≈ 4.53	≈ 3.89	–
14550. 14650. – 23. R.0	237	264	≈ 4.64	≈ 3.95	–
14550. 14650. 19050. 25. R.0	250	277	≈ 4.76	≈ 4.00	≈ 6.32
14550. 14650. – 26. R.0	262	289	≈ 4.85	≈ 4.05	–
14550. 14650. 19050. 27. R.0	275	302	≈ 4.95	≈ 4.10	≈ 6.65
14550. 14650. – 28. R.0	287	314	≈ 5.01	≈ 4.13	–
14550. 14650. 19050. 30. R.0	300	327	≈ 5.16	≈ 4.21	≈ 6.99
14550. 14650. – 31. R.0	312	339	≈ 5.20	≈ 4.23	–
14550. 14650. – 32. R.0	325	352	≈ 5.30	≈ 4.28	–
14550. 14650. – 33. R.0	337	364	≈ 5.42	≈ 4.34	–
14550. 14650. 19050. 35. R.0	350	377	≈ 5.62	≈ 4.44	≈ 7.68
14550. 14650. – 36. R.0	362	389	≈ 5.53	≈ 4.39	–
14550. 14650. – 37. R.0	375	402	≈ 5.63	≈ 4.44	–
14550. 14650. – 38. R.0	387	414	≈ 5.74	≈ 4.50	–
14550. 14650. 19050. 40. R.0	400	427	≈ 6.01	≈ 4.63	≈ 8.36
14550. 14650. – 41. R.0	412	439	≈ 5.94	≈ 4.60	–
14550. 14650. – 42. R.0	425	452	≈ 6.23	≈ 4.74	–
14550. 14650. – 43. R.0	437	464	≈ 6.07	≈ 4.66	–
14550. 14650. – 45. R.0	450	477	≈ 6.40	≈ 4.83	–
14550. 14650. 19050. 46. R.0	462	489	≈ 6.35	≈ 4.80	≈ 9.21
14550. 14650. – 47. R.0	475	502	≈ 6.39	≈ 4.82	–
14550. 14650. – 48. R.0	487	514	≈ 6.64	≈ 4.95	–
14550. 14650. – 50. R.0	500	527	≈ 6.74	≈ 5.00	–
14550. 14650. – 51. R.0	512	539	≈ 6.65	≈ 4.95	–
14550. 14650. – 52. R.0	525	552	≈ 6.82	≈ 5.04	–
14550. 14650. – 53. R.0	537	564	≈ 6.92	≈ 5.09	–
14550. 14650. – 55. R.0	550	577	≈ 7.34	≈ 5.30	–
14550. 14650. – 60. R.0	600	627	≈ 7.57	≈ 5.41	–

*Radius not available for e-tubes

Available bend radii

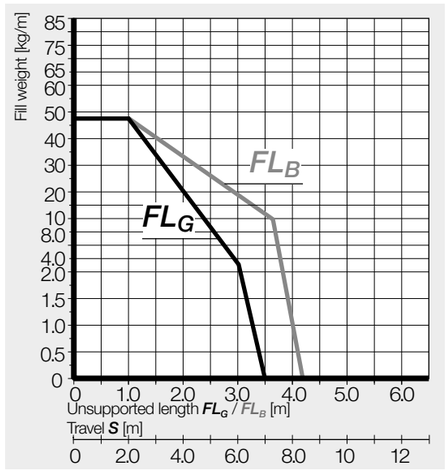
R [mm] | 150* | 175* | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 600 |

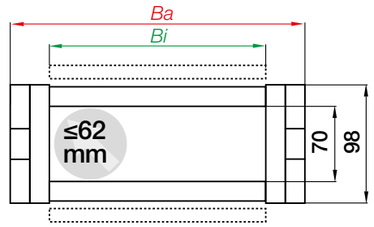
Complete Part No. with required radius (R). Example:

14550.30.300.0 = crossbars every link / 14650.30.300.0 = crossbars every 2nd link / 19050.30.300.0 = fully enclosed

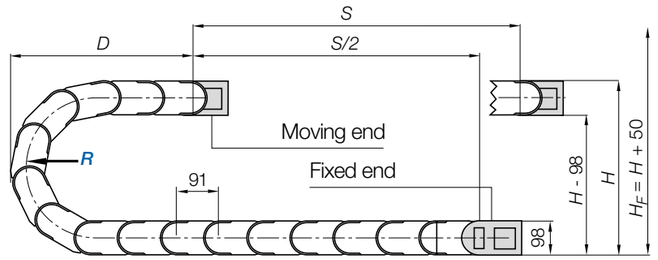
14550·14650·R19050 | Installation dimensions

Unsupported applications | Short travels





Inner height [mm]	70
Pitch [mm/link]	91
Links/m	11
corresponds to [mm]	1,001
e-chain® length	$L_K = S/2 + K$

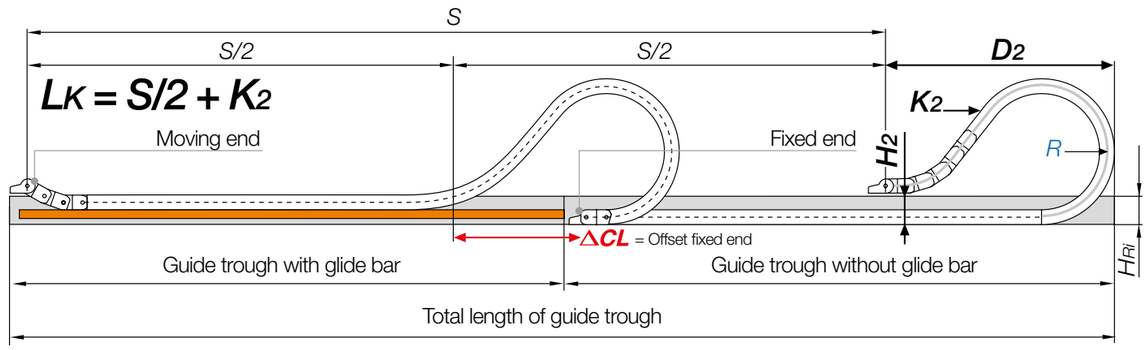


R	150*	175*	200	250	300	350	400	450	500	600
H	398	448	498	598	698	798	898	998	1,098	1,298
D	336	361	386	436	486	536	586	636	686	786
K	655	735	815	970	1,125	1,285	1,440	1,600	1,755	2,070

The required clearance height: $H_F = H + 50$mm (with 2.5kg/m fill weight)

*Radius not available for e-tubes

Gliding applications | For long travels from 12m to max. 250m



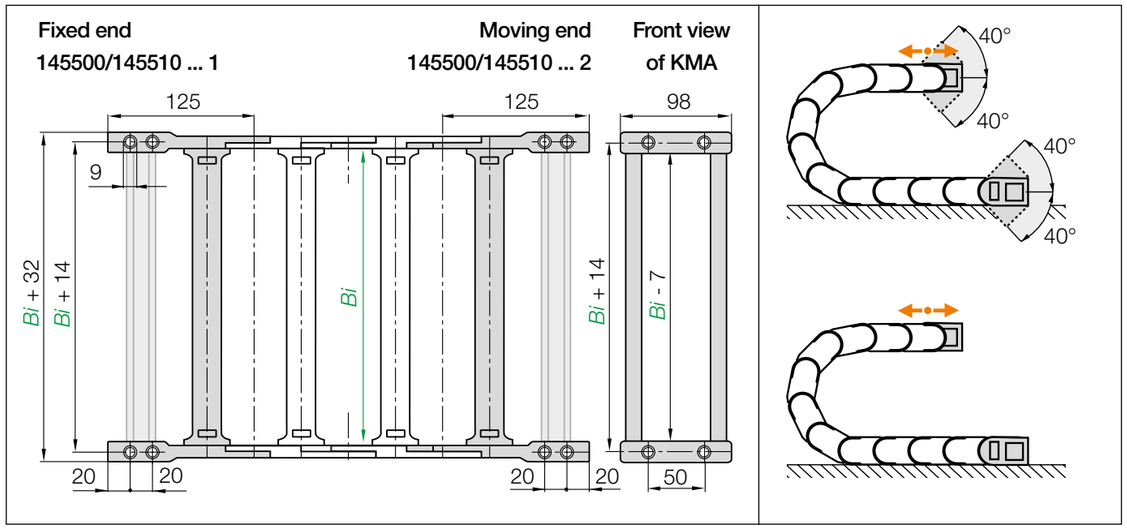
Note: We recommend the project planning of such a system to be carried out by igus®.
In case of travels between 8 and 12m we recommend an e-chain® with a longer unsupported length.

R	150*	175*	200	250	300	350	400	450	500	600 2)
H_2	266	266	266	266	266	266	266	266	266	–
D_2^{+25}	450	530	710	920	1,120	1,340	1,530	1,048	1,830	–
K_2	819	1,001	1,274	1,638	1,911	2,184	2,548	2,821	3,185	–
ΔCL	124	159	209	359	509	659	829	959	1,159	–

*Radius not available for e-tubes 2) R 600 not suitable for long travels. Please consult igus®.

E4/light | **e-chains®** 14550·14650 | Accessories

KMA mounting brackets | Attachment from any side | Pivoting | Locking



KMA pivoting | Recommended for unsupported and gliding applications
KMA locking | Recommended for vertical hanging and standing applications

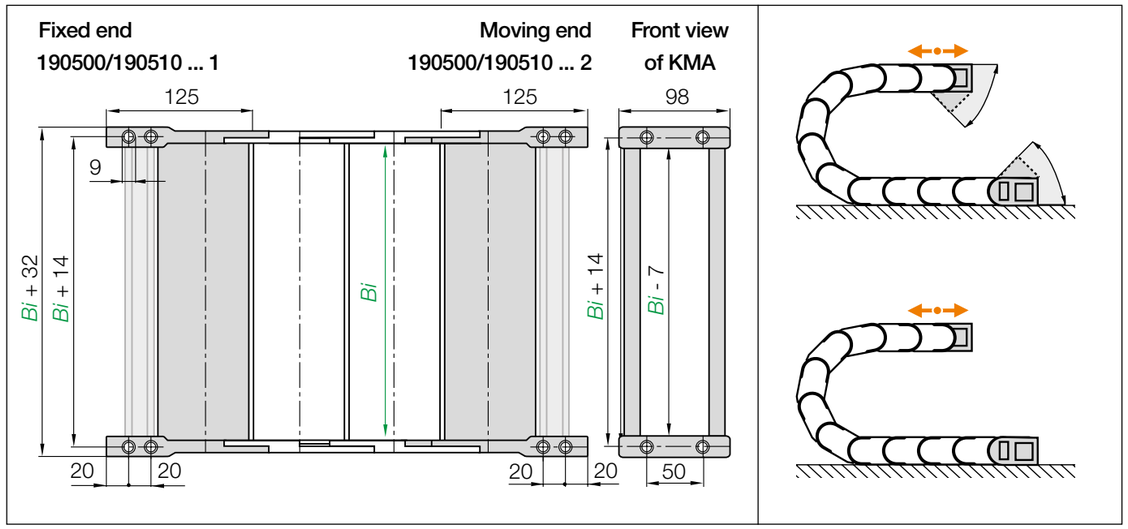
Width index	Part No. full set **KMA pivoting**	Part No. full set **KMA locking**	*Bi* [mm]
05. ▶	145500. 05 .12.C	145510. 05 .12.C	50
055. ▶	145500. 055 .12.C	145510. 055 .12.C	55
06. ▶	145500. 06 .12.C	145510. 06 .12.C	65
07. ▶	145500. 07 .12.C	145510. 07 .12.C	75
08. ▶	145500. 08 .12.C	145510. 08 .12.C	87
10. ▶	145500. 10 .12.C	145510. 10 .12.C	100
11. ▶	145500. 11 .12.C	145510. 11 .12.C	112
12. ▶	145500. 12 .12.C	145510. 12 .12.C	125
13. ▶	145500. 13 .12.C	145510. 13 .12.C	137
15. ▶	145500. 15 .12.C	145510. 15 .12.C	150
16. ▶	145500. 16 .12.C	145510. 16 .12.C	162
169. ▶	145500. 169 .12.C	145510. 169 .12.C	169
17. ▶	145500. 17 .12.C	145510. 17 .12.C	175
182. ▶	145500. 182 .12.C	145510. 182 .12.C	182
18. ▶	145500. 18 .12.C	145510. 18 .12.C	187
20. ▶	145500. 20 .12.C	145510. 20 .12.C	200
207. ▶	145500. 207 .12.C	145510. 207 .12.C	207
21. ▶	145500. 21 .12.C	145510. 21 .12.C	212
22. ▶	145500. 22 .12.C	145510. 22 .12.C	225
23. ▶	145500. 23 .12.C	145510. 23 .12.C	237
25. ▶	145500. 25 .12.C	145510. 25 .12.C	250
26. ▶	145500. 26 .12.C	145510. 26 .12.C	262
27. ▶	145500. 27 .12.C	145510. 27 .12.C	275

Width index	Part No. full set **KMA pivoting**	Part No. full set **KMA locking**	*Bi* [mm]
28. ▶	145500. 28 .12.C	145510. 28 .12.C	287
30. ▶	145500. 30 .12.C	145510. 30 .12.C	300
31. ▶	145500. 31 .12.C	145510. 31 .12.C	312
32. ▶	145500. 32 .12.C	145510. 32 .12.C	325
33. ▶	145500. 33 .12.C	145510. 33 .12.C	337
35. ▶	145500. 35 .12.C	145510. 35 .12.C	350
36. ▶	145500. 36 .12.C	145510. 36 .12.C	362
37. ▶	145500. 37 .12.C	145510. 37 .12.C	375
38. ▶	145500. 38 .12.C	145510. 38 .12.C	387
40. ▶	145500. 40 .12.C	145510. 40 .12.C	400
41. ▶	145500. 41 .12.C	145510. 41 .12.C	412
42. ▶	145500. 42 .12.C	145510. 42 .12.C	425
43. ▶	145500. 43 .12.C	145510. 43 .12.C	437
45. ▶	145500. 45 .12.C	145510. 45 .12.C	450
46. ▶	145500. 46 .12.C	145510. 46 .12.C	462
47. ▶	145500. 47 .12.C	145510. 47 .12.C	475
48. ▶	145500. 48 .12.C	145510. 48 .12.C	487
50. ▶	145500. 50 .12.C	145510. 50 .12.C	500
51. ▶	145500. 51 .12.C	145510. 51 .12.C	512
52. ▶	145500. 52 .12.C	145510. 52 .12.C	525
53. ▶	145500. 53 .12.C	145510. 53 .12.C	537
55. ▶	145500. 55 .12.C	145510. 55 .12.C	550
60. ▶	145500. 60 .12.C	145510. 60 .12.C	600

(KMA = polymer metal mounting bracket) For the C-profile option please add index **.C**

E4/light | **e-tubes** R19050 | Accessories

KMA mounting brackets | Attachment from any side | Pivoting | Locking

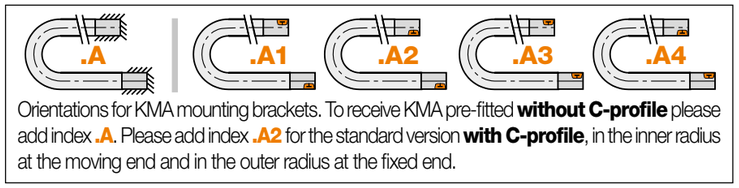


KMA pivoting | Recommended for unsupported and gliding applications
KMA locking | Recommended for vertical hanging and standing applications

Width index	Part No. full set **KMA pivoting**	Part No. full set **KMA locking**	*Bi* [mm]
07. ▶	190500. 07 .12.C	190510. 07 .12.C	75
10. ▶	190500. 10 .12.C	190510. 10 .12.C	100
12. ▶	190500. 12 .12.C	190510. 12 .12.C	125
15. ▶	190500. 15 .12.C	190510. 15 .12.C	150
17. ▶	190500. 17 .12.C	190510. 17 .12.C	175
20. ▶	190500. 20 .12.C	190510. 20 .12.C	200

Width index	Part No. full set **KMA pivoting**	Part No. full set **KMA locking**	*Bi* [mm]
25. ▶	190500. 25 .12.C	190510. 25 .12.C	250
27. ▶	190500. 27 .12.C	190510. 27 .12.C	275
30. ▶	190500. 30 .12.C	190510. 30 .12.C	300
35. ▶	190500. 35 .12.C	190510. 35 .12.C	350
40. ▶	190500. 40 .12.C	190510. 40 .12.C	400
46. ▶	190500. 46 .12.C	190510. 46 .12.C	462

(KMA = polymer metal mounting bracket) For the C-profile option please add index **.C**



Orientations for KMA mounting brackets. To receive KMA pre-fitted **without C-profile** please add index **.A**. Please add index **.A2** for the standard version **with C-profile**, in the inner radius at the moving end and in the outer radius at the fixed end.

145500.30.12.C.**A2** Order example

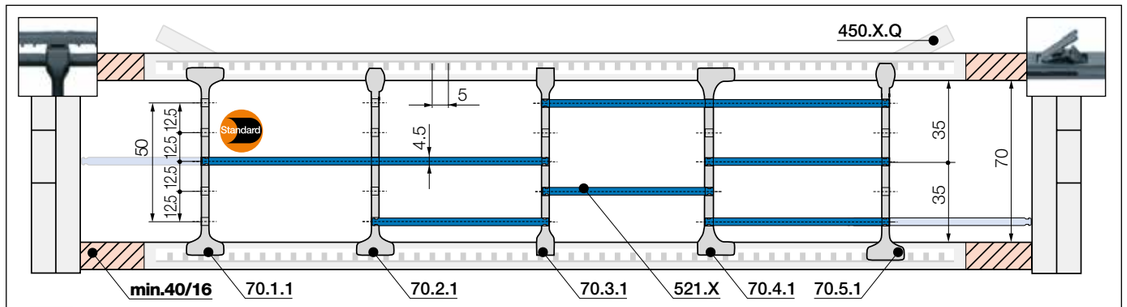
- **.A** ... to indicate option with brackets pre-fitted
- C-profile option
- Full set
- Width index
- Series

Strain relief **e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with ordering options ▶ From page 1300**

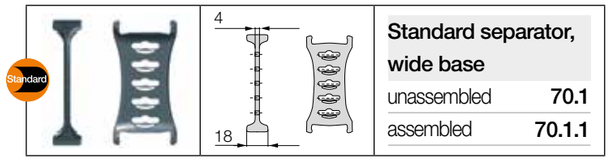
E4/light | Series 14550·14650·R19050 | Accessories

Interior separation | Increase cable service life

Previous generation of interior separation with other options ▶ **www.igus.eu/14550**



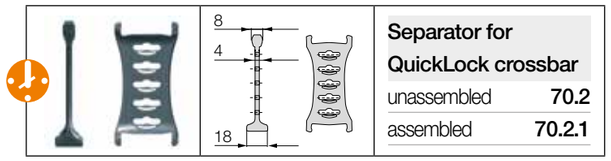
Note: Please be aware of the minimum lateral gap to the side links! **e-tube: 40mm** | **e-chain®: 16mm**
As standard separators are fitted every 2nd e-chain® link!



Standard separator, wide base	
unassembled	**70.1**
assembled	**70.1.1**

Standard - for any application

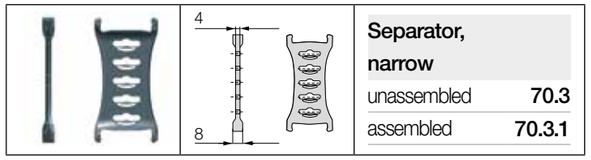
Separator with a wide base for maximum holding force in the e-chain®.



Separator for QuickLock crossbar	
unassembled	**70.2**
assembled	**70.2.1**

For even faster installation

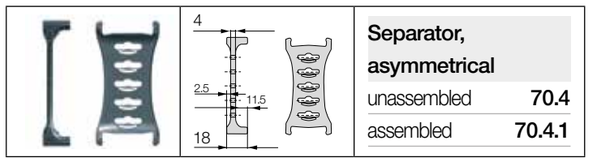
Separator for igus® QuickLock crossbar **450.X.Q**. Wide on one side for high holding force, narrow on opposite side for easy cable fitting.



Separator, narrow	
unassembled	**70.3**
assembled	**70.3.1**

For small cables

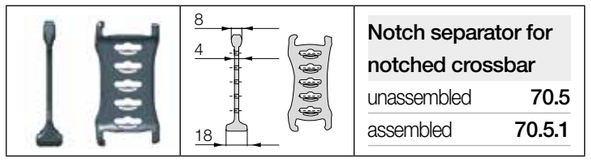
Separator with a narrow base for a large number of small cables side by side. Saves space in the e-chain®. Also available for QuickLock crossbars.



Separator, asymmetrical	
unassembled	**70.4**
assembled	**70.4.1**

For side-mounted applications

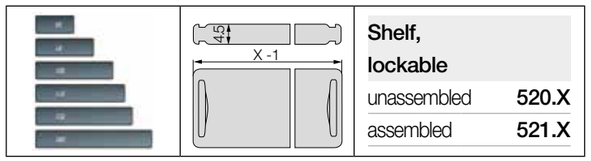
Asymmetrical separator, for defined gap distance. No additional spacers required.



Notch separator for notched crossbar	
unassembled	**70.5**
assembled	**70.5.1**

Locks securely in preset increments

Notch separator for exact positioning in e-chains®. Recommended for side-mounted applications.



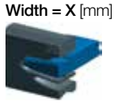
Shelf, lockable	
unassembled	**520.X**
assembled	**521.X**

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Shelves

Width = X [mm]

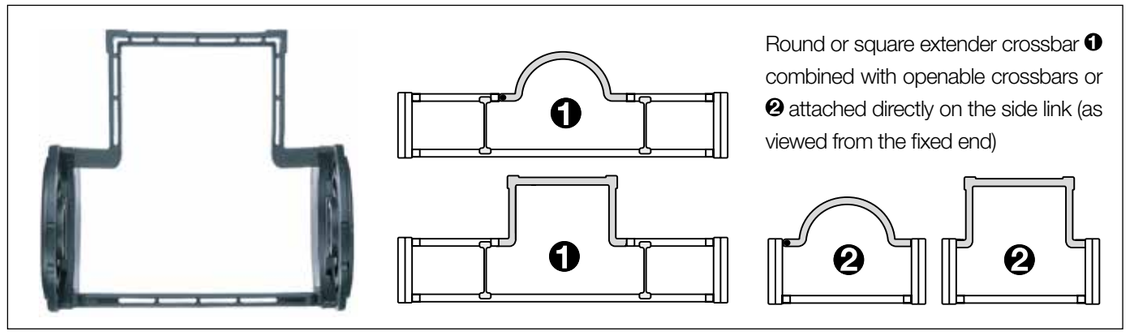


X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
050	**520.050**	**521.050**	150	**520.150**	**521.150**	300	**520.300**	**521.300**
065	**520.065**	**521.065**	175	**520.175**	**521.175**	350	**520.350**	**521.350**
075	**520.075**	**521.075**	200	**520.200**	**521.200**	375	**520.375**	**520.375**
100	**520.100**	**521.100**	225	**520.225**	**521.225**	387	**520.387**	**520.387**
125	**520.125**	**521.125**	250	**520.250**	**521.250**	450	**520.450**	**521.450**

14550
14650
R19050

E4/light | Series 14550·14650·R19050 | Accessories

Extender crossbar with fixed width



Round or square extender crossbar ❶ combined with openable crossbars or ❷ attached directly on the side link (as viewed from the fixed end)

Extender crossbars with fixed width | Safe guiding for large hoses

- Suitable for hoses with a maximum outer diameter of 270mm
- Option ❶ extender crossbars with fixed width to combine with openable crossbars
- Option ❷ extender crossbars with fixed width attached directly on the side link
- Optionally openable along the inner "**Z**" or the outer radius "**E**"
- Gliding with crossbars assembled along the outer radius and a special guide trough

Part No. extender crossbar with fixed width, as individual parts	Hose Ø ≤ [mm]	Extender crossbar shape	❷ Fitted to side link	❶ Combine with openable crossbars
450.15RHD115	115	○ round	No	Yes
450.17RD115	115	○ round	Yes	No
450.25D150	150	□ square	Yes	No
450.30D200	200	□ square	Yes	No
450.35D250	220	□ square	Yes	No
450.40D300	270	□ square	Yes	No
450.20HD150	150	□ square	No	Yes
450.25HD200	200	□ square	No	Yes
450.30HD250	220	□ square	No	Yes

Order example: ❶ combined with openable crossbars

To receive extender crossbar RHD115 pre-fitted along the outer radius of the-chain®, please add index **E**: **14550.10/15RHD*E*115/10.*R*.0**

To receive extender crossbar RHD115 pre-fitted along the inner radius of the-chain®, please add index **Z**: **14550.10/15RHD*Z*115/10.*R*.0**

Order example: ❷ fitted to side link

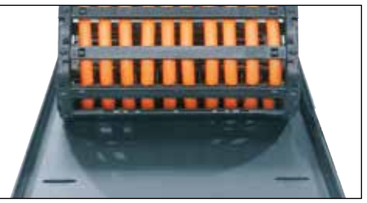
To receive extender crossbar RD115 pre-fitted along the outer radius of the-chain®, please add index **E**: **14550.17RD*E*115.*R*.0**

To receive extender crossbar RD115 pre-fitted along the inner radius of the-chain®, please add index **Z**: **14550.17RD*Z*115.*R*.0**

Steel support tray for support of the lower run

- Simple one-piece support trays for the lower run
- To your requirements and specification
- 4 options available

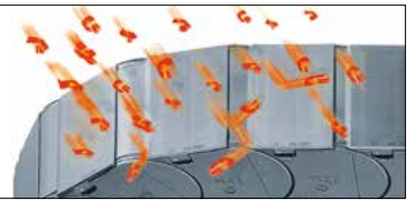
More information ▶ From page 1264



Hot swarf up to +850°C

- e-tubes to withstand 850°C hot swarf, as a special option
- No hot swarf melting or embedding into the chain
- igus® igumid HT material

More information ▶ www.igus.eu/HT



Reduce assembly time - E4 e-chain® opener

- e-chain® opener tools for easy opening and closing of e-chains®
- Simple opening and closing of e-chain® crossbars
- Also for use in hard to reach locations
- Significant assembly time reduction

More information ▶ www.igus.eu/E4savetime

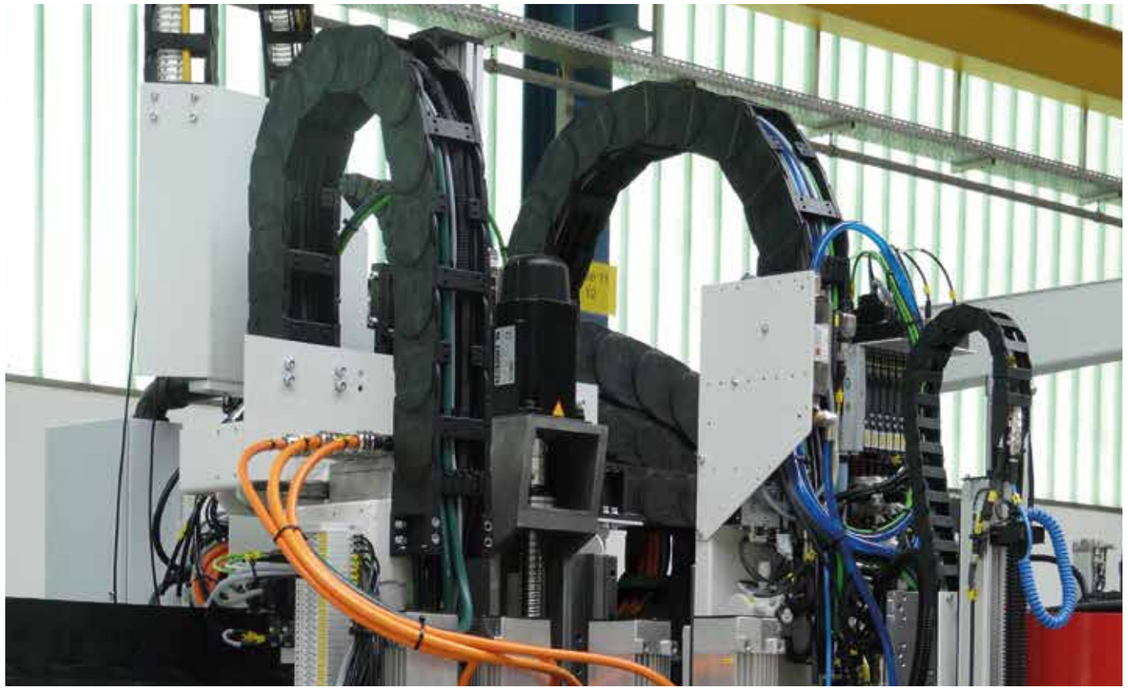


Roller crossbars - increase the service life of cables and hoses

- Significantly reduce jacket abrasion of very stiff cables and hoses with rolling contact surfaces equipped with tribo-optimised bearings
- For sensitive hoses in restricted space
- Usable along the inner and/or outer radius, retrofit possible

More information ▶ www.igus.eu/roller-crossbar





Various igus® e-chains® installed vertically including light-weight E4/light e-chains®

E4/light | 15050·15150·R19850 | Product range

80 80

"Light" design, large inner height



e-chains® | Series 15050 | Crossbars every link (crossbars removable along the inner and outer radius)
Standard **e-chains® | Series 15150 | Crossbars every 2nd link** (crossbars removable along the inner and outer radius)
e-tubes | Series R19850 | Fully enclosed (lids openable along the outer radius, from one side)

Part No. e-chains® / e-tubes	Bi [mm]	Ba [mm]	15050 [kg/m]	15150 [kg/m]	19850 [kg/m]
15050. 15150. – 05. R.0	50	80	≈ 3.85	≈ 3.84	–
15050. 15150. – 055.R.0	55	85	≈ 3.90	≈ 3.86	–
15050. 15150. – 06. R.0	65	95	≈ 3.95	≈ 3.88	–
15050.1) 15150. 19850. 07. R.0	75	105	≈ 4.00	≈ 3.92	≈ 4.46
15050. 15150. – 08. R.0	87	117	≈ 4.05	≈ 3.96	–
15050. 15150. 19850. 10. R.0	100	130	≈ 4.18	≈ 4.00	≈ 4.74
15050. 15150. – 11. R.0	112	143	≈ 4.31	≈ 4.07	–
15050.1) 15150. 19850. 12. R.0	125	155	≈ 4.38	≈ 4.10	≈ 5.10
15050. 15150. – 13. R.0	137	168	≈ 4.51	≈ 4.17	–
15050.1) 15150. 19850. 15. R.0	150	180	≈ 4.58	≈ 4.20	≈ 5.53
15050. 15150. – 16. R.0	162	193	≈ 4.69	≈ 4.26	–
15050. 15150. – 169.R.0	169	200	≈ 4.77	≈ 4.30	–
15050. 15150. 19850. 17. R.0	175	205	≈ 4.80	≈ 4.31	≈ 5.88
15050. 15150. – 182.R.0	182	213	≈ 4.85	≈ 4.33	–
15050. 15150. – 18. R.0	187	218	≈ 4.91	≈ 4.37	–
15050.1) 15150. 19850. 20. R.0	200	230	≈ 4.93	≈ 4.38	≈ 6.11
15050. 15150. – 207.R.0	207	238	≈ 4.99	≈ 4.41	–
15050. 15150. – 21. R.0	212	243	≈ 5.04	≈ 4.43	–
15050. 15150. – 22. R.0	225	255	≈ 5.10	≈ 4.47	–
15050. 15150. – 23. R.0	237	268	≈ 5.24	≈ 4.53	–
15050.1) 15150. 19850. 25. R.0	250	280	≈ 5.32	≈ 4.58	≈ 6.83
15050. 15150. – 26. R.0	262	293	≈ 5.41	≈ 4.62	–
15050. 15150. 19850. 27. R.0	275	305	≈ 5.52	≈ 4.68	≈ 7.26
15050. 15150. – 28. R.0	287	318	≈ 5.54	≈ 4.69	–
15050.1) 15150. 19850. 30. R.0	300	330	≈ 5.76	≈ 4.80	≈ 7.49
15050. 15150. – 31. R.0	312	343	≈ 5.80	≈ 4.82	–
15050. 15150. – 32. R.0	325	355	≈ 5.85	≈ 4.84	–
15050. 15150. – 33. R.0	337	368	≈ 6.03	≈ 4.93	–
15050. 15150. 19850. 35. R.0	350	380	≈ 6.18	≈ 5.01	≈ 8.24
15050. 15150. – 36. R.0	362	393	≈ 6.19	≈ 5.02	–
15050. 15150. – 37. R.0	375	405	≈ 6.20	≈ 5.02	–
15050. 15150. – 38. R.0	387	418	≈ 6.29	≈ 5.06	–
15050. 15150. 19850. 40. R.0	400	430	≈ 6.49	≈ 5.16	≈ 9.20
15050. 15150. – 41. R.0	412	443	≈ 6.64	≈ 5.24	–
15050. 15150. – 42. R.0	425	455	≈ 6.80	≈ 5.31	–
15050. 15150. – 43. R.0	437	468	≈ 6.86	≈ 5.35	–
15050. 15150. – 45. R.0	450	480	≈ 6.93	≈ 5.38	–
15050. 15150. 19850. 46. R.0	462	493	≈ 6.95	≈ 5.39	≈ 9.66
15050. 15150. – 47. R.0	475	505	≈ 7.08	≈ 5.46	–
15050. 15150. – 48. R.0	487	518	≈ 7.16	≈ 5.49	–
15050. 15150. – 50. R.0	500	530	≈ 7.22	≈ 5.52	–
15050. 15150. – 51. R.0	512	543	≈ 7.24	≈ 5.53	–
15050. 15150. – 52. R.0	525	555	≈ 7.28	≈ 5.56	–
15050. 15150. – 53. R.0	537	568	≈ 7.44	≈ 5.63	–
15050. 15150. – 55. R.0	550	580	≈ 7.92	≈ 5.87	–
15050. 15150. – 60. R.0	600	630	≈ 8.12	≈ 5.97	–

1) ESD version available from stock *Radius not available for e-tubes

Available bend radii

R [mm] | 150* | 200 | 250 | 300 | 350 | 400 | 500 | 600 |

Complete Part No. with required radius (R). Example:

15050.30.300.0 = crossbars every link / 15150.30.300.0 = crossbars every 2nd link / 19850.30.300.0 = fully enclosed

ESD - many sizes from stock

- Standardised product made from igumid ESD
- ESD material tested with over 10 million cycles for the toughest requirements
- Short delivery times including mounting brackets and interior separation; 24hrs, from stock

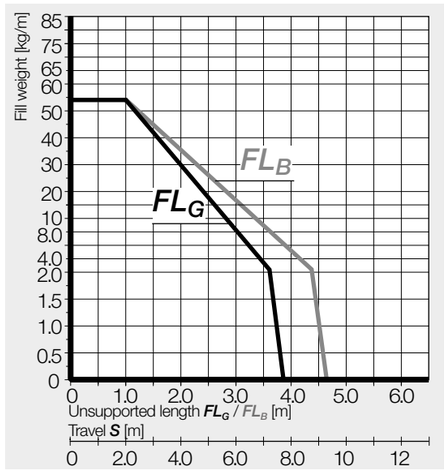
More information ▶ www.igus.eu/esd

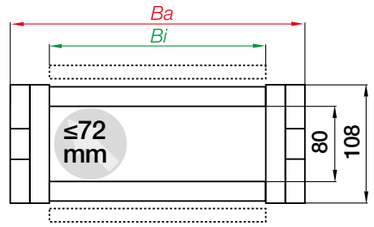


15050·15150·R19850 | Installation dimensions

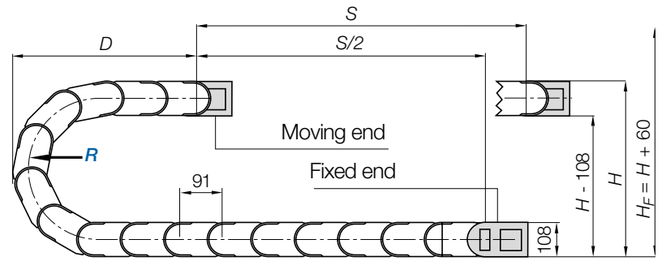
▶ 1300 ▶ 1232

Unsupported applications | Short travels





Inner height [mm]	80
Pitch [mm/link]	91
Links/m	11
corresponds to [mm]	1,001
e-chain® length	$L_K = S/2 + K$

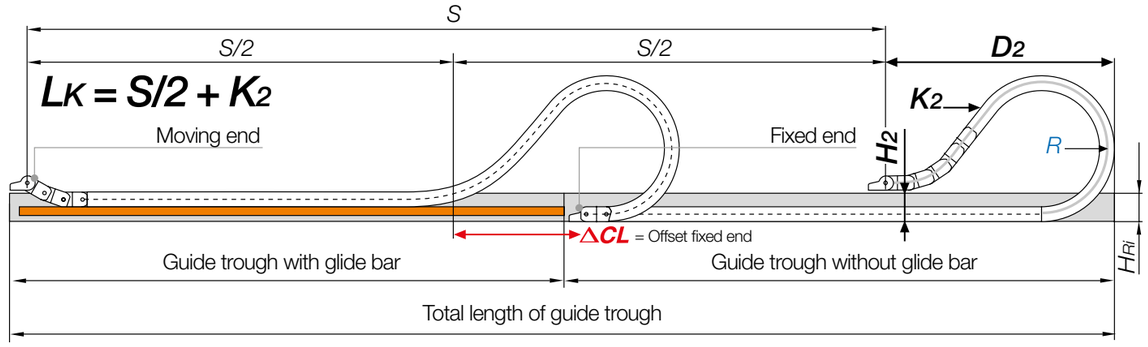


R	150*	200	250	300	350	400	500	600
H +25 0	408	508	608	708	808	908	1,108	1,308
D	341	391	441	491	541	591	691	791
K	655	815	970	1,125	1,285	1,440	1,755	2,070

The required clearance height: $H_F = H + 60$mm (with 3.0kg/m fill weight)

*Radius not available for e-tubes

Gliding applications | For long travels from 12m to max. 250m



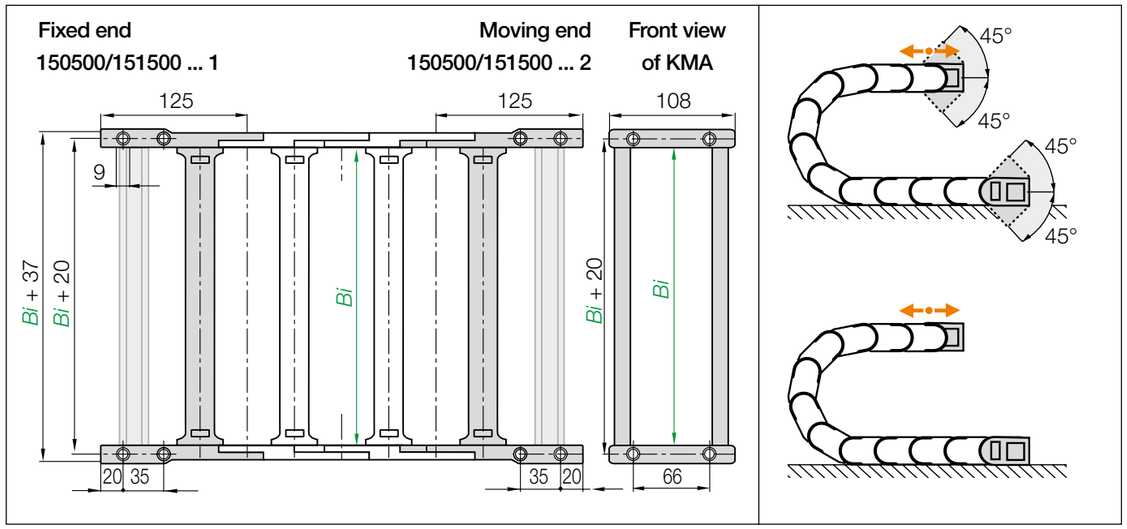
Note: We recommend the project planning of such a system to be carried out by igus®.
In case of travels between 9 and 12m we recommend an e-chain® with a longer unsupported length.

R	150*	200	250	300	350	400	500	600 1)
H_2	242	242	242	242	242	242	242	–
D_2 +25	550	800	950	1,200	1,550	1,700	2,175	–
K_2	910	1,274	1,638	2,002	2,457	2,730	3,458	–
ΔCL	209	409	509	709	1,009	1,109	1,484	–

*Radius not available for e-tubes 1) R 600 not suitable for long travels. Please consult igus®.

E4/light | **e-chains®** 15050·15150 | Accessories

KMA mounting brackets | Attachment from any side | Pivoting | Locking



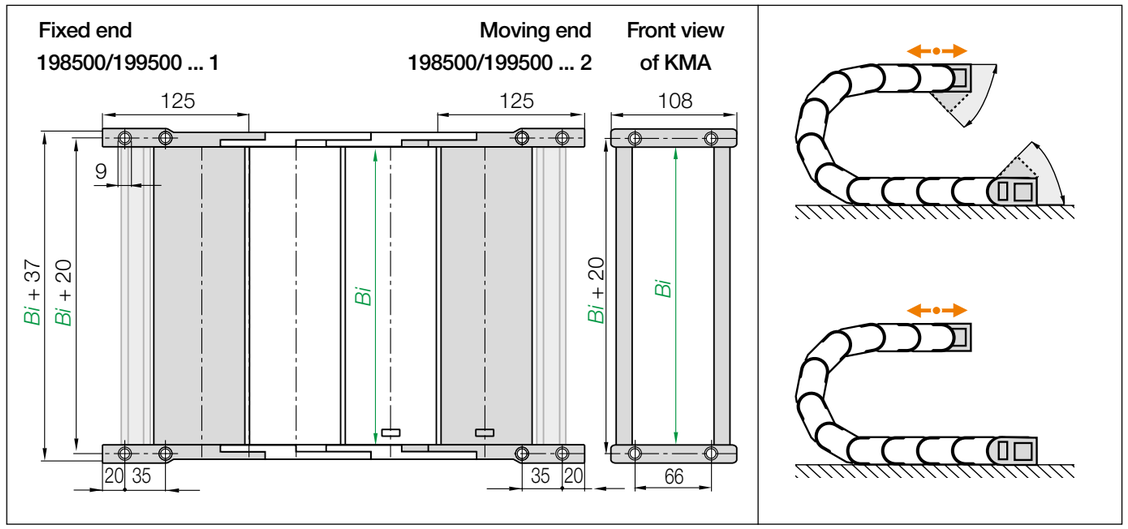
Standard **KMA pivoting** | Recommended for unsupported and gliding applications
KMA locking | Recommended for vertical hanging and standing applications

Width index	Part No. full set **KMA pivoting**	Part No. full set **KMA locking**	*Bi* [mm]	Width index	Part No. full set **KMA pivoting**	Part No. full set **KMA locking**	*Bi* [mm]
05. ▶	150500. 05 .12.C	151500. 05 .12.C	50	28. ▶	150500. 28 .12.C	151500. 28 .12.C	287
055. ▶	150500. 055 .12.C	151500. 055 .12.C	55	30. ▶	150500. 30 .12.C	151500. 30 .12.C	300
06. ▶	150500. 06 .12.C	151500. 06 .12.C	65	31. ▶	150500. 31 .12.C	151500. 31 .12.C	312
07. ▶	150500. 07 .12.C	151500. 07 .12.C	75	32. ▶	150500. 32 .12.C	151500. 32 .12.C	325
08. ▶	150500. 08 .12.C	151500. 08 .12.C	87	33. ▶	150500. 33 .12.C	151500. 33 .12.C	337
10. ▶	150500. 10 .12.C	151500. 10 .12.C	100	35. ▶	150500. 35 .12.C	151500. 35 .12.C	350
11. ▶	150500. 11 .12.C	151500. 11 .12.C	112	36. ▶	150500. 36 .12.C	151500. 36 .12.C	362
12. ▶	150500. 12 .12.C	151500. 12 .12.C	125	37. ▶	150500. 37 .12.C	151500. 37 .12.C	375
13. ▶	150500. 13 .12.C	151500. 13 .12.C	137	38. ▶	150500. 38 .12.C	151500. 38 .12.C	387
15. ▶	150500. 15 .12.C	151500. 15 .12.C	150	40. ▶	150500. 40 .12.C	151500. 40 .12.C	400
16. ▶	150500. 16 .12.C	151500. 16 .12.C	162	41. ▶	150500. 41 .12.C	151500. 41 .12.C	412
169. ▶	150500. 169 .12.C	151500. 169 .12.C	169	42. ▶	150500. 42 .12.C	151500. 42 .12.C	425
17. ▶	150500. 17 .12.C	151500. 17 .12.C	175	43. ▶	150500. 43 .12.C	151500. 43 .12.C	437
182. ▶	150500. 182 .12.C	151500. 182 .12.C	182	45. ▶	150500. 45 .12.C	151500. 45 .12.C	450
18. ▶	150500. 18 .12.C	151500. 18 .12.C	187	46. ▶	150500. 46 .12.C	151500. 46 .12.C	462
20. ▶	150500. 20 .12.C	151500. 20 .12.C	200	47. ▶	150500. 47 .12.C	151500. 47 .12.C	475
207. ▶	150500. 207 .12.C	151500. 207 .12.C	207	48. ▶	150500. 48 .12.C	151500. 48 .12.C	487
21. ▶	150500. 21 .12.C	151500. 21 .12.C	212	50. ▶	150500. 50 .12.C	151500. 50 .12.C	500
22. ▶	150500. 22 .12.C	151500. 22 .12.C	225	51. ▶	150500. 51 .12.C	151500. 51 .12.C	512
23. ▶	150500. 23 .12.C	151500. 23 .12.C	237	52. ▶	150500. 52 .12.C	151500. 52 .12.C	525
25. ▶	150500. 25 .12.C	151500. 25 .12.C	250	53. ▶	150500. 53 .12.C	151500. 53 .12.C	537
26. ▶	150500. 26 .12.C	151500. 26 .12.C	262	55. ▶	150500. 55 .12.C	151500. 55 .12.C	550
27. ▶	150500. 27 .12.C	151500. 27 .12.C	275	60. ▶	150500. 60 .12.C	151500. 60 .12.C	600

(KMA = polymer metal mounting bracket) For the C-profile option please add index **.C**

E4/light | **e-tubes** R19850 | Accessories

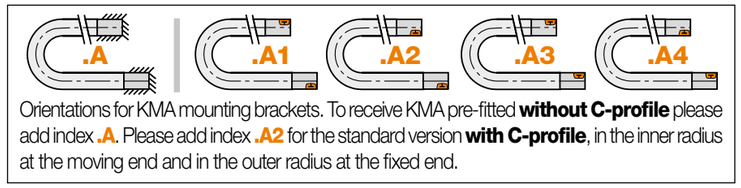
KMA mounting brackets | Attachment from any side | Pivoting | Locking



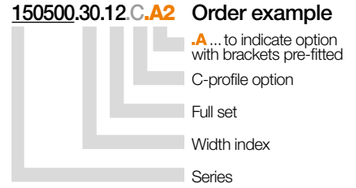
Standard **KMA pivoting** | Recommended for unsupported and gliding applications
KMA locking | Recommended for vertical hanging and standing applications

Width index	Part No. full set **KMA pivoting**	Part No. full set **KMA locking**	*Bi* [mm]	Width index	Part No. full set **KMA pivoting**	Part No. full set **KMA locking**	*Bi* [mm]
07. ▶	198500. 07 .12.C	199500. 07 .12.C	75	25. ▶	198500. 25 .12.C	199500. 25 .12.C	250
10. ▶	198500. 10 .12.C	199500. 10 .12.C	100	27. ▶	198500. 27 .12.C	199500. 27 .12.C	275
12. ▶	198500. 12 .12.C	199500. 12 .12.C	125	30. ▶	198500. 30 .12.C	199500. 30 .12.C	300
15. ▶	198500. 15 .12.C	199500. 15 .12.C	150	35. ▶	198500. 35 .12.C	199500. 35 .12.C	350
17. ▶	198500. 17 .12.C	199500. 17 .12.C	175	40. ▶	198500. 40 .12.C	199500. 40 .12.C	400
20. ▶	198500. 20 .12.C	199500. 20 .12.C	200	46. ▶	198500. 46 .12.C	199500. 46 .12.C	462

(KMA = polymer metal mounting bracket) For the C-profile option please add index **.C**



Orientations for KMA mounting brackets. To receive KMA pre-fitted **without C-profile** please add index **.A**. Please add index **.A2** for the standard version **with C-profile**, in the inner radius at the moving end and in the outer radius at the fixed end.

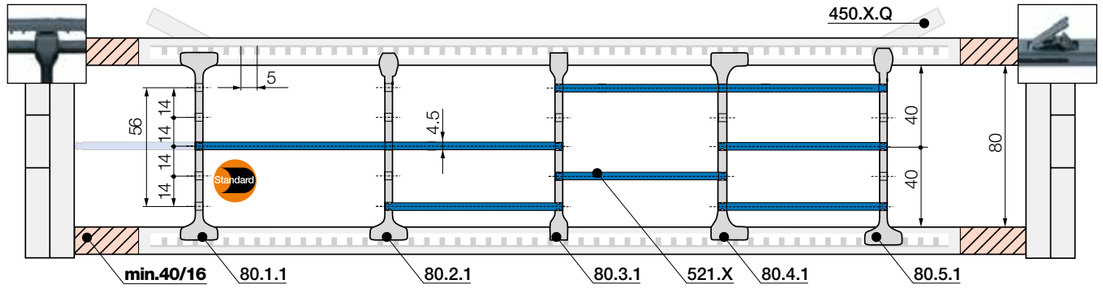


Strain relief **e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with ordering options ▶ From page 1300**

E4/light | Series 15050·15150·R19850 | Accessories

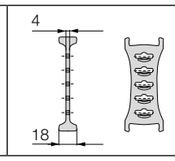
Interior separation | Increase cable service life

Previous generation of interior separation with other options ▶ **www.igus.eu/15050**



Note: Please be aware of the minimum lateral gap to the side links! **e-tube: 40mm** | **e-chain®: 16mm**
As standard separators are fitted every 2nd e-chain® link!



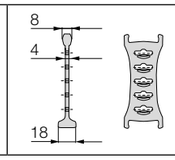


Standard separator, wide base	
unassembled	**80.1**
assembled	**80.1.1**

Standard - for any application

Separator with a wide base for maximum holding force in the e-chain®.



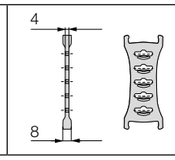


Separator for QuickLock crossbar	
unassembled	**80.2**
assembled	**80.2.1**

For even faster installation

Separator for igus® QuickLock crossbar **450.X.Q**. Wide on one side for high holding force, narrow on opposite side for easy cable fitting.



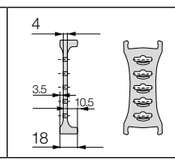


Separator, narrow	
unassembled	**80.3**
assembled	**80.3.1**

For small cables

Separator with a narrow base for a large number of small cables side by side. Saves space in the e-chain®. Also available for QuickLock crossbars.



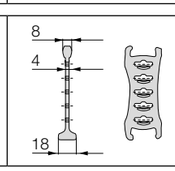


Separator, asymmetrical	
unassembled	**80.4**
assembled	**80.4.1**

For side-mounted applications

Asymmetrical separator, for defined gap distance. No additional spacers required.

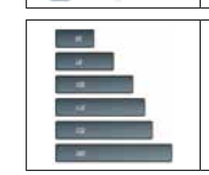


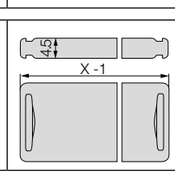


Notch separator for notched crossbar	
unassembled	**80.5**
assembled	**80.5.1**

Locks securely in preset increments

Notch separator for exact positioning in e-chains®. Recommended for side-mounted applications.





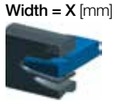
Shelf, lockable	
unassembled	**520.X**
assembled	**521.X**

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Shelves

Width = X [mm]

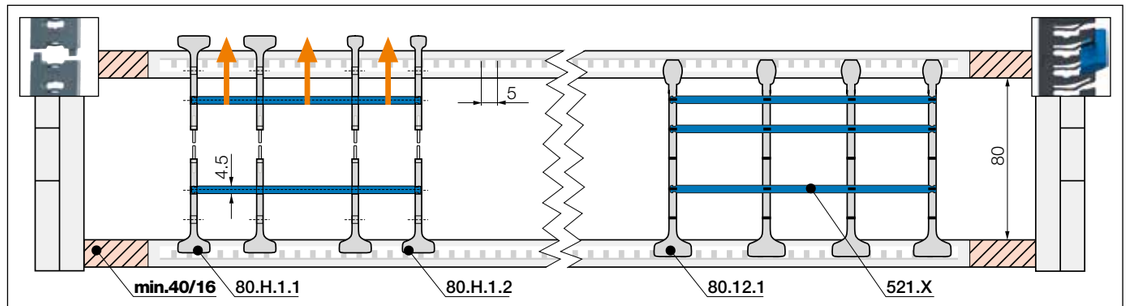


X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
050	**520.050**	**521.050**	150	**520.150**	**521.150**	300	**520.300**	**521.300**
065	**520.065**	**521.065**	175	**520.175**	**521.175**	350	**520.350**	**521.350**
075	**520.075**	**521.075**	200	**520.200**	**521.200**	375	**520.375**	**520.375**
100	**520.100**	**521.100**	225	**520.225**	**521.225**	387	**520.387**	**520.387**
125	**520.125**	**521.125**	250	**520.250**	**521.250**	450	**520.450**	**521.450**

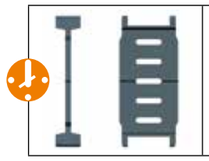
15050
15150
R19850

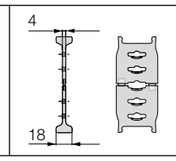
E4/light | Series 15050·15150·R19850 | Accessories

Interior separation | To allow faster filling



Note: Please be aware of the minimum lateral gap to the side links! **e-tube: 40mm** | **e-chain®: 16mm**
As standard separators are fitted every 2nd e-chain® link!

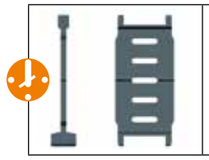


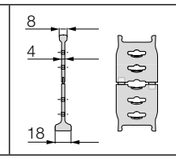


Split separator, wide base/top	
unassembled	**80.H.1**
assembled	**80.H.1.1**

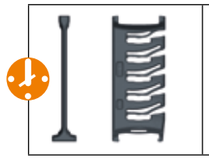
Split separators

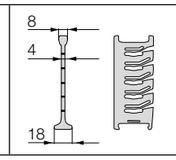
In order to fill e-chains® more easily and effectively, these separators can be split in the middle. This allows easier access to middle shelf partitions. Fast assembly and easy retrofit. 2 types available: with wide or narrow top.





Split separator, narrow top	
unassembled	**80.H.2**
assembled	**80.H.2.1**





Lean separator	
unassembled	**80.12**
assembled	**80.12.1**

Lean separators New

New design allows extremely fast fitting of shelves in several layers, which significantly reduces assembly time. Enables extremely fast replacement of individual cables in a very full e-chain®.

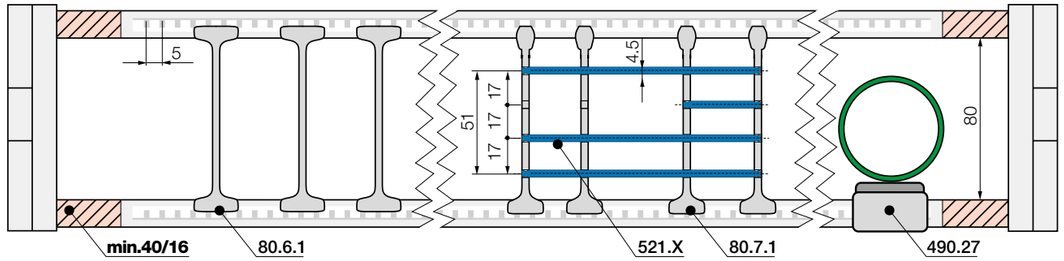
Lean separator design - several layers of cables fitted quickly, save up to 50%* assembly time

(*Lean separator vs. standard separator - measured on a 4m long e-chain® fitted with 12 cables in the igus® readychain® factory)

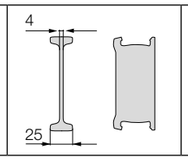


E4/light | Series 15050·15150·R19850 | Accessories

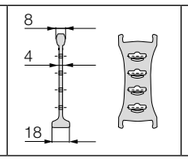
More interior separation options



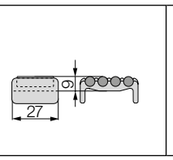
Note: Please be aware of the minimum lateral gap to the side links! **e-tube: 40mm** | **e-chain®: 16mm**
As standard separators are fitted every 2nd e-chain® link!

Notch locking separator	
unassembled	80.6
assembled	80.6.1

Separator, one end locking	
unassembled	80.7
assembled	80.7.1

Rollclip for e-chains®	
unassembled	489.27
assembled	490.27

Notch locking separator for increased holding force

Notch locking separators offer higher crossbar opening forces for high humidity and/or large hydraulic hoses. They can be positioned precisely and then locked in position.

Separator, one end locking

Offset slots for more variability

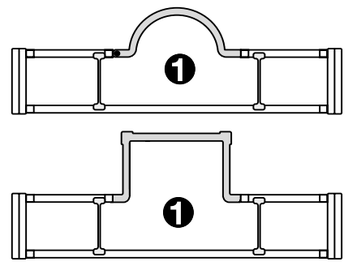
Rollclip*

Minimises abrasion of sensitive hoses. Simply clamps onto the opening crossbar. The movable rollers compensate for relative movement between the e-chain® and hose.

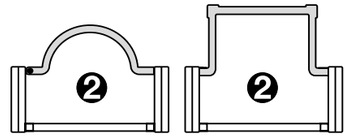
*Only for e-chains®

E4/light | Series 15050·15150·R19850 | Further accessories

Extender crossbar with fixed width

Round or square extender crossbar ❶ combined with openable crossbars or ❷ attached directly on the side link (as viewed from the fixed end)



Extender crossbars with fixed width | Safe guiding for large hoses

- Suitable for hoses with a maximum outer diameter of 270mm
- Option ❶ extender crossbars with fixed width to combine with openable crossbars
- Option ❷ extender crossbars with fixed width attached directly on the side link
- Optionally openable along the inner "**Z**" or the outer radius "**E**"
- Gliding with crossbars assembled along the outer radius and a special guide trough

Part No. extender crossbar with fixed width, as individual parts	Hose Ø ≤ [mm]	Extender crossbar shape	❷ Fitted to side link	❶ Combine with openable crossbars
450.15RHD115	115	○ round	No	Yes
450.17RD115	115	○ round	Yes	No
450.25D150	150	□ square	Yes	No
450.30D200	200	□ square	Yes	No
450.35D250	220	□ square	Yes	No
450.40D300	270	□ square	Yes	No
450.20HD150	150	□ square	No	Yes
450.25HD200	200	□ square	No	Yes
450.30HD250	220	□ square	No	Yes

Order example: ❶ combined with openable crossbars

To receive extender crossbar RHD115 pre-fitted along the outer radius of the-chain®, please add index **E**: **15050.10/15RHD*E*115/10.*R*.0**

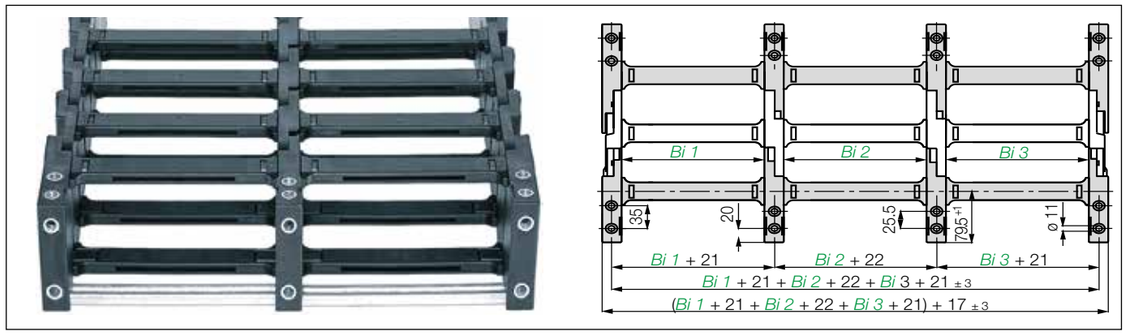
To receive extender crossbar RHD115 pre-fitted along the inner radius of the-chain®, please add index **Z**: **15050.10/15RHD*Z*115/10.*R*.0**

Order example: ❷ fitted to side link

To receive extender crossbar RD115 pre-fitted along the outer radius of the-chain®, please add index **E**: **15050.17RD*E*115.*R*.0**

To receive extender crossbar RD115 pre-fitted along the inner radius of the-chain®, please add index **Z**: **15050.17RD*Z*115.*R*.0**

Extension links



Extension links | For extremely wide e-chains® up to 3.0m

- Virtually unlimited side-by-side extension
- For extremely wide e-chains® up to 3000mm
- Unsupported length FL_G max. can be increased when heavy fill weights are required
- e-chains® and e-tubes can be combined
- Attached with KMA or steel mounting brackets

Part No. Extension link e-chain®	Part No. Extension link e-tube	Part No. Extension link as an individual part
15050.*Bi1*/*Bi2*/*Bi3*.*R*.0	R19850.*Bi1*/*Bi2*/*Bi3*.*R*.0	522.*R*.

Complete Part No.with the width index *Bi1*/*Bi2*/*Bi3*/*etc.* and the radius (*R*). Example: **14040.10/20/10.200.0**



Handling unit indoor crane - long unsupported span with an igus® E4 series

E4/light | Series 15050·15150·R19850 | Further accessories

15050
15150
R19850

E4 snapclip - clip-on tiewrap

- For side-mounted applications, compatible with many E4 e-chains®
- Serves as a clip-on, lateral guide for hoses and cables on e-chains®
- The loops can be adjusted as required

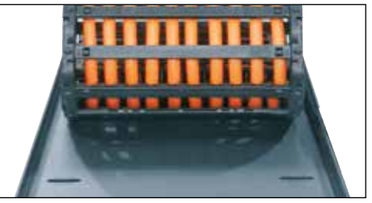
More information ▶ www.igus.eu/15050



Steel support tray for support of the lower run

- Simple one-piece support trays for the lower run
- To your requirements and specification
- 4 options available

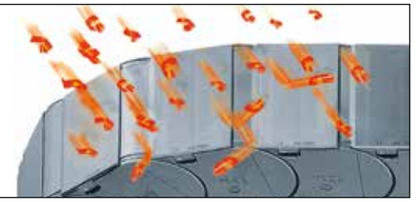
More information ▶ From page 1264



Hot swarf up to +850°C

- e-tubes to withstand 850°C hot swarf, as a special option
- No hot swarf melting or embedding into the chain
- igus® igumid HT material

More information ▶ www.igus.eu/HT



Reduce assembly time - E4 e-chain® opener

- e-chain® opener tools for easy opening and closing of e-chains®
- Simple opening and closing of e-chain® crossbars
- Also for use in hard to reach locations
- Significant assembly time reduction

More information ▶ www.igus.eu/E4savetime



Roller crossbars - increase the service life of cables and hoses

- Significantly reduce jacket abrasion of very stiff cables and hoses with rolling contact surfaces equipped with tribo-optimised bearings
- For sensitive hoses in restricted space
- Usable along the inner and/or outer radius, retrofit possible

More information ▶ www.igus.eu/roller-crossbar



E4/light | Series 15250·15350 | Product range

86

Stable due to undercut design, large inner height



e-chains® | Series 15250 | Crossbars every link (crossbars removable along the inner and outer radius)

Standard **e-chains® | Series 15350 | Crossbars every 2nd link** (crossbars removable along the inner and outer radius)

Part No. e-chains®	Bi [mm]	Ba [mm]	15250 [kg/m]	15350 [kg/m]
15250. 15350. 05. R.0	50	80	≈ 3.64	≈ 3.56
15250. 15350. 06. R.0	68	98	≈ 3.72	≈ 3.60
15250. 15350. 07. R.0	75	105	≈ 3.74	≈ 3.61
15250. 15350. 087.R.0	87	117	≈ 3.79	≈ 3.63
15250. 15350. 097.R.0	97	127	≈ 3.83	≈ 3.65
15250. 15350. 10. R.0	100	130	≈ 3.85	≈ 3.66
15250. 15350. 11. R.0	108	138	≈ 3.87	≈ 3.67
15250. 15350. 112.R.0	112	143	≈ 3.88	≈ 3.68
15250. 15350. 12. R.0	125	155	≈ 3.95	≈ 3.71
15250. 15350. 137.R.0	137	167	≈ 3.98	≈ 3.73
15250. 15350. 15. R.0	150	180	≈ 4.04	≈ 3.75
15250. 15350. 162.R.0	162	193	≈ 4.06	≈ 3.76
15250. 15350. 17. R.0	168	198	≈ 4.11	≈ 3.79
15250. 15350. 18. R.0	175	205	≈ 4.12	≈ 3.80
15250. 15350. 187.R.0	187	218	≈ 4.15	≈ 3.81
15250. 15350. 20. R.0	200	230	≈ 4.23	≈ 3.85

Part No. e-chains®	Bi [mm]	Ba [mm]	15250 [kg/m]	15350 [kg/m]
15250. 15350. 212.R.0	212	243	≈ 4.26	≈ 3.86
15250. 15350. 23. R.0	225	255	≈ 4.32	≈ 3.89
15250. 15350. 237.R.0	237	268	≈ 4.34	≈ 3.90
15250. 15350. 25. R.0	250	280	≈ 4.42	≈ 3.94
15250. 15350. 262.R.0	262	293	≈ 4.47	≈ 3.97
15250. 15350. 28. R.0	275	305	≈ 4.51	≈ 3.99
15250. 15350. 29. R.0	287	318	≈ 4.53	≈ 4.00
15250. 15350. 30. R.0	300	330	≈ 4.61	≈ 4.04
15250. 15350. 312.R.0	312	343	≈ 4.63	≈ 4.05
15250. 15350. 325.R.0	325	355	≈ 4.69	≈ 4.08
15250. 15350. 337.R.0	337	368	≈ 4.73	≈ 4.10
15250. 15350. 350.R.0	350	380	≈ 4.87	≈ 4.17
15250. 15350. 362.R.0	362	393	≈ 4.92	≈ 4.20
15250. 15350. 375.R.0	375	405	≈ 4.97	≈ 4.22
15250. 15350. 387.R.0	387	418	≈ 5.01	≈ 4.24
15250. 15350. 400.R.0	400	430	≈ 5.05	≈ 4.26

Available bend radii

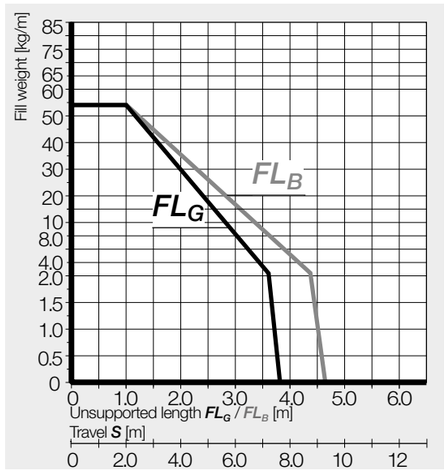
R [mm] | 150 | 200 | 250 | 300 | 350 | 400 | 500 | 600 |

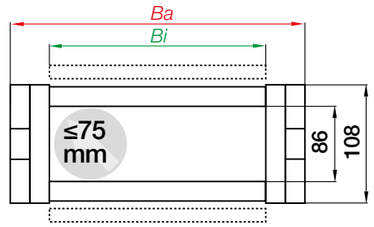
Complete Part No. with required radius (R). Example:

15250.20.300.0 = crossbars every link / 15350.20.300.0 = crossbars every 2nd link

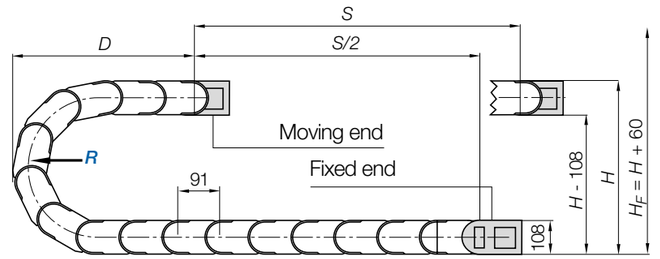
E4/light | 15250·15350 | Installation dimensions

Unsupported applications | Short travels





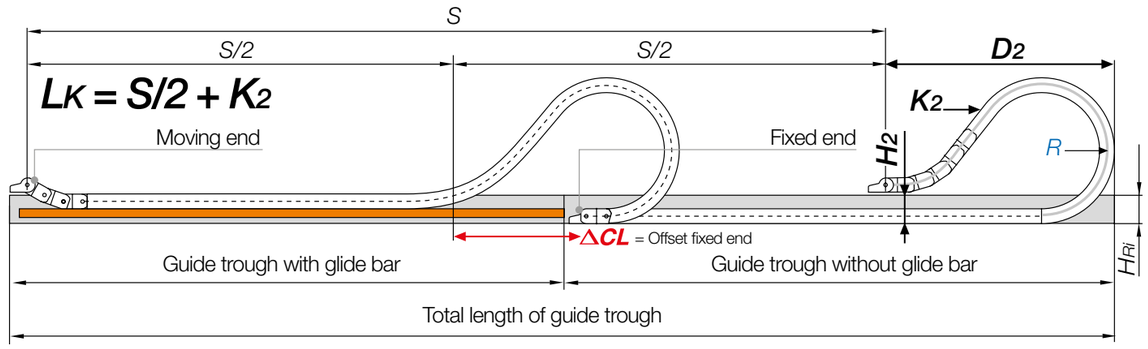
Inner height [mm]	86
Pitch [mm/link]	91
Links/m	11
corresponds to [mm]	1,001
e-chain® length	$L_K = S/2 + K$



R	150	200	250	300	350	400	500	600
H +0 +25	408	508	608	708	808	908	1,108	1,308
D	341	391	441	491	541	591	691	791
K	655	815	970	1,125	1,285	1,440	1,755	2,070

The required clearance height: $H_F = H + 60$mm (with 3.0kg/m fill weight)

Gliding applications | For long travels from 12m to max. 250m



Note: We recommend the project planning of such a system to be carried out by igus®.

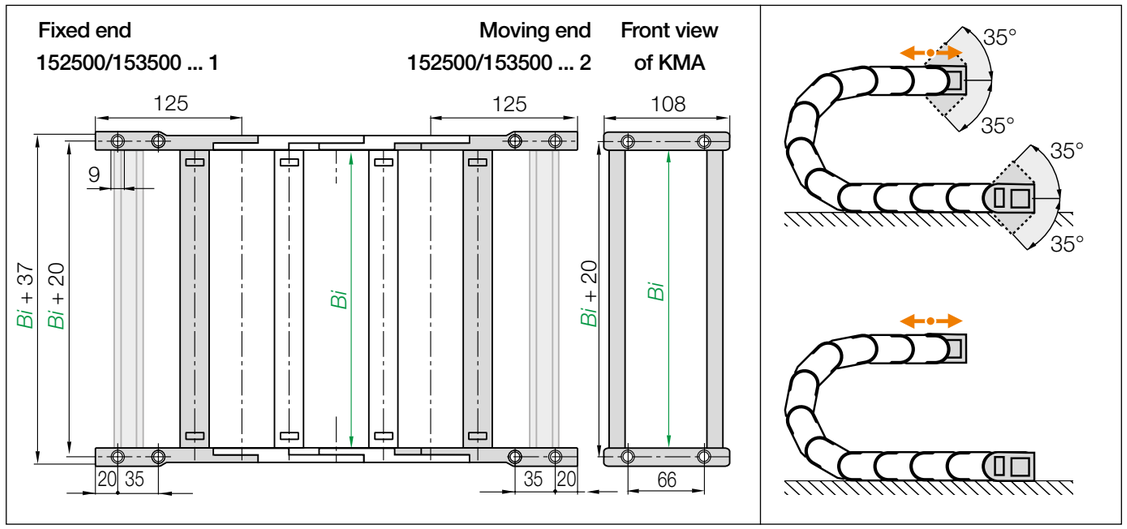
In case of travels between 9 and 12m we recommend an e-chain® with a longer unsupported length.

R	150	200	250	300	350	400	500	600[1)]
H_2	242	242	242	242	242	242	242	–
D_2^{+25}	550	800	950	1,200	1,550	1,700	2,175	–
K_2	910	1,274	1,638	2,002	2,457	2,730	3,458	–
ΔCL	209	409	509	709	1,009	1,109	1,339	–

1) R 600 not suitable for long travels. Please consult igus®.

E4/light | e-chains® 15250·15350 | Accessories

KMA mounting brackets | Attachment from any side | Pivoting | Locking



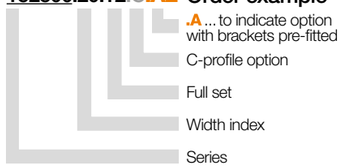
Standard **KMA pivoting** | Recommended for unsupported and gliding applications
KMA locking | Recommended for vertical hanging and standing applications

Width index	Part No. full set KMA pivoting	Part No. full set KMA locking	Bi [mm]	Width index	Part No. full set KMA pivoting	Part No. full set KMA locking	Bi [mm]
05. ▶	152500. 05 .12.C	153500. 05 .12.C	50	212. ▶	152500. 212 .12.C	153500. 212 .12.C	212
06. ▶	152500. 06 .12.C	153500. 06 .12.C	68	23. ▶	152500. 23 .12.C	153500. 23 .12.C	225
07. ▶	152500. 07 .12.C	153500. 07 .12.C	75	237. ▶	152500. 237 .12.C	153500. 237 .12.C	237
087. ▶	152500. 087 .12.C	153500. 087 .12.C	87	25. ▶	152500. 25 .12.C	153500. 25 .12.C	250
09. ▶	152500. 09 .12.C	153500. 09 .12.C	97	262. ▶	152500. 262 .12.C	153500. 262 .12.C	262
10. ▶	152500. 10 .12.C	153500. 10 .12.C	100	28. ▶	152500. 28 .12.C	153500. 28 .12.C	275
11. ▶	152500. 11 .12.C	153500. 11 .12.C	108	29. ▶	152500. 29 .12.C	153500. 29 .12.C	287
112. ▶	152500. 112 .12.C	153500. 112 .12.C	112	30. ▶	152500. 30 .12.C	153500. 30 .12.C	300
12. ▶	152500. 12 .12.C	153500. 12 .12.C	125	312. ▶	152500. 312 .12.C	153500. 312 .12.C	312
137. ▶	152500. 137 .12.C	153500. 137 .12.C	137	325. ▶	152500. 325 .12.C	153500. 325 .12.C	325
15. ▶	152500. 15 .12.C	153500. 15 .12.C	150	337. ▶	152500. 337 .12.C	153500. 337 .12.C	337
162. ▶	152500. 162 .12.C	153500. 162 .12.C	162	350. ▶	152500. 350 .12.C	153500. 350 .12.C	350
17. ▶	152500. 17 .12.C	153500. 17 .12.C	168	362. ▶	152500. 362 .12.C	153500. 362 .12.C	362
18. ▶	152500. 18 .12.C	153500. 18 .12.C	175	375. ▶	152500. 375 .12.C	153500. 375 .12.C	375
187. ▶	152500. 187 .12.C	153500. 187 .12.C	187	387. ▶	152500. 387 .12.C	153500. 387 .12.C	387
20. ▶	152500. 20 .12.C	153500. 20 .12.C	200	400. ▶	152500. 400 .12.C	153500. 400 .12.C	400

(KMA = polymer metal mounting bracket) For the C-profile option please add index **C**



Orientations for KMA mounting brackets. To receive KMA pre-fitted **without C-profile** please add index **.A**. Please add index **.A2** for the standard version **with C-profile**, in the inner radius at the moving end and in the outer radius at the fixed end.

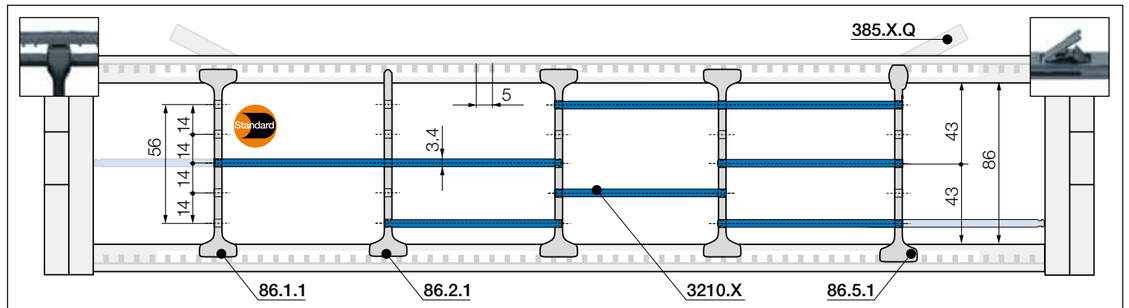


Strain relief **e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with ordering options ▶ From page 1300**

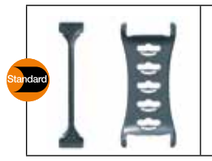
E4/light | Series 15250·15350 | Accessories

Interior separation | Increase cable service life

Previous generation of interior separation with other options ▶ **www.igus.eu/15250**



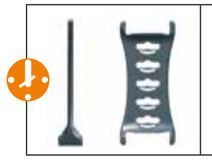
No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-chain® link!



Standard separator, wide base	
unassembled	86.1
assembled	86.1.1

Standard - for any application

Separator with a wide base for maximum holding force in the e-chain®.



Separator for QuickLock crossbar	
unassembled	86.2
assembled	86.2.1

For even faster installation

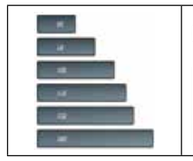
Separator for igus® QuickLock crossbar **385.X.Q**. Wide on one side for high holding force, narrow on opposite side for easy cable fitting.



Notch separator for notched crossbar	
unassembled	86.5
assembled	86.5.1

Locks securely in preset increments

Notch separator for exact positioning in e-chains®. Recommended for side-mounted applications.



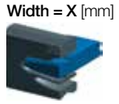
Shelf, lockable	
unassembled	3200.X
assembled	3210.X

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Shelves

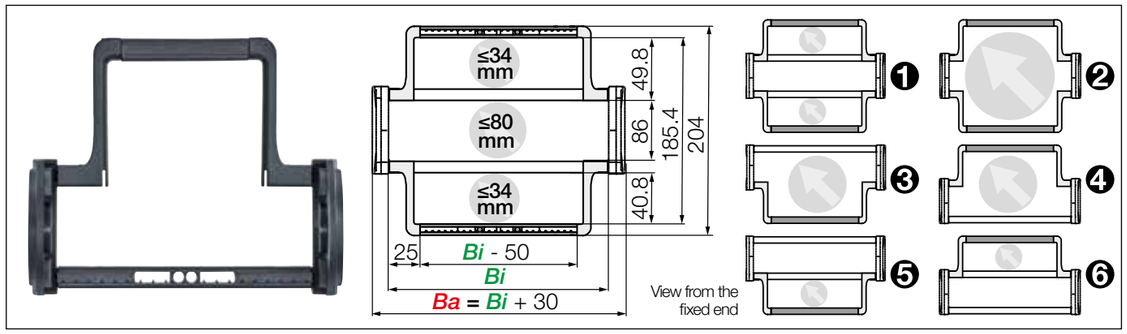
Width = X [mm]



X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
050	3200.050	3210.050	125	3200.125	3210.125	225	3200.225	3210.225
075	3200.075	3210.075	150	3200.150	3210.150	250	3200.250	3210.250
100	3200.100	3210.100	175	3200.175	3210.175			
115	3200.115	3210.115	200	3200.200	3210.200			

E4/light | Series 15250·15350 | Further accessories

e-chain® with openable extender crossbars New



Extender crossbars with flexible width | Safe guiding for large hoses

- For guiding and protecting large hoses
- With mounting for noise dampers
- Cable-friendly design, high crossbar holding force
- The openable extender crossbars can be fitted in different ways and combinations
- Optionally openable along the inner or outer radius

Versions e-chain® with extender crossbar	Hose Ø ≤ [mm]	Part No. crossbars every link	Part No. crossbars every 2nd link
❶ Extender crossbar and standard crossbar alternating along the inner and outer radius [1]	34	15250.XXXHB50.R.0	–
❷ Extender crossbar on both sides along the inner and outer radius [2]	150	15250.XXXB50.R.0	15350.XXXB50.R.0 [2]
❸ Extender crossbar along the outer radius [3]	120	15250.XXXBE50.R.0	15350.XXXBE50.R.0 [2]
❹ Extender crossbar along the inner radius [2]	120	15250.XXXBZ50.R.0	15350.XXXBZ50.R.0 [2]
❺ Extender crossbar and standard crossbar alternating along the outer radius [3]	34	15250.XXXHBE50.R.0	–
❻ Extender crossbar and standard crossbar alternating along inner radius [1]	34	15250.XXXHBZ50.R.0	–

1) Minimum bend radius: R 125 2) Minimum bend radius: R 150 3) Minimum bend radius: R 150

Bi [mm] **Available inner widths**

| 100 | 125 | 137 | 150 | 162 | 175 | 187 | 200 | 212 | 225 | 237 | 250 |
| 262 | 275 | 287 | 300 | 312 | 325 | 337 | 350 | 362 | 375 | 387 | 400 |

Complete Part No. with the width index XXX Bi and the minimum bend radius (R). Example:

15250.100B50.150.0 = crossbars every link, extender crossbar on both sides along the inner and outer radius

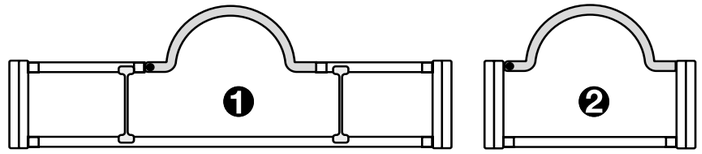


The E4/light can be fitted with openable extender crossbars, which increase the size of the interior of the e-chain®. Crossbars can be fitted in various ways: from one or both sides, alternating with standard crossbars and or any combination

Extender crossbar with fixed width



Round extender crossbar ❶ combined with openable crossbars or ❷ attached directly on the side link (as viewed from the fixed end)



Extender crossbars with fixed width | Safe guiding for large hoses

- Suitable for hoses with a maximum outer diameter of 115mm.
- Option ❶ extender crossbars with fixed width to combine with openable crossbars
- Option ❷ extender crossbars with fixed width attached directly on the side link
- Optionally openable along the inner "Z" or the outer radius "E"
- Gliding with crossbars assembled along the outer radius and a special guide trough

Part No. extender crossbar with fixed width, as individual parts	Hose Ø ≤ [mm]	Extender crossbar shape	❷ Fitted to side link	❶ Combine with openable crossbars
385.15RHD115	115	O round	No	Yes
385.18RD115	115	O round	Yes	No

Order example: ❶ combined with openable crossbars

To receive extender crossbar RHD115 pre-fitted along the outer radius of the-chain®, please add index E: **15250.10/15RHDE115/10.R.0**

To receive extender crossbar RHD115 pre-fitted along the inner radius of the-chain®, please add index Z: **15250.10/15RHDZ115/10.R.0**

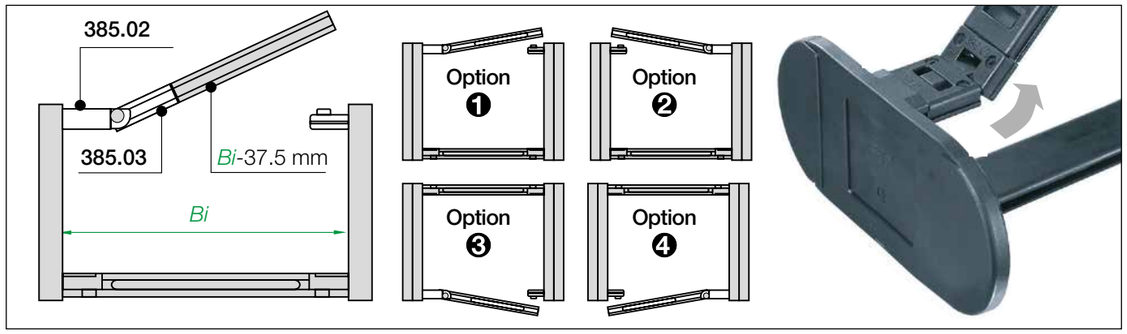
Order example: ❷ fitted to side link

To receive extender crossbar RD115 pre-fitted along the outer radius of the-chain®, please add index E: **15250.18RDE115.R.0**

To receive extender crossbar RD115 pre-fitted along the inner radius of the-chain®, please add index Z: **15250.18RDZ115.R.0**

E4/light | Series 15250·15350 | Further accessories

Hinged crossbar | Swivel clips



Hinged crossbars | Swivel clip | Openable crossbar remains attached to the e-chain®

- When opening crossbars must remain attached to the e-chain®
- Hinged crossbars consist of a swivel clip and a shortened crossbar
- Openable crossbar (shortened): ***Bi***-37.5mm (smallest inner width ***Bi*** = 87.5)
- Please consult igus® for assistance with this product

Part No. e-chain® with hinged crossbar	Part No. swivel clip as an individual part	Part No. openable crossbar as an individual part
15250.***Bi***.**Z**.***R***.0	385.02	385.03

Complete Part No. with the width index ***Bi***, the index **Z** for the required option and the radius (***R***). Example: **15250.137.1.200.0**



System E4/light e-chains® - can be filled with cables of diameters up to 100mm

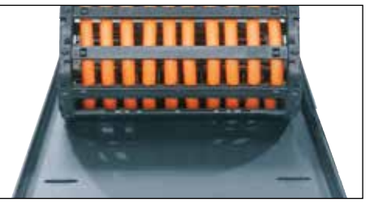
E4/light | Series 15250·15350 | Further accessories

15250
15350

Steel support tray for support of the lower run

- Simple one-piece support trays for the lower run
- To your requirements and specification
- 4 options available

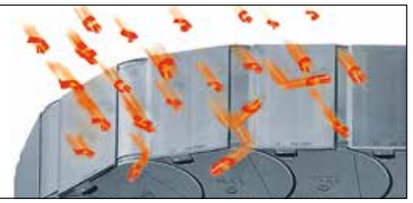
More information ▶ From page 1264



Hot swarf up to +850°C

- e-tubes to withstand 850°C hot swarf, as a special option
- No hot swarf melting or embedding into the chain
- igus® igumid HT material

More information ▶ www.igus.eu/HT



Reduce assembly time - E4 e-chain® opener

- e-chain® opener tools for easy opening and closing of e-chains®
- Simple opening and closing of e-chain® crossbars
- Also for use in hard to reach locations
- Significant assembly time reduction

More information ▶ www.igus.eu/E4savetime



Roller crossbars - increase the service life of cables and hoses

- Significantly reduce jacket abrasion of very stiff cables and hoses with rolling contact surfaces equipped with tribo-optimised bearings
- For sensitive hoses in restricted space
- Usable along the inner and/or outer radius, retrofit possible

More information ▶ www.igus.eu/roller-crossbar



E4/light | Series 1640·R1608 | Product range

Stable due to undercut design, new very large inner height

112 e-chain® 108 e-tube



e-chains® | Series 1640 | Crossbars every link (crossbars removable along the inner and outer radius)
e-tube | Series R1608 | Fully enclosed (lids openable along the outer radius, from one side)

Part No. e-chains® / e-tubes			Bi [mm]	Ba [mm]	1640 [kg/m]	1608 [kg/m]
1640.	–	05. R.0	50	84	≈ 5.10	–
1640.	–	055.R.0	55	89	≈ 5.14	–
1640.	–	06. R.0	65	99	≈ 5.18	–
1640.	–	07. R.0	75	109	≈ 5.27	–
1640.	–	08. R.0	87	121	≈ 5.31	–
1640.	–	10. R.0	100	134	≈ 5.36	–
1640.	–	11. R.0	112	146	≈ 5.45	–
1640.	–	12. R.0	125	159	≈ 5.54	–
1640.	–	13. R.0	137	171	≈ 5.63	–
1640.	–	15. R.0	150	184	≈ 5.67	–
1640.	–	16. R.0	162	196	≈ 5.74	–
1640.	–	169.R.0	169	204	≈ 5.82	–
1640.	–	17. R.0	175	209	≈ 5.81	–
1640.	–	182.R.0	182	217	≈ 5.85	–
1640.	–	18. R.0	187	221	≈ 5.88	
1640.	1608.	20. R.0	200	234	≈ 5.89	≈ 7.69
1640.	–	207.R.0	207	242	≈ 5.95	–
1640.	–	21. R.0	212	246	≈ 5.96	–
1640.	–	22. R.0	225	259	≈ 6.01	–
1640.	–	23. R.0	237	271	≈ 6.09	
1640.	1608.	25. R.0	250	284	≈ 6.15	≈ 8.39
1640.	–	26. R.0	262	296	≈ 6.20	–
1640.	–	27. R.0	275	309	≈ 6.27	–
1640.	–	28. R.0	287	321	≈ 6.29	–
1640.	1608.	30. R.0	300	334	≈ 6.34	≈ 9.09
1640.	–	31. R.0	312	346	≈ 6.41	–
1640.	–	32. R.0	325	359	≈ 6.48	–
1640.	–	33. R.0	337	371	≈ 6.59	–
1640.	1608.	35. R.0	350	384	≈ 6.61	≈ 9.79
1640.	–	36. R.0	362	396	≈ 6.67	–
1640.	–	37. R.0	375	409	≈ 6.71	–
1640.	–	38. R.0	387	421	≈ 6.76	–
1640.	1608.	40. R.0	400	434	≈ 6.89	≈ 10.49
1640.	–	41. R.0	412	446	≈ 6.99	–
1640.	–	42. R.0	425	459	≈ 7.08	–
1640.	–	43. R.0	437	471	≈ 7.13	–
1640.	–	45. R.0	450	484	≈ 7.17	–
1640.	–	46. R.0	462	496	≈ 7.18	–
1640.	–	47. R.0	475	509	≈ 7.22	–
1640.	–	48. R.0	487	521	≈ 7.27	–
1640.	1608.	50. R.0	500	534	≈ 7.35	≈ 11.78
1640.	–	51. R.0	512	546	≈ 7.36	–
1640.	–	52. R.0	525	559	≈ 7.39	–
1640.	–	53. R.0	537	571	≈ 7.49	–
1640.	–	55. R.0	550	584	≈ 7.80	–
1640.	–	60. R.0	600	634	≈ 7.92	–

*Radius not available for e-tubes

Available bend radii

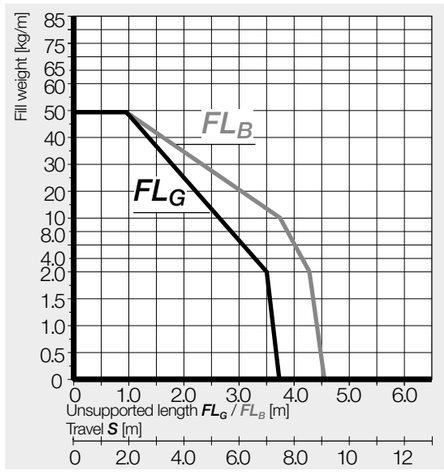
R [mm] | 200* | 250 | 300 | 350 | 400 | 450 | 500 | 550 | 600 |

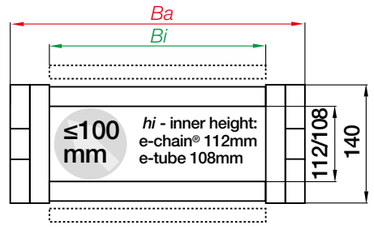
Complete Part No. with required radius (R). Example:

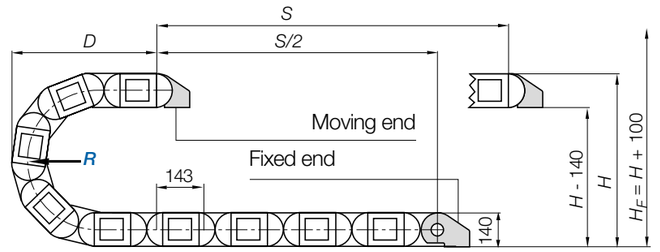
1640.30.300.0 = crossbars every link / 1608.30.300.0 = fully enclosed

E4/light | 1640·R1608 | Installation dimensions

Unsupported applications | Short travels







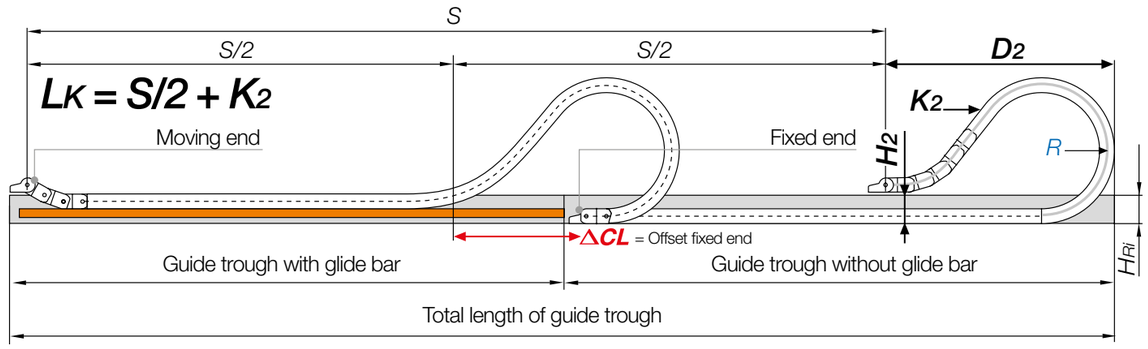
R	200*	250	300	350	400	450	500	550	600
H	540	640	740	840	940	1,040	1,140	1,240	1,340
D	485	535	585	635	685	735	785	835	885
K	915	1,075	1,230	1,390	1,545	1,700	1,860	2,015	2,175

The required clearance height: $H_F = H + 100$mm (with 5.0kg/m fill weight)

*Radius not available for e-tubes

1640 Inner height [mm]	112
R1608 Inner height [mm]	108
Pitch [mm/link]	143
Links/m	7
corresponds to [mm]	1,001
e-chain® length	$L_K = S/2 + K$

Gliding applications | For long travels from 14m to max. 400m



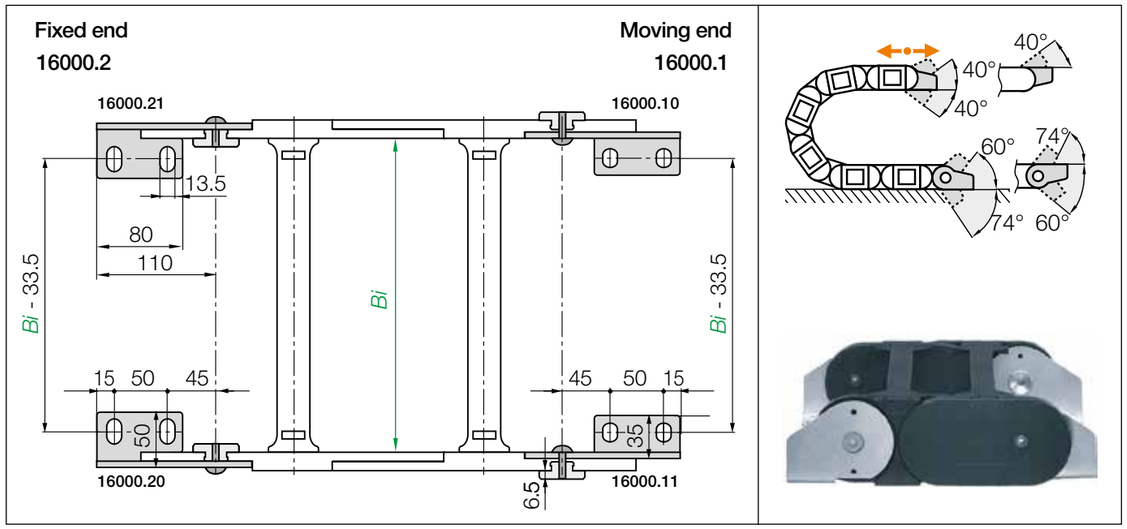
Note: We recommend the project planning of such a system to be carried out by igus®.
In case of travels between 9 and 14m we recommend an e-chain® with a longer unsupported length.

R	200*	250	300	350	400	450	500	550	600
H_2	325	325	325	325	325	325	325	325	325
D_2^{+25}	900	1,000	1,100	1,250	1,450	1,600	1,700	1,900	2,050
K_2	1573	1,716	1,859	2,288	2,574	2,860	3,146	3,432	3,861
ΔCL	450	500	550	650	800	900	950	1,100	1,200

*Radius not available for e-tubes

E4/light | Series 1640·R1608 | Accessories

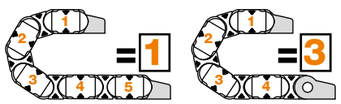
Steel mounting brackets | Pivoting



Steel pivoting | For unsupported, gliding, vertical hanging and vertical standing applications

Part No. full set	Description
steel pivoting	mounting bracket
16000.1.12.VS.E	Full set (both ends), ending with outer side link, **screwed** - standard
16000.3.12.VS.E	Full set (both ends) - beginning with outer side link (moving end) - ending with inner side link (fixed end), **screwed** - standard

Stainless steel version available. Please add the index **.E**! (Material: stainless steel 1.4301)



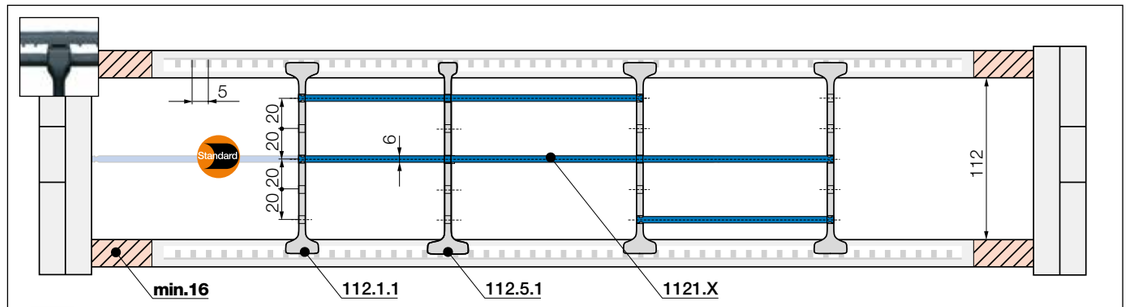
Note: Depending on the chain length, the e-chain® may end with 1 either an outer or an 3 inner side link. For the best appearance, make sure the e-chain® ends with 1 outer side links whenever possible. (with odd number of links)

Strain relief **e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with ordering options ▶ From page 1300**

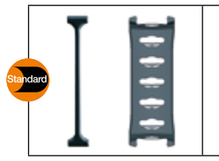
E4/light | e-chains® 1640·R1608 | Accessories (e-tubes ▶ next page)

Interior separation | Increase cable service life | Only for e-chains®

Previous generation of interior separation with other options ▶ **www.igus.eu/1640**



Note: Please be aware of the minimum lateral gap to the side links! **e-chain®: 16mm**
As standard separators are fitted every 2nd e-chain® link!



Standard separator, wide base	
unassembled	**112.1**
assembled	**112.1.1**

Standard - for any application

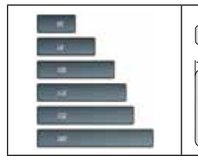
Separator with a wide base for maximum holding force in the e-chain®.



Notch separator for notched crossbar	
unassembled	**112.5**
assembled	**112.5.1**

Locks securely in preset increments

Notch separator for exact positioning in e-chains®. Recommended for side-mounted applications.



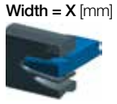
Shelf, lockable	
unassembled	**1120.X**
assembled	**1121.X**

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Shelves

Width = X [mm]

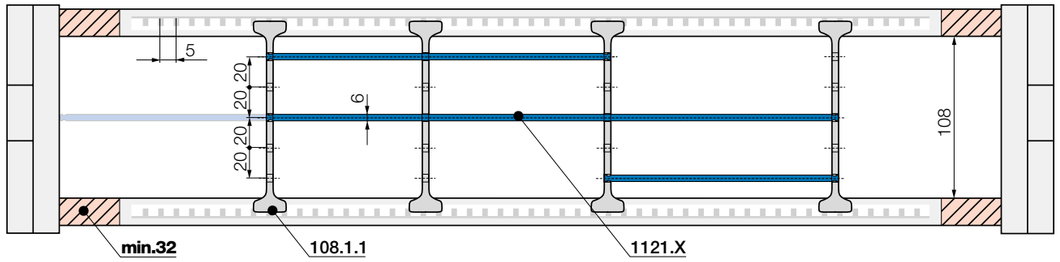


X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
050	**1120.050**	**1121.050**	150	**1120.150**	**1121.150**	300	**1120.300**	**1121.300**
065	**1120.065**	**1121.065**	175	**1120.175**	**1121.175**	350	**1120.350**	**1121.350**
075	**1120.075**	**1121.075**	200	**1120.200**	**1121.200**	375	**1120.375**	**1121.375**
100	**1120.100**	**1121.100**	225	**1120.225**	**1121.225**	387	**1120.387**	**1121.387**
125	**1120.125**	**1121.125**	250	**1120.250**	**1121.250**	450	**1120.450**	**1121.450**

E4/light | **e-tubes R1608** | Accessories (e-chains® ▶ previous page)

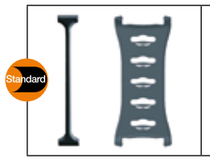
Interior separation | Increase cable service life | Only for e-tubes

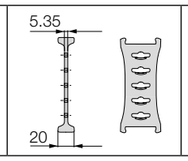
Previous generation of interior separation with other options ▶ **www.igus.eu/R1608**



Note: Please be aware of the minimum lateral gap to the side links! **e-tubes: 32mm**

As standard separators are fitted every 2nd e-chain® link!

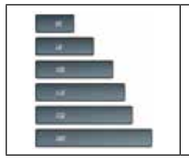


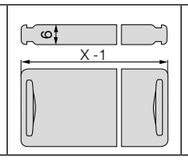


Standard separator, wide base	
unassembled	**108.1**
assembled	**108.1.1**

Standard - for any application

Separator with a wide base for maximum holding force in the e-chain®.





Shelf, lockable	
unassembled	**1120.X**
assembled	**1121.X**

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Shelves

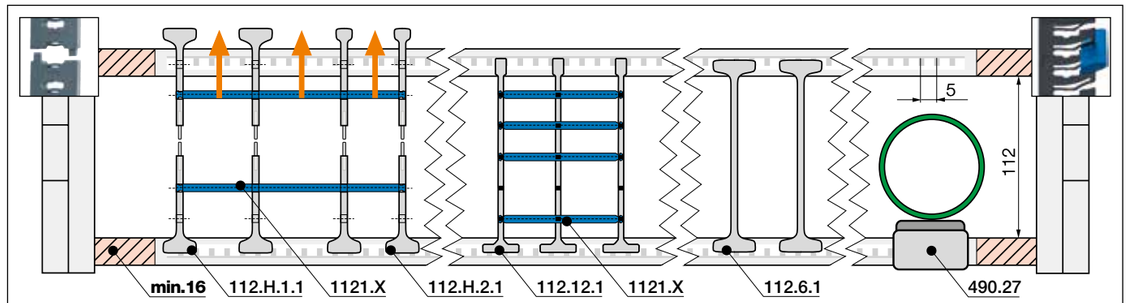
Width = X [mm]



X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
050	**1120.050**	**1121.050**	150	**1120.150**	**1121.150**	300	**1120.300**	**1121.300**
065	**1120.065**	**1121.065**	175	**1120.175**	**1121.175**	350	**1120.350**	**1121.350**
075	**1120.075**	**1121.075**	200	**1120.200**	**1121.200**	375	**1120.375**	**1121.375**
100	**1120.100**	**1121.100**	225	**1120.225**	**1121.225**	387	**1120.387**	**1121.387**
125	**1120.125**	**1121.125**	250	**1120.250**	**1121.250**	450	**1120.450**	**1121.450**

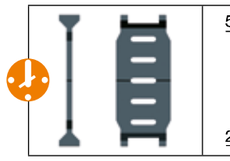
E4/light | **e-chains® 1640** | Accessories

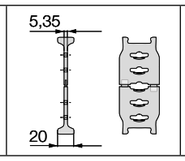
Interior separation | To allow faster filling



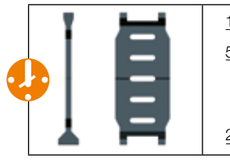
Note: Please be aware of the minimum lateral gap to the side links! **e-chain®: 16mm**

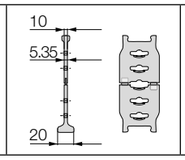
As standard separators are fitted every 2nd e-chain® link!





Split separator, wide base/top*	
unassembled	**112.H.1**
assembled	**112.H.1.1**

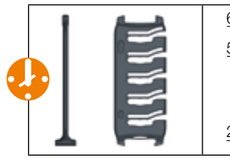


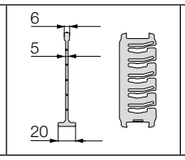


Split separator, narrow top*	
unassembled	**112.H.2**
assembled	**112.H.2.1**

Split separators*

In order to fill e-chains® more easily and effectively, these separators can be split in the middle. This allows easier access to middle shelf partitions. Fast assembly and easy retrofit. 2 types available: with wide or narrow top.





Lean separator*	
unassembled	**112.12**
assembled	**112.12.1**

Lean separators* New

New design allows extremely fast fitting of shelves in several layers, which significantly reduces assembly time. Enables extremely fast replacement of individual cables in a very full e-chain®.

*Only for e-chains®

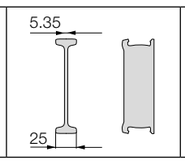
Lean separator design - several layers of cables fitted quickly, save up to 50%* assembly time

(*Lean separator vs. standard separator - measured on a 4m long e-chain® fitted with 12 cables in the igus® readychain® factory)



More interior separation options



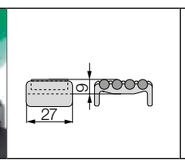


Notch locking separator*, lockable	
unassembled	**112.6**
assembled	**112.6.1**

Notch locking separator for increased holding force

Notch locking separators* offer higher crossbar opening forces for high humidity and/or large hydraulic hoses. They can be positioned precisely and then locked in position.





Rollclip for e-chains®	
unassembled	**489.27**
assembled	**490.27**

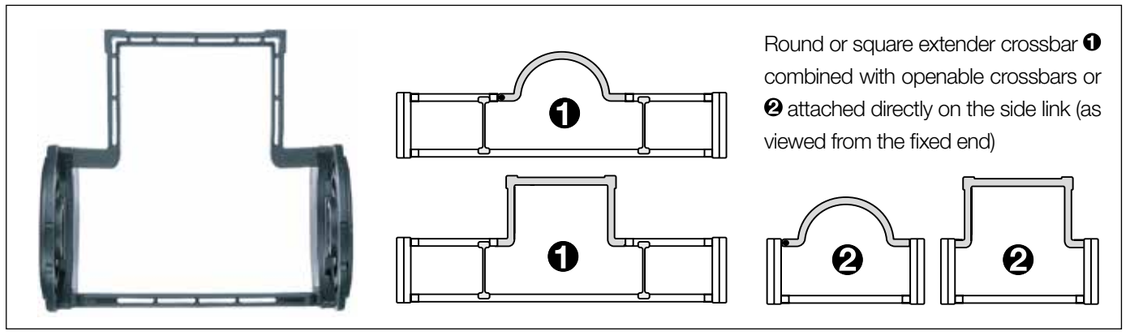
Rollclip*

Minimises abrasion of sensitive hoses. Simply clamps onto the opening crossbar. The movable rollers compensate for relative movement between the e-chain® and hose.

*Only for e-chains®

E4/light | Series 1640·R1608 | Further accessories

Extender crossbar with fixed width



Round or square extender crossbar ❶ combined with openable crossbars or ❷ attached directly on the side link (as viewed from the fixed end)

Extender crossbars with fixed width | Safe guiding for large hoses

- Suitable for hoses with a maximum outer diameter of 300mm.
- Option ❶ extender crossbars with fixed width to combine with openable crossbars
- Option ❷ extender crossbars with fixed width attached directly on the side link
- Optionally openable along the inner "**Z**" or the outer radius "**E**"
- Gliding with crossbars assembled along the outer radius and a special guide trough

Part No. extender crossbar with fixed width, as individual parts	Hose Ø ≤ [mm]	Extender crossbar shape	❷ Fitted to side link	❶ Combine with openable crossbars
450.15RHD115	115	○ round	No	Yes
450.17RD115	115	○ round	Yes	No
450.25D150	150	□ square	Yes	No
450.30D200	200	□ square	Yes	No
450.35D250	250	□ square	Yes	No
450.40D300	300	□ square	Yes	No
450.20HD150	150	□ square	No	Yes
450.25HD200	200	□ square	No	Yes
450.30HD250	250	□ square	No	Yes

Order example: ❶ combined with openable crossbars

To receive extender crossbar RHD115 pre-fitted along the outer radius of the-chain®, please add index **E**: **1640.10/15RHD*E*115/10.*R*.0**

To receive extender crossbar RHD115 pre-fitted along the inner radius of the-chain®, please add index **Z**: **1640.10/15RHD*Z*115/10.*R*.0**

Order example: ❷ fitted to side link

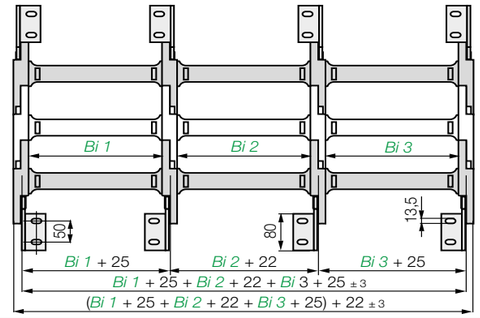
To receive extender crossbar RD115 pre-fitted along the outer radius of the-chain®, please add index **E**: **1640.17RD*E*115.*R*.0**

To receive extender crossbar RD115 pre-fitted along the inner radius of the-chain®, please add index **Z**: **1640.17RD*Z*115.*R*.0**

E4/light | Series 1640·R1608 | Further accessories

Extension links



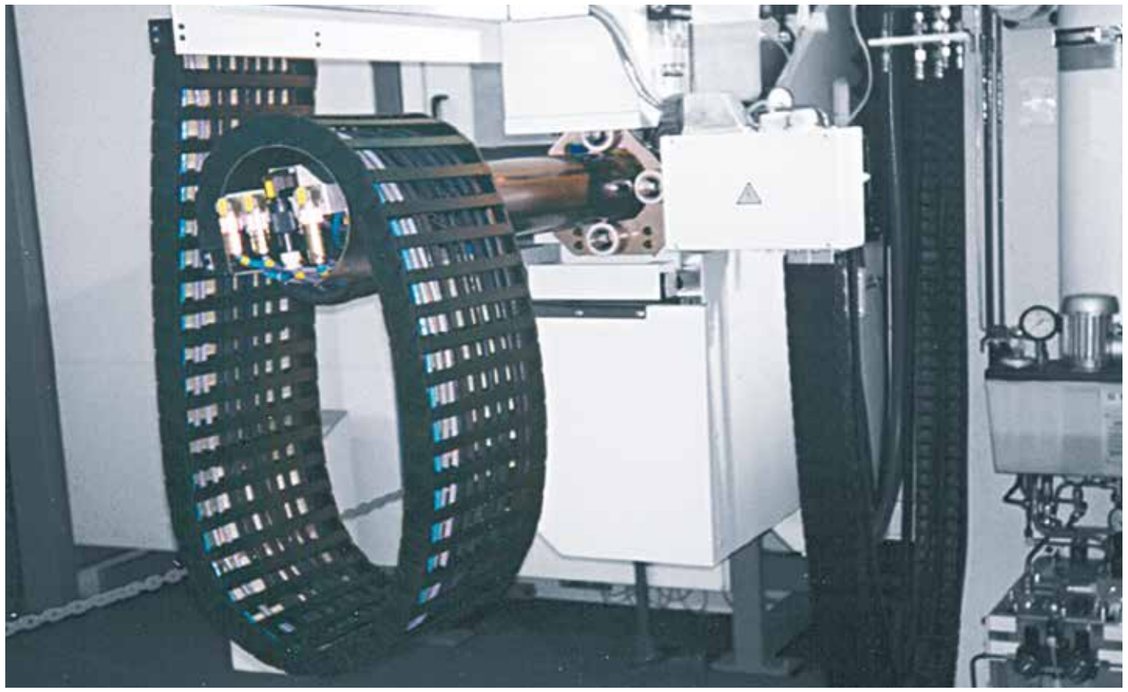


Extension links | For extremely wide e-chains® up to 3.0m

- Virtually unlimited side-by-side extension
- For extremely wide e-chains® up to 3000mm
- Unsupported length FL_G max. can be increased when heavy fill weights are required
- e-chains® and e-tubes can be combined
- Attached with KMA or steel mounting brackets

Part No. Extension link e-chain®	Part No. Extension link e-tube	Part No. Extension link as an individual part
1640.*Bi1*/*Bi2*/*Bi3*.*R*.0	**R1608.*Bi1*/*Bi2*/*Bi3*.*R*.0**	**6022.*R*.**

Complete Part No.with the width index ***Bi1*/*Bi2*/*Bi3*/*etc.*** and the radius (***R***). Example: **1640.10/20/10.200.0**



Circular movements (also with Reverse Bend Radius "***RBR***") are possible

E4 snapclip - clip-on tiewrap

- For side-mounted applications, compatible with many E4 e-chains®
- Serves as a clip-on, lateral guide for hoses and cables on e-chains®
- The loops can be adjusted as required

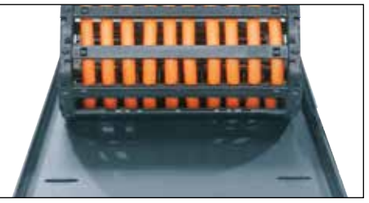
More information ▶ www.igus.eu/1640



Steel support tray for support of the lower run

- Simple one-piece support trays for the lower run
- To your requirements and specification
- 4 options available

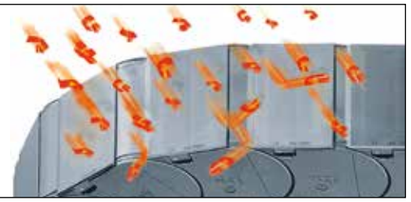
More information ▶ From page 1264



Hot swarf up to +850°C

- e-tubes to withstand 850°C hot swarf, as a special option
- No hot swarf melting or embedding into the chain
- igus® igumid HT material

More information ▶ www.igus.eu/HT



Reduce assembly time - E4 e-chain® opener

- e-chain® opener tools for easy opening and closing of e-chains®
- Simple opening and closing of e-chain® crossbars
- Also for use in hard to reach locations
- Significant assembly time reduction

More information ▶ www.igus.eu/E4savetime



Roller crossbars - increase the service life of cables and hoses

- Significantly reduce jacket abrasion of very stiff cables and hoses with rolling contact surfaces equipped with tribo-optimised bearings
- For sensitive hoses in restricted space
- Usable along the inner and/or outer radius, retrofit possible

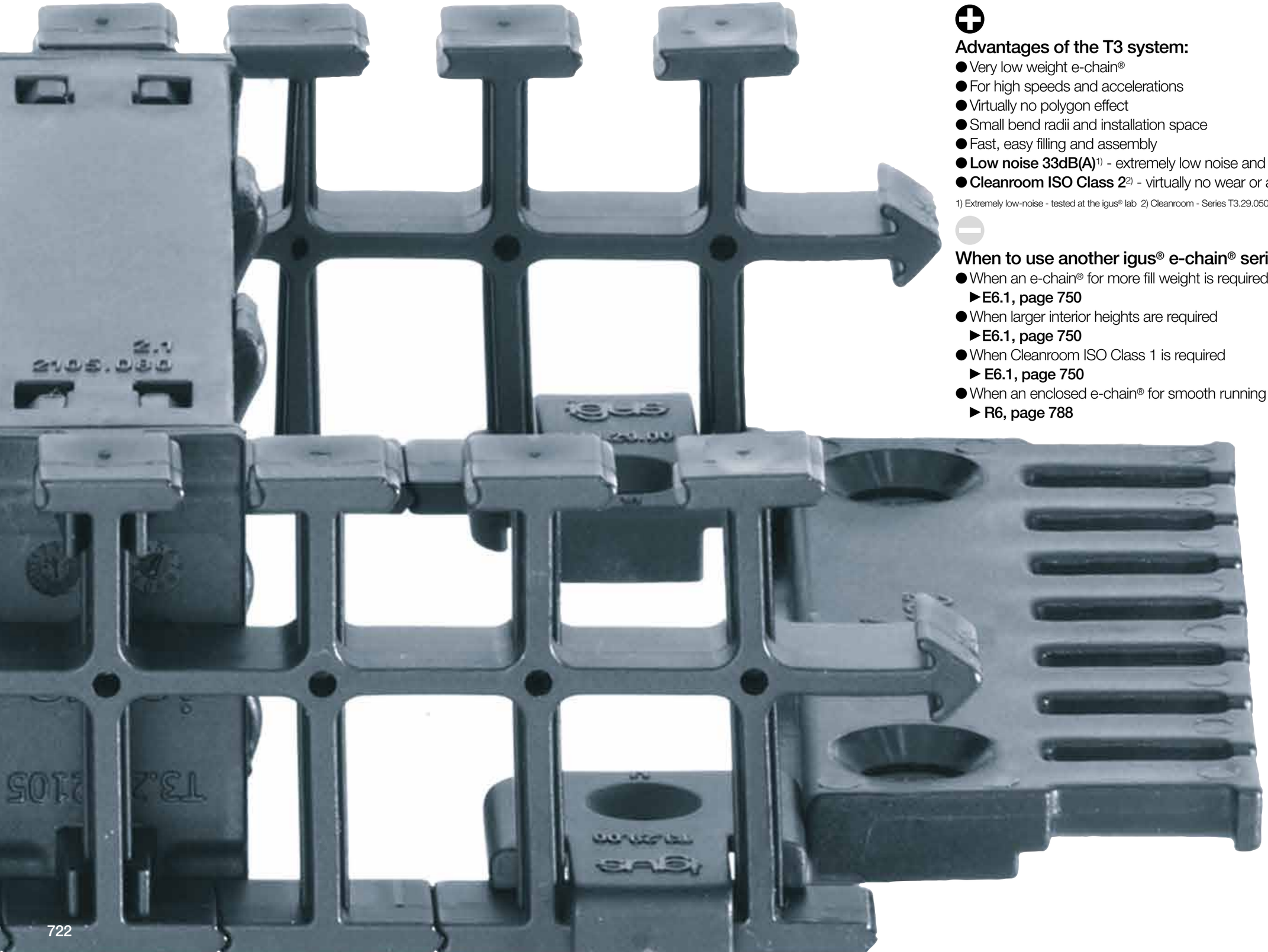
More information ▶ www.igus.eu/roller-crossbar





Side-mounted E4/light e-tubes - machine tool fitted with a swarf-repellent e-tube from the E4 modular system

T3 Light, highly flexible and low-vibration



Advantages of the T3 system:

- Very low weight e-chain®
- For high speeds and accelerations
- Virtually no polygon effect
- Small bend radii and installation space
- Fast, easy filling and assembly
- **Low noise 33dB(A)**[1] - extremely low noise and low vibration due small pitch
- **Cleanroom ISO Class 2**[2] - virtually no wear or abrasion

1) Extremely low-noise - tested at the igus® lab 2) Cleanroom - Series T3.29.050.038.0

When to use another igus® e-chain® series:

- When an e-chain® for more fill weight is required
  ►**E6.1, page 750**
- When larger interior heights are required
  ►**E6.1, page 750**
- When Cleanroom ISO Class 1 is required
  ► **E6.1, page 750**
- When an enclosed e-chain® for smooth running is required
  ► **R6, page 788**



Universal:
mounting angles and strain relief option

Low noise 33dB(A)[1]:
small pitch for low noise, smooth running

Modular design:
t-band in one segment of 8 links

Modular:
easy to lengthen and shorten at any point

Easy to use:
clip-on interior separation clips

Cleanroom ISO Class 2[2]:
virtually no wear or abrasion

Dynamic:
for high speeds and accelerations

Efficient:
lightweight

Smooth running "T-band", quiet, cost-effective - T3 system

The T3 system combines low noise operation, simple assembly and economy. The side bands, which snap together, replace a conventional pin/bore connection and prevent relative movements between the joints giving extremely low wear. This means virtually no wear or abrasion (cleanroom). The geometrical shape of the t-band, means that hardly any polygon effect is generated in operation. The t-band therefore rolls in a very smooth arc, giving extremely low vibration and noise. In order to reduce the manufacturing and installation costs, the t-band is made in a segment of 8 links (similar to the igus® E3 system). Due to its low mass, the igus® t-band, is suitable for applications with low fill weights and short strokes, combined with high speeds and accelerations.

1) Extremely low-noise - tested at the igus® lab

2) Cleanroom - Series T3.29.050.038.0

Typical industries and applications

● Printer and plotter ● Cleanroom applications ● Production and processing of semiconductors ● Optics ● Pick and place machines ● Measuring technology

Fraunhofer IPA TESTED® DEVICE igus GmbH Energy chain T3.29.050.038.0 Report No. IG 1303-640

IPA Qualification Certificate2) - Report IG 1303-640-1:
ISO Class 2, according to DIN EN ISO 14644-1 for system T3, series T3.29.050.038.0 at v = 0.5m/s, 1 m/s, 2m/s

igus® tests at 1 m measuring distance:
= 33 dB(A)[1] for T3.29.050.038.0 at
v = 1 m/s and 26.5 dB(A) basic sound level

Series	Inner height *hi* [mm]	Inner width *Bi* [mm]	Outer width *Ba* [mm]	Outer height *ha* [mm]	Bend radius *R* [mm]	Unsupported length ≤ [m]	Page
 **System T3 - t-shaped band e-chains®** crossbars removable along the inner and outer radius							
T3.29.	29	30 - 140	55 - 165	35	038	≈ 1.45	**728**

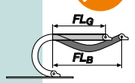
Available from stock. Ready to ship in 24 - 48hrs.*

*The delivery times indicated correspond to the average time until the ordered goods are dispatched.



T3 system on the Z-axis of a positioning system. It has very low noise and vibration

Technical data

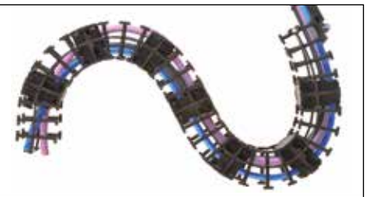


Speed FL_G / acceleration FL_G	≤ 20 [m/s] / ≤ 200 [m/s²]
Speed FL_B / acceleration FL_B	≤ 3 [m/s] / ≤ 6 [m/s²]
Material - permitted temperature °C	upon request
Flammability class	VDE 0304 IIC UL94-HB

FL_G = unsupported with straight upper run FL_B = unsupported with permitted sag

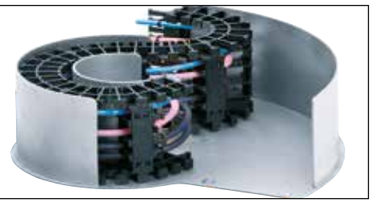
T3 e-chains® and modules for circular movement

● T3 e-chains® with Reverse Bend Radii: ***RBR***
● Several Reverse Bend Radii: 55, 75, 100, 150
● Wide range of interior separation layouts ● Quiet operation ● Low wear.
Please consult igus® for delivery time
More information ▶ www.igus.eu/circularmovement



T3 *RBR* module for Reverse Bend Radii

● Consists of 4 elements: T3 ***RBR*** e-chain®, guiding system, chainflex® cables, iglidur® PRT slewing ring bearing ● Compact guide trough ● Inner or outer radius rotation ● For high speeds ● Quiet ● Several mounting options.
Please consult igus® for delivery time.
More information ▶ www.igus.eu/circularmovement



Options with order keys | Examples based on series T3.29

Standard	*NC version - (No Camber) without pretension*	*Reverse Bend Radius (RBR) for circular movements*
Part No. Standard	**Part No. NC version**	**Part No. *RBR***
Standard	NC	Reverse Bend Radius possible with igus® T3 ***RBR*** e-chains® or T3 ***RBR*** module ▶ **www.igus.eu/circularmovement**
T3.29.050.*R*.0	T3.29.050.*R*.0.NC	T3.29.050.*R1/R2*.0
Ready to ship* in 24 - 48hrs.	Delivery time* 2-5 business days	Delivery time* 5-10 business days

*The delivery times indicated correspond to the average time until the ordered goods are dispatched.

Order example | Order key and colour examples | Examples based on series T3.29

Order example for complete e-chain® (1.0m), colour black, with mounting brackets and interior separation:

e-chain® (1.0m)	Please indicate e-chain® length or number of links: 1.0m or 67 links	T3.29.050.038.0
+ Mounting brackets	1 set (with tiewrap plates)	T3.29.050.12PZ
Interior separation	with 2 separators assembled every 2nd link	2 x .29.11
Order text:	**1 m T3.29.050.038.0 + T3.050.12 + 2 x 29.1.1**	

Order key

t-shaped band e-chains® **T3.29.050.038.0**

- Series / Type
- Width index (depends on *Bi*)
- Bend radius *R*
- Colour index (standard black)

Order index for colour options

Colour	Order index		Colour	Order index	
Black	Standard	.0	Orange	Special colour	.2
Silver-grey	Special colour	.31	Yellow	Special colour	.4
White	Special colour	.1	Light grey	Special colour	.14
Grey-white	Special colour	.1S			

Black e-chains® available from stock.
Above special colours upon request.

T3 | Series T3.29 | Product range

e-chain® t-band for highly dynamic applications

29

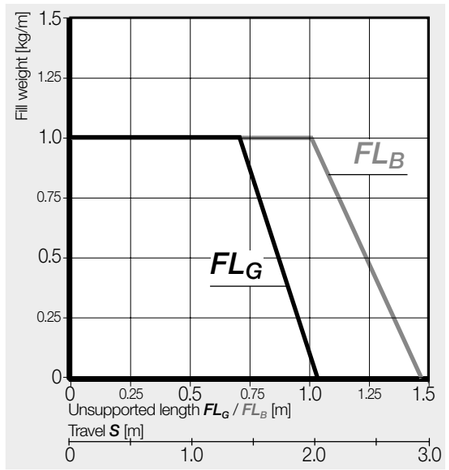


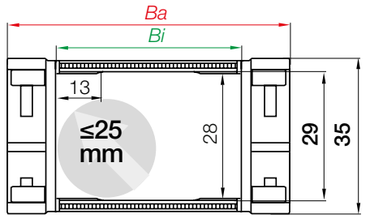
e-chains® | Series T3.29 | Crossbars removable along the inner and outer radius

Part No. e-chains®	Bi [mm]	Ba [mm]	R Available bend radii [mm]	T3.29 [kg/m]
T3.29.030.R.0	30	55	| 038 |	≈ 0.40
T3.29.040.R.0	40	65	| 038 |	≈ 0.42
T3.29.050.R.0	50	75	| 038 |	≈ 0.44
T3.29.060.R.0	60	85	| 038 |	≈ 0.46
T3.29.070.R.0	70	95	| 038 |	≈ 0.48
T3.29.080.R.0	80	105	| 038 |	≈ 0.50
T3.29.090.R.0	90	115	| 038 |	≈ 0.51
T3.29.100.R.0	100	125	| 038 |	≈ 0.53
T3.29.110.R.0	110	135	| 038 |	≈ 0.55
T3.29.120.R.0	120	145	| 038 |	≈ 0.57
T3.29.140.R.0	140	165	| 038 |	≈ 0.59

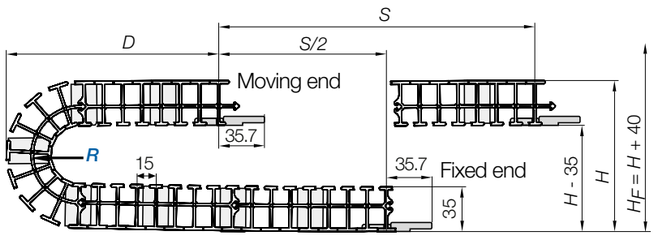
Complete Part No. with required radius (R). Example: **T3.29.100.038.0**

Installation dimensions





Inner height [mm]	29
Pitch [mm/link]	15
Links/m	67
corresponds to [mm]	1,005
e-chain® length	$L_K = S/2 + K$



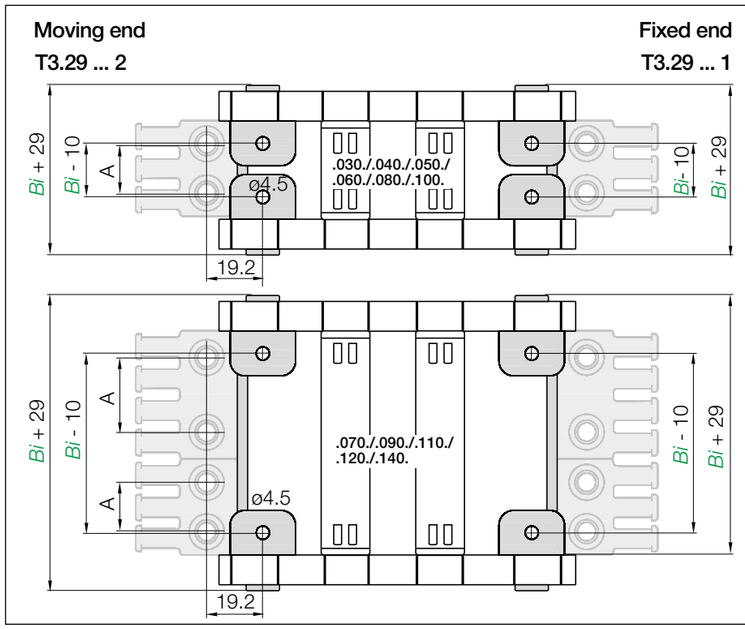
R ≥	038
H ≥	216
D	111
K	210

The required clearance height: $H_F = H + 40mm$ (with 1.0kg/m fill weight)

T3 | Series T3.29 | Accessories

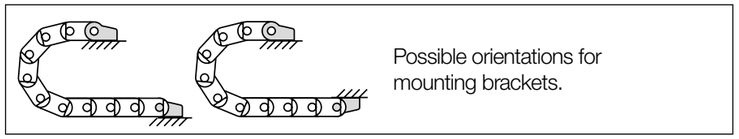
Mounting brackets | Polymer| Mounting angle

▶ 1300



Width index	Standard	Part No. full set with tiewrap plates	Part No. full set without tiewrap plates	A [mm]	Bi [mm]	Number of teeth
030. ▶		T3.29.030.12PZ	T3.29.030.12	15	30	3
040. ▶		T3.29.040.12PZ	T3.29.040.12	20	40	4
050. ▶		T3.29.050.12PZ	T3.29.050.12	30	50	5
060. ▶		T3.29.060.12PZ	T3.29.060.12	40	60	6
070. ▶		T3.29.070.12PZ	T3.29.070.12	15 + 20*	70	7
080. ▶		T3.29.080.12PZ	T3.29.080.12	60	80	8
090. ▶		T3.29.090.12PZ	T3.29.090.12	20 + 30*	90	9
100. ▶		T3.29.100.12PZ	T3.29.100.12	80	100	10
110. ▶		T3.29.110.12PZ	T3.29.110.12	30 + 40*	110	11
120. ▶		T3.29.120.12PZ	T3.29.120.12	40 + 40*	120	12
140. ▶		T3.29.140.12PZ	T3.29.140.12	60 + 40*	140	14

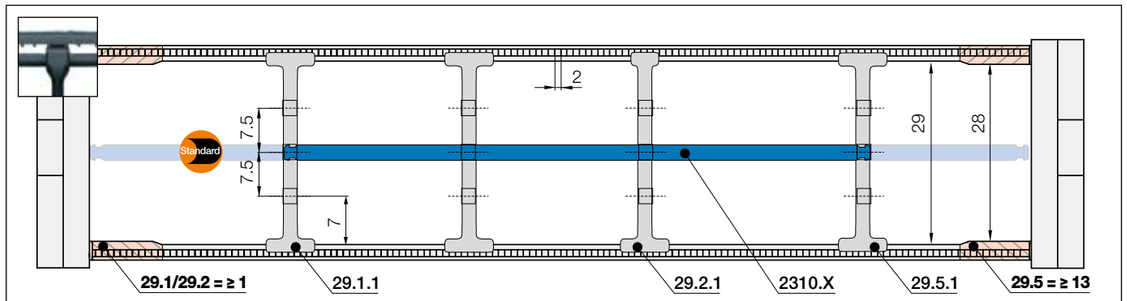
*Strain relief consisting of 2 tiewrap plates



Possible orientations for mounting brackets.

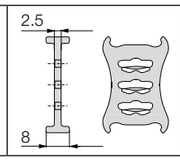
T3.29.100.12 **Order example**
- Full set
- Width index
- Series

Strain relief **e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with ordering options ▶ From page 1300**



Note: Please be aware of the minimum lateral gap to the side links! **29.1/29.2 = 1mm** | **29.5 = 13mm**
As standard separators are fitted every 4nd e-chain® link!



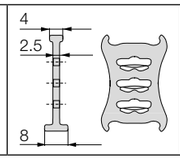


Standard separator, wide base	
unassembled	**29.1**
assembled	**29.1.1**

Standard - for any application

Separator with a wide base for maximum holding force in the e-chain®.



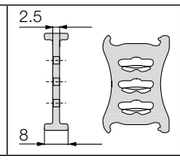


Separator, narrow top	
unassembled	**29.2**
assembled	**29.2.1**

For even faster installation

Wide on one side for high holding force, narrow on opposite side for easy cable fitting.

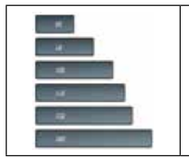


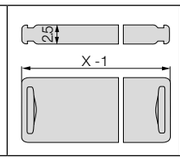


Notch separator for notched crossbar	
unassembled	**29.5**
assembled	**29.5.1**

Locks securely in preset increments

Notch separator for exact positioning in e-chains®. Recommended for side-mounted applications.





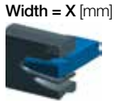
Shelf, lockable	
unassembled	**2300.X**
assembled	**2310.X**

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Shelves

Width = X [mm]



X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
015	**2300.015**	**2310.015**	060	**2300.060**	**2310.060**	087	**2300.87**	**2310.087**
025	**2300.025**	**2310.025**	062	**2300.062**	**2310.062**	090	**2300.90**	**2310.090**
030	**2300.030**	**2310.030**	065	**2300.065**	**2310.065**	100	**2300.100**	**2310.100**
038	**2300.038**	**2310.038**	070	**2300.070**	**2310.070**	103	**2300.103**	**2310.103**
040	**2300.040**	**2310.040**	075	**2300.075**	**2310.075**	110	**2300.110**	**2310.110**
050	**2300.050**	**2310.050**	077	**2300.077**	**2310.077**	120	**2300.120**	**2310.120**
057	**2300.057**	**2310.057**	080	**2300.080**	**2310.080**	125	**2300.125**	**2310.125**

Separator with integrated strain relief teeth

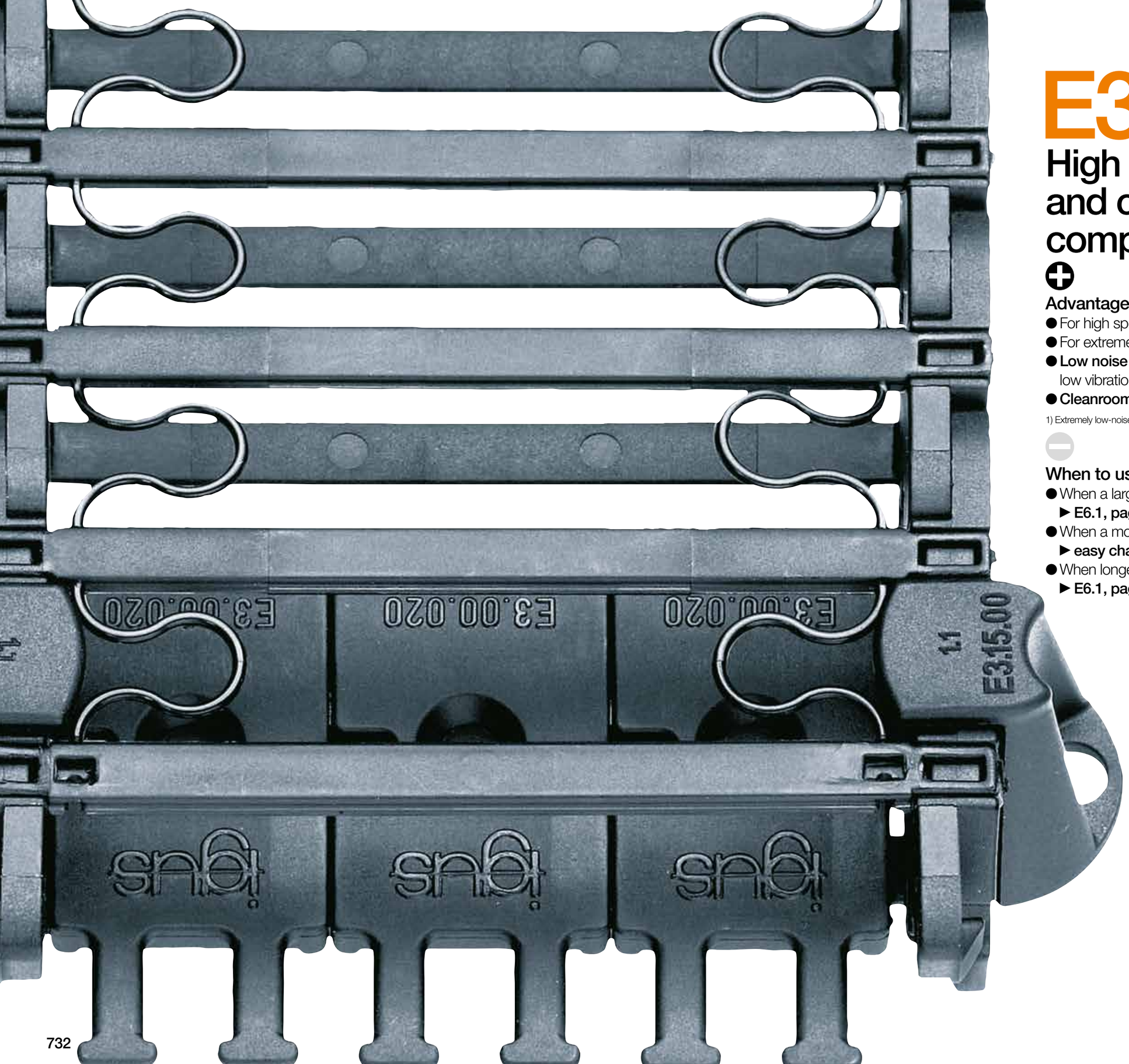
- Can be integrated into the mounting bracket or placed at any point in the e-chain®
- Combines strain relief and interior separation, for restricted space conditions
- Strain relief separator is easy to assemble without any screws

Part No. E6.29.02.Z. More information ▶ From page 1326





Perfect match. Cleanroom-suitable igus® chainflex® cables are safely guided in a T3 e-chain®. 1,125 chainflex® cables are certified according to IPA ISO Class 1 or Class 2 and are available from stock.



E3

High dynamics and cleanroom compatible

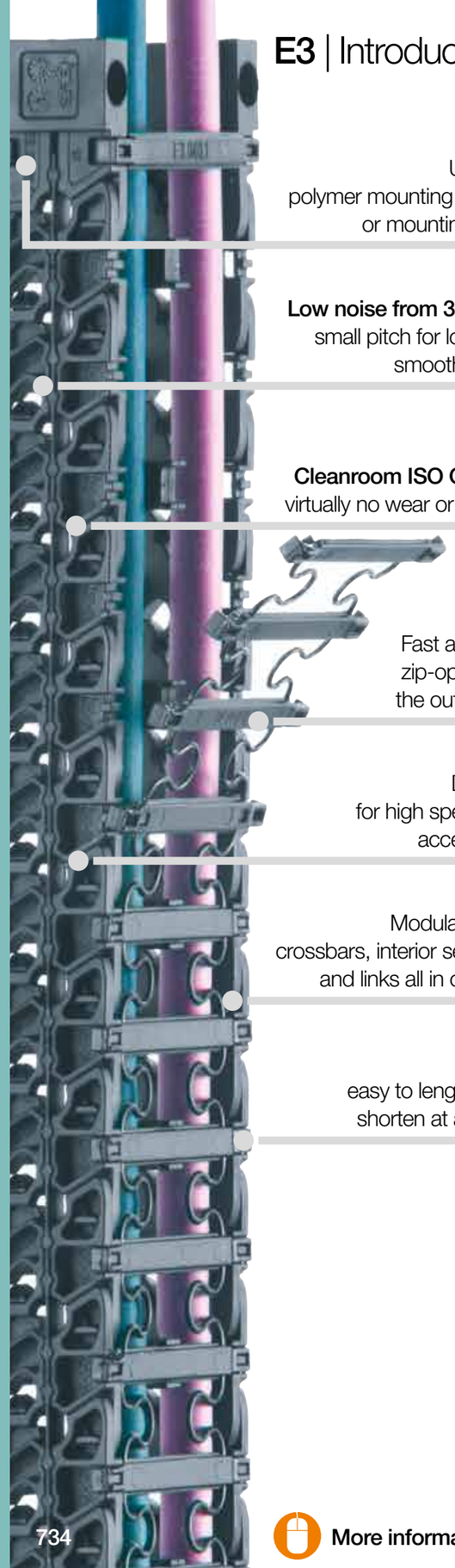
Advantages of the E3 system:

- For high speeds and accelerations
- For extremely fast opening and closing
- **Low noise 38dB(A)**[1] - low noise and low vibration due small pitch
- **Cleanroom ISO Class 1**[2] - virtually no wear or abrasion

1) Extremely low-noise - tested at the igus® lab 2) Cleanroom - Series E3.15.040.075.0

When to use another e-chain® series:

- When a larger e-chain® with cleanroom Class 1 is required
  ► **E6.1, page 750**
- When a more cost-effective, openable solution is required
  ► **easy chain®, page 198**
- When longer unsupported lengths are required
  ► **E6.1, page 750**



Universal:
polymer mounting brackets
or mounting angles

Low noise from 38dB(A)[1]:
small pitch for low noise,
smooth running

Cleanroom ISO Class 1[2]:
virtually no wear or abrasion

Fast assembly:
zip-open along
the outer radius

Dynamic:
for high speeds and
accelerations

Modular design:
crossbars, interior separation
and links all in one band

Modular:
easy to lengthen and
shorten at any point

High dynamics and cleanroom compatible - System E3

E3 combines small pitch, smooth running, low noise, stability, easy assembly and low cost. The spring connector element replaces the pin and bore and avoids relative movement between the joints. This means virtually no wear or abrasion (cleanroom). To reduce production and assembly costs, the spring connector is on a segment of ten e-chain® links.

1) Extremely low-noise - tested at the igus® lab

2) Cleanroom - Series E3.15.040.075.0

Typical industries and applications

● Semi-conductor manufacturing and handling ● Pick and place robots ● Optics ● Material handling technology ● Measuring technology ● Printers and plotters ● Cleanroom environments ● General mechanical engineering

Fraunhofer TESTED® DEVICE IPA igus GmbH Energy chain / Cable systems Report No. IG 0704-400

IPA Qualification Certificate[2] **- Report IG 0704-400:**
ISO Class 1, according to DIN EN ISO 14644-1 for system E3, series E3.15.040.075.0 at v = 0.5m/s, 1m/s, 2m/s

38 dB(A)[1] - level determined at the igus® test-lab acc. to DIN 45635, with consideration of background noises, E3.22.060.044.0 at v = 1.8 m/s

iF product design award
2005 igus® Series E3.15

Series	Inner height *hi* [mm]	Inner width *Bi* [mm]	Outer width *Ba* [mm]	Outer height *ha* [mm]	Bend radius *R* [mm]	Unsupported length ≤ [m]	Page
							
System E3 - 3-piece e-chains® crossbars on a strip - zip-open along the outer radius							
E3.10	10	20 - 60	32 - 72	15	15 - 48	≈ 0.70	**738**
E3.15	15	20 - 60	32 - 72	20	32 - 75	≈ 0.90	**742**
E3.22	22	20 - 60	32 - 72	27	44 - 75	≈ 1.20	**746**

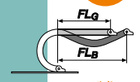
Available from stock. Ready to ship in 24 - 48hrs.*

*The delivery times indicated correspond to the average time until the ordered goods are dispatched.



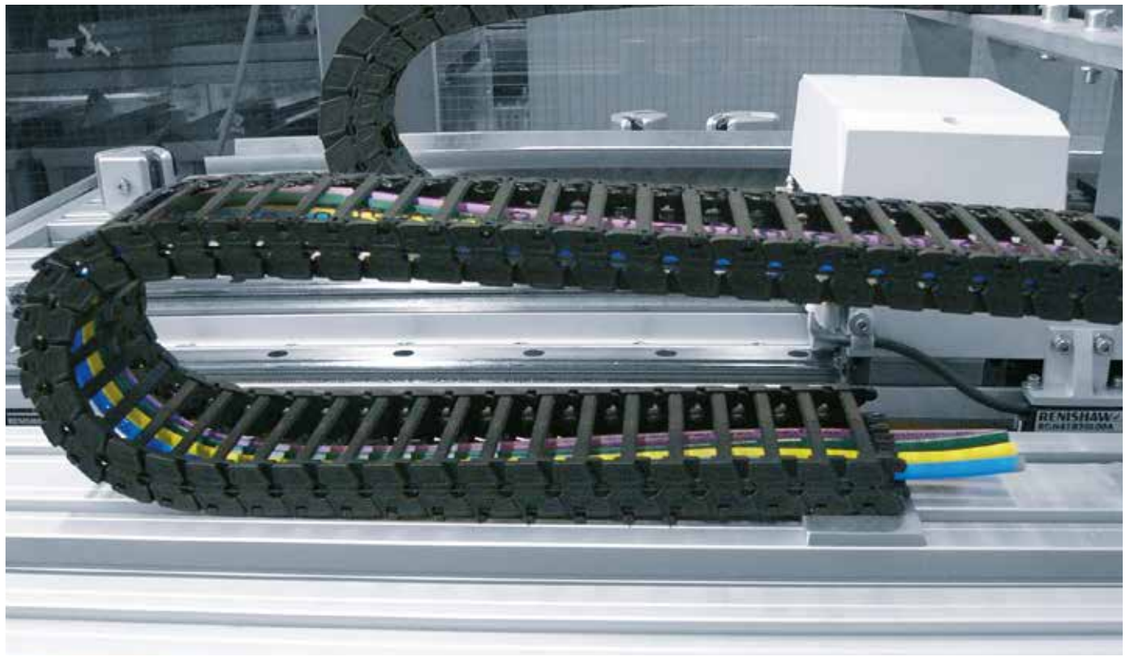
Long-term tests in our acoustics laboratory at a speed of 1.8m/s and an acceleration of 3m/s² showed reductions of 19-20dB(A) compared to conventional e-chains®

Technical data



Speed FL_G / acceleration FL_G	**≤ 20 [m/s] / ≤ 200 [m/s²]**
Speed FL_B / acceleration FL_B	**≤ 3 [m/s] / ≤ 6 [m/s²]**
Material - permitted temperature °C	upon request
Flammability class	**VDE 0304 IIC UL94-HB**

FL_G = unsupported with straight upper run FL_B = unsupported with permitted sag



1,125 chainflexR cables are certified according to IPA ISO Class 1 or Class 2 and are available from stock

Options with order keys | Examples based on series E3.10

Standard	*NC version - (No Camber) without pretension*
Part No. Standard	**Part No. NC version**
Standard	NC
E3.10.060.*R*.0	**E3.10.060.*R*.0.NC**
Ready to ship* in 24 - 48hrs.	Delivery time* 2-5 business days

*The delivery times indicated correspond to the average time until the ordered goods are dispatched.

Order example | Order key and colour examples | Examples based on series E3.10

Order example for complete e-chain® (1.0m), colour black, with mounting brackets and interior separation:

e-chain® (1.0m)	Please indicate e-chain® length or number of links: 1.0m or 60 links	**E3.10.060.015.0**
+ Mounting angle	1 set (with tiewrap plates)	**E3.100.060.12**
Interior separation	with 2 separators assembled every 2nd link	**2 x E3.10.11**
Order text:	**1 m E3.10.060.015.0 + E3.100.060.12 + 2 x E3.10.11**	

Order key

e-chain® zip-open along the outer radius **E3.10.060.015.0**

- Series / Type
- Width index (depends on *Bi*)
- Bend radius *R*
- Colour index (standard black)

Order index for colour options

Colour	Order index		Colour	Order index	
Black	Standard	**.0**	Orange	Special colour	.2
Silver-grey	Special colour	.31	Yellow	Special colour	.4
White	Special colour	.1	Light grey	Special colour	.14
Grey-white	Special colour	.1S			

Black e-chains® available from stock.

Above special colours upon request.

E3 | Series E3.10 | Product range

Fast opening, for high accelerations

10



Image with plastic mounting bracket

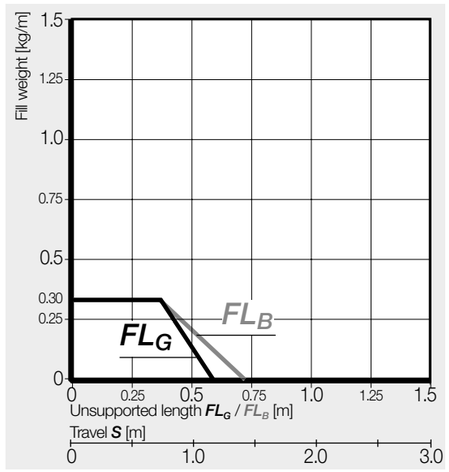
e-chains® | Series E3.10 | Crossbars on a strip - zip-open along the outer radius

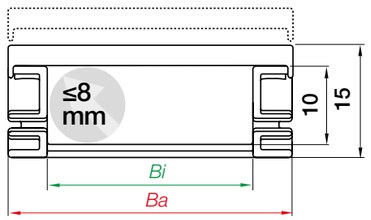
Part No. e-chains®	Bi [mm]	Ba [mm]	R Available bend radii [mm]	E3.10 [kg/m]
E3.10.020 .R.0	20	32	| 015 | 028 | 038* | 048* |	≈ 0.12
E3.10.040 .R.0	40	52	| 015 | 028* | 038 | 048 |	≈ 0.15
E3.10.060 .R.0	60	72	| 015 | 028* | 038 | 048* |	≈ 0.20

*Radius available upon request. Please consult igus® for delivery time.

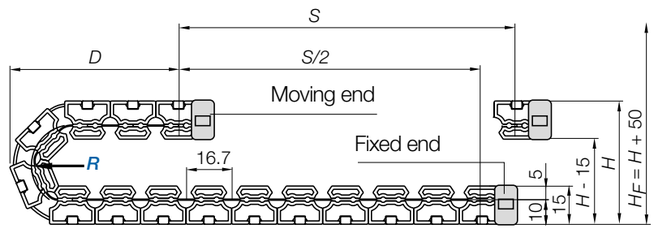
Complete Part No. with required radius (*R*). Example: **E3.10.060.015.0**

Installation dimensions





Inner height [mm]	10
Pitch [mm/link]	16.7
Links/m	60
corresponds to [mm]	1,002
e-chain® length	$L_K = S/2 + K$

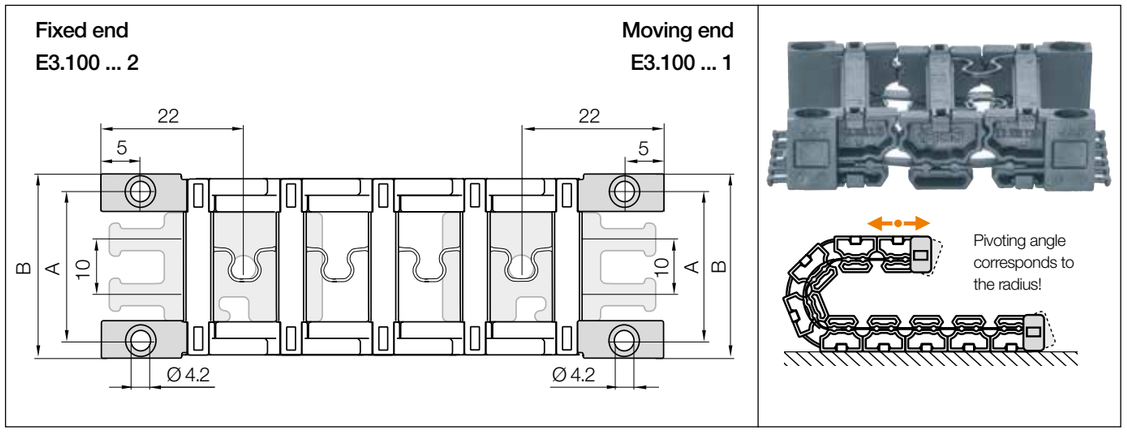


R	015	028	038	048
H	60	86	106	126
D	50	63	73	83
K	85	125	155	185

The required clearance height: $H_F = H + 50mm$ (with 0.1kg/m fill weight)

E3 | Series E3.10 | Accessories

Mounting brackets, polymer | Pivoting

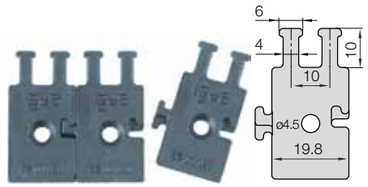


Width index	Part No. full set without tiewrap plates	A [mm]	B [mm]	Part No. strain relief at both ends
020. ▶	E3.100.020.12	28	36	E3.020.12
040. ▶	E3.100.040.12	48	56	E3.020.12
060. ▶	E3.100.060.12	68	76	E3.020.12



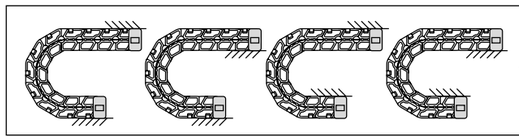
Part No. E3.100.XXX.12

Full set without strain relief Tiewrap plates must be ordered separately.



Part No. E3.00.020

Tiewrap plate as an individual part



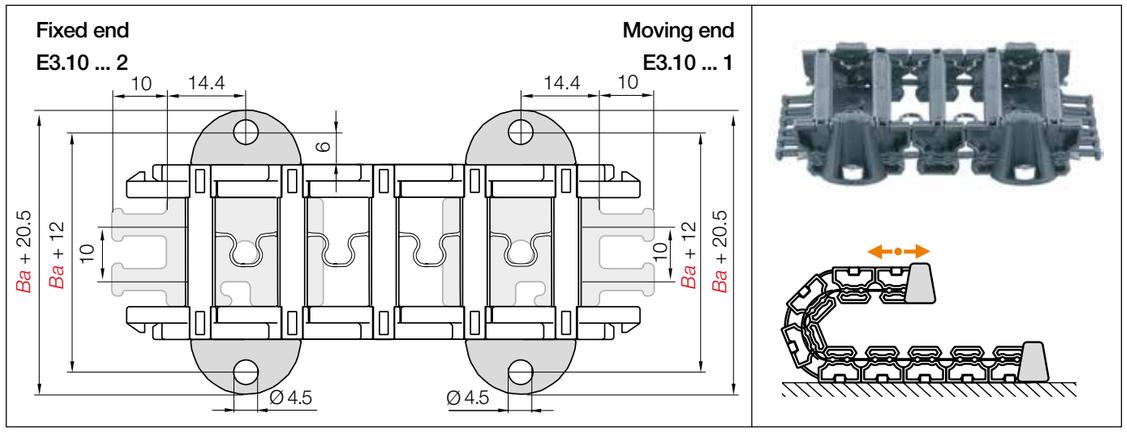
Possible orientations for assembled polymer mounting brackets.

E3.100.060.12 **Order example**

- Full set
- Width index
- Series

E3 | Series E3.10 | Accessories

Mounting angle, polymer | Locking

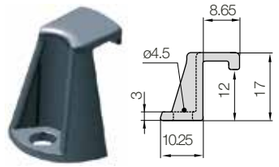


Width index	Part No. full set strain relief at both ends + 4 mounting angles*	Part No. mounting angle* (single part)	Part No. strain relief at both ends	*Ba* [mm]
020.	E3.10.020.12	E3.10.00	E3.020.12	32
040.	E3.10.040.12	E3.10.00	E3.040.12	52
060.	E3.10.060.12	E3.10.00	E3.060.12	72

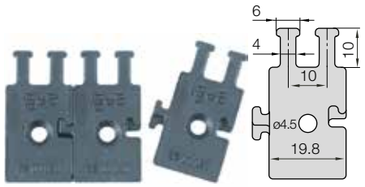
*** Note:** If the mounting brackets are used, two links each end must be added to the calculated e-chain® length, because the first two links are fixed by the mounting brackets.



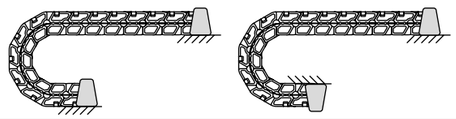
Part No. E3.10.XXX.12
Full set with strain relief at both ends
2 tiewrap plates + 4 mounting angles



Part No. E3.10.00
Mounting angle as an individual part



Part No. E3.00.020
Tiewrap plate as an individual part

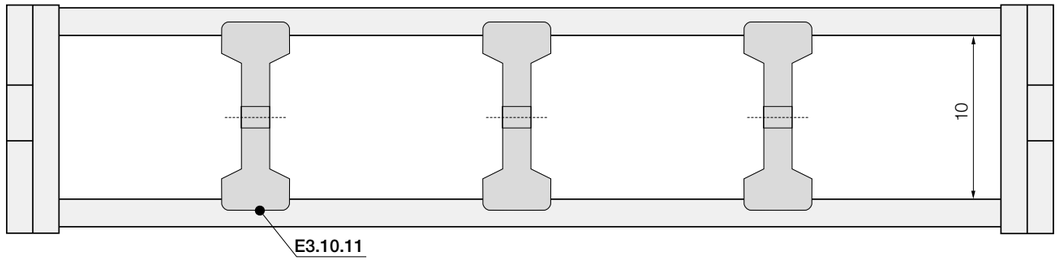


Possible attachments options for assembled polymer mounting angles.

E3.10.060.12 **Order example**
Full set
Width index
Series

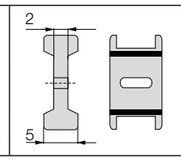
E3 | Series E3.10 | Accessories

Interior separation



No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-chain® link!

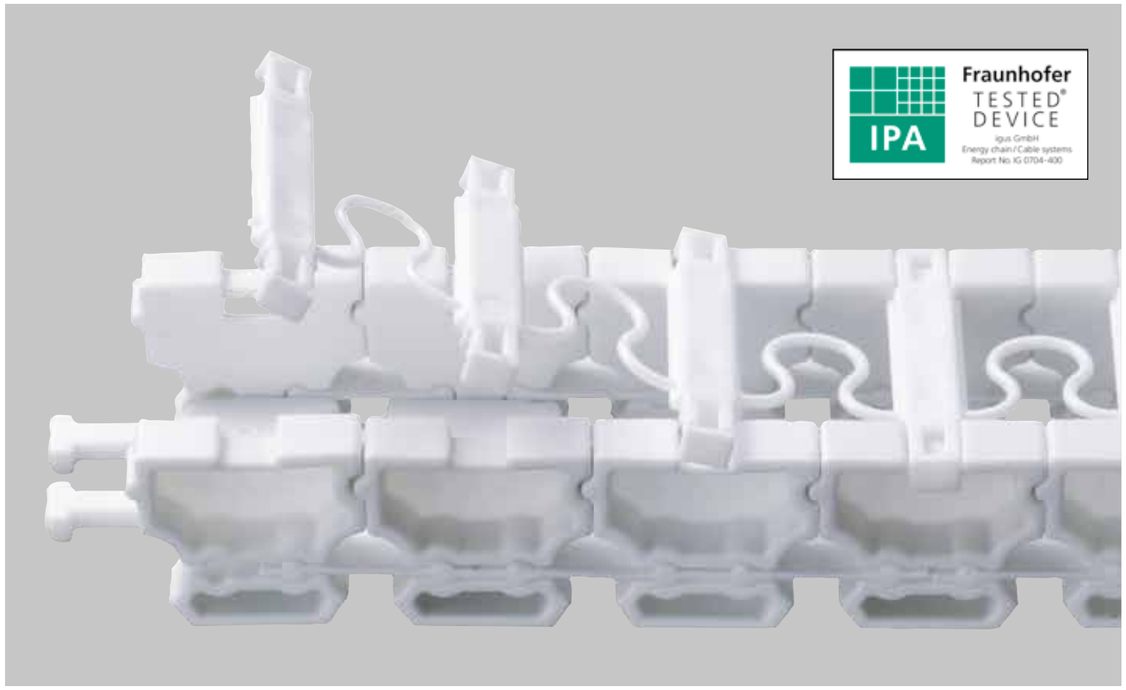




Slotted separator	
unassembled	E3.10.01 -
assembled	E3.10.11 -

Slotted separator

Separators can be arranged at any position in the chain cross section to divide the interior of the e-chain®.



E3 e-chains® in optional white colour; ideal for cleanroom and medical applications, available upon request

E3 | Series E3.15 | Product range

Fast opening, for high accelerations

15



Image with plastic mounting bracket

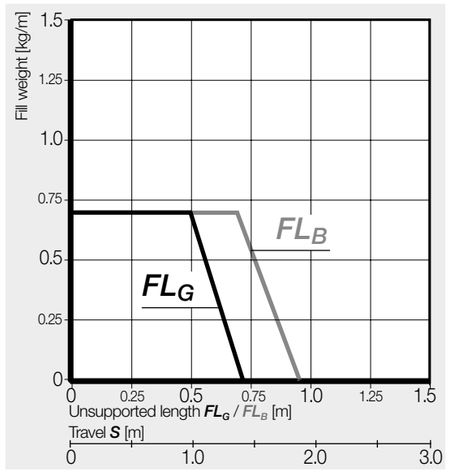
e-chains® | Series E3.15 | Crossbars on a strip - zip-open along the outer radius

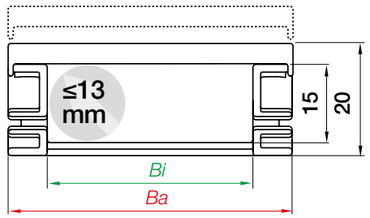
Part No. e-chains®	Bi [mm]	Ba [mm]	R Available bend radii [mm]	E3.15 [kg/m]
E3.15.020 .R.0	20	32	| 032 | – | 048* | – |	≈ 0.22
E3.15.040 .R.0	40	52	| 032 | 038 | 048 | 075 |	≈ 0.25
E3.15.060 .R.0	60	72	| 032 | 038 | 048 | 075 |	≈ 0.32

*Radius available upon request. Please consult igus® for delivery time.

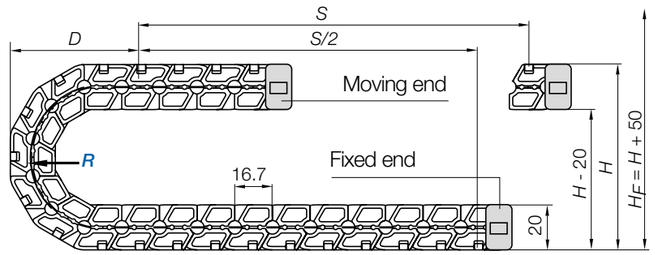
Complete Part No. with required radius (*R*). Example: **E3.15.060.032.0**

Installation dimensions





Inner height [mm]	15
Pitch [mm/link]	16.7
Links/m	60
corresponds to [mm]	1,002
e-chain® length	$L_K = S/2 + K$

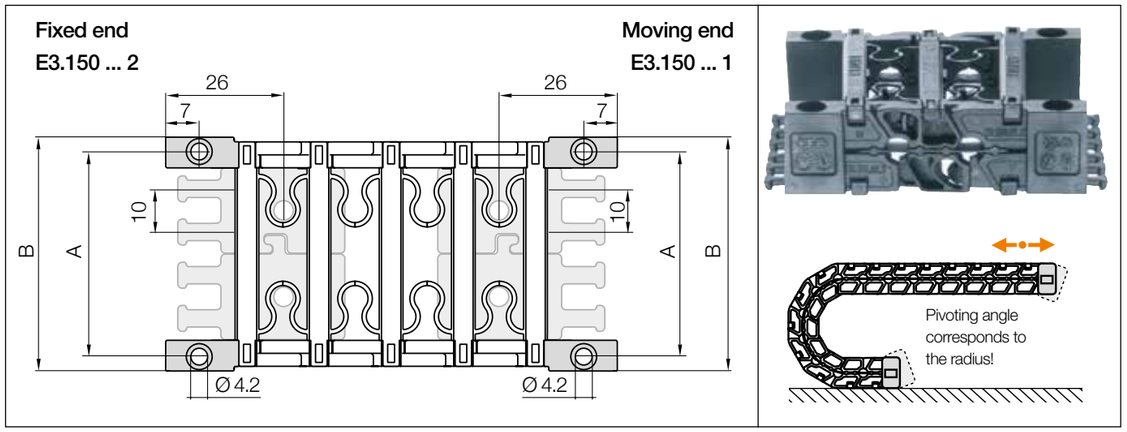


R	032	038	048	075
H	99	111	131	185
D	67	73	83	110
K	135	155	185	270

The required clearance height: $H_F = H + 50mm$ (with 0.2kg/m fill weight)

E3 | Series E3.15 | Accessories

Mounting brackets, polymer | Pivoting

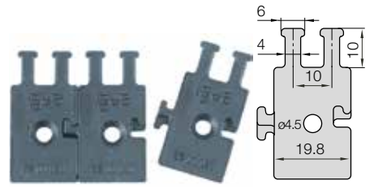


Width index	Part No. full set without tiewrap plates	A [mm]	B [mm]	Part No. strain relief at both ends
020. ▶	E3.150.020.12	28	36	E3.020.12
040. ▶	E3.150.040.12	48	56	E3.020.12
060. ▶	E3.150.060.12	68	76	E3.020.12



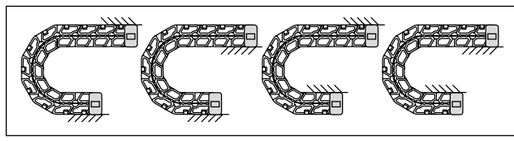
Part No. E3.150.XXX.12

Full set without strain relief Tiewrap plates must be ordered separately.



Part No. E3.00.020

Tiewrap plate as an individual part



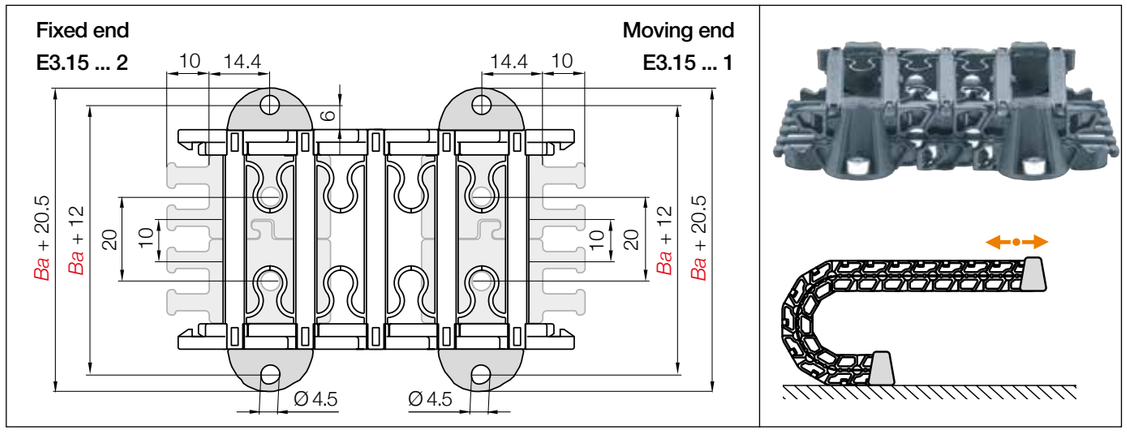
Possible orientations for assembled polymer mounting brackets.

E3.150.060.12 **Order example**

- Full set
- Width index
- Series

E3 | Series E3.15 | Accessories

Mounting angle, polymer | Locking

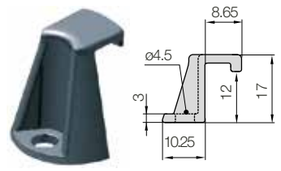


Width index	Part No. full set strain relief at both ends + 4 mounting angles*	Part No. mounting angle* (single part)	Part No. strain relief at both ends	*Ba* [mm]
020.	E3.15.020.12	E3.15.00	E3.020.12	32
040.	E3.15.040.12	E3.15.00	E3.040.12	52
060.	E3.15.060.12	E3.15.00	E3.060.12	72

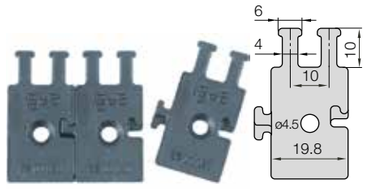
*** Note:** If the mounting brackets are used, two links each end must be added to the calculated e-chain® length, because the first two links are fixed by the mounting brackets.



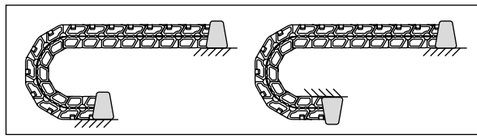
Part No. E3.15.XXX.12
Full set with strain relief at both ends
2 tiewrap plates + 4 mounting angles



Part No. E3.15.00
Mounting angle as an individual part



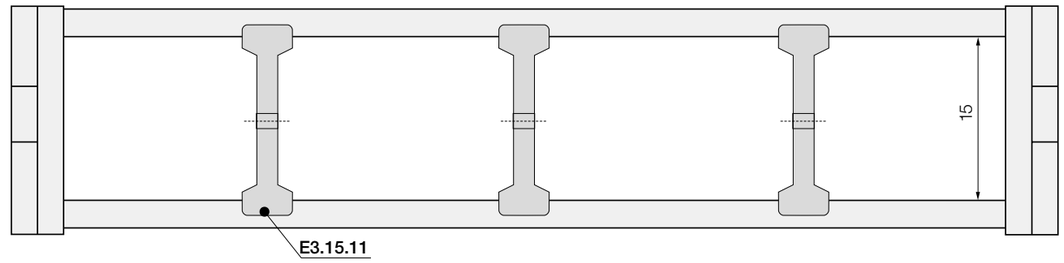
Part No. E3.00.020
Tiewrap plate as an individual part



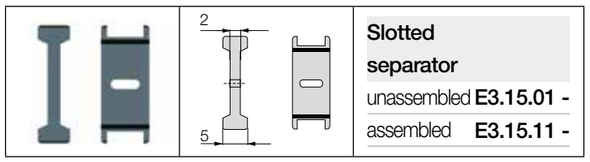
Possible attachments options for assembled polymer mounting angles.

E3.15.060.12 **Order example**
- Full set
- Width index
- Series

Interior separation



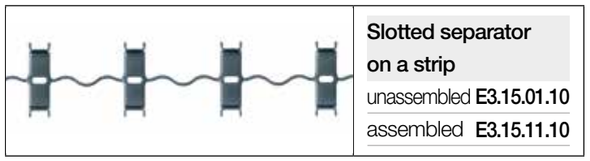
No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-chain® link!



Slotted separator
unassembled **E3.15.01 -**
assembled **E3.15.11 -**

Slotted separator

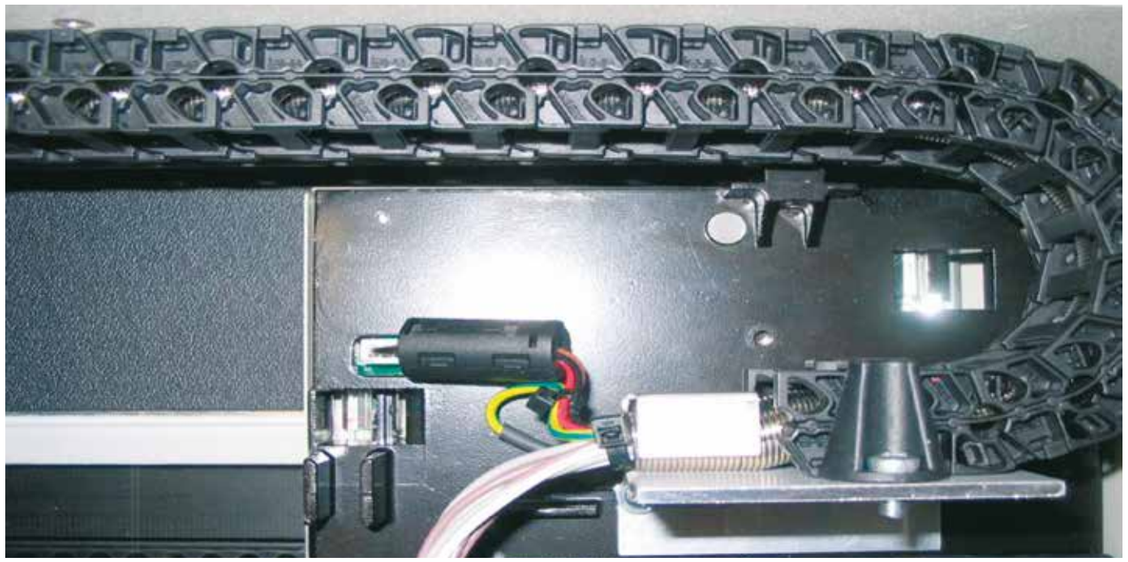
Separators can be arranged at any position in the chain cross section to divide the interior of the e-chain®.



Slotted separator on a strip
unassembled **E3.15.01.10**
assembled **E3.15.11.10**

Slotted separator on a strip

Five vertical separators altogether on one strip over ten e-chain® links are mounted on the openable crossbars. In this way separate chambers are formed, protecting the cables. Dimensions same as E3.15.01.



igus® E3 system, ideal for very small installation spaces as well as very low-noise operation

E3 | Series E3.22 | Product range

Fast opening, for high accelerations

22



Image with plastic mounting bracket

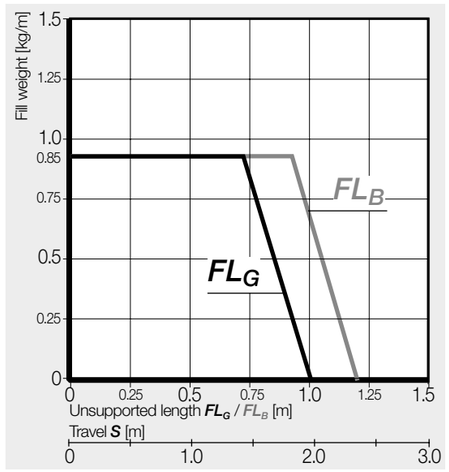
e-chains® | Series E3.22 | Crossbars on a strip - zip-open along the outer radius

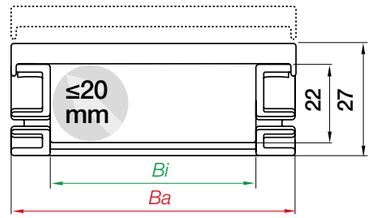
Part No.	*Bi*	*Ba*	*R* Available bend radii	E3.22
e-chains®	[mm]	[mm]	[mm]	[kg/m]
E3.22.020 .*R*.0	20	32	| 044 | 050 | 075 |	≈ 0.30
E3.22.040 .*R*.0	40	52	| 044 | 050 | 075 |	≈ 0.32
E3.22.060 .*R*.0	60	72	| 044 | – | 075 |	≈ 0.41

*Radius available upon request. Please consult igus® for delivery time.

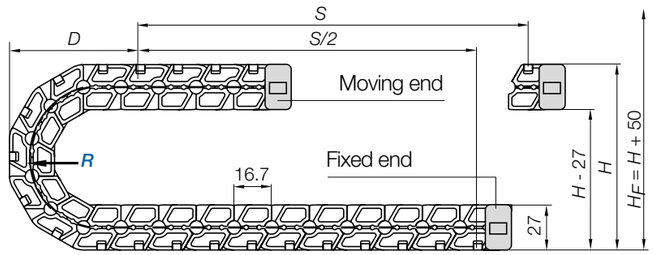
Complete Part No. with required radius (*R*). Example: **E3.22.060.044.0**

Installation dimensions





Inner height [mm]	22
Pitch [mm/link]	16.7
Links/m	60
corresponds to [mm]	1,002
e-chain® length	$L_K = S/2 + K$

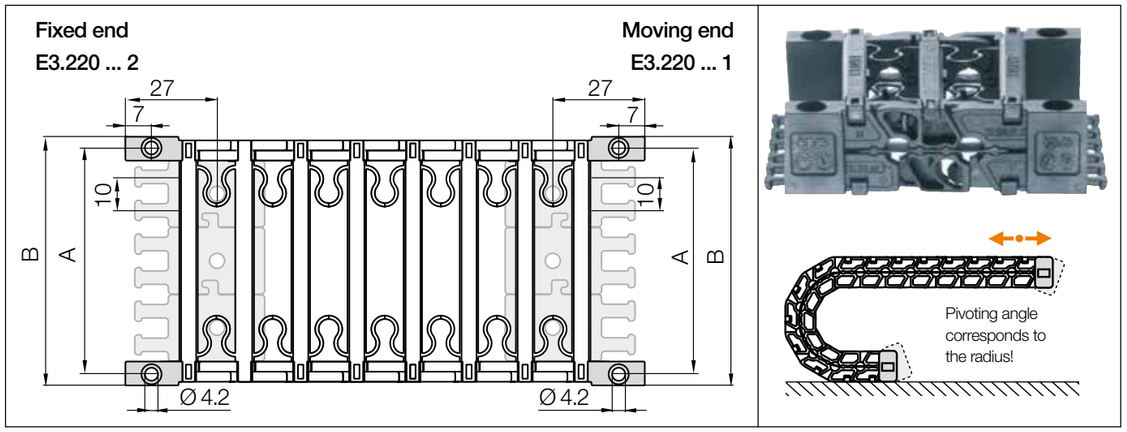


R	044	050	075
H	134	146	196
D	82	88	113
K	175	195	270

The required clearance height: $H_F = H$ **+ 50mm** (with 0.3kg/m fill weight)

E3 | Series E3.22 | Accessories

Mounting brackets, polymer | Pivoting

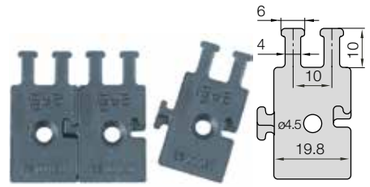


Width index		Part No. full set without tiewrap plates	A [mm]	B [mm]	Part No. strain relief at both ends
020.	▶	E3.220.020.12	28	36	E3.020.12
040.	▶	E3.220.040.12	48	56	E3.020.12
060.	▶	E3.220.060.12	68	76	E3.020.12



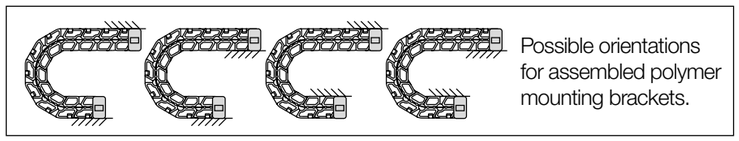
Part No. E3.220.XXX.12

Full set without strain relief Tiewrap plates must be ordered separately.



Part No. E3.00.020

Tiewrap plate as an individual part



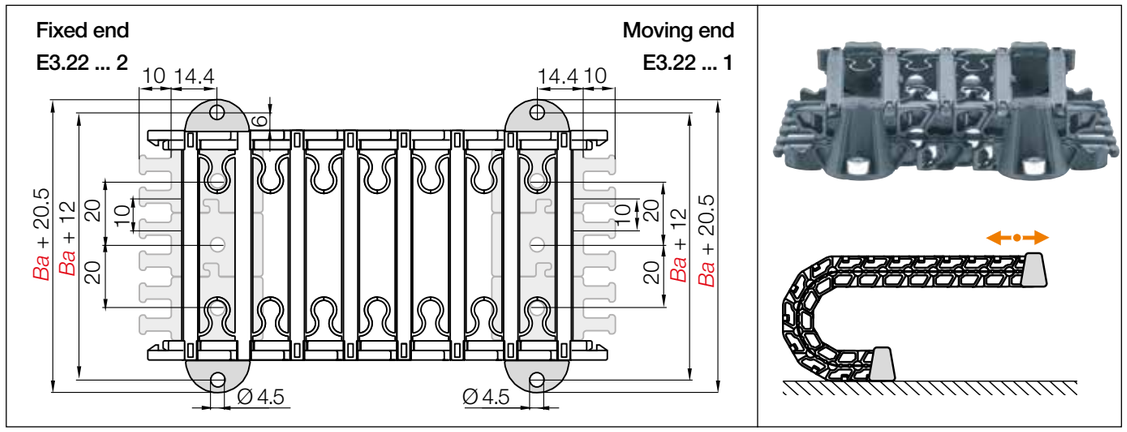
Possible orientations for assembled polymer mounting brackets.

E3.220.060.12 **Order example**

- Full set
- Width index
- Series

E3 | Series E3.22 | Accessories

Mounting angle, polymer | Locking

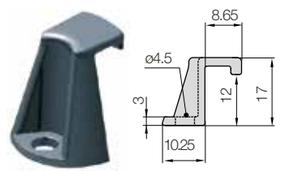


Width index	Part No. full set strain relief at both ends + 4 mounting angles*	Part No. mounting angle* (single part)	Part No. strain relief at both ends	*Ba* [mm]
020.	▶ E3.22.020.12	E3.22.00	E3.020.12	32
040.	▶ E3.22.040.12	E3.22.00	E3.040.12	52
060.	▶ E3.22.060.12	E3.22.00	E3.060.12	72

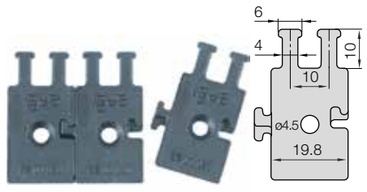
*** Note:** If the mounting brackets are used, two links each end must be added to the calculated e-chain® length, because the first two links are fixed by the mounting brackets.



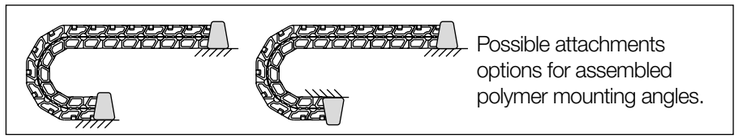
Part No. E3.22.XXX.12
Full set with strain relief at both ends
2 tiewrap plates + 4 mounting angles



Part No. E3.22.00
Mounting angle as an individual part



Part No. E3.00.020
Tiewrap plate as an individual part

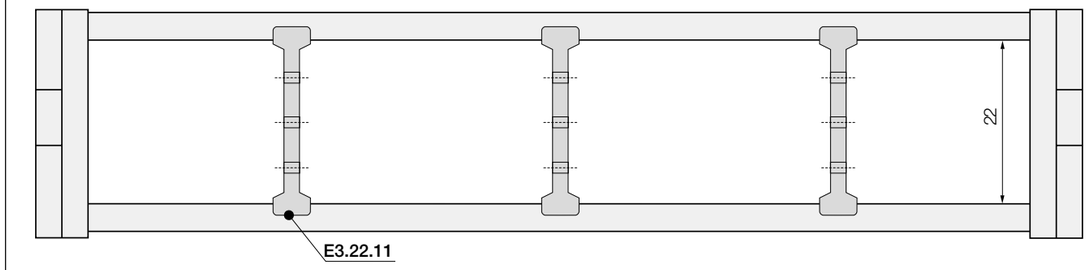


Possible attachments options for assembled polymer mounting angles.

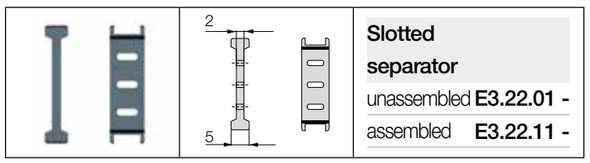
E3.22.060.12 **Order example**
Full set
Width index
Series

E3 | Series E3.22 | Accessories

Interior separation



No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-chain® link!



Slotted separator	
unassembled	**E3.22.01 -**
assembled	**E3.22.11 -**

Slotted separator

Separators can be arranged at any position in the chain cross section to divide the interior of the e-chain®.



igus® series E3.15 side mounted as a low-abrasion guide for cables in a scanner system

E6.1

Dynamic, quiet, light and cleanroom suitable

Advantages of the E6.1 system:

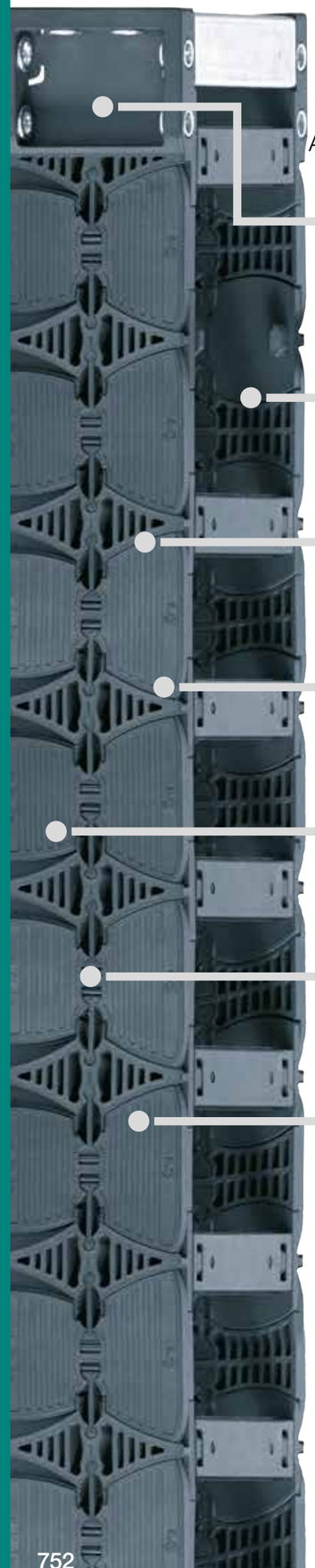
- Extremely quiet, low-vibration e-chain®
- For very high speeds and accelerations
- Ideal ratio of internal and external dimensions with thinner outer links and optimised crossbar geometry
- High push-pull forces
- Small bend radii
- **Low-noise 32dB(A)**[1] - extremely low noise and vibration
- **Cleanroom ISO Class 1**[2] - virtually no wear or abrasion

1) Extremely low-noise - tested at the igus® lab Series E61.29.070.055.0

2) Cleanroom - Series E61.29.50.075.0 and Series E61.29.50.075.0.CR

When to use another e-chain® series:

- For side-mounted applications
  ► **E2/000, page 360**
- When a Reverse Bend Radius ***RBR*** is required
  ► **E2/000, page 360**
- For longer unsupported lengths
  ► **E2/000, page 360**
- For long travels
  ► **E2/000, page 360**
- When an enclosed e-chain® for smooth running is required
  ► **R6, page 788**



Attachment from any side: with KMA mounting brackets

Fast assembly: crossbars removable along the inner and outer radius

Low noise from 32dB(A)[1]: small pitch for low noise, smooth running

Dynamic: for high speeds and accelerations

Long service life: low vibration, high strength

Cleanroom ISO Class 1[2]: virtually no wear or abrasion

Modular design: easy to lengthen and shorten



Series E61.29 special feature: crossbar openable along inner and outer radius, from both sides

Dynamic, quiet, light and cleanroom suitable - E6.1

The E6.1 series is a development of the E6 series. It incorporates all the advantages of the E6 such as strength, cleanroom-compatibility and low weight in addition to even quieter operation at higher maximum speeds. In addition, its accessibility to the interior and the assembly and handling have been improved.

- Low-noise - from a noise level of 32dB(A)[1]
- Weight savings approx. 30% compared to the System E6
- Highly dynamic
- Extremely low vibration
- Cleanroom-compatible due to principle of low-abrasion for connectors, without pin/bore connection
- Virtually no polygon effect, smooth rolling operation
- Smooth interior design for a long lifetime for cables and hoses
- Crossbars removable along the inner and outer radius
- Option without camber (NC) simply by turning the inner link

1) Extremely low-noise - tested at the igus® lab Series E61.29.070.055.0

2) Cleanroom - Series E61.29.50.075.0 and Series E61.29.50.075.0.CR

Typical industries and applications

● Semiconductor industry ● Studio equipment and camera tracking systems ● Printer/plotter industry ● In applications with extremely high accelerations ● When noise minimisation and a low level of abrasion are important

32dB(A)[1] - level determined at the igus® test-lab, v = 1.0m/s unsupported, series E61.29.070.055.0

Series	Inner height *hi* [mm]	Inner width *Bi* [mm]	Outer width *Ba* [mm]	Outer height *ha* [mm]	Bend radius *R* [mm]	Unsupported length ≤ [m]	Page
 **E6.1 e-chains®** openable along inner and outer radius, from both sides							
E61.29	29	30 - 140	44 - 14	35	055 - 150	≈ 1.75	**758**
 **E6.1 e-chains®** crossbars removable along the inner and outer radius							
EF61.29	29	30 - 140	44 - 154	35	055 - 150	≈ 1.75	**758**
E61.35	35	30 - 140	46 - 156	42	055 - 150	≈ 1.90	**764**
E61.40	40	40 - 300	56 - 316	54	063 - 200	≈ 2.50	**768**
E61.52	52	40 - 300	64 - 324	65	075 - 150	≈ 3.00	**774**
E61.62	62	50 - 400	82 - 432	84	115	≈ 4.00	**778**
E61.80	80	50 - 600	78 - 628	108	150	≈ 5.25	**782**

Available from stock. Ready to ship in 24 - 48hrs.*

*The delivery times indicated correspond to the average time until the ordered goods are dispatched.

Cost-effective - Series EF61.29

- Series EF61.29 - 29mm inner height
- Available at an even lower price without the pivoting function of the crossbars
- Crossbars removable from both sides
- Otherwise, technically the same as the E61.29 series.

More information ▶ www.igus.eu/EF61.29

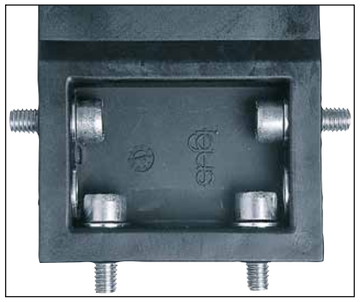




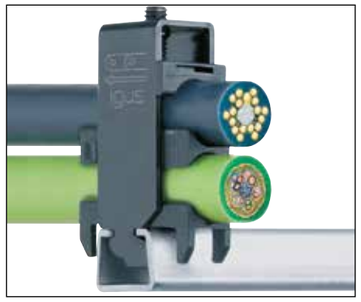
Lean separators enable extremely fast cable filling in several layers



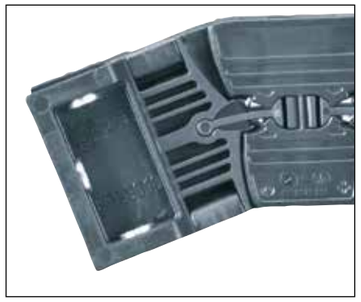
Openable mechanism, Series E61.29 is openable on left or right



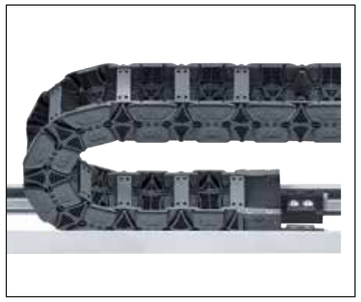
KMA mounting brackets with attachment options from any side



Strain relief e.g. clamps, tiewrap plates, nuggets, etc. ▶ **From page 1300**



Pivoting KMA mounting brackets - pivot angle corresponds to the bend radius



Aluminium and steel support tray for support of the lower run ▶ **From page 1264**

E6.1 for cleanrooms

Cleanroom qualification of E6.1 e-chains®

By using a special material, the already low abrasion of the e-chain® can be reduced even further. In many applications where cumbersome special solutions are required, a simple standard e-chain® can be used instead. IPA tests confirm that standard igus® e-chains® meet cleanroom requirements. "Tested and certified as very good!" e-chains® for cleanroom applications demand very high wear resistance of moving parts in order to meet the normal requirements for such a sensitive environment.

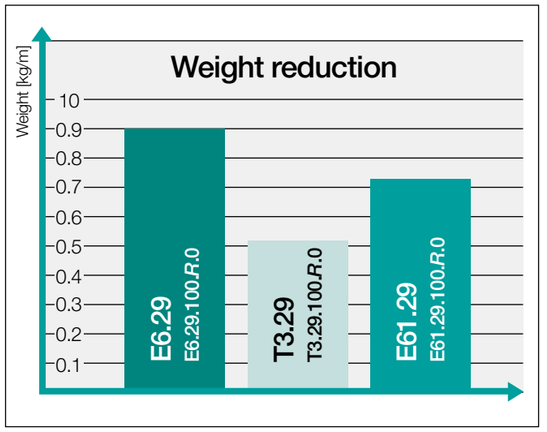


IPA Qualification Certificate[2] - Report IG 1303-640-1:
ISO Class 1, according to DIN EN ISO 14644-1 for system E6.1, series E61.29.50.075.0 and E61.29.50.075.0.CR at v = 0.5m/s, 1m/s, 2m/s

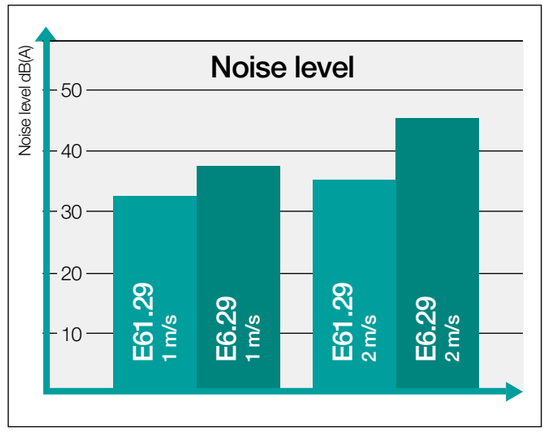


The fact that the interior of the new E6.1 has been designed to be extremely cable-friendly underlines its suitability for cleanrooms by increasing the service life of cables and hoses even more. The crossbars are very smooth and rounded as is the transition from e-chain® link to crossbar, and all markings have been moved outside of the e-chain® cross section.

System E6.1 tests in the igus® lab



The E6.1 generation can take up higher accelerations, due to a weight reduction, making it a highly dynamic yet still extremely quiet e-chain®



The results of the E61.29 series noise-measurement tests in the igus® test laboratory showed noise levels below the already very low values for the E6.29 series. 32dB(A) - level determined at the igus® test-lab, v = 1.0m/s unsupported, series E61.29.070.055.0

Technical data

Speed gliding[1] / acceleration gliding[1]	upon request
Speed FL_G / acceleration FL_G	≤ 20 [m/s] / ≤ 200 [m/s²]
Speed FL_B / acceleration FL_B	≤ 3 [m/s] / ≤ 6 [m/s²]
Material - permitted temperature °C, igumid G	upon request
Flammability class, igumid G	VDE 0304 IIC UL94-HB

FL_G = unsupported with straight upper run FL_B = unsupported with permitted sag

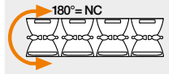
1) Gliding applications for long travels are available upon request, please consult igus®.

Installation types, maximum travels

Series	Unsupported	Gliding[1]	Vertical hanging	Vertical standing	Side mounted unsupported
EF61.29/E61.29	≤ 3.50m	upon request	≤ 25m	≤ 2.0m	upon request
E61.35	≤ 3.80m	upon request	≤ 30m	≤ 2.0m	upon request
E61.40	≤ 5.00m	upon request	≤ 30m	≤ 2.0m	upon request
E61.52	≤ 6.00m	upon request	≤ 50m	≤ 2.0m	upon request
E61.62	≤ 8.00m	upon request	≤ 60m	≤ 3.0m	upon request
E61.80	≤ 10.0m	upon request	≤ 60m	≤ 4.0m	upon request

1) Gliding applications for long travels are available upon request, please consult igus®.

Options with order keys | Examples based on series E61.52

	Standard	*Simply turn outer side link, no additional rework*
Part No.	Standard	NC version
		
	E61.52.100.*R*.0	E61.52.100.*R*.0.NC
	Ready to ship* in 24 - 48hrs.	Ready to ship* in 24 - 48hrs.

*The delivery times indicated correspond to the average time until the ordered goods are dispatched.

Order example | Order key and colour examples | Examples based on series E61.52

Order example for complete e-chain® (1.0m), colour black, with mounting brackets and interior separation:

e-chain® (1.0m)	Please indicate e-chain® length or number of links: 1.0m or 34 links	E61.52.100.075.0
+ Mounting brackets	KMA pivoting - 1 set	E61.520.100.12
Interior separation	with 2 separators assembled every 2nd link	2 x E6.52.1.1
Order text:	1 m E61.52.100.075.0 + E61.520.100.12 + 2 x E6.52.1.1	

Order key

Crossbars removable — E61.52.100.075.0

- Series / Type
- Width index (depends on *Bi*)
- Bend radius *R*
- Colour index (standard black)

Order index for colour options

Colour	Order index		Colour	Order index	
Black	Standard	.0	Orange	Special colour	.2
Silver-grey	Special colour	.31	Yellow	Special colour	.4
White	Special colour	.1	Light grey	Special colour	.14
Grey-white	Special colour	.1S			

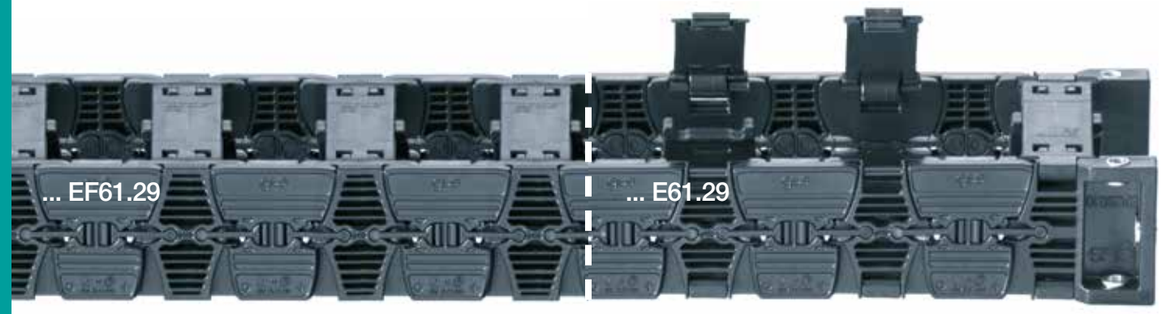
Black e-chains® available from stock.

Above special colours upon request.

E6.1 | Series EF61.29 · E61.29 | Product range

29 | 29

Dynamic, quiet, light, cleanroom suitable and easy to open



e-chains® | EF61.29 | Crossbars removable along the inner and outer radius
e-chains® | E61.29 | Crossbars openable along the inner and outer radius, from both sides

Part No. crossbars removable	Part No. openable from both sides	Bi	Ba	EF61.29	E61.29
		[mm]	[mm]	[kg/m]	[kg/m]
EF61.29. 030.*R*.0	E61.29. 030.*R*.0	30	44	≈ 0.558	≈ 0.558
EF61.29. 040.*R*.0	E61.29. 040.*R*.0	40	54	≈ 0.583	≈ 0.583
EF61.29. 050.*R*.0	E61.29. 050.*R*.0	50	64	≈ 0.608	≈ 0.608
EF61.29. 060.*R*.0	E61.29. 060.*R*.0	60	74	≈ 0.633	≈ 0.633
EF61.29. 070.*R*.0	E61.29. 070.*R*.0	70	84	≈ 0.657	≈ 0.657
EF61.29. 080.*R*.0	E61.29. 080.*R*.0	80	94	≈ 0.682	≈ 0.682
EF61.29. 090.*R*.0	E61.29. 090.*R*.0	90	104	≈ 0.707	≈ 0.707
EF61.29. 100.*R*.0	E61.29. 100.*R*.0	100	114	≈ 0.732	≈ 0.732
EF61.29. 110.*R*.0	E61.29. 110.*R*.0	110	124	≈ 0.757	≈ 0.757
EF61.29. 120.*R*.0	E61.29. 120.*R*.0	120	134	≈ 0.782	≈ 0.782
EF61.29. 140.*R*.0	E61.29. 140.*R*.0	140	154	≈ 0.807	≈ 0.807

Available bend radii

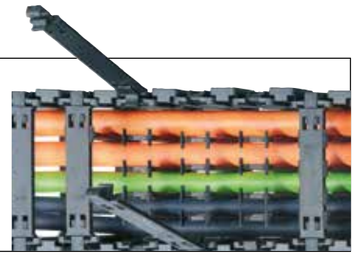
R [mm] | 055 | 075 | 100 | 125 | 150 |

Complete Part No. with required radius (*R*). Example: **EF61.29.050.100.0 / E61.29.050.100.0**

Series E61.29 special feature: openable crossbars

Crossbar openable along inner and outer radius, from both sides

Assembly video available online at ▶ www.igus.eu/E61_assembly



Cost-effective - Series EF61.29

- Series EF61.29 - 29mm inner height
- Available at an even lower price without the pivoting function of the crossbars
- Crossbars removable from both sides
- Otherwise, technically the same as the E61.29 series.

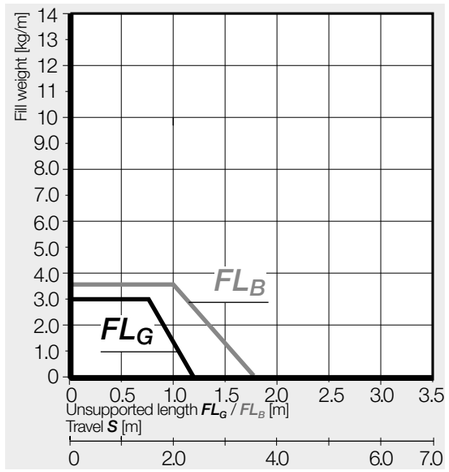
More information ▶ www.igus.eu/EF61.29

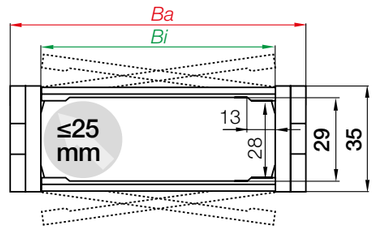


E6.1 | EF61.29·E61.29 | Installation dimensions

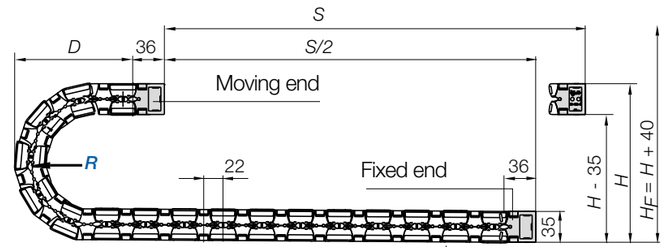
Unsupported applications | Short travels

▶ 1300 ▶ 1220





Inner height [mm]	29
Pitch [mm/link]	22
Links/m	46
corresponds to [mm]	1,012
e-chain® length	$L_K = S/2 + K$



R	055	075	100	125	150
H	175	215	265	315	365
D	105.5	125.5	150.5	175.5	200.5
K	220	280	360	440	520

The required clearance height: $H_F = H + 40$mm (with 2.0kg/m fill weight)

If a gliding application is required for a long travel, please consult igus®.

Aluminium support tray

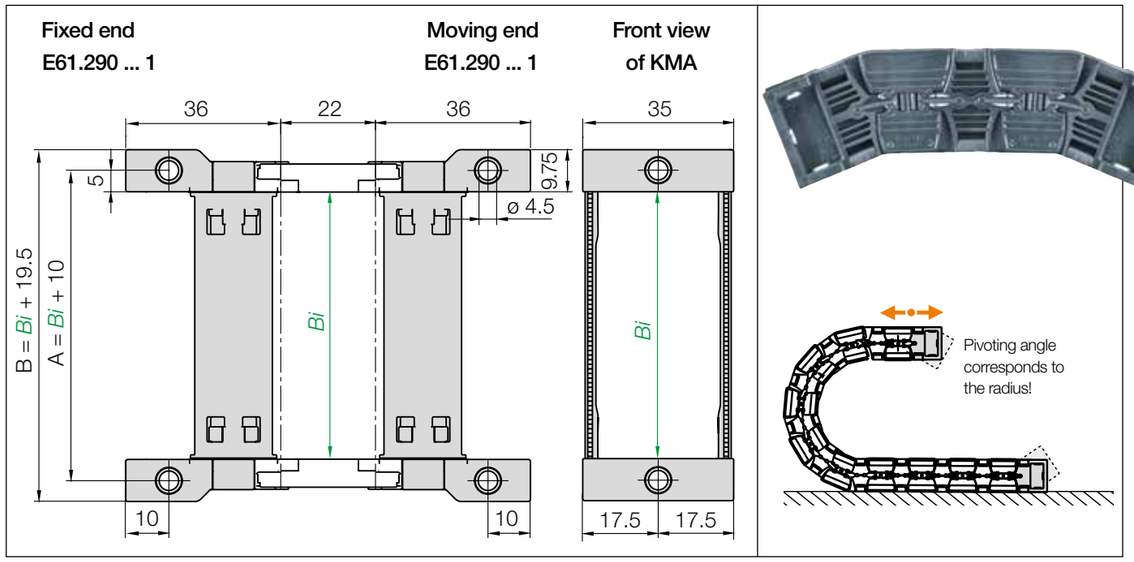
- Corrosion-resistant and seawater-resistant aluminium rails with adjustable width
- Noise-reducing glide strip integrated as standard
- Easy installation and connection of the e-chain®
- Open design - dirt and debris fall through

More information ▶ From page 1270



E6.1 | Series EF61.29·E61.29 | Accessories

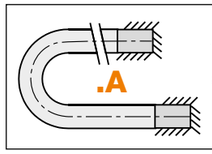
KMA mounting brackets | Attachment from any side | Pivoting



KMA pivoting | Recommended for unsupported applications

Width index	Part No. full set KMA pivoting	A [mm]	B [mm]	Bi [mm]
030. ▶	E61.290.030.12	40	49.5	30
040. ▶	E61.290.040.12	50	59.5	40
050. ▶	E61.290.050.12	60	69.5	50
060. ▶	E61.290.060.12	70	79.5	60
070. ▶	E61.290.070.12	80	89.5	70
080. ▶	E61.290.080.12	90	99.5	80
090. ▶	E61.290.090.12	100	109.5	90
100. ▶	E61.290.100.12	110	119.5	100
110. ▶	E61.290.110.12	120	129.5	110
120. ▶	E61.290.120.12	130	139.5	120
140 . ▶	E61.290.140.12	140	149.5	140

(KMA = polymer metal mounting bracket) KMA mounting brackets are only available for an uneven number of links.



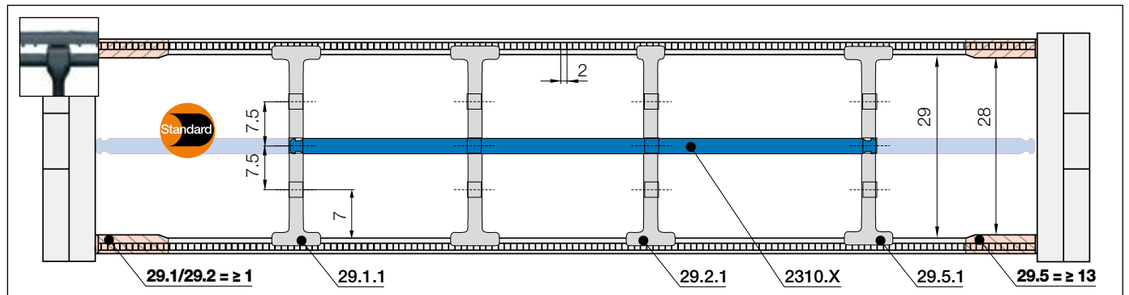
The bracket orientations are set automatically when using an igus® KMA mounting bracket. To receive KMA pre-fitted please add index **.A**

E61.290.050.12.A Order example

- **.A** ... to indicate option with brackets pre-fitted
- Full set
- Width index
- Series

Strain relief e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with ordering options ▶ From page 1300

Interior separation | Increase cable service life



Note: Please be aware of the minimum lateral gap to the side links! **29.1/29.2 = 1mm** | **29.5 = 13mm**
As standard separators are fitted every 2nd e-chain® link!



Standard separator, wide base
unassembled **29.1**
assembled **29.1.1**

Standard - for any application

Separator with a wide base for maximum holding force in the e-chain®.



Separator, narrow top
unassembled **29.2**
assembled **29.2.1**

For even faster installation

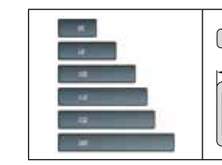
Wide on one side for high holding force, narrow on opposite side for easy cable fitting.



Notch separator for notched crossbar
unassembled **29.5**
assembled **29.5.1**

Locks securely in preset increments

Notch separator for exact positioning in e-chains®. Recommended for side-mounted applications.



Shelf, lockable
unassembled **2300.X**
assembled **2310.X**

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Shelves

Width = X [mm]



X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
015	**2300.015**	**2310.015**	060	**2300.060**	**2310.060**	087	**2300.87**	**2310.087**
025	**2300.025**	**2310.025**	062	**2300.062**	**2310.062**	090	**2300.90**	**2310.090**
030	**2300.030**	**2310.030**	065	**2300.065**	**2310.065**	100	**2300.100**	**2310.100**
038	**2300.038**	**2310.038**	070	**2300.070**	**2310.070**	103	**2300.103**	**2310.103**
040	**2300.040**	**2310.040**	075	**2300.075**	**2310.075**	110	**2300.110**	**2310.110**
050	**2300.050**	**2310.050**	077	**2300.077**	**2310.077**	120	**2300.120**	**2310.120**
057	**2300.057**	**2310.057**	080	**2300.080**	**2310.080**	125	**2300.125**	**2310.125**

Separator with integrated strain relief teeth

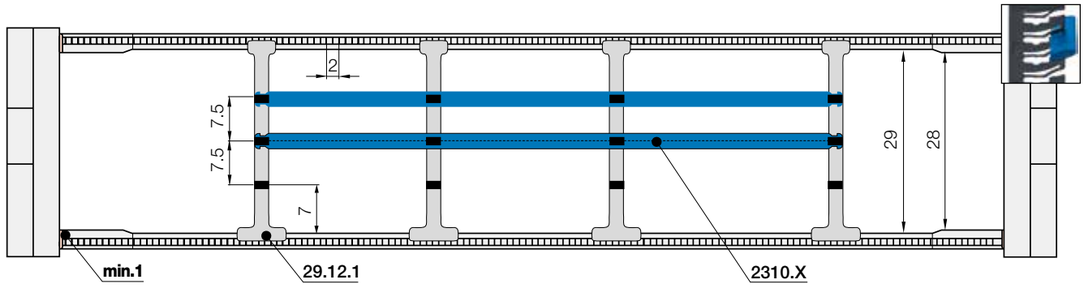
- Can be integrated into the mounting bracket or placed at any point in the e-chain®
- Combines strain relief and interior separation, for restricted space conditions
- Strain relief separator is easy to assemble without any screws

Part No. E6.29.02.Z. More information ▶ From page 1326

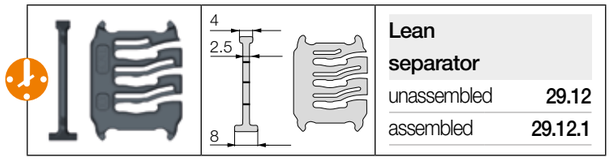


E6.1 | Series EF61.29·E61.29 | Accessories

Interior separation | To allow faster filling New



Note: Please be aware of the minimum lateral gap to the side links! **e-chain®: 1mm**
As standard separators are fitted every 2nd e-chain® link!



Lean separator	
unassembled	29.12
assembled	29.12.1

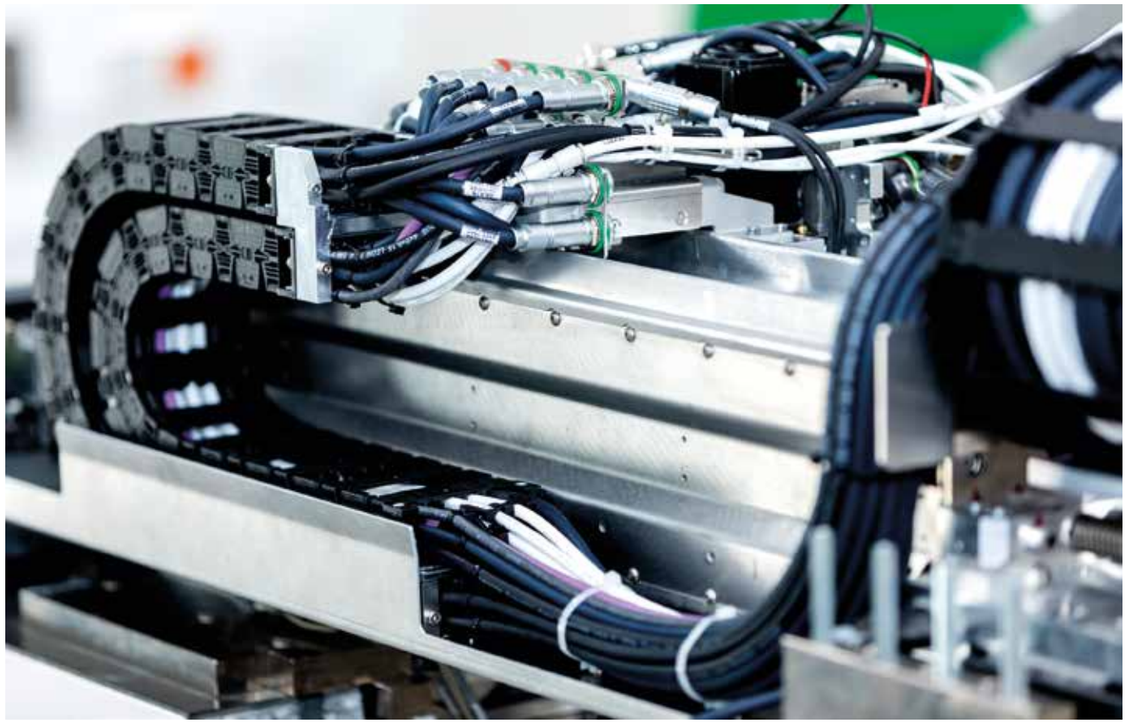
Lean separators

New design allows extremely fast fitting of shelves in several layers, which significantly reduces assembly time. Enables extremely fast replacement of individual cables in a very full e-chain®.

Lean separator design - several layers of cables fitted quickly, save up to 50%* assembly time
(*Lean separator vs. standard separator - measured on a 4m long e-chain® fitted with 12 cables in the igus® readychain® factory)



E6.1 | Application example



Cleanroom suitable E6.1 series as harnessed readychain® system for a semiconnductor industry

E6.1 | Series E61.35 | Product range

Dynamic, quiet, light and cleanroom suitable

35



e-chains® | Series E61.35 | Crossbars removable along the inner and outer radius

Part No. e-chains®	Bi [mm]	Ba [mm]	E61.35 [kg/m]
E61.35.030.R.0	30	46	≈ 0.653
E61.35.040.R.0	40	56	≈ 0.675
E61.35.050.R.0	50	66	≈ 0.696
E61.35.060.R.0	60	76	≈ 0.718
E61.35.070.R.0	70	86	≈ 0.739
E61.35.080.R.0	80	96	≈ 0.761

Part No. e-chains®	Bi [mm]	Ba [mm]	E61.35 [kg/m]
E61.35.090.R.0	90	106	≈ 0.783
E61.35.100.R.0	100	116	≈ 0.804
E61.35.110.R.0	110	126	≈ 0.826
E61.35.120.R.0	120	136	≈ 0.848
E61.35.140.R.0	140	156	≈ 0.891

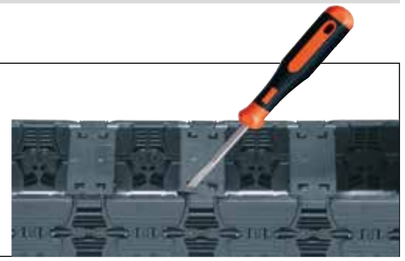
Available bend radii

R [mm] | 055 | 075 | 100 | 125 | 150 |

Complete Part No. with required radius (*R*). Example: **E61.35.100.100.0**

Installation note - system E6.1

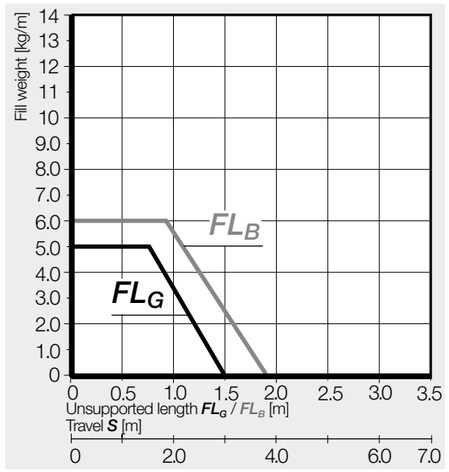
Open by removing the crossbar with a screwdriver.
Repeat the procedure on the other side.
Assembly video available online at ▶ www.igus.eu/E61_assembly

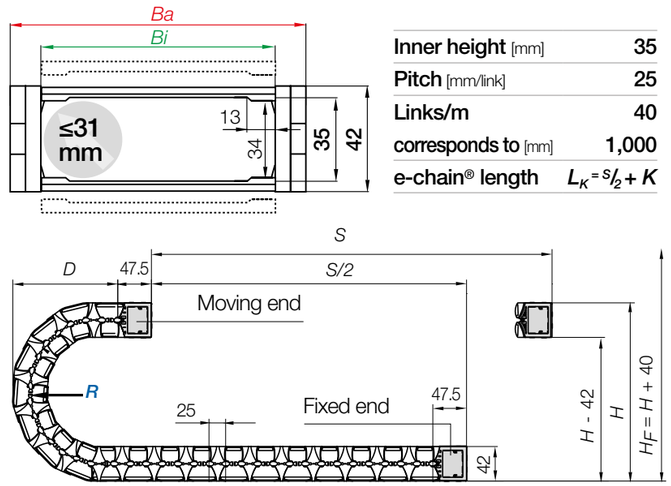


E6.1 | Series E61.35 | Installation dimensions

Unsupported applications | Short travels

▶ 1300 ▶ 1222





Inner height [mm]	35				
Pitch [mm/link]	25				
Links/m	40				
corresponds to [mm]	1,000				
e-chain® length	$L_K = S/2 + K$				

R	055	075	100	125	150
H	192	232	282	332	382
D	113.5	133.5	158.5	183.5	208.5
K	225	290	365	445	525

The required clearance height: $H_F = H + 40$mm (with 2.0kg/m fill weight)

If a gliding application is required for a long travel, please consult igus®.

Aluminium support tray

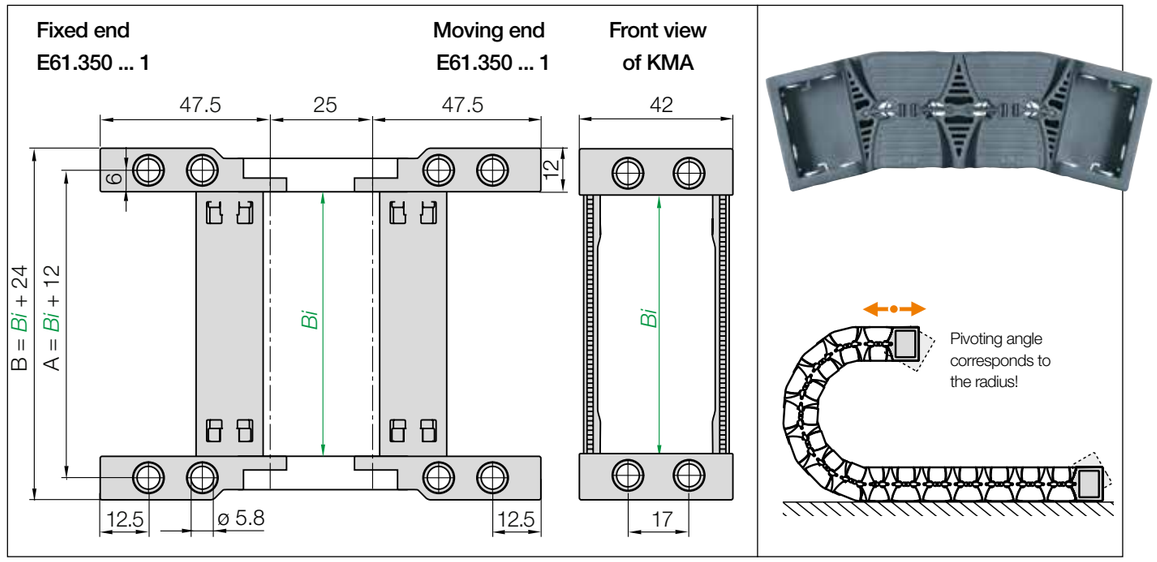
- Corrosion-resistant and seawater-resistant aluminium rails with adjustable width
- Noise-reducing glide strip integrated as standard
- Easy installation and connection of the e-chain®
- Open design - dirt and debris fall through

More information ▶ From page 1270



E6.1 | Series E61.35 | Accessories

KMA mounting brackets | Attachment from any side | Pivoting

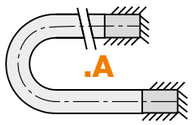


KMA pivoting | Recommended for unsupported applications

Width index	Part No. full set KMA pivoting	A [mm]	B [mm]	Bi [mm]
030. ▶	E61.350.030.12	42	54	30
040. ▶	E61.350.040.12	52	64	40
050. ▶	E61.350.050.12	62	74	50
060. ▶	E61.350.060.12	72	84	60
070. ▶	E61.350.070.12	82	94	70
080. ▶	E61.350.080.12	92	104	80

Width index	Part No. full set KMA pivoting	A [mm]	B [mm]	Bi [mm]
090. ▶	E61.350.090.12	102	114	90
100. ▶	E61.350.100.12	112	124	100
110. ▶	E61.350.110.12	122	134	110
120. ▶	E61.350.120.12	132	144	120
140. ▶	E61.350.140.12	152	164	140

(KMA = polymer metal mounting bracket) KMA mounting brackets are only available for an uneven number of links.



The bracket orientations are set automatically when using an igus® KMA mounting bracket. To receive KMA pre-fitted please add index **.A**

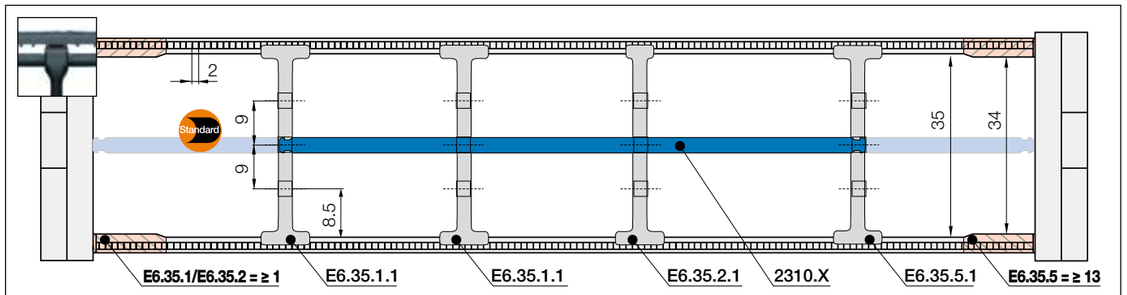
E61.350.100.12.A Order example

- **.A** ... to indicate option with brackets pre-fitted
- Full set
- Width index
- Series

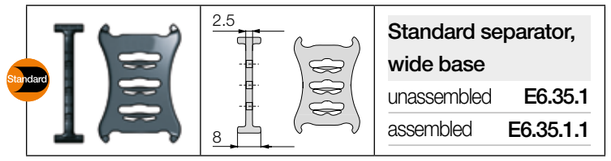
Strain relief **e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with ordering options ▶ From page 1300**

E6.1 | Series E61.35 | Accessories

Interior separation | Increase cable service life



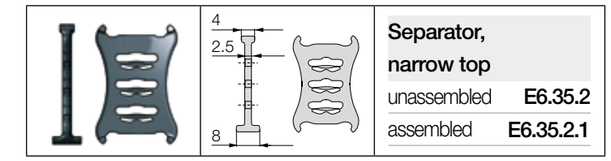
Note: Please be aware of the minimum lateral gap to the side links! **E6.35.1/E6.35.2 = 1mm** | **E6.35.5 = 13mm**
As standard separators are fitted every 2nd e-chain® link!



Standard separator, wide base
unassembled **E6.35.1**
assembled **E6.35.1.1**

Standard - for any application

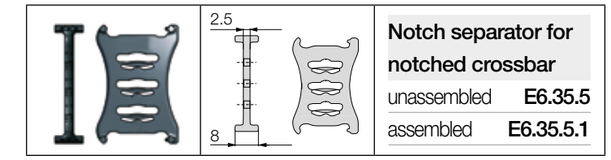
Separator with a wide base for maximum holding force in the e-chain®.



Separator, narrow top
unassembled **E6.35.2**
assembled **E6.35.2.1**

For even faster installation

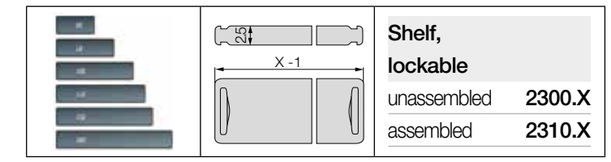
Wide on one side for high holding force, narrow on opposite side for easy cable fitting.



Notch separator for notched crossbar
unassembled **E6.35.5**
assembled **E6.35.5.1**

Locks securely in preset increments

Notch separator for exact positioning in e-chains®. Recommended for side-mounted applications.



Shelf, lockable
unassembled **2300.X**
assembled **2310.X**

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Shelves

Width = X [mm]



X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
015	**2300.015**	**2310.015**	060	**2300.060**	**2310.060**	087	**2300.87**	**2310.087**
025	**2300.025**	**2310.025**	062	**2300.062**	**2310.062**	090	**2300.90**	**2310.090**
030	**2300.030**	**2310.030**	065	**2300.065**	**2310.065**	100	**2300.100**	**2310.100**
038	**2300.038**	**2310.038**	070	**2300.070**	**2310.070**	103	**2300.103**	**2310.103**
040	**2300.040**	**2310.040**	075	**2300.075**	**2310.075**	110	**2300.110**	**2310.110**
050	**2300.050**	**2310.050**	077	**2300.077**	**2310.077**	120	**2300.120**	**2310.120**
057	**2300.057**	**2310.057**	080	**2300.080**	**2310.080**	125	**2300.125**	**2310.125**

Separator with integrated strain relief teeth

- Can be integrated into the mounting bracket or placed at any point in the e-chain®
- Combines strain relief and interior separation, for restricted space conditions
- Strain relief separator is easy to assemble without any screws

Part No. E6.35.02.Z. More information ▶ From page 1326



E6.1 | Series E61.40 | Product range

Dynamic, quiet, light and cleanroom suitable

40



e-chains® | Series E61.40 | Crossbars removable along the inner and outer radius

Part No. e-chains®	Bi [mm]	Ba [mm]	E61.40 [kg/m]
E61.40. 040 R.0	40	56	≈ 0.913
E61.40. 050 R.0	50	66	≈ 0.950
E61.40. 052 R.0	52	68	≈ 0.957
E61.40. 062 R.0	62	78	≈ 0.994
E61.40. 070 R.0	70	86	≈ 1.023
E61.40. 075 R.0	75	91	≈ 1.042
E61.40. 087 R.0	87	103	≈1.086
E61.40. 100 R.0	100	116	≈ 1.134

Part No. e-chains®	Bi [mm]	Ba [mm]	E61.40 [kg/m]
E61.40. 125 R.0	125	141	≈ 1.226
E61.40. 150 R.0	150	166	≈ 1.318
E61.40. 175 R.0	175	191	≈ 1.410
E61.40. 200 R.0	200	216	≈ 1.502
E61.40. 225 R.0	225	241	≈ 1.595
E61.40. 250 R.0	250	266	≈ 1.687
E61.40. 275 R.0	275	291	≈ 1.779
E61.40. 300 R.0	300	316	≈ 1.871

*Radius available upon request. Please consult igus® for delivery time.

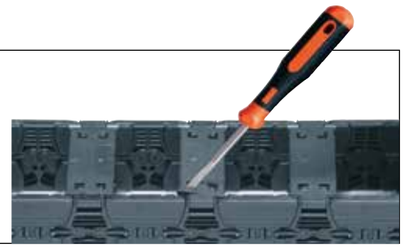
Available bend radii

R [mm] | 063 | 075 | 100 | 125 | 150 | 175* | 200 |

Complete Part No. with required radius (R). Example: **E61.40.100.100.0**

Installation note - system E6.1

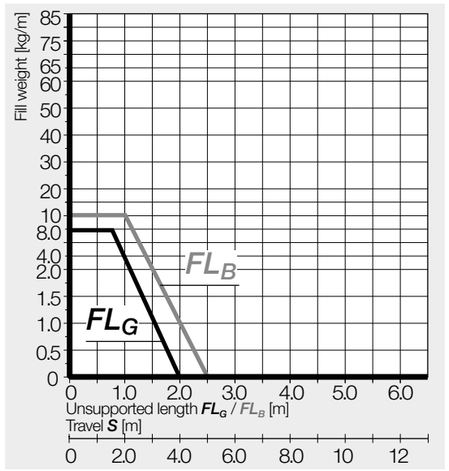
Open by removing the crossbar with a screwdriver.
Repeat the procedure on the other side.
Assembly video available online at ▶ www.igus.eu/E61_assembly

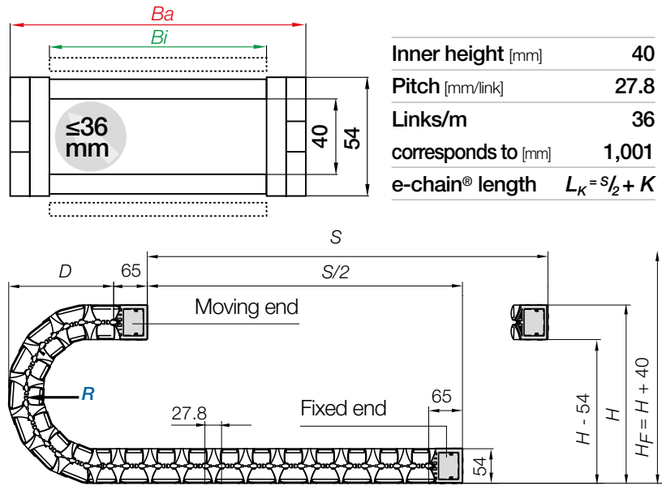


E6.1 | Series E61.40 | Installation dimensions

Unsupported applications | Short travels

▶ 1300 ▶ 1224





Inner height [mm]	40						
Pitch [mm/link]	27.8						
Links/m	36						
corresponds to [mm]	1,001						
e-chain® length	$L_K = S/2 + K$						

R	063	075	100	125	150	175*	200
H	220	244	294	344	394	444	494
D	132	144	169	194	219	244	269
K	255	295	370	450	530	610	685

The required clearance height: $H_F = H + 40$mm (with 2.0kg/m fill weight)

*Radius available upon request. Please consult igus® for delivery time.

If a gliding application is required for a long travel, please consult igus®.

Aluminium support tray

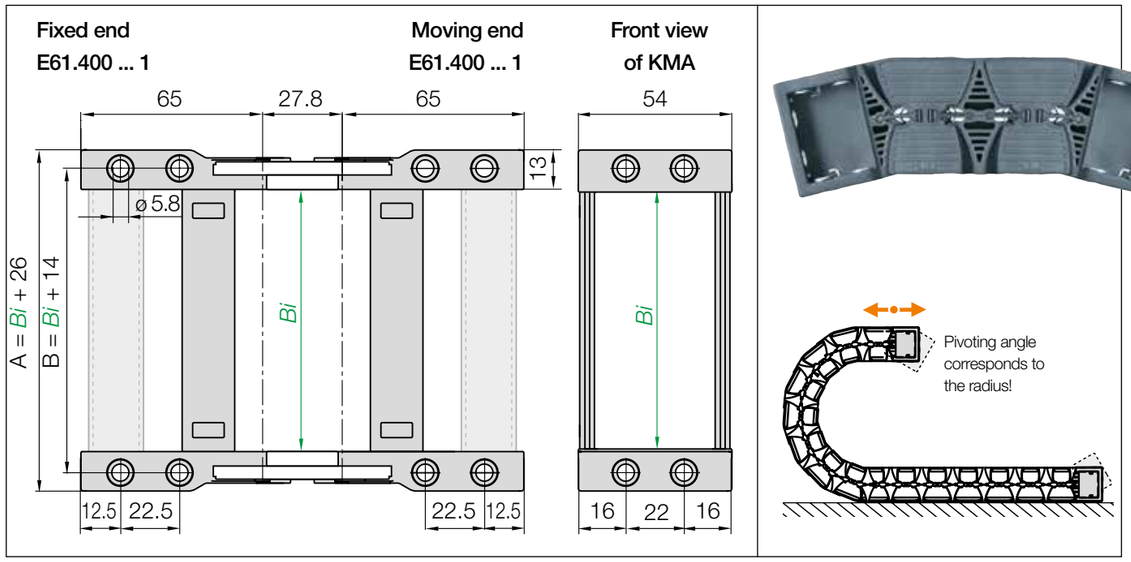
- Corrosion-resistant and seawater-resistant aluminium rails with adjustable width
- Noise-reducing glide strip integrated as standard
- Easy installation and connection of the e-chain®
- Open design - dirt and debris fall through

More information ▶ From page 1270



E6.1 | Series E61.40 | Accessories

KMA mounting brackets | Attachment from any side | Pivoting



KMA pivoting | Recommended for unsupported applications

Width index	Part No. full set KMA pivoting	A [mm]	B [mm]	Bi [mm]
040. ▶	E61.400.040.12.C	54	66	40
050. ▶	E61.400.050.12.C	64	76	50
052. ▶	E61.400.052.12.C	66	78	52
062. ▶	E61.400.062.12.C	76	88	62
070. ▶	E61.400.070.12.C	84	96	70
075. ▶	E61.400.075.12.C	89	101	75
087. ▶	E61.400.087.12.C	101	113	87
100. ▶	E61.400.100.12.C	114	126	100

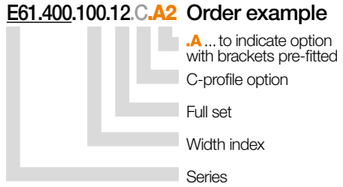
Width index	Part No. full set KMA pivoting	A [mm]	B [mm]	Bi [mm]
125. ▶	E61.400.125.12.C	139	151	125
150. ▶	E61.400.150.12.C	164	176	150
175. ▶	E61.400.175.12.C	189	201	175
200. ▶	E61.400.200.12.C	214	226	200
225. ▶	E61.400.225.12.C	239	251	225
250. ▶	E61.400.250.12.C	264	276	250
275. ▶	E61.400.275.12.C	289	301	275
300. ▶	E61.400.300.12.C	314	326	300

(KMA = polymer metal mounting bracket) For the C-profile option please add index **.C**. KMA mounting brackets are only available for an uneven number of links.



Orientations for KMA mounting brackets. To receive KMA pre-fitted **without C-profile** please add index **.A**. Please add index **.A2** for the standard version **with C-profile**, in the inner radius at the moving end and in the outer radius at the fixed end.

E61.400.100.12.C.A2 Order example

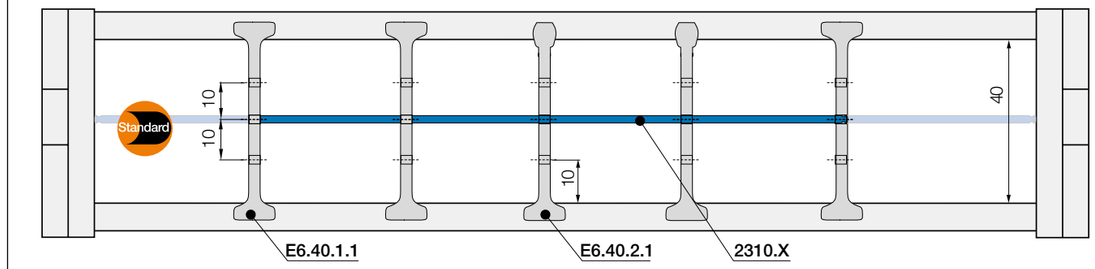


Strain relief **e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with ordering options ▶ From page 1300**

E6.1 | Series E61.40 | Accessories

E61.40

Interior separation | Increase cable service life



No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-chain® link!



Standard separator, wide base
unassembled **E6.40.1**
assembled **E6.40.1.1**

Standard - for any application

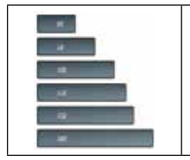
Separator with a wide base for maximum holding force in the e-chain®.



Separator, narrow top
unassembled **E6.40.2**
assembled **E6.40.2.1**

For even faster installation

Wide on one side for high holding force, narrow on opposite side for easy cable fitting.



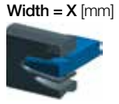
Shelf, lockable
unassembled **2300.X**
assembled **2310.X**

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Shelves

Width = X [mm]



X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
015	**2300.015**	**2310.015**	060	**2300.060**	**2310.060**	087	**2300.87**	**2310.087**
025	**2300.025**	**2310.025**	062	**2300.062**	**2310.062**	090	**2300.90**	**2310.090**
030	**2300.030**	**2310.030**	065	**2300.065**	**2310.065**	100	**2300.100**	**2310.100**
038	**2300.038**	**2310.038**	070	**2300.070**	**2310.070**	103	**2300.103**	**2310.103**
040	**2300.040**	**2310.040**	075	**2300.075**	**2310.075**	110	**2300.110**	**2310.110**
050	**2300.050**	**2310.050**	077	**2300.077**	**2310.077**	120	**2300.120**	**2310.120**
057	**2300.057**	**2310.057**	080	**2300.080**	**2310.080**	125	**2300.125**	**2310.125**

Separator with integrated strain relief teeth

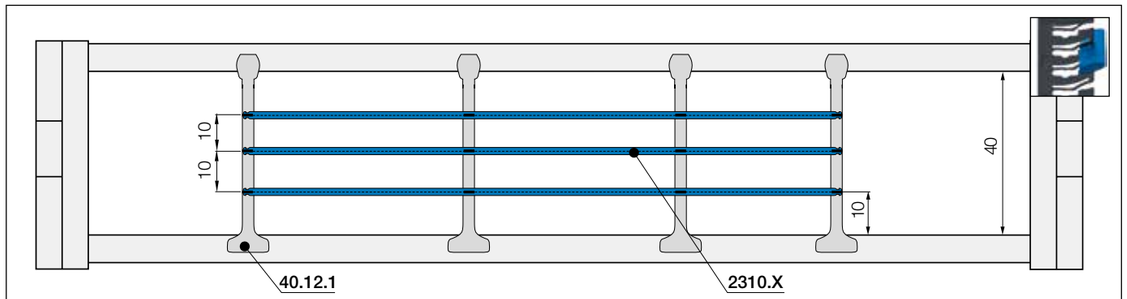
- Can be integrated into the mounting bracket or placed at any point in the e-chain®
- Combines strain relief and interior separation, for restricted space conditions
- Strain relief separator is easy to assemble without any screws

Part No. E6.40.02.Z. More information ▶ From page 1326

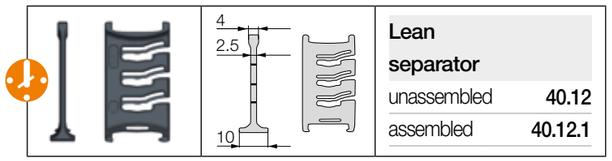


E6.1 | Series E61.40 | Accessories

Interior separation | To allow faster filling New



No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-chain® link!



Lean separator	
unassembled	40.12
assembled	40.12.1

Lean separators

New design allows extremely fast fitting of shelves in several layers, which significantly reduces assembly time. Enables extremely fast replacement of individual cables in a very full e-chain®.

Lean separator design - several layers of cables fitted quickly, save up to 50%* assembly time
(*Lean separator vs. standard separator - measured on a 4m long e-chain® fitted with 12 cables in the igus® readychain® factory)





Very small bend radii are possible with chainflex® CF98 control cable in this E6.1 readychain® system. It offers smooth operation and is suitable for cleanrooms

E6.1 | Series E61.52 | Product range

Dynamic, quiet, light and cleanroom suitable

52



e-chains® | Series E61.52 | Crossbars removable along the inner and outer radius

Part No. e-chains®	Bi [mm]	Ba [mm]	E61.52 [kg/m]
E61.52. 040 R.0	40	64	≈ 1.679
E61.52. 050 R.0	50	74	≈ 1.724
E61.52. 052 R.0	52	76	≈ 1.733
E61.52. 062 R.0	62.5	86.5	≈ 1.780
E61.52. 070 R.0	70	94	≈ 1.814
E61.52. 075 R.0	75	99	≈ 1.836
E61.52. 087 R.0	87.5	111.5	≈ 1.892
E61.52. 100 R.0	100	124	≈ 1.948

Part No. e-chains®	Bi [mm]	Ba [mm]	E61.52 [kg/m]
E61.52. 125 R.0	125	149	≈ 2.060
E61.52. 150 R.0	150	174	≈ 2.172
E61.52. 175 R.0	175	199	≈ 2.283
E61.52. 200 R.0	200	224	≈ 2.395
E61.52. 225 R.0	225	249	≈ 2.507
E61.52. 250 R.0	250	274	≈ 2.619
E61.52. 275 R.0	275	299	≈ 2.731
E61.52. 300 R.0	300	324	≈ 2.843

*Radius available upon request. Please consult igus® for delivery time.

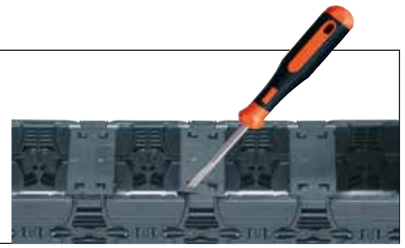
Available bend radii

R [mm] | 075 | 100 | 125 | 150 | 175* | 200* |

Complete Part No. with required radius (R). Example: **E61.52.100.100.0**

Installation note - system E6.1

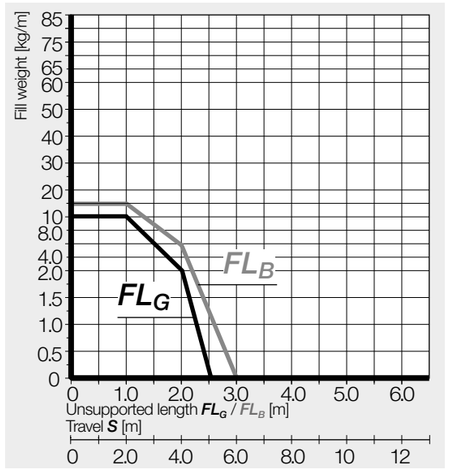
Open by removing the crossbar with a screwdriver.
Repeat the procedure on the other side.
Assembly video available online at ▶ www.igus.eu/E61_assembly

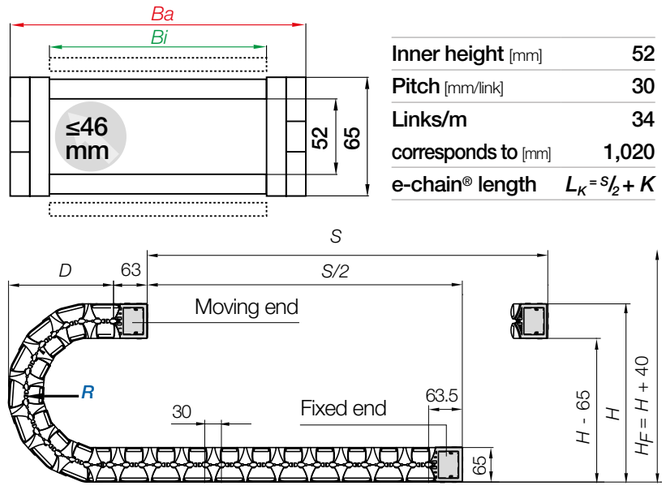


E6.1 | Series E61.52 | Installation dimensions

Unsupported applications | Short travels

▶ 1300 ▶ 1228





Inner height [mm]	52
Pitch [mm/link]	30
Links/m	34
corresponds to [mm]	1,020
e-chain® length	$L_K = S/2 + K$

R	075	100	125	150	175*	200*
H	265	315	365	415	465	515
D	153	178	203	228	253	278
K	300	375	455	535	610	690

The required clearance height: $H_F = H + 40$mm (with 2.0kg/m fill weight)

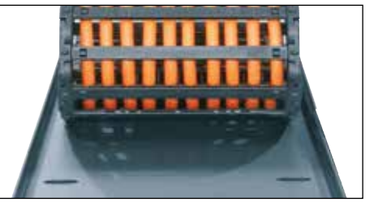
*Radius available upon request. Please consult igus® for delivery time.

If a gliding application is required for a long travel, please consult igus®.

Steel support tray for support of the lower run

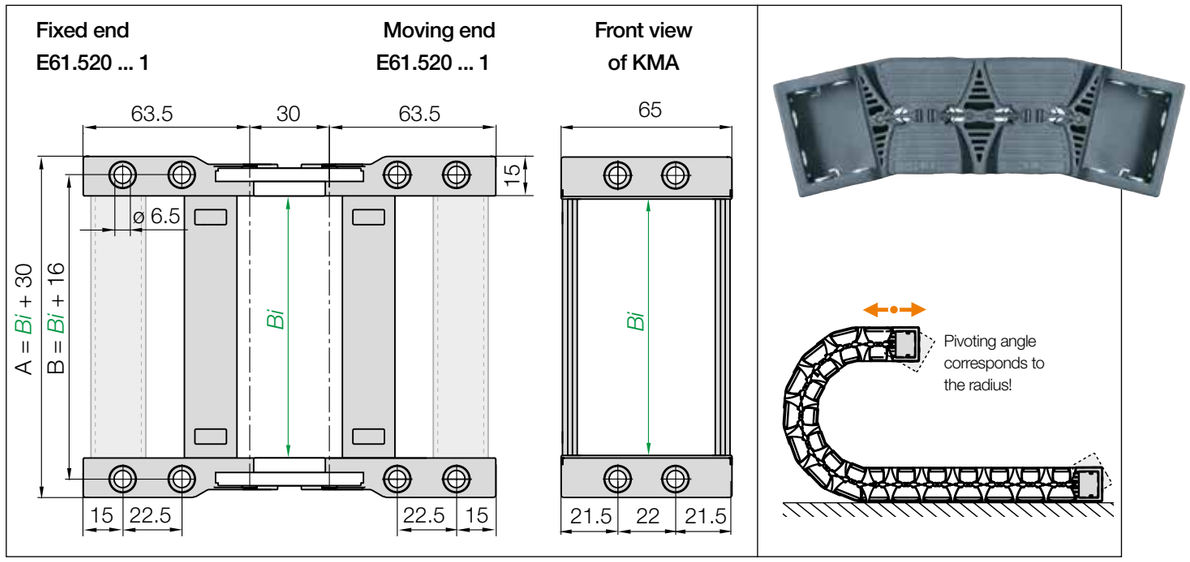
- Simple one-piece support trays for the lower run
- To your requirements and specification
- 4 options available

More information ▶ From page 1264



E6.1 | Series E61.52 | Accessories

KMA mounting brackets | Attachment from any side | Pivoting



KMA pivoting | Recommended for unsupported applications

Width index	Part No. full set **KMA pivoting**	A [mm]	B [mm]	*Bi* [mm]
040. ▶	**E61.520.040.12**.C	70	56	40
050. ▶	**E61.520.050.12**.C	80	66	50
052. ▶	**E61.520.052.12**.C	82	68	52
062. ▶	**E61.520.062.12**.C	92,5	78,5	62.5
070. ▶	**E61.520.070.12**.C	100	86	70
075. ▶	**E61.520.075.12**.C	105	91	75
087. ▶	**E61.520.087.12**.C	117,5	103,5	87.5
100. ▶	**E61.520.100.12**.C	130	116	100

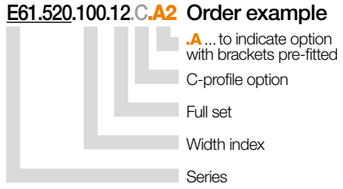
Width index	Part No. full set **KMA pivoting**	A [mm]	B [mm]	*Bi* [mm]
125. ▶	**E61.520.125.12**.C	155	141	125
150. ▶	**E61.520.150.12**.C	180	166	150
175. ▶	**E61.520.175.12**.C	205	191	175
200. ▶	**E61.520.200.12**.C	230	216	200
225. ▶	**E61.520.225.12**.C	255	241	225
250. ▶	**E61.520.250.12**.C	280	266	250
275. ▶	**E61.520.275.12**.C	300	291	275
300. ▶	**E61.520.300.12**.C	330	316	300

(KMA = polymer metal mounting bracket) For the C-profile option please add index **.C**. KMA mounting brackets are only available for an uneven number of links.

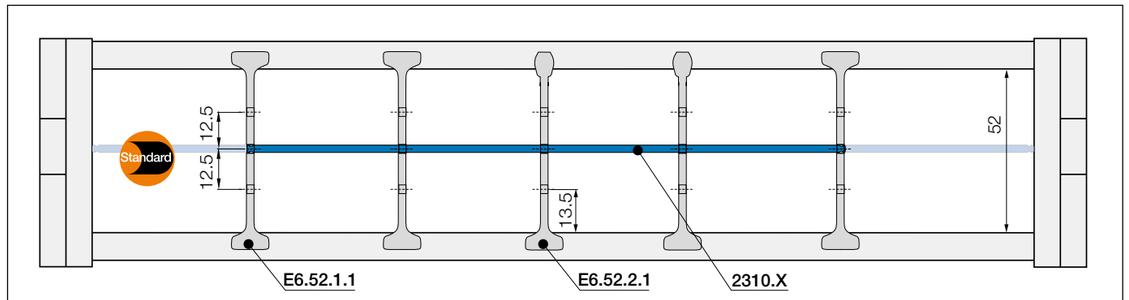


Orientations for KMA mounting brackets. To receive KMA pre-fitted **without C-profile** please add index **.A**. Please add index **.A2** for the standard version **with C-profile**, in the inner radius at the moving end and in the outer radius at the fixed end.

E61.520.100.12.C.A2 Order example



Strain relief **e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with ordering options ▶ From page 1300**



No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-chain® link!



Standard separator, wide base
unassembled **E6.52.1**
assembled **E6.52.1.1**

Standard - for any application

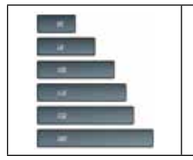
Separator with a wide base for maximum holding force in the e-chain®.



Separator, narrow top
unassembled **E6.52.2**
assembled **E6.52.2.1**

For even faster installation

Wide on one side for high holding force, narrow on opposite side for easy cable fitting.



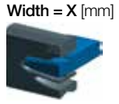
Shelf, lockable
unassembled **2300.X**
assembled **2310.X**

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Shelves

Width = X [mm]



X [mm]	unassembled	assembled
015	**2300.015**	**2310.015**
025	**2300.025**	**2310.025**
030	**2300.030**	**2310.030**
038	**2300.038**	**2310.038**
040	**2300.040**	**2310.040**
050	**2300.050**	**2310.050**
057	**2300.057**	**2310.057**

X [mm]	unassembled	assembled
060	**2300.060**	**2310.060**
062	**2300.062**	**2310.062**
065	**2300.065**	**2310.065**
070	**2300.070**	**2310.070**
075	**2300.075**	**2310.075**
077	**2300.077**	**2310.077**
080	**2300.080**	**2310.080**

X [mm]	unassembled	assembled
087	**2300.87**	**2310.087**
090	**2300.90**	**2310.090**
100	**2300.100**	**2310.100**
103	**2300.103**	**2310.103**
110	**2300.110**	**2310.110**
120	**2300.120**	**2310.120**
125	**2300.125**	**2310.125**

E6.1 | Series E61.62 | Product range

Dynamic, quiet, light and cleanroom suitable

62



e-chains® | Series E61.52 | Crossbars removable along the inner and outer radius

Part No. e-chains®	Bi [mm]	Ba [mm]	E61.62 [kg/m]
E61.62. 05. R.0	50	82	≈ 2.514
E61.62. 06. R.0	68	100	≈ 2.577
E61.62. 07. R.0	75	107	≈ 2.601
E61.62. 087.R.0	87	119	≈ 2.642
E61.62. 097.R.0	97	129	≈ 2.673
E61.62. 10. R.0	100	132	≈ 2.687
E61.62. 11. R.0	108	140	≈ 2.715
E61.62. 112.R.0	112	144	≈ 2.729
E61.62. 12. R.0	125	157	≈ 2.774
E61.62. 137.R.0	137	169	≈ 2.816
E61.62. 15. R.0	150	182	≈ 2.861
E61.62. 162.R.0	162	194	≈ 2.902
E61.62. 17. R.0	168	200	≈ 2.923
E61.62. 18. R.0	175	207	≈ 2.947
E61.62. 187.R.0	187	219	≈ 2.989
E61.62. 20. R.0	200	232	≈ 3.034

Part No. e-chains®	Bi [mm]	Ba [mm]	E61.62 [kg/m]
E61.62. 212.R.0	212	244	≈ 3.076
E61.62. 23. R.0	225	257	≈ 3.121
E61.62. 237.R.0	237	269	≈ 3.162
E61.62. 25. R.0	250	282	≈ 3.207
E61.62. 262.R.0	262	294	≈ 3.249
E61.62. 28. R.0	275	307	≈ 3.294
E61.62. 29. R.0	287	319	≈ 3.336
E61.62. 30. R.0	300	332	≈ 3.381
E61.62. 312.R.0	312	344	≈ 3.422
E61.62. 325.R.0	325	357	≈ 3.467
E61.62. 337.R.0	337	369	≈ 3.509
E61.62. 350.R.0	350	382	≈ 3.554
E61.62. 362.R.0	362	394	≈ 3.596
E61.62. 375.R.0	375	407	≈ 3.641
E61.62. 387.R.0	387	419	≈ 3.682
E61.62. 400.R.0	400	432	≈ 3.782

*Radius available upon request. Please consult igus® for delivery time.

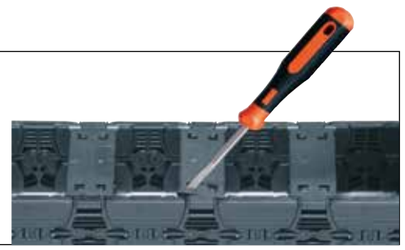
Available bend radii

R [mm] | 115 | 150*| 200*| 250*| 300*| 350*|

Complete Part No. with required radius (R). Example: **E61.62.100.115.0**

Installation note - system E6.1

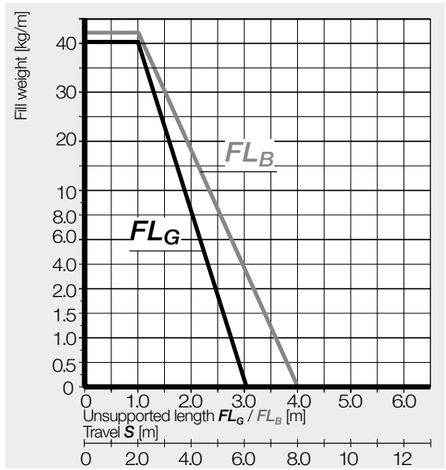
Open by removing the crossbar with a screwdriver.
Repeat the procedure on the other side.
Assembly video available online at ▶ www.igus.de/E61_assembly

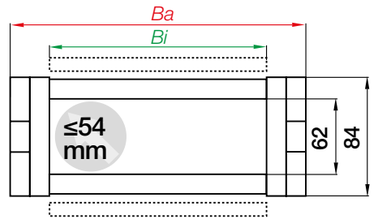


E6.1 | Series E61.62 | Installation dimensions

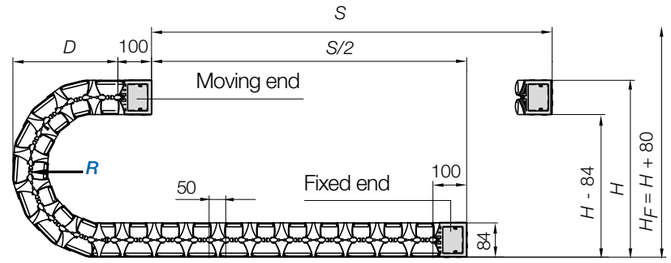
Unsupported applications | Short travels

▶ 1300 ▶ 1230





Inner height [mm]	62
Pitch [mm/link]	50
Links/m	20
corresponds to [mm]	1,000
e-chain® length	$L_K = S/2 + K$



R	115	150*	200*	250*	300*	350*
H	384	454	554	654	754	854
D	232	267	317	367	417	467
K	465	575	730	890	1,045	1,200

The required clearance height: $H_F = H + 80$mm (with 2.0kg/m fill weight)

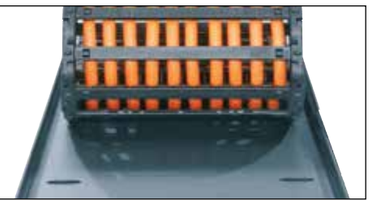
*Radius available upon request. Please consult igus® for delivery time.

If a gliding application is required for a long travel, please consult igus®.

Steel support tray for support of the lower run

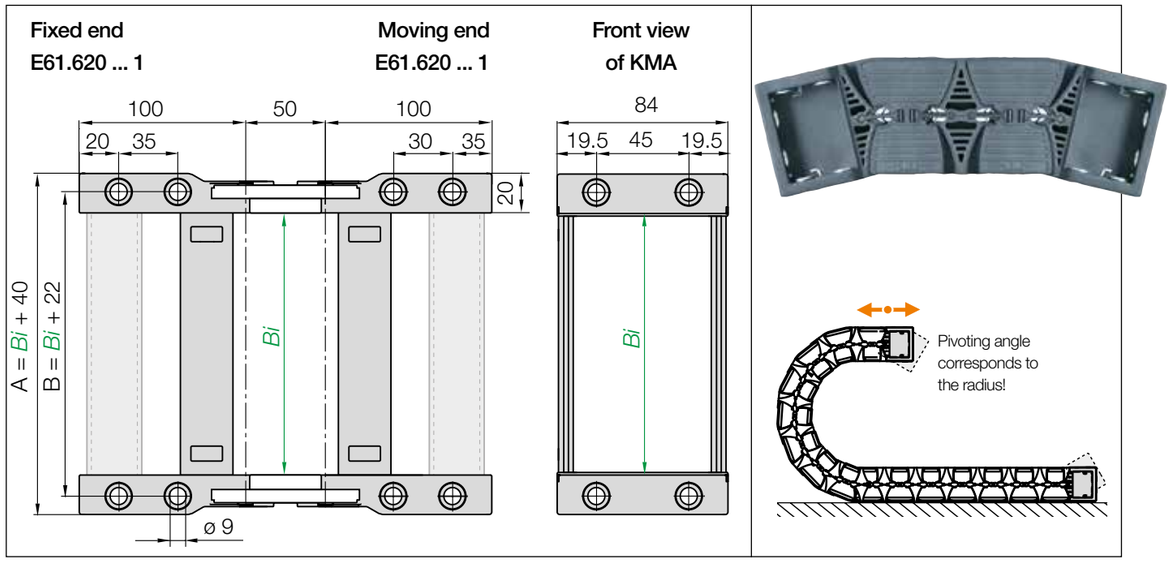
- Simple one-piece support trays for the lower run
- To your requirements and specification
- 4 options available

More information ▶ From page 1264



E6.1 | Series E61.62 | Accessories

KMA mounting brackets | Attachment from any side | Pivoting



KMA pivoting | Recommended for unsupported applications

Width index	Part No. full set KMA pivoting	A [mm]	B [mm]	Bi [mm]
05. ▶	E61.620.05. 12.C	90	72	50
06. ▶	E61.620.06. 12.C	108	90	68
07. ▶	E61.620.07. 12.C	115	97	75
087. ▶	E61.620.087.12.C	127	109	87
097. ▶	E61.620.097.12.C	137	119	97
10. ▶	E61.620.10. 12.C	140	122	100
11. ▶	E61.620.11. 12.C	148	130	108
112. ▶	E61.620.112.12.C	152	134	112
12. ▶	E61.620.12. 12.C	165	147	125
137. ▶	E61.620.137.12.C	177	159	137
15. ▶	E61.620.15. 12.C	190	172	150
162. ▶	E61.620.162.12.C	202	184	162
17. ▶	E61.620.17. 12.C	208	190	168
18. ▶	E61.620.18. 12.C	215	197	175
187. ▶	E61.620.187.12.C	227	209	187
20. ▶	E61.620.20. 12.C	240	222	200

Width index	Part No. full set KMA pivoting	A [mm]	B [mm]	Bi [mm]
212. ▶	E61.620.212.12.C	252	234	212
23. ▶	E61.620.23. 12.C	265	247	225
237. ▶	E61.620.237.12.C	277	259	237
25. ▶	E61.620.25. 12.C	290	272	250
262. ▶	E61.620.262.12.C	302	284	262
28. ▶	E61.620.28. 12.C	315	297	275
29. ▶	E61.620.29. 12.C	327	309	287
30. ▶	E61.620.30. 12.C	340	322	300
312 ▶	E61.620.312.12.C	352	334	312
325. ▶	E61.620.325.12.C	365	347	325
337. ▶	E61.620.337.12.C	377	359	337
350. ▶	E61.620.350.12.C	390	372	350
362 ▶	E61.620.362.12.C	402	384	362
375. ▶	E61.620.375.12.C	415	397	375
387. ▶	E61.620.387.12.C	427	409	387
400. ▶	E61.620.400.12.C	440	442	400

(KMA = polymer metal mounting bracket) For the C-profile option please add index **.C**. KMA mounting brackets are only available for an uneven number of links.



Orientations for KMA mounting brackets. To receive KMA pre-fitted **without C-profile** please add index **.A**. Please add index **.A2** for the standard version **with C-profile**, in the inner radius at the moving end and in the outer radius at the fixed end.

E61.620.100.12.C.A2 Order example

- **.A** ... to indicate option with brackets pre-fitted
- C-profile option
- Full set
- Width index
- Series

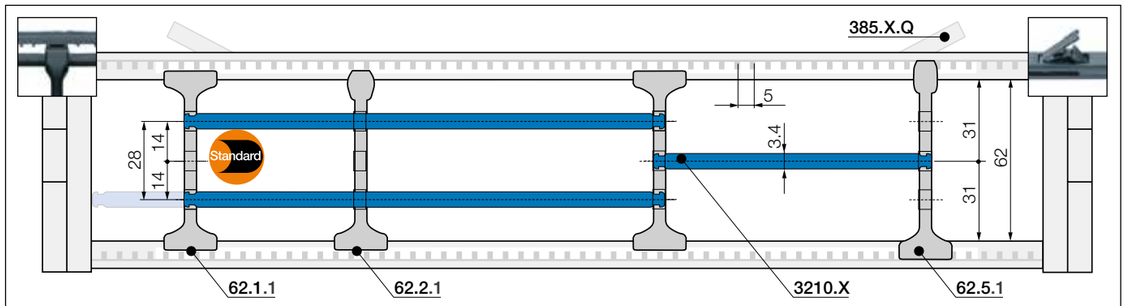
Strain relief **e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with ordering options ▶ From page 1300**

E6.1 | Series E61.62 | Accessories

E61.62

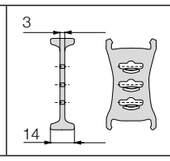
Interior separation | Increase cable service life

Previous interior separation with optional elements ▶ **www.igus.eu/E61.62**



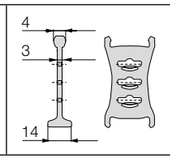
No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-chain® link!





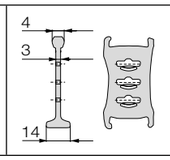
Standard separator, wide base	
unassembled	**62.1**
assembled	**62.1.1**



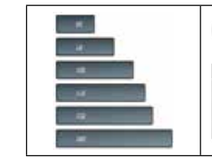


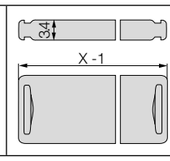
Separator for QuickLock crossbar	
unassembled	**62.2**
assembled	**62.2.1**





Notch separator for notched crossbar	
unassembled	**62.5**
assembled	**62.5.1**





Shelf, lockable	
unassembled	**3200.X**
assembled	**3210.X**

Standard - for any application

Separator with a wide base for maximum holding force in the e-chain®.

For even faster installation

Separator for igus® QuickLock crossbar **385.X.Q**. Wide on one side for high holding force, narrow on opposite side for easy cable fitting.

Locks securely in preset increments

Notch separator for exact positioning in e-chains®. Recommended for side-mounted applications.

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Shelves

Width = X [mm]



X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
050	**3200.050**	**3210.050**	125	**3200.125**	**3210.125**	225	**3200.225**	**3210.225**
075	**3200.075**	**3210.075**	150	**3200.150**	**3210.150**	250	**3200.250**	**3210.250**
100	**3200.100**	**3210.100**	175	**3200.175**	**3210.175**			
115	**3200.115**	**3210.115**	200	**3200.200**	**3210.200**			

E6.1 | Series E61.80 | Product range

Dynamic, quiet, light and cleanroom suitable

80



e-chains® | Series E61.80 | Crossbars removable along the inner and outer radius

Part No. e-chains®	Bi [mm]	Ba [mm]	E61.80 [kg/m]
E61.80. 05. R.0	50	100	≈ 2.906
E61.80. 06. R.0	65	115	≈ 2.979
E61.80. 07. R.0	75	125	≈ 3.028
E61.80. 08. R.0	87	137	≈ 3.089
E61.80. 10. R.0	100	150	≈ 3.150
E61.80. 11. R.0	112	162	≈ 3.209
E61.80. 12. R.0	125	175	≈ 3.272
E61.80. 13. R.0	137	187	≈ 3.331
E61.80. 15. R.0	150	200	≈ 3.394
E61.80. 16. R.0	162	212	≈ 3.453
E61.80. 17. R.0	175	225	≈ 3.516
E61.80. 18. R.0	187	237	≈ 3.575
E61.80. 20. R.0	200	250	≈ 3.638
E61.80. 21. R.0	212	262	≈ 3.697
E61.80. 22. R.0	225	275	≈ 3.760
E61.80. 23. R.0	237	287	≈ 3.819
E61.80. 25. R.0	250	300	≈ 3.882
E61.80. 26. R.0	262	312	≈ 3.941
E61.80. 27. R.0	275	325	≈ 4.004
E61.80. 28. R.0	287	337	≈ 4.063
E61.80. 30. R.0	300	350	≈ 4.127

Part No. e-chains®	Bi [mm]	Ba [mm]	E61.80 [kg/m]
E61.80. 31. R.0	312	362	≈ 4.185
E61.80. 32. R.0	325	375	≈ 4.249
E61.80. 33. R.0	337	387	≈ 4.307
E61.80. 35. R.0	350	400	≈ 4.371
E61.80. 36. R.0	362	412	≈ 4.429
E61.80. 37. R.0	375	425	≈ 4.493
E61.80. 38. R.0	387	437	≈ 4.551
E61.80. 40. R.0	400	450	≈ 4.615
E61.80. 41. R.0	412	462	≈ 4.673
E61.80. 42. R.0	425	475	≈ 4.737
E61.80. 43. R.0	437	487	≈ 4.787
E61.80. 45. R.0	450	500	≈ 4.847
E61.80. 46. R.0	462	512	≈ 4.907
E61.80. 47. R.0	475	525	≈ 4.967
E61.80. 48. R.0	487	537	≈ 5.027
E61.80. 50. R.0	500	550	≈ 5.087
E61.80. 51. R.0	512	562	≈ 5.147
E61.80. 52. R.0	525	575	≈ 5.207
E61.80. 53. R.0	537	587	≈ 5.267
E61.80. 55. R.0	550	600	≈ 5.327
E61.80. 60. R.0	600	650	≈ 5.557

*Radius available upon request. Please consult igus® for delivery time.

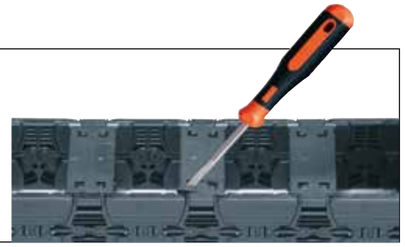
Available bend radii

R [mm] | **150** | 200*| 250*| 300*| 350*| 400*|

Complete Part No. with required radius (*R*). Example: **E61.80.100.150.0**

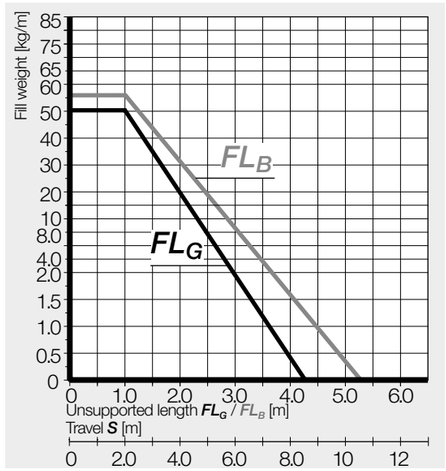
Installation note - system E6.1

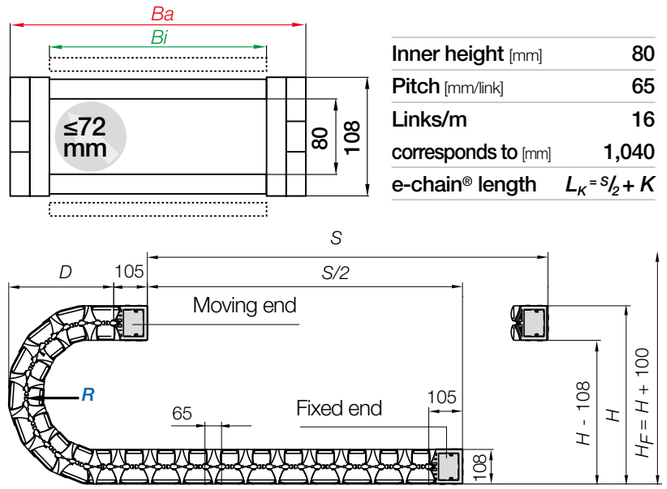
Open by removing the crossbar with a screwdriver.
Repeat the procedure on the other side.
Assembly video available online at ▶ www.igus.eu/E61_assembly



E6.1 | Series E61.80 | Installation dimensions

Unsupported applications | Short travels





Inner height [mm]	80
Pitch [mm/link]	65
Links/m	16
corresponds to [mm]	1,040
e-chain® length	$L_K = S/2 + K$

R	150	200*	250*	300*	350*	400*
H	508	608	708	808	908	1,008
D	301.5	351.5	401.5	451.5	501.5	551.5
K	605	760	920	1,075	1,230	1,390

The required clearance height: $H_F = H + 80$mm (with 5.0kg/m fill weight)

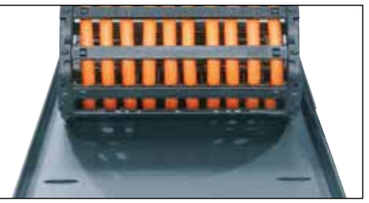
*Radius available upon request. Please consult igus® for delivery time.

If a gliding application is required for a long travel, please consult igus®.

Steel support tray for support of the lower run

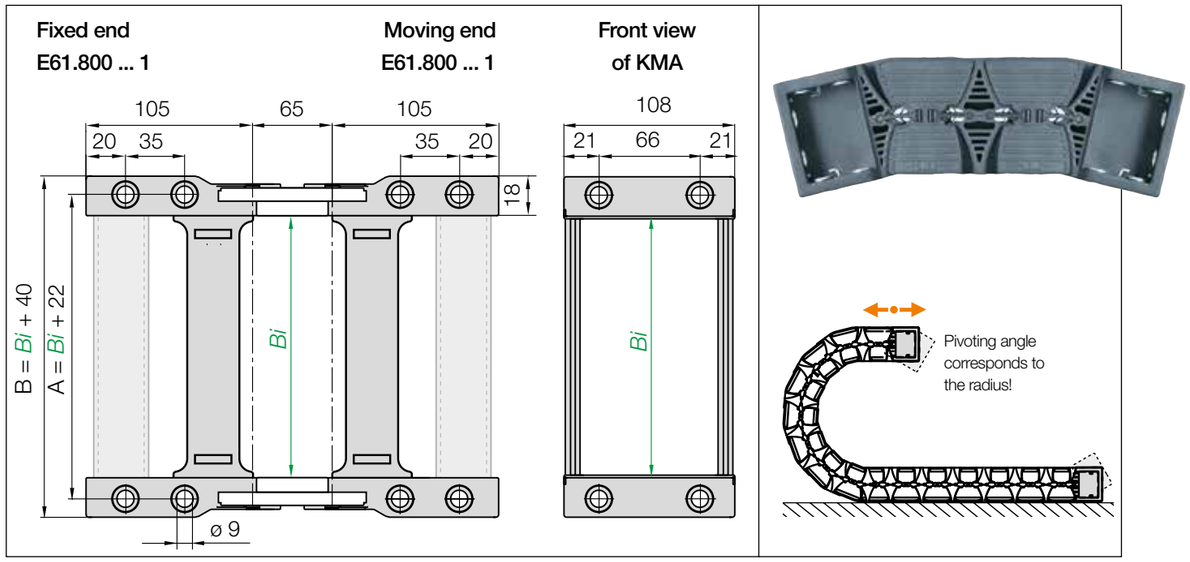
- Simple one-piece support trays for the lower run
- To your requirements and specification
- 4 options available

More information ▶ From page 1264



E6.1 | Series E61.80 | Accessories

KMA mounting brackets | Attachment from any side | Pivoting



KMA pivoting | Recommended for unsupported applications

Width index	Part No. full set KMA pivoting	A [mm]	B [mm]	Bi [mm]
05. ▶	E61.800. 05. 12.C	72	90	50
06. ▶	E61.800. 06. 12.C	87	105	65
07. ▶	E61.800. 07. 12.C	97	115	75
08. ▶	E61.800. 08. 12.C	109	127	87
10. ▶	E61.800. 10. 12.C	122	140	100
11. ▶	E61.800. 11. 12.C	134	152	112
12. ▶	E61.800. 12. 12.C	147	165	125
13. ▶	E61.800. 13. 12.C	159	177	137
15. ▶	E61.800. 15. 12.C	172	190	150
16. ▶	E61.800. 16. 12.C	184	202	162
17. ▶	E61.800. 17. 12.C	197	215	175
18. ▶	E61.800. 18. 12.C	209	227	187
20. ▶	E61.800. 20. 12.C	222	240	200
21. ▶	E61.800. 21. 12.C	234	252	212
22. ▶	E61.800. 22. 12.C	247	265	225
23. ▶	E61.800. 23. 12.C	259	277	237
25. ▶	E61.800. 25. 12.C	272	290	250
26. ▶	E61.800. 26. 12.C	284	302	262
27. ▶	E61.800. 27. 12.C	297	315	275
28. ▶	E61.800. 28. 12.C	309	327	287
30. ▶	E61.800. 30. 12.C	322	340	300

Width index	Part No. full set KMA pivoting	A [mm]	B [mm]	Bi [mm]
31. ▶	E61.800. 31. 12.C	334	352	312
32. ▶	E61.800. 32. 12.C	347	365	325
33. ▶	E61.800. 33. 12.C	359	377	337
35. ▶	E61.800. 35. 12.C	372	390	350
36. ▶	E61.800. 36. 12.C	384	402	362
37. ▶	E61.800. 37. 12.C	397	415	375
38. ▶	E61.800. 38. 12.C	409	427	387
40. ▶	E61.800. 40. 12.C	422	440	400
41. ▶	E61.800. 41. 12.C	434	452	412
42. ▶	E61.800. 42. 12.C	447	465	425
43. ▶	E61.800. 43. 12.C	459	477	437
45. ▶	E61.800. 45. 12.C	472	490	450
46. ▶	E61.800. 46. 12.C	484	502	462
47. ▶	E61.800. 47. 12.C	497	515	475
48. ▶	E61.800. 48. 12.C	509	527	487
50. ▶	E61.800. 50. 12.C	522	540	500
51. ▶	E61.800. 51. 12.C	534	552	512
52. ▶	E61.800. 52. 12.C	547	565	525
53. ▶	E61.800. 53. 12.C	559	577	537
55. ▶	E61.800. 55. 12.C	572	590	550
60. ▶	E61.800. 60. 12.C	622	640	600

(KMA = polymer metal mounting bracket) For the C-profile option please add index **.C**. KMA mounting brackets are only available for an uneven number of links.



Orientations for KMA mounting brackets. To receive KMA pre-fitted **without C-profile** please add index **.A**. Please add index **.A2** for the standard version **with C-profile**, in the inner radius at the moving end and in the outer radius at the fixed end.

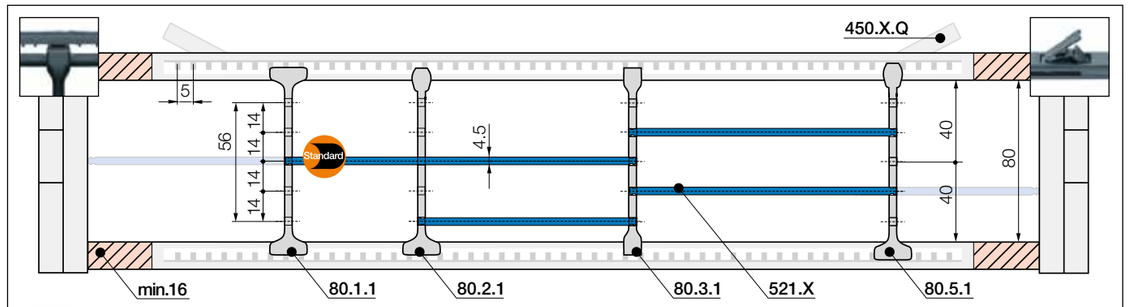
E61.800.100.12.C.A2 Order example

- **.A** ... to indicate option with brackets pre-fitted
- C-profile option
- Full set
- Width index
- Series

E6.1 | Series E61.80 | Accessories

Interior separation | Increase cable service life

Previous interior separation with optional elements ▶ **www.igus.eu/E61.80**



Note: Please be aware of the minimum lateral gap to the side links! **e-chain®: 16mm**
As standard separators are fitted every 2nd e-chain® link!



Standard separator, wide base
unassembled **80.1**
assembled **80.1.1**

Standard - for any application

Separator with a wide base for maximum holding force in the e-chain®.



Separator for QuickLock crossbar
unassembled **80.2**
assembled **80.2.1**

For even faster installation

Separator for igus® QuickLock crossbar **450.X.Q**. Wide on one side for high holding force, narrow on opposite side for easy cable fitting.



Separator, narrow
unassembled **80.3**
assembled **80.3.1**

For small cables

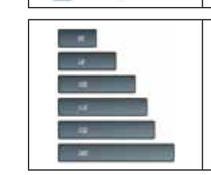
Separator with a narrow base for a large number of small cables side by side. Saves space in the e-chain®. Also available for QuickLock crossbars.



Notch separator for notched crossbar
unassembled **80.5**
assembled **80.5.1**

Locks securely in preset increments

Notch separator for exact positioning in e-chains®. Recommended for side-mounted applications.

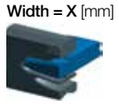


Shelf, lockable
unassembled **520.X**
assembled **521.X**

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Shelves
Width = X [mm]

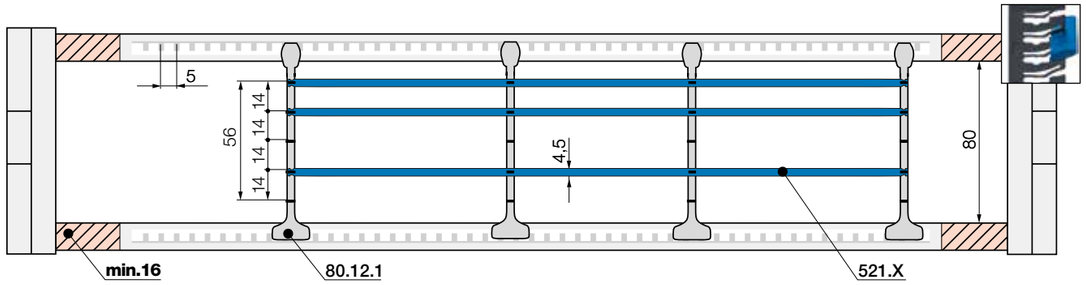


X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
050	**520.050**	**521.050**	150	**520.150**	**521.150**	300	**520.300**	**521.300**
065	**520.065**	**521.065**	175	**520.175**	**521.175**	350	**520.350**	**521.350**
075	**520.075**	**521.075**	200	**520.200**	**521.200**	375	**520.375**	**520.375**
100	**520.100**	**521.100**	225	**520.225**	**521.225**	387	**520.387**	**520.387**
125	**520.125**	**521.125**	250	**520.250**	**521.250**	450	**520.450**	**521.450**

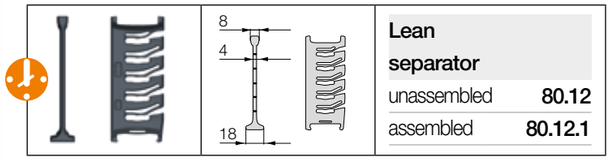
Strain relief **e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with ordering options ▶ From page 1300**

E6.1 | Series E61.80 | Accessories

Interior separation | To allow faster filling New



Note: Please be aware of the minimum lateral gap to the side links! **e-chain®: 16mm**
As standard separators are fitted every 2nd e-chain® link!



Lean separator	
unassembled	**80.12**
assembled	**80.12.1**

Lean separators

New design allows extremely fast fitting of shelves in several layers, which significantly reduces assembly time. Enables extremely fast replacement of individual cables in a very full e-chain®.

Lean separator design - several layers of cables fitted quickly, save up to 50%* assembly time
(*Lean separator vs. standard separator - measured on a 4m long e-chain® fitted with 12 cables in the igus® readychain® factory)





Customised, fully harnessed E6.1 e-chain® system complete with chainflex® cables; both cleanroom suitable and used here in the semiconductor industry



E6

Extremely low noise, vibration and abrasion, cleanroom suitable

Advantages of the E6 system:

- For very high speeds and accelerations
- For small bend radii
- High strength
- Available as closed e-tube for some sizes
- **Low-noise 37dB(A)**[1] - extremely low noise and vibration
- **Cleanroom ISO Class 1**[2] - virtually no wear or abrasion

1) Extremely low-noise - tested at the igus® lab 2) Cleanroom - series E6.29.060.150.0.CR

When to use another e-chain® series:

- With only limited suitability for side-mounted applications
  ▶ **E4.1L, page 524** ▶ **E2/000, page 360**
- When a Reverse Bend Radius ***RBR*** is required
  ▶ **E4.1L, page 524** ▶ **E2/000, page 360**
- For longer unsupported lengths
  ▶ **E4.1L, page 524** ▶ **E2/000, page 360**
- For long travels
  ▶ **E4.1, page 566** ▶ **E2/000, page 360**
- For even less vibration and noise or even greater dynamics
  ▶ **E6.1, page 750**



Attachment from any side: with KMA mounting brackets

Low noise from 37dB(A)[1]: small pitch for low noise, smooth running

Long service life: low vibration, high strength

Dynamic: high speeds and accelerations

Quick assembly: openable along the inner and outer radius

Modular design: can be easily lengthened and shortened

High strength: for unsupported applications

No wear: polymer spring - no pin/bore connection

Variant: available as closed e-tube for some sizes

Cleanroom ISO Class 1[2]: virtually no wear or abrasion

Extremely low noise, vibration and abrasion, cleanroom suitable - system E6

The E6 series offers numerous advantages in addition to long life. It provides extremely quiet, low vibration operation, complimenting low vibration linear drives. It minimises the polygon effect which can occur during the rolling motion of an e-chain®. The ultra-low noise levels have been confirmed in a recent report by the Rheinland Technical Inspection Agency. Our extensive product range offers the right e-chain® size for any application; a wide range of interior separation is also available.

1) Extremely low-noise - tested at the igus® lab

2) Cleanroom - series E6.29.060.150.0.CR

Typical industries and applications

● Cleanroom ● Stage and theatre technology ● Printing machines ● Automation ● Machine tools ● Measuring machines ● Semiconductor industry ● Medical industry ● Electronic industry ● General machinery

Fraunhofer IPA TESTED DEVICE

IPA Qualification Certificate[2] - Report IG 0704-400:
ISO Class 1, according to DIN EN ISO 14644-1 for system E6, series E6.29.060.150.0.CR at v = 0.5m/s, 2m/s

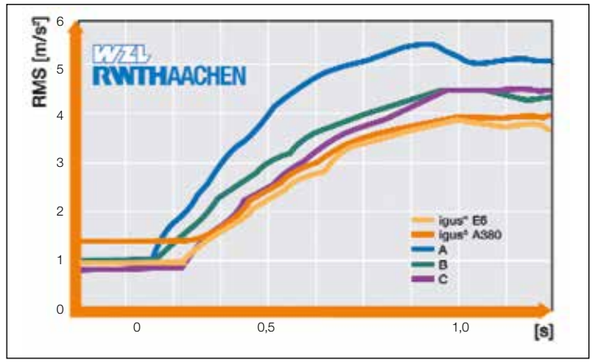
37dB(A)[1] - value determined at the igus® test lab, v = 1.0m/s unsupported, series E6.29.080.075.0

Series	Inner height *hi* [mm]	Inner width *Bi* [mm]	Outer width *Ba* [mm]	Outer height *ha* [mm]	Bend radius *R* [mm]	Unsupported length ≤ [m]	Page
							
E6 e-chains® crossbars removable along the inner and outer radius - standard							
E6.29	29	30 - 140	6 - 156	35	055 - 150	≈ 1.75	**796**
E6.35	35	30 - 140	50 - 160	42	055 - 150	≈ 1.90	**802**
E6.40	40	40 - 300	60 - 320	54	063 - 200	≈ 2.50	**806**
E6.52	52	40 - 300	64 - 324	65	075 - 250	≈ 3.00	**812**
E6.62	62	50 - 400	86 - 436	84	115 - 350	≈ 4.00	**818**
E6.80L	80	87 - 550	115 - 578	108	150 - 300	≈ 2.50	**822**
E6.80	80	50 - 600	100 - 650	108	150 - 450	≈ 5.25	**828**
							
R6 e-tubes fully enclosed - lids removable along the inner and outer radius							
R6.29	28	30 - 120	46 - 136	35	055 - 150	≈ 1.75	**796**
R6.40	40	62	82	54	063 - 200	≈ 2.50	**806**
R6.52	52	50 - 200	74 - 224	65	075 - 250	≈ 3.00	**812**

*Radius available upon request. Please consult igus® for delivery time.

Available from stock. Ready to ship in 24 - 48 hrs.*

*The delivery times indicated correspond to the average time until the ordered goods are dispatched.



E6 system - extremely quiet operation

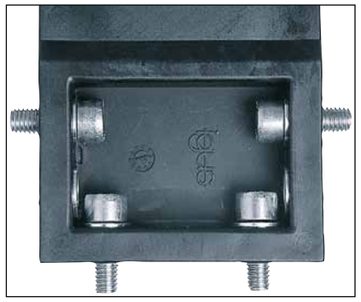
Study by the Laboratorium für Werkzeugmaschinen und Betriebslehre (WZL) of the RWTH Aachen, Germany, on "Vibration tests on energy supply chains". Results: the "E6" energy supply system made by igus® GmbH, Cologne, is characterised by extremely low vibration and smooth operation



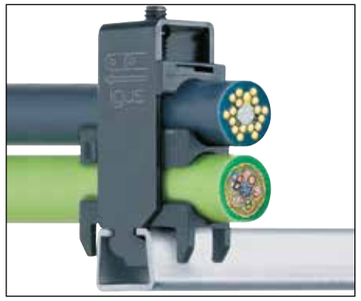
Lean separators enable extremely fast cable filling in several layers



Pivoting KMA mounting brackets - pivot angle corresponds to the bend radius



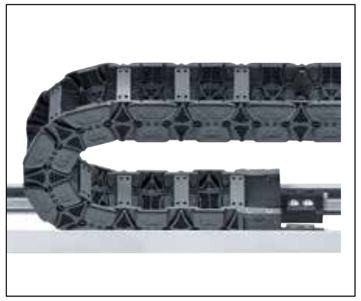
KMA mounting brackets with attachment options from any side



Strain relief e.g. clamps, tiewrap plates, nuggets, etc. ▶ **From page 1300**



Aluminium"SuperTrough" - the standard igus® guide trough ▶ **From page 1208**



Aluminium and steel support tray for support of the lower run ▶ **From page 1264**



A linear drive provides the highly dynamic feed for PCBs. This system is twice as fast as handling units with a toothed-belt drive; designed to withstand high dynamic loads, E6 e-chains® ensure a supply of power, coolant and control data with ultra-low noise and vibration

Suitability of E6 e-chains® for cleanrooms - almost no wear or abrasion

By using a special material, the already low abrasion of the e-chain® can be reduced even further. In many applications where cumbersome special solutions are required, a simple standard e-chain® can be used instead. A comprehensive test programme was devised and performed for both gliding and unsupported use. For many applications, the e-chains® in special materials are virtually abrasion-free. IPA tests confirm that standard igus® e-chains® meet cleanroom requirements. "Tested and certified as very good!" e-chains® for cleanroom applications demand very high wear resistance of moving parts. e-chains®, for example, must be very wear-resistant, in order to meet the normal requirements for such a sensitive environment.



By eliminating the pin/bore connection, the unsupported E6 has very low abrasion and is suitable for cleanrooms

IPA Qualification Certificate - Report IG 0704-400:

- **Special material "cleanroom" - ISO Class 1, according to DIN EN ISO 14644-1**
  for series E6.29.060.150.0.CR at v = 0.5m/s, 2.0m/s
- **Standard material - ISO Class 3, according to DIN EN ISO 14644-1**
  for series E6.29.060.150.0 at v = 0.5m/s, 2.0m/s and
  series E6.29.050.055.0 with fitted cables CF34.15.04, CF9.05.12, CF11.02.01.02.PBA.LC.D

E6 e-chains® in low-noise areas - from 37dB(A)

Selected noise tests - external noise corrected measurement values

e-chain® series	Test speed and test method		Averaging of the corrected sound pressure levels
igus® Series E6.29*	v = 1.0m/s	unsupported	**≈ 37 dB(A)**
igus® series E6.52*	v = 0.5m/s	side mounted unsupported	**≈ 41 dB(A)**
igus® series E6.52	v = 2.0m/s	unsupported	**≈ 46 dB(A)**
Chain 1 third-party product	v = 2.0m/s	unsupported	**≈ 77 dB(A)**
Chain 2 third-party product	v = 2.0m/s	unsupported	**≈ 68 dB(A)**
Chain 3 third-party product	v = 2.0m/s	unsupported	**≈ 73 dB(A)**

Source: TÜV Rheinland *Source: igus® investigations

Noise level ≤ 37dB(A) - A measurement conducted by the Rhineland Technical Inspection Authority (TÜV Rheinland) in May 2002 indicates a value of ≤ 46dB(A) at 2m/s and with an unsupported length of 1.5m with series E6.52.100.100.0, and all this with at least 10dB(A) sound pressure level generated by external noise. We have received an official noise certificate from the Rhineland Technical Inspection Authority (TÜV Rheinland Berlin Brandenburg) and we are happy to provide you with a copy upon request. A measurement carried out in the igus® laboratory resulted in a value of 37dB(A) at 1m/s for the series E6.29.080.075.0 (unsupported length)

Technical data

Speed gliding[1] / acceleration gliding[1]	upon request
Speed FL_G / acceleration FL_G	≤ 20 [m/s] / ≤ 200 [m/s²]
Speed FL_B / acceleration FL_B	≤ 3 [m/s] / ≤ 6 [m/s²]
Material - permitted temperature °C, igumid G	upon request
Flammability class, igumid G	VDE 0304 IIC UL94-HB

FL_G = unsupported with straight upper run FL_B = unsupported with permitted sag

1) Gliding applications for long travels are available upon request, please consult igus®.

Installation types, maximum travels

Series	Unsupported	Gliding[1]	Vertical hanging	Vertical standing	Side mounted unsupported
E6.29 / R6.29	≤ 3.50m	upon request	≤ 30m	≤ 2.0m	upon request
E6.35	≤ 3.80m	upon request	≤ 30m	≤ 2.0m	upon request
E6.40 / R6.40	≤ 5.00m	upon request	≤ 30m	≤ 2.0m	upon request
E6.52 / R6.52	≤ 6.00m	upon request	≤ 50m	≤ 2.0m	upon request
E6.62	≤ 8.00m	upon request	≤ 60m	≤ 3.0m	upon request
E6.80L	≤ 5.00m	upon request	≤ 60m	≤ 4.0m	upon request
E6.80	≤ 10.5m	upon request	≤ 60m	≤ 4.0m	upon request

1) Gliding applications for long travels are available upon request, please consult igus®.

Options with order keys | Examples based on series E6.52

	Standard	*NC version - (No Camber) without pretension*
	Part No. Standard	Part No. NC version
	Standard	NC
	E6.52.100.*R*.0	E6.52.100.*R*.0.NC
	Ready to ship* in 24 - 48hrs.	Delivery time* upon request

*The delivery times indicated correspond to the average time until the ordered goods are dispatched.

Order example | Order key and colour examples | Examples based on series E6.52

Order example for complete e-chain® (1.0m), colour black, with mounting brackets and interior separation:

e-chain® (1.0m)	Please indicate e-chain® length or number of links: 1.0m or 34 links	E6.52.100.075.0
+ Mounting brackets	KMA pivoting - 1 set	E6.520.100.12
Interior separation	with 2 separators assembled every 2nd link	2 x 38222
Order text:	1 m E6.52.100.075.0 + E6.520.100.12 + 2 x 38222	

Order key

e-chain® E6.52.100.075.0
e-tube R6.52.100.075.0

- Series / Type
- Width index (depends on *Bi*)
- Bend radius *R*
- Colour index (standard black)

Order index for colour options

Colour		Order index		Colour		Order index	
Black	Standard	.0		Orange	Special colour	.2	
Silver-grey	Special colour	.31		Yellow	Special colour	.4	
White	Special colour	.1		Light grey	Special colour	.14	
Grey-white	Special colour	.1S					

Black e-chains® available from stock.
Above special colours upon request.

E6 | Series E6.29·R6.29 | Product range

Extremely low noise and vibration

29 e-chain® 28 e-tube



e-chains® | Series E6.29 | Crossbars removable along the inner and outer radius
e-tubes | Series R6.29 | Lids removable along the inner and outer radius

Part No. e-chains®	Part No. e-tubes	Bi [mm]	Ba [mm]	E6.29 [kg/m]	R6.29 [kg/m]
E6.29. 030. *R*.0	R6.29. 030. *R*.0	30	46	0.73	0.80
E6.29. 040. *R*.0	R6.29. 040. *R*.0	40	56	0.75	0.85
E6.29. 050. *R*.0	R6.29. 050. *R*.0	50	66	0.78	0.89
E6.29. 060. *R*.0	R6.29. 060. *R*.0	60	76	0.80	0.94
E6.29. 070. *R*.0	R6.29.*070. *R*.0	70	86	0.83	0.97
E6.29. 080. *R*.0	R6.29. 080. *R*.0	80	96	0.85	1.03
E6.29. 090. *R*.0	R6.29.*090. *R*.0	90	106	0.88	1.08
E6.29. 100. *R*.0	R6.29.*100. *R*.0	100	116	0.90	1.13
E6.29. 110. *R*.0	R6.29. 110. *R*.0	110	126	0.93	1.18
E6.29. 120. *R*.0	R6.29. 120. *R*.0	120	136	0.95	1.22
E6.29. 140. *R*.0	– 140. *R*.0	140	156	1.00	–

*Width available upon request. Please consult igus® for delivery time.

Available bend radii

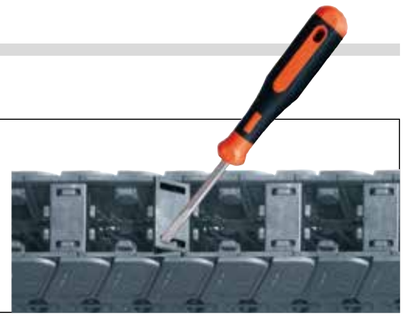
R [mm] | 055 | 075 | 100 | 150 |

Complete Part No. with required radius (*R*). Example:

E6.29.080.100.0 = e-chain® / R6.29.080.100.0 = e-tube

Installation note - system E6

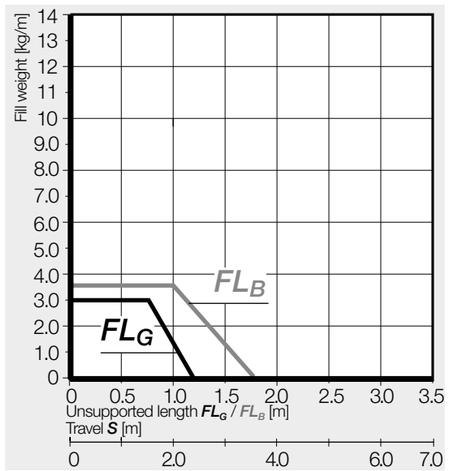
Open by removing the crossbar with a screwdriver.
Repeat the procedure on the other side.
Assembly video available online at ▶ www.igus.eu/E6_assembly

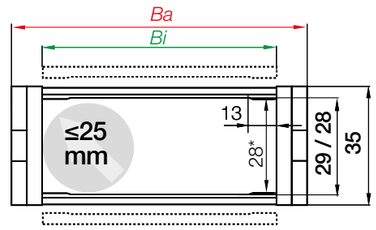


E6 | Series 6.29·R6.29 | Installation dimensions

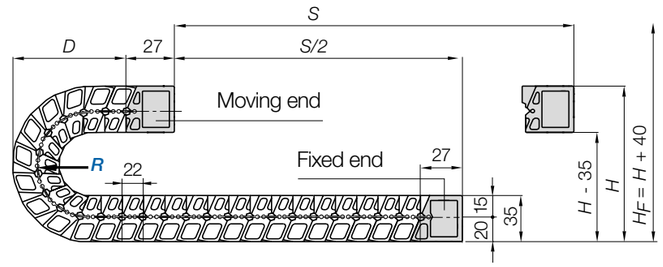
Unsupported applications | Short travels

▶ 1300 ▶ 1220





E6.29 Inner height [mm]	29
R6.29 Inner height [mm]	28
Pitch [mm/link]	22
Links/m	46
corresponds to [mm]	1,012
e-chain® length	$L_K = S/2 + K$



R	055	075	100	150
H	180	220	270	370
D	108	128	153	203
K	220	280	360	520

The required clearance height: $H_F = H + 40$mm (with 2.0kg/m fill weight)

If a gliding application is required for a long travel, please consult igus®.

Aluminium support tray

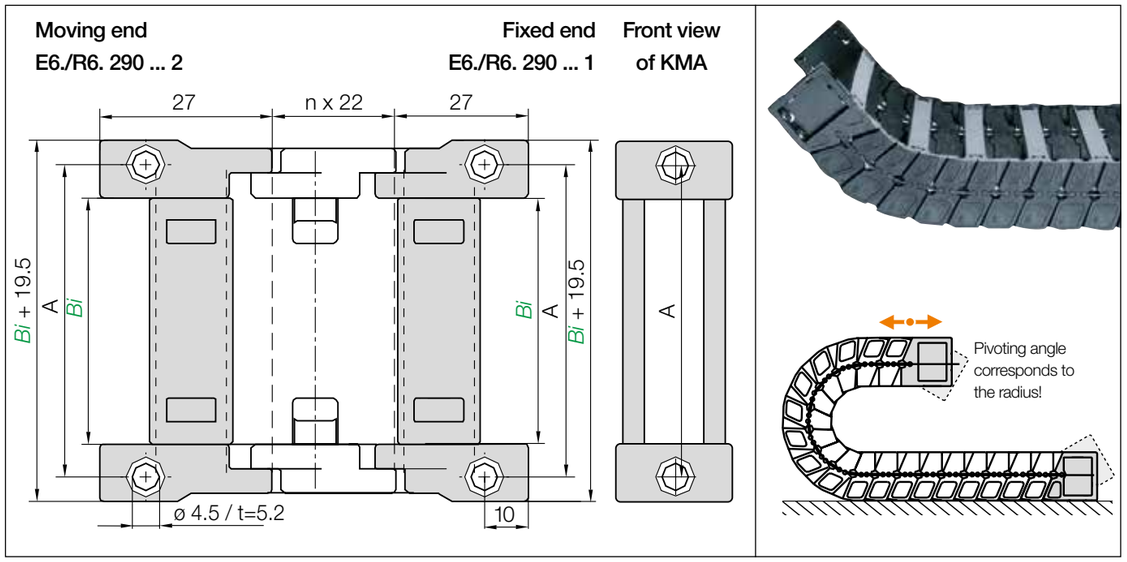
- Corrosion-resistant and seawater-resistant aluminium rails with adjustable width
- Noise-reducing glide strip integrated as standard
- Easy installation and connection of the e-chain®
- Open design - dirt and debris fall through

More information ▶ From page 1270



E6 | Series E6.29·R6.29 | Accessories

KMA mounting brackets | Attachment from any side | Pivoting

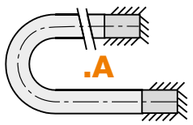


KMA pivoting | Recommended for unsupported applications

Width index	Part No. full set KMA pivoting			A [mm]	Bi [mm]
030. ▶	E6.290.	R6.290.	030.12	40	30
040. ▶	E6.290.	R6.290.	040.12	50	40
050. ▶	E6.290.	R6.290.	050.12	60	50
060. ▶	E6.290.	R6.290.	060.12	70	60
070. ▶	E6.290.	R6.290.	070.12	80	70
080. ▶	E6.290.	R6.290.	080.12	90	80
090. ▶	E6.290.	R6.290.*	090.12	100	90
100. ▶	E6.290.	R6.290.*	100.12	110	100
110. ▶	E6.290.	R6.290.	110.12	120	110
120. ▶	E6.290.	R6.290.	120.12	130	120
140. ▶	E6.290	–	140.12	150	140

*Width available upon request. Please consult igus® for delivery time.

(KMA = polymer metal mounting bracket)



The bracket orientations are set automatically when using an igus® KMA mounting bracket. To receive KMA pre-fitted please add index **.A**

E6.290.080.12.A Order example

.A ... to indicate option with brackets pre-fitted

Full set

Width index

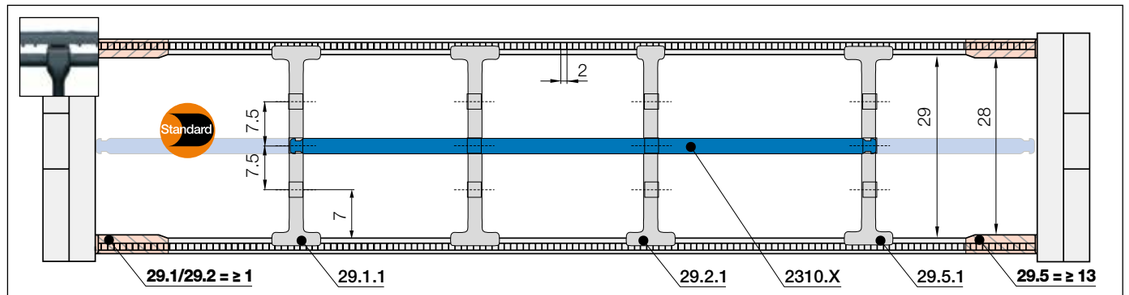
Series

Strain relief **e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with ordering options ▶ From page 1300**

E6 | e-chains® E6.29 | Accessories

increInterior separation | Increase cable service life (only for e-chains®, for e-tubes ▶ next page)

Previous generation of interior separation with other options ▶ **www.igus.eu/E6.29**



Note: Please be aware of the minimum lateral gap to the side links! **29.1/29.2 = 1mm** | **29.5 = 13mm**

As standard separators are fitted every 2nd e-chain® link!



Standard separator, wide base
unassembled **29.1**
assembled **29.1.1**

Standard - for any application

Separator with a wide base for maximum holding force in the e-chain®.



Separator, narrow top
unassembled **29.2**
assembled **29.2.1**

For even faster installation

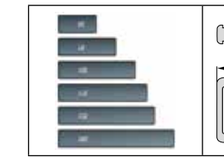
Wide on one side for high holding force, narrow on opposite side for easy cable fitting.



Notch separator for notched crossbar
unassembled **29.5**
assembled **29.5.1**

Locks securely in preset increments

Notch separator for exact positioning in e-chains®. Recommended for side-mounted applications.



Shelf, lockable
unassembled **2300.X**
assembled **2310.X**

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Shelves

Width = X [mm]



X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
015	**2300.015**	**2310.015**	060	**2300.060**	**2310.060**	087	**2300.87**	**2310.087**
025	**2300.025**	**2310.025**	062	**2300.062**	**2310.062**	090	**2300.90**	**2310.090**
030	**2300.030**	**2310.030**	065	**2300.065**	**2310.065**	100	**2300.100**	**2310.100**
038	**2300.038**	**2310.038**	070	**2300.070**	**2310.070**	103	**2300.103**	**2310.103**
040	**2300.040**	**2310.040**	075	**2300.075**	**2310.075**	110	**2300.110**	**2310.110**
050	**2300.050**	**2310.050**	077	**2300.077**	**2310.077**	120	**2300.120**	**2310.120**
057	**2300.057**	**2310.057**	080	**2300.080**	**2310.080**	125	**2300.125**	**2310.125**

Separator with integrated strain relief teeth

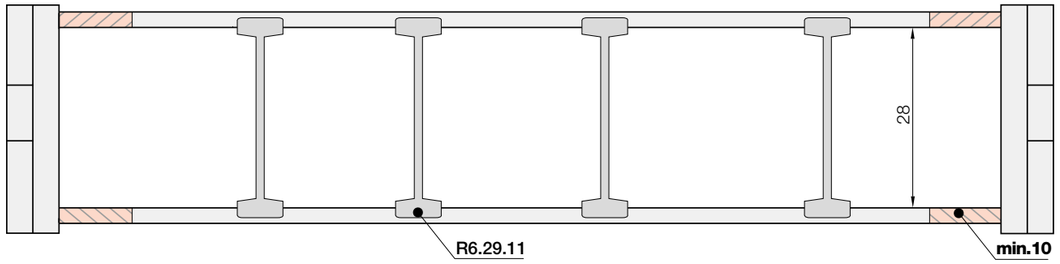
- Can be integrated into the mounting bracket or placed at any point in the e-chain®
- Combines strain relief and interior separation, for restricted space conditions
- Strain relief separator is easy to assemble without any screws

Part No. E6.29.02.Z. More information ▶ From page 1326

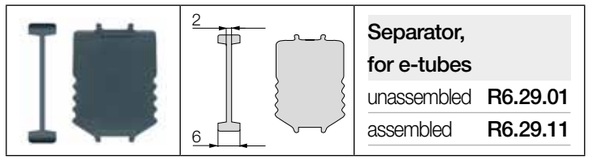


E6 | **e-tubes R6.29** | Accessories

Interior separation (only for e-tubes, for e-chains® ▶ previous page)



Note: Please be aware of the minimum lateral gap to the side links! **e-tubes: 10mm**
As standard separators are fitted every 2nd e-chain® link!



Separator, for e-tubes	
unassembled	**R6.29.01**
assembled	**R6.29.11**

Separator for e-tubes

Notches on the separator indicate the clamping side of the separator. The notches on this separator mark the side that fixes to the lid.

Separator with integrated strain relief teeth

- Can be integrated into the mounting bracket or placed at any point in the e-chain®
- Combines strain relief and interior separation, for restricted space conditions
- Strain relief separator is easy to assemble without any screws

Part No. R6.29.02.Z. More information ▶ From page 1326

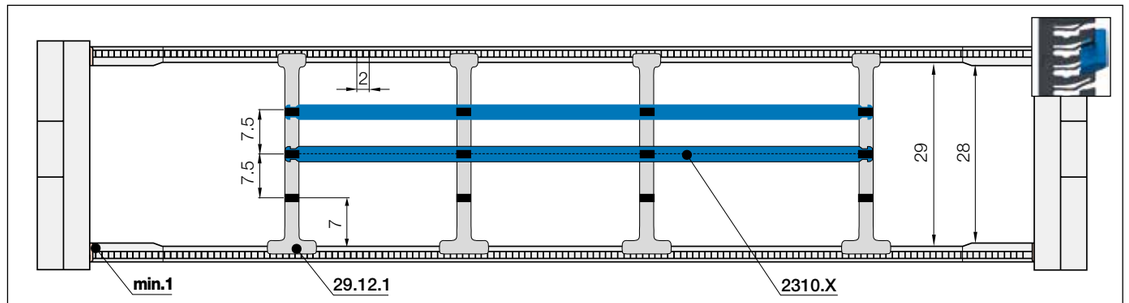




Long travel length with side-mounted orientation using the low noise and vibration series E6 for a camera application

E6 | **e-chains® E6.29** | Accessories

Interior separation | To allow faster filling New



Note: Please be aware of the minimum lateral gap to the side links! **e-chain®: 1mm**
As standard separators are fitted every 2nd e-chain® link!



Lean separator*	
unassembled	**29.12**
assembled	**29.12.1**

Lean separators*

New design allows extremely fast fitting of shelves in several layers, which significantly reduces assembly time. Enables extremely fast replacement of individual cables in a very full e-chain®.

*Only for e-chains®



Lean separator design - several layers of cables fitted quickly, save up to 50%* assembly time
(*Lean separator vs. standard separator - measured on a 4m long e-chain® fitted with 12 cables in the igus® readychain® factory)

E6 | Series E6.35 | Product range

Extremely low noise and vibration

35



e-chains® | Series E6.35 | Crossbars removable along the inner and outer radius

Part No. e-chains®	Bi [mm]	Ba [mm]	E6.35 [kg/m]
E6.35. 030. R.0	30	50	0.88
E6.35. 040. R.0	40	60	0.90
E6.35. 050. R.0	50	70	0.92
E6.35. 060. R.0	60	80	0.94
E6.35. 070. R.0	70	90	0.96
E6.35. 080. R.0	80	100	0.99
E6.35. 090. R.0	90	110	1.01
E6.35. 100. R.0	100	120	1.03
E6.35. 110. R.0	110	130	1.05
E6.35. 120. R.0	120	140	1.07
E6.35. 140. R.0	140	160	1.11

*Radius available upon request. Please consult igus® for delivery time.

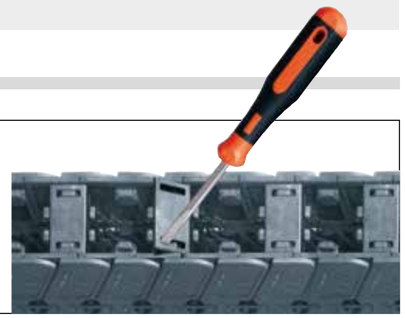
Available bend radii

R [mm] | 055 | 075 | 100 | 125* | 150 |

Complete Part No. with required radius (R). Example: **E6.35.100.100.0**

Installation note - system E6

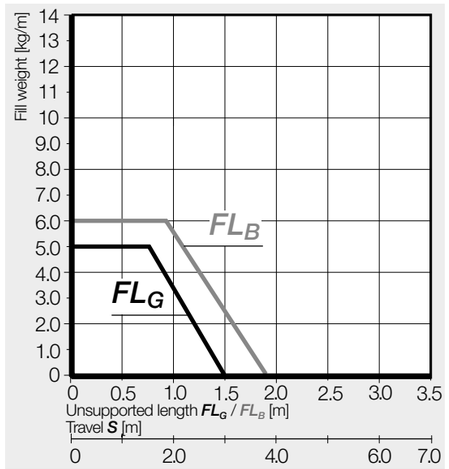
Open by removing the crossbar with a screwdriver.
Repeat the procedure on the other side.
Assembly video available online at ▶ www.igus.eu/E6_assembly

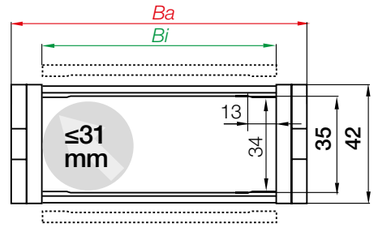


E6 | Series E6.35 | Installation dimensions

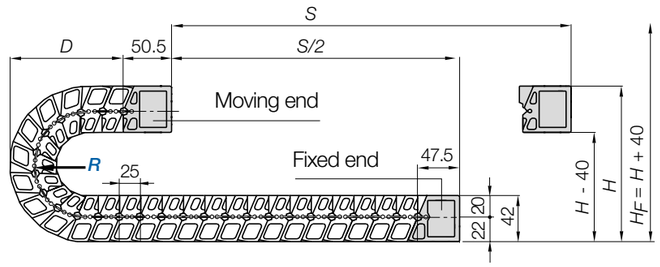
Unsupported applications | Short travels

▶ 1300 ▶ 1222





Inner height [mm]	35
Pitch [mm/link]	25
Links/m	40
corresponds to [mm]	1,000
e-chain® length	$L_K = S/2 + K$



R	055	075	100	125*	150
H	189	229	279	329	379
D	115	135	160	185	210
K	225	290	365	445	525

The required clearance height: $H_F = H + 40$mm (with 2.0kg/m fill weight)

*Radius available upon request. Please consult igus® for delivery time.

If a gliding application is required for a long travel, please consult igus®.

Aluminium support tray

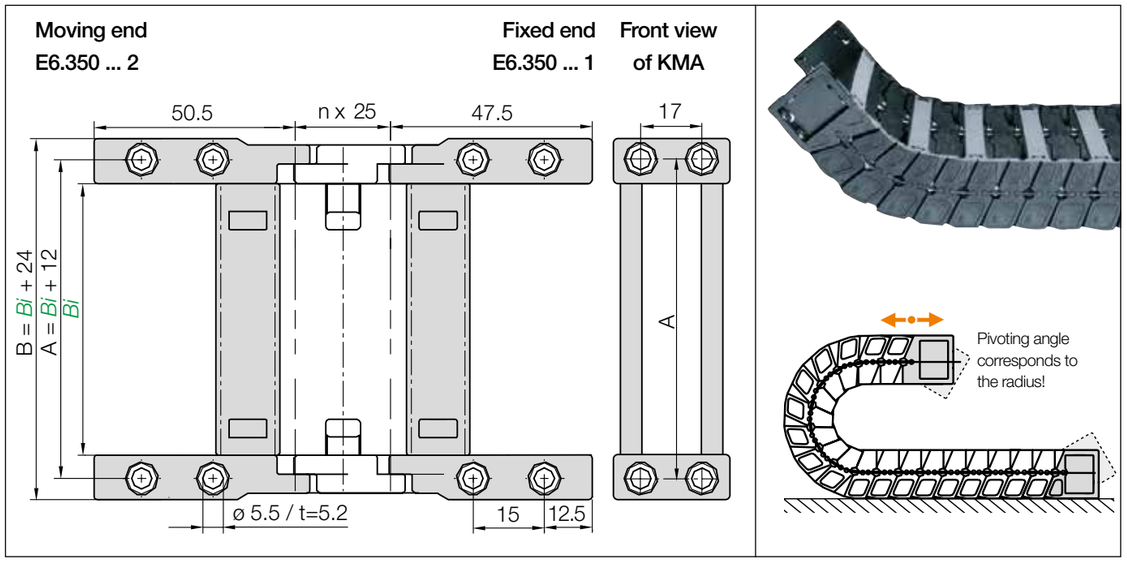
- Corrosion-resistant and seawater-resistant aluminium rails with adjustable width
- Noise-reducing glide strip integrated as standard
- Easy installation and connection of the e-chain®
- Open design - dirt and debris fall through

More information ▶ From page 1270



E6 | Series E6.35 | Accessories

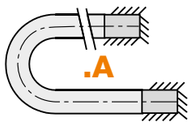
KMA mounting brackets | Attachment from any side | Pivoting



KMA pivoting | Recommended for unsupported applications

Width index	Part No. full set KMA pivoting	A [mm]	B [mm]	Bi [mm]
030. ▶	E6.350. 030.12	42	54	30
040. ▶	E6.350. 040.12	52	64	40
050. ▶	E6.350. 050.12	62	74	50
060. ▶	E6.350. 060.12	72	84	60
070. ▶	E6.350. 070.12	82	94	70
080. ▶	E6.350. 080.12	92	104	80
090. ▶	E6.350. 090.12	102	114	90
100. ▶	E6.350. 100.12	112	124	100
110. ▶	E6.350. 110.12	122	134	110
120. ▶	E6.350. 120.12	132	144	120
140. ▶	E6.350. 140.12	152	164	140

(KMA = polymer metal mounting bracket)



The bracket orientations are set automatically when using an igus® KMA mounting bracket. To receive KMA pre-fitted please add index **.A**

E6.350.100.12.A Order example

.A ... to indicate option with brackets pre-fitted

Full set

Width index

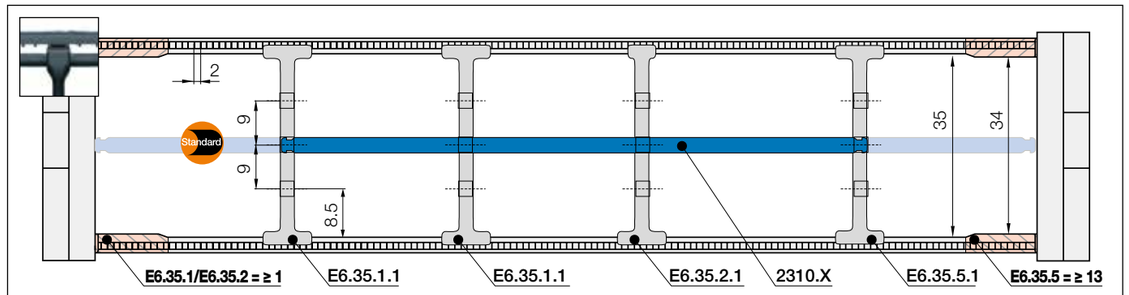
Series

Strain relief e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with ordering options ▶ From page 1300

E6 | Series E6.35 | Accessories

Interior separation | Increase cable service life

Previous generation of interior separation with other options ▶ **www.igus.eu/E6.35**



Note: Please be aware of the minimum lateral gap to the side links! **E6.35.1/E6.35.2 = 1mm | E6.35.5 = 13mm**

As standard separators are fitted every 2nd e-chain® link!



Standard separator, wide base

unassembled **E6.35.1**

assembled **E6.35.1.1**

Standard - for any application

Separator with a wide base for maximum holding force in the e-chain®.



Separator, narrow top

unassembled **E6.35.2**

assembled **E6.35.2.1**

For even faster installation

Wide on one side for high holding force, narrow on opposite side for easy cable fitting.



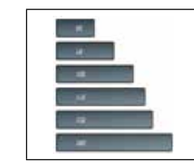
Notch separator for notched crossbar

unassembled **E6.35.5**

assembled **E6.35.5.1**

Locks securely in preset increments

Notch separator for exact positioning in e-chains®. Recommended for side-mounted applications.



Shelf, lockable

unassembled **2300.X**

assembled **2310.X**

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Shelves

Width = X [mm]



X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
015	**2300.015**	**2310.015**	060	**2300.060**	**2310.060**	087	**2300.87**	**2310.087**
025	**2300.025**	**2310.025**	062	**2300.062**	**2310.062**	090	**2300.90**	**2310.090**
030	**2300.030**	**2310.030**	065	**2300.065**	**2310.065**	100	**2300.100**	**2310.100**
038	**2300.038**	**2310.038**	070	**2300.070**	**2310.070**	103	**2300.103**	**2310.103**
040	**2300.040**	**2310.040**	075	**2300.075**	**2310.075**	110	**2300.110**	**2310.110**
050	**2300.050**	**2310.050**	077	**2300.077**	**2310.077**	120	**2300.120**	**2310.120**
057	**2300.057**	**2310.057**	080	**2300.080**	**2310.080**	125	**2300.125**	**2310.125**

Separator with integrated strain relief teeth

- Can be integrated into the mounting bracket or placed at any point in the e-chain®
- Combines strain relief and interior separation, for restricted space conditions
- Strain relief separator is easy to assemble without any screws

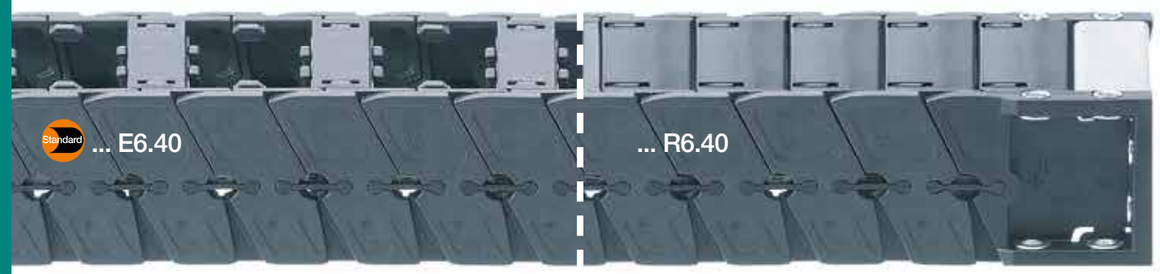
Part No. E6.35.02.Z. More information ▶ From page 1326



E6 | Series E6.40·R6.40 | Product range

Extremely low noise and vibration

40



e-chains® | Series E6.40 | Crossbars removable along the inner and outer radius
e-tubes | Series R6.40 | Lids removable along the inner and outer radius

Part No. e-chains®	Part No. e-tubes	Bi [mm]	Ba [mm]	E6.40 [kg/m]	R6.40 [kg/m]
E6.40. 040.R.0	R6.40.* 040.R.0	40	60	≈ 1.29	–
E6.40. 050.R.0	R6.40.* 050.R.0	50	70	≈ 1.33	–
E6.40. 052.R.0	R6.40.* 052.R.0	52	72	≈ 1.34	–
E6.40. 062.R.0	R6.40. 062.R.0	62	82	≈ 1.38	≈ 1.59
E6.40. 070.R.0	R6.40.* 070.R.0	70	90	≈ 1.41	–
E6.40. 075.R.0	R6.40.* 075.R.0	75	95	≈ 1.43	≈ 1.65
E6.40. 087.R.0	R6.40.* 087.R.0	87	107	≈ 1.48	–
E6.40. 100.R.0	R6.40.* 100.R.0	100	120	≈ 1.53	–
E6.40. 125.R.0	R6.40.* 125.R.0	125	145	≈ 1.63	–
E6.40. 150.R.0	R6.40.* 150.R.0	150	170	≈ 1.73	–
E6.40. 175.R.0	R6.40.* 175.R.0	175	195	≈ 1.83	–
E6.40. 200.R.0	R6.40.* 200.R.0	200	220	≈ 1.93	–
E6.40. 225.R.0	R6.40.* 225.R.0	225	245	≈ 2.02	–
E6.40. 250.R.0	R6.40.* 250.R.0	250	270	≈ 2.12	–
E6.40. 275.R.0	R6.40.* 275.R.0	275	295	≈ 2.22	–
E6.40. 300.R.0	R6.40.* 300.R.0	300	320	≈ 2.32	–

*Width available upon request. Please consult igus® for delivery time.

Available bend radii

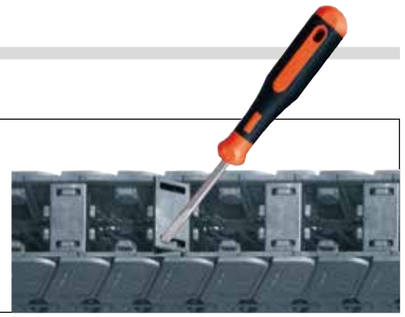
R [mm] | 063 | 075 | 100 | 125 | 150 | 200 |

Complete Part No. with required radius (*R*). Example:

E6.40.100.100.0 = e-chain® / R6.40.100.100.0 = e-tube

Installation note - system E6

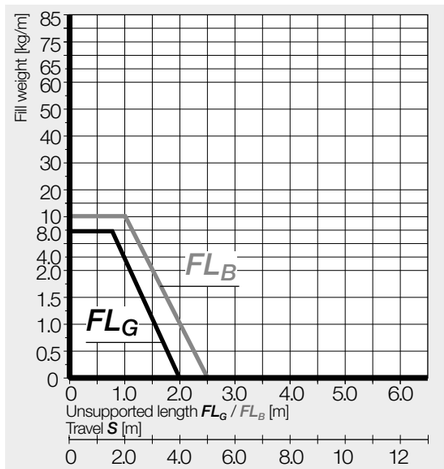
Open by removing the crossbar with a screwdriver.
Repeat the procedure on the other side.
Assembly video available online at ▶ www.igus.eu/E6_assembly

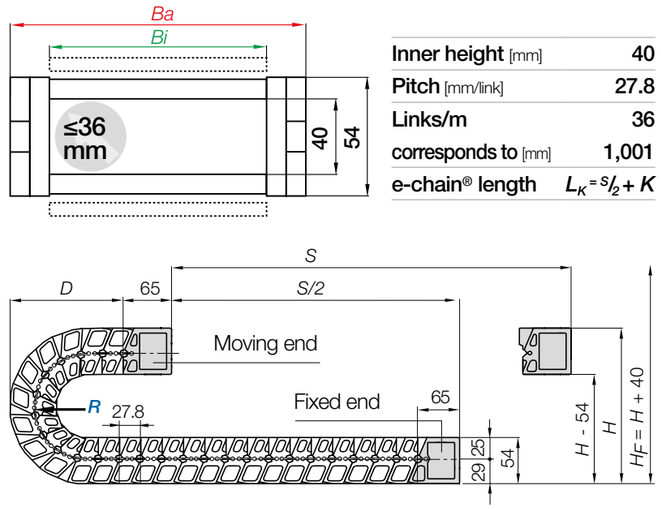


E6 | Series E6.40·R6.40 | Installation dimensions

Unsupported applications | Short travels

▶ 1300 ▶ 1224





Inner height [mm]	40
Pitch [mm/link]	27.8
Links/m	36
corresponds to [mm]	1,001
e-chain® length	$L_K = S/2 + K$

R	063	075	100	125	150	200
H	224	248	298	348	398	498
D	134	146	171	196	221	271
K	255	295	370	450	530	685

The required clearance height: $H_F = H + 40$mm (with 2.0kg/m fill weight)

If a gliding application is required for a long travel, please consult igus®.

Aluminium support tray

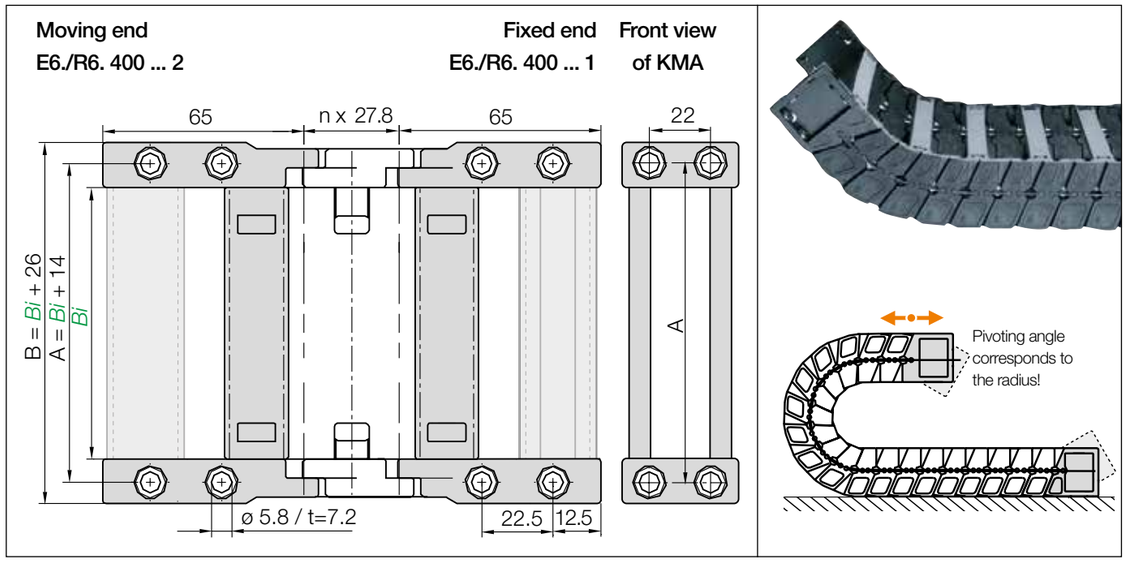
- Corrosion-resistant and seawater-resistant aluminium rails with adjustable width
- Noise-reducing glide strip integrated as standard
- Easy installation and connection of the e-chain®
- Open design - dirt and debris fall through

More information ▶ From page 1270



E6 | Series E6.40·R6.40 | Accessories

KMA mounting brackets | Attachment from any side | Pivoting



KMA pivoting | Recommended for unsupported applications

Width index	Part No. full set KMA pivoting			A [mm]	B [mm]	Bi [mm]
040. ▶	E6.400.	R6.400.*	040.12.C	54	66	40
050. ▶	E6.400.	R6.400.*	050.12.C	64	76	50
052. ▶	E6.400.	R6.400.*	052.12.C	66	78	52
062. ▶	E6.400.	R6.400.	062.12.C	76	88	62
070. ▶	E6.400.	R6.400.*	070.12.C	84	96	70
075. ▶	E6.400.	R6.400.*	075.12.C	89	101	75
087. ▶	E6.400.	R6.400.*	087.12.C	101	113	87
100. ▶	E6.400.	R6.400.*	100.12.C	114	126	100
125. ▶	E6.400.	R6.400.*	125.12.C	139	151	125
150. ▶	E6.400.	R6.400.*	150.12.C	154	176	150
175. ▶	E6.400.	R6.400.*	175.12.C	189	201	175
200. ▶	E6.400.	R6.400.*	200.12.C	214	226	200
225. ▶	E6.400.	R6.400.*	225.12.C	239	251	225
250. ▶	E6.400.	R6.400.*	250.12.C	264	276	250
275. ▶	E6.400.	R6.400.*	275.12.C	289	301	275
300. ▶	E6.400.	R6.400.*	300.12.C	314	326	300

*Width available upon request. Please consult igus® for delivery time.

(KMA = polymer metal mounting bracket) For the C-profile option please add index **.C**



Orientations for KMA mounting brackets. To receive KMA pre-fitted **without C-profile** please add index **.A**. Please add index **.A2** for the standard version **with C-profile**, in the inner radius at the moving end and in the outer radius at the fixed end.

E6.400.100.12.C.A2 Order example

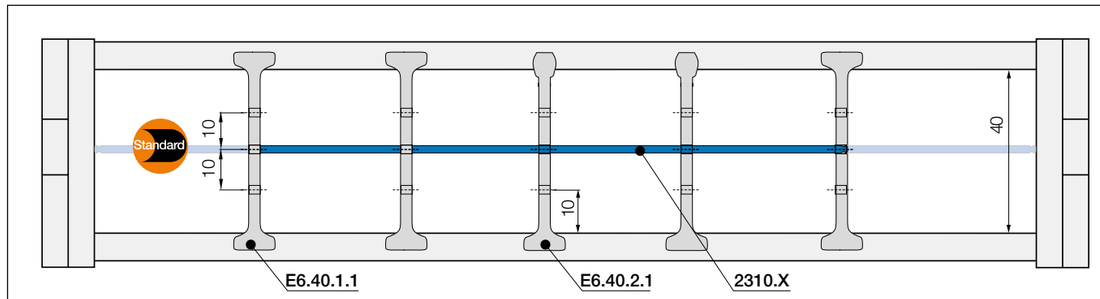
- **.A** ... to indicate option with brackets pre-fitted
- C-profile option
- Full set
- Width index
- Series

Strain relief e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with ordering options ▶ From page 1300

E6 | e-chains® E6.40 | Accessories

Interior separation | Increase cable service life (only for e-chains®, for e-tubes ▶ next page)

Previous generation of interior separation with other options ▶ **www.igus.eu/E6.40**



No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-chain® link!



Standard separator, wide base
unassembled **E6.40.1**
assembled **E6.40.1.1**

Standard - for any application

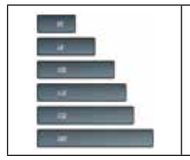
Separator with a wide base for maximum holding force in the e-chain®.



Separator, narrow top
unassembled **E6.40.2**
assembled **E6.40.2.1**

For even faster installation

Wide on one side for high holding force, narrow on opposite side for easy cable fitting.



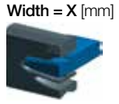
Shelf, lockable
unassembled **2300.X**
assembled **2310.X**

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Shelves

Width = X [mm]



X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
015	**2300.015**	**2310.015**	060	**2300.060**	**2310.060**	087	**2300.87**	**2310.087**
025	**2300.025**	**2310.025**	062	**2300.062**	**2310.062**	090	**2300.90**	**2310.090**
030	**2300.030**	**2310.030**	065	**2300.065**	**2310.065**	100	**2300.100**	**2310.100**
038	**2300.038**	**2310.038**	070	**2300.070**	**2310.070**	103	**2300.103**	**2310.103**
040	**2300.040**	**2310.040**	075	**2300.075**	**2310.075**	110	**2300.110**	**2310.110**
050	**2300.050**	**2310.050**	077	**2300.077**	**2310.077**	120	**2300.120**	**2310.120**
057	**2300.057**	**2310.057**	080	**2300.080**	**2310.080**	125	**2300.125**	**2310.125**

Separator with integrated strain relief teeth

- Can be integrated into the mounting bracket or placed at any point in the e-chain®
- Combines strain relief and interior separation, for restricted space conditions
- Strain relief separator is easy to assemble without any screws

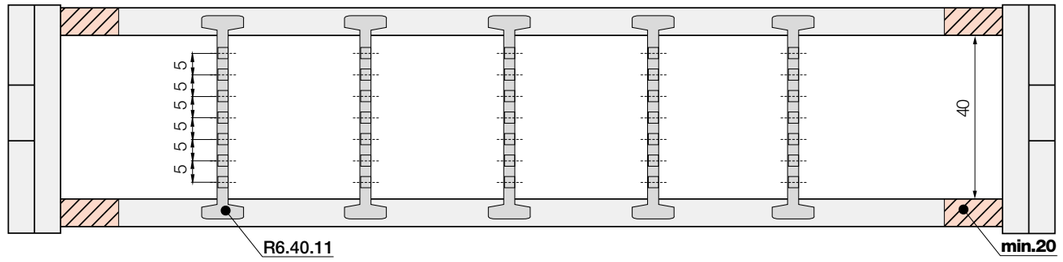
E6.40.02.Z. More information ▶ From page 1326



E6 | **e-tubes R6.40** | Accessories

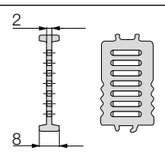
Interior separation | Only for e-tubes (e-chains® ▶ previous page)

Previous generation of interior separation with other options ▶ **www.igus.eu/R6.40**



Note: Please be aware of the minimum lateral gap to the side links! **e-tubes: 20mm**
As standard separators are fitted every 2nd e-chain® link!



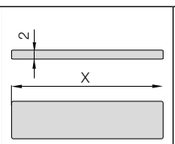


Separator, for e-tubes	
unassembled	**R6.40.01**
assembled	**R6.40.11**

Separator for e-tubes

Notches on the separator indicate the clamping side of the separator. The notches on this separator mark the side that fixes to the lid.





Full-width shelf for e-tubes	
unassembled	**110.X**
assembled	**111.X**

Full-width shelf for e-tubes

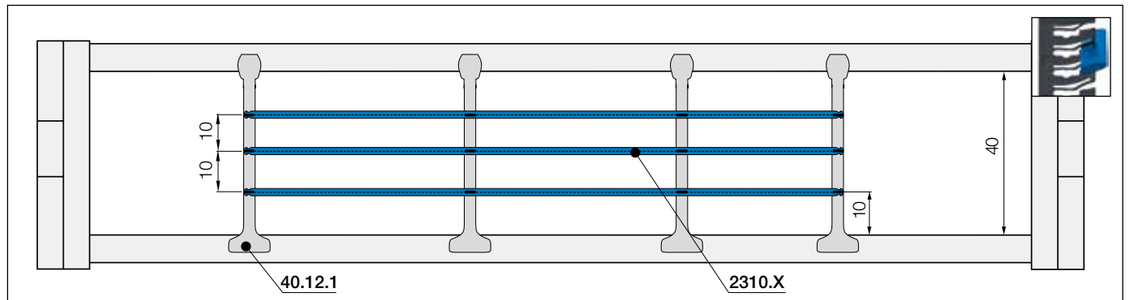
This option is for applications with many small cables with similar diameters. Full-width shelf for full width separation.

Full-width shelves
Width = X [mm]

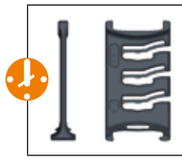
X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
030	**110.30**	**111.30**	070	**110.70**	**111.70**	110	**110.110**	**111.110**
040	**110.40**	**111.40**	080	**110.80**	**111.80**	120	**110.120**	**111.120**
050	**110.50**	**111.50**	090	**110.90**	**111.90**			
060	**110.60**	**111.60**	100	**110.100**	**111.100**			

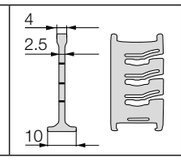
E6 | **e-chains® E6.40** | Accessories

Interior separation | To allow faster filling New



No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-chain® link!





Lean separator*	
unassembled	**40.12**
assembled	**40.12.1**

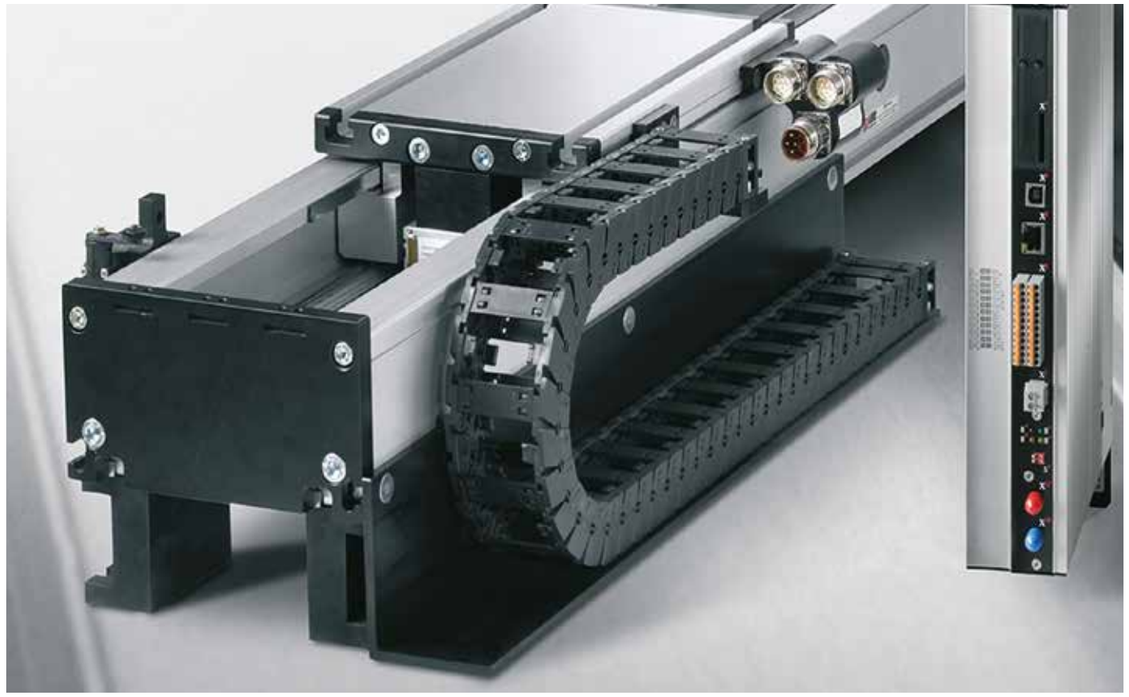
Lean separators*

New design allows extremely fast fitting of shelves in several layers, which significantly reduces assembly time. Enables extremely fast replacement of individual cables in a very full e-chain®.

*Only for e-chains®



Lean separator design - several layers of cables fitted quickly, save up to 50%* assembly time
(*Lean separator vs. standard separator - measured on a 4m long e-chain® fitted with 12 cables in the igus® readychain® factory)

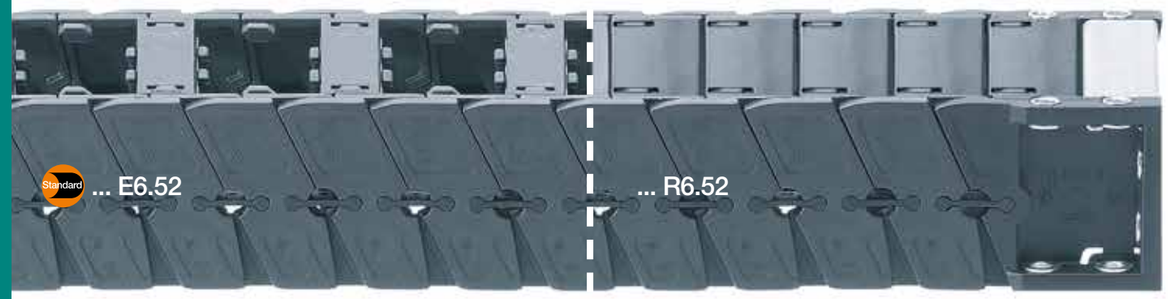


igus® system E6 on a linear drive for extremely high accelerations (over 10m/s²)

E6 | Series E6.52·R6.52 | Product range

52

Extremely low noise and vibration



e-chains® | Series E6.52 | Crossbars removable along the inner and outer radius
e-tubes | Series R6.52 | Lids removable along the inner and outer radius

Part No. e-chains®	Part No. e-tubes	Bi [mm]	Ba [mm]	E6.52 [kg/m]	R6.52 [kg/m]
E6.52. 040. R.0	R6.52.*040. R.0	40	64	≈ 1.76	≈ 1.78
E6.52. 050. R.0	R6.52. 050. R.0	50	74	≈ 1.80	≈ 1.89
E6.52. 052. R.0	R6.52.*052. R.0	52	66	≈ 1.81	≈ 1.92
E6.52. 062. R.0	R6.52.*062. R.0	62	86	≈ 1.84	≈ 1.97
E6.52. 070. R.0	R6.52.*070. R.0	70	94	≈ 1.87	≈ 2.07
E6.52. 075. R.0	R6.52. 075. R.0	75	99	≈ 1.89	≈ 2.12
E6.52. 087. R.0	R6.52.*087. R.0	87	111	≈ 1.94	≈ 2.21
E6.52. 100. R.0	R6.52. 100. R.0	100	124	≈ 1.98	≈ 2.35
E6.52. 125. R.0	R6.52. 125. R.0	125	149	≈ 2.07	≈ 2.57
E6.52. 150. R.0	R6.52. 150. R.0	150	174	≈ 2.17	≈ 2.80
E6.52. 175. R.0	R6.52. 175. R.0	175	199	≈ 2.26	≈ 3.03
E6.52. 200. R.0	R6.52 200. R.0	200	224	≈ 2.36	≈ 3.25
E6.52. 225. R.0	R6.52.*225. R.0	225	249	≈ 2.45	≈ 3.46
E6.52. 250. R.0	R6.52.*250. R.0	250	274	≈ 2.54	≈ 3.68
E6.52. 275. R.0	R6.52.*275. R.0	275	299	≈ 2.64	≈ 3.92
E6.52. 300. R.0	R6.52.*300. R.0	300	324	≈ 2.73	≈ 4.15

*Width available upon request. Please consult igus® for delivery time.

Available bend radii

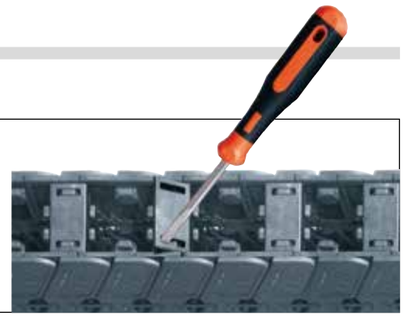
R [mm] | 075 | 100 | 125 | 150 | 200 | 250 |

Complete Part No. with required radius (*R*). Example:

E6.52.100.100.0 = e-chain® / R6.52.100.100.0 = e-tube

Installation note - system E6

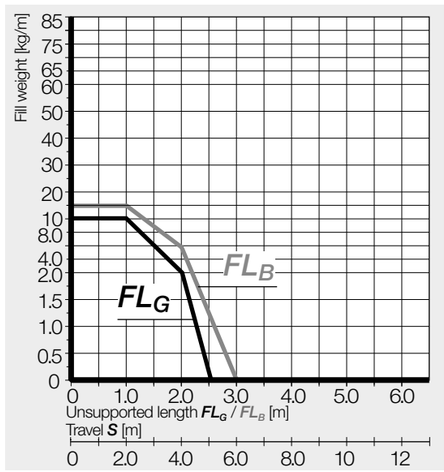
Open by removing the crossbar with a screwdriver.
Repeat the procedure on the other side.
Assembly video available online at ▶ www.igus.eu/E6_assembly

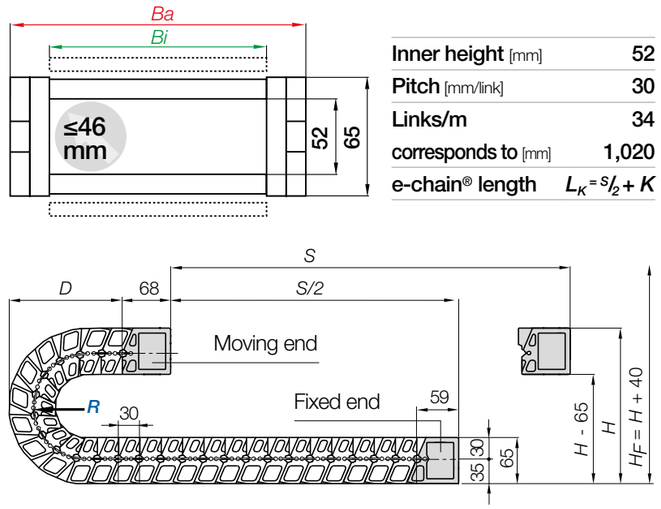


E6 | Series E6.52·R6.52 | Installation dimensions

▶ 1300 ▶ 1228

Unsupported applications | Short travels





Inner height [mm]	52
Pitch [mm/link]	30
Links/m	34
corresponds to [mm]	1,020
e-chain® length	$L_K = S/2 + K$

R	075	100	125	150	200	250
H	270	320	365	420	520	620
D	155	180	203	230	280	330
K	300	375	455	535	690	850

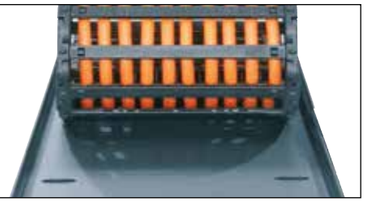
The required clearance height: $H_F = H + 40$mm (with 2.0kg/m fill weight)

If a gliding application is required for a long travel, please consult igus®.

Steel support tray for support of the lower run

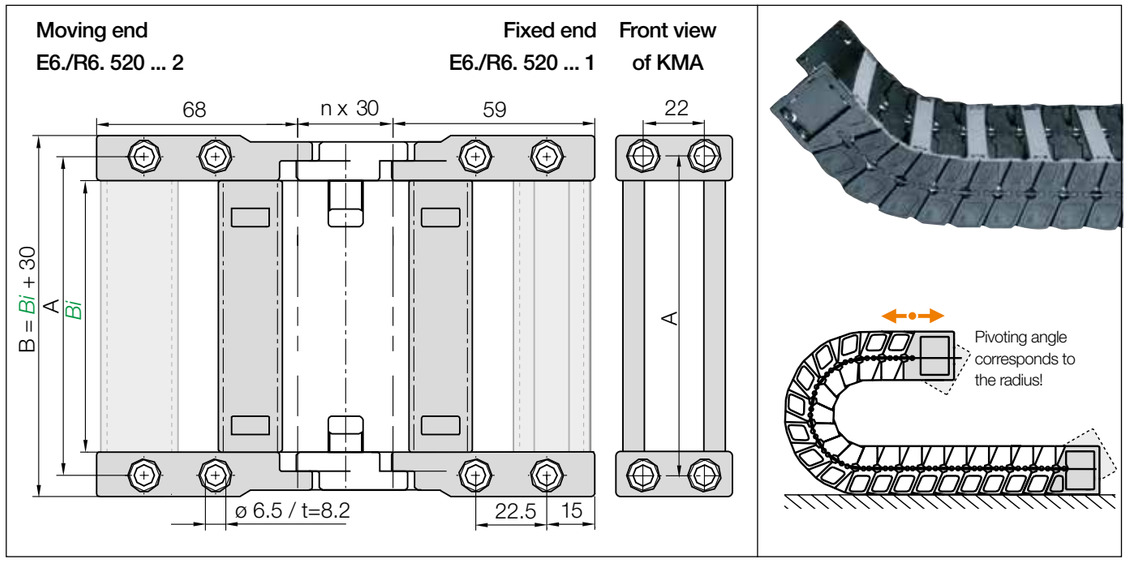
- Simple one-piece support trays for the lower run
- To your requirements and specification
- 4 options available

More information ▶ From page 1264



E6 | Series E6.52·R6.52 | Accessories

KMA mounting brackets | Attachment from any side | Pivoting



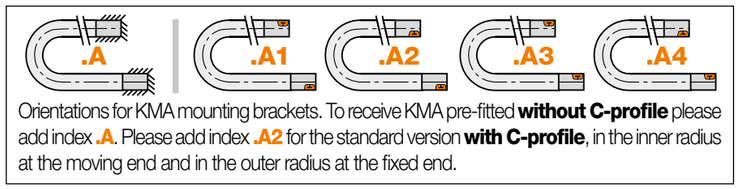
KMA pivoting | Recommended for unsupported applications

Width index	Part No. full set KMA pivoting			A [mm]	B [mm]	Bi [mm]
040. ▶	E6.520.	R6.520.*	040.12.C	56	70	40
050. ▶	E6.520.	R6.520.	050.12.C	66	80	50
052. ▶	E6.520.	R6.520.*	052.12.C	68	82	52
062. ▶	E6.520.	R6.520.*	062.12.C	78	92	62
070. ▶	E6.520.	R6.520.*	070.12.C	86	100	70
075. ▶	E6.520.	R6.520.	075.12.C	91	105	75
087. ▶	E6.520.	R6.520.*	087.12.C	103	117	87
100. ▶	E6.520.	R6.520.	100.12.C	116	130	100

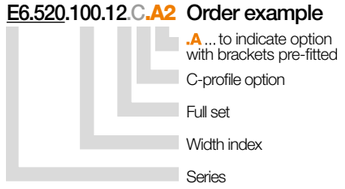
Width index	Part No. full set KMA pivoting			A [mm]	B [mm]	Bi [mm]
125. ▶	E6.520.	R6.520.	125.12.C	141	155	125
150. ▶	E6.520.	R6.520.	150.12.C	166	180	150
175. ▶	E6.520.	R6.520.	175.12.C	191	205	175
200. ▶	E6.520.	R6.520.	200.12.C	216	230	200
225. ▶	E6.520.	R6.520.*	225.12.C	241	255	225
250. ▶	E6.520.	R6.520.*	250.12.C	266	280	250
275. ▶	E6.520.	R6.520.*	275.12.C	291	300	275
300. ▶	E6.520.	R6.400.*	300.12.C	316	330	300

*Width available upon request. Please consult igus® for delivery time.

(KMA = polymer metal mounting bracket) For the C-profile option please add index **.C**



Orientations for KMA mounting brackets. To receive KMA pre-fitted **without C-profile** please add index **.A**. Please add index **.A2** for the standard version **with C-profile**, in the inner radius at the moving end and in the outer radius at the fixed end.

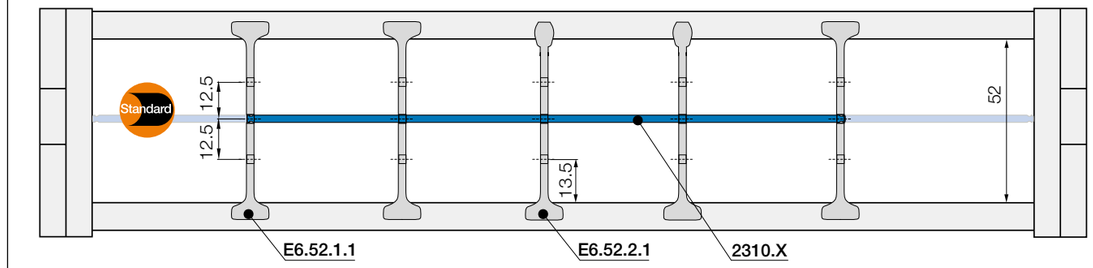


Strain relief e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with ordering options ▶ From page 1300

E6 | e-chains® E6.52 | Accessories

Interior separation | Increase cable service life (only for e-chains®, for e-tubes ▶ next page)

Previous generation of interior separation with other options ▶ **www.igus.eu/E6.52**



No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-chain® link!



Standard separator, wide base
unassembled **E6.52.1**
assembled **E6.52.1.1**

Standard - for any application

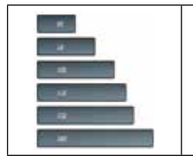
Separator with a wide base for maximum holding force in the e-chain®.



Separator, narrow top
unassembled **E6.52.2**
assembled **E6.52.2.1**

For even faster installation

Wide on one side for high holding force, narrow on opposite side for easy cable fitting.



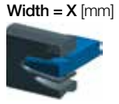
Shelf, lockable
unassembled **2300.X**
assembled **2310.X**

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Shelves

Width = X [mm]



X [mm]	unassembled	assembled
015	**2300.015**	**2310.015**
025	**2300.025**	**2310.025**
030	**2300.030**	**2310.030**
038	**2300.038**	**2310.038**
040	**2300.040**	**2310.040**
050	**2300.050**	**2310.050**
057	**2300.057**	**2310.057**

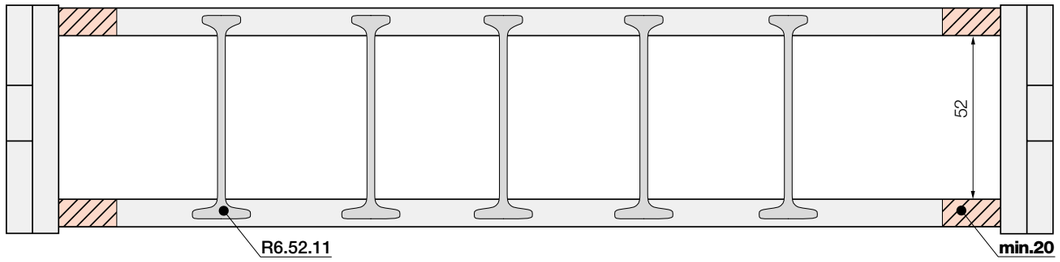
X [mm]	unassembled	assembled
060	**2300.060**	**2310.060**
062	**2300.062**	**2310.062**
065	**2300.065**	**2310.065**
070	**2300.070**	**2310.070**
075	**2300.075**	**2310.075**
077	**2300.077**	**2310.077**
080	**2300.080**	**2310.080**

X [mm]	unassembled	assembled
087	**2300.87**	**2310.087**
090	**2300.90**	**2310.090**
100	**2300.100**	**2310.100**
103	**2300.103**	**2310.103**
110	**2300.110**	**2310.110**
120	**2300.120**	**2310.120**
125	**2300.125**	**2310.125**

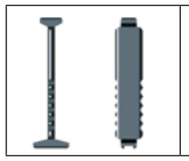
E6 | e-tubes R6.52 | Accessories

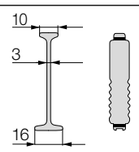
Interior separation | Only for e-tubes (e-chains® ▶ previous page)

Previous generation of interior separation with other options ▶ **www.igus.eu/R6.29**



Note: Please be aware of the minimum lateral gap to the side links! **e-tubes: 20mm**
As standard separators are fitted every 2nd e-chain® link!





Separator, for e-tubes	
unassembled	**R6.52.01**
assembled	**R6.52.11**

Separator for e-tubes

Notches on the separator indicate the clamping side of the separator. The notches on this separator mark the side that fixes to the lid.



Preassembled energy supply systems significantly reduce assembly times. As cleanroom compatibility is required in this positioning system, a cleaning protocol is provided with each pre-harnessed e-chain system®

E6 | Series E6.62 | Product range

62

Extremely low noise and vibration



e-chains® | Series E6.62 | Crossbars removable along the inner and outer radius

Part No. e-chains®	Bi [mm]	Ba [mm]	E6.62 [kg/m]
E6.62. 05. R.0	50	86	3.22
E6.62. 06. R.0	68	104	3.28
E6.62. 07. R.0	75	111	3.31
E6.62. 087. R.0	87	123	3.35
E6.62. 097. R.0	97	133	3.38
E6.62. 10. R.0	100	136	3.39
E6.62. 11. R.0	108	144	3.42
E6.62. 112. R.0	112	148	3.43
E6.62. 12. R.0	125	161	3.48
E6.62. 137. R.0	137	173	3.52
E6.62. 15. R.0	150	186	3.57
E6.62. 162. R.0	162	198	3.61
E6.62. 17. R.0	168	204	3.63
E6.62. 18. R.0	175	211	3.65
E6.62. 187. R.0	187	223	3.69
E6.62. 20. R.0	200	236	3.74

Part No. e-chains®	Bi [mm]	Ba [mm]	E6.62 [kg/m]
E6.62. 212. R.0	212	248	3.78
E6.62. 23. R.0	225	261	3.83
E6.62. 237. R.0	237	273	3.87
E6.62. 25. R.0	250	286	3.91
E6.62. 262. R.0	262	298	3.95
E6.62. 28. R.0	275	311	4.00
E6.62. 29. R.0	287	323	4.04
E6.62. 30. R.0	300	336	4.09
E6.62. 312. R.0	312	348	4.13
E6.62. 325. R.0	325	361	4.17
E6.62. 337. R.0	337	373	4.21
E6.62. 350. R.0	350	386	4.26
E6.62. 362. R.0	362	398	4.30
E6.62. 375. R.0	375	411	4.35
E6.62. 387. R.0	387	423	4.39
E6.62. 400. R.0	400	436	4.43

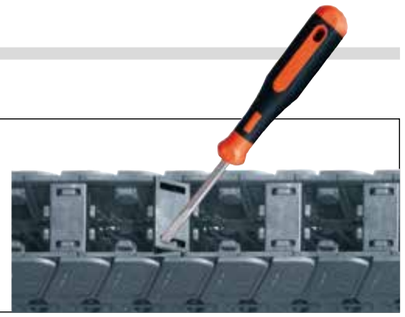
Available bend radii

R [mm] | 115 | 150 | 200 | 250 | 300 | 350 |

Complete Part No. with required radius (R). Example: **E6.62.10.250.0**

Installation note - system E6

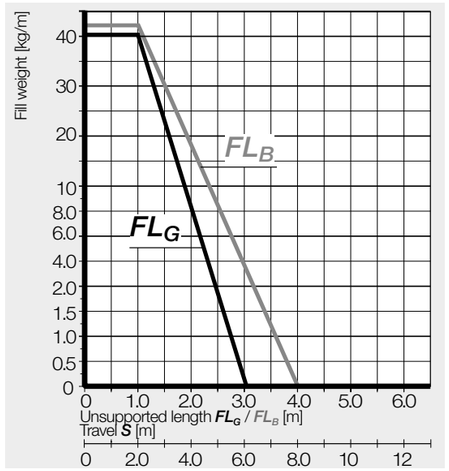
Open by removing the crossbar with a screwdriver.
Repeat the procedure on the other side.
Assembly video available online at ▶ www.igus.eu/E6_assembly

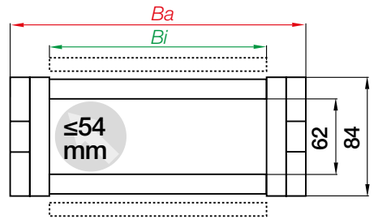


E6 | Series E6.62 | Installation dimensions

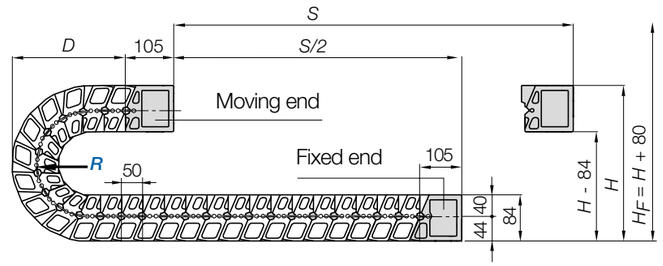
▶ 1300 ▶ 1230

Unsupported applications | Short travels





Inner height [mm]	62
Pitch [mm/link]	50
Links/m	20
corresponds to [mm]	1,000
e-chain® length	$L_K = S/2 + K$



R	115	150	200	250	300	350
H	388	458	558	658	758	858
D	234	269	319	369	419	469
K	465	575	730	890	1,045	1,200

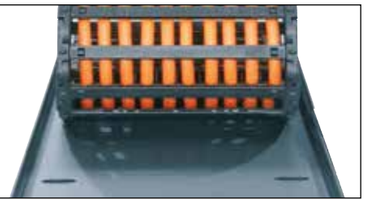
The required clearance height: $H_F = H + 80$mm (with 2.0kg/m fill weight)

If a gliding application is required for a long travel, please consult igus®.

Steel support tray for support of the lower run

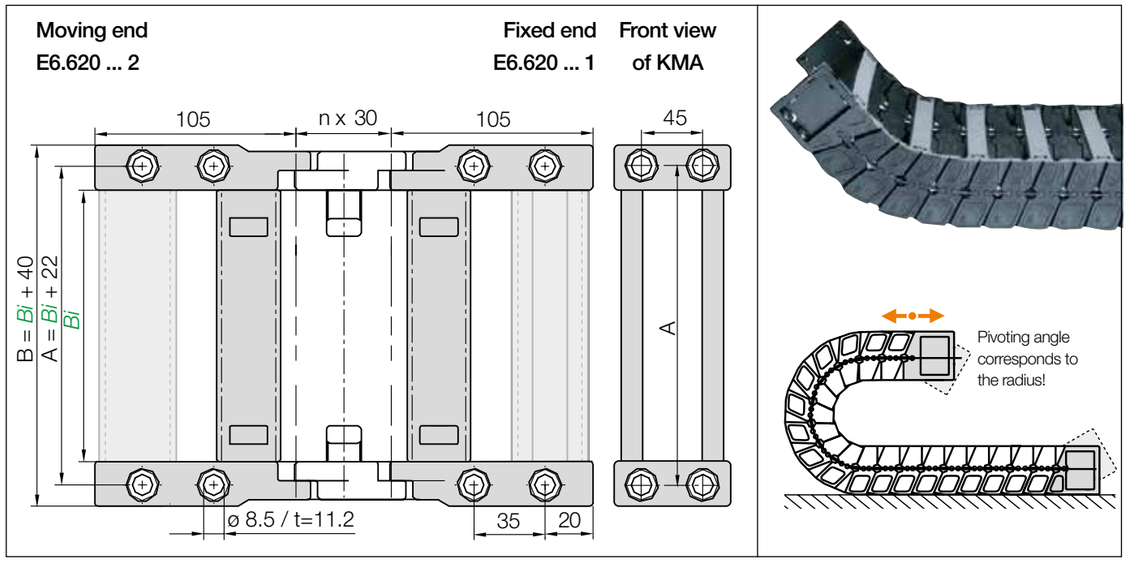
- Simple one-piece support trays for the lower run
- To your requirements and specification
- 4 options available

More information ▶ From page 1264



E6 | Series E6.62 | Accessories

KMA mounting brackets | Attachment from any side | Pivoting



KMA pivoting | Recommended for unsupported applications

Width index	Part No. full set KMA pivoting	A [mm]	B [mm]	Bi [mm]
05. ▶	E6.620. 05. 12.C	72	90	50
06. ▶	E6.620. 06. 12.C	90	108	68
07. ▶	E6.620. 07. 12.C	97	115	75
087. ▶	E6.620. 087.12.C	109	127	87
097. ▶	E6.620. 097.12.C	119	137	97
10. ▶	E6.620. 10. 12.C	122	140	100
11. ▶	E6.620. 11. 12.C	130	148	108
112. ▶	E6.620. 112.12.C	134	152	112
12. ▶	E6.620. 12. 12.C	147	165	125
137. ▶	E6.620. 137.12.C	159	177	137
15. ▶	E6.620. 15. 12.C	172	190	150
162. ▶	E6.620. 162.12.C	184	202	162
17. ▶	E6.620. 17. 12.C	190	208	168
18. ▶	E6.620. 18. 12.C	197	215	175
187. ▶	E6.620. 187.12.C	209	227	187
20. ▶	E6.620. 20. 12.C	222	240	200

Width index	Part No. full set KMA pivoting	A [mm]	B [mm]	Bi [mm]
212. ▶	E6.620. 212.12.C	234	252	212
23. ▶	E6.620. 23. 12.C	247	265	225
237. ▶	E6.620. 237.12.C	259	277	237
25. ▶	E6.620. 25. 12.C	272	290	250
262. ▶	E6.620. 262.12.C	284	302	262
28. ▶	E6.620. 28. 12.C	297	315	275
29. ▶	E6.620. 29. 12.C	309	327	287
30. ▶	E6.620. 30. 12.C	322	340	300
312 ▶	E6.620. 312.12.C	334	352	312
325. ▶	E6.620. 325.12.C	347	365	325
337. ▶	E6.620. 337.12.C	359	377	337
350. ▶	E6.620. 350.12.C	372	390	350
362 ▶	E6.620. 362.12.C	384	402	362
375. ▶	E6.620. 375.12.C	397	415	375
387. ▶	E6.620. 387.12.C	409	427	387
400. ▶	E6.620. 400.12.C	422	440	400

(KMA = polymer metal mounting bracket) For the C-profile option please add index **.C**



Orientations for KMA mounting brackets. To receive KMA pre-fitted **without C-profile** please add index **.A**. Please add index **.A2** for the standard version **with C-profile**, in the inner radius at the moving end and in the outer radius at the fixed end.

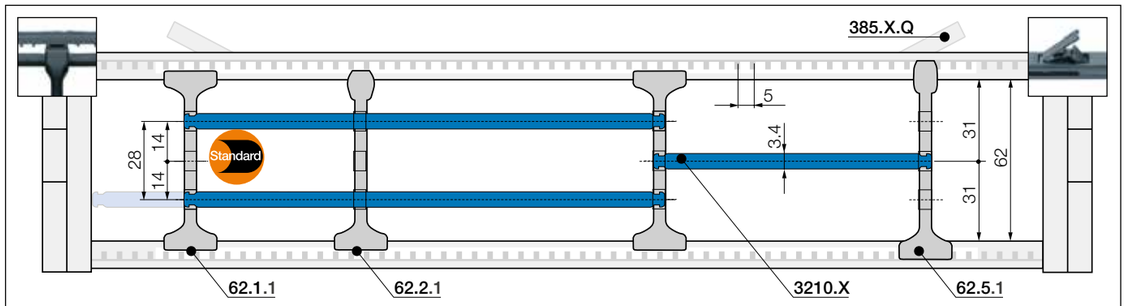
E6.620.10.12.C.A2 Order example

- **.A** ... to indicate option with brackets pre-fitted
- C-profile option
- Full set
- Width index
- Series

Strain relief **e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with ordering options ▶ From page 1300**

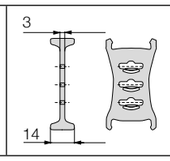
Interior separation | Increase cable service life

Previous generation of interior separation with other options ▶ **www.igus.eu/E6.62**



No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-chain® link!



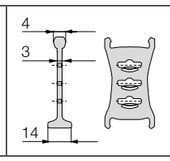


Standard separator, wide base
unassembled **62.1**
assembled **62.1.1**

Standard - for any application

Separator with a wide base for maximum holding force in the e-chain®.



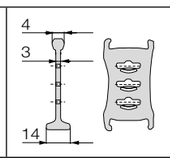


Separator for QuickLock crossbar
unassembled **62.2**
assembled **62.2.1**

For even faster installation

Separator for igus® QuickLock crossbar **385.X.Q**. Wide on one side for high holding force, narrow on opposite side for easy cable fitting.

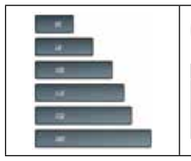


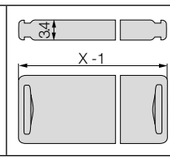


Notch separator for notched crossbar
unassembled **62.5**
assembled **62.5.1**

Locks securely in preset increments

Notch separator for exact positioning in e-chains®. Recommended for side-mounted applications.





Shelf, lockable
unassembled **3200.X**
assembled **3210.X**

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Shelves

Width = X [mm]



X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
050	**3200.050**	**3210.050**	125	**3200.125**	**3210.125**	225	**3200.225**	**3210.225**
075	**3200.075**	**3210.075**	150	**3200.150**	**3210.150**	250	**3200.250**	**3210.250**
100	**3200.100**	**3210.100**	175	**3200.175**	**3210.175**			
115	**3200.115**	**3210.115**	200	**3200.200**	**3210.200**			

E6 | Series E6.80L | Product range

Extremely low noise and vibration

80



e-chains® | Series E6.80L | Crossbars removable along the inner and outer radius

Part No. e-chains®	Bi [mm]	Ba [mm]	E6.80L [kg/m]
E6.80L. 08. R.0	87	115	3.28
E6.80L. 10. R.0	100	128	3.33
E6.80L. 11. R.0	112	140	3.38
E6.80L. 12. R.0	125	153	3.43
E6.80L. 13. R.0	137	165	3.49
E6.80L. 15. R.0	150	178	3.55
E6.80L. 16. R.0	162	190	3.61
E6.80L. 17. R.0	175	203	3.67
E6.80L. 18. R.0	187	215	3.73
E6.80L. 20. R.0	200	228	3.79
E6.80L. 21. R.0	212	240	3.85
E6.80L. 22. R.0	225	253	3.91
E6.80L. 23. R.0	237	265	3.97
E6.80L. 25. R.0	250	278	4.02
E6.80L. 26. R.0	262	290	4.09
E6.80L. 27. R.0	275	303	4.14
E6.80L. 28. R.0	287	315	4.20
E6.80L. 30. R.0	300	328	4.26
E6.80L. 31. R.0	312	340	4.32

Part No. e-chains®	Bi [mm]	Ba [mm]	E6.80L [kg/m]
E6.80L. 32. R.0	325	353	4.38
E6.80L. 33. R.0	337	365	4.44
E6.80L. 35. R.0	350	378	4.50
E6.80L. 36. R.0	362	390	4.56
E6.80L. 37. R.0	375	403	4.62
E6.80L. 38. R.0	387	415	4.68
E6.80L. 40. R.0	400	428	4.74
E6.80L. 41. R.0	412	440	4.80
E6.80L. 42. R.0	425	453	4.85
E6.80L. 43. R.0	437	465	4.92
E6.80L. 45. R.0	450	478	5.03
E6.80L. 46. R.0	462	490	5.09
E6.80L. 47. R.0	475	503	5.15
E6.80L. 48. R.0	487	515	5.21
E6.80L. 50. R.0	500	528	5.27
E6.80L. 51. R.0	512	540	5.33
E6.80L. 52. R.0	525	553	5.39
E6.80L. 53. R.0	537	565	5.45
E6.80L. 55. R.0	550	578	5.51

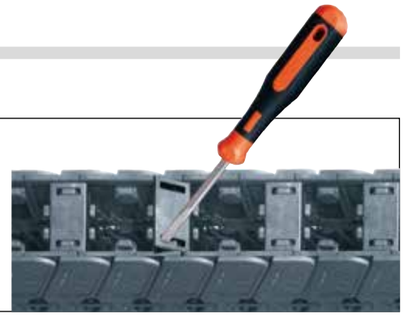
Available bend radii

R [mm] | 150 | 175 | 200 | 250 | 300 |

Complete Part No. with required radius (*R*). Example: **E6.80L.10.175.0**

Installation note - system E6

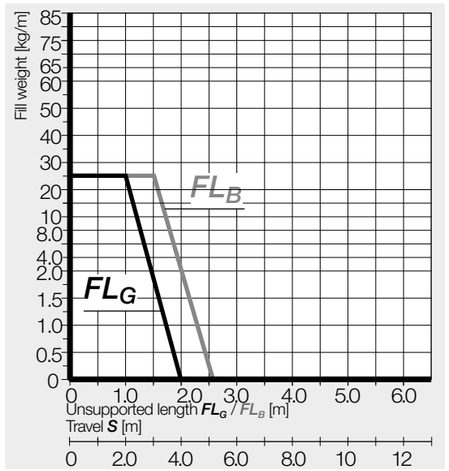
Open by removing the crossbar with a screwdriver.
Repeat the procedure on the other side.
Assembly video available online at ▶ www.igus.eu/E6_assembly

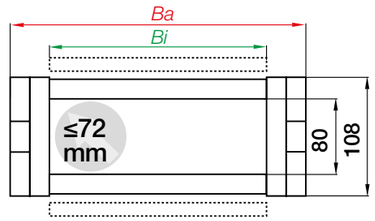


E6 | Series E6.80L | Installation dimensions

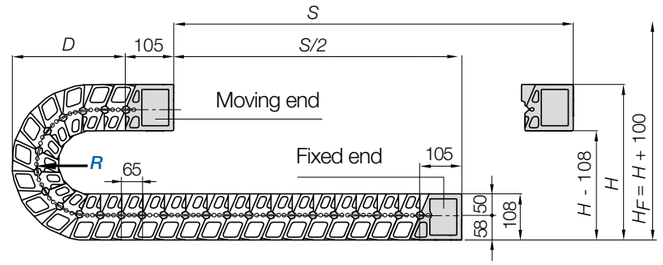
Unsupported applications | Short travels

▶ 1300 ▶ 1232





Inner height [mm]	80
Pitch [mm/link]	65
Links/m	16
corresponds to [mm]	1,040
e-chain® length	$L_K = S/2 + K$



R	150	175	200	250	300
H	516	566	616	716	816
D	306	331	356	406	456
K	605	680	760	915	1,075

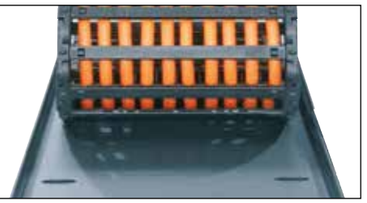
The required clearance height: $H_F = H + 100$mm (with 5.0kg/m fill weight)

If a gliding application is required for a long travel, please consult igus®.

Steel support tray for support of the lower run

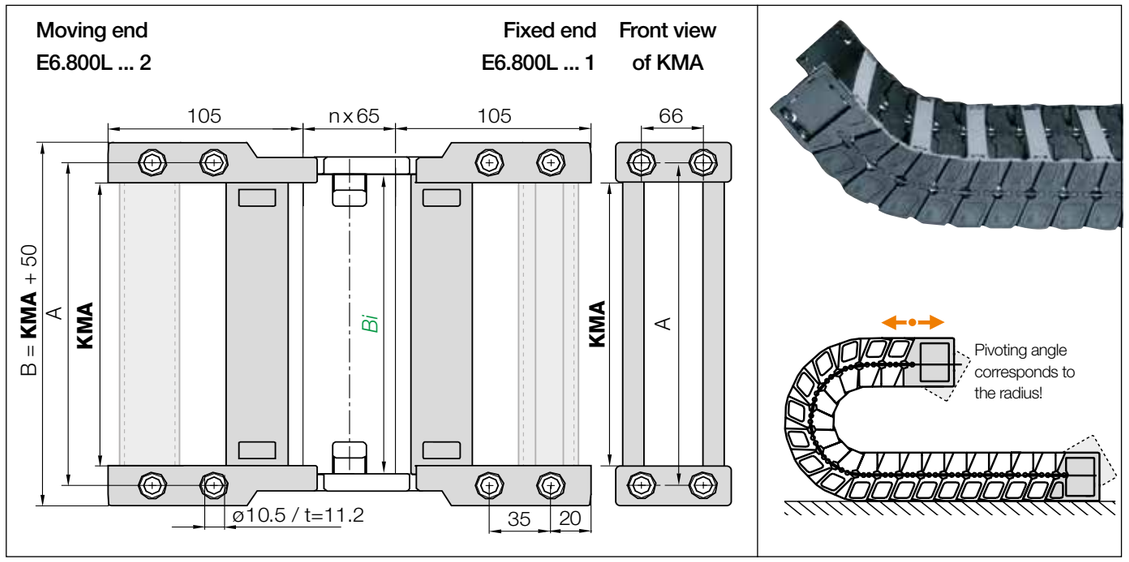
- Simple one-piece support trays for the lower run
- To your requirements and specification
- 4 options available

More information ▶ From page 1264



E6 | Series E6.80L | Accessories

KMA mounting brackets | Attachment from any side | Pivoting



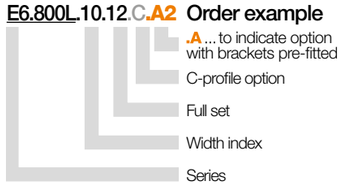
KMA pivoting | Recommended for unsupported applications

Width index	Part No. full set KMA pivoting	A [mm]	KMA [mm]
08. ▶	E6.800L.08. 12.C	103	75
10. ▶	E6.800L.10. 12.C	115	87
11. ▶	E6.800L.11. 12.C	128	100
12. ▶	E6.800L.12. 12.C	140	112
13. ▶	E6.800L.13. 12.C	153	125
15. ▶	E6.800L.15. 12.C	165	137
16. ▶	E6.800L.16. 12.C	178	150
17. ▶	E6.800L.17. 12.C	190	162
18. ▶	E6.800L.18. 12.C	203	175
20. ▶	E6.800L.20. 12.C	215	187
21. ▶	E6.800L.21. 12.C	228	200
22. ▶	E6.800L.22. 12.C	240	212
23. ▶	E6.800L.23. 12.C	253	225
25. ▶	E6.800L.25. 12.C	265	237
26. ▶	E6.800L.26. 12.C	278	250
27. ▶	E6.800L.27. 12.C	290	262
28. ▶	E6.800L.28. 12.C	303	275
30. ▶	E6.800L.30. 12.C	315	287
31. ▶	E6.800L.31. 12.C	328	300
32. ▶	E6.800L.32. 12.C	340	312
33. ▶	E6.800L.33. 12.C	353	325
35. ▶	E6.800L.35. 12.C	365	337
36. ▶	E6.800L.36. 12.C	378	350
37. ▶	E6.800L.37. 12.C	390	362
38. ▶	E6.800L.38. 12.C	403	375
40. ▶	E6.800L.40. 12.C	415	387
41. ▶	E6.800L.41. 12.C	428	400
42. ▶	E6.800L.42. 12.C	440	412
43. ▶	E6.800L.43. 12.C	453	425
45. ▶	E6.800L.45. 12.C	465	437
46. ▶	E6.800L.46. 12.C	478	450
47. ▶	E6.800L.47. 12.C	490	462
48. ▶	E6.800L.48. 12.C	503	475
50. ▶	E6.800L.50. 12.C	515	487
51. ▶	E6.800L.51. 12.C	528	500
52. ▶	E6.800L.52. 12.C	540	512
53. ▶	E6.800L.53. 12.C	553	525
55. ▶	E6.800L.55. 12.C	565	537

(KMA = polymer metal mounting bracket) For the C-profile option please add index **.C**



Orientations for KMA mounting brackets. To receive KMA pre-fitted **without C-profile** please add index **.A**. Please add index **.A2** for the standard version **with C-profile**, in the inner radius at the moving end and in the outer radius at the fixed end.

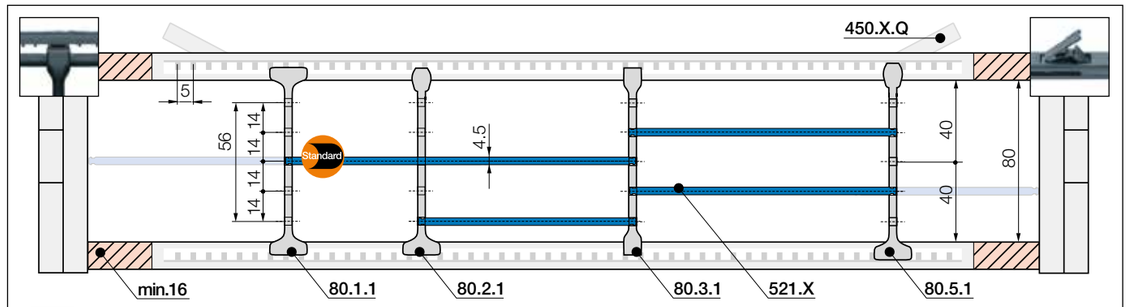


Strain relief **e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with ordering options ▶ From page 1300**

E6 | Series E6.80L | Accessories

Interior separation | Increase cable service life

Previous generation of interior separation with other options ▶ **www.igus.eu/E6.80L**



Note: Please be aware of the minimum lateral gap to the side links! **e-chain®: 16mm**
As standard separators are fitted every 2nd e-chain® link!



Standard separator, wide base	
unassembled	80.1
assembled	80.1.1

Standard - for any application

Separator with a wide base for maximum holding force in the e-chain®.



Separator for QuickLock crossbar	
unassembled	80.2
assembled	80.2.1

For even faster installation

Separator for igus® QuickLock crossbar **450.X.Q**. Wide on one side for high holding force, narrow on opposite side for easy cable fitting.



Separator, narrow	
unassembled	80.3
assembled	80.3.1

For small cables

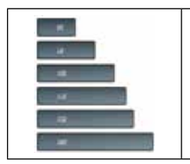
Separator with a narrow base for a large number of small cables side by side. Saves space in the e-chain®. Also available for QuickLock crossbars.



Notch separator for notched crossbar	
unassembled	80.5
assembled	80.5.1

Locks securely in preset increments

Notch separator for exact positioning in e-chains®. Recommended for side-mounted applications.



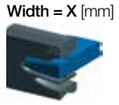
Shelf, lockable	
unassembled	520.X
assembled	521.X

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Shelves

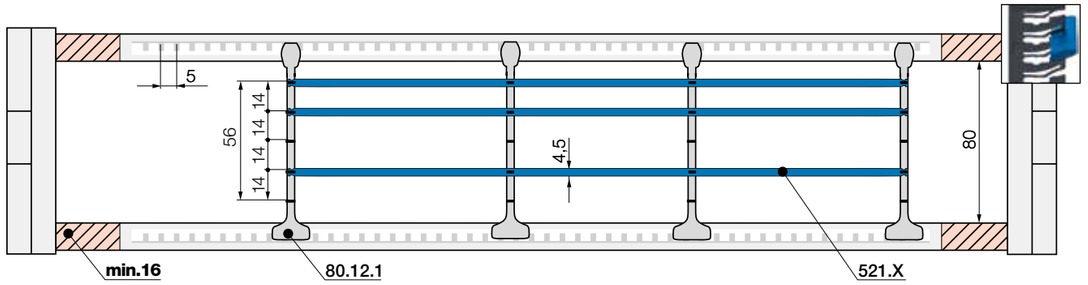
Width = X [mm]



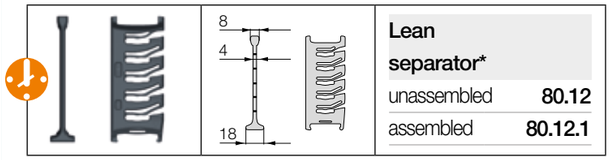
X [mm]	unassembled	assembled
050	520.050	521.050
065	520.065	521.065
075	520.075	521.075
100	520.100	521.100
125	520.125	521.125
150	520.150	521.150
175	520.175	521.175
200	520.200	521.200
225	520.225	521.225
250	520.250	521.250
300	520.300	521.300
350	520.350	521.350
375	520.375	520.375
387	520.387	520.387
450	520.450	521.450

E6 | Series E6.80L | Accessories

Interior separation | To allow faster filling New



Note: Please be aware of the minimum lateral gap to the side links! **e-chain®: 16mm**
As standard separators are fitted every 2nd e-chain® link!



Lean separator*	
unassembled	80.12
assembled	80.12.1

Lean separator design - several layers of cables fitted quickly, save up to 50%* assembly time
(*Lean separator vs. standard separator - measured on a 4m long e-chain® fitted with 12 cables in the igus® readychain® factory)

Lean separators*

New design allows extremely fast fitting of shelves in several layers, which significantly reduces assembly time. Enables extremely fast replacement of individual cables in a very full e-chain®.

*Only for e-chains®





The E6 system is one of the best ways to guide energy, data and media safely and with very low vibration on printers and plotters

E6 | Series E6.80 | Product range

Extremely low noise and vibration

80



e-chains® | Series E6.80 | Crossbars removable along the inner and outer radius

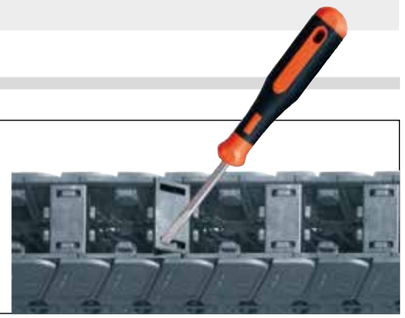
Part No. e-chains®	Bi [mm]	Ba [mm]	E6.80 [kg/m]
E6.80. 05. R.0	50	100	5.21
E6.80. 06. R.0	65	115	5.28
E6.80. 07. R.0	75	125	5.33
E6.80. 08. R.0	87	137	5.38
E6.80. 10. R.0	100	150	5.45
E6.80. 11. R.0	112	162	5.50
E6.80. 12. R.0	125	175	5.57
E6.80. 13. R.0	137	187	5.62
E6.80. 15. R.0	150	200	5.68
E6.80. 16. R.0	162	212	5.74
E6.80. 17. R.0	175	225	5.80
E6.80. 18. R.0	187	237	5.86
E6.80. 20. R.0	200	250	5.92
E6.80. 21. R.0	212	262	5.98
E6.80. 22. R.0	225	275	6.04
E6.80. 23. R.0	237	287	6.10
E6.80. 25. R.0	250	300	6.16
E6.80. 26. R.0	262	312	6.21
E6.80. 27. R.0	275	325	6.28
E6.80. 28. R.0	287	337	6.33
E6.80. 30. R.0	300	350	6.39

Part No. e-chains®	Bi [mm]	Ba [mm]	E6.80 [kg/m]
E6.80. 31. R.0	312	362	6.45
E6.80. 32. R.0	325	375	6.51
E6.80. 33. R.0	337	387	6.57
E6.80. 35. R.0	350	400	6.63
E6.80. 36. R.0	362	412	6.69
E6.80. 37. R.0	375	425	6.75
E6.80. 38. R.0	387	437	6.80
E6.80. 40. R.0	400	450	6.88
E6.80. 41. R.0	412	462	6.92
E6.80. 42. R.0	425	475	6.99
E6.80. 43. R.0	437	487	7.04
E6.80. 45. R.0	450	500	7.10
E6.80. 46. R.0	462	512	7.16
E6.80. 47. R.0	475	525	7.22
E6.80. 48. R.0	487	537	7.28
E6.80. 50. R.0	500	550	7.34
E6.80. 51. R.0	512	562	7.40
E6.80. 52. R.0	525	575	7.46
E6.80. 53. R.0	537	587	7.52
E6.80. 55. R.0	550	600	7.58
E6.80. 60. R.0	600	650	7.81

Available bend radii

R [mm] | 150 | 200 | 250 | 300 | 350 | 400 | 450 |

Complete Part No. with required radius (R). Example: **E6.80.10.300.0**



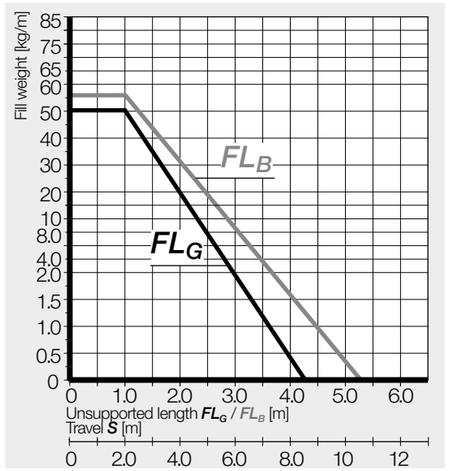
Installation note - system E6

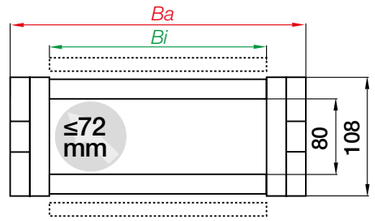
Open by removing the crossbar with a screwdriver.
Repeat the procedure on the other side.
Assembly video available online at ▶ www.igus.eu/E6_assembly

E6 | Series E6.80 | Installation dimensions

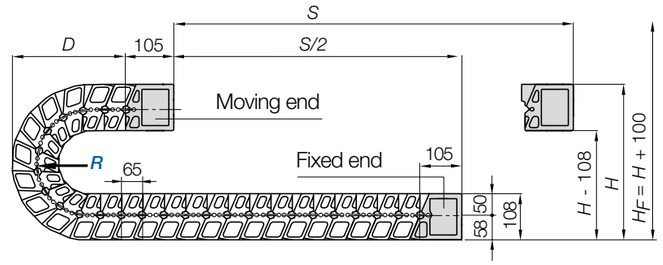
Unsupported applications | Short travels

▶ 1300 ▶ 1232





Inner height [mm]	80
Pitch [mm/link]	65
Links/m	16
corresponds to [mm]	1,040
e-chain® length	$L_K = S/2 + K$



R	150	200	250	300	350	400	450
H	516	616	716	816	916	1,016	1,116
D	306	356	406	456	506	556	606
K	605	760	920	1,075	1,230	1,390	1,545

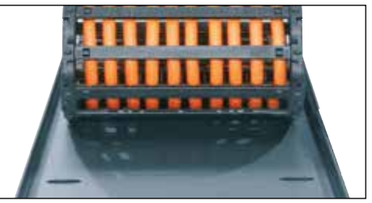
The required clearance height: $H_F = H + 100$mm (with 5.0kg/m fill weight)

If a gliding application is required for a long travel, please consult igus®.

Steel support tray for support of the lower run

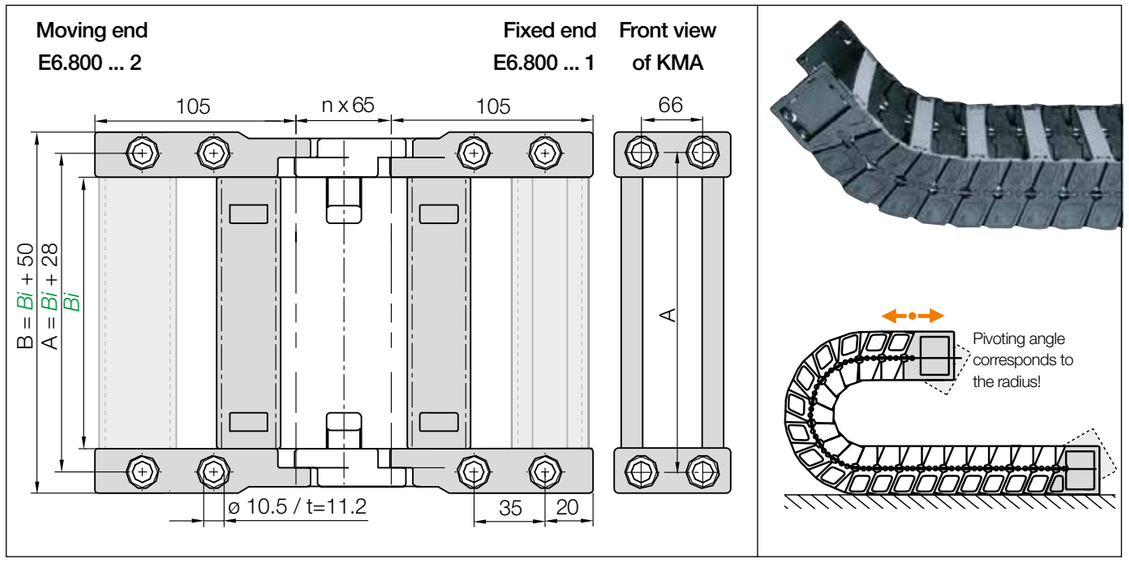
- Simple one-piece support trays for the lower run
- To your requirements and specification
- 4 options available

More information ▶ From page 1264



E6 | Series E6.80 | Accessories

KMA mounting brackets | Attachment from any side | Pivoting



KMA pivoting | Recommended for unsupported applications

Width index	Part No. full set KMA pivoting	A [mm]	B [mm]	Bi [mm]
05. ▶	E6.800. 05. 12.C	78	100	50
06. ▶	E6.800. 06. 12.C	93	115	65
07. ▶	E6.800. 07. 12.C	103	125	75
08. ▶	E6.800. 08. 12.C	115	137	87
10. ▶	E6.800. 10. 12.C	128	150	100
11. ▶	E6.800. 11. 12.C	140	162	112
12. ▶	E6.800. 12. 12.C	153	175	125
13. ▶	E6.800. 13. 12.C	165	187	137
15. ▶	E6.800. 15. 12.C	178	200	150
16. ▶	E6.800. 16. 12.C	190	212	162
17. ▶	E6.800. 17. 12.C	203	225	175
18. ▶	E6.800. 18. 12.C	215	237	187
20. ▶	E6.800. 20. 12.C	228	250	200
21. ▶	E6.800. 21. 12.C	240	262	212
22. ▶	E6.800. 22. 12.C	253	275	225
23. ▶	E6.800. 23. 12.C	265	287	237
25. ▶	E6.800. 25. 12.C	278	300	250
26. ▶	E6.800. 26. 12.C	290	412	262
27. ▶	E6.800. 27. 12.C	303	325	275
28. ▶	E6.800. 28. 12.C	315	337	287
30. ▶	E6.800. 30. 12.C	328	350	300
31. ▶	E6.800. 31. 12.C	340	362	312
32. ▶	E6.800. 32. 12.C	353	375	325
33. ▶	E6.800. 33. 12.C	365	387	337
35. ▶	E6.800. 35. 12.C	378	400	350
36. ▶	E6.800. 36. 12.C	390	412	362
37. ▶	E6.800. 37. 12.C	403	425	375
38. ▶	E6.800. 38. 12.C	415	437	387
40. ▶	E6.800. 40. 12.C	428	450	400
41. ▶	E6.800. 41. 12.C	440	462	412
42. ▶	E6.800. 42. 12.C	453	475	425
43. ▶	E6.800. 43. 12.C	465	487	437
45. ▶	E6.800. 45. 12.C	478	500	450
46. ▶	E6.800. 46. 12.C	490	512	462
47. ▶	E6.800. 47. 12.C	503	525	475
48. ▶	E6.800. 48. 12.C	515	537	487
50. ▶	E6.800. 50. 12.C	528	550	500
51. ▶	E6.800. 51. 12.C	540	562	512
52. ▶	E6.800. 52. 12.C	553	575	525
53. ▶	E6.800. 53. 12.C	565	587	537
55. ▶	E6.800. 55. 12.C	578	600	550
60. ▶	E6.800. 60. 12.C	628	650	600

(KMA = polymer metal mounting bracket) For the C-profile option please add index **.C**



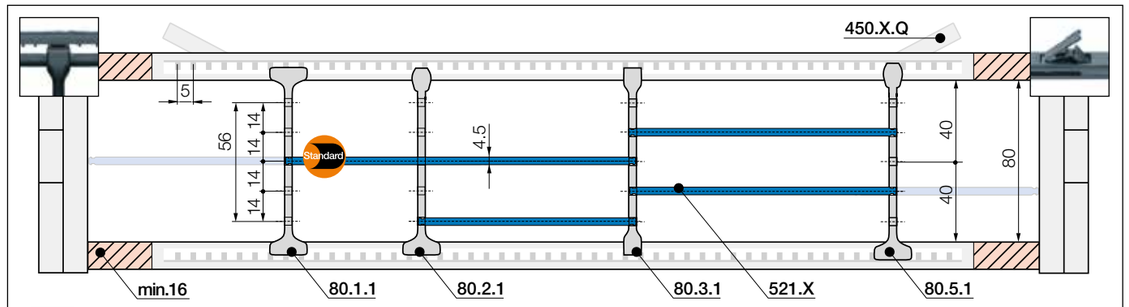
Orientations for KMA mounting brackets. To receive KMA pre-fitted **without C-profile** please add index **.A**. Please add index **.A2** for the standard version **with C-profile**, in the inner radius at the moving end and in the outer radius at the fixed end.

E6.800.10.12.C.A2 Order example

- **.A** ... to indicate option with brackets pre-fitted
- C-profile option
- Full set
- Width index
- Series

Interior separation | Increase cable service life

Previous generation of interior separation with other options ▶ **www.igus.eu/E6.80**



Note: Please be aware of the minimum lateral gap to the side links! **e-chain®: 16mm**
As standard separators are fitted every 2nd e-chain® link!



Standard separator, wide base	
unassembled	80.1
assembled	80.1.1

Standard - for any application

Separator with a wide base for maximum holding force in the e-chain®.



Separator for QuickLock crossbar	
unassembled	80.2
assembled	80.2.1

For even faster installation

Separator for igus® QuickLock crossbar **450.X.Q**. Wide on one side for high holding force, narrow on opposite side for easy cable fitting.



Separator, narrow	
unassembled	80.3
assembled	80.3.1

For small cables

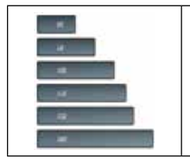
Separator with a narrow base for a large number of small cables side by side. Saves space in the e-chain®. Also available for QuickLock crossbars.



Notch separator for notched crossbar	
unassembled	80.5
assembled	80.5.1

Locks securely in preset increments

Notch separator for exact positioning in e-chains®. Recommended for side-mounted applications.



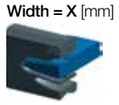
Shelf, lockable	
unassembled	520.X
assembled	521.X

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Shelves

Width = X [mm]

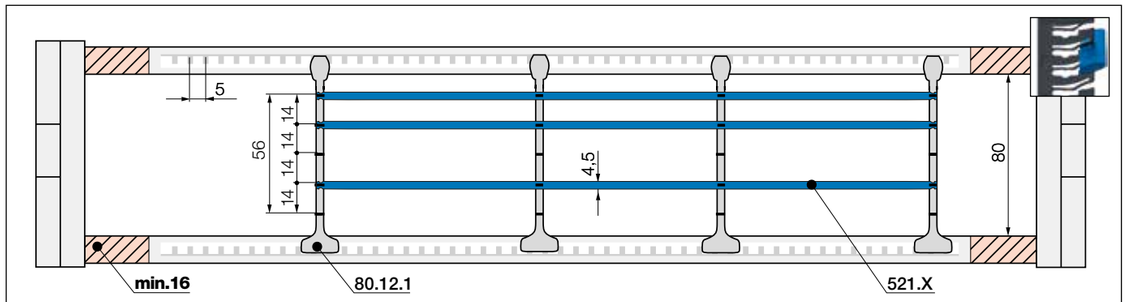


X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
050	520.050	521.050	150	520.150	521.150	300	520.300	521.300
065	520.065	521.065	175	520.175	521.175	350	520.350	521.350
075	520.075	521.075	200	520.200	521.200	375	520.375	520.375
100	520.100	521.100	225	520.225	521.225	387	520.387	520.387
125	520.125	521.125	250	520.250	521.250	450	520.450	521.450

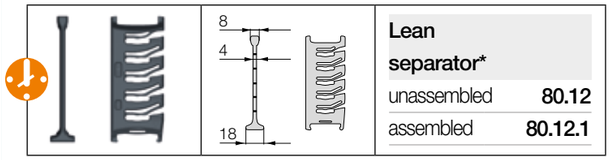
Strain relief **e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with ordering options ▶ From page 1300**

E6 | Series E6.80 | Accessories

Interior separation | To allow faster filling New



Note: Please be aware of the minimum lateral gap to the side links! **e-chain®: 16mm**
As standard separators are fitted every 2nd e-chain® link!



Lean separator*	
unassembled	80.12
assembled	80.12.1

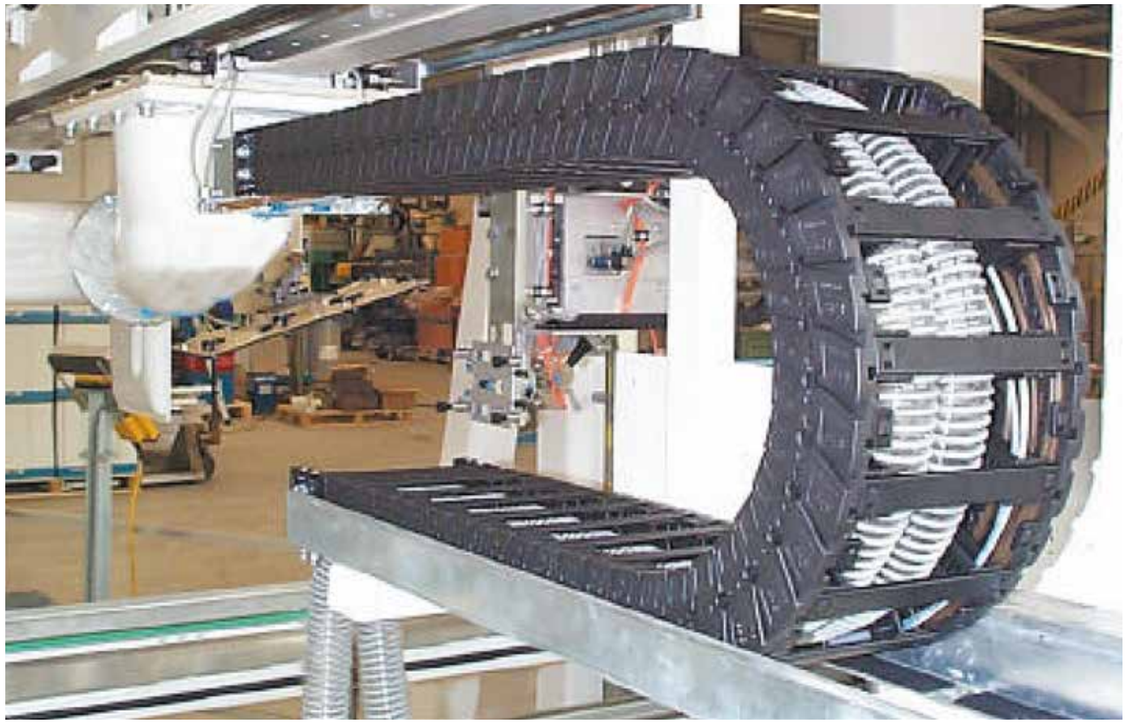
Lean separators*

New design allows extremely fast fitting of shelves in several layers, which significantly reduces assembly time. Enables extremely fast replacement of individual cables in a very full e-chain®.

*Only for e-chains®



Lean separator design - several layers of cables fitted quickly, save up to 50%* assembly time
(*Lean separator vs. standard separator - measured on a 4m long e-chain® fitted with 12 cables in the igus® readychain® factory)



igus® system E6 guiding an extraction hose - speed 8m/s, acceleration 78.5m/s²



e-skin®

Novel energy supply system for cleanrooms

Advantages of the e-skin® series:

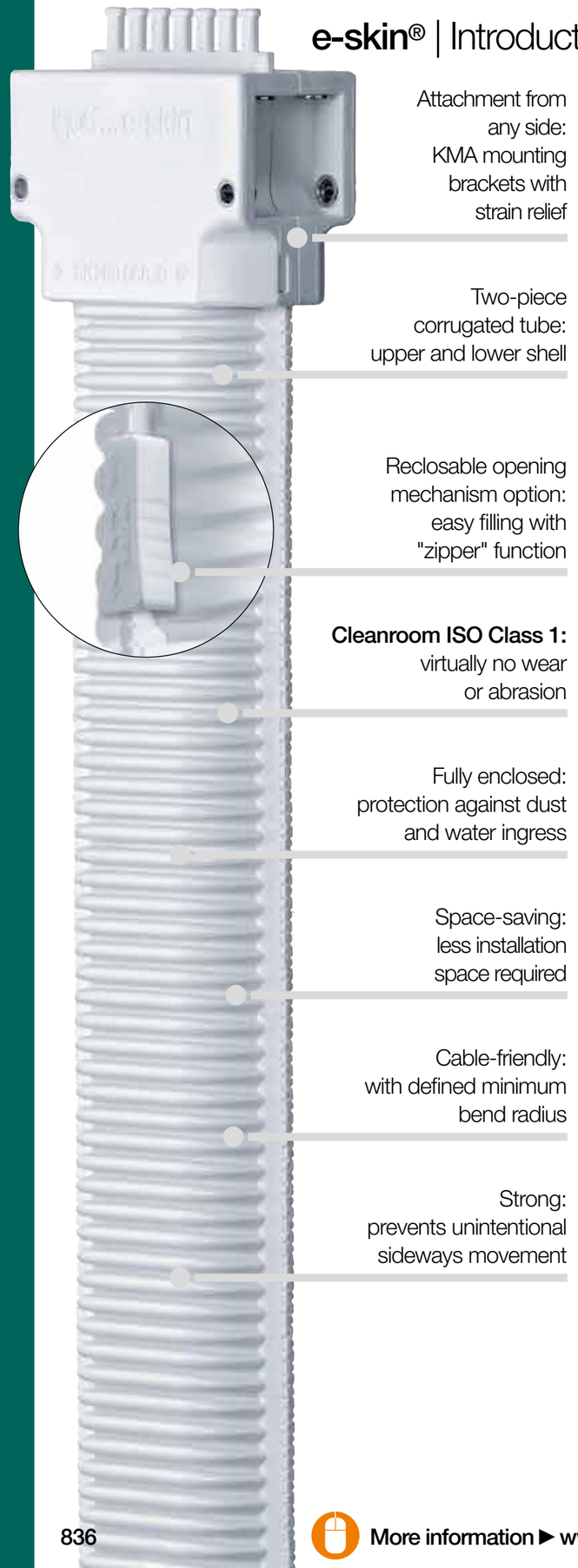
- Hose consisting of an upper and lower shell that form a complete enclosure when connected together
- Easy filling with "zipper" function
- Special design allows unsupported lengths
- Less installation space required
- Cable-friendly with defined minimum bend radius
- Available with interior separation
- Prevents unintentional sideways movement
- Simple maintenance and inspection of the cables inside
- Protection against dust and water ingress
- Suitable for cleanrooms according to **IPA ISO class 1**

When to use another e-chain® series:

- For longer unsupported lengths
  - ▶ **E3, page 732**
  ▶ **E6.1, page 750**

  For higher speeds
  - ▶ **E3, page 732**
  ▶ **E6.1, page 750**

  For high exposure to dirt
  - ▶ **RX e-tubes, page 502**



Attachment from any side: KMA mounting brackets with strain relief

Two-piece corrugated tube: upper and lower shell

Reclosable opening mechanism option: easy filling with "zipper" function

Cleanroom ISO Class 1: virtually no wear or abrasion

Fully enclosed: protection against dust and water ingress

Space-saving: less installation space required

Cable-friendly: with defined minimum bend radius

Strong: prevents unintentional sideways movement

Novel energy supply system for cleanrooms - e-skin®

e-skin® is a hose consisting of an upper and lower shell that form a complete enclosure when connected together. The simple and reclosable opening mechanism enables easy maintenance and inspection of the cables inside. e-skin® has many advantages over conventional corrugated tubes.

- Special design allows unsupported lengths
- Openable, quick assembly
- Available with interior separation
- Less installation space required
- Protection against dust and water ingress

Typical industries and applications

● Cleanroom ● Pick & Place ● Printers ● Any machine that uses corrugated hoses



Easy filling, can be opened and closed like a zipper

IPA Qualification Certificate2) - Report IG 1504-755:
e-skin® ***RBR*** (prototype) tested at v= 0.5m/s, 1m/s, 2m/s and a= 1m/s², 2m/s², 4m/s²

Series	Inner height *hi* [mm]	Inner width *Bi* [mm]	Outer width *Ba* [mm]	Outer height *ha* [mm]	Bend radius *R min.** [mm]	Page
 **e-skin® - oval design** Can be opened and closed like a zipper						
SK28	28	68	95	40	055	842
SK40 New	38	85	118	57	100	846

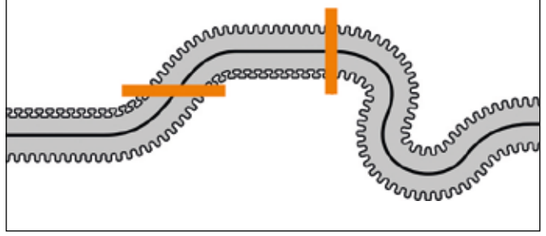
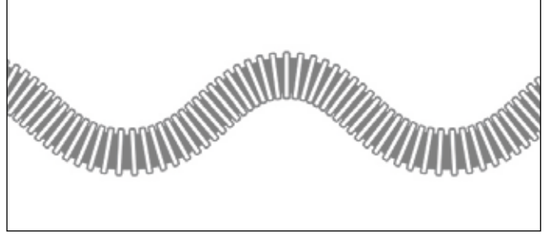
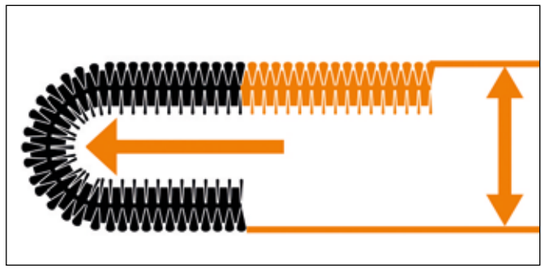
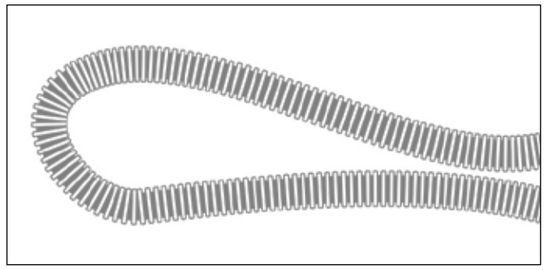
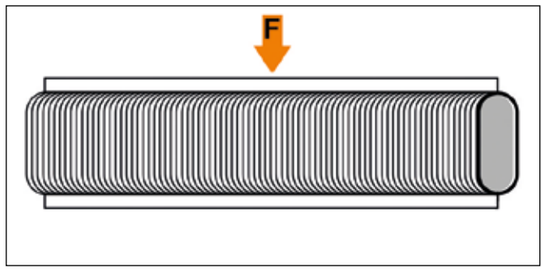
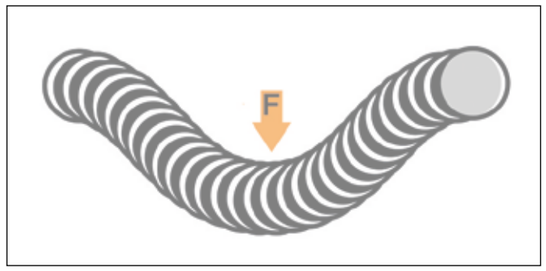
*Note: The minimum bend radius is determined by the bottom of the e-skin® tube!

Available from stock. Ready to ship in 24 - 48 hrs.*

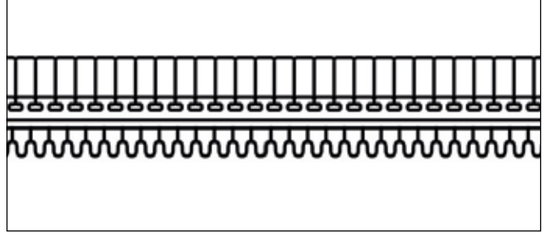
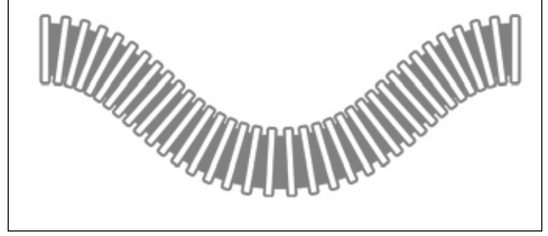
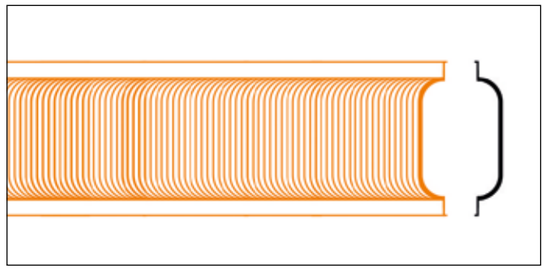
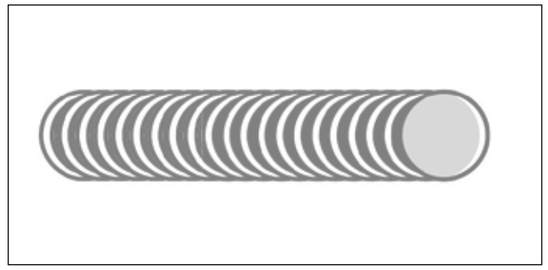
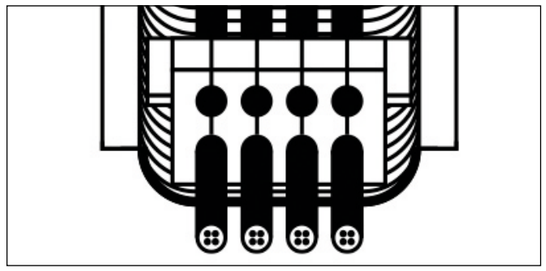
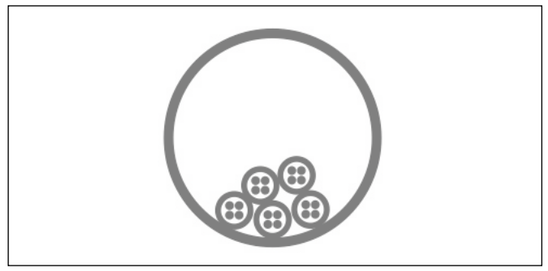
*The delivery times indicated correspond to the average time until the ordered goods are dispatched.



With the e-skin®, igus® offers a modular corrugated tube with a self-supporting function for energy supply in the smallest possible space. The product is certified in accordance with IPA ISO Class 1 and can be used in cleanrooms. e-skin® provides systems with data, media and energy without generating airborne particles through friction which could contaminate the room.
The corrugated tube is made up of abrasion-resistant plastic and its separable upper and lower shells can be easily put together by a "zipper" to a fully enclosed tube. This simultaneously guarantees cleanroom suitability as well as offering quick filling with cables.

igus® e-skin®	Conventional corrugated tubes
	
e-skin® consists of two shells (upper and lower). The shells can be configured in order to define movement	Corrugated tubes have the same bend radius along their entire length
	
e-skin® is suitable for short unsupported lengths	Corrugated tubes cannot be used for unsupported applications
	
Lateral stability thanks to an oval geometry of the e-skin®	Very little any stability in respect of forces acting on the sides

e-skin® | Comparison - e-skin® vs conventional corrugated tubes

igus® e-skin®	Conventional corrugated tubes
	
e-skin® supports itself	Corrugated tubes have very little any inherent rigidity. e-rib solves this ▶ **www.igus.eu/e-rib**
	
e-skin® is openable, easy to fill	Corrugated tubes (for dynamic applications) cannot be opened
	
e-skin® can be fitted with interior separation	The interior of corrugated tubes cannot be divided into sections

Technical data

Speed FL_G / acceleration FL_G	≤ 10 [m/s] / ≤ 75 [m/s²]
Speed FL_B / acceleration FL_B	upon request
e-chain® material - permitted temperature °C, igumid SK	+10°C up to +50°
Mounting bracket material - permitted temperature °C, igumid NB	+10°C up to +50°
Flammability class	UL94-HB

FL_G = unsupported with straight upper run FL_B = unsupported with permitted sag

Installation types, maximum travels

Series	Unsupported	Vertical hanging	Vertical standing	Side mounted unsupported
SK28	≤ 1.50m	upon request	upon request	upon request
SK40	≤ 2.50m	upon request	upon request	upon request

Options with order keys | Examples based on series SK28

	Standard	*Reverse Bend Radius*
	Part No. **Standard**	**Part No.** ***RBR*** A version with Reverse Bend Radius (RBR) can be easily made by using the bottom shell for the complete e-skin®. Thus very defined movements can be implemented with the two parts. Note: The minimum bend radius is determined by the bottom of the e-skin® tube!
	SK28.068.02.1	SK28.068.*02/02*.1
	Ready to ship* in 24 - 48hrs.	Available upon request

*The delivery times indicated correspond to the average time until the ordered goods are dispatched.

Order example | Order key and colour examples | Examples based on series SK28

Order example for complete e-chain® (1m), colour white, with mounting brackets and interior separation:

e-chain® (1,000mm)	Please order the required length in mm	**SK28.068.02.1**
+ Mounting brackets	KMA 1 set (with tiewrap plates)	**SK280.068.12ZB.1**
Interior separation	fitted every 112mm	**SK28.1.1.01**
Order text:	**1.000 mm SK28.068.02.1 + SK280.068.12ZB.1 + 16 x SK28.1.1.01**	

Order key

Oval design — **SK28.068.02.1**

- Series / Type
- Inner height
- Width index
- Version
- Colour index (standard white)

Order index

Colour		Order index
White	Standard	**.1**

White e-skin® e-chains® available from stock.

e-skin® | Series SK28 | Product range

Fully enclosed, cost-effective energy supply | Oval design

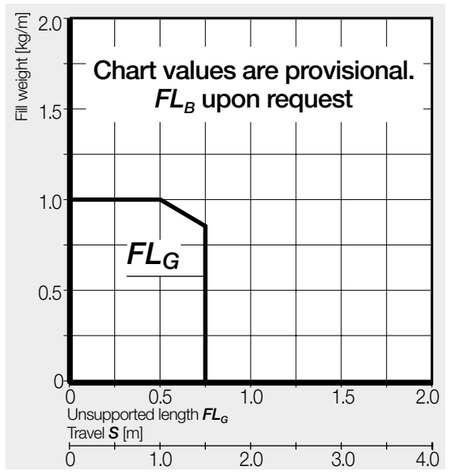


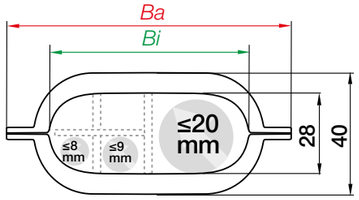
Series SK28 | Oval design | Can be opened and closed like a zipper

Part No.	*Bi*	*Ba*	*hi*	*ha*	*R min.**	SK_28
e-chains®	[mm]	[mm]	[mm]	[mm]	[mm]	[kg/m]
SK28.068.02.1	68	95	28	40	055	≈ 0.54

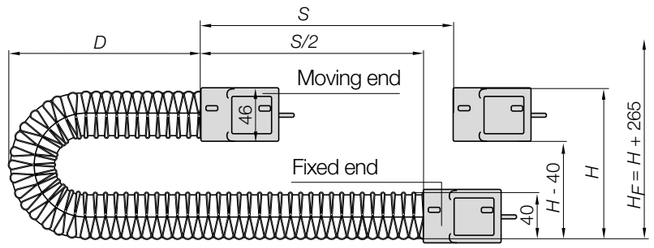
**Available upon request. Please consult igus® for delivery time. *Note: The minimum bend radius is determined by the bottom of the e-skin® tube!

Installation dimensions





Inner height [mm]	28
e-chain® length	$L_K = S/2 + K$

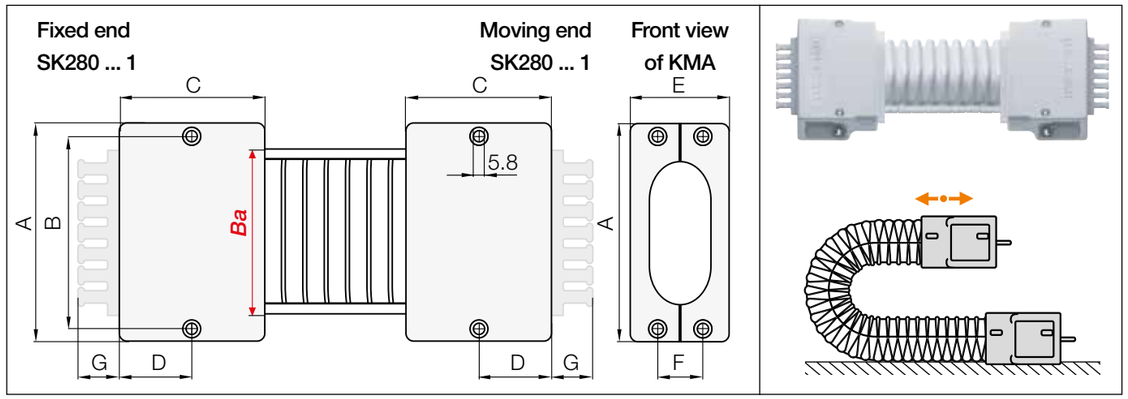


*R min.**	055	*Note: The minimum bend radius is determined by the bottom of the e-skin® tube!
H	250	No bend radius is specified in the part number, since it depends on travel and fill weight. The smallest
D	160	specified radius below is the minimum to guarantee the service life of the cables. In most applications,
K	399	however, the radius remains larger because the shape of the tube definies this.

The required clearance height: $H_F = H + 265$mm (with 0.75kg/m fill weight)

e-skin® | Series SK28 | Accessories

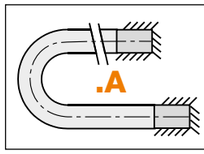
Mounting brackets | Interior separation



KMA | Recommended for unsupported, vertical hanging, standing applications

Width index	Part No. full set with tiewrap plates	Part No. full set without tiewrap plates	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	F [mm]	G [mm]	Number of teeth
068.	▶ SK280.068.12.1	SK280.068.12ZB.1	104	92	68	35	46	21	18	7

(KMA = polymer metal mounting bracket)



The bracket orientations are set automatically when using an igus® KMA mounting bracket. To receive KMA pre-fitted please add index .A

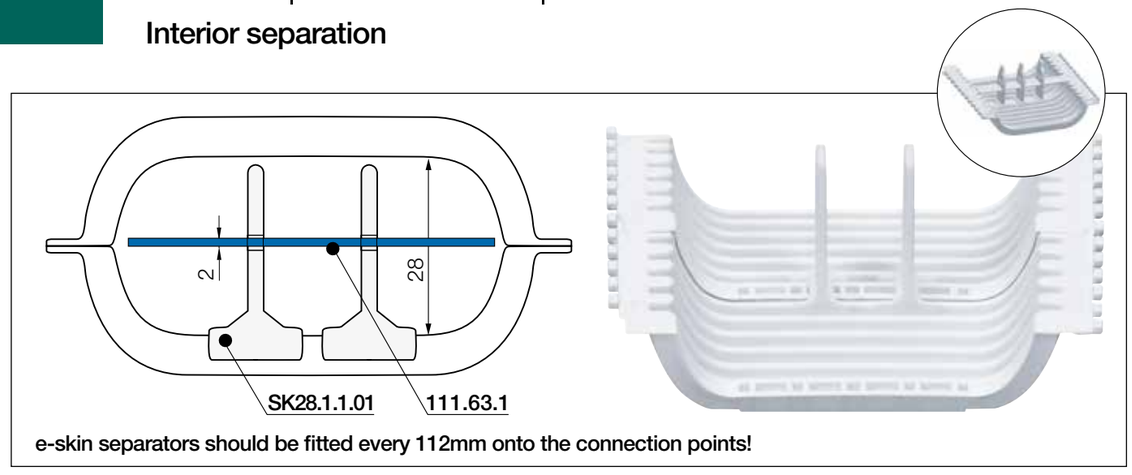
SK280.068.12ZB.1.A Order example

- .A ... to indicate option with brackets pre-fitted
- Colour index
- With integrated strain relief tiewrap plates
- Full set
- Width index
- Series

Strain relief e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with ordering options ▶ From page 1300

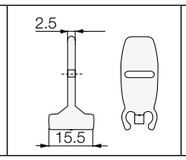
e-skin® | Series SK28 | Accessories

Interior separation

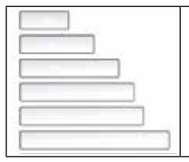


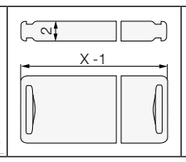
e-skin separators should be fitted every 112mm onto the connection points!





Slotted separator	
unassembled	SK28.1.1.01
assembled	SK28.1.1.01





Full-width shelf, continuous	
unassembled	110.63.1
assembled	111.63.1

Vertical separation - slotted separators

The interior separation* system for the igus® e-skin® consists of individual separators and full-width shelves, which can be fitted in a variety of ways.

Full-width shelf

This option is for applications with many small cables with similar diameters. For full width separation.

e-skin® | Application example



Absolutely dust-free environment for printed-circuit-board production using the abrasion-resistant e-skin® from igus®

e-skin® | Series SK40 | Product range New

Fully enclosed, cost-effective energy supply | Oval design

38

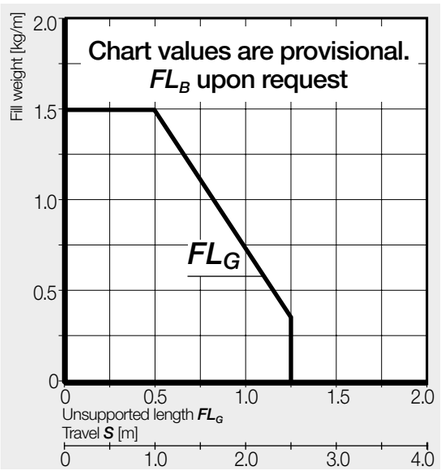


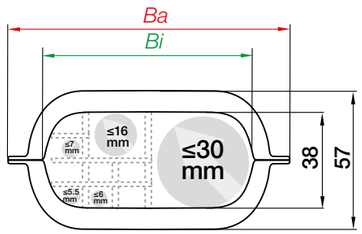
Series SK40 | Oval design | Can be opened and closed like a zipper

Part No.	Bi	Ba	hi	ha	R min.*	SK40
e-chains®	[mm]	[mm]	[mm]	[mm]	[mm]	[kg/m]
SK40.085.02.1	85	118	38	57	100	≈ 1.15

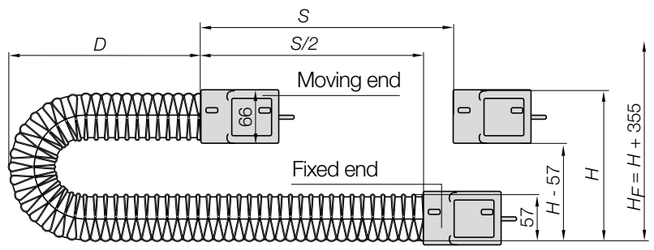
*Note: The minimum bend radius is determined by the bottom of the e-skin® tube!

Installation dimensions





Inner height [mm]	38
e-chain® length	$L_K = S/2 + K$

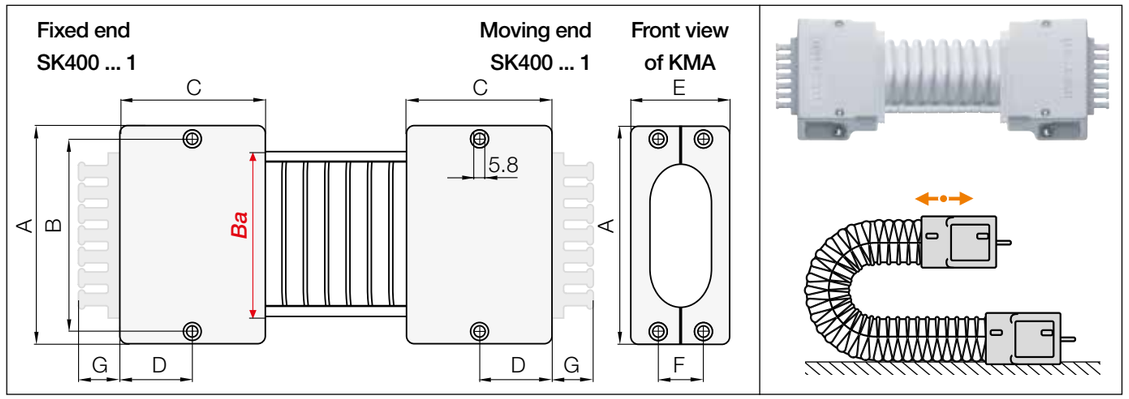


R min.*	100	*Note: The minimum bend radius is determined by the bottom of the e-skin® tube!
H	350	No bend radius is specified in the part number, since it depends on travel and fill weight. The smallest
D	300	specified radius below is the minimum to guarantee the service life of the cables. In most applications,
K	693	however, the radius remains larger because the shape of the tube definies this.

The required clearance height: $H_F = H + 355$mm (with 0.75kg/m fill weight)

e-skin® | Series SK40 | Accessories

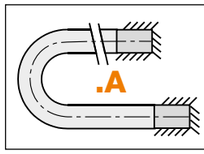
Mounting brackets | Interior separation



KMA | Recommended for unsupported, vertical hanging, standing applications

Width index	Part No. full set with tiewrap plates	Part No. full set without tiewrap plates	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	F [mm]	G [mm]	Number of teeth
085.	▶ SK400.085.12.1	SK400.085.12ZB.1	125	113	68	35	66	41	18	10

*Width available upon request. Please consult igus® for delivery time.



The bracket orientations are set automatically when using an igus® KMA mounting bracket. To receive KMA pre-fitted please add index .A

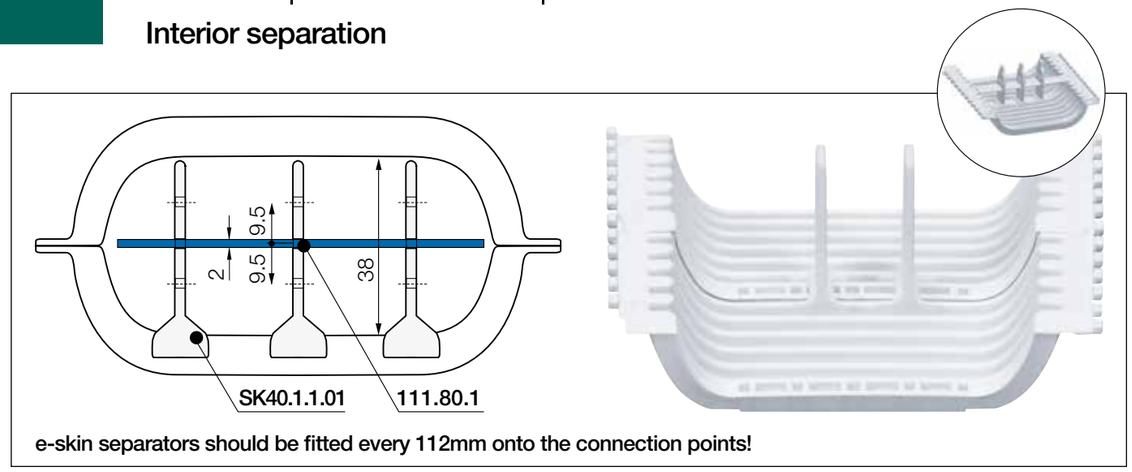
SK400.085.12ZB.1.A Order example

- .A ... to indicate option with brackets pre-fitted
- Colour index
- With integrated strain relief tiewrap plates
- Full set
- Width index
- Series

Strain relief e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with ordering options ▶ From page 1300

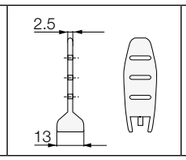
e-skin® | Series SK40 | Accessories

Interior separation

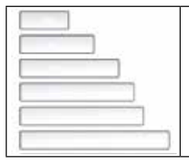


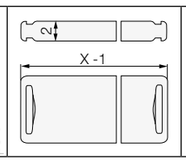
e-skin separators should be fitted every 112mm onto the connection points!





Slotted separator	
unassembled	SK40.1.01
assembled	SK40.1.1.01





Full-width shelf, continuous	
unassembled	110.80.1
assembled	111.80.1

Vertical separation - slotted separators

The interior separation* system for the igus® e-skin® consists of individual separators and full-width shelves, which can be fitted in a variety of ways.

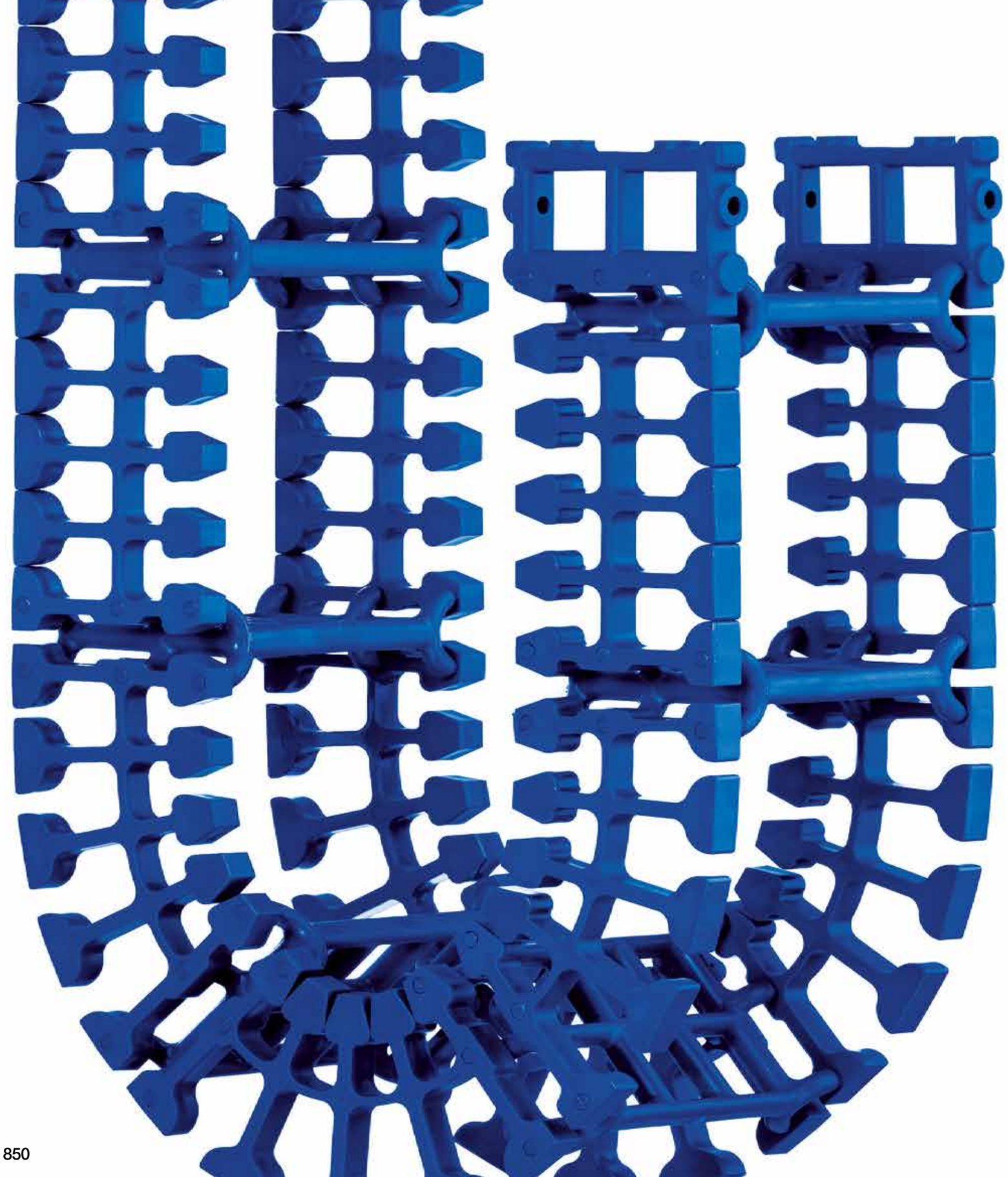
Full-width shelf

This option is for applications with many small cables with similar diameters. For full width separation.

e-skin® | Application example



The igus® e-skin® e-chain® can be used for short unsupported lengths in cleanrooms



TH3

The first e-chain® designed according to hygienic principles - TH3

Advantages of the TH3 system:

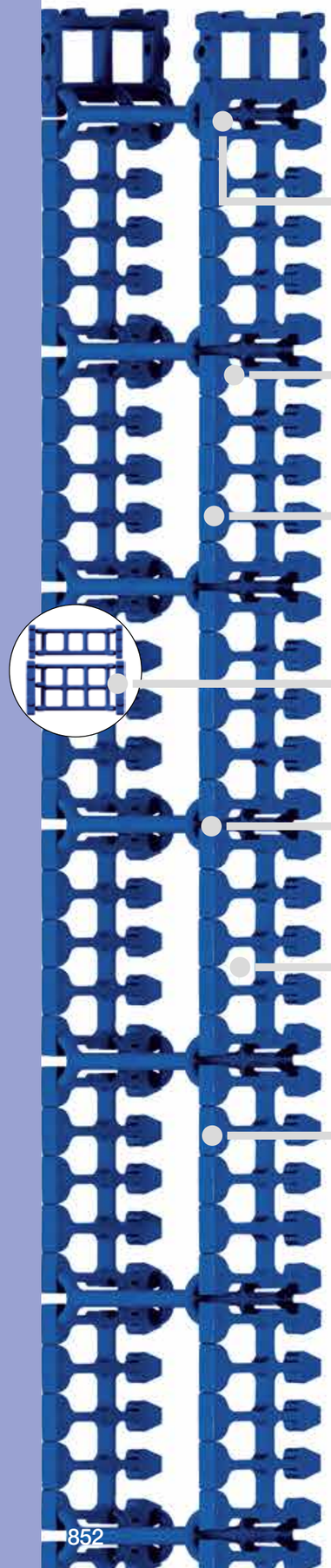
- The first e-chain® designed according to hygienic principles
- Easy to clean due to open design
- FDA- and EU-compliant materials - blue material, typical for plastic parts in the food industry (consists of igumid TH NB for the side parts and igumid TH G for the frames and mounting brackets)
- Good resistance to aggressive cleaning agents and chemicals
- Rounded edges mean that there are no dead spaces or resulting germ formation
- No material on material rubbing
- No bolted connections
- Operating temperature -40°C / +70°C
- reddot award winner 2017

When to use another igus® e-chain® series:

- When hygienic design does not matter but cleanroom capability is required
  ► T3, page 722
- When Cleanroom ISO Class 1 is required
  ►E6.1, page 750

FDA

reddot award 2017
winner



Attachment from any side: polymer mounting brackets

Easy to clean: open design for effective and easy cleaning

Hygienic design principle: FDA-compliant materials

Modular design: 4 different widths for interior separation, available in 2 inner heights

Cable-friendly: due to smooth, rounded contours

No dead spaces: large gaps - no material overlaps

Food industry material: resistant to detergents and chemicals

The first e-chain® designed according to hygienic principles - TH3

The igus® TH3 e-chain® is the world's first plastic e-chain® developed according to "Hygienic Design Guidelines". The open design of the e-chain® is very easy to clean and, thanks to rounded corners and the absence of bolted connections, dead spaces and the resulting germ formation are avoided. The blue material, which is typical of plastic parts in the food industry, is also highly resistant to aggressive cleaning agents and chemicals. The e-chain® is suitable for applications with the highest hygienic requirements for safe cable and hose guidance.

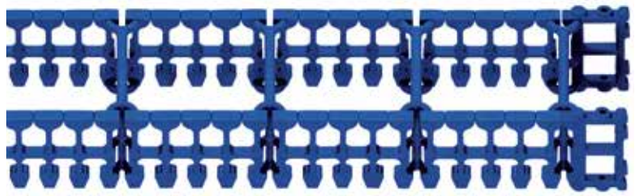
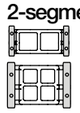
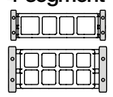
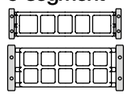
- Choice of 2 inner heights and 4 inner widths
- Interior separation segments separate the cables and hoses from each other to provide enough clearance for easy cleaning
- For plastic parts in the food industry, the blue material is FDA-compliant
- reddot award winner 2017

Typical industries and applications

● Packaging machines ● Food and beverage/ filling machines ● Wherever hygiene requirements are very high and cables and hoses have to be guided safely and securely

reddot award 2017
winner

The material of the igus® hygienic design e-chain® is FDA and EU regulation-compliant

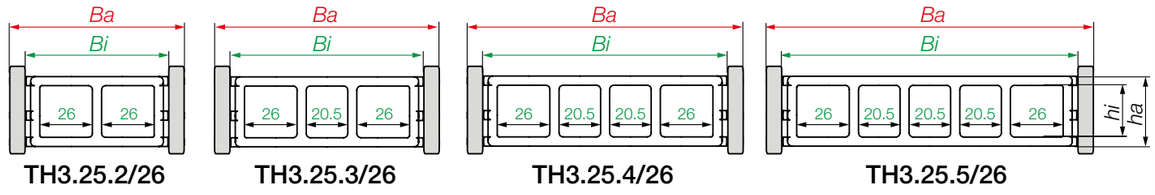
Segment design	Series	Inner height *hi* [mm]	Inner width *Bi* [mm]	Outer width *Ba* [mm]	Outer height *ha* [mm]	Bend radius *R* [mm]	Unsupported length ≤ [m]	Page
	**System TH3 - hygienic design e-chain®** 3-piece, hygienic design consisting of two side parts and an interior separation segment							
2-segment 	**TH3.25.2/26** New	25.5	70	86	35	070	1.2	856
	TH3.45.2/20 New	2 x 20	70	90	57	090	1.4	860
3-segment 	**TH3.25.3/26** New	25.5	95	111	35	070	1.2	856
	TH3.45.3/20 New	2 x 20	95	115	57	090	1.4	860
4-segment 	TH3.25.4/26*	25.5	120	136	35	070	1.2	856
	TH3.45.4/20*	2 x 20	120	140	57	090	1.4	860
5-segment 	TH3.25.5/26*	25.5	145	161	35	070	1.2	856
	TH3.45.5/20 New	2 x 20	145	165	57	090	1.4	860

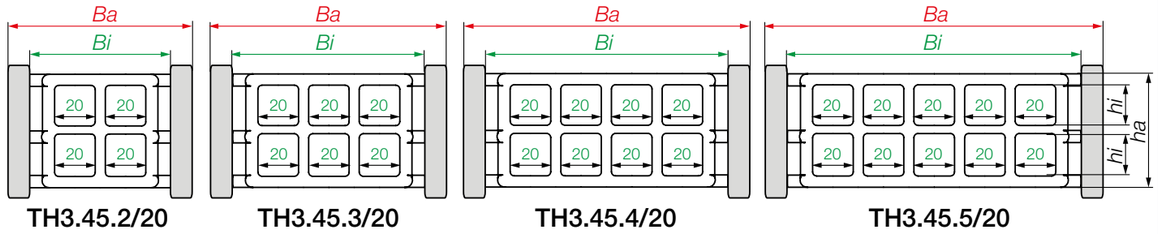
*Width available upon request. Please consult igus® for delivery time.

Available from stock. Ready to ship in 24 - 48 hrs.*

*The delivery times indicated correspond to the average time until the ordered goods are dispatched.

Size overview - Interior separation segments





Technical data

Speed FL_G / acceleration FL_G	upon request
Side part material - permitted temperature °C, igumid TH NB	**-40°C / +70°C**
Material interior separation segment - permitted temperature °C, igumid TH G	**-40°C / +70°C**
Mounting bracket material - permitted temperature °C, igumid TH G	**-40°C / +70°C**
Flammability class, igumid TH NB	**VDE 0304 IIC UL94-HB**
Flammability class, igumid TH G	**VDE 0304 IIC UL94-HB**

FL_G = unsupported with straight upper run

Installation types, maximum travels

Series	Unsupported	Vertical hanging	Vertical standing
TH3.25	≤ 1.2m	≤ 6.0m	≤ 1.8m
TH3.45	≤ 1.5m	≤ 6.0m	≤ 2.0m

Order example | Order key and colour examples | Examples based on series TH3.45

Order example for complete e-chain® (1.0m), colour blue, with mounting brackets and interior separation:

e-chain® (1.0m)	Indicate e-chain® length or number of side parts	**TH3.45.3/20.090.8**
+ Mounting brackets	1 set	**TH3.450.3/20.12.8**
Interior separation	The interior separation segments connect the side parts of the e-chain®. The interior separation is already included in the part number of the e-chain®.	
Order text:	**1m TH3.45.3/20.090.8 + 1 set TH3.450.3/20.12.8**	

Order key

Hygienic design e-chains® **TH3.45.3/20.090.8**

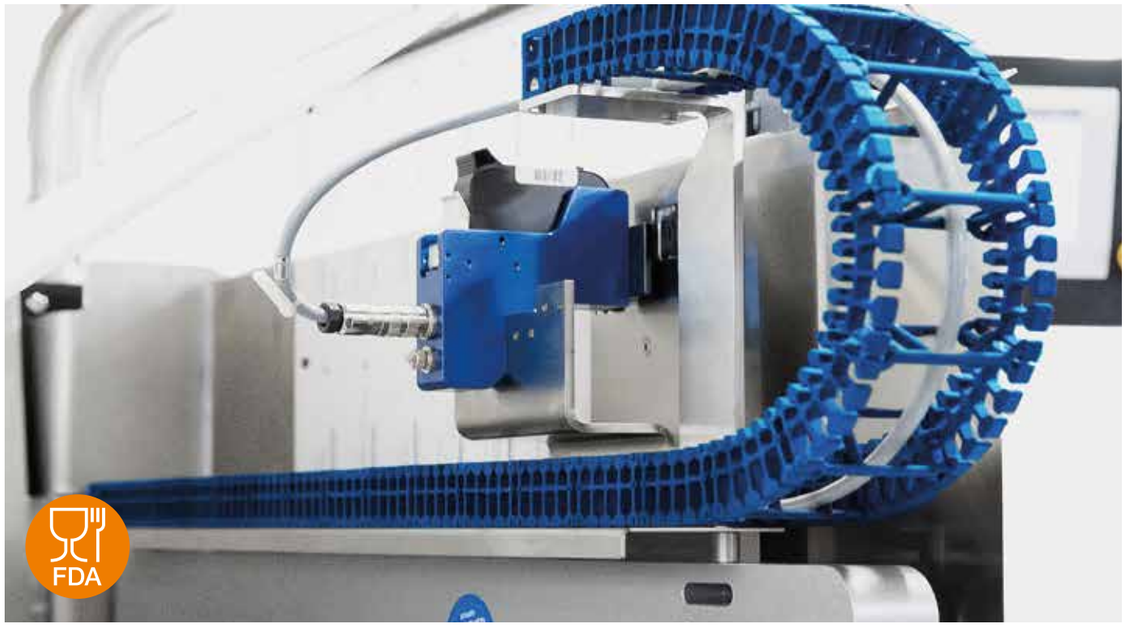
- Series / Type
- Inner height
- Interior separation segment
- Bend radius ***R***
- Colour index (standard blue)

Order index

Colour		Order index
blue	Standard	**.8**

For plastic parts in the food industry; the blue material is FDA-compliant.

Blue e-chain® made from FDA-compliant material from stock.

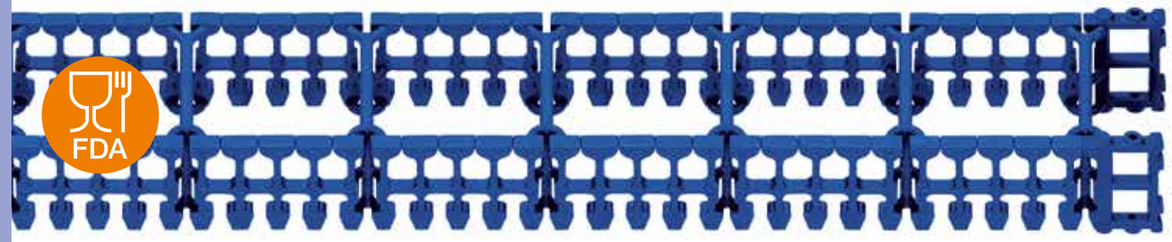


The TH3 e-chain® is the world's first plastic e-chain® developed according to "Hygienic Design Guidelines" (04/2018)

TH3 | Series TH3.25 | Product range New

World's first hygienic design e-chain®

25.5



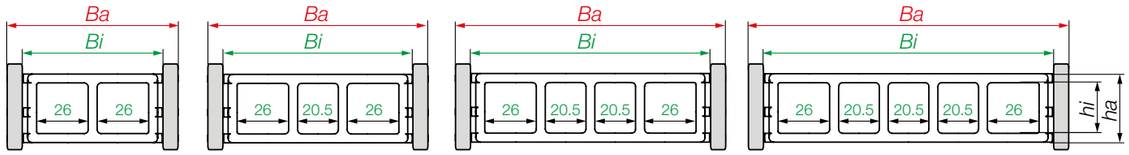
e-chains® | Series TH3.25 | 3-piece, hygienic design

Segment design	Part No. e-chain®	Chamber width [mm]	*Bi* [mm]	*Ba* [mm]	*R* Available bend radii [mm]	TH3.25 [kg/m]
2-segment	TH3.25.2/26.*R*.8	26/26	70	86	070	≈ 0.45
3-segment	TH3.25.3/26.*R*.8	26/20.5/26	95	111	070	≈ 0.47
4-segment	TH3.25.4/26.*R*.8*	26/20.5/20.5/26	120	136	070	≈ 0.50
5-segment	TH3.25.5/26.*R*.8*	26/20.5/20.5/20.5/26	145	161	070	≈ 0.54

*Width available upon request. Please consult igus® for delivery time.

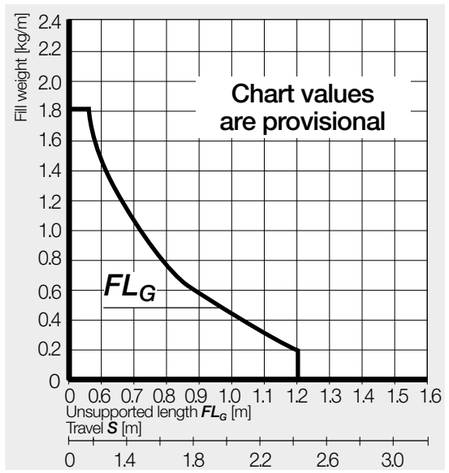
Complete Part No. with required radius (*R*). Example: **TH3.25.3/26.070.8**

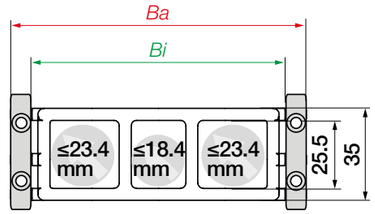
Interior separation segments series TH3.25 | Size overview



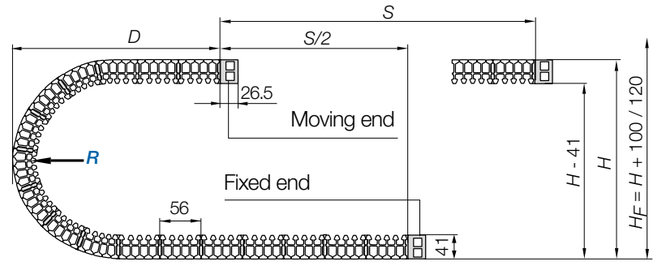
TH3 | Series TH3.25 | Installation dimensions

Unsupported applications | Short travels





Inner height [mm]	25.5
Pitch [mm/side link]	56
Side links/m	18
corresponds to [mm]	1,008
Links/side link	5
e-chain® length	$L_K = S/2 + K$

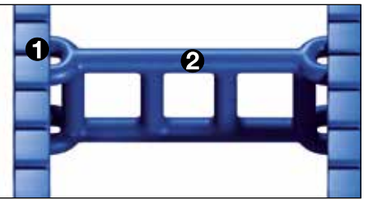


*R min.**	070	*Note: The bend radius depends on the length of the e-chain®. Smallest possible radius = 70 mm
H	180	Required clearance height H_F amounts to:
D	110	Travel distance up to 300m = **280mm**
K	240	Travel distance from 300 up to 1,000mm = **300mm**

The required clearance height $H_F = H + 100$ **and accordingly** $H + 120$ (with 0.4kg/m fill weight)

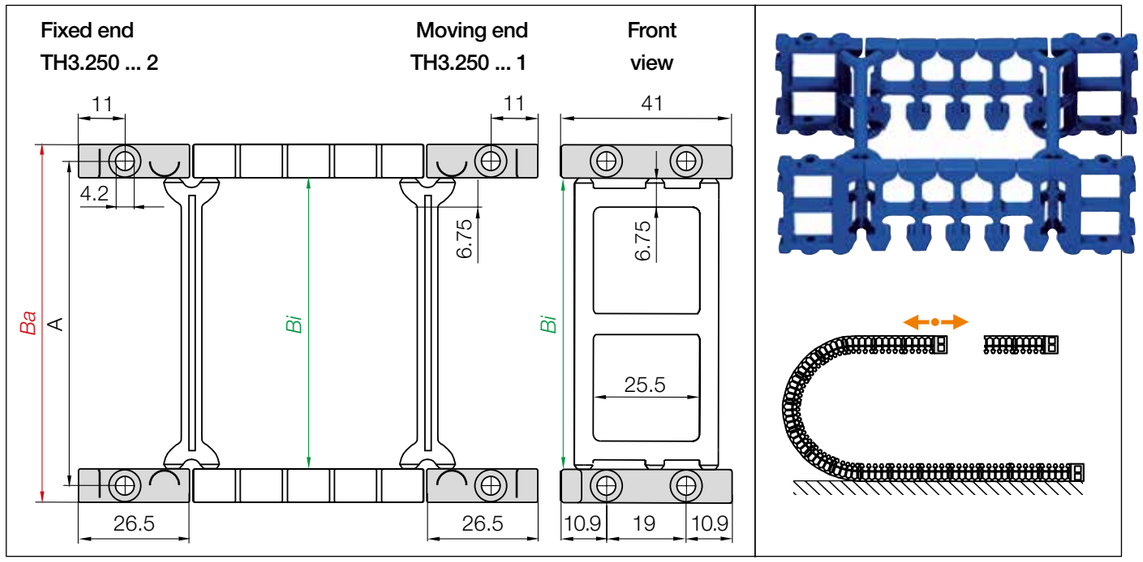
TH3 - 3-piece hygienic design e-chain®

- The TH3 e-chain® consists of 3 parts, the two side parts ❶ and one interior separation segment ❷
- The interior separation segments connect the side parts of the e-chain®
- The segments are available in 4 different widths



TH3 | Series TH3.25 | Accessories

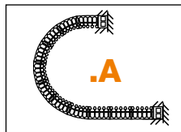
FDA-compliant mounting brackets | Attachment from any side | Locking



FDA-compliant mounting brackets, locking | For unsupported applications

Width index		Part No. full set **locking**	A [mm]	*Bi* [mm]	*Ba* [mm]
2/26	▶	**TH3.250.2/26.12.8**	77.5	70	86
3/26	▶	**TH3.250.3/26.12.8**	102.5	95	111
4/26	▶	TH3.250.4/26.12.8*	127.5	120	136
5/26	▶	TH3.250.5/26.12.8*	152.5	145	161

*Width available upon request. Please consult igus® for delivery time.



The bracket orientations are set automatically when using mounting brackets. To receive brackets **pre-fitted** please add index **A**.

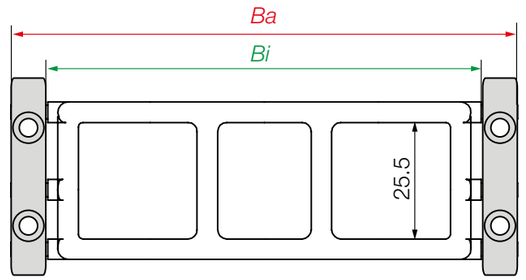
TH3.250.3/26.12.8.A Order example

- .A ... to indicate option with brackets pre-fitted
- Colour, standard blue
- Full set
- Interior separation segment
- Series

Strain relief e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with ordering options ▶ From page 1300

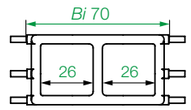
TH3 | Series TH3.25 | Overview

Interior separation segments

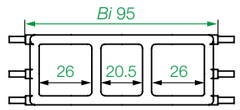




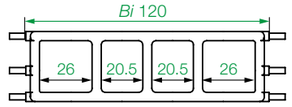
The TH3 interior separation segments are mounted on every 5th link of the e-chain®!
The diagrams show a TH3.25 interior separation segment with 3 chambers and fitted mounting bracket



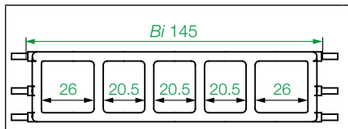
Interior separation segment with 2 chambers



Interior separation segment with 3 chambers



Interior separation segment with 4 chambers



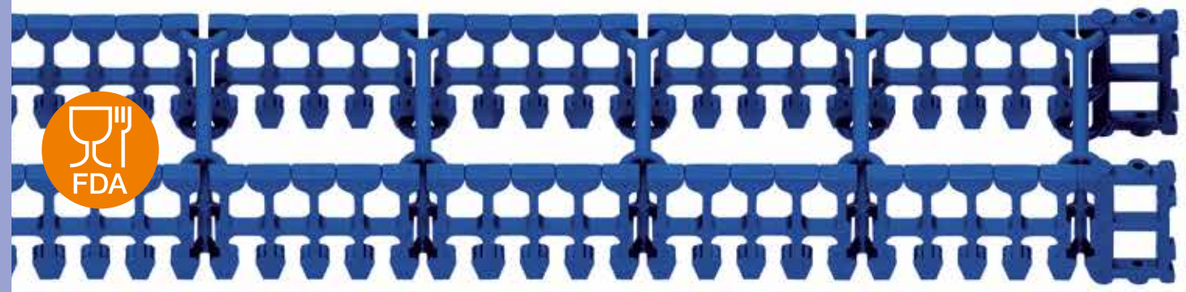
Interior separation segment with 5 chambers



System TH3 - the open design allows effective and easy cleaning

TH3 | Series TH3.45 | Product range New

World's first hygienic design e-chain®



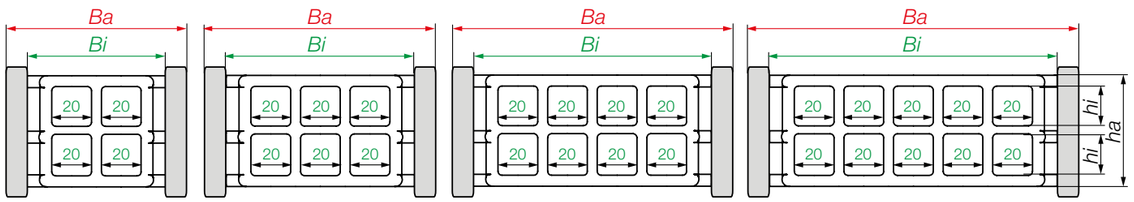
e-chains® | Series TH3.45 | 3-piece, hygienic design

Segment design	Part No. e-chain®	Chamber width [mm]	Bi [mm]	Ba [mm]	R Available bend radii [mm]	TH3.45 [kg/m]
2-segment	TH3.45.2/20.*R*.8	20/20	70	90	| 090 |	≈ 0.82
3-segment	TH3.45.3/20.*R*.8	20/20/20	95	115	| 090 |	≈ 0.87
4-segment	TH3.45.4/20.*R*.8*	20/20/20/20	120	140	| 090 |	≈ 0.92
5-segment	TH3.45.5/20.*R*.8	20/20/20/20/20	145	165	| 090 |	≈ 0.98

*Width available upon request. Please consult igus® for delivery time.

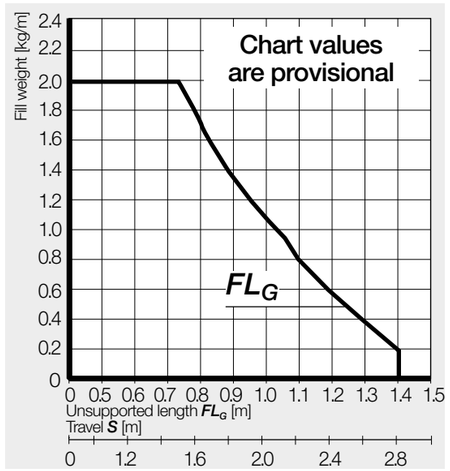
Complete Part No. with required radius (*R*). Example: **TH3.45.3/20.090.8**

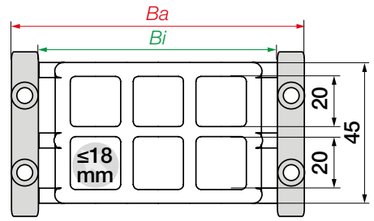
Interior separation segments series TH3.45 | Size overview



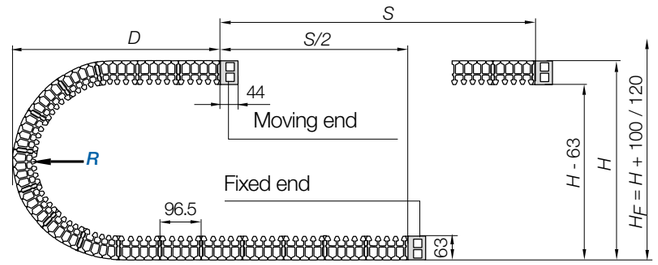
TH3 | Series TH3.45 | Installation dimensions

Unsupported applications | Short travels





Inner height [mm]	45
Pitch [mm/side link]	96.5
Side links/m	11
corresponds to [mm]	1,061
Links/side link	5
e-chain® length	$L_K = S/2 + K$

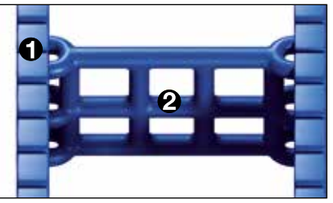


R min.*	090	*Note: The bend radius depends on the length of the e-chain®. The smallest possible radius is 90 mm
H	250	Required clearance height H_F amounts to:
D	120	Travel distance up to 300m = **350mm**
K	338	Travel distance from 300 up to 1,000mm = **370mm**

The required clearance height $H_F = H + 100$ **and accordingly** $H + 120$ (with 1.0kg/m fill weight)

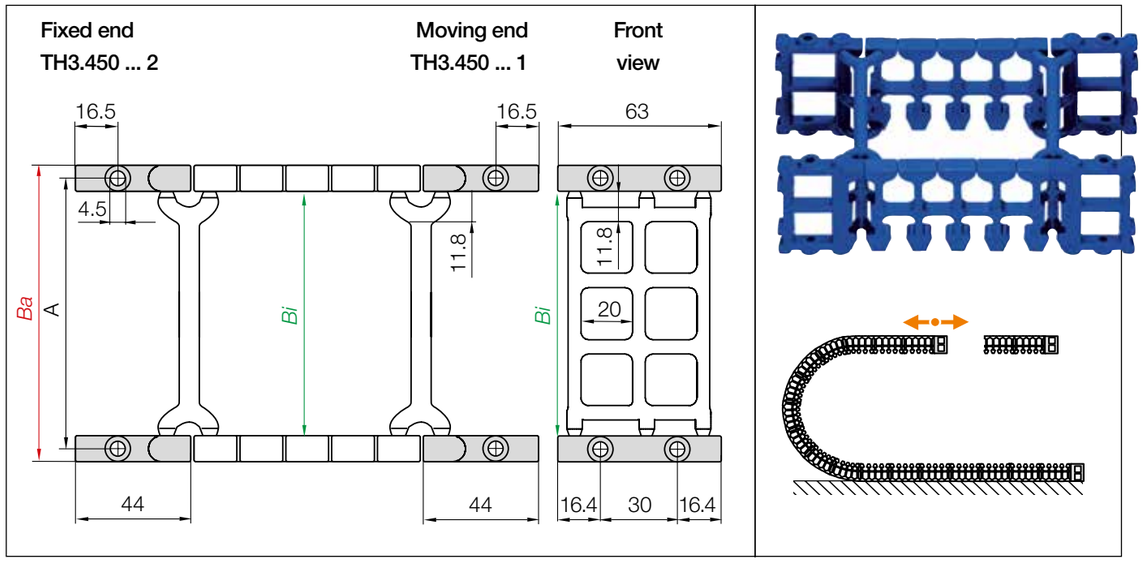
TH3 - 3-piece hygienic design e-chain®

- The TH3 e-chain® consists of 3 parts, the two side parts ❶ and one interior separation segment ❷
- The interior separation segments connect the side parts of the e-chain®
- The segments are available in 4 different widths



TH3 | Series TH3.45 | Accessories

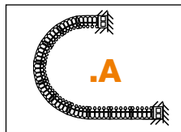
FDA-compliant mounting brackets | Attachment from any side | Locking



FDA-compliant mounting brackets, locking | For unsupported applications

Width index		Part No. full set **locking**	A [mm]	*Bi* [mm]	*Ba* [mm]
2/20	▶	**TH3.450.2/20.12.8**	80	70	90
3/20	▶	**TH3.450.3/20.12.8**	105	95	115
4/20	▶	TH3.450.4/20.12.8*	130	120	140
5/20	▶	**TH3.450.5/20.12.8**	155	145	165

*Width available upon request. Please consult igus® for delivery time.



The bracket orientations are set automatically when using mounting brackets. To receive brackets **pre-fitted** please add index **A**.

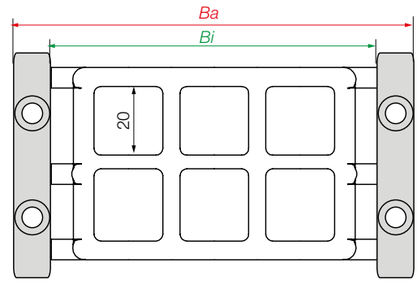
TH3.450.3/20.12.8.A Order example

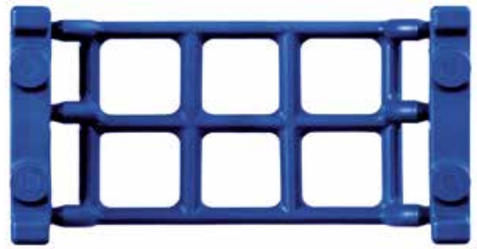
- **.A** ... to indicate option with brackets pre-fitted
- Colour, standard blue
- Full set
- Interior separation segment
- Series

Strain relief e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with ordering options ▶ From page 1300

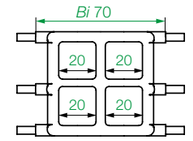
TH3 | Series TH3.45 | Overview

Interior separation segments

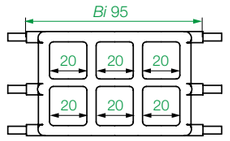




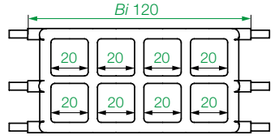
The TH3 interior separation segments are mounted on every 5th link of the e-chain®!
The diagrams show a TH3.45 interior separation segment with 3 chambers and fitted mounting bracket



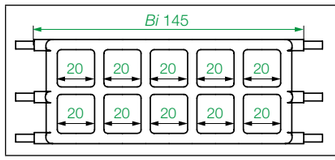
Interior separation segment with 2 x 2 chambers



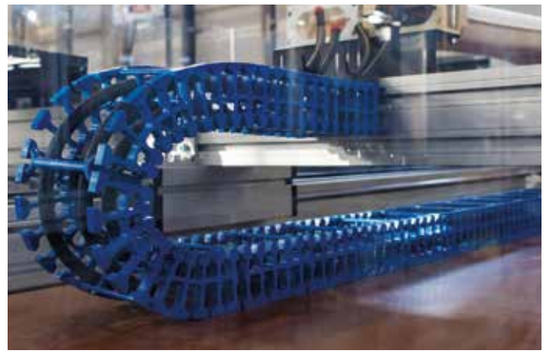
Interior separation segment with 2 x 3 chambers



Interior separation segment with 2 x 4 chambers



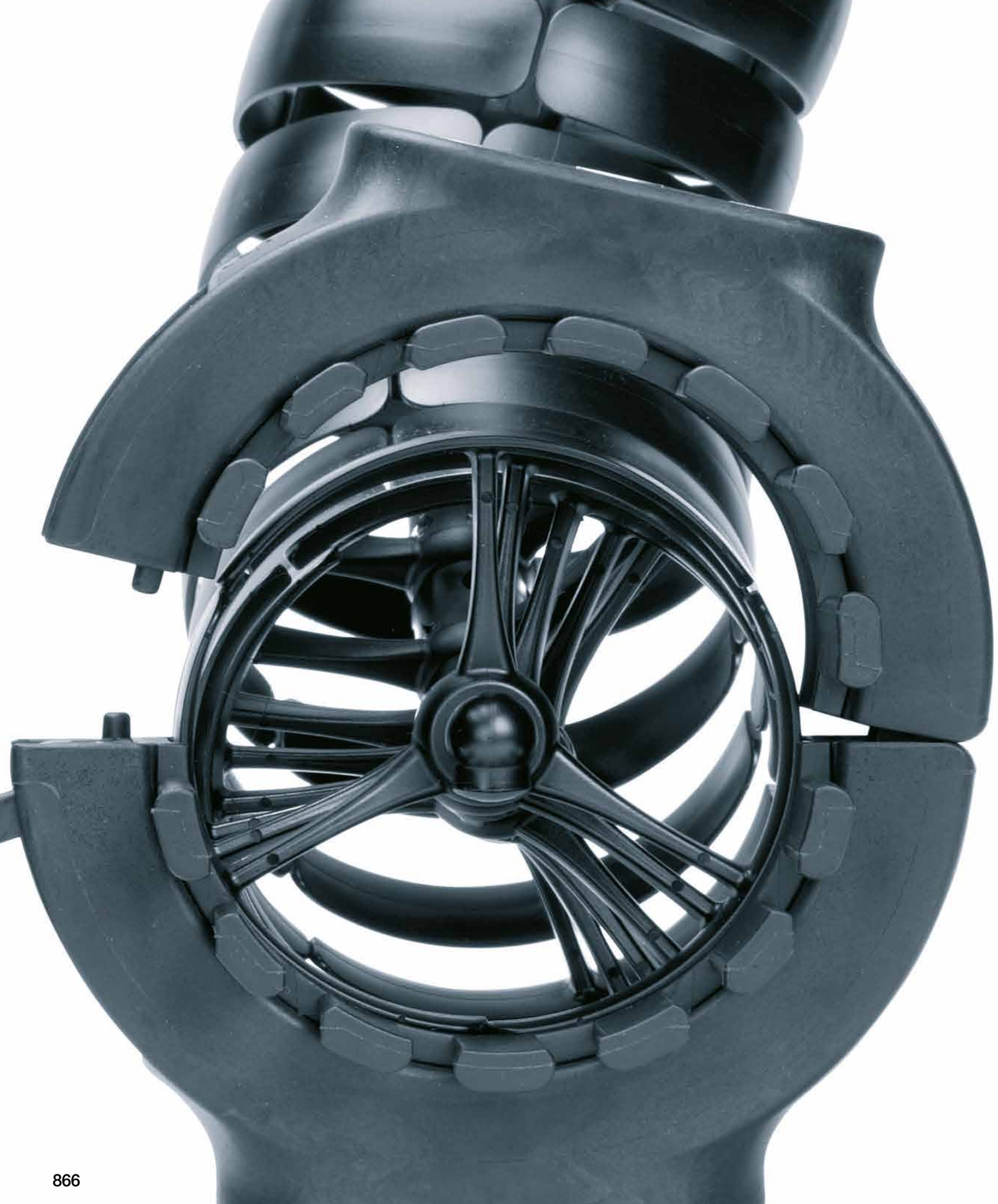
Interior separation segment with 2 x 5 chambers



The TH3 series is suitable for applications with the highest hygienic requirements for safe cable and hose guidance

igus® 3D e-chains®

Robotic, 3D and circular movements: triflex® | twisterchain | twisterband |



triflex® R

For multi-axis movements and robots

triflex® R advantages:

- For the most demanding multi-axis applications on industrial robots
- Defined torsion stop-dog
- Defined minimum bend radius
- Easy to lengthen and shorten
- Small bend radius and short pitch
- Fillable from the outside

When to use another 3D e-chain® series:

- For circular movements with high loads

► **twisterchain system, page 966**



For multi-axis movements and robots - triflex® R

triflex® R (R for "round") is the third generation of multi-axis igus® e-chains®. The key design characteristics of igus® triflex® R have made this product very successful in the robot industry.

- Defined torsion stop-dog on each e-chain® link
- Defined minimum bend radius
- High tensile strength ball and socket joint
- Compact retraction system options to prevent loop formation
- Fibre-rod option for partial directional control and reinforcement
- No extra support elements required e.g. steel cables, spring suspensions etc.
- Wide range of accessories

triflex® R available in 5 versions from stock

TRC closed design with smooth and robust exterior
TRE "easy" design, easy to fill from outside
TRCF closed design with snap lock mechanism
TRL very lightweight, with "easy" design
TRLF light version with snap lock mechanism

Typical industries and applications

● The first choice for multi-axis robots ● Machine tools ● Handling machines - 6-axis ● Conveyor systems ● Packaging machines ● General mechanical engineering, etc.

Assembly video available online at
▶ www.igus.eu/triflexR_assembly

Available from stock. Ready to ship in 24 - 48hrs.*

*The delivery times indicated correspond to the average time until the ordered goods are dispatched.



The defined torsion stop ensures an even distribution of the torsional load across the entire length



A tough, bend radius stop-dog actively prevents cables and hoses from kinking



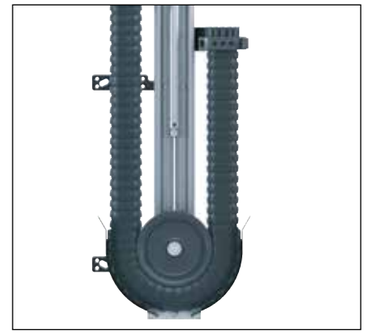
Interior separation: two or three chamber design for a reliable cable guidance



Openable - series TRCF and TRLF have snap lock mechanism for easy filling



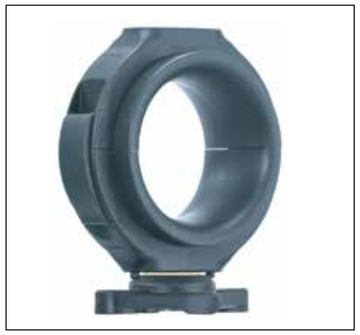
Tensile strength is absorbed directly by the e-chain® - no additional supports are necessary



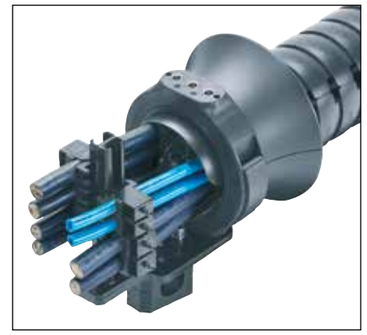
4 retraction system options available to prevent formation of loops in the robot's working area



Standard and light mounting brackets available with or without integrated strain relief. Some versions available in ESD material, from stock



Mounting brackets options with gliding feed-through and swivel bearing. Bearing with a maintenance-free igubal® ball and socket joint

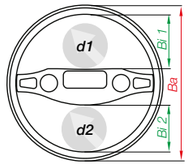
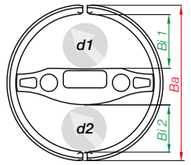
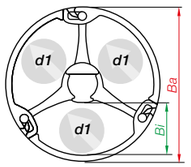


Various heavy duty and compact connections and quick-change units are available

Serie TRC - electrically conductive ESD e-chains® - several series available from stock

UL94-V2 classification

iF product design award
2004 for igus® series TRC
2007 for igus® series TRL
2013 for igus® series TRLF

Series	Inner height *Bi1* [mm]	Inner height *Bi2* [mm]	≤ ø cable *d1* [mm]	≤ ø cable *d2* [mm]	Outer width *Ba* [mm]	Bend radius *R* [mm]	Pitch [mm]	Links per m	Page
	**Series TRC - closed design** chip protection, smooth outer contour								
TRC.30	12	10	10	8	34.5	50	11.3	89	**874**
TRC.40	15	13	13	11	43	58	13.9	72	**874**
TRC.50	18.8	16.2	16.5	14	54	80	17.4	58	**874**
TRC.60	22.5	19.5	20.5	17.5	65	87	20.4	49	**874**
TRC.70	28	24	26	22	81	110	25.6	39	**874**
TRC.85	33	28	31	26	94.5	135	30.6	33	**874**
TRC.100	37.5	32.5	35.5	30.5	108	145	34.5	29	**874**
TRC.125[2]	43.3	43.3	41	41	135	182	44.6	23	**874**
	**Series TRE - "easy" design** very easy to fill, cables are simply pushed in								
TRE.30	12	10	10[1]	8[1]	34.5	50	11.3	89	**876**
TRE.40	15	13	13[1]	11[1]	43	58	13.9	72	**876**
TRE.50	18.8	16.2	16.5[1]	14[1]	54	80	17.4	58	**876**
TRE.60	22.5	19.5	20.5[1]	17.5[1]	65	87	20.4	49	**876**
TRE.70	28	24	26[1]	22[1]	81	110	25.6	39	**876**
TRE.85	33	28	31[1]	26[1]	94.5	135	30.6	33	**876**
TRE.100	37.5	32.5	35.5[1]	30.5[1]	108	145	34.5	29	**876**
TRE.125[2]	43.3	43.3	41[1]	41[1]	135	182	44.6	23	**876**
	**Series TRCF - closed design with snap lock mechanism** chip protection, smooth outer contour								
TRCF.65	22.3	–	20	–	70.2	100	23.1	44	**878**
TRCF.85	30	–	28	–	94.5	135	30.6	33	**878**
TRCF.85[4]	30	–	28	–	94.5	240	30.6	33	**878**
TRCF.100	34.3	–	32	–	108	145	34.5	29	**878**

1) For quick and easy fitting or removal of cables using the "easy" design, we recommend a maximum cable diameter of 70% of the specified value

2) Max. cable diameter Ø 41mm. Max. cable diameter changes to Ø 36 mm, if lengthening or shortening an already populated triflex® R

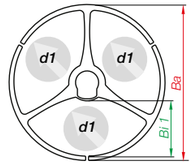
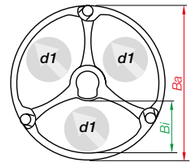
3) TRL 30 with 2-chamber design

4) Special size TRCF.85.240.0 with 240 degree bend radius and a range of accessories

Available from stock. Ready to ship in 24 - 48hrs.*

*The delivery times indicated correspond to the average time until the ordered goods are dispatched.

triflex® R | Selection table

Series	Inner height *Bi1* [mm]	Inner height *Bi2* [mm]	≤ ø cable *d1* [mm]	≤ ø cable *d2* [mm]	Outer width *Ba* [mm]	Bend radius *R* [mm]	Pitch [mm]	Links per m	Page
	**Series TRL - the "light" version with the "easy" design** easy to fill and cost-effective								
TRL.30[3]	12.5	11	10[1]	8[1]	34.5	50	11.3	89	**880**
TRL.40	15	–	13[1]	–	45	58	13.9	72	**880**
TRL.60	23	–	20.5[1]	–	65	87	20.4	49	**880**
TRL.70	28	–	26[1]	–	81	110	25.6	39	**880**
TRL.100	38	–	35.5[1]	–	108	145	34.5	29	**880**
	**Series TRLF - light version with snap lock mechanism** lightweight and cost-effective								
TRLF.65	24.4	–	22	–	70.2	100	23.1	44	**882**
TRLF.85	32.8	–	30	–	94.5	135	30.6	33	**882**
TRLF.100	37.5	–	35.5	–	108	145	34.4	29	**882**
TRLF.125	46.8	–	44.5	–	135	182	44.1	23	**882**

triflex® R | Retraction system overview

Series	System	For triflex® R e-chains®	For ø Index [mm]	Page
	**RSP -** pneumatic retraction system	**TRC·TRE·TRCF**	60 - 125	**908**
	**RS -** modular retraction system	**TRC·TRE**	40 - 100	**914**
	**RSE linear -** cost-effective retraction system, linear	**TRC·TRE·TRCF**	40 - 125	**920**
	**RSE -** cost-effective retraction system, for small robots	**TRC·TRE**	40 - 50	**926**

Technical data

Speed / acceleration	upon request
Material - permitted temperature °C, igumid G (TRLF/TRCF)	**-40°C / +120°C**
Material - permitted temperature °C, igumid NB (TRC/TRE/TRL)	**-40°C / +80°C**
Flammability class, igumid G (TRLF/TRCF)	**VDE 0304 IIC UL94-HB**
Flammability class, igumid NB (TRC/TRE/TRL)	**VDE 0304 IIC UL94-V2**

Reduce installation times with easy-to-use disassembly tools



Easy-to-use disassembly tools for triflex® TRE (B version) and TRCF. Easy disassembly at any point along the e-chain®, even when full.

More information

▶ www.igus.eu/triflex_B_disassemblytool

Assembly video available online at

▶ www.igus.eu/triflexR_assembly

For series TRE.B	Part No. disassembly tool
TRE.40.B	MAT0050175
TRE.50.B	MAT0051190
TRE.60.B / TRE.70.B	MAT0051135
TRE.85.B	MAT0050170
TRE.100.B	MAT0050172

For series TRE.B	Part No. disassembly tool
TRCF.65	MAT0051135
TRCF.85	MAT0050170
TRCF.100	MAT0050172



igus® triflex® R TRLF - light version, easily openable by hand or with a screwdriver



igus® triflex® R TRCF - closed version, openable with a screwdriver



triflex® RS for a low profile retraction system.. Integrated fibre rods generate the directed pretension so that loops do not form in the working area



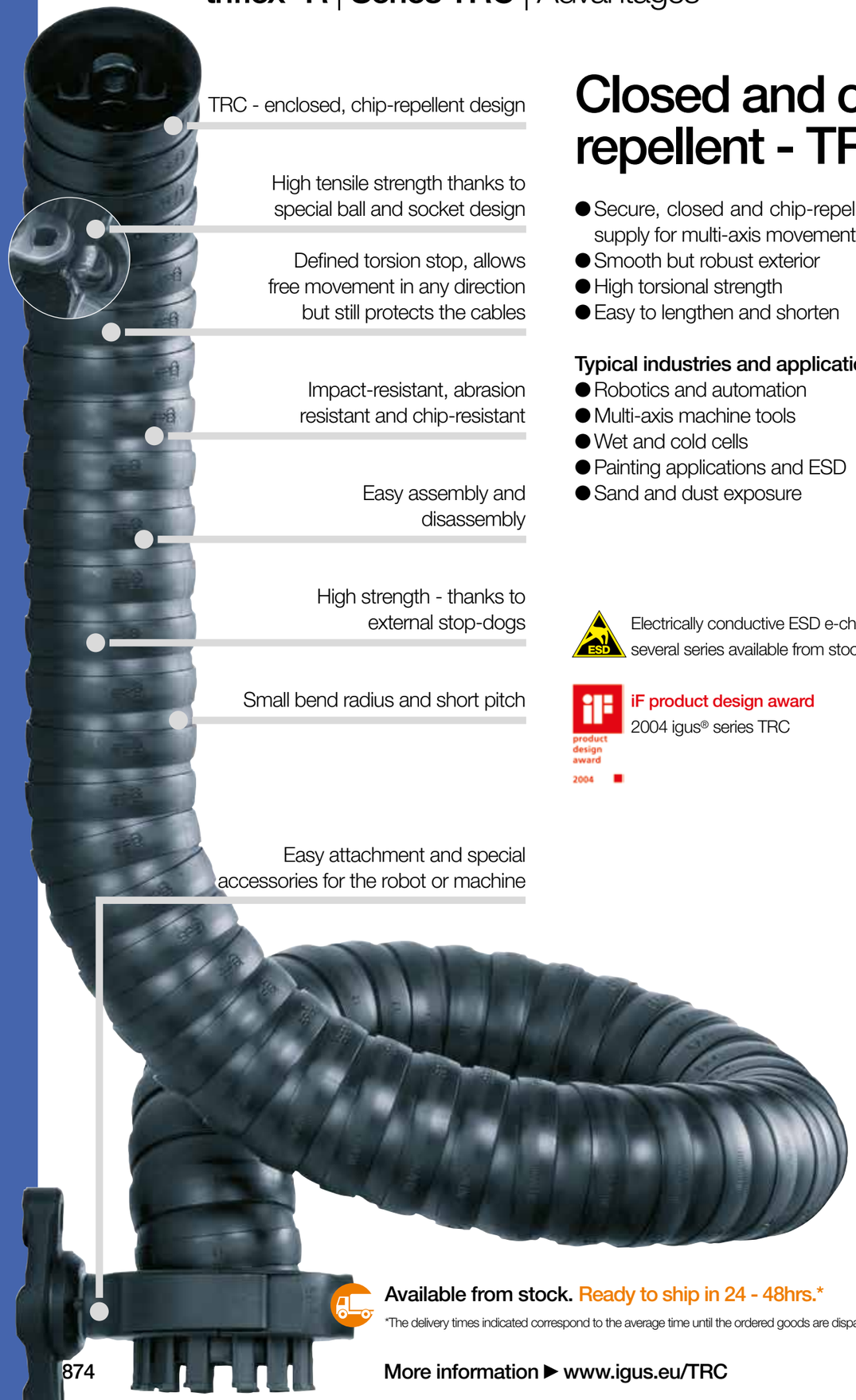
Pneumatic retraction system triflex® RSP - prevents loop formation on the robot



triflex® TR.RSE.40.L or R, cost-effective and lightweight retraction system with guide roller, for small robots



TR.RSE linear retraction system for triflex® R, sizes 40-125



Closed and chip-repellent - TRC

- Secure, closed and chip-repellent energy supply for multi-axis movements
- Smooth but robust exterior
- High torsional strength
- Easy to lengthen and shorten

Typical industries and applications
- Robotics and automation
- Multi-axis machine tools
- Wet and cold cells
- Painting applications and ESD
- Sand and dust exposure

Electrically conductive ESD e-chains® - several series available from stock

iF product design award
2004 igus® series TRC

Available from stock. Ready to ship in 24 - 48hrs.*

*The delivery times indicated correspond to the average time until the ordered goods are dispatched.

More information ▶ www.igus.eu/TRC



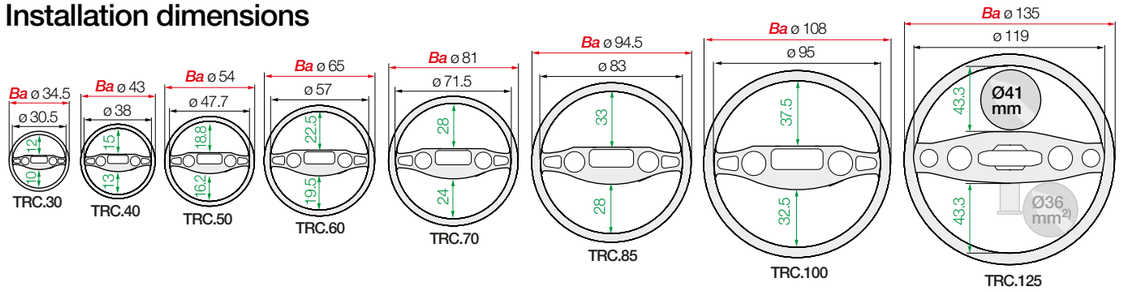
e-tubes | Series TRC | Totally enclosed, non-openable

Part No. e-tubes	Bi1 [mm]	Bi2 [mm]	Ba [mm]	R [mm]	d1 [mm]	d2 [mm]	Pitch [mm]	Links per m	Weight [kg/m]
TRC. 30. 050 .0	12	10	34.5	050	10	8	11.3	89	≈ 0.27
TRC. 40. 058 .0[1]	15	13	43	058	13	11	13.9	72	≈ 0.37
TRC. 50. 080 .0	18.8	16.2	54	080	16.5	14	17.4	58	≈ 0.59
TRC. 60. 087 .0[1]	22.5	19.5	65	087	20.5	17.5	20.4	49	≈ 0.85
TRC. 70. 110 .0[1]	28	24	81	110	26	22	25.6	39	≈ 1.32
TRC. 85. 135 .0	33	28	94.5	135	31	26	30.6	33	≈ 1.75
TRC. 100. 145 .0	37.5	32.5	108	145	35.5	30.5	34.5	29	≈ 2.38
TRC. 125. 182 .0	43.3	43.3	135	182	41	41[2]	44.6	23	≈ 4.70

1) Available as ESD version from stock

2) TRE 125 max. cable diameter Ø 41mm. Max. cable diameter changes to Ø 36mm when an already populated e-chain needs to be shortened or lengthened

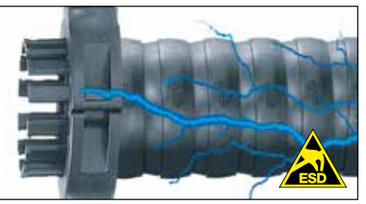
Installation dimensions



ESD - many sizes from stock

- Standardised product made from igumid ESD
- ESD material tested with over 10 million cycles for the toughest requirements
- Short delivery times including mounting brackets and interior separation; 24hrs, from stock

More information ▶ www.igus.eu/esd





TRE - "easy" design - simply press cables in

High tensile strength thanks to special ball and socket design

Defined torsion stop, allows free movement in any direction but still protects the cables

"Easy" design for fast filling with cables and hoses

Simple tool for fast disassembly of the triflex® B versions

High strength - thanks to external stop-dogs

Small bend radius and short pitch

Easy attachment and special accessories for the robot or machine

Easy to fill - simply press cables in - TRE

- Easy to fill energy supply for multi-axis movements
- High torsional strength
- Easy to shorten and lengthen.
- **B version** - 4x increase in radial stability, allows larger torsion forces
- **C version and TRE.125** - fast assembly due to pin connection and spherical igubal® joint allowing 50% higher tensile forces

Typical industries and applications

- Robotics and automation
- Spot welding and pick and place applications
- When fast cable replacement is needed

Electrically conductive ESD e-chains® upon request

Save time - easy disassembly tool available for triflex® R



TRE - very easy to fill, cables are simply pushed in

Available from stock. Ready to ship in 24 - 48hrs.*

*The delivery times indicated correspond to the average time until the ordered goods are dispatched.

More information ▶ www.igus.eu/TRE



e-chains® | Series TRE | "easy" design - simply press cables in

Part No. e-chains®	Bi1 [mm]	Bi2 [mm]	Ba [mm]	R [mm]	d1 2) [mm]	d2 2) [mm]	Pitch [mm]	Links per m	Weight [kg/m]
TRE.30.050.0	12	10	34.5	050	10	8	11.3	89	≈ 0.26
TRE.40.058.0.B	15	13	43	058	13	11	13.9	72	≈ 0.36
TRE.50.080.0.B	18.8	16.2	54	080	16.5	14	17.4	58	≈ 0.56
TRE.60.087.0.B	22.5	19.5	65	087	20.5	17.5	20.4	49	≈ 0.83
TRE.70.110.0.B	28	24	81	110	26	22	25.6	39	≈ 1.30
TRE.85.135.0.B	33	28	94.5	135	31	26	30.6	33	≈ 1.67
TRE.100.145.0.B / C1)	37.5	32.5	108	145	35.5	30.5	34.5	29	≈ 2.35
TRE.125.182.0	43.3	43.3	135	182	41	41 3)	44.6	23	≈ 4.40

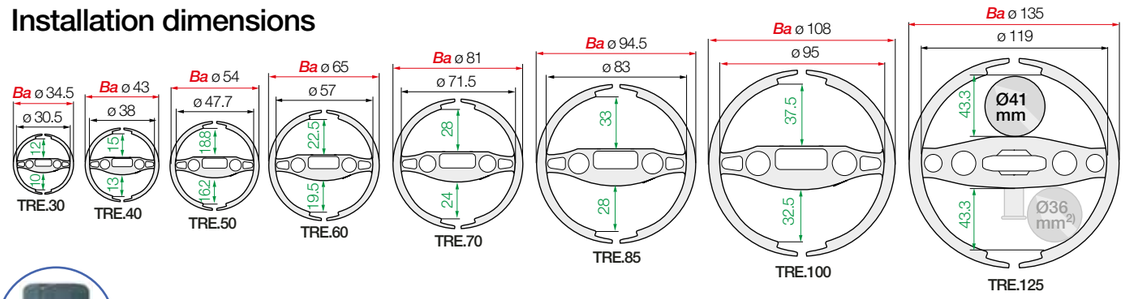
B-Series = 4-x higher torsion forces **C-Series** = quick assembly, 50% higher forces

1) Available as **C-Version** Part No. **TRE.100.145.0.C**

2) For quick and easy fitting or removal of cables using the "easy" design, we recommend a maximum cable diameter of 70% of the specified value

3) TRE 125: max. cable diameter Ø 41mm. Max. cable diameter changes to Ø 36mm when an already populated e-chain needs to be shortened or lengthened TRE.LOCK

Installation dimensions



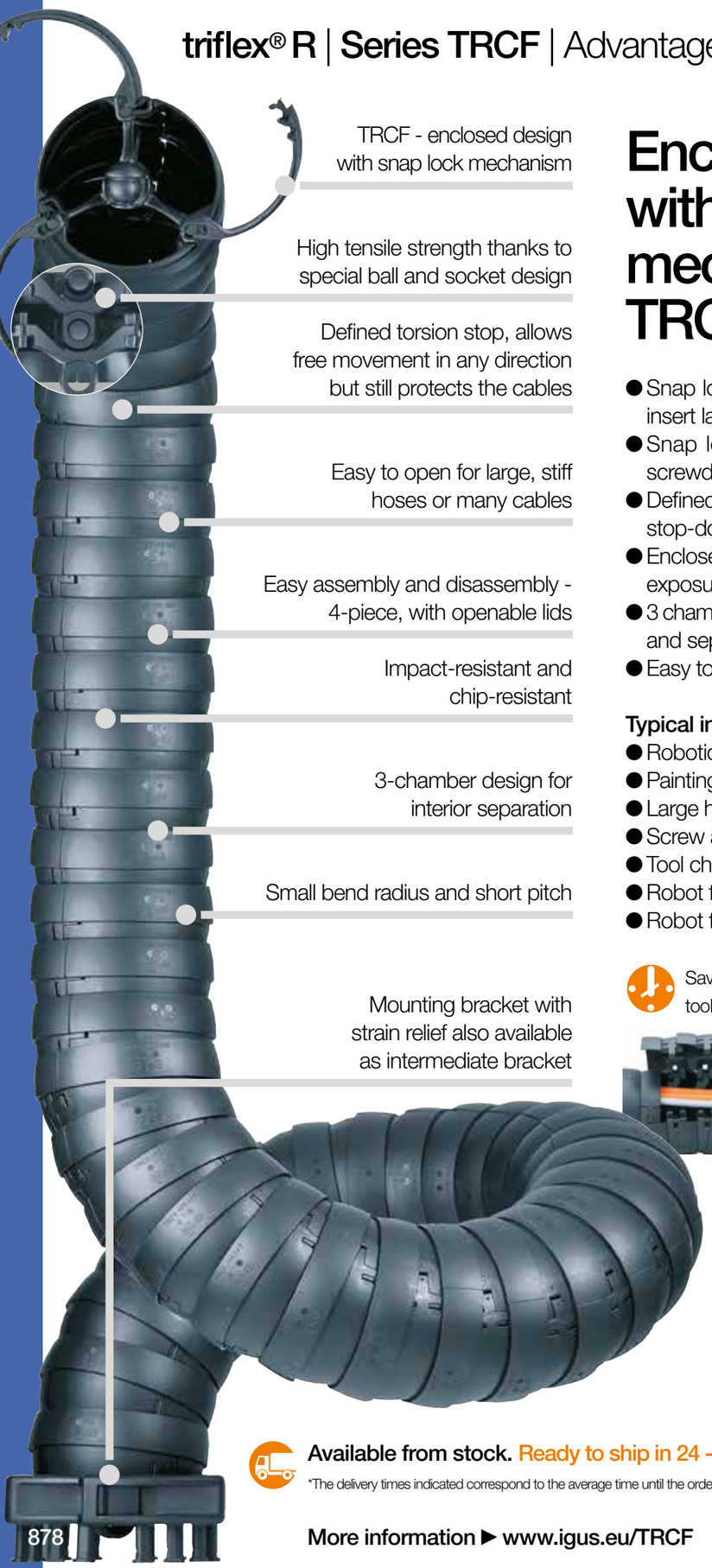


TRE.LOCK clips

Clips for a secure fit in the mounting bracket. Supplied with every mounting bracket. Please use the Part No. on the right for reordering individual parts

Part No. as an individual part	Size [mm]
TRE.30/40.LOCK	30/40
TRE.50.LOCK	50
TRE.60.LOCK	60

Part No. as an individual part	Size [mm]
TRE.70.LOCK	70/85
TRE.100.LOCK	100
TRE.125.LOCK	125



Enclosed design with snap lock mechanism - TRCF

- Snap lock mechanism for fast opening to insert large cables or hoses
- Snap lock mechanism openable with a screwdriver
- Defined minimum bend radius and torsion stop-dog for optimum cable protection
- Enclosed version, for use with dirt and chip exposure
- 3 chamber design for ideal cable distribution and separation
- Easy to lengthen and shorten

Typical industries and applications

- Robotics and automation
- Painting applications
- Large hydraulic hoses
- Screw and rivet feeds
- Tool changer applications
- Robot for laser welding
- Robot for screw and rivet applications

Save time - easy disassembly tool available for triflex® R

Flip open, insert cable, and close snap lock mechanism - then ready to run!

Available from stock. Ready to ship in 24 - 48hrs.*

*The delivery times indicated correspond to the average time until the ordered goods are dispatched.

More information ▶ www.igus.eu/TRCF

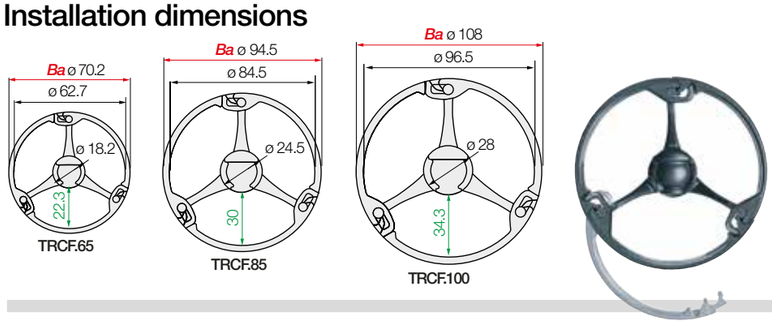


e-tubes | Series TRCF | Fully enclosed design, with snap lock mechanism

Part No. e-tubes	Bi1 [mm]	Ba [mm]	R [mm]	d1 [mm]	Pitch [mm]	Links per m	Weight [kg/m]
TRCF.65.100.0	22.3	70.2	100	20	23.1	44	≈ 1.10
TRCF.85.135.0	30	94.5	135	28	30.6	33	≈ 2.10
TRCF.85.240.0[1)]	30	94.5	240	28	30.6	33	≈ 2.10
TRCF.100.145.0	34.3	108	145	32	34.5	29	≈ 2.70

1) Special size Part No. **TRCF.85.240.0** with 240 degree bend radius and a range of accessories

Installation dimensions



Snap lock mechanism for fast opening, video online

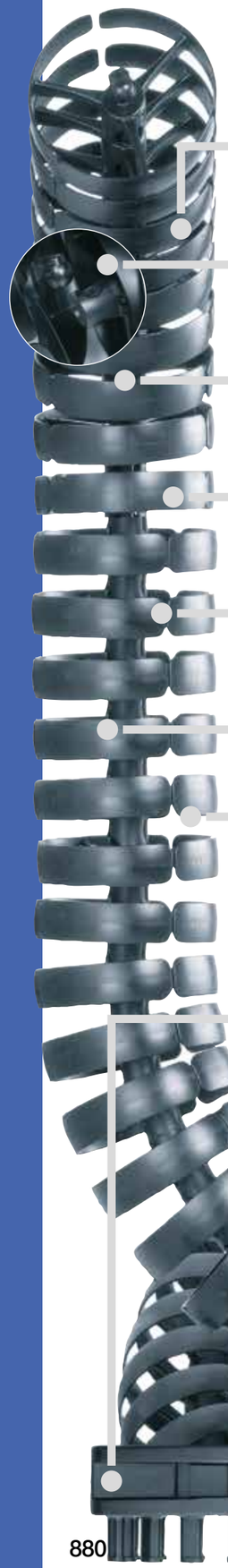
▶ www.igus.eu/TRLFlip

Special size TRCF.85.240.0 with 240mm bend radius and a special range of accessories

- For secure guidance of laser light cables on robots
- The large bend radius (*R* 240mm) increases the service life of the laser light cable by preventing kinking

More information ▶ www.igus.eu/TRCF





TRL - light and cost-effective with "easy" design

High tensile strength thanks to special ball and socket design

Defined torsion stop, allows free movement in any direction but still protects the cables

"Easy" design for fast filling with cables and hoses

Easy assembly and disassembly

Extremely lightweight due to one-piece design

Small bend radius and short pitch

Mounting bracket with strain relief also available as intermediate bracket

Lightweight and cost-effective - TRL

- Very easy to fill
- Multi-axis e-chain® for simple applications
- Easy to lengthen and shorten

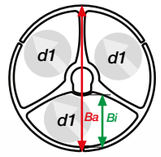
Typical industries and applications
- Robot axes 1-3
- Non-robotic applications
- Bundling cables for operator controls
- Filament feeds on 3D printers
- Office applications

iF product design award
2007 igus® Series TRL



Available from stock. Ready to ship in 24 - 48hrs.*

*The delivery times indicated correspond to the average time until the ordered goods are dispatched.





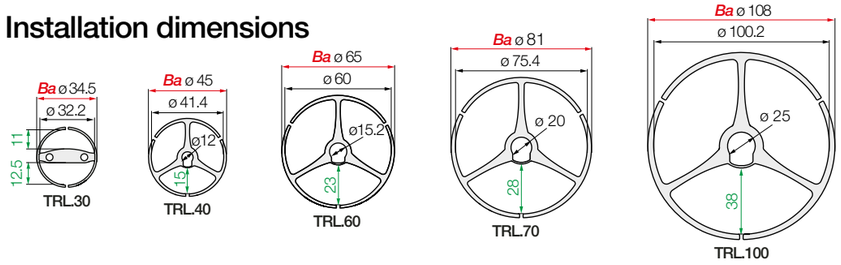
e-chains® | TRL series | Light version with "easy" design - simply press cables in

Part No. e-chains®	Bi1 [mm]	Bi2 [mm]	Ba [mm]	R [mm]	d1 2) [mm]	d2 2) [mm]	Pitch [mm]	Links per m	Weight [kg/m]
TRL.30. 050 .0 1)	12.5	11	34.5	050	10	8	11.3	89	≈ 0.26
TRL.40. 058 .0	15	–	45	058	13	–	13.9	72	≈ 0.29
TRL.60. 087 .0	23	–	65	087	20.5	–	20.4	49	≈ 0.49
TRL.70. 110 .0	28	–	81	110	26	–	25.6	39	≈ 0.82
TRL.100.145 .0	38	–	108	145	35.5	–	34.5	29	≈ 1.42

1) Only available with 2-chamber design

2) For quick and easy fitting or removal of cables using the "easy" design, we recommend a maximum cable diameter of 70% of the specified value

Installation dimensions





TRLF - light and cost-effective with snap lock mechanism

High tensile strength thanks to special ball and socket design

Defined torsion stop, allows free movement in any direction but still protects the cables

Easy to open for large, stiff hoses or many cables

Easy assembly and disassembly

3-chamber design for interior separation

Small bend radius and short pitch

Lightweight mounting bracket available with strain relief or as intermediate bracket

Lightweight, with snap lock mechanism - TRLF

- Snap lock mechanism for fast opening
- Openable by hand or with a screwdriver
- For large, stiff hoses or many cables
- Economical multi-axis e-chain® for less demanding applications
- Easy to lengthen and shorten

Typical industries and applications

- Painting hoses
- Rivet feeds
- Robot axes 1-3
- Non-robotic applications
- Special machine construction
- High-tech design

iF product design award
2013 igus® series TRLF



Flip open, insert cable, and close snap lock mechanism - then ready to run!

Available from stock. Ready to ship in 24 - 48hrs.*

*The delivery times indicated correspond to the average time until the ordered goods are dispatched.

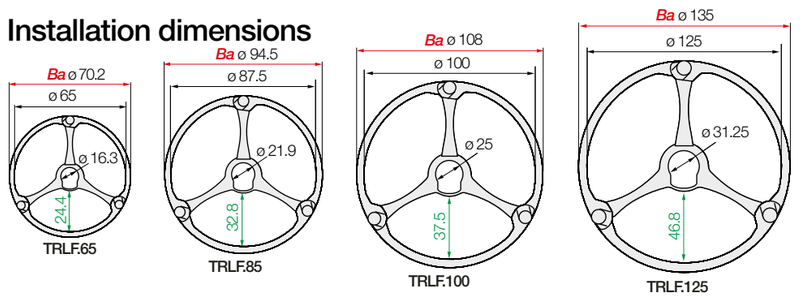
More information ▶ www.igus.eu/TRLF



e-chains® | Series TRLF | Light version with snap lock mechanism

Part No. e-chains®	Bi1 [mm]	Ba [mm]	R [mm]	d1 [mm]	Pitch [mm]	Links per m	[kg/m]
TRLF. 65. 100 .0	24.4	70.2	100	22	23.1	44	≈ 0.79
TRLF. 85. 135 .0	32.8	94.5	135	30	30.6	33	≈ 1.45
TRLF. 100. 145 .0	37.5	108	145	35.5	34.5	29	≈ 1.90
TRLF. 125. 182 .0	46.8	135	182	44.5	44.1	23	≈ 4.13

Installation dimensions



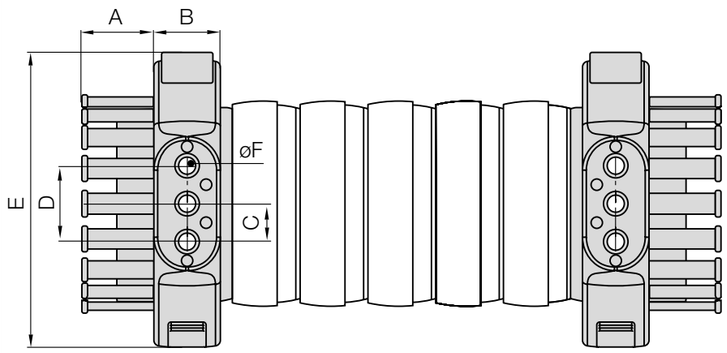


Snap lock mechanism for fast opening, video online
▶ www.igus.eu/TRLF

triflex® R | TRC·TRE·TRCF·TRL·TRLF | Accessories

Standard mounting brackets | **With** strain relief

With integrated strain relief tiewrap plates
TR.40.01 - TR.100.01





- Recommended for TRC/TRE/TRCF, also compatible with TRL/TRLF
- Standard fixation onto the robot or machine, with strain relief

Standard mounting brackets | With strain relief



TR.40.01 - TR.100.01

Ø Index		Part No. **with** strain relief	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	F [mm]
30.	▶	Alternative: light mounting bracket	–	–	–	–	–	–
40.	▶	**TR.40.01**.M6 1) 2)	17.8	21	13.5	27	84.5	6.5
50.	▶	**TR.50.01**.M6 1)	21	21	13.5	27	84.5	6.5
60.	▶	**TR.60.01**.M8 1) 2)	25	32	20	40	126	9
65.	▶	TR.65.01.M8 1) 5)	25	32	20	40	126	9
70.	▶	**TR.70.01**.M8 1) 2)	25	32	20	40	126	9
85.	▶	**TR.85.01**.M8 1)	38	35	20	40	155	9
85. (*R 240*)	▶	**TR.85.240.01**.M8 1) 4)	38	35	20	40	155	9
100.	▶	**TR.100.01**.M8 1)	38	35	20	40	155	9
125.	▶	Alternative: standard mounting bracket without strain relief						

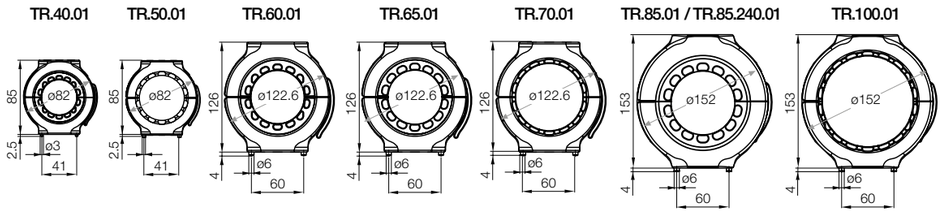
Strain reliefs are for use on the fixed end and/or moving end.

Standard: through holes in Ø F - 1) option: with threaded bushings, steel, M6/M8

2) ⚠ Available as ESD version from stock

4) Only for special size TRCF.85.240.0 with 240 degree bend radius 5) Available for delivery upon request. Please consult igus® for delivery time.

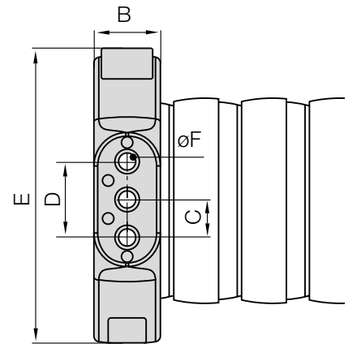
TR.40.01 TR.50.01 TR.60.01 TR.65.01 TR.70.01 TR.85.01 / TR.85.240.01 TR.100.01



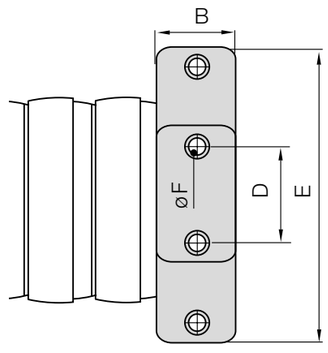
triflex® R | TRC·TRE·TRCF·TRL·TRLF | Accessories

Standard mounting brackets | **Without** strain relief

Without strain relief, only for
TR.40.02 - TR.100.02



Without strain relief, only for
TR.125.02





- Recommended for TRC/TRE/TRCF, also compatible with TRL/TRLF
- Standard fixation onto the machine/ robot, without strain relief
- Can also serve as intermediate bracket

Standard mounting brackets | Without strain relief



TR.40.02 - TR.100.02



TR.125.02

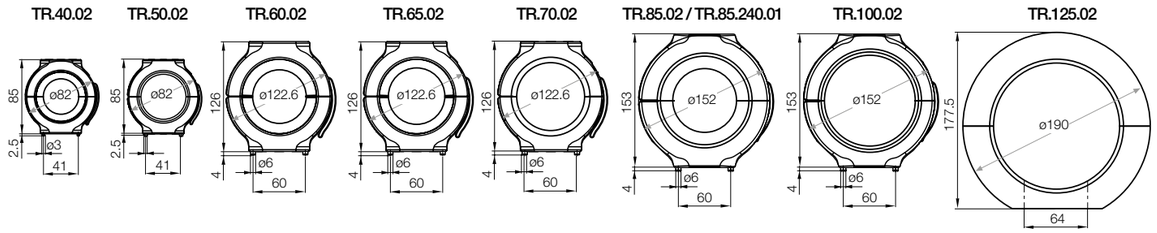
Ø Index		Part No. **without** strain relief or as intermediate bracket	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	F [mm]
30.	▶	Alternative: light mounting bracket	–	–	–	–	–	–
40.	▶	**TR.40.02**.M6 1)	–	21	13.5	27	84.5	6.5
50.	▶	**TR.50.02**.M6 1)	–	21	13.5	27	84.5	6.5
60.	▶	**TR.60.02**.M8 1))	–	32	20	40	126	9
65.	▶	**TR.65.02**.M8 1)	–	32	20	40	126	9
70.	▶	**TR.70.02**.M8 1)	–	32	20	40	126	9
85.	▶	**TR.85.02**.M8 1)	–	35	20	40	155	9
85. (*R 240*)	▶	**TR.85.240.02**.M8 1) 4)	–	35	20	40	155	9
100.	▶	**TR.100.02**.M8 1)	–	35	20	40	155	9
125.	▶	**TR.125.02**.M8 1)	–	40	–	64	190	9

Standard: through holes in Ø F - 1) option: with threaded bushings, steel, M6/M8

2) ⚠ Available as ESD version from stock

4) Only for special size TRCF.85.240.0 with 240 degree bend radius

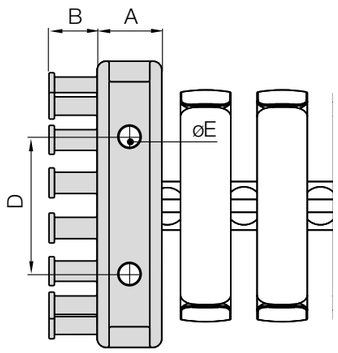
TR.40.02 TR.50.02 TR.60.02 TR.65.02 TR.70.02 TR.85.02 / TR.85.240.01 TR.100.02 TR.125.02



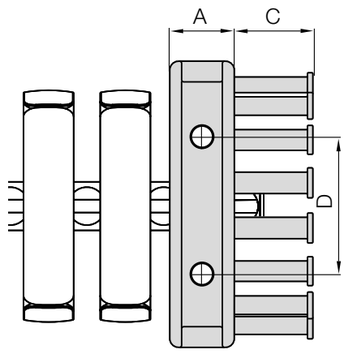
triflex® R | TRC·TRE·TRCF·TRL·TRLF | Accessories

Light mounting brackets | **With** strain relief

Short strain relief
TL.30.01.Z1 - TL.100.01.Z1



Long strain relief
TL.40.01.Z2 - TL.100.01.Z2





- Recommended for TRL/TRLF, also compatible with TRC/TRE/TRCF
- Light fixation onto the machine/robot, with strain relief
- Options with long or short strain relief

Light mounting brackets | With strain relief



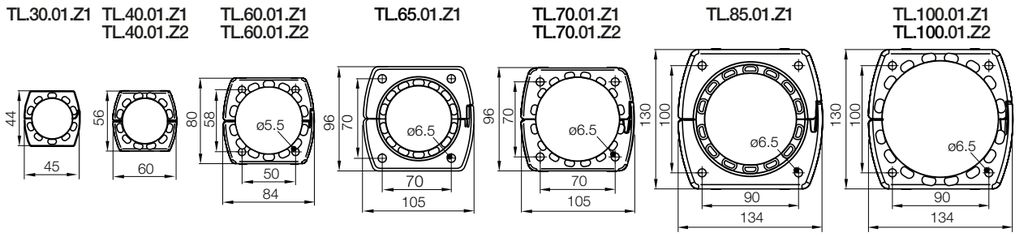
TL.30.01.Z1 - TL.100.01.Z1



TL.40.01.Z2 - TL.100.01.Z2

Ø Index		Part No. with **short** strain relief	Part No. with **long** strain relief	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]
30.	▶	**TL.30.01.Z1**	–	13	12.5	–	24	4.5
40.	▶	**TL.40.01.Z1** [1]	**TL.40.01.Z2**	14	12.5	20	36	5.8
50.	▶	Alternative: standard mounting bracket		–	–	–	–	–
60.	▶	**TL.60.01.Z1** [1]	**TL.60.01.Z2**	20	17	27	48	5.8
65.	▶	**TL.65.01.Z1** [1]	–	27	13.5	–	64	6.5
70.	▶	**TL.70.01.Z1** [1]	**TL.70.01.Z2**	27	17.5	27.5	64	6.5
85.	▶	**TL.85.01.Z1**	–	30	26.5	–	64	6.5
85. (*R 240*)	▶	Alternative: standard mounting bracket		–	–	–	–	–
100.	▶	**TL.100.01.Z1** [1]	**TL.100.01.Z2**	30	22.5	42.5	64	6.5
125.	▶	Alternative: standard mounting bracket		–	–	–	–	–

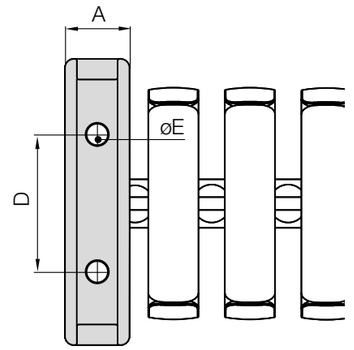
1) For moving end (ball) suitable only for series TRL/TRLF



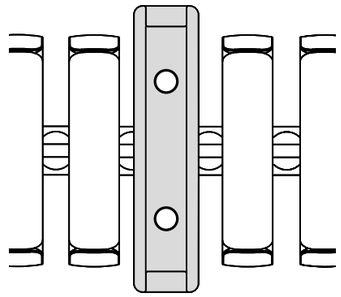
triflex® R | TRC·TRE·TRCF·TRL·TRLF | Accessories

Light mounting brackets | **Without** strain relief

Without strain relief
TL.30.01.Z0 - TL.100.01.Z0



Intermediate bracket
TL.30.01.Z0 - TL.100.01.Z0





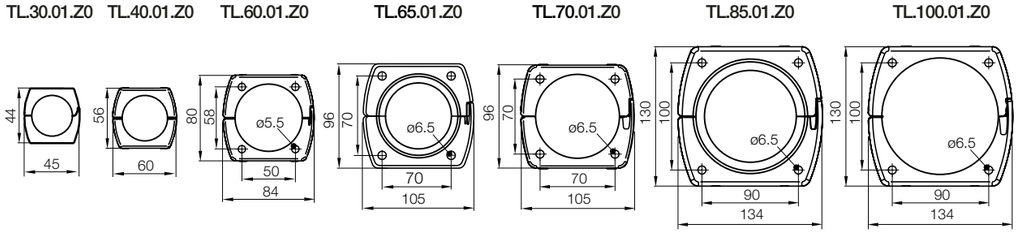
- Recommended for TRL/TRLF, also compatible with TRC/TRE/TRCF
- Light fixation onto the machine/robot, without strain relief
- Can also serve as intermediate bracket

Light mounting brackets | Without strain relief



TL.30.01.Z0 - TL.100.01.Z0

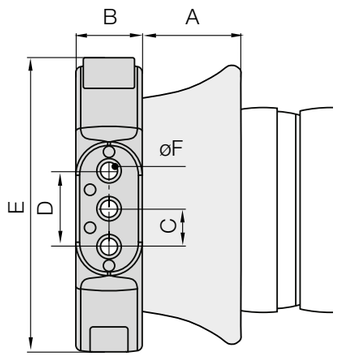
Ø Index		Part No. **without** strain relief or as intermediate bracket	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]
30.	▶	**TL.30.01.Z0**	13	–	–	24	4.5
40.	▶	**TL.40.01.Z0**	14	–	–	36	5.8
50.	▶	Alternative: standard mounting bracket	–	–	–	–	–
60.	▶	**TL.60.01.Z0**	20	–	–	48	5.8
65.	▶	**TL.65.01.Z0**	27	–	–	64	6.5
70.	▶	**TL.70.01.Z0**	27	–	–	64	6.5
85.	▶	**TL.85.01.Z0**	30	–	–	64	6.5
85. (*R 240*)	▶	Alternative: standard mounting bracket	–	–	–	–	–
100.	▶	**TL.100.01.Z0**	30	–	–	64	6.5
125.	▶	Alternative: standard mounting bracket	–	–	–	–	–



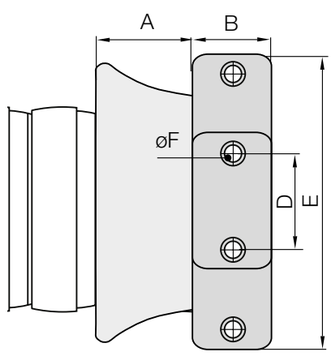
triflex® R | Series TRC·TRE·TRCF·TRL·TRLF | Accessories

Mounting brackets | With radius support

Mounting bracket with radius support, only for TR.40.09 - TR.100.09



Mounting bracket with radius support, only for TR.125.09





- The triflex® R radius support for triflex® R energy supply at the most highly stressed points (axis 6)
- Provides higher operational reliability for robotic applications

Mounting brackets | With radius support | For TRC·TRE·TRCF·TRL·TRLF



TR.40.09 - TR.100.09



TR.125.09

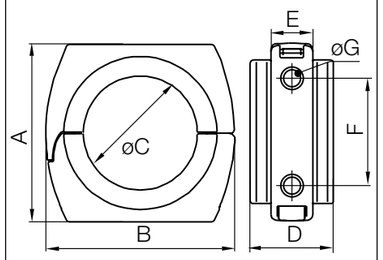
Ø Index		Part No. with radius support	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	F [mm]
30.	▶	–	–	–	–	–	–	–
40.	▶	**TR.40.09**.M6 1)	28	21	13.5	27	84.5	6.5
50.	▶	**TR.50.09**.M6 1)	38	21	13.5	27	84.5	6.5
60.	▶	**TR.60.09**.M8 1)	38	32	20	40	126	9
65.	▶	**TR.65.09**.M8 1)	45	32	20	40	126	9
70.	▶	**TR.70.09**.M8 1)	43	32	20	40	126	9
85.	▶	**TR.85.09**.M8 1)	49	35	20	40	155	9
85. (*R 240*)	▶	–	–	–	–	–	–	–
100.	▶	**TR.100.09**.M8 1)	67	35	20	40	155	9
125.	▶	**TR.125.09**.M8 1)	72	40	–	64	190	9

Standard: through holes in Ø F - 1) option: with threaded bushings, steel, M6/M8

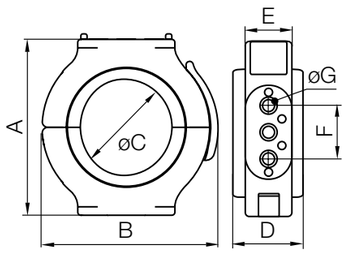
triflex® R | Series TRC·TRE·TRCF | Accessories

Gliding feed-throughs

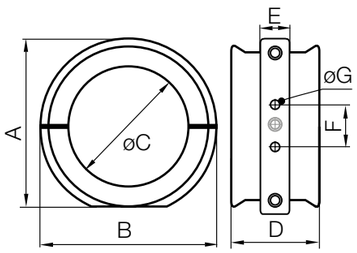
Gliding feed-through, only for TL.30.05



Gliding feed-through, only for TR.40.05 + TR.60-85.05



Gliding feed-through, only for TR.50.05 + TR.100.05-TR.125.05



- The gliding feed-through enables easy guidance of the e-chain® and can also be used as an additional guide
- Gliding feed-through with swivel bearing ▶ Page 892



Gliding feed-through | For TRC·TRE·TRCF



TL.30.05



TR.40.05 + TR.60-85.05



TR.50.05 + TR.100.05 - TR.125.05

Ø Index		Part No. gliding feed-through	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	F [mm]	G [mm]
30.	▶	**TL.30.05**	56	60	36	28	14	36	5.8
40.	▶	**TR.40.05**.M6 1)	85	84.5	46	32	21	27	6.5
50.	▶	**TR.50.05**.M6 1)	96	102	58	67	21	27	6.5
60.	▶	**TR.60.05**.M8 1)	126	126	70	50	32	40	9
65.	▶	**TR.65.05**.M8 1)	126	126	75	75	32	40	9
70.	▶	**TR.70.05**.M8 1)	153	155	86	70	35	40	9
85.	▶	**TR.85.05**.M8 1)	153	155	100	84	35	40	9
85. (*R 240*)	▶	**TR.85.05**.M8 1)	153	155	100	84	35	40	9
100.	▶	**TR.100.05**.M8 1) *	162.5	169.5	115	85	28	40	8.5
125.	▶	**TR.125.05**.M8 1)	179	190	142	84	40	64	9

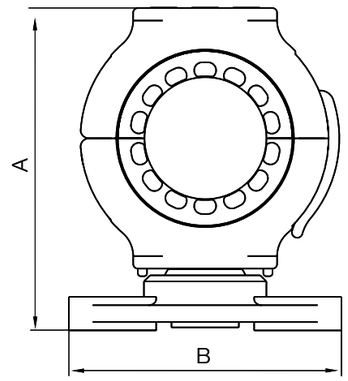
*TR.100.05 with 3 holes

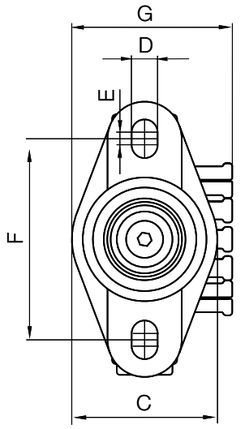
Standard: through holes in Ø G 1) Option: with insert nuts, steel, M6/M8

triflex® R | Series TRC·TRE·TRCF·TRL·TRLF | Accessories

Swivel bearing mounting brackets | **With** strain relief

With integrated strain relief tiewrap plates
TR.40.03 - TR.100.03







- Standard mounting bracket with strain relief and maintenance-free igubal® spherical bearing
- Pivoting mounting for extreme rotating and reverse bending movements
- For TRC·TRE·TRCF·TRL·TRLF

Swivel bearing-mounting brackets | With strain relief | For TRC·TRE·TRCF·TRL·TRLF



TR.40.03 - TR.100.03

Ø Index	Part No. **with** strain relief	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	F [mm]	G [mm]
30.	–	–	–	–	–	–	–	–
40.	**TR.40.03**	105	89	47	8.4	4.1	65	51.8
50.	**TR.50.03**	105	89	47	8.4	4.1	65	55
60.	**TR.60.03**	152	118	65	10.5	5.5	87.5	73.5
65.	TR.65.03 [5]	152	118	65	10.5	5.5	87.5	73.5
70.	**TR.70.03**	152	118	65	10.5	5.5	87.5	73.5
85.	**TR.85.03**	179	118	65	10.5	5.5	87.5	88
85. (*R 240*)	**TR.85.240.03** [4]	179	118	65	10.5	5.5	87.5	88
100.	**TR.100.03**	179	118	65	10.5	5.5	87.5	88
125.	–	–	–	–	–	–	–	–

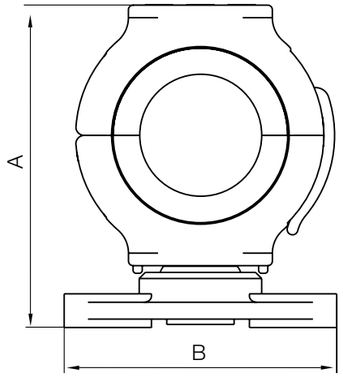
4) Only for special size TRCF.85.240.0 with 240 degree bend radius

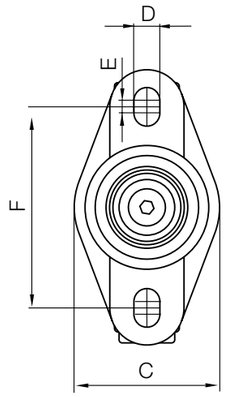
5) Available upon request. Please consult igus® for delivery time.

triflex® R | Series TRC·TRE·TRCF | Accessories

Swivel bearing-mounting bracket | **Without** strain relief

Without strain relief
TR.40.04 - TR.100.04







- Standard mounting bracket without strain relief and maintenance-free igubal® spherical bearing
- Pivoting mounting for extreme rotating and reverse bending movements
- For TRC·TRE·TRCF·TRL·TRLF

Swivel bearing mounting brackets | Without strain relief | For TRC·TRE·TRCF·TRL·TRLF



TR.40.04 - TR.100.04

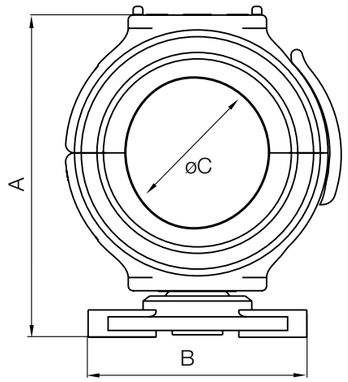
Ø Index	Part No. **without** strain relief	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	F [mm]	G [mm]
30.	–	–	–	–	–	–	–	–
40.	**TR.40.04**	105	89	47	8.4	4.1	65	–
50.	**TR.50.04**	105	89	47	8.4	4.1	65	–
60.	**TR.60.04**	152	118	65	10.5	5.5	87.5	–
65.	**TR.65.04**	152	118	65	10.5	5.5	87.5	–
70.	**TR.70.04**	152	118	65	10.5	5.5	87.5	–
85.	**TR.85.04**	179	118	65	10.5	5.5	87.5	–
85. (*R 240*)	**TR.85.240.04** [4]	179	118	65	10.5	5.5	87.5	–
100.	**TR.100.04**	179	118	65	10.5	5.5	87.5	–
125.	–	–	–	–	–	–	–	–

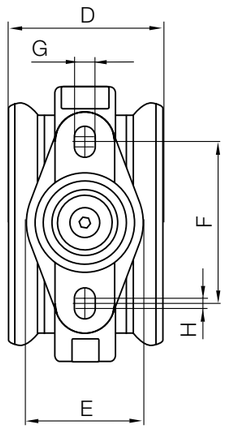
4) Only for special size TRCF.85.240.0 with 240 degree bend radius

triflex® R | Series TRC·TRE·TRCF | Accessories

Swivel bearing gliding feed-throughs

Swivel bearing gliding feed-throughs
TR.40.07 - TR.85.07







- Gliding feed-through with swivel bearing
- For TRC·TRE·TRCF e-chains®
- Pivoting mounting with maintenance-free igubal® spherical bearings

Swivel bearing gliding feed-throughs | For TRC·TRE·TRCF



TR.40.07 - TR.85.07

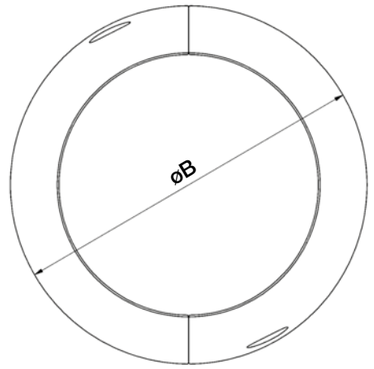
Ø Index	Part No. **with** swivel bearing	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	F [mm]	G [mm]
30.	–	–	–	–	–	–	–	–
40.	**TR.40.07**	108	89	46	32	47	65	8.4
50.	**TR.50.07**	119	89	58	67	47	65	8.4
60.	**TR.60.07**	156	118	70	50	65	87.5	10.5
65.	**TR.65.07**	156	118	75	75	65	87.5	10.5
70.	**TR.70.07**	183	118	86	70	65	87.5	10.5
85.	**TR.85.07**	183	118	100	84	65	87.5	10.5
85. (*R 240*)	**TR.85.07** 4)	183	118	100	84	65	87.5	10.5
100.	–	–	–	–	–	–	–	–
125.	–	–	–	–	–	–	–	–

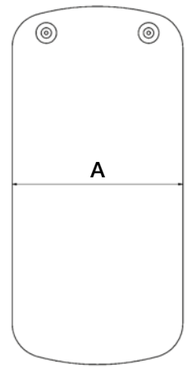
4) Only for special size TRCF.85.240.0 with 240 degree bend radius

triflex® R | Series TRC·TRE·TRCF | Accessories

Protectors

Protectors
TR.XX.10 / TR.XX.30







- Optional protectors can be fitted at contact points
- For extreme operations and long service life
- Easy gliding over edges
- Damping, light, freely positionable
- Easy to fit and quick replacement
- Protector with quick-release fastener also available

Protectors | For TRC·TRE·TRCF



TR.40.10 - TR.125.10



TR.40.30 - TR.100.30

Ø Index	Part No. with screw connection	Part No. with quick release	A [mm]	B [mm]
30.	–	–	–	–
40.	**TR.40.10**	**TR.40.30** 2)	27	55
50.	**TR.50.10**	TR.50.30 1)	34	69
60.	**TR.60.10**	**TR.60.30** 2)	40	80
65.	**TR.65.10**	TR.65.30 1)	44	88
70.	**TR.70.10**	**TR.70.30**	50	102
85.	**TR.85.10**	**TR.85.30**	59	118
85. (*R 240*)	**TR.85.240.10** 4)	TR.85.240.30 1) 4)	63	120
100.	**TR.100.10**	**TR.100.30**	67	133
125.	**TR.125.10**	–	82	170

1) Available upon request. Delivery time upon request

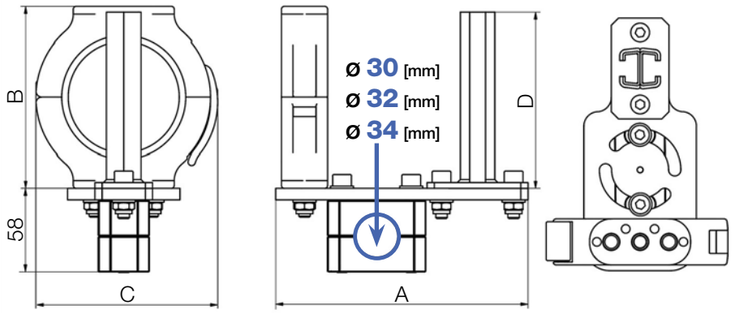
2) TR.40.30, TR.60.30 without an additional locking clip

4) Only for special size TRCF.85.240.0 with 240 degree bend radius

triflex® R | Series TRC·TRE·TRCF | Accessories

Heavy duty connections, for axis 6

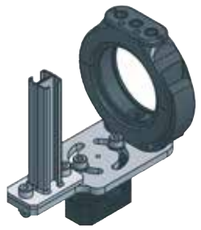
Heavy duty connection Standard
TR.60.20.XX - TR.125.20.XX





- Heavy duty connection - standard
- For cables with large cross section
- For heavy hydraulic hoses
- Double C-profile for CFX clamps
- igus® chainfix clamps must be ordered separately

Heavy duty connections | For TRC·TRE·TRCF



TR.60.20.XX - TR.125.20.XX

Ø Index		Part No. standard	Clamp ø [mm]	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]
30.	▶	–	–	–	–	–	–	–
40.	▶	–	–	–	–	–	–	–
50.	▶	–	–	–	–	–	–	–
60.	▶	**TR.60.20.**	| **30** | **32** | **34** |	175	126	126	122	–
65.	▶	**TR.65.20.**	| **30** | **32** | **34** |	175	126	126	122	–
70.	▶	**TR.70.20.**	| **30** | **32** | **34** |	175	126	126	122	–
85.	▶	**TR.85.20.**	| **30** | **32** | **34** |	175	153	155	149	–
85. (*R 240*)	▶	**TR.85.240.20.** [4]	| **30** | **32** | **34** |	175	153	155	149	–
100.	▶	**TR.100.20.**	| **30** | **32** | **34** |	175	153	155	149	–
125.	▶	**TR.125.20.**	| **30** | **32** | **34** |	180	190	190	175	–

Standard clamp for axis 6: ø 30mm

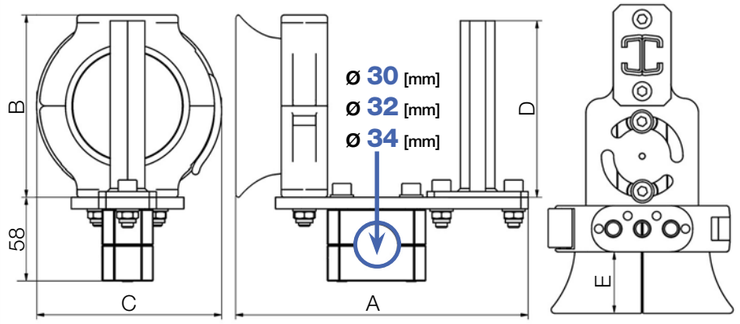
4) Only for special size TRCF.85.240.0 with 240 degree bend radius

Part No. with desired diameter for the axis 6 clamp | **30** | **32** | **34** | e.g. **TR.100.20.30**

triflex® R | Series TRC·TRE·TRCF | Accessories

Heavy duty connections for axis 6 | With radius support

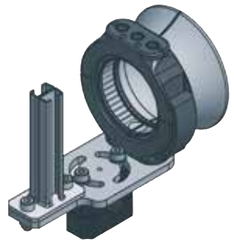
Heavy duty connection - with radius support
TR.60.23.XX - TR.125.23.XX





- With radius support
- For cables with large cross section
- For heavy hydraulic hoses
- Double C-profile for CFX clamps
- igus® chainfix clamps must be ordered separately

Heavy duty connections | With radius support | For TRC·TRE·TRCF



TR.60.23.XX - TR.125.23.XX

Ø Index		Part No. with radius support	Clamp ø [mm]	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]
30.	▶	–	–	–	–	–	–	–
40.	▶	–	–	–	–	–	–	–
50.	▶	–	–	–	–	–	–	–
60.	▶	**TR.60.23.**	| **30** | **32** | **34** |	209	126	130	122	38
65.	▶	**TR.65.23.**	| **30** | **32** | **34** |	214	126	130	122	45
70.	▶	**TR.70.23.**	| **30** | **32** | **34** |	214	126	130	122	43
85.	▶	**TR.85.23.**	| **30** | **32** | **34** |	222	155	155	149	49
85. (*R 240*)	▶	–	–	–	155	–	149	–
100.	▶	**TR.100.23.**	| **30** | **32** | **34** |	240	155	155	149	67
125.	▶	**TR.125.23.**	| **30** | **32** | **34** |	252	190	190	175	72

Standard clamp for axis 6: ø 30mm

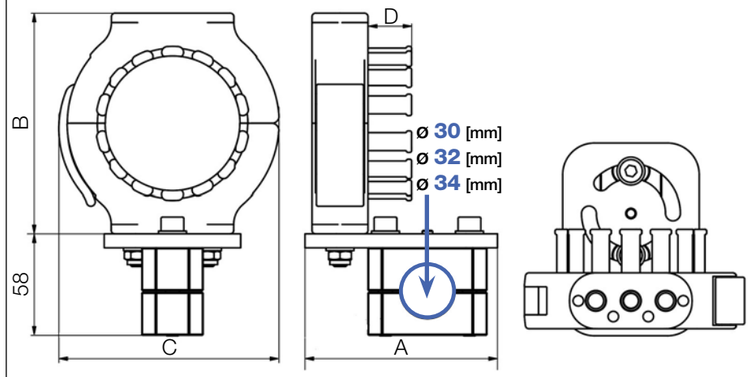
4) Only for special size TRCF.85.240.0 with 240 degree bend radius

Part No. with desired diameter for the axis 6 clamp | **30** | **32** | **34** | e.g. **TR.100.23.30**

triflex® R | Series TRC·TRE·TRCF | Accessories

Compact connections for clamp axis 6 | **With** strain relief

Compact connection **with** strain relief
TR.40.21.01.**XX** - TR.100.21.01.**XX**





- With integrated strain relief tiewrap plates
- Safe and simple securing of the cables with cable ties
- Various adjustment options

Compact connections | **With** strain relief | For TRC·TRE·TRCF



TR.40.21.01.XX - TR.100.21.01.XX

Ø Index		Part No. with strain relief	Clamp ø [mm]	A [mm]	B [mm]	C [mm]	D [mm]
30.	▶	–	–	–	–	–	–
40.	▶	**TR.40.21.01.**	| **30** | **32** | **34** |	110	85	84.5	17.8
50.	▶	**TR.50.21.01.**	| **30** | **32** | **34** |	110	85	84.5	21
60.	▶	**TR.60.21.01.**	| **30** | **32** | **34** |	110	126	126	25
65.	▶	TR.65.21.01.[5]	| **30** | **32** | **34** |	110	126	126	25
70.	▶	**TR.70.21.01.**	| **30** | **32** | **34** |	110	126	126	25
85.	▶	**TR.85.21.01.**	| **30** | **32** | **34** |	110	153	155	38
85. (*R 240*)	▶	**TR.85.240.21.01.**[4]	| **30** | **32** | **34** |	110	153	155	38
100.	▶	**TR.100.21.01.**	| **30** | **32** | **34** |	110	153	155	38
125.	▶	–	–	–	–	–	–

Standard clamp for axis 6: ø 30mm

4) Only for special size TRCF.85.240.0 with 240 degree bend radius

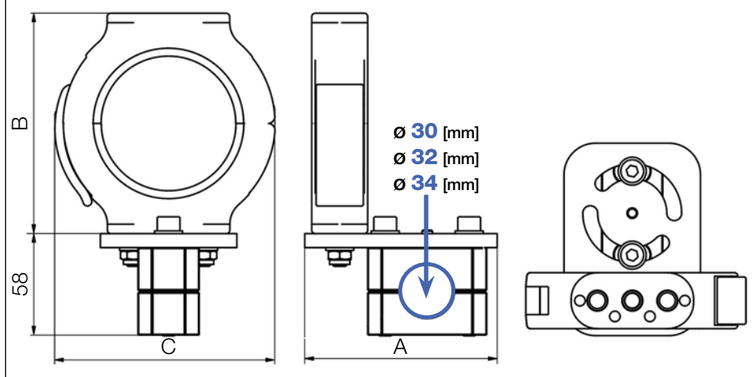
5) Available upon request. Please consult igus® for delivery time.

Part No. with desired diameter for the axis 6 clamp | **30** | **32** | **34** | e.g. **TR.100.21.30**

triflex® R | Series TRC·TRE·TRCF | Accessories

Compact connections for clamp axis 6 | **Without** strain relief

Compact connection **without** strain relief
TR.40.21.02.**XX** - TR.100.21.02.**XX**





- Without strain relief
- Space-saving
- Various adjustment options

Compact connections | **Without** strain relief | For TRC·TRE·TRCF



TR.40.21.02.XX - TR.100.21.02.XX

Ø Index		Part No. without strain relief	Clamp ø [mm]	A [mm]	B [mm]	C [mm]	D [mm]
30.	▶	–	–	–	–	–	–
40.	▶	**TR.40.21.02.**	| **30** | **32** | **34** |	110	85	84.5	–
50.	▶	**TR.50.21.02.**	| **30** | **32** | **34** |	110	85	84.5	–
60.	▶	**TR.60.21.02.**	| **30** | **32** | **34** |	110	126	126	–
65.	▶	**TR.65.21.02.**	| **30** | **32** | **34** |	110	126	126	–
70.	▶	**TR.70.21.02.**	| **30** | **32** | **34** |	110	126	126	–
85.	▶	**TR.85.21.02.**	| **30** | **32** | **34** |	110	153	155	–
85. (*R 240*)	▶	**TR.85.240.21.02.**[4]	| **30** | **32** | **34** |	110	153	155	–
100.	▶	**TR.100.21.02.**	| **30** | **32** | **34** |	110	153	155	–
125.	▶	–	–	–	–	–	–

Standard clamp for axis 6: ø 30mm

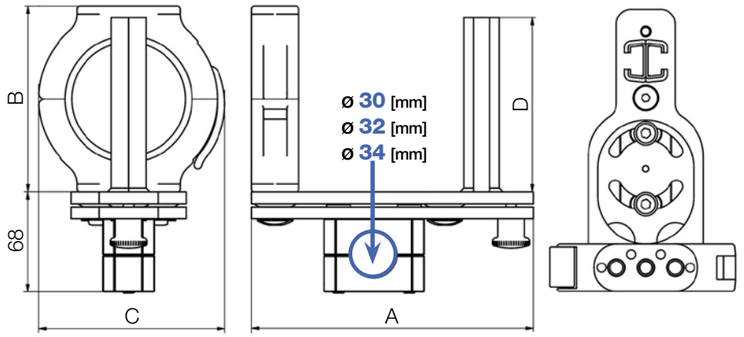
4) Only for special size TRCF.85.240.0 with 240 degree bend radius

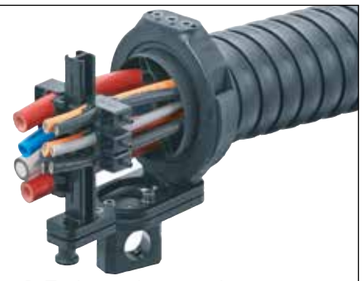
Part No. with desired diameter for the axis 6 clamp | **30** | **32** | **34** | e.g. **TR.100.21.02.30**

triflex® R | Series TRC·TRE·TRCF | Accessories

Quick exchange kit for clamp axis 6

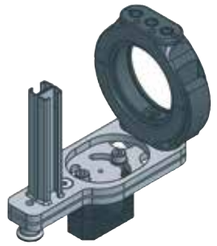
Quick exchange kit
TR.60.22.**XX** - TR.100.22.**XX**





- Exchange in seconds
- No repeat alignment required
- Exchange the triflex® R unit incl. cables without tools
- Option available with strain relief

Quick exchange kit | For TRC·TRE·TRCF



TR.60.22.XX - TR.100.22.XX

Ø Index	Part No. quick-change unit	Clamp ø [mm]	A [mm]	B [mm]	C [mm]	D [mm]
30.	–	–	–	–	–	–
40.	–	–	–	–	–	–
50.	–	–	–	–	–	–
60.	**TR.60.22.**	| **30** | **32** | **34** |	191	126	126	126
65.	**TR.65.22.**	| **30** | **32** | **34** |	191	126	126	126
70.	**TR.70.22.**	| **30** | **32** | **34** |	191	126	126	126
85.	**TR.85.22.**	| **30** | **32** | **34** |	191	153	155	153
85. (*R 240*)	**TR.85.240.22.** 4)	| **30** | **32** | **34** |	191	153	155	153
100.	**TR.100.22.**	| **30** | **32** | **34** |	191	153	155	153
125.	–	–	–	–	–	–

Standard clamp for axis 6: ø 30mm

4) Only for special size TRCF.85.240.0 with 240 degree bend radius

Part No. with desired diameter for the axis 6 clamp | **30** | **32** | **34** | e.g. **TR.100.22.30**

triflex® R | Clamps | Accessories

chainfix clamps

chainfix | Single clamp incl. bottom saddles

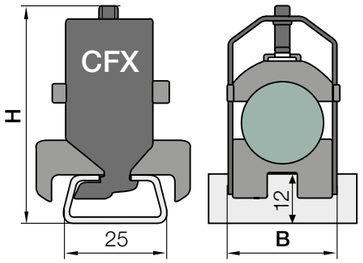


- For use with heavy-duty connection **TR.XX.20** / **TR.XX.23** and quick release unit **TR.XX.22**
- Reliably absorbs tensile forces even for larger cable diameters
- Specifically recommended for solid welding cables and rigid hydraulic hoses
- Space- and time-saving assembly onto the C-profile
- Simple assembly with hex head set screw
- High strength for dynamic applications with improved stacker elements
- Built-in ribs on the stacker elements give secure grip on the cables
- Steel (material galvanised steel) or stainless steel (material 1.4301/AISI 304) available

Part No. steel	Part No. stainless steel*	≤ Ø [mm]	B+2 [mm]	H [mm]
CFX12.1	CFX12.1.E	06 - 12	16	54
CFX14.1	CFX14.1.E	12 - 14	18	50
CFX16.1	CFX16.1.E	14 - 16	20	52
CFX18.1	CFX18.1.E	16 - 18	22	54
CFX20.1	CFX20.1.E	18 - 20	24	56

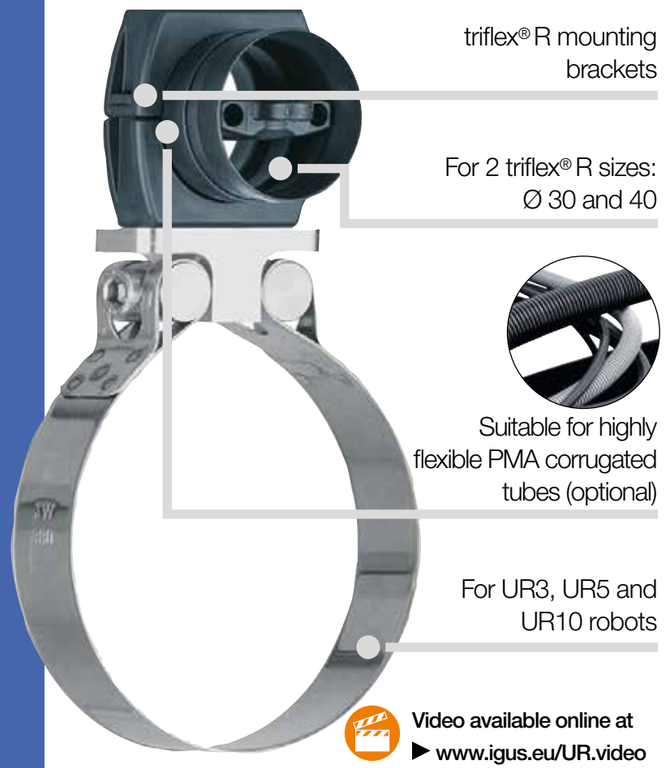
Part No. steel	Part No. stainless steel*	≤ Ø [mm]	B+2 [mm]	H [mm]
CFX22.1	CFX22.1.E	20 - 22	26	58
CFX26.1	CFX26.1.E	22 - 26	30	67
CFX30.1	CFX30.1.E	26 - 30	34	71
CFX34.1	CFX34.1.E	30 - 34	38	75

*Stainless steel material: 1.4301/AISI 304





Individual strain relief for every cable offers security and easy replacement



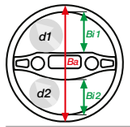
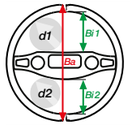
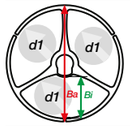
Video available online at
▶ www.igus.eu/UR.video

Mounting brackets for "Universal Robots" - UR brackets

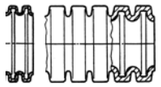
The "Universal Robots" company makes easy-to-use, lightweight robot systems. The triflex® R 30 and 40 sizes are a perfect fit for the UR3, UR5 and UR10 robot systems, both technically and visually. Connecting the system is quick and easy when using the UR brackets.

- Safe cable guidance with triflex® R for "universal robots"
- Easy connection with screw clips
- For UR3, UR5 and UR10 robots
- For TRC,TRE, TRL: Ø 30 and 40mm
- Suitable for PMA corrugated tube I-PIST-29B (optional)

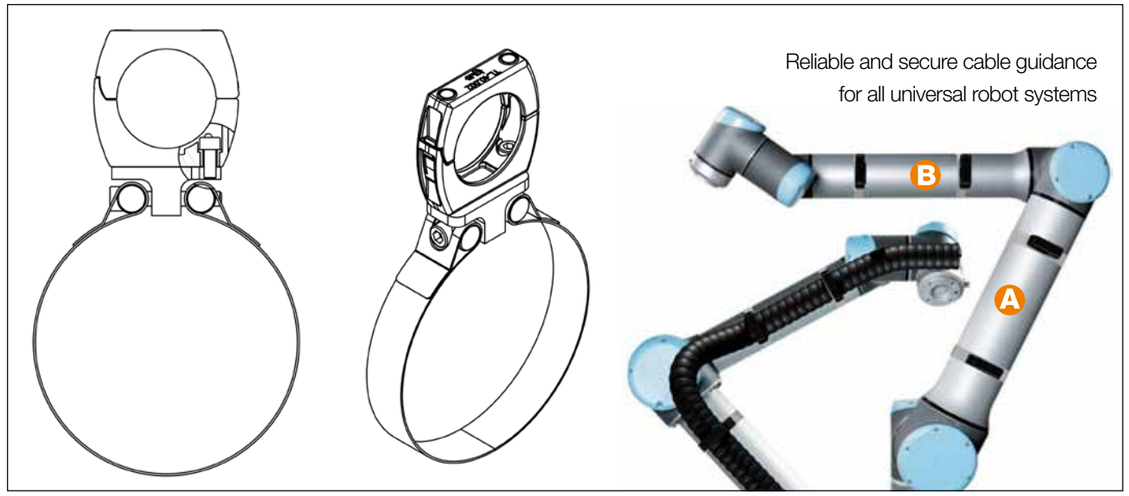
Overview triflex® R e-chains® | For TRC·TRE·TRL

Principle sketch	Part No. series	*Bi1* [mm]	*Bi2* [mm]	*Ba* [mm]	*R* [mm]	*d1* [mm]	*d2* [mm]	Pitch [mm]	Links per m
	Series TRC - enclosed design								
	TRC.30.050.0	12	10	34.5	050	10	8	11.3	89
	TRC.40.058.0	15	13	43	058	13	11	13.9	72
	Series TRE - "easy" design								
	TRE.30.050.0	12	10	34.5	050	10	8	11.3	89
	TRE.40.058.0.B	15	13	43	058	13	11	13.9	72
	Series TRL - light version of the "easy" design								
	TRL.30.050.0	12.5	11	34.5	050	10	8	11.3	89
	TRL.40.058.0	15	–	45	058	13	–	13.9	72

PMA hoses overview | For PMAFLEX corrugated tubes

Principle sketch	Part No. series	Corrugated tube nominal width	Metric size [mm]	Inner Ø *d1* [mm]	Outer Ø *d2* [mm]	Static *R* [mm]*	Dynamic *R* [mm]**	VE [mm]
	I-PIST-29B	29	32	29.0	34.3	45	110	50

*Static *R* = minimum recommended bend radius for static (fixed) installation **Dynamic *R* = minimum recommended bend radius for dynamic (flexible) laying



Product range | Suitable for TRC.30 · TRE.30 · TRL.30 e-chains®

Part No. **without** strain relief	Part No. **with** strain relief	For UR-robot system	Ø [mm]	Position
TR.911.965.054.Z0	TR.911.965.054.Z1	UR3	054	B
TR.911.965.066.Z0	TR.911.965.066.Z1	UR3	066	A
TR.911.965.075.Z0	TR.911.965.075.Z1	UR5	075	B
TR.911.965.086.Z0	TR.911.965.086.Z1	UR5	086	A
TR.911.965.086.Z0	TR.911.965.086.Z1	UR10	086	B
TR.911.965.086.Z0	TR.911.965.086.Z1	UR5	086	A
TR.911.965.086.Z0	TR.911.965.086.Z1	UR10	086	B
TR.911.965.108.Z0	TR.911.965.108.Z1	UR10	108	A

Product range | Suitable for TRC.40 · TRE.40 · TRL.40 e-chains®

Part No. **without** strain relief	Part No. **with** strain relief	For UR-robot system	Ø [mm]	Position
TR.911.966.054.Z0	TR.911.966.054.Z1	UR3	054	B
TR.911.966.066.Z0	TR.911.966.066.Z1	UR3	066	A
TR.911.966.075.Z0	TR.911.966.075.Z1	UR5	075	B
TR.911.966.086.Z0	TR.911.966.086.Z1	UR5	086	A
TR.911.966.086.Z0	TR.911.966.086.Z1	UR10	086	B
TR.911.966.108.Z0	TR.911.966.108.Z1	UR10	108	A

Product range | Suitable for PMA hose I-PIST-29B (optional)

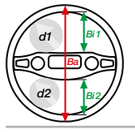
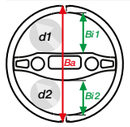
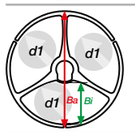
For PMA hose I-PIST-29B	Part No. **without** strain relief	For UR-robot system	Ø [mm]	Position
	TR.914.836.054.Z0	UR3	054	B
	TR.914.836.066.Z0	UR3	066	A
	TR.914.836.075.Z0	UR5	075	B
	TR.914.836.086.Z0	UR5	086	A
	TR.914.836.086.Z0	UR10	086	B
	TR.914.836.108.Z0	UR10	108	A

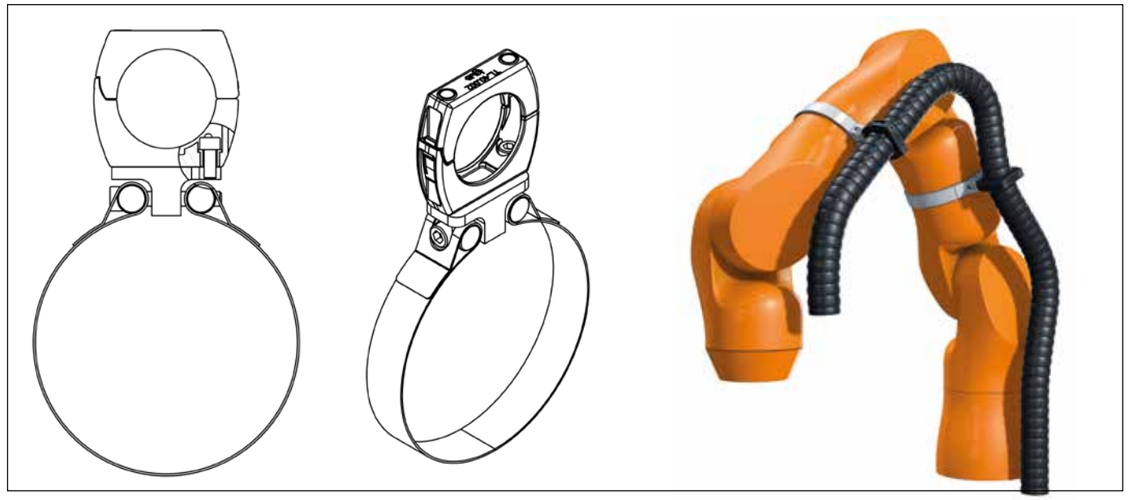


Mounting brackets for KUKA LBR iiwa

- Safe cable guidance with triflex® R for KUKA LBR iiwa robots
- For KUKA LBR iiwa 14 R820 and KUKA LBR iiwa 7 R800
- Easy connection with screw clips
- For 2 triflex® R sizes: Ø 30 and 40
- For TRC, TRE and TRL e-chains®

Overview triflex® R e-chains® | For TRC·TRE·TRL

Principle sketch	Part No. series	*Bi1* [mm]	*Bi2* [mm]	*Ba* [mm]	*R* [mm]	*d1* [mm]	*d2* [mm]	Pitch [mm]	Links per m
	Series TRC - enclosed design								
	TRC.30.050.0	12	10	34.5	050	10	8	11.3	89
	TRC.40.058.0	15	13	43	058	13	11	13.9	72
	Series TRE - "easy" design								
	TRE.30.050.0	12	10	34.5	050	10	8	11.3	89
	TRE.40.058.0.B	15	13	43	058	13	11	13.9	72
	Series TRL - light version of the "easy" design								
	TRL.30.050.0	12.5	11	34.5	050	10	8	11.3	89
	TRL.40.058.0	15	–	45	058	13	–	13.9	72



Product range | Suitable for TRC.30 · TRE.30 · TRL.30 e-chains®

Part No. **without** strain relief	Part No. **with** strain relief	For KUKA LBR iiwa	Ø [mm]
TR.914.951.Z0	TR.914.951.Z1	LBR iiwa 14 R820 LBR iiwa 7 R800	136

Product range | Suitable for TRC.40 · TRE.40 · TRL.40 e-chains®

Part No. **without** strain relief	Part No. **with** strain relief	For KUKA LBR iiwa	Ø [mm]
TR.914.952.Z0	TR.914.952.Z1	LBR iiwa 14 R820 LBR iiwa 7 R800	136

triflex® R | Series TRC·TRE·TRCF·TRL·TRLF | Accessories

Protective jackets

Standard protective jacket



● Base support: fabric ● Plastic coated ● Easy to replace with Velcro fastenings ● Elastic sealing strips ● Standard lengths available from stock ● For paint or sealing applications ● PVC material ● Polyester coated fabrics

Ø Index	Part No. jacket	Standard lengths[2] XXXX [mm]
30. ▶	–	–
40. ▶	**TR.40.14.**	| 500 | 1000 | 1500 | 2000 |
50. ▶	TR.50.14.[1]	| 500 | 1000 | 1500 | 2000 |
60. ▶	**TR.60.14.**	| 500 | 1000 | 1500 | 2000 |
65. ▶	TR.65.14.[1]	| 500 | 1000 | 1500 | 2000 |
70. ▶	**TR.70.14.**	| 500 | 1000 | 1500 | 2000 |
85. ▶	**TR.85.14.**	| 500 | 1000 | 1500 | 2000 |
100. ▶	**TR.100.14.**	| 500 | 1000 | 1500 | 2000 |
125. ▶	**TR.125.14.**	| 500 | 1000 | 1500 | 2000 |

1) Available upon request 2) Special lengths upon request

Part No. with the desired standard value for the length **XXXX**
Example: **TR.60.14.500**

Heat shield protective jacket



● Made from heat-resistant, wear-resistant Kevlar ● Short-term protection against welding and metal spatter, temperatures up to +540°C ● High abrasion resistance ● Sealed design ● For tough environments ● Easy to replace or retrofit with zipper closure ● Velcro straps at each end ● Tough design ● Silicone-free ● Asbestos-free ● Standard lengths from stock

Ø Index	Part No. jacket	Standard lengths[2] XXXX [mm]
30. ▶	–	–
40. ▶	**TR.40.18.**	| 500 | 1000 | 1500 | 2000 |
50. ▶	TR.50.18.[1]	| 500 | 1000 | 1500 | 2000 |
60. ▶	**TR.60.18.**	| 500 | 1000 | 1500 | 2000 |
65. ▶	TR.65.18.[1]	| 500 | 1000 | 1500 | 2000 |
70. ▶	**TR.70.18.**	| 500 | 1000 | 1500 | 2000 |
85. ▶	**TR.85.18.**	| 500 | 1000 | 1500 | 2000 |
100. ▶	**TR.100.18.**	| 500 | 1000 | 1500 | 2000 |
125. ▶	**TR.125.18.**	| 500 | 1000 | 1500 | 2000 |

1) Available upon request 2) Special lengths upon request

Part No. with the desired standard value for the length **XXXX**
Example: **TR.60.18.500**

Wear resistant protective jacket



● Extremely high abrasion resistance ● Black leather ● For use in temperatures from -40°C to +100°C ● Very flexible ● Easy to exchange or retrofit ● Silicone-free ● Asbestos-free ● Standard lengths from stock

Ø Index	Part No. jacket	Standard lengths[2] XXXX [mm]
30. ▶	–	–
40. ▶	**TR.40.19.**	| 500 | 1000 | 1500 | 2000 |
50. ▶	TR.50.19.[1]	| 500 | 1000 | 1500 | 2000 |
60. ▶	**TR.60.19.**	| 500 | 1000 | 1500 | 2000 |
65. ▶	TR.65.19.[1]	| 500 | 1000 | 1500 | 2000 |
70. ▶	**TR.70.19.**	| 500 | 1000 | 1500 | 2000 |
85. ▶	**TR.85.19.**	| 500 | 1000 | 1500 | 2000 |
100. ▶	**TR.100.19.**	| 500 | 1000 | 1500 | 2000 |
125. ▶	**TR.125.19.**	| 500 | 1000 | 1500 | 2000 |

1) Available upon request 2) Special lengths upon request

Part No. with the desired standard value for the length **XXXX**
Example: **TR.60.19.500**

triflex® R | Filling

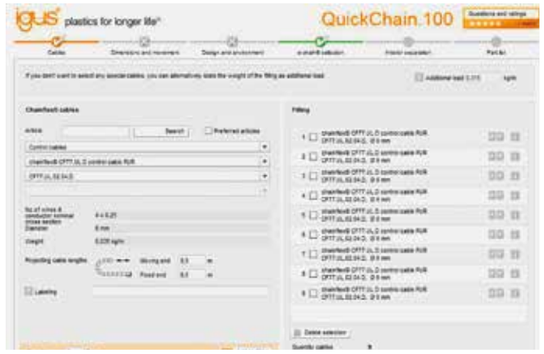
interior separation configurator

triflex® R interior separation - configure e-chains® easily

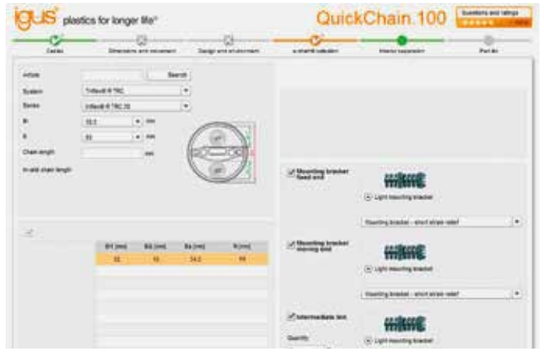
Quick and easy creation of interior separation layouts for triflex® R. After selecting the cables, they can be dragged & dropped into the e-chain® layout. The interior separation configurator creates a parts list of the e-chain® and the cables contained in the configuration. The configurations can be saved and reloaded. The entire configuration can be transferred to the shopping cart with a click.

● Quick and easy interior separation configurator
● Accounts for maximum filling rules for cables and hoses
● Creation of parts lists
● Easy enquiry and ordering

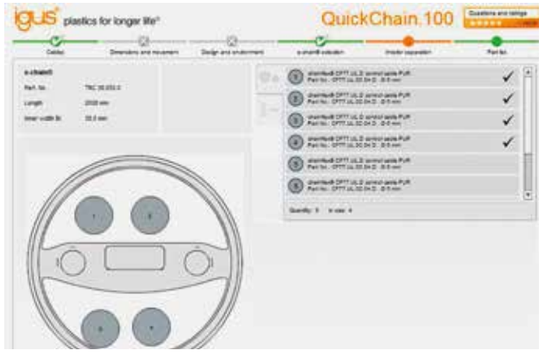
More information and interior separation configurator
▶ www.igus.eu/triflexR-IA



1. Select cables, hoses and lengths



2. Select e-chain® and size



3. Fill the e-chain® with cables and hoses



4. Result: parts list, price and drawings

triflex® R - readychain® dress-packs

Customised system consisting of the triflex® R, chainflex® and connectors

● Eliminate storage costs for cables, e-chains® and plugs
● Shorten turnaround times by half,minimise your machine downtime
● Reduce the number of suppliers and orders by 75%

More information ▶ www.readychain.eu



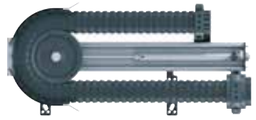
triflex® R | Retraction system | TRC·TRE·TRCF | Accessories

For supplying energy to articulated robots | Overview

triflex® R retraction systems - prevent loop formation on robots

The global growth in automation for industrial production is leading to more and more complex robotic applications. Target cycle times are getting shorter and downtime must also be reduced. To provide reliable protection against premature system failure and downtime, we recommend the use of a triflex® R e-chain®, especially to bridge the last three axes on robots. The length change that results from the robot's movement is compensated by our triflex® R retraction systems. This constantly guides the igus® e-chain® in a controlled way to prevent the formation of loops in the robot's working area.

4 triflex® R retraction system types available from stock:



RSP
Pneumatic retraction system
▶ From page 908

Advantages of RSP:
- For series TRC·TRE·TRCF with a ø-index of 60-125mm
- For robots with a load capacity from approx. 50 kg
- Up to 780mm retraction length possible
- For applications with a high fill weight
- For a sensor-based monitoring
- Constant force over the complete travel
- Standard pneumatic components



RS
Modular retraction system
▶ From page 914

Advantages of RS:
- For series TRC·TRE with ø-index 40-100mm
- For robots with a load capacity from approx. 10 kg
- Up to 670 mm retraction length possible
- If a linear guide system is not needed
- For use with adverse environmental influences
- Retraction force provided by integrated fibre-rods



RSE linear
Cost-effective retraction system, linear
▶ From page 920

Advantages of RSE linear:
- For series TRC·TRE·TRCF* with ø-index 40-125mm
- Special linear guide avoids small bend radii
- Up to 490mm retraction length possible
- Simple, linear retraction without loops, fibre-rods or guide rollers
- Cost-effective
- Maintenance-free igus® drylin® W linear unit

*TRCF not available for each width, see product range



RSE
Cost-effective retraction system with deflection
▶ From page 926

Advantages of RSE:
- For series TRC·TRE with ø-index 40-50mm
- For small robots, very light
- Up to 500mm retraction length possible
- For highly dynamic movements
- Cost-effective
- Maintenance-free igus® drylin® W linear unit

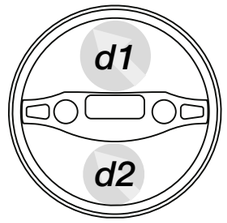
triflex® R | Retraction system | TRC·TRE·TRCF | Accessories

Selection tools

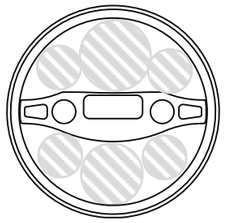
Choosing the right e-chain® size and retraction system

If you want to select a suitable retraction system yourself, please ensure that you observe the maximum cable diameter and usage data.

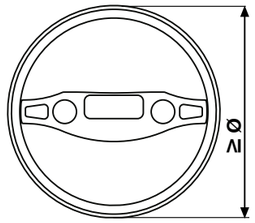
1 **The largest cable diameter ø ...**



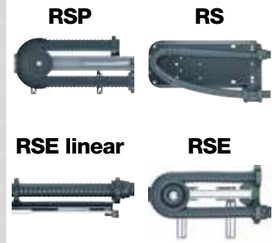
2 **... and max. usable e-chain® cross section area ...**



3 **... determine the necessary Ø index of the triflex® R ...**



4 **... select from 4 retraction systems options:**

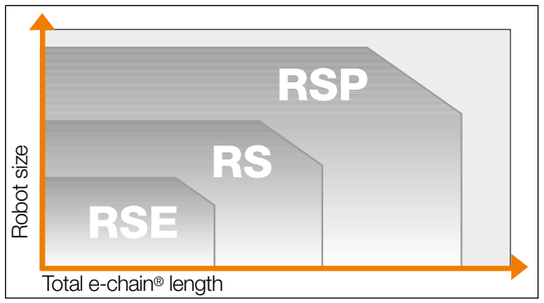


Max. cable Ø 1. chamber *d1* [mm]	Max. cable Ø 2. chamber *d2* [mm]	Coverage of the entire area [mm²]	Minimum Ø-index triflex® R	Retraction system RSP	RS	RSE linear	RSE
–	–	–	30.	–	–	–	–
< 15	< 13	< 500	40.	–	●	●	●
< 18.8	< 16.2	< 750	50.	–	–	●	●
< 22.5	< 19.5	< 1000	60.	●	●	●	–
–	–	–	65.	–	–	–	–
< 28	< 24	< 1750	70.	●	●	●	–
< 33	< 28	< 2500	85.	●	●	●	–
< 37.5	< 32.5	< 3000	100.	●	●	●	–
< 43	< 43	< 4500	125.	●	–	●	–

● = yes, it is possible – = it is not possible

Interior separation configurator - quick and easy creation of interior layouts for triflex® R.
More information ▶ www.igus.eu/triflexR-IA

Selection tool for triflex® R retraction systems

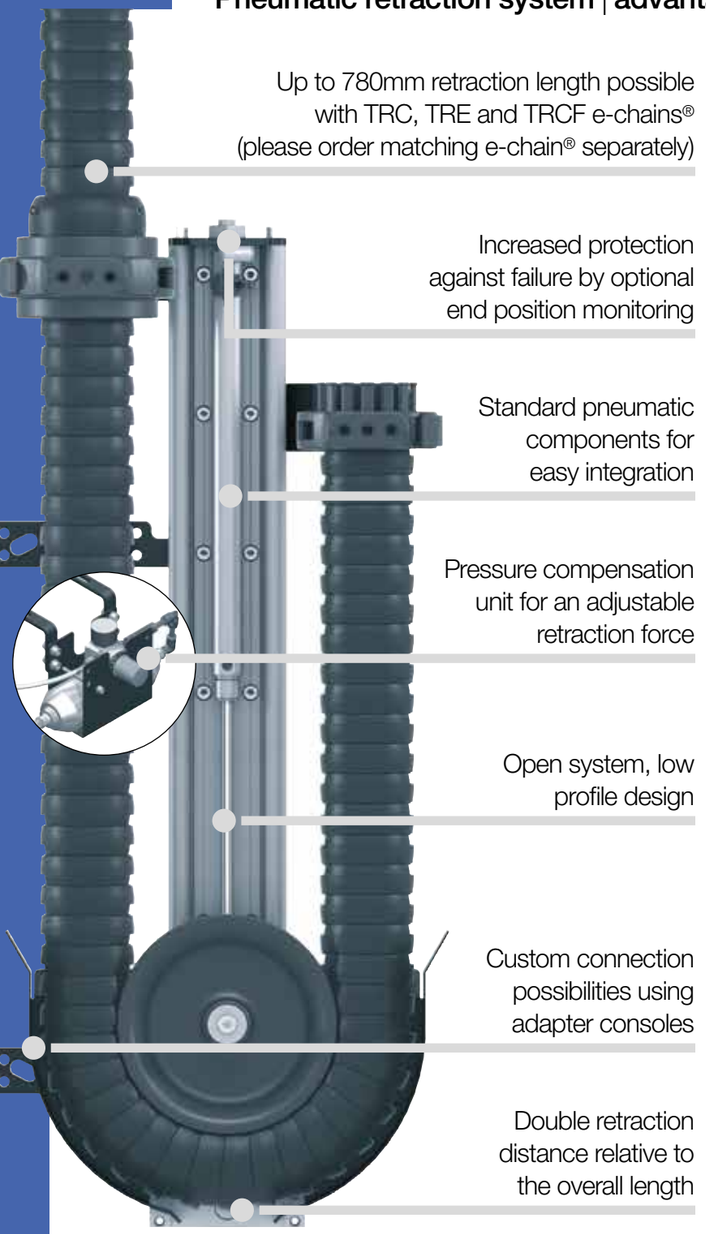


Possible Ø-index for triflex® R retraction systems

For series	RSP Ø Index	RS Ø Index	RSE linear Ø Index	RSE Ø Index
TRC	60 - 125	40 - 100	40 - 125	40 - 50
TRE	60 - 125	40 - 100	40 - 125	40 - 50
TRCF	65 - 100	–	65 - 100	–
TRL*	–	–	–	–
TRLF*	–	–	–	–

* Retraction systems not available for this series

Pneumatic retraction system | advantages



Pneumatic retraction system - triflex® RSP

triflex® RSP prevents loops on the robot head, with a continuously adjustable retraction force. Extension lengths of up to 780mm enable a secure guidance of the cables and hoses, even with large arm diameters and very complex movements. The retraction forces can be adjusted using a pneumatic cylinder. Whether light or heavy fill weights, long or short robot arms - with the igus® RSP retraction system the retraction force can be adjusted to the individual application.

- For axis 3-6 on industrial robots
- Larger retraction forces than RS system
- Even larger e-chains® up to Ø 125mm can be guided safely
- Almost constant force over the complete travel, even with heavy fill weights
- The end position can be monitored so damage can be prevented
- Mounting options for numerous robot models and manufacturers with adapter consoles
- Very low energy consumption with integrated air reservoir

Optional accessories | RSP pneumatic retraction system



Adjustment unit -
for accurate adjustment of the system position



Adapter consoles -
for custom mounting options

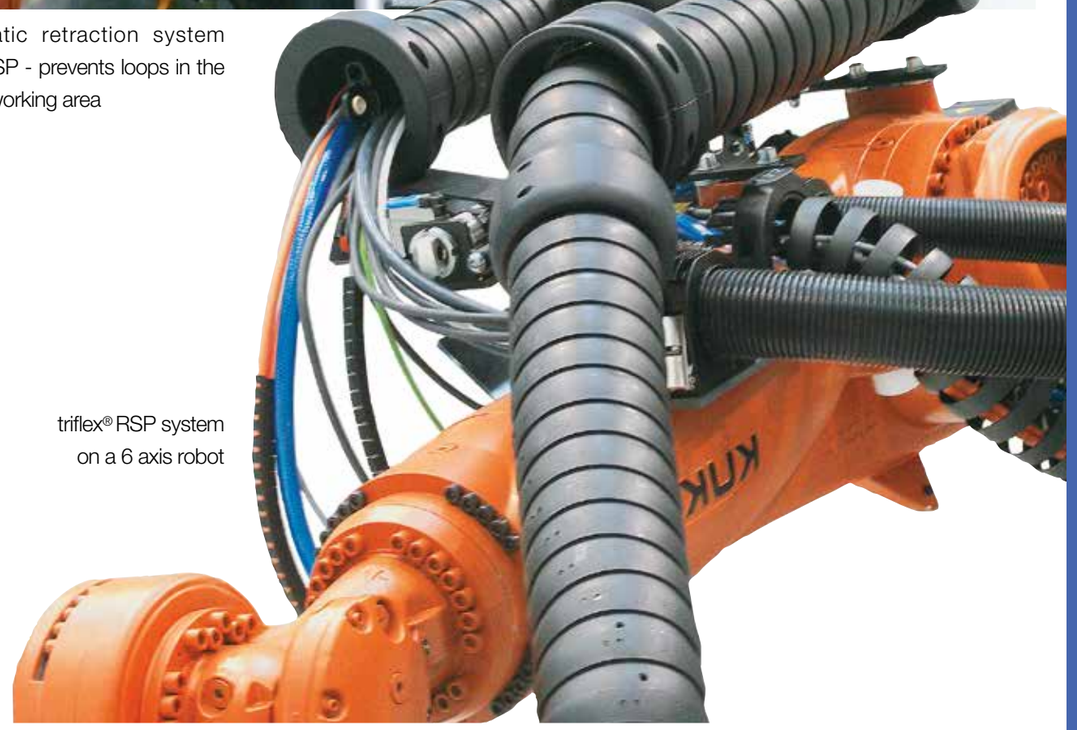


Axis 6 clamp -
for triflex®R mounting bracket

RSP - R(etraction) S(ystem) P(neumatic)



Pneumatic retraction system triflex® RSP - prevents loops in the robot's working area

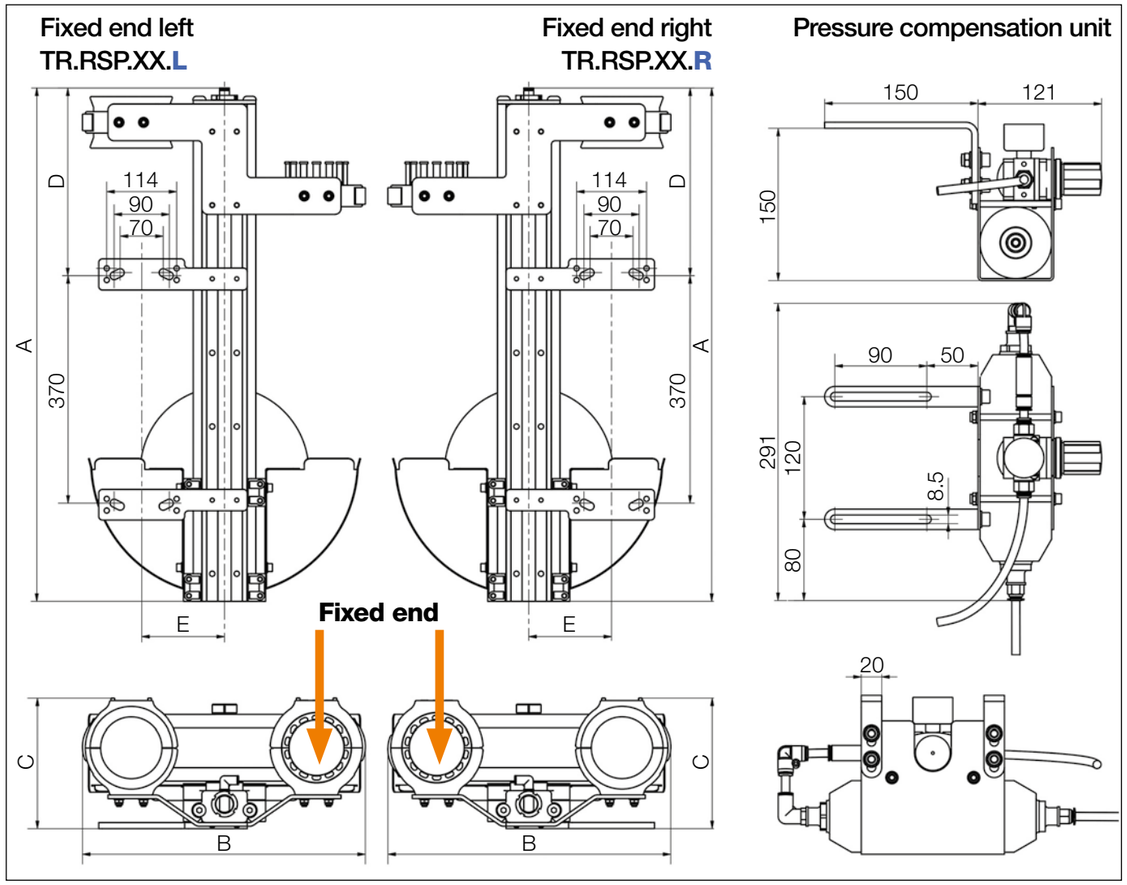


triflex® RSP system on a 6 axis robot

triflex® R | RSP | For series TRC·TRE·TRCF | Accessories

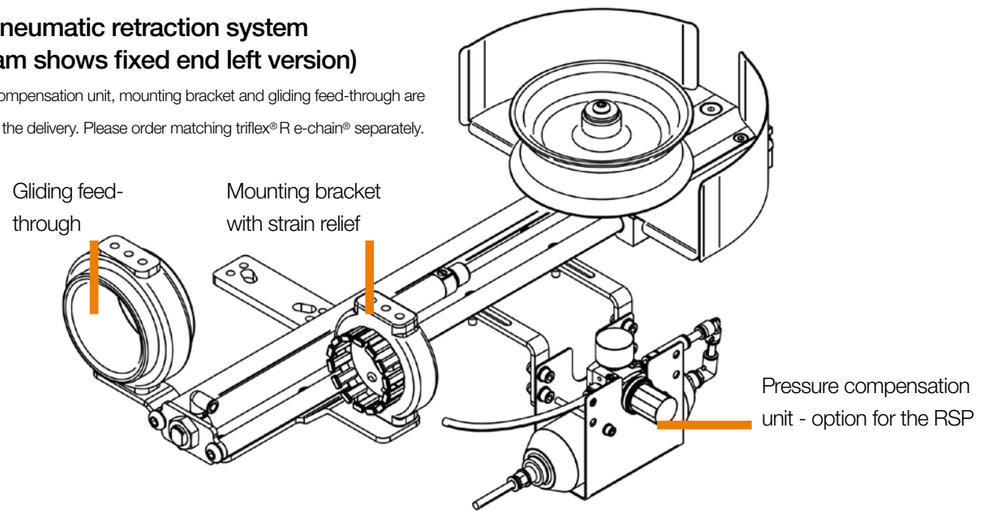
Technical data

Dimensions | RSP pneumatic retraction system



RSP pneumatic retraction system (diagram shows fixed end left version)

Pressure compensation unit, mounting bracket and gliding feed-through are included in the delivery. Please order matching triflex® R e-chain® separately.



triflex® R
RSP

triflex® R | RSP | For series TRC·TRE·TRCF | Accessories

Product range

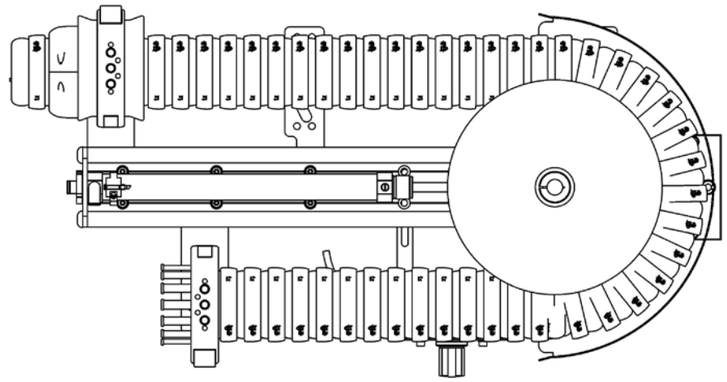
Product range | RSP pneumatic retraction system

Ø Index	Part No. fixed end **left**	Part No. fixed end **right**	Retraction length[1] ≤ [mm]	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	Weight* [kg]
30.	–	–	–	–	–	–	–	–	–
40.	–	–	–	–	–	–	–	–	–
50.	–	–	–	–	–	–	–	–	–
60.	**TR.RSP.60.L**	**TR.RSP.60.R**	580	792	396	177	277	135	16.1
65.	**TR.RSP.65.L**	**TR.RSP.65.R**	580	792	396	177	277	135	16.1
70.	**TR.RSP.70.L**	**TR.RSP.70.R**	580	792	396	177	277	135	16.2
85.	**TR.RSP.85.L**	**TR.RSP.85.R**	620	836	461	213	306	135	19.4
85. (*R 240*)	–	–	–	–	–	–	–	–	–
100.	**TR.RSP.100.L**	**TR.RSP.100.R**	620	845	467	213	306	135	19.5
125.	**TR.RSP.125.L**	**TR.RSP.125.R**	780	1043	570	245	405	135	24.1

Pressure compensation unit, mounting bracket and gliding feed-through are included in the delivery. Please order matching triflex® R e-chain® separately.

1) These are the maximum values. In normal operation a filling of no more than 70% is advised.

*Plus 2.3 kg for pressure compensation unit



Order key

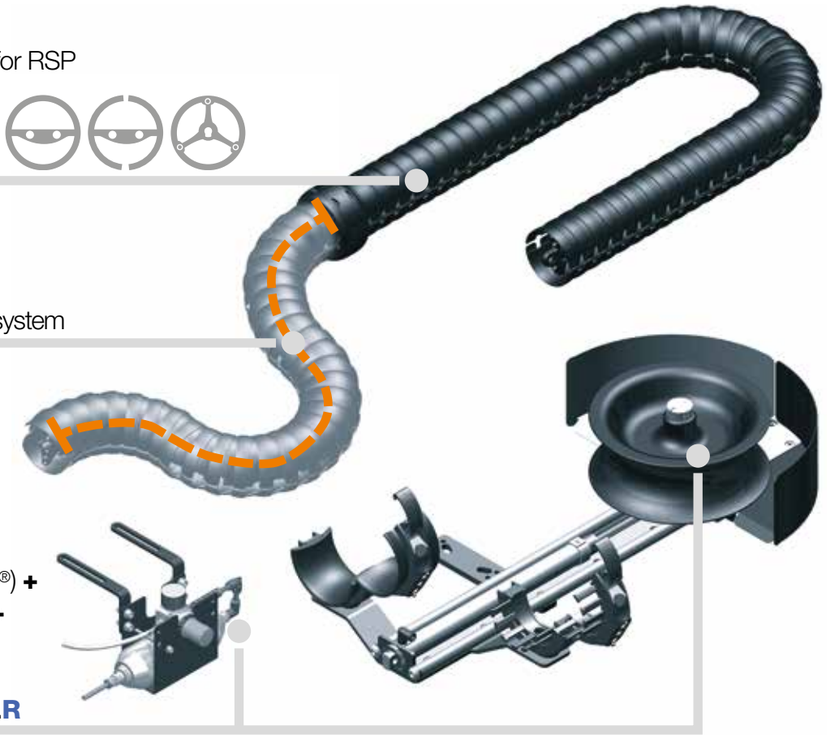
TR.RSP.XX.**L** / **R**

R = Fixed end right
L = Fixed end left
Ø Index
System
e-chains® series

triflex® R | RSP | For series TRC·TRE·TRCF | Accessories

RSP retraction system and matching e-chains®

System design | RSP and matching e-chains®



Matching triflex® R e-chains® for RSP
TRC .RSP.XX.*R*.LLLL.0
TRE .RSP.XX.*R*.LLLL.0.(B)
TRCF.RSP.XX.*R*.LLLL.0

Overall length =
additional length from the
gliding feed-through **LLLL** +
the e-chain® length within the system

RSP-System (without e-chain®) +
Pressure compensation unit +
Mounting bracket +
Gliding feed-through =
TR.RSP.XX.L or **TR.RSP.XX.R**

Sample order of a complete TR.RSP system, ø-Index 60, fixed end on the left, and e-chain® (standard length: 500mm)

System	Insert Ø index **XX** / select fixed end **.L / .R**	**TR.RSP.XX.L**
+ e-chain®	Insert ø-index **XX** / Insert bend radius ***R*** / Insert standard length **LLLL**	**TRC.RSP.XX.*R*.LLLL.0**
Order text:	**TR.RSP.60.L + TRC.RSP.60.087.0500.0**	



Order key e-chains®

TRC .RSP.XX.*R*.LLLL.0
TRE .RSP.XX.*R*.LLLL.0.B
TRCF.RSP.XX.*R*.LLLL.0

- Default colour black
- Additional length
- ***R*** Bend radius
- Ø Index
- System
- e-chains® series

Product range | Matching e-chains® for RSP

Ø Index	Part No. **TRC** enclosed	Part No. **TRE** "easy" design	Part No.**TRCF** with snap lock mechanism
30.	–	–	–
40.	–	–	–
50.	–	–	–
60.	TRC.RSP.60.087.LLLL.0	TRE.RSP.60.087.LLLL.0.B	–
65.	–	–	TRCF.RSP.65.100.LLLL.0
70.	TRC.RSP.70.110.LLLL.0	TRE.RSP.70.110.LLLL.0.B	–
85.	TRC.RSP.85.135.LLLL.0	TRE.RSP.85.135.LLLL.0.B	TRCF.RSP.85.135.LLLL.0
85. (*R 240*)	–	–	–
100.	TRC.RSP.100.145.LLLL.0	TRE.RSP.100.145.LLLL.0.B/C [1]	TRCF.RSP.100.145.LLLL.0
125.	TRC.RSP.125.182.LLLL.0	TRE.RSP.125.182.LLLL.0	–

1) Available for B- and C-versions

*Standard lengths from the gliding feed-through outside the system - special lengths upon request.

e-chains® standard lengths*

LLLL [mm] | **0500** | **1000** | **1500** | **2000** |

Part No. with **LLLL** standard length value (measured from the gliding feed-through) corresponds to the robot arm length from axis 3.
For example: **TRC.RSP.60.087.0500.0**

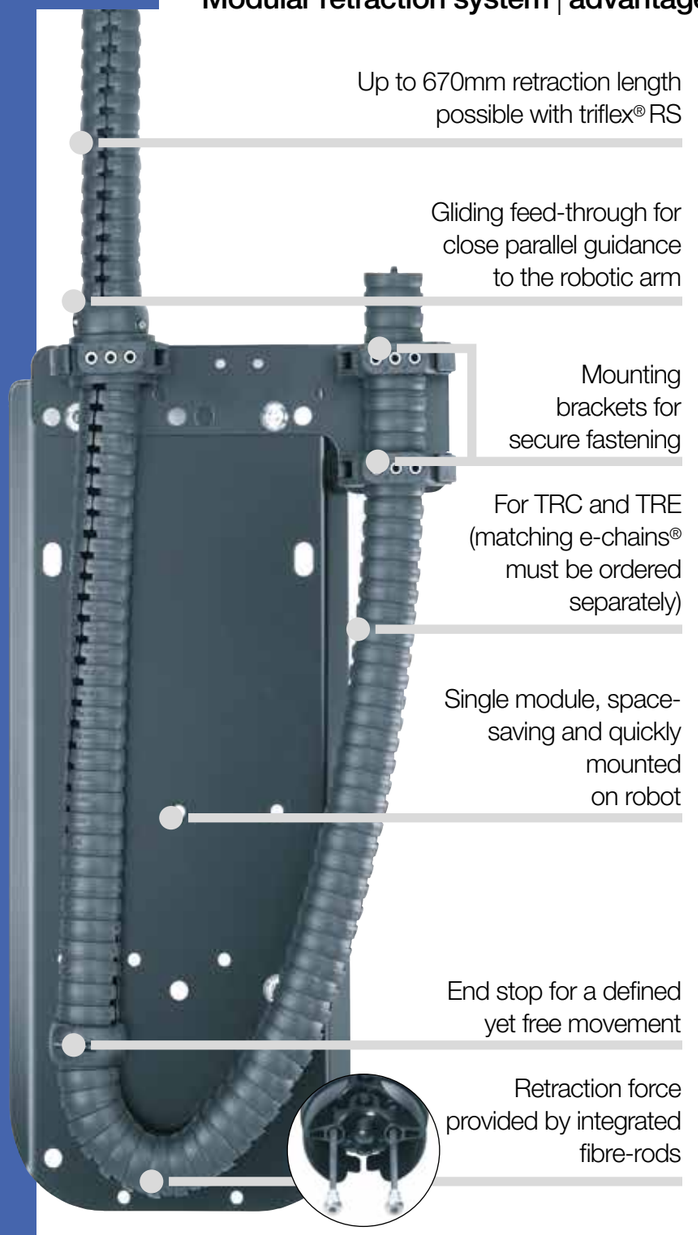
Calculating the overall chain length | RSP e-chains®

Ø Index	Bend radius ***R*** [mm]	e-chain® length* [mm]	Number of e-chains® links	Total e-chain® length [mm]
30.	–	–	–	–
40.	–	–	–	–
50.	–	–	–	–
60.	087	1489	73	**LLLL** + 1489
65.	100	1432	62	**LLLL** + 1432
70.	110	1484	58	**LLLL** + 1484
85.	135	1622	53	**LLLL** + 1622
85. (*R 240*)	–	–	–	–
100.	145	1656	48	**LLLL** + 1656
125.	182	1962	44	**LLLL** + 1962

*Values are related to the e-chain® length within the system

Please add the e-chain® length within the system to the standard length **LLLL** (measured from the gliding feed-through) to get the **overall chain length**

Modular retraction system | advantages



Modular retraction system - triflex® RS

triflex® RS is a retraction system for robots with medium to high payloads. With triflex® RS, the multi-axis triflex® R e-chain® is routed parallel to the robot arm. Integrated fibre rods produce a directed pretension, avoiding the formation of loops in the working area of the robot head. This also allows applications to be implemented in very limited space. triflex® RS offers the possibility to design the energy supply for tools without stressing the cables, thus minimising downtimes.

- Space-saving, closely routed on the robot arm
- A system solution proven and tested in thousands of applications
- Universal installation
- Integrated fibre-rods - no external mechanical components such as springs or steel cables required!

Optional accessories | RS modular retraction system



Cover -
for additional mounting space and extreme movements



Adjustment unit -
for accurate adjustment of the system position



Adapter consoles -
for custom mounting options

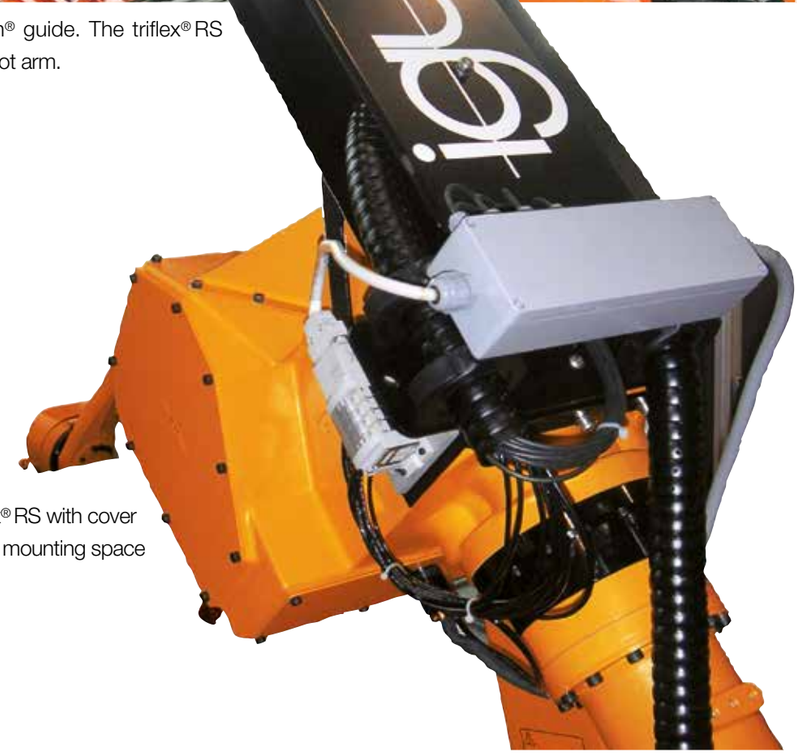


Axis 6 clamp -
for triflex® R mounting bracket

RS - R(etraction) S(ystem)



triflex® RS for a low profile e-chain® guide. The triflex® RS retraction unit runs parallel to the robot arm.
Video at ▶ www.igus.eu/RS_Film



Option: triflex® RS with cover for more mounting space

triflex® R | RS | For series TRC·TRE | Accessories

Technical data

Installation height | RS modular retraction system

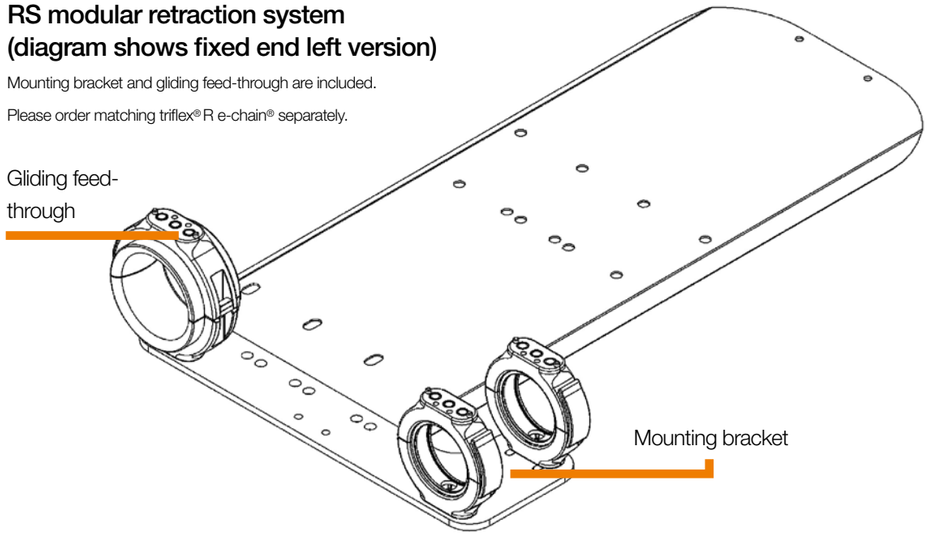
Illustration shows triflex® RS ø index: 40

Illustration shows triflex® RS ø index: 60 - 100

RS modular retraction system (diagram shows fixed end left version)

Mounting bracket and gliding feed-through are included.

Please order matching triflex® R e-chain® separately.



triflex® R | RS | For series TRC·TRE | Accessories

Product range

Product range | RS modular retraction system

Ø Index		Part No. fixed end **left**	Part No. fixed end **right**	Retraction length[1] ≤ [mm]	A [mm]	B [mm]	C [mm]	D [mm]	Weight [kg]
30.	▶	–	–	–	–	–	–	–	–
40.	▶	**TR.RS.40.L**	**TR.RS.40.R**	460	576	301	95	51	3.5
50.	▶	–	–	–	–	–	–	–	–
60.	▶	**TR.RS.60.L**	**TR.RS.60.R**	550	900	528	150	65	8.7
65.	▶	–	–	–	–	–	–	–	–
70.	▶	**TR.RS.70.L**	**TR.RS.70.R**	620	900	545	167	65	9.2
85.	▶	**TR.RS.85.L**	**TR.RS.85.R**	670	900	565	167	65	9.5
85. (*R 240*)	▶	–	–	–	–	–	–	–	–
100.	▶	**TR.RS.100.L**	**TR.RS.100.R**	580	938	614	167	108	11.5
125.	▶	–	–	–	–	–	–	–	–

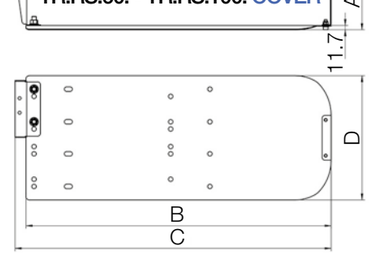
1) These are the maximum values. In normal operation a filling of no more than 70% is advised.

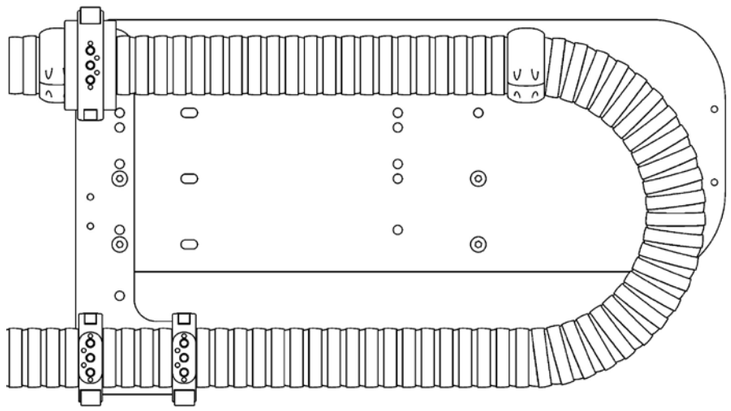
Please order matching triflex® R e-chain® separately.

Product range | Cover, optional

Ø Index		Optional cover retrofit kit	A [mm]	B [mm]	C [mm]	D [mm]	Load* ≤ [kg]	Weight [kg]
30.	▶	–	–	–	–	–	–	–
40.	▶	**TR.RS.40.**COVER	101.7	550	567.5	244.6	1.5	2.6
50.	▶	–	–	–	–	–	–	–
60.	▶	**TR.RS.60.**COVER	170.7	850	880	344.6	3.5	7.2
65.	▶	–	–	–	–	–	–	–
70.	▶	**TR.RS.70.**COVER	170.7	850	880	344.6	3.5	7.2
85.	▶	**TR.RS.85.**COVER	170.7	850	880	344.6	3.5	7.2
85. (*R 240*)	▶	–	–	–	–	–	–	–
100.	▶	**TR.RS.100.**COVER	172	853	910.5	397.6	3.5	7.1
125.	▶	–	–	–	–	–	–	–

*Maximum fill weight to be used with the cover





Order key

TR.RS.XX.L / R

- **R** = Fixed end right
- **L** = Fixed end left
- Ø Index
- System
- e-chains® series

triflex® R | RS | For series TRC·TRE | Accessories

RS retraction system and matching e-chain®

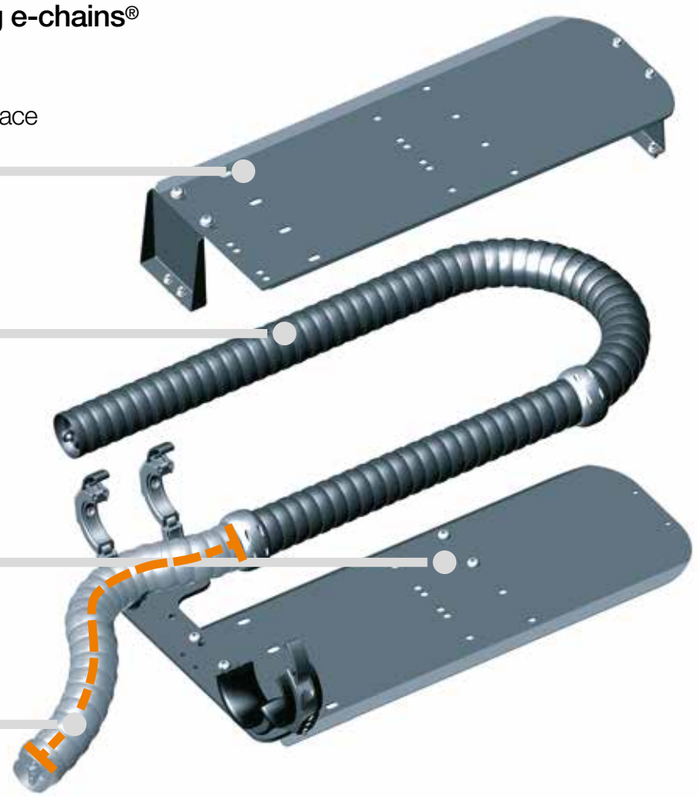
System design | RS and matching e-chains®

Optional cover for additional installation space
on the robot: **TR.RS.XX.COVER**

Matching triflex® R e-chains® for RS
with integrated fibre-rods
TRC.RS.XX.*R*.LLLL.0
TRE.RS.XX.*R*.LLLL.0.B

RSE linear system (without e-chain®)+
Support plate +
Mounting bracket +
Gliding feed-through =
TR.RS.XX.L or **TR.RS.XX.R**

Overall length =
additional length from the
gliding feed-through **LLLL** +
the e-chain® length within the system



Sample order of a complete TR.RS system, ø-Index 60, fixed end on the left, including cover and e-chain® (standard length: 500mm)

System	Insert Ø index **XX** / select fixed end **.L / .R**	**TR.RS.XX.L**
+ Cover	Insert Ø index **XX** (cover optional)	**TR.RS.XX.COVER**
+ e-chain®	Insert ø-index **XX** / Insert bend radius ***R*** / Insert standard length **LLLL**	**TRC.RS.XX.*R*.LLLL.0**
Order text:	**TR.RS.60.L + TR.RS.60.COVER + TRC.RS.60.087.0500.0**	



Order key e-chains®

TRC.RS.XX.*R*.LLLL.0
TRE.RS.XX.*R*.LLLL.0.B

- Default colour black
- Additional length
- ***R*** Bend radius
- Ø Index
- System
- e-chains® series

triflex® R | RS | For series TRC·TRE | Accessories

RS e-chains® and cable length calculation

Product range | Matching e-chains® for RS

Ø Index	Part No. **TRC** enclosed	Part No. **TRE** "easy" design
30.	–	–
40.	**TRC.RS.40.058. LLLL.0**	**TRE.RS.40.058. LLLL.0.B**
50.	–	–
60.	**TRC.RS.60.087. LLLL.0**	**TRE.RS.60.087. LLLL.0.B**
65.	–	–
70.	**TRC.RS.70.110. LLLL.0**	**TRE.RS.70.110. LLLL.0.B**
85.	**TRC.RS.85.135. LLLL.0**	**TRE.RS.85.135. LLLL.0.B**
85. (*R 240*)	–	–
100.	**TRC.RS.100.145.LLLL.0**	**TRE.RS.100.145.LLLL.0.B/C**
125.	–	–

1) Available for B- and C-versions

*Standard lengths from the gliding feed-through outside the system - special lengths upon request.

e-chains® standard lengths*

LLLL [mm] | **0500** | **1000** | **1500** | **2000** |

Part No. with **LLLL** standard length value (measured from the gliding feed-through) corresponds to the robot arm length from axis 3.
For example: **TRC.RS.60.087.0500.0**

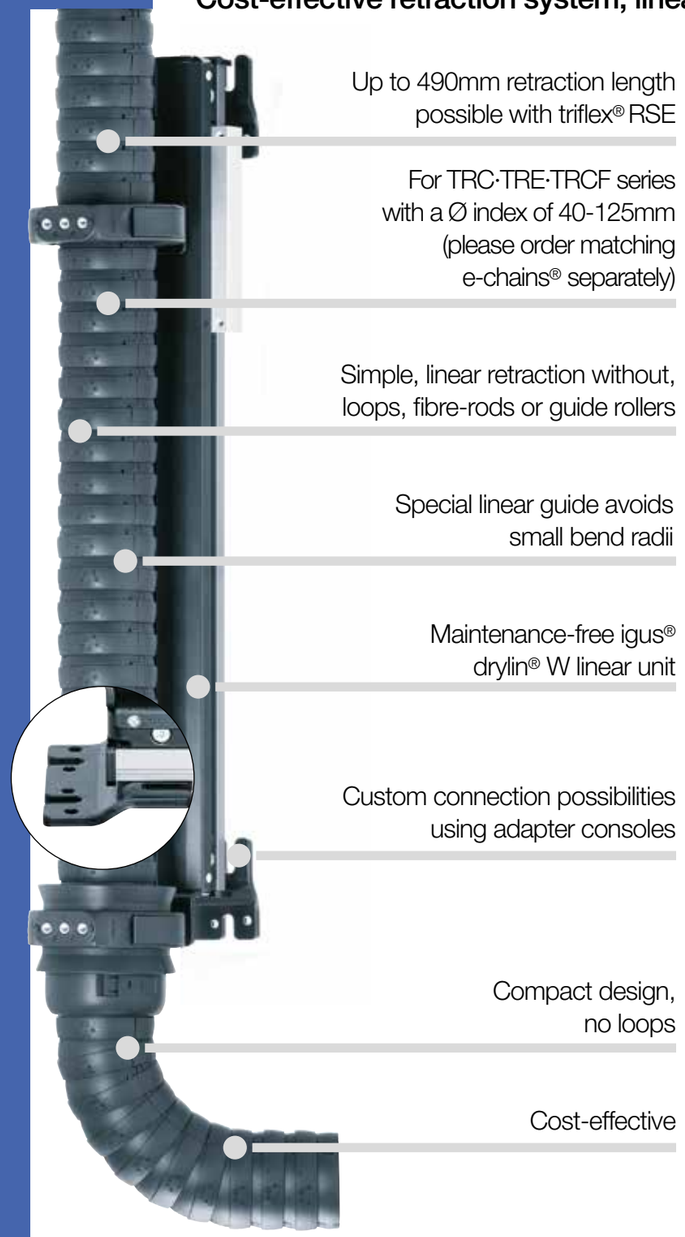
Calculating the overall chain length | RS e-chains®

Ø Index	Bend radius ***R*** [mm]	e-chain® length* [mm]	Number of e-chains® links	Total e-chain® length [mm]
30.	–	–	–	–
40.	**058**	1251	90	**LLLL** + 1251
50.	–	–	–	–
60.	**087**	1734	85	**LLLL** + 1734
65.	–	–	–	–
70.	**110**	1895	74	**LLLL** + 1895
85.	**135**	2080	68	**LLLL** + 2080
85. (*R 240*)	–	–	–	–
100.	**145**	2105	61	**LLLL** + 2105
125.	–	–	–	–

*Values are related to the e-chain® length within the system

Please add the e-chain® length within the system to the standard length **LLLL** (measured from the gliding feed-through) to get the **overall chain length**

Cost-effective retraction system, linear | Advantages



Cost-effective, linear retraction system - triflex® RSE linear

The more complex the automated production technology, the greater the requirements placed on the energy supply system. It is increasingly the case that not only electric power and fluids have to be supplied to production robots; but also laser cables and supply hoses for rivets, pins and screws. As these often cannot function with small bend radii, the new triflex® RSE relies on very easy linear retraction without loops and spring rods or deflection rollers. The purpose of the triflex® RSE retraction system is to hold the e-chain® as closely as possible to the robot arm in order to prevent the e-chain® from intruding upon or blocking the robot's movements.

- Simple, linear retraction without bends, fibre-rods or guide rollers
- For series TRC·TRE·TRCF with a ø-index of 40-125mm
- Special linear guide avoids small bend radii
- Up to 490mm retraction length possible
- Cost-effective
- Maintenance-free igus® drylin® W linear unit

Optional accessories | RSE linear, cost-effective linear retraction system



Adapter consoles -
for custom mounting options



Axis 6 clamp -
for triflex® R mounting bracket

triflex® R
RSE
linear

RSE - **R**(etraction) **S**(ystem) **E**(lastic)



igus® TR.RSE system on test robot

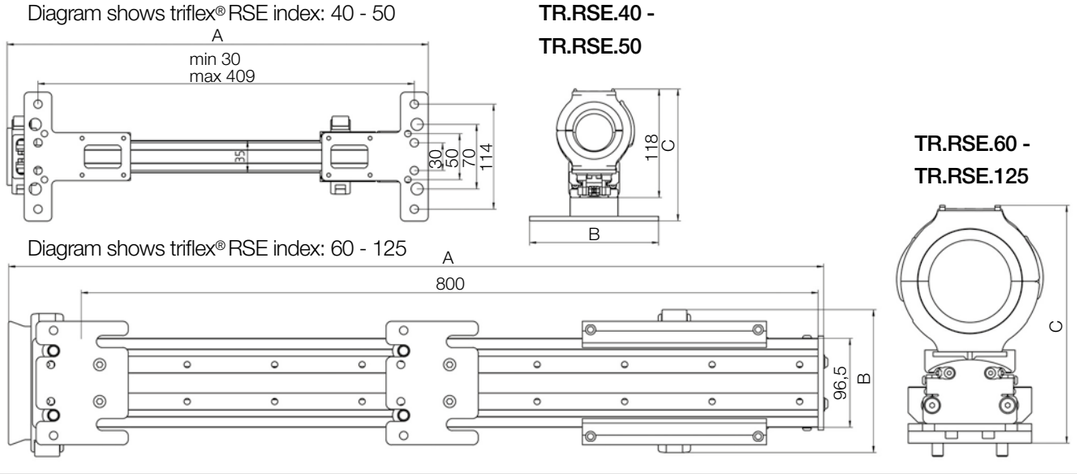


Lightweight, linear TR.RSE.40 retraction system for small robots

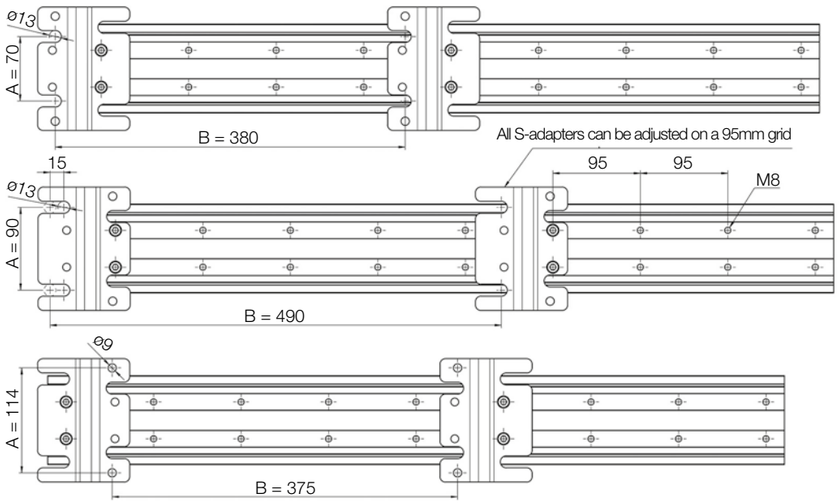


Linear TR.RSE retraction system for sizes 60-125 with attachment brackets for a wide variety of robot models

Dimensions | RSE linear, cost-effective linear retraction system



Possible installation positions for TR.RS.60 - TR.RS.125 | RSE linear



Installation position 01

A [mm]	B [mm]	Thread size
70	190	M12
70	285	M12
70	380	M12
70	475	M12
70	570	M12
70	665	M12
70	760	M12

Installation position 02

A [mm]	B [mm]	Thread size
90	175 - 205	M12
90	270 - 300	M12
90	365 - 395	M12
90	460 - 490	M12
90	555 - 585	M12
90	650 - 680	M12
90	745 - 775	M12

Installation position 03

A [mm]	B [mm]	Thread size
114	185	M8
114	280	M8
114	375	M8
114	470	M8
114	565	M8
114	660	M8

Product range | RSE linear, cost-effective linear retraction system

Ø Index	Part No. RSE linear	Retraction length[1] ≤ [mm]	A [mm]	B [mm]	C [mm]	Weight [kg]	Part No. RSE support
30.	–	–	–	–	–	–	–
40.	**TR.RSE.40**	290	457	140	143	1.4	–
50.	**TR.RSE.50**	290	475	140	151	1.7	–
60.	**TR.RSE.60**	490	868	134	231	9.9	**TR.914.973.60**
65.	**TR.RSE.65**	490	880	134	231	10.0	**TR.914.973.65**
70.	**TR.RSE.70**	490	878	155	258	10.0	**TR.914.973.70**
85.	**TR.RSE.85**	490	885	155	258	10.0	**TR.914.973.85**
85. (*R 240*)	**TR.RSE.85.240**	490	885	155	258	10.0	–
100.	**TR.RSE.100**	490	886	170	264	10.2	**TR.914.973.100**
125.	**TR.RSE.125**	490	876	190	280	10.5	–

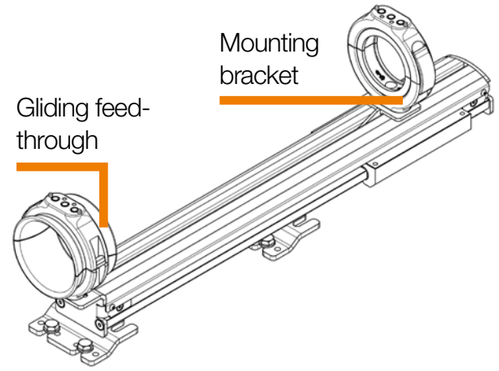
1) These are the maximum values. In normal operation a filling of no more than 70% is advised.

Please order matching triflex® R e-chain® separately. Optional RSE support must be ordered separately.

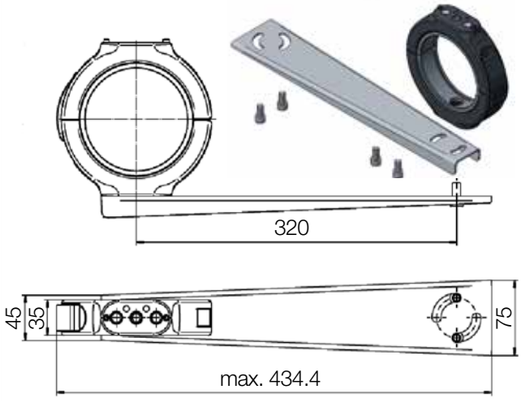
RSE linear - retraction system

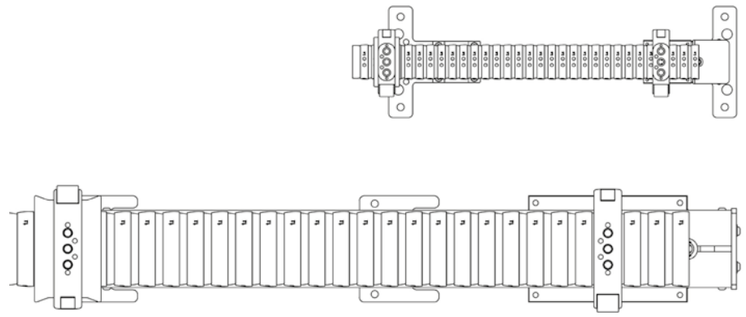
Mounting bracket and gliding feed-through are included.

Please order matching triflex® R e-chain® separately.



Optional - RSE support for the lateral deflection of the triflex® R energy supply





Order key

TR.RSE.XX

- Ø Index
- System
- e-chains® series

triflex® R | RSE linear | For series TRC·TRE·TRCF | Accessories

RSE linear and matching e-chains®

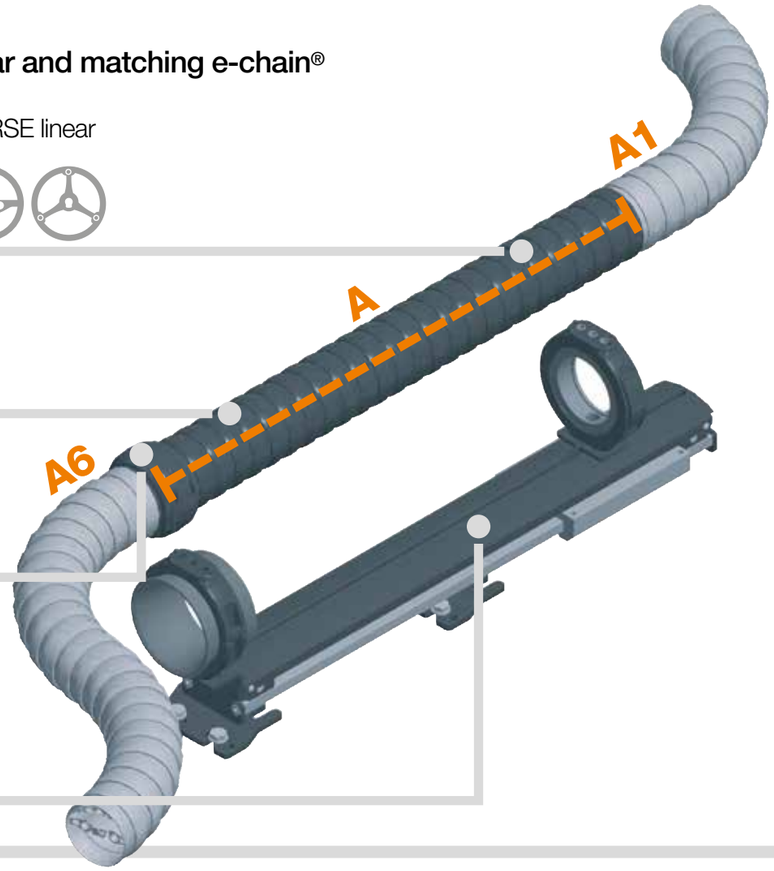
System design | RSE linear and matching e-chain®

Matching triflex® R e-chain® for RSE linear
TRC .XX.*R*.0
TRE .XX.*R*.0.B
TRCF.XX.*R*.0

Excess length in direction **A1** +
Dimension **A** +
Excess length in direction **A6** =
Total e-chain® length

Limit protector

RSE linear system
(without e-chain®)+
Mounting bracket +
Gliding feed-through =
TR.RSE.XX



Sample order of a complete TR.RSE linear system, Ø index 40, and e-chain® (length: 2 m)

System	Insert Ø index **XX**	**TR.RSE.XX**
+ e-chain®	Insert Ø index **XX** / Insert bend radius ***R*** / Insert standard length LLLL in metres	**2 m TRC.XX.*R*.0**
+ Protector	Protector with quick-lock fastener	**TR.XX.30**
Order text:	**TR.RSE.40. + 2 m TRC.40.058.0 + TR.40.30**	



Order key e-chains®

TRC .XX.*R*.0
TRE .XX.*R*.0.B
TRCF.XX.*R*.0

- Default colour black
- ***R*** Bend radius
- Ø Index
- e-chains® series

Product range | Matching e-chains® and protectors for RSE linear

Ø Index	Part No. **TRC** enclosed	Part No. **TRE** "easy" design	Part No. **TRCF** with snap lock mechanism	Protector with screw fastener	Protector with quick-lock fastener
30.	–	–	–	–	–
40.	TRC.40.058.0	TRE.40.058.0.B	–	TR.40.10	TR.40.30
50.	TRC.50.080.0	TRE.50.080.0.B	–	TR.50.10	–
60.	TRC.60.087.0	TRE.60.087.0.B	–	TR.60.10	TR.60.30
65.	–	–	TRCF.65.100.0	TR.65.10	–
70.	TRC.70.110.0	TRE.70.110.0.B	–	TR.70.10	TR.70.30
85.	TRC.85.135.0	TRE.85.135.0.B	TRCF.85.135.0	TR.85.10	TR.85.30
85. (*R 240*)	–	–	TRCF.85.240.0	TR.85.240.10	–
100.	TRC.100.145.0	TRE.100.145.0.B/C[1)]	TRCF.100.145.0	TR.100.10	TR.100.30
125.	TRC.125.182.0	TRE.125.182.0.B	–	TR.125.10	–

1) Available for B- and C-versions

Please order e-chains® as piece parts and purchase a protector for each one.

Please order protectors with screw connections or quick release as limit protectors.

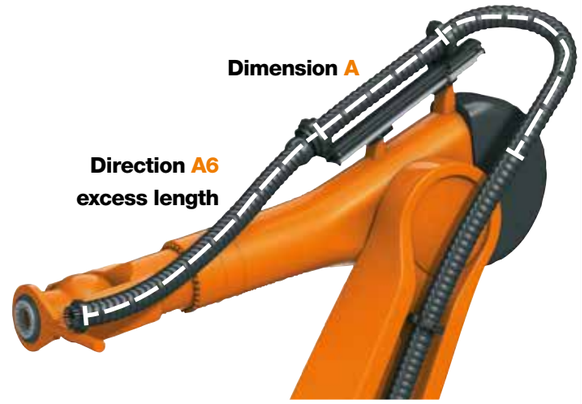
To calculate the total chain length, add the desired excess length from axis 1 and axis 6 to dimension A (lower table). Additionally, at least 1 limit protector must be ordered.

Please note that all triflex® R e-chains can be lengthened and shortened individually and can be customized to meet the needs of your application.

Calculating the overall chain length | RSE linear e-chains®

Ø Index	Bend radius ***R*** [mm]	A [mm]
30.	–	–
40.	058	390
50.	080	390
60.	087	750
65.	100	750
70.	110	750
85.	135	750
85. (*R 240*)	240	750
100.	145	750
125.	182	750

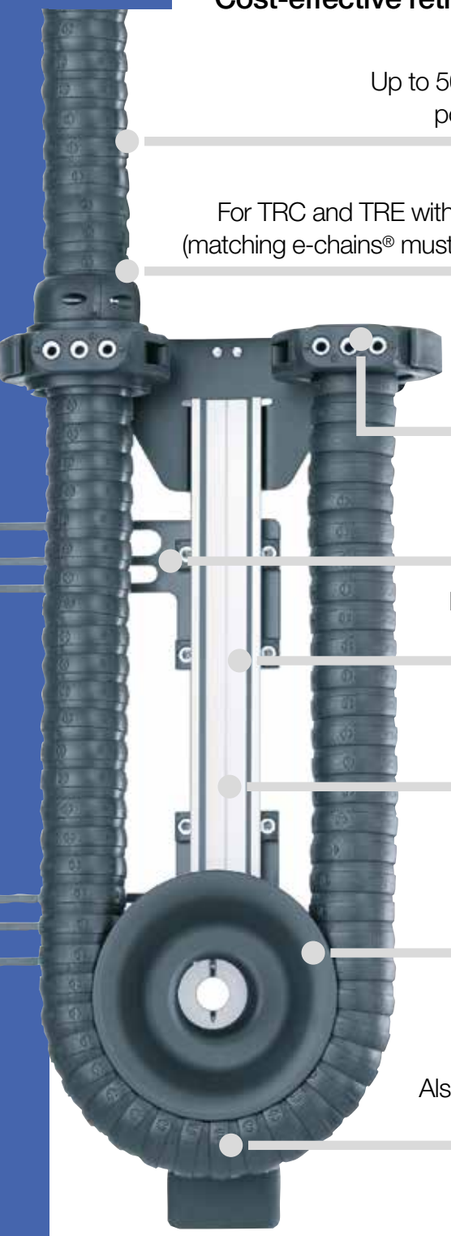
Excess length in direction **A6** + Dimension **A** +
excess length in direction **A1** = **total chain length**



triflex® R length calculation for RSE linear

triflex® R | RSE | For series TRC·TRE | Accessories

Cost-effective retraction system with deflection | Advantages



Up to 500mm retraction length possible with triflex® RSE

For TRC and TRE with ø index 40 and 50mm (matching e-chains® must be ordered separately)

Delivered with left or right fixed end already assembled

Custom connection possibilities using adapter consoles

Maintenance-free igus® drylin® W linear unit

Adjustable mounting position

Open system, low profile design

Also for high accelerations (due to low weight)

Cost-effective retraction system with deflection for small robots - triflex® RSE

Specially developed for robots with small to medium cable and hose filling, the igus® triflex® RSE retraction system offers a way to prevent loop formation in the workspace of the robot, even in highly dynamic applications.

- For series TRC·TRE sizes 40 and 50mm
- Extremely fast response, even in highly dynamic robot programs
- Low weight, very little reduction in robot handling capacity
- Universal adjustable installation brackets
- Maintenance and lubrication-free igus® drylin® W linear unit
- For maximum degrees of freedom
- For cable diameters up to 18.8mm

Optional accessories | RS modular retraction system



Cover -
for additional mounting space and complex movements



Adapter consoles -
for custom mounting options



Axis 6 clamp -
for triflex® R mounting bracket

triflex® R | RSE | For series TRC·TRE | Application example

RSE - **R**(etraction) **S**(ystem) **E**(lastic)



Reliable and controlled energy supply, even in confined space

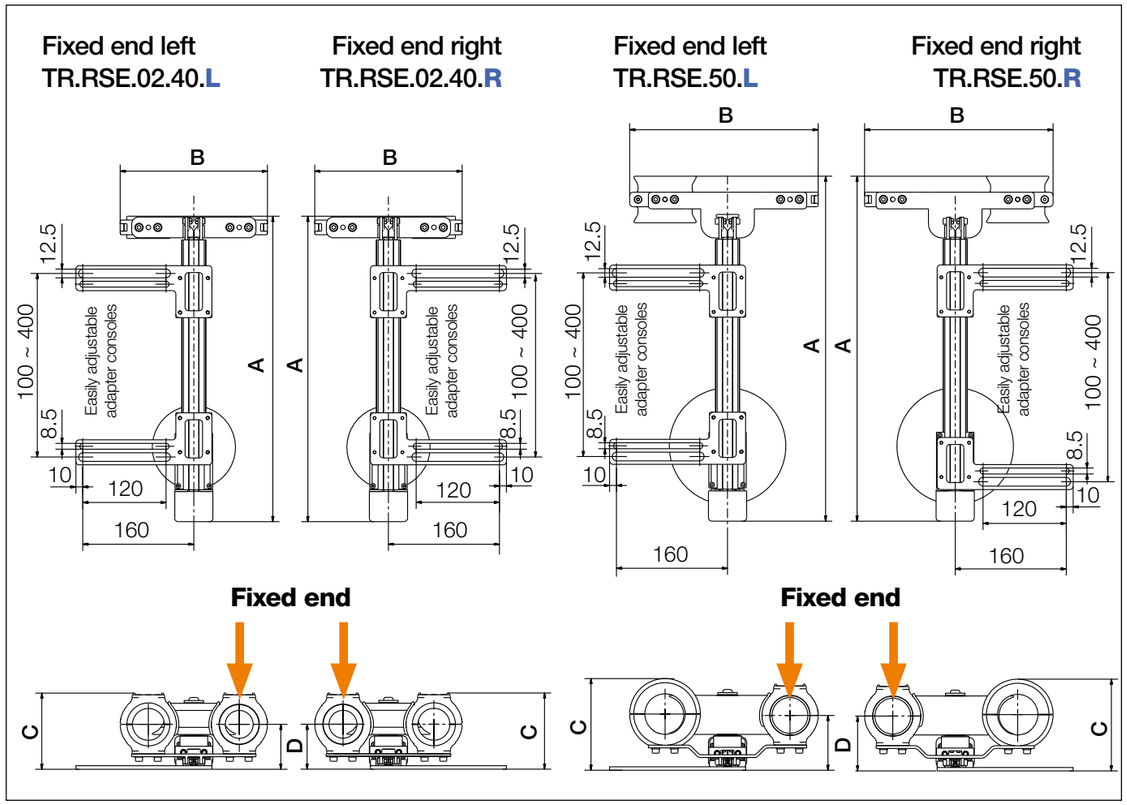


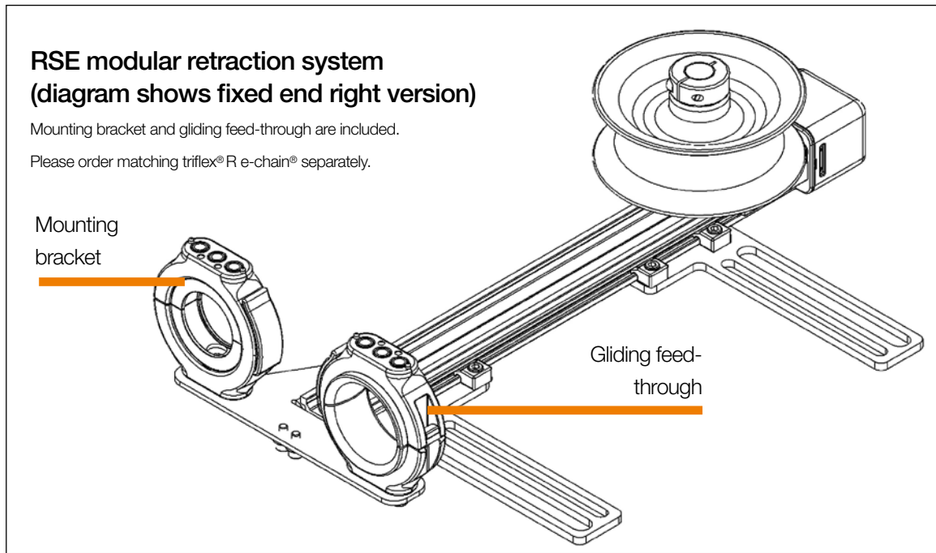
e-chain® is guided closely to the arm with a low profile

triflex® R | RSE | For series TRC·TRE | Accessories

Technical data

Dimensions | RSE cost-effective retraction system





triflex® R
RSE

triflex® R | RSE | For series TRC·TRE | Accessories

Product range

Product range | RSE cost-effective retraction system with deflection

Ø Index		Part No. fixed end **left**	Part No. fixed end **right**	Retraction length[1] ≤ [mm]	A [mm]	B [mm]	C [mm]	D [mm]	Weight [kg]
40.	▶	TR.RSE.02.40.L	TR.RSE.02.40.R	500	440	220	110	64.7	1.6
50.	▶	TR.RSE.50.L	TR.RSE.50.R	500	497	275	132	79	2.1

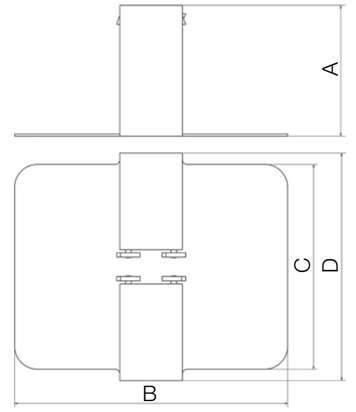
1) These are the maximum values. In normal operation a filling of no more than 70% is advised.

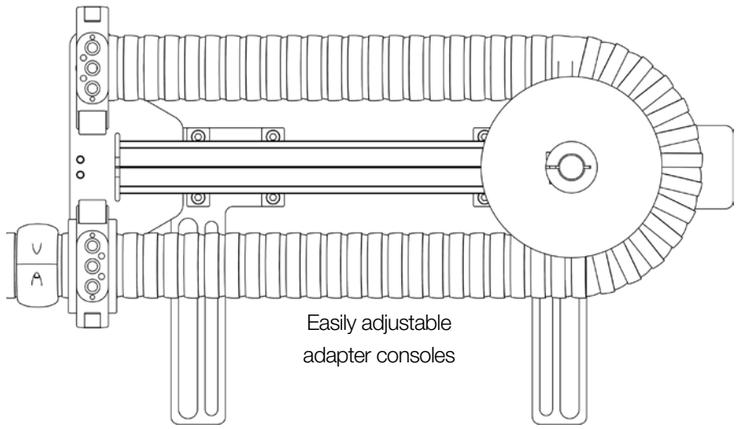
Please order matching triflex® R e-chain® separately.

Product range | Cover, optional

Ø Index		Optional cover retrofit kit	A [mm]	B [mm]	C [mm]	D [mm]	Load* ≤ [kg]	Weight [kg]
40.	▶	TR.RSE.40.COVER	115	240	180	200	1.5	1.1
50.	▶	TR.RSE.50.COVER	126	300	248	248	1.5	1.7

*Maximum fill weight to be used with the cover





Order key

TR.RSE.XX.**L** / **R**

- **R** = Fixed end right
- **L** = Fixed end left
- Ø Index
- System
- e-chains® series

triflex® R | RSE | For series TRC·TRE | Accessories

RSE and matching e-chains®

System design | RSE and matching e-chains®

Cover for additional installation space
on the robot, optional: **TR.RSE.XX.COVER**

Matching triflex®R e-chains® for RSE
TRC.RSE.XX.*R*.LLLL.0
TRE.RSE.XX.*R*.LLLL.0.B

Overall length =
additional length from the
gliding feed-through **LLLL** +
the e-chain® length within the system

RSE system
(e-chain® not included) +
Mounting bracket +
Gliding feed-through =
TR.RSE.(02).XX.L or
TR.RSE.(02).XX.R



Sample order of a complete TR.RSE system, Ø Index 40, fixed end on the left, including cover and e-chain® (standard length: 500mm)

System	Insert Ø index **XX** / select fixed end **.L / .R**	**TR.RSE.02.XX.L**
+ Cover	Insert Ø index **XX** (cover optional)	**TR.RSE.XX.COVER**
+ e-chain®	Insert ø-index **XX** / Insert bend radius ***R*** / Insert standard length **LLLL**	**TRC.RSE.XX.*R*.LLLL.0**

Order text: **TR.RSE.02.40.L + TR.RSE.40.COVER + TRC.RSE.40.058.0500.0**



Order key e-chains®

TRC.RSE.XX.*R*.LLLL.0
TRE.RSE.XX.*R*.LLLL.0.B

- Default colour black
- Additional length
- ***R*** Bend radius
- Ø Index
- System
- e-chains® series

triflex® R
RSE

triflex® R | RSE | For series TRC·TRE | Accessories

RSE e-chains® and cable length calculation

Product range | Matching e-chains® for RSE

Ø Index		Part No. **TRC** enclosed	Part No. **TRE** "easy" design
40.	▶	TRC.RSE.40.058. **LLLL**.0	TRE.RSE.40.058. **LLLL**.0.B
50.	▶	TRC.RSE.50.080. **LLLL**.0	TRE.RSE.50.080. **LLLL**.0.B

*Standard lengths from the gliding feed-through outside the system - special lengths upon request.

e-chains® standard lengths*
LLLL [mm] | **0500** | **0750** | **1000** | **1250** |

Part No. with **LLLL** standard length value (measured from the gliding feed-through) corresponds to the robot arm length from axis 3.
For example: **TRC.RSE.40.058.0500.0**

Calculating the overall chain length | RSE e-chains®

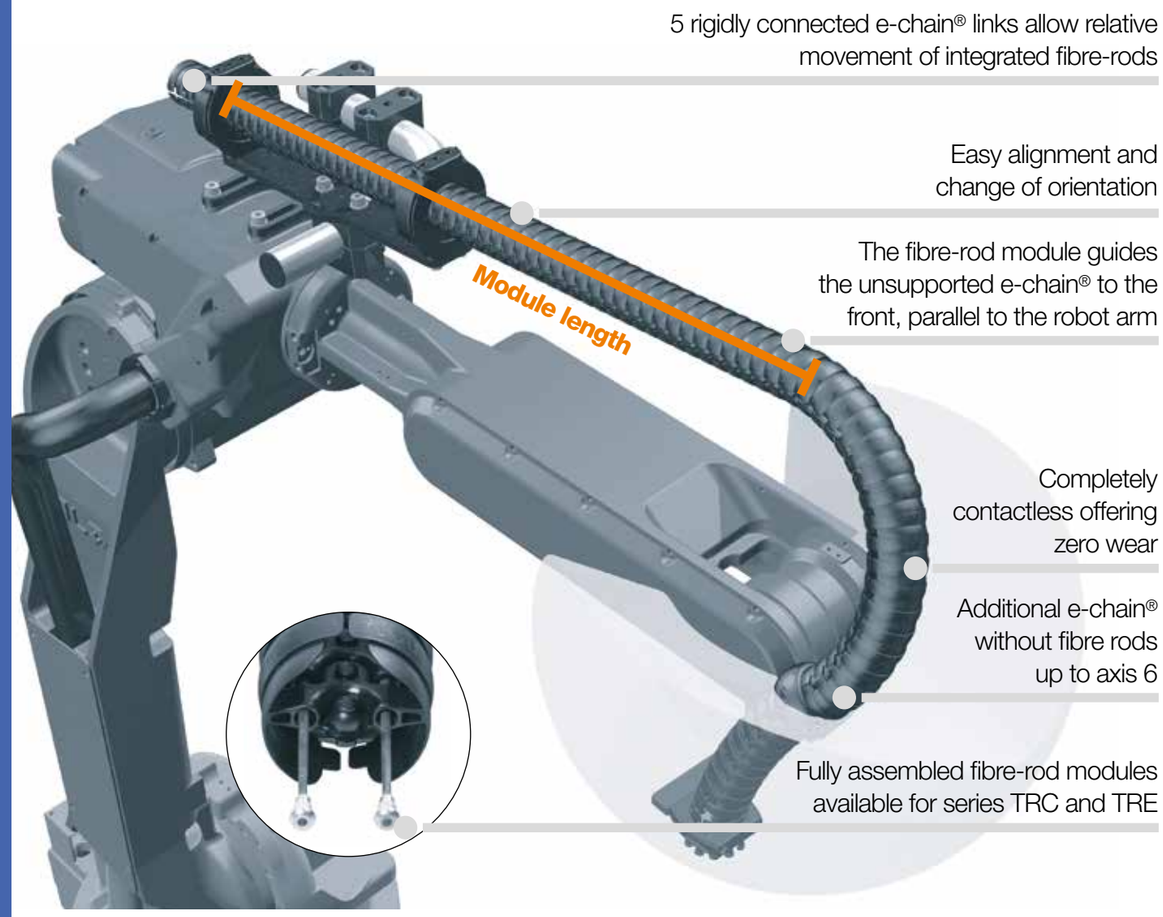
Ø Index		Bend radius ***R*** [mm]	e-chain® length* [mm]	Number of e-chains® links	Total e-chain® length [mm]
40.	▶	058	904	65	**LLLL** + 904
50.	▶	080	1044	60	**LLLL** + 1044

*Values are related to the e-chain® length within the system

Please add the e-chain® length within the system to the standard length **LLLL** (measured from the gliding feed-through) to get the **overall chain length**

triflex® R | Series TRC·TRE | Accessories

Fibre-rod module | Universal mounting kits



Fibre-rod modules for a directional pretension of the e-chain®

We supply fully assembled fibre-rod modules for triflex® R e-chain® Series TRC and TRE. The integrated fibre-rods generate a directional pretension for the e-chain®. This system creates a unique choice of movements for the energy supply system to the final axis of industrial robots. The fibre-rod module guides the unsupported e-chain® to the front, parallel to the robot arm. The bending properties of the modules depends on the installation orientation: only the front end allows flexible movement. The five rear e-chain® links are rigidly connected to allow relative movement of the integrated fibre-rods. This results in a fully contactless and therefore zero-wear energy supply system, designed for moderate movements with limited rotational motion of the axes. Additional e-chain® without fibre-rods for the final axis area needs to be ordered separately.



Product range

Part No. fibre-rod modules for TRC / TRE		Length [m]
TRC.40	**TRE.40**	
TRC.F.**40**.1000.1.0	TRE.F.**40**.1000.1.0.B	≈ 1.0
TRC.F.**40**.0900.1.0	TRE.F.**40**.0900.1.0.B	≈ 0.9
TRC.F.**40**.0800.1.0*	TRE.F.**40**.0800.1.0.B*	≈ 0.8
TRC.F.**40**.0700.1.0	TRE.F.**40**.0700.1.0.B	≈ 0.7
TRC.F.**40**.0600.1.0	TRE.F.**40**.0600.1.0.B	≈ 0.6
TRC.F.**40**.0500.1.0	TRE.F.**40**.0500.1.0.B	≈ 0.5
TRC.F.**40**.0400.1.0	TRE.F.**40**.0400.1.0.B	≈ 0.4
TRC.50	**TRE.50**	
TRC.F.**50**.1400.1.0	TRE.F.**50**.1400.1.0.B	≈ 1.4
TRC.F.**50**.1200.1.0	TRE.F.**50**.1200.1.0.B	≈ 1.2
TRC.F.**50**.1000.1.0*	TRE.F.**50**.1000.1.0.B*	≈ 1.0
TRC.F.**50**.0800.1.0	TRE.F.**50**.0800.1.0.B	≈ 0.8
TRC.F.**50**.0600.1.0	TRE.F.**50**.0600.1.0.B	≈ 0.6
TRC.F.**50**.0400.1.0	TRE.F.**50**.0400.1.0.B	≈ 0.4
TRC.60	**TRE.60**	
TRC.F.**60**.1400.1.0	TRE.F.**60**.1400.1.0.B	≈ 1.4
TRC.F.**60**.1200.1.0	TRE.F.**60**.1200.1.0.B	≈ 1.2
TRC.F.**60**.1000.1.0*	TRE.F.**60**.1000.1.0.B*	≈ 1.0
TRC.F.**60**.0800.1.0	TRE.F.**60**.0800.1.0.B	≈ 0.8
TRC.F.**60**.0600.1.0	TRE.F.**60**.0600.1.0.B	≈ 0.6
TRC.F.**60**.0400.1.0	TRE.F.**60**.0400.1.0.B	≈ 0.4
TRC.70	**TRE.70**	
TRC.F.**70**.1800.1.0	TRE.F.**70**.1800.1.0.B	≈ 1.8
TRC.F.**70**.1600.1.0	TRE.F.**70**.1600.1.0.B	≈ 1.6
TRC.F.**70**.1400.1.0	TRE.F.**70**.1400.1.0.B	≈ 1.4
TRC.F.**70**.1200.1.0*	TRE.F.**70**.1200.1.0.B*	≈ 1.2
TRC.F.**70**.1000.1.0	TRE.F.**70**.1000.1.0.B	≈ 1.0
TRC.F.**70**.0800.1.0	TRE.F.**70**.0800.1.0.B	≈ 0.8

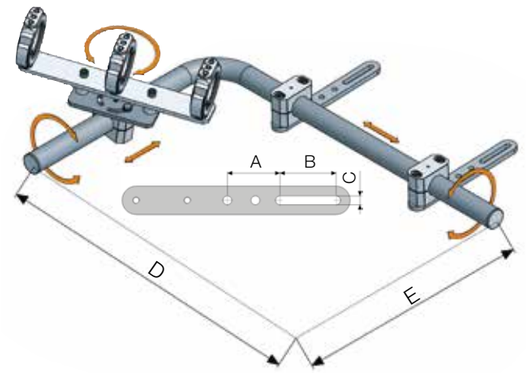
Part No. fibre-rod modules for TRC / TRE		Length [m]
TRC.85	**TRE.85**	
TRC.F.**85**.2000.1.0	TRE.F.**85**.2000.1.0.B	≈ 2.0
TRC.F.**85**.1800.1.0	TRE.F.**85**.1800.1.0.B	≈ 1.8
TRC.F.**85**.1600.1.0	TRE.F.**85**.1600.1.0.B	≈ 1.6
TRC.F.**85**.1400.1.0*	TRE.F.**85**.1400.1.0.B*	≈ 1.4
TRC.F.**85**.1200.1.0	TRE.F.**85**.1200.1.0.B	≈ 1.2
TRC.F.**85**.1000.1.0	TRE.F.**85**.1000.1.0.B	≈ 1.0
TRC.F.**85**.0800.1.0	TRE.F.**85**.0800.1.0.B	≈ 0.8
TRC.100	**TRE.100**	
TRC.F.**100**.2000.1.0	TRE.F.**100**.2000.1.0.B/.C[1]	≈ 2.0
TRC.F.**100**.1800.1.0	TRE.F.**100**.1800.1.0.B/.C[1]	≈ 1.8
TRC.F.**100**.1600.1.0	TRE.F.**100**.1600.1.0.B/.C[1]	≈ 1.6
TRC.F.**100**.1400.1.0*	TRE.F.**100**.1400.1.0.B/.C[1]*	≈ 1.4
TRC.F.**100**.1200.1.0	TRE.F.**100**.1200.1.0.B/.C[1]	≈ 1.2
TRC.F.**100**.1000.1.0	TRE.F.**100**.1000.1.0.B/.C[1]	≈ 1.0
TRC.125	**TRE.125**	
TRC.F.**125**.2000.1.0	TRE.F.**125**.2000.1.0	≈ 2.0
TRC.F.**125**.1800.1.0*	TRE.F.**125**.1800.1.0*	≈ 1.8
TRC.F.**125**.1600.1.0	TRE.F.**125**.1600.1.0	≈ 1.6
TRC.F.**125**.1400.1.0	TRE.F.**125**.1400.1.0	≈ 1.4
TRC.F.**125**.1200.1.0	TRE.F.**125**.1200.1.0	≈ 1.2
TRC.F.**125**.1000.1.0	TRE.F.**125**.1000.1.0	≈ 1.0

*Maximum recommended length for fibre-rod modules

1) For die C version please add the index .C

Universal mounting kit | For TRC·TRE

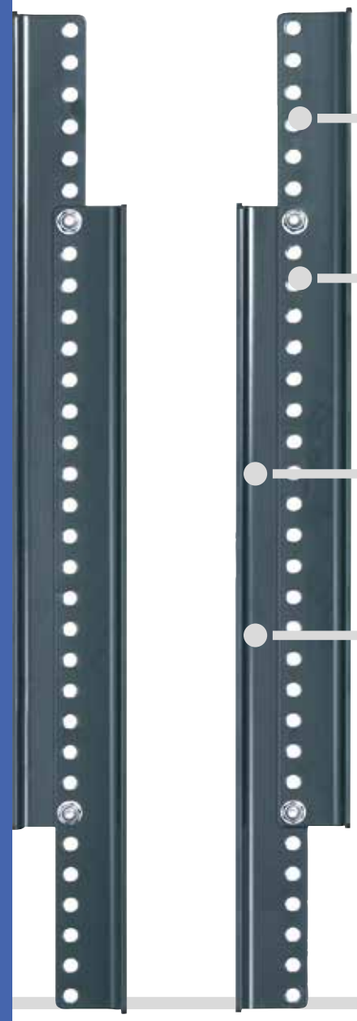
● Stainless steel angle tube with attachment brackets ● Freely positionable ● The energy supply system can be quickly and easily adapted to new programming sequences of the robot ● With 2 mounting brackets for sizes 40 and 60 - with 3 mounting brackets starting at size 70



Ø Index	Part No.	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	Weight [kg]
40.	**TR.40.80**	74	40	8.4	475	325	3.6
50.	**TR.50.80**	74	40	8.4	475	325	3.6
60.	**TR.60.80**	74	40	8.4	625	325	4.7
70.	**TR.70.80**	75	80	12.6	875	575	5.9
85.	**TR.85.80**	75	80	12.6	875	575	6.3
100.	**TR.100.80**	75	80	12.6	875	575	6.3
125.	**TR.125.80**	75	80	12.6	875	575	8.5

triflex® R | For RSP·RS | Accessories

Adjustment units for retraction systems



Wide adjustment range of ± 250mm

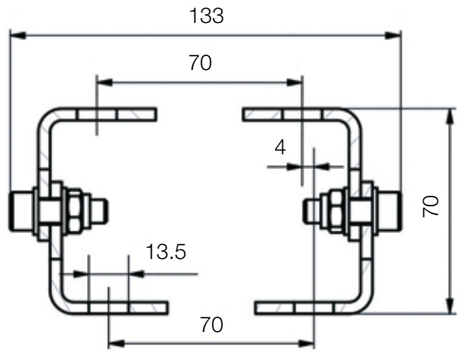
Can be combined with igus® adapter consoles

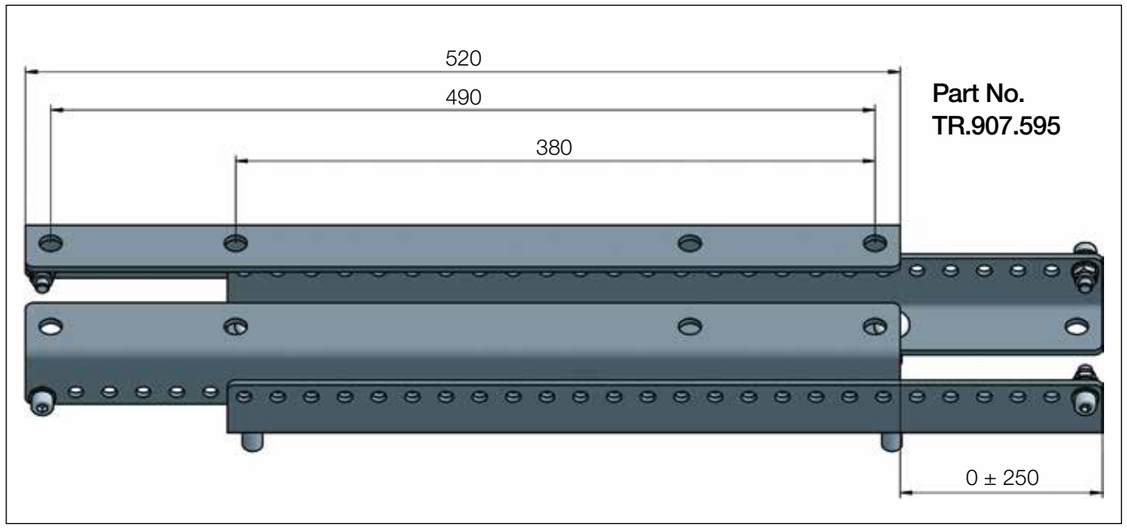
Simplifies alignment for robot cells with restricted space

Part No. TR.907.595
weight: 5.0kg

Adjustment unit for RSP and RS retraction systems

The optional adjustment unit is installed between the robot arm and the retraction system, and allows accurate adjustments of the position of the igus® retraction system on the robot arm. Particularly useful for multiple working programs using the same cable package.





Adjustment unit to easily change the position of the retraction system

triflex® R | For RSP·RS·RSE | Accessories

Adapter consoles for retraction systems



43 adapter consoles for many robot models, from stock

For all triflex® RSP , RS and RSE modules

3D CAD data available online for download
▶ **www.igus.eu/consoles**

Also for robots needing side-mounted installation

Adapter consoles for RSP, RS and RSE retraction systems

The RS and RSP retraction systems provide all widely used drill patterns for attachment: 380 x 70 mm and 490 x 90 mm (in Ø12.5 mm). We also supply a wide range of manufacturer and model-dependent adapter consoles from stock, in order to adapt to other robot variations. For example, many robot models are equipped from the factory with only side-mounted mounting options - in these cases, our adapter product range also supports simple installation of the retraction systems without additional engineering. **Adapter consoles for many robot models, from stock. Product range ▶ next page**



Application example with RS system on ABB Series 6600

triflex® R | For RSP·RS·RSE | Accessories

Adapter consoles for retraction systems, from stock | Product range

Adapter console	Part No.	Manufacturer	Robot model	Weight [kg]
	TR.907.347	**ABB**	IRB 6600 IRB 6640 IRB 6650	4.0
	TR.907.468	**ABB**	IRB 6400	9.8
	TR.907.448	**ABB**	IRB 4400	5.0
	TR.907.381	**ABB**	IRB 2400/10 IRB 2400/16	5.2
	TR.907.905	**ABB**	IRB 6620	2.8
	TR.908.494	**ABB**	IRB 4600 IRB 2600	2.9
	TR.907.374	**Comau**	NH1 130-2.6 NJ 110-3.0 NH3 165-2.7 NJ 110-2.6 NH3 220-2.7 SMART5 NJ 165 3.0	4.7
	TR.907.447	**Comau**	NM 45-2.0 NM 16-3.1	3.4
	TR.908.493	**Comau**	Smart six	2.2
	TR.907.327	**Yaskawa**	UP 20 UP 165 ES 280 MH6 UP 50 ES 165 HP 20 HP 165 UP 130 ES 200 HP 50	3.6
	TR.909.641	**Yaskawa**	MH50	2.0

More adapter consoles upon request. CAD data online.

triflex® R

triflex® R | For RSP·RS·RSE | Accessories

Adapter consoles for retraction systems, from stock | Product range

Adapter console	Part No.	Manufacturer	Robot model	Weight [kg]
	TR.911.220	**Fanuc**	M-710iC 50 M-710iC 70	2.0
	TR.908.973	**Fanuc**	M-710iB 45	1.1
	TR.907.270	**Fanuc**	IR-2000iB S 430 R-2000iA S 420 R-1000iA	4.5
	TR.907.470.12	**Fanuc**	M-900iA 260L M-900iA 350	6.8
	TR.907.902.12	**Fanuc**	M-900iA 600	8.9
	TR.910.876	**Fanuc**	M900-IB700	4.6
	TR.907.599	**Kuka**	KR5 KR6 KR5arc KR16	2.5
	TR.908.113	**Kuka**	KR-1000	5.2
	TR.908.014	**Kuka**	KR 60 (HA) KR 30 (HA)	4.3
	TR.907.706	**Reis**	RV30-26 RV60-26 RV10-16 RV60-40 RV20-16 RV60-60 RV60-16 RV130	4.3
	TR.911.223 Spacer bolt	**Kuka**	Series Quantec (4 piece kit)	0.6

More adapter consoles upon request. CAD data online.

triflex® R | For all kind of robots | Accessories

Clamps | For attachment to axis 6



For use with a heavy duty connection, compact connection, and quick release units

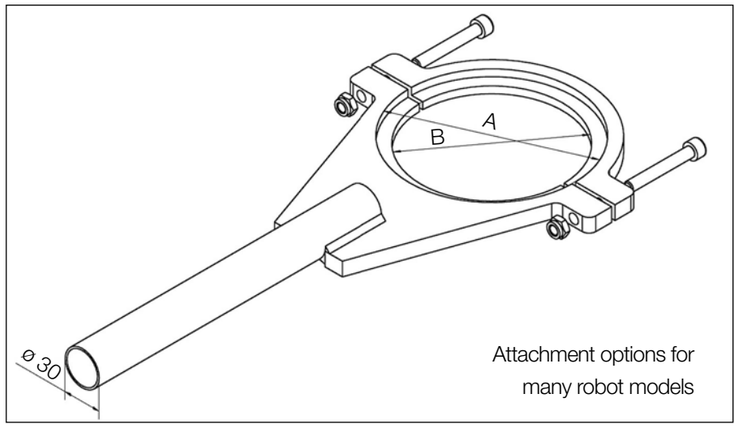
Easy and fast alignment of the fixed end relative to the tool position

Depending on robot design, with or without recess

Clamps for attachment to axis 6

The clamp is used to attach a mounting bracket to axis 6, with a bar (Ø 30mm) for all robots. They are easy and quick to assemble.

- For use with heavy duty connection **TR.XX.20** / **TR.XX.23**
- For use with compact connection **TR.XX.21.01** / **TR.XX.21.02**
- For use with quick exchange unit **TR.XX.22**



Attachment options for many robot models



triflex® R | For all kind of robots | Accessories

Axis 6 clamps | Product range

Part No. Clamp	Robot model	With recess	A [mm]	B [mm]	Weight [kg]
TR.907.857	KUKA KR 30-3 (HA)	yes	130	115	1.9
	KUKA KR 60-3 (HA)	yes	130	115	1.9
	KUKA KR 60 L45-3 (HA)	yes	130	115	1.9
	KUKA KR 60 L30-3 (HA)	yes	130	115	1.9
TR.907.901	KUKA Quantec, large flange	yes	205	190	2.5
	KUKA KR 125/3	yes	205	190	2.5
	KUKA KR 150/3	yes	205	190	2.5
	KUKA KR 200/3	yes	205	190	2.5
	KUKA KR 360/1	yes	205	190	2.5
	KUKA KR 500/1	yes	205	190	2.5
	KUKA KR 150/2 Series 2000	yes	205	190	2.5
	KUKA KR 180/2 Series 2000	yes	205	190	2.5
	KUKA KR 210/2 Series 2000	yes	205	190	2.5
TR.908.115	KUKA KR 1000 Titan	yes	250	242	3.05
TR.907.992	Fanuc R-2000iB	yes	165	160	2.4
	Fanuc R-2000iA	yes	165	160	2.4
	Reis RV 130	yes	165	160	2.4
TR.908.065	Fanuc M-710iC 50	yes	130	124	2.2
	Fanuc M-710iC 70	yes	130	124	2.2
TR.909.387	Yaskawa UP 50	yes	125	100	1.9
	Yaskawa HP 50	yes	125	100	1.9
	Yaskawa MH 50	yes	125	100	1.9
TR.910.544	Reis RV60-60	yes	145	125	1.9
	Reis RV60-40	yes	145	125	1.9
	Fanuc R-1000	yes	145	125	1.9
TR.908.347	Stäubli TX200	yes	145	125	1.9
TR.907.667.125	for custom flange	no	125	= A	2.1
TR.907.667.140	KUKA Quantec small flange	no	140	= A	2.2
TR.907.667.142	Hyundai HX 165	no	142	= A	2.25
TR.907.667.150	Comau NJ 130	no	150	= A	2.4
TR.907.667.160	ABB IRB 6400	no	160	= A	2.45
	Fanuc S420	no	160	= A	2.45
TR.907.667.180	for custom flange	no	180	= A	2.55
TR.907.667.190	Comau NH3	no	190	= A	2.6
TR.907.667.200	KUKA KR 125/1	no	200	= A	2.7
	KUKA KR 150/1	no	200	= A	2.7
	KUKA KR 200/1	no	200	= A	2.7
	ABB IRB 6640	no	200	= A	2.7
	ABB IRB 6620	no	200	= A	2.7
	ABB IRB 6650	no	200	= A	2.7
TR.907.667.220	KUKA KR 360-2	no	220	= A	2.82
	KUKA KR 500-2	no	220	= A	2.82
	KUKA KR 360-3	no	220	= A	2.82
	KUKA KR 500-3	no	220	= A	2.82
TR.908.107.223	ABB IRB 7600-340	no	223	= A	3.5
	ABB IRB 7600-500	no	223	= A	3.5
TR.907.667.250	Fanuc M900iA 350	no	250	= A	3.2
	Fanuc M900iA 260L	no	250	= A	3.2
TR.907.667.275	Fanuc M900iA 200P	no	275	= A	3.4
TR.907.667.315	Fanuc M900iA 600	no	315	= A	3.6
	Fanuc M900iA 400L	no	315	= A	3.6

Other dimensions available upon request



easy triflex®

For simple multi-axis applications, easy filling from both sides

easy triflex® advantages:

- Easy filling with "easy" design
- Easy filling from both sides
- Easy to replace or combine with existing triflex® systems
- If square space is required

When to use another 3D e-chain® series:

- For complex robot applications
  ▶ **triflex® R - TRE, page 876**
- For circular movements with high loads
  ▶ **twisterchain system, page 966**



KMA mounting brackets:
split mounting bracket with integrated strain relief

Modular:
easy lengthening and
shortening at any point

Robust:
"push-button" joint

Simple:
easy filling from both sides
with "easy" design

Fast:
simply press cable in along
the inner or outer radius

Customisable:
different bend radii and
types can be combined

Flexible:
multi-axis movement for
all kinds of machinery

For simple 3D applications, easy filling from both sides - easy triflex®

The easy triflex® series was developed to offer safe energy supply for multi-axis movements. In doing so the flexibility of a hose was combined with the stability and defined bend radius of an e-chain®. With easy triflex® the installation of cables and hoses is simple. With flexible crossbars the cables are simply pushed into the e-chain® from either side. The unique modular range allows very complex movements. For example it is possible to combine 1- 2- and 3-axis links in one e-chain®.

Typical industries and applications

● Machine tools ● Robots ● Handling Equipment ● Material handling ● Plastics industry ● Construction machinery ● Vehicles production ● General mechanical engineering ● Medical equipment ● Office furniture

UL94-V2
classification

iF product design award
2000 Series easy triflex®

Series	Inner height *Bi1* / *Bi1* [mm]	Inner width *Bi3* [mm]	Outer width *Ba* [mm]	Bend radius *R* [mm]	Pitch [mm]	Page
Single-axis movement - "easy" design easy filling from both sides						
E332.25	13	25	34	048 - 200	14.5	946
E332.32	17	32	50	075 - 250	25	946
E332.50	26	50	68	100 - 250	30	946
E332.75	38.5	75	96	140 - 300	36	946
Double-axis movement - "easy" design with *RBR* (Reverse Bend Radius) easy filling from both sides						
E332.25	13	25	34	048 - 200	14.5	947
E332.32	17	32	50	075 - 250	25	947
E332.50	26	50	68	100 - 250	30	947
E332.75	38.5	75	96	140 - 300	36	947
Triple-axis movement - "easy" design with *RBR* (Reverse Bend Radius) easy filling from both sides						
E333.25	13	25	34	048 - 200	14.5	948
E333.32	17	32	50	075 - 250	25	948
E333.50	26	50	68	100 - 250	30	948
E333.75	38.5	75	96	140 - 300	36	948

Available from stock. Ready to ship in 24 - 48hrs.*

*The delivery times indicated correspond to the average time until the ordered goods are dispatched.



Technical data

Speed / acceleration	upon request
Material - permitted temperature °C, igumid NB	**-40°C / +120°C**
Flammability class, igumid NB	**VDE 0304 IIC UL94-V2**

Order example | Order key

Order example for complete e-chain® (1.0m), colour black, with mounting brackets:

e-chain® (1.0m)	Please indicate e-chain® length or number of links: 1.0m or 28 links	**E333.75.200/200.0**
+ Mounting brackets	1 set mounting bracket with strain relief	**333.75.12PZ**
Order text:	**1 m E333.75.200/200.0 + 333.75.12PZ**	

Order key Single-axis movement

E332.75.2.200.0

- Series
- Width index
- Bend radius *R*
- Standard colour black

Order key Double-axis movement

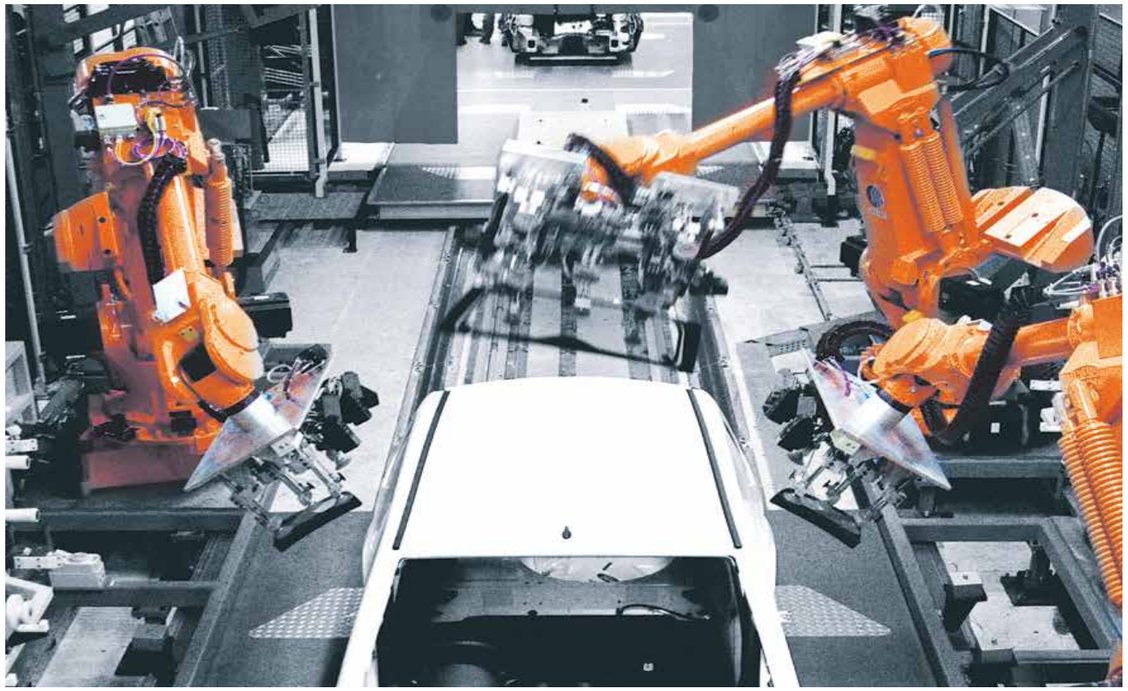
E332.75.2.200/200.0

- Series
- Width index
- Bend radius *R*
- Bend radius ***RBR***
- Standard colour black

Order key Triple-axis movement

E333.75.200/200.0

- Series
- Width index
- Bend radius *R*
- Bend radius ***RBR***
- Standard colour black



Robots with igus® easy triflex® e-chains® on an assembly line



igus® easy triflex® and E2 medium e-chain® in a production line



easy triflex® e-chains® can also be used for simple applications needing an aesthetic solution

easy triflex® | Series E332 | Product range

Single-axis movement

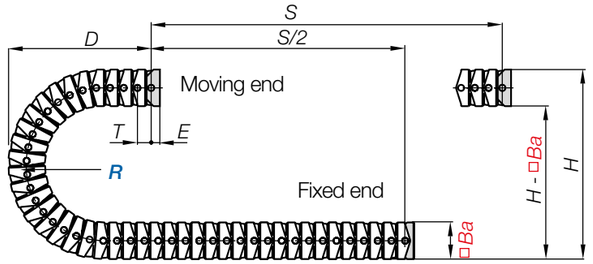


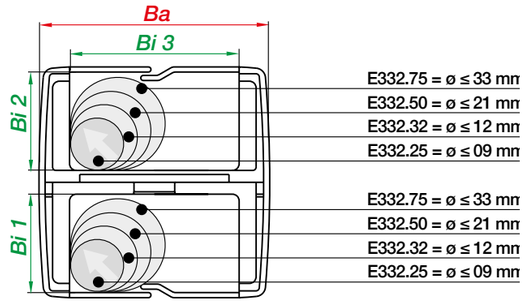
e-chains® | Series E332 "easy" design | Single-axis movement

Part No.	Bi1/Bi2	Bi3	Ba	R Available bend radii	Pitch	E332
e-chains®	[mm]	[mm]	[mm]	[mm]	[mm]	[kg/m]
E332.25.2 .R.0	13	25	34	| 048 | 075 | 100 | 125 | 150 | 175 | 200 |	14.5	≈ 0.70
E332.32.2 .R.0	17	32	50	| 075 | 100 | 125 | 150 | 200 | 250 |	25	≈ 0.90
E332.50.2 .R.0	26	50	68	| 100 | 125 | 150 | 200 | 250 |	30	≈ 1.40
E332.75.2 .R.0	38.5	75	96	| 140 | 175 | 200 | 250 | 300 |	36	≈ 2.35

Complete Part No. with required radius (R). Example: **E332.75.2.200.0**

Installation dimensions





	R	048	075	100	125	150	175	200
E332.25.2	H	130	185	235	285	335	385	435
	D	095	125	150	175	200	225	250
	K	195	280	360	440	515	595	675
E332.32.2	R	075	100	125	150	200	250	
	H	200	250	300	350	450	550	
	D	130	155	180	205	255	305	
	K	305	385	465	545	700	865	
E332.50.2	R	100	125	150	200	250		
	H	270	320	375	470	570		
	D	195	220	245	295	345		
	K	435	520	590	750	910		
E332.75.2	R	140	175	200	250	300		
	H	380	450	500	600	700		
	D	240	275	300	350	400		
	K	550	660	740	900	1,060		

E332.25.2.		E332.32.2.	
Ba [mm]	34	Ba [mm]	50
Pitch T [mm/link]	14.5	Pitch T [mm/link]	25
Dim. E [mm]	10	Dim. E [mm]	20
Links/m	69	Links/m	40
corresponds to [mm]	1,000.5	corresponds to [mm]	1,000
e-chain® length	$L_K = s/2 + K$	e-chain® length	$L_K = s/2 + K$

E332.50.2.		E332.75.2.	
Ba [mm]	68	Ba [mm]	96
Pitch T [mm/link]	30	Pitch T [mm/link]	36
Dim. E [mm]	25	Dim. E [mm]	25
Links/m	34	Links/m	28
corresponds to [mm]	1,020	corresponds to [mm]	1,008
e-chain® length	$L_K = s/2 + K$	e-chain® length	$L_K = s/2 + K$

easy triflex® | Series E332 | Product range

Double-axis movement



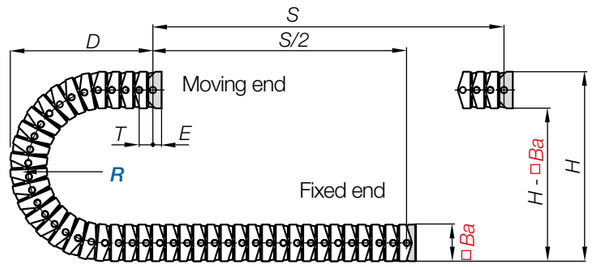
e-chains® | Series E332 "easy" design | Double-axis movement with *RBR**

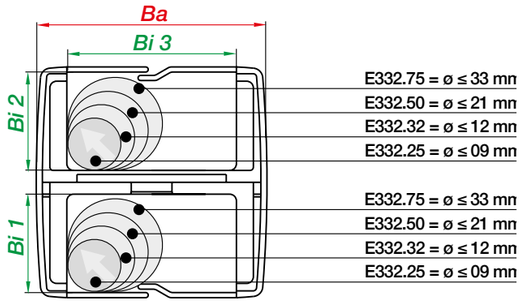
Part No.	Bi1/Bi2	Bi3	Ba	R Available bend radii	Pitch	E332
e-chains®	[mm]	[mm]	[mm]	[mm]	[mm]	[kg/m]
E332.25.2 .R/R.0	13	25	34	| 048 | 075 | 100 | 125 | 150 | 175 | 200 |	14.5	≈ 0.70
E332.32.2 .R/R.0	17	32	50	| 075 | 100 | 125 | 150 | 200 | 250 |	25	≈ 0.90
E332.50.2 .R/R.0	26	50	68	| 100 | 125 | 150 | 200 | 250 |	30	≈ 1.40
E332.75.2 .R/R.0	38.5	75	96	| 140 | 175 | 200 | 250 | 300 |	36	≈ 2.35

***RBR** = Reverse Bend Radius

Complete Part No. with required radius (R). Example: **E332.75.2.200/200.0**

Installation dimensions





	R	048	075	100	125	150	175	200
E332.25.2	H	130	185	235	285	335	385	435
	D	095	125	150	175	200	225	250
	K	195	280	360	440	515	595	675
E332.32.2	R	075	100	125	150	200	250	
	H	200	250	300	350	450	550	
	D	130	155	180	205	255	305	
	K	305	385	465	545	700	865	
E332.50.2	R	100	125	150	200	250		
	H	270	320	375	470	570		
	D	195	220	245	295	345		
	K	435	520	590	750	910		
E332.75.2	R	140	175	200	250	300		
	H	380	450	500	600	700		
	D	240	275	300	350	400		
	K	550	660	740	900	1,060		

E332.25.2.		E332.32.2.	
Ba [mm]	34	Ba [mm]	50
Pitch T [mm/link]	14.5	Pitch T [mm/link]	25
Dim. E [mm]	10	Dim. E [mm]	20
Links/m	69	Links/m	40
corresponds to [mm]	1,000.5	corresponds to [mm]	1,000
e-chain® length	$L_K = s/2 + K$	e-chain® length	$L_K = s/2 + K$

E332.50.2.		E332.75.2.	
Ba [mm]	68	Ba [mm]	96
Pitch T [mm/link]	30	Pitch T [mm/link]	36
Dim. E [mm]	25	Dim. E [mm]	25
Links/m	34	Links/m	28
corresponds to [mm]	1,020	corresponds to [mm]	1,008
e-chain® length	$L_K = s/2 + K$	e-chain® length	$L_K = s/2 + K$

easy triflex® | Series E333 | Product range

34-96

Triple-axis movement



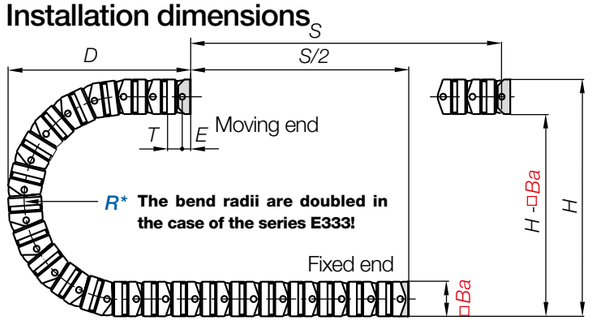
e-chains® | Series E333 "easy" design | Triple-axis movement with *RBR**

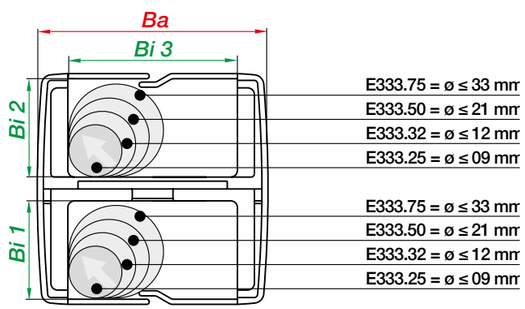
Part No.	*Bi1*/*Bi2*	*Bi3*	*Ba*	*R* Available bend radii	Pitch	E332
e-chains®	[mm]	[mm]	[mm]	[mm]	[mm]	[kg/m]
E333.25.*R*/*R*.0	13	25	34	| 048 | 075 | 100 | 125 | 150 | 175 | 200 |	14.5	≈ 0.70
E333.32.*R*/*R*.0	17	32	50	| 075 | 100 | 125 | 150 | 200 | 250 |	25	≈ 0.90
E333.50.*R*/*R*.0	26	50	68	| 100 | 125 | 150 | 200 | 250 |	30	≈ 1.40
E333.75.*R*/*R*.0	38.5	75	96	| 140 | 175 | 200 | 250 | 300 |	36	≈ 2.35

***RBR** = Reverse Bend Radius The bend radii are doubled in the case of the series E333

Complete Part No. with required radius (*R*). Example: **E333.75.200/200.0**

Installation dimensions





	R	048	075	100	125	150	175	200
E333.25	*H*	230	335	435	535	635	735	835
	D	145	200	250	300	350	400	450
	K	350	515	675	830	990	1,150	1,300
	R	075	100	125	150	200	250	
E333.32	*H*	350	450	550	650	850	1050	
	D	205	255	305	355	455	555	
	K	545	700	860	1,020	1,300	1,605	
	R	100	125	150	200	250		
E333.50	*H*	470	570	670	870	1070		
	D	295	345	395	495	595		
	K	750	910	1,070	1,380	1,690		
	R	140	175	200	250	300		
E333.75	*H*	660	800	900	1100	1300		
	D	380	450	500	600	700		
	K	990	1,210	1,400	1,700	2,000		

E333.25	
Ba [mm]	34
Pitch *T* [mm/link]	14.5
Dim. *E* [mm]	10
Links/m	69
corresponds to [mm]	1,000.5
e-chain® length	$L_K = S/2 + K$

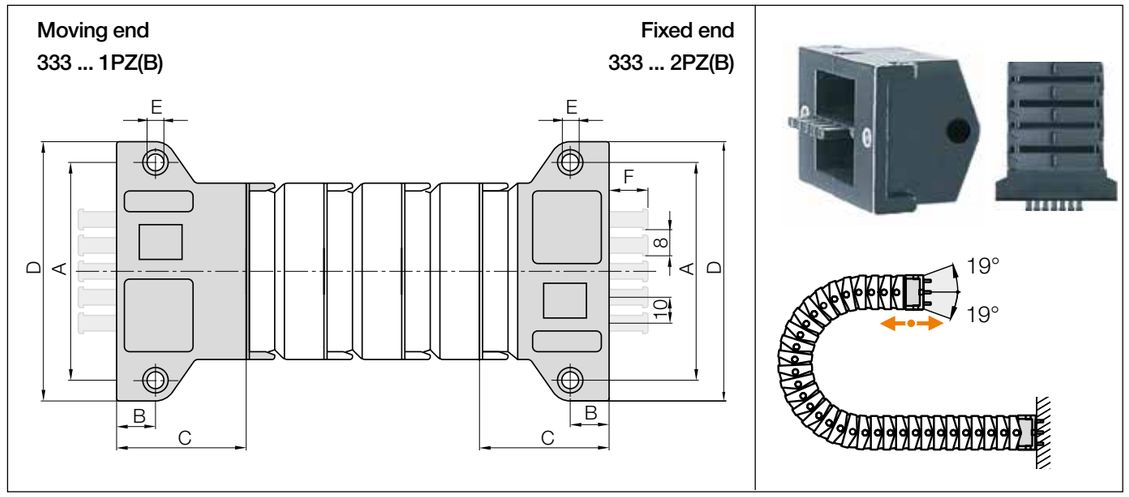
E333.32	
Ba [mm]	50
Pitch *T* [mm/link]	25
Dim. *E* [mm]	20
Links/m	40
corresponds to [mm]	1,000
e-chain® length	$L_K = S/2 + K$

E333.50	
Ba [mm]	68
Pitch *T* [mm/link]	30
Dim. *E* [mm]	25
Links/m	34
corresponds to [mm]	1,020
e-chain® length	$L_K = S/2 + K$

E333.75	
Ba [mm]	96
Pitch *T* [mm/link]	36
Dim. *E* [mm]	25
Links/m	28
corresponds to [mm]	1,008
e-chain® length	$L_K = S/2 + K$

easy triflex® | Series E332·E333 | Accessories

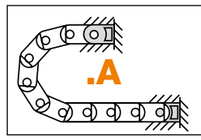
KMA mounting brackets | Attachment from any side | One end pivoting



KMA, one end pivoting

Width index	Part No. full set with tiewrap plates	Part No. full set without tiewrap plates	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	F [mm]	Number of teeth
25.2 / 25. ▶	–	**333.25.12PZ**	43	7	22	52	4.5	–	–
32.2 / 32. ▶	**333.32.12PZB**	**333.32.12PZ**	66	15	46	82	6.5	15	3
50.2 / 50. ▶	**333.50.12PZB**	**333.50.12PZ**	84	15	50	100	6.5	15	5
75.2 / 75. ▶	**333.75.12PZB**	**333.75.12PZ**	109	15	55	125	6.5	15	7

Note series E333: the mounting brackets are only available for e-chains® with **even number** of chain links!



The bracket orientations are set automatically when using KMA mounting bracket. To receive brackets **pre-fitted** please add index **A**.

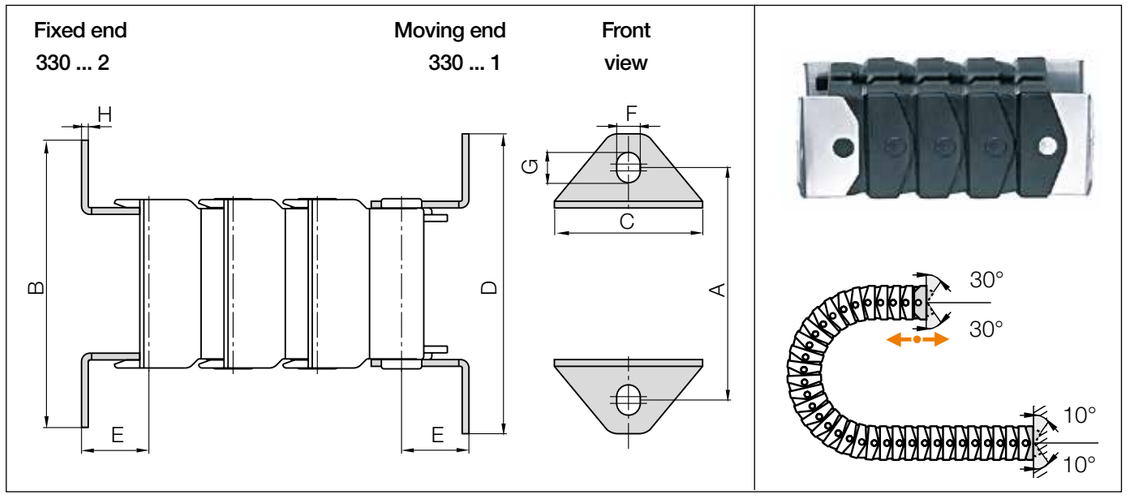
333.75.12PZB.A Order example

.A ... to indicate option with brackets pre-fitted
With integrated strain relief tiewrap plates
Full set
Width index
Series

Strain relief **e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with ordering options ▶ From page 1300**

easy triflex® | Series E332·E333 | Accessories

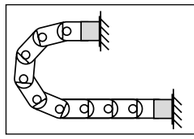
Mounting brackets, flange, steel | Pivoting



Mounting brackets, flange, steel | Pivoting

Width index	Part No. full set	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	F [mm]	G [mm]	H [mm]
25.2 / 25. ▶	**330.25.12**	44	55	29	55	10.5	6.5	9	1.5
32.2 / 32. ▶	**330.32.12**	66	84	44	88	20	7	9	2
50.2 / 50. ▶	**330.50.12**	84	102	62	106	25	7	9	2
75.2 / 75. ▶	**330.75.12**	109	127	90	131	25	7	9	2

Note series E333: the mounting brackets are only available for e-chains® with **even number** of chain links!

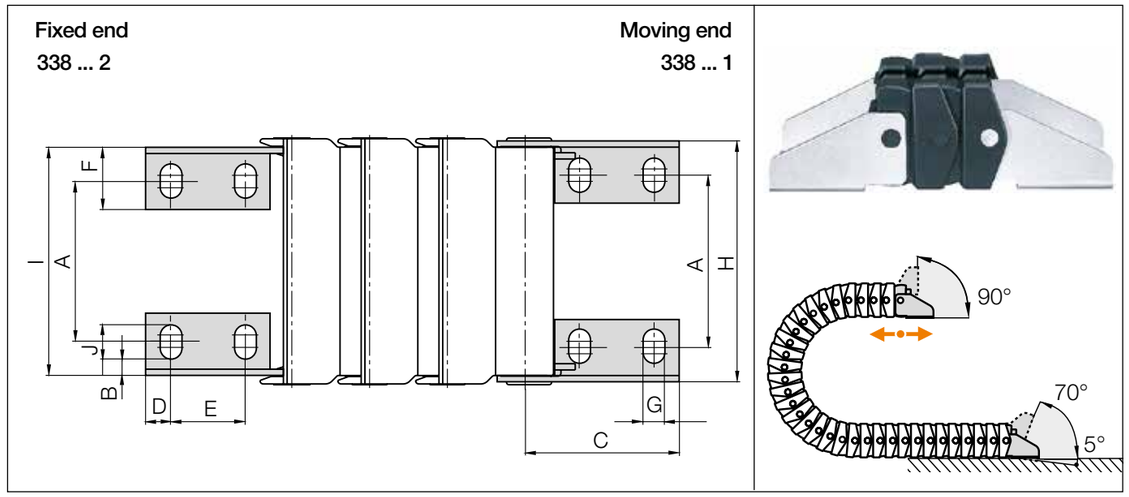


Flush attachment possible using flange mounting brackets made of steel.

330.75.12 **Order example**
- Full set
- Width index
- Series

Strain relief e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with ordering options ▶ From page 1300

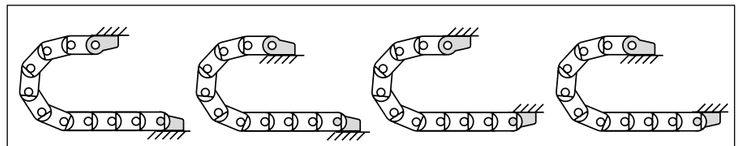
Mounting brackets, angled, steel | Pivoting



Mounting brackets, angled, steel | Pivoting

Width index	Part No. full set	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	F [mm]	G [mm]	H [mm]	I [mm]	J [mm]
25.2 / 25. ▶	**338.25.12**	17	6.25	28	6	16	14	5.5	33.8	31	8.5
32.2 / 32. ▶	**338.32.12**	24	5.5	47	8	24	20	7	49	45	11
50.2 / 50. ▶	**338.50.12**	42	5.5	77	12	35	24	9	67	62	15
75.2 / 75. ▶	**338.75.12**	65	5.5	77	12	35	24	9	95	90	15

Note series E333: the mounting brackets are only available for e-chains® with **even number** of chain links!



Possible orientations for assembled mounting brackets.

338.75.12 **Order example**
- Full set
- Width index
- Series

Strain relief e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with ordering options ▶ From page 1300



triflex®

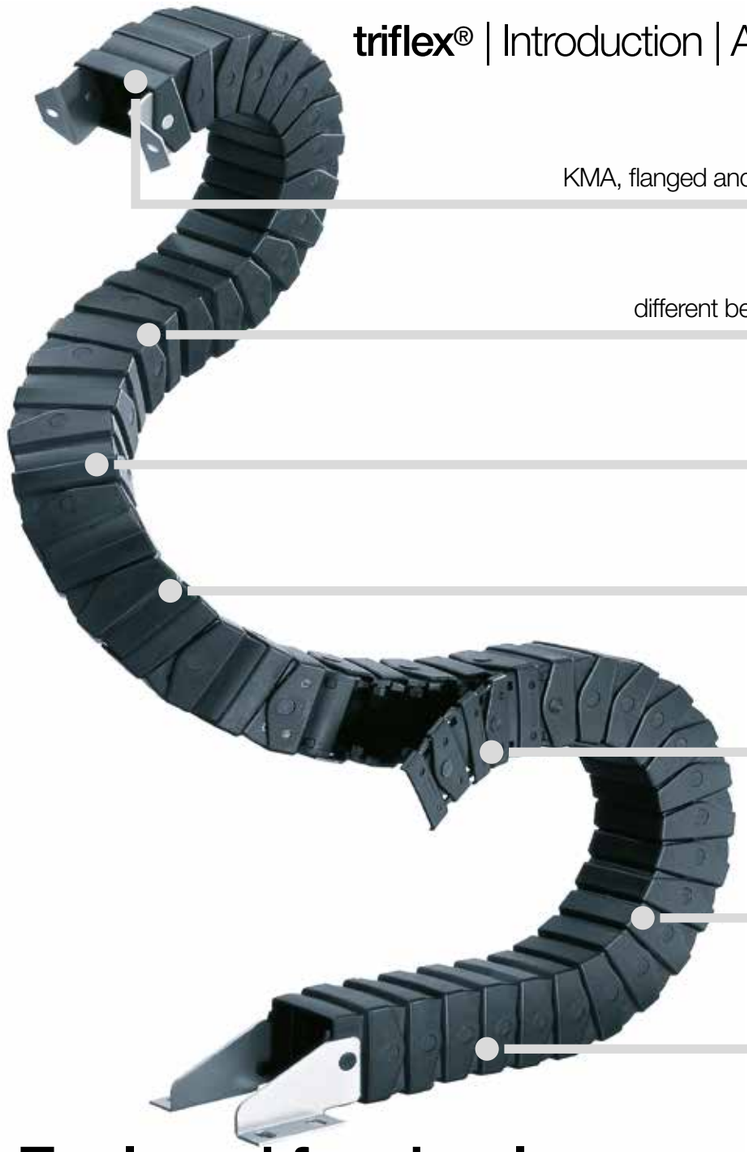
Enclosed for simple multi-axis applications

triflex® advantages:

- For single, double and triple-axis applications (combines circular and linear movements)
- If swarf protection is required
- If square space is required
- For simple multi-axis applications
- High strength

When to use another multi-axis e-chain® series:

- For complex robot applications
  ▶ **triflex® R - TRE, page 866**
- For circular movements with high loads
  ▶ **twisterchain system, page 966**



Universal:
KMA, flanged and angled mounting brackets available

Customisable:
different bend radii and types can be combined

Protection:
completely enclosed -
protection against dirt and swarf

Modular:
combination of fully enclosed
and openable types is possible

Variation:
openable series 352 and 353,
50mm cross section

Effective:
cost-effective for complex
movements

Modular:
easy lengthening and shortening
at any point

Enclosed for simple multi-axis applications - triflex®

The triflex® series was developed to allow safe energy supply for multi-axis movements. In doing so the flexibility of a hose was combined with the stability and defined bend radius of an e-chain®. The unique, modular product range allows very complex motions. For example it is possible to combine 1- 2- and 3-axis links in one e-chain®.

Typical industries and applications
● Machine tools ● Robots ● Material handling ● Plastics industry ● Construction machinery ● Vehicles production ● Medical equipment ● General mechanical engineering, etc.

iF product design award
1992 igus® Series triflex®

Series	Inner width *Bi* [mm]	Outer width *Ba* [mm]	Bend radius *R* [mm]	Pitch [mm]	Page
			**Single-axis movement - enclosed** protection against dirt and swarf		
332.16	16	26	038 - 100	13.3	**958**
332.32	32	50	075 - 250	25	**958**
332.50	50	68	100 - 250	30	**958**
332.75	75	96	140 - 300	36	**958**
352.50*	50	68	100 - 250	30	**958**
			**Double-axis movement - enclosed, with *RBR* (Reverse Bend Radius)** protection against dirt and swarf		
332.16	16	26	038 - 100	13.3	**960**
332.32	32	50	075 - 250	25	**960**
332.50	50	68	100 - 250	30	**960**
332.75	75	96	140 - 300	36	**960**
352.50*	50	68	100 - 250	30	**960**
			**Triple-axis movement - enclosed, with *RBR* (Reverse Bend Radius)** protection against dirt and swarf		
333.16	16	26	038 - 100	13.3	**961**
333.32	32	50	075 - 250	25	**961**
333.50	50	68	100 - 250	30	**961**
333.75	75	96	140 - 300	36	**961**
353.50*	50	68	100 - 250	30	**961**

*Series 352/353 openable

Available from stock. Ready to ship in 24 - 48hrs.*
*The delivery times indicated correspond to the average time until the ordered goods are dispatched.

Technical data

Speed / acceleration	upon request
Material - permitted temperature °C, igumid G	**-40°C / +120°C**
Flammability class, igumid G	**VDE 0304 IIC UL94-HB**

Order example | Order key

Order example for complete e-chain® (1.0m), colour black, with mounting brackets:

e-chain® (1.0m)	Please indicate e-chain® length or number of links: 1.0m or 28 links	**333.75.200/200.0**
+ Mounting brackets	1 set mounting bracket with strain relief	**333.75.12PZ**
+ Interior separation	with 2 separators assembled every 2nd link	**351**
Order text:	**333.75.200/200.0 + 333.75.12PZ + 351**	

Order key Single-axis movement

332.75.200.0
352.50.200.0

- Series
- Width index
- Bend radius *R*
- Standard colour black

Order key Double-axis movement

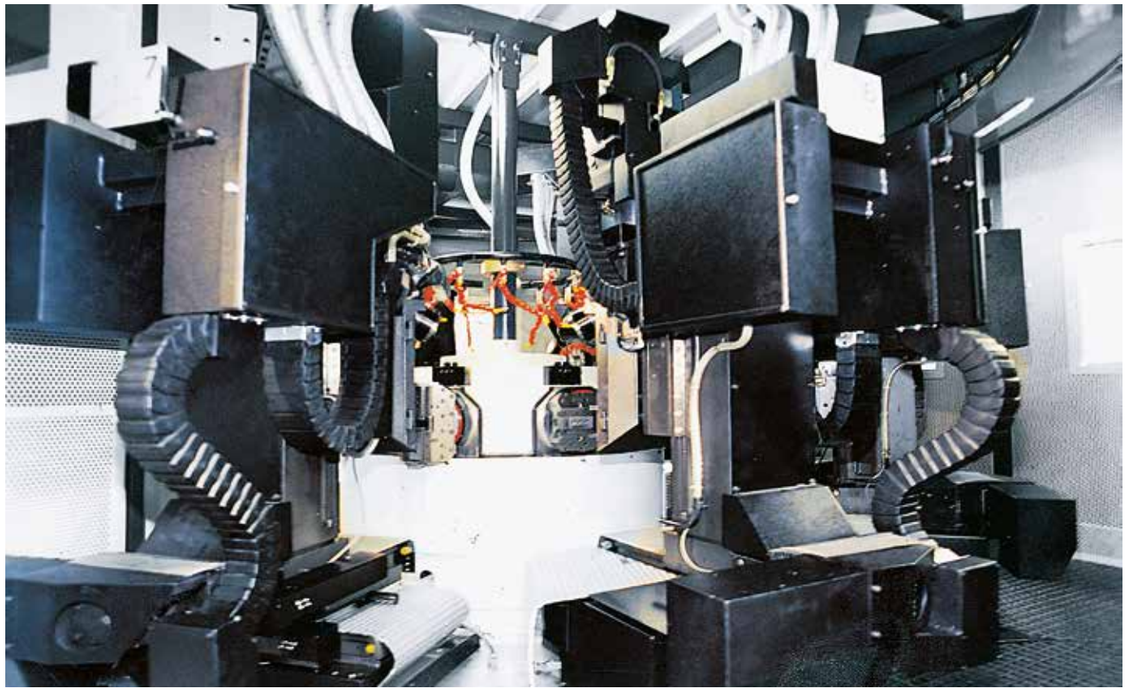
332.75.200/200.0
352.75.200/200.0

- Series
- Width index
- Bend radius *R*
- Bend radius ***RBR***
- Standard colour black

Order key Triple-axis movement

333.75.200/200.0
353.75.200/200.0

- Series
- Width index
- Bend radius *R*
- Bend radius ***RBR***
- Standard colour black



Various triflex® e-chains® on a machining centre



triflex® allows combination of links for triple-axis and single-axis movement



triflex® 332 as unsupported link from machines to control panel

triflex® | Series 332·352 | Product range

Single-axis movement

16-75

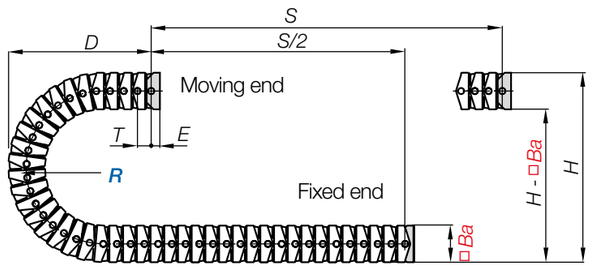


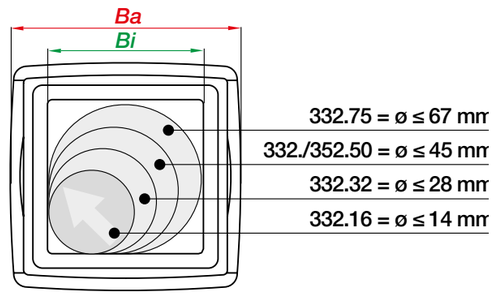
e-tubes | 332 enclosed | 352 openable | Single-axis movement

Part No. enclosed version	Part No. openable version	*Bi* [mm]	*Ba* [mm]	*R* Available bend radii [mm]	Pitch [mm]	Weight [kg/m]
332. 16 .*R*.0	–	16	26	| 038 | 048 | 075 | 100 |	13.3	0.33
332. 32 .*R*.0	–	32	50	| 075 | 100 | 125 | 150 | 200 | 250 |	25	0.90
332. 50 .*R*.0	352. 50 .*R*.0	50	68	| 100 | 125 | 150 | 200 | 250 |	30	1.40
332. 75 .*R*.0	–	75	96	| 140 | 175 | 200 | 250 | 300 |	36	2.35

Complete Part No. with required radius (*R*). Example: **332.75.200.0**

Installation dimensions





	R	038	048	075	100		
332.16	*H*	105	125	180	230		
	D	070	080	105	130		
	K	200	230	315	400		
	R	075	100	125	150	200	250
332.32	*H*	200	250	300	350	450	550
	D	130	155	180	205	255	305
	K	305	385	465	545	700	865
	R	100	125	150	200	250	
332.50 352.50	*H*	270	320	375	470	570	
	D	195	220	245	295	345	
	K	435	520	590	750	910	
	R	140	175	200	250	300	
332.75	*H*	380	450	500	600	700	
	D	240	275	300	350	400	
	K	550	660	740	900	1,060	

332.16	
Ba [mm]	26
Pitch *T* [mm/link]	13.3
Dim. *E* [mm]	10
Links/m	76
corresponds to [mm]	1,011
e-chain® length	$L_K = s/2 + K$

332.32	
Ba [mm]	50
Pitch *T* [mm/link]	25
Dim. *E* [mm]	20
Links/m	40
corresponds to [mm]	1,000
e-chain® length	$L_K = s/2 + K$

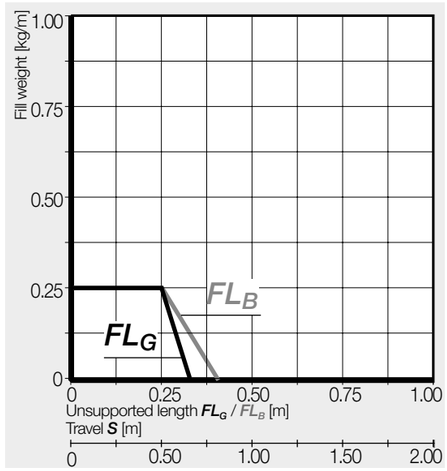
332.50/352.50	
Ba [mm]	68
Pitch *T* [mm/link]	30
Dim. *E* [mm]	25
Links/m	34
corresponds to [mm]	1,020
e-chain® length	$L_K = s/2 + K$

332.75	
Ba [mm]	96
Pitch *T* [mm/link]	36
Dim. *E* [mm]	25
Links/m	28
corresponds to [mm]	1,008
e-chain® length	$L_K = s/2 + K$

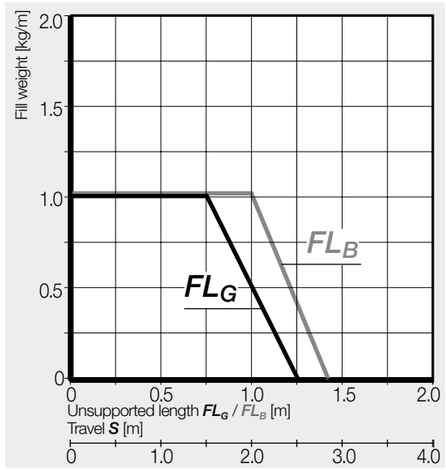
triflex® | Series 332·352 | Installation dimensions

Unsupported applications | Short travels | Single-axis movement

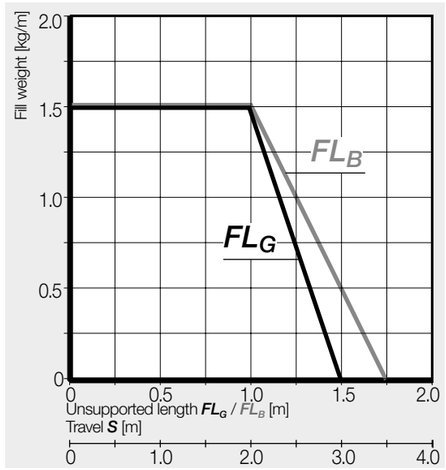
Unsupported length 332.16



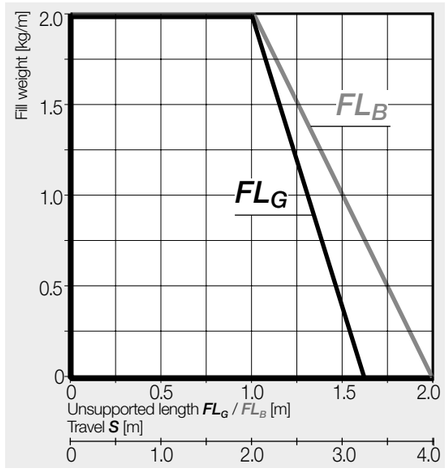
Unsupported length 332.32



Unsupported length 332.50/352.50



Unsupported length 332.75



triflex® | Series 332·352 | Product range

Double-axis movement

16-75



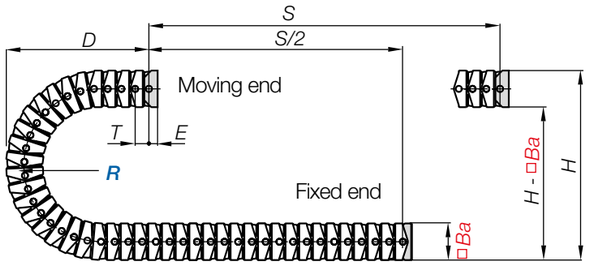
e-tubes | 332 enclosed | 352 openable | Double-axis movement with *RBR**

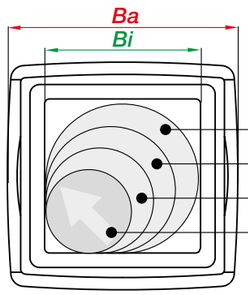
Part No. enclosed version	Part No. openable version	*Bi* [mm]	*Ba* [mm]	*R* Available bend radii [mm]	Pitch [mm]	Weight [kg/m]
332.16.*R*/*R*.0	–	16	26	| 038 | 048 | 075 | 100 |	13.3	0.33
332.32.*R*/*R*.0	–	32	50	| 075 | 100 | 125 | 150 | 200 | 250 |	25	0.90
332.50.*R*/*R*.0	352.50.*R*/*R*.0	50	68	| 100 | 125 | 150 | 200 | 250 |	30	1.40
332.75.*R*/*R*.0	–	75	96	| 140 | 175 | 200 | 250 | 300 |	36	2.35

***RBR** = Reverse Bend Radius

Art. Complete Part No. with required radius (*R*). Example: **332.75.200/200.0**

Installation dimensions





332.75 = ø ≤ 67 mm
332./352.50 = ø ≤ 45 mm
332.32 = ø ≤ 28 mm
332.16 = ø ≤ 14 mm

332.16	*R*	038	048	075	100		
	H	105	125	180	230		
	D	070	080	105	130		
	K	200	230	315	400		
332.32	*R*	075	100	125	150	200	250
	H	200	250	300	350	450	550
	D	130	155	180	205	255	305
	K	305	385	465	545	700	865
332.50 352.50	*R*	100	125	150	200	250	
	H	270	320	375	470	570	
	D	195	220	245	295	345	
	K	435	520	590	750	910	
332.75	*R*	140	175	200	250	300	
	H	380	450	500	600	700	
	D	240	275	300	350	400	
	K	550	660	740	900	1,060	

332.16		332.32	
Ba [mm]	26	*Ba* [mm]	50
Pitch *T* [mm/link]	13.3	Pitch *T* [mm/link]	25
Dim. *E* [mm]	10	Dim. *E* [mm]	20
Links/m	76	Links/m	40
corresponds to [mm]	1,011	corresponds to [mm]	1,000
e-chain® length	$L_K = s/_2 + K$	e-chain® length	$L_K = s/_2 + K$

332.50/352.50		332.75	
Ba [mm]	68	*Ba* [mm]	96
Pitch *T* [mm/link]	30	Pitch *T* [mm/link]	36
Dim. *E* [mm]	25	Dim. *E* [mm]	25
Links/m	34	Links/m	28
corresponds to [mm]	1,020	corresponds to [mm]	1,008
e-chain® length	$L_K = s/_2 + K$	e-chain® length	$L_K = s/_2 + K$

triflex® | Series 333·353 | Product range

Triple-axis movement

16-75



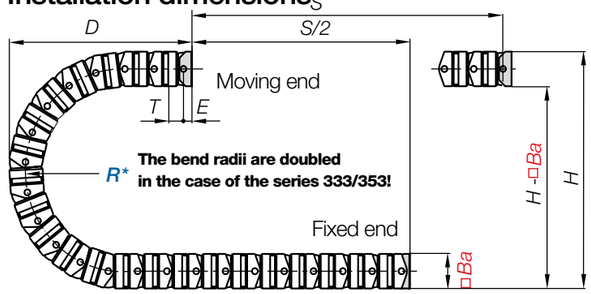
e-tubes | 333 enclosed | 353 openable | Triple-axis movement with *RBR**

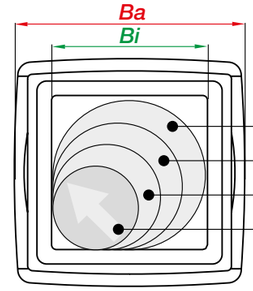
Part No. enclosed version	Part No. openable version	*Bi* [mm]	*Ba* [mm]	*R* Available bend radii [mm]	Pitch [mm]	Weight [kg/m]
333.16.*R*/*R*.0	–	16	26	| 038 | 048 | 075 | 100 |	13.3	0.33
333.32.*R*/*R*.0	–	32	50	| 075 | 100 | 125 | 150 | 200 | 250 |	25	0.90
333.50.*R*/*R*.0	353.50.*R*/*R*.0	50	68	| 100 | 125 | 150 | 200 | 250 |	30	1.40
333.75.*R*/*R*.0	–	75	96	| 140 | 175 | 200 | 250 | 300 |	36	2.35

***RBR** = Reverse Bend Radius The bend radii are doubled in the case of the series 333/353

Complete Part No. with required radius (*R*). Example: **333.75.200/200.0**

Installation dimensions





333.75 = ø ≤ 67 mm
333./353.50 = ø ≤ 45 mm
333.32 = ø ≤ 28 mm
333.16 = ø ≤ 14 mm

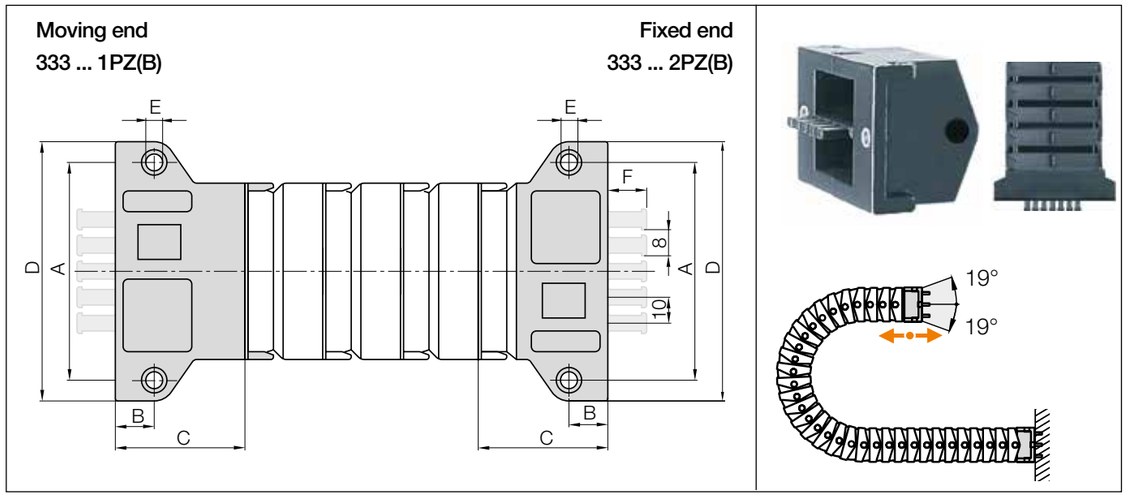
333.16	*R*	038	048	075	100		
	H	180	220	330	430		
	D	105	125	180	230		
	K	320	380	550	710		
333.32	*R*	075	100	125	150	200	250
	H	350	450	550	650	850	1,050
	D	205	255	305	355	455	555
	K	545	700	860	1,020	1,300	16
333.50 353.50	*R*	100	125	150	200	250	
	H	470	570	670	870	1,070	
	D	295	345	395	495	595	
	K	750	910	1,070	1,380	1,690	
333.75	*R*	140	175	200	250	300	
	H	660	800	900	1,100	1,300	
	D	380	450	500	600	700	
	K	990	1,210	1,400	1,700	2,000	

333.16		333.32	
Ba [mm]	26	*Ba* [mm]	50
Pitch *T* [mm/link]	13.3	Pitch *T* [mm/link]	25
Dim. *E* [mm]	10	Dim. *E* [mm]	20
Links/m	76	Links/m	40
corresponds to [mm]	1,011	corresponds to [mm]	1,000
e-chain® length	$L_K = s/_2 + K$	e-chain® length	$L_K = s/_2 + K$

333.50/353.50		333.75	
Ba [mm]	68	*Ba* [mm]	96
Pitch *T* [mm/link]	30	Pitch *T* [mm/link]	36
Dim. *E* [mm]	25	Dim. *E* [mm]	25
Links/m	34	Links/m	28
corresponds to [mm]	1,020	corresponds to [mm]	1,008
e-chain® length	$L_K = s/_2 + K$	e-chain® length	$L_K = s/_2 + K$

triflex® | Series 332·333·352·353 | Accessories

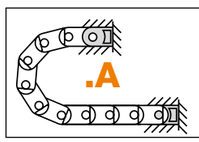
KMA mounting brackets | Attachment from any side | One end pivoting



KMA mounting brackets | One end pivoting

Width index		Part No. full set with tiewrap plates	Part No. full set without tiewrap plates	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	F [mm]	Number of teeth
32.	▶	**333.32.12PZB**	**333.32.12PZ**	66	15	46	82	6.5	15	3
50.	▶	**333.50.12PZB**	**333.50.12PZ**	84	15	50	100	6.5	15	5
75.	▶	**333.75.12PZB**	**333.75.12PZ**	109	15	55	125	6.5	15	7

Note series 333: the mounting brackets are only available for e-chains® with **even number** of chain links!



The bracket orientations are set automatically when using KMA mounting bracket. To receive brackets **pre-fitted** please add index **A**.

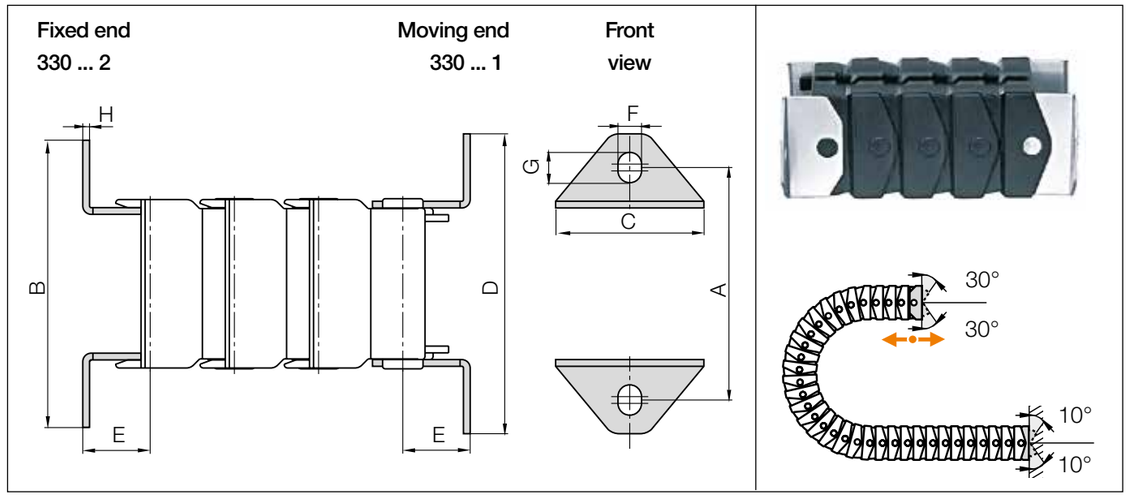
333.75.12PZB.A Order example

- .A ... to indicate option with brackets pre-fitted
- With integrated strain relief tiewrap plates
- Full set
- Width index
- Series

Strain relief e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with ordering options ▶ From page 1300

triflex® | Series 332·333·352·353 | Accessories

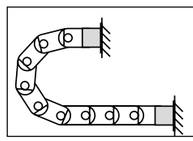
Mounting brackets, flange, steel | Pivoting



Mounting brackets, flange, steel | Pivoting

Width index		Part No. full set	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	F [mm]	G [mm]	H [mm]
16.	▶	**330.16.12**	35	53	21	57	10	4.5	6	1
32.	▶	**330.32.12**	66	84	44	88	20	7	9	2
50.	▶	**330.50.12**	84	102	62	106	25	7	9	2
75.	▶	**330.75.12**	109	127	90	131	25	7	9	2

Note series 333: the mounting brackets are only available for e-chains® with **even number** of chain links!



Flush attachment possible using flange mounting brackets made of steel.

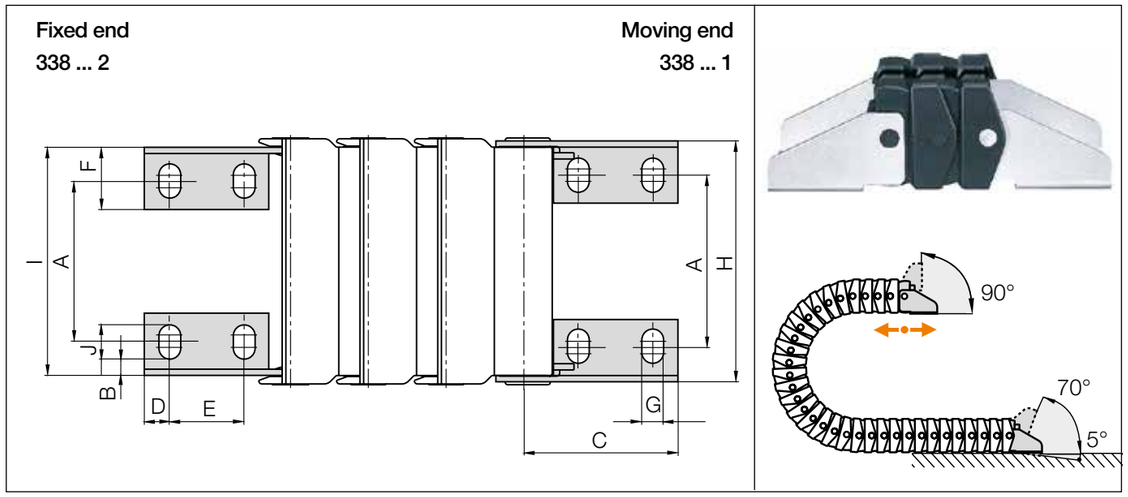
330.75.12 Order example

- Full set
- Width index
- Series

Strain relief e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with ordering options ▶ From page 1300

triflex® | Series 332·333·352·353 | Accessories

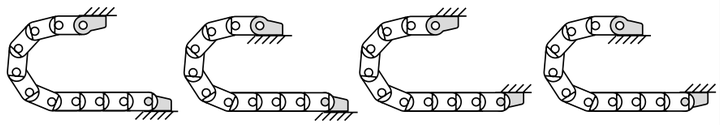
Mounting brackets, angled, steel | Pivoting



Mounting brackets, angled, steel | Pivoting

Width index	Part No. full set	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	F [mm]	G [mm]	H [mm]	I [mm]	J [mm]
16.	**338.16.12**	12	3	25	5	10	11	4.5	25	23	6
32.	**338.32.12**	24	5.5	47	8	24	20	7	49	45	11
50.	**338.50.12**	42	5.5	77	12	35	24	9	67	62	15
75.	**338.75.12**	65	5.5	77	12	35	24	9	95	90	15

Note series 333: the mounting brackets are only available for e-chains® with **even number** of chain links!



Possible orientations for assembled mounting brackets.

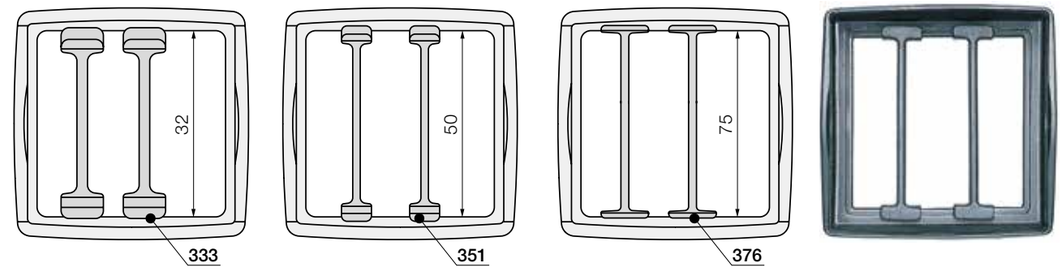
338.75.12 **Order example**

- Full set
- Width index
- Series

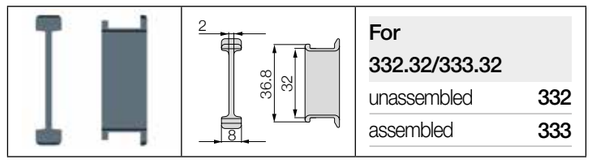
Strain relief e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with ordering options ▶ From page 1300

triflex® | Series 332·333·352·353 | Accessories

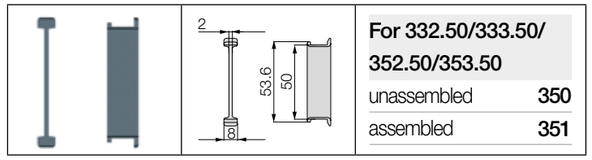
Interior separation



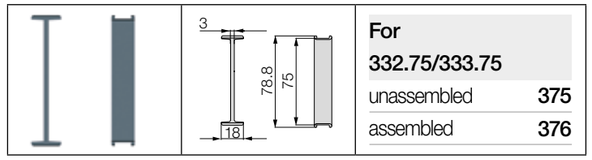
As standard separators are fitted every 2nd e-chain® link!



For 332.32/333.32	
unassembled	**332**
assembled	**333**



For 332.50/333.50/ 352.50/353.50	
unassembled	**350**
assembled	**351**



For 332.75/333.75	
unassembled	**375**
assembled	**376**

Separators

Modular separators are available as interior separation for the igus® triflex® system. They can be used for both vertical and horizontal subdivision. If the separators are assembled every other link and turned 90°, the e-tube can be subdivided into four segments. We recommend ordering the separators pre-fitted, as fitting of separators is only possible after dismantling the e-tube.

twisterchain

Circular and spiral movements

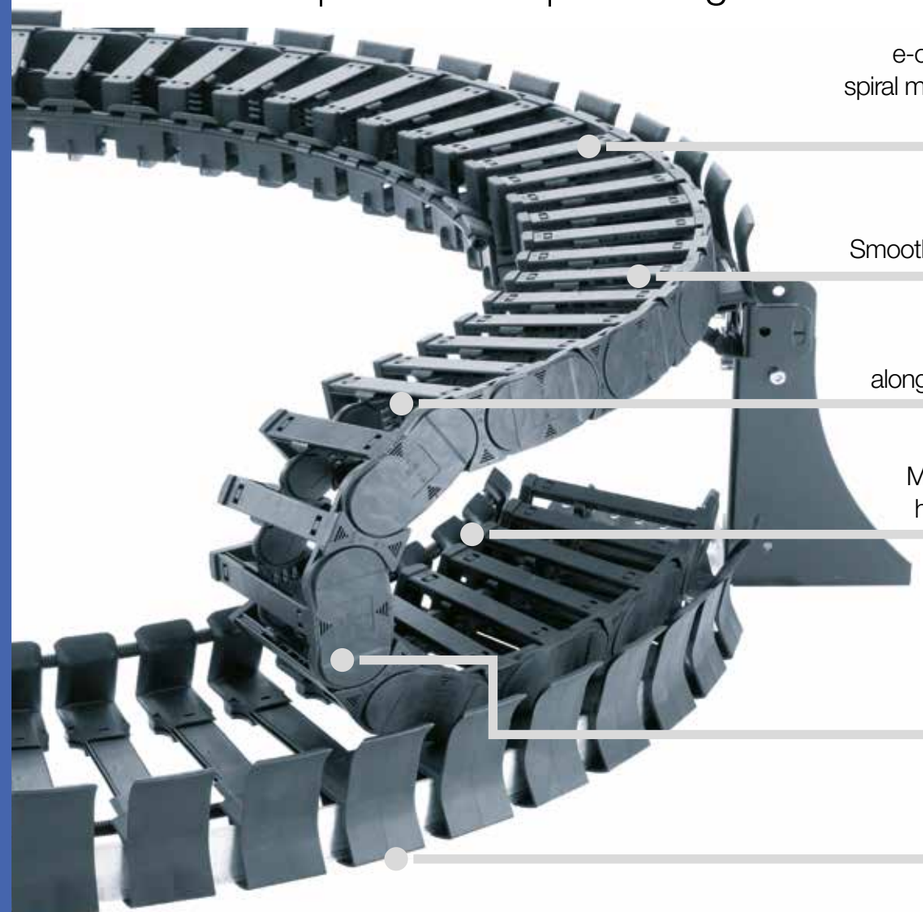
twisterchain advantages:

- e-chains® for circular and spiral movements up to 360°* available from stock
- Tough, quiet and high dynamics, suitable for high fill weights
- Rotary speeds up to 1m/s and more
- Modular interior separation
- Smooth cable-friendly interior
- Openable from both sides - crossbars removable along the inner and outer radius

When to use another igus® solution:

- For large rotary movements, igus® ***RBR*** solutions
  ► **Designing, page 126**
- In case of rotary movements in the most confined spaces up to 7,000°
  ► **twisterband, page 988**
- For angle of rotation >360° please contact us.

*Up to 540° upon request



Strong, quiet and up to 360°* - circular and spiral movements with twisterchain

The igus® twisterchain product line offers an extensive range of products for circular movement and is available in four sizes. Its modular width and radius design ensures it can be used flexibly in applications with rotary and spiral movements up to 360° and more, with high fill weights and where smooth operation is required. twisterchain applications are available with modular guide troughs which offer: e-chain® guidance, reduced e-chain® wear, optimal levels of smooth operation, angle of rotations up to 360°* from stock.

- Strong, high fill weights, smooth running
- Rotary speeds up to 1m/s and more
- e-chains® for circular and spiral movements up to 360°*available from stock
- Cable-friendly, smooth interior
- Crossbars openable along the inner and outer radius
- Successfully tested for over 1 million cycles in the igus® laboratory

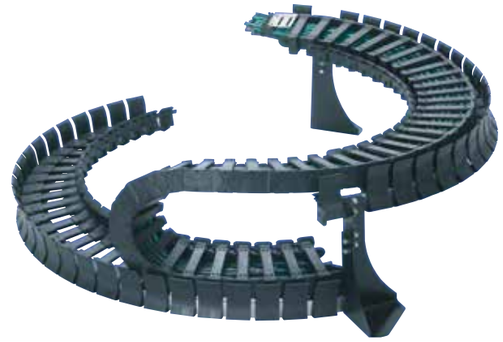
*Up to 540° upon request

Typical industries and applications

- Robots, Handling machines
- Packaging machines
- Glass machines
- General machinery, etc.

e-chains® for circular movements up to 360° available from stock (up to 540° upon request)

UL94-V0 classification upon request

Series	Inner height *hi* [mm]	Inner width *Bi* [mm]	Outer width *Ba* [mm]	Outer height *ha* [mm]	Bend radius *R* [mm]	Circular radii *AR* [mm]	Page
 **twisterchain** For circular movements up to 360° available from stock; for angle of rotation >360° please contact us. Crossbars removable along the inner and outer radius							
2208.*	28	52.5 - 112.5	80 - 140	42	055 - 150	300	**972**
TC32	32	87.5 - 150	108.5 - 171	54	100 - 250	400 - 600	**974**
TC42	42	87.5 - 200	110.5 - 223	64	100 - 250	400 - 850	**976**
TC56	56	125 - 200	155 - 230	84	150 - 400	650 - 850	**978**

*twisterchain classic (1st generation), openable from both sides

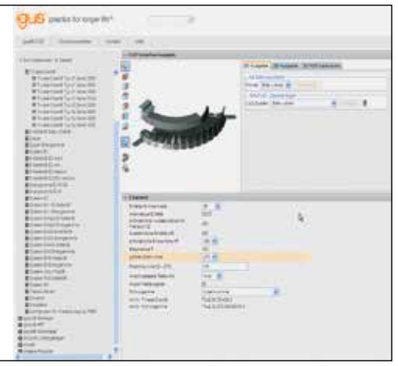
Available from stock. Ready to ship in 24 - 48hrs.*

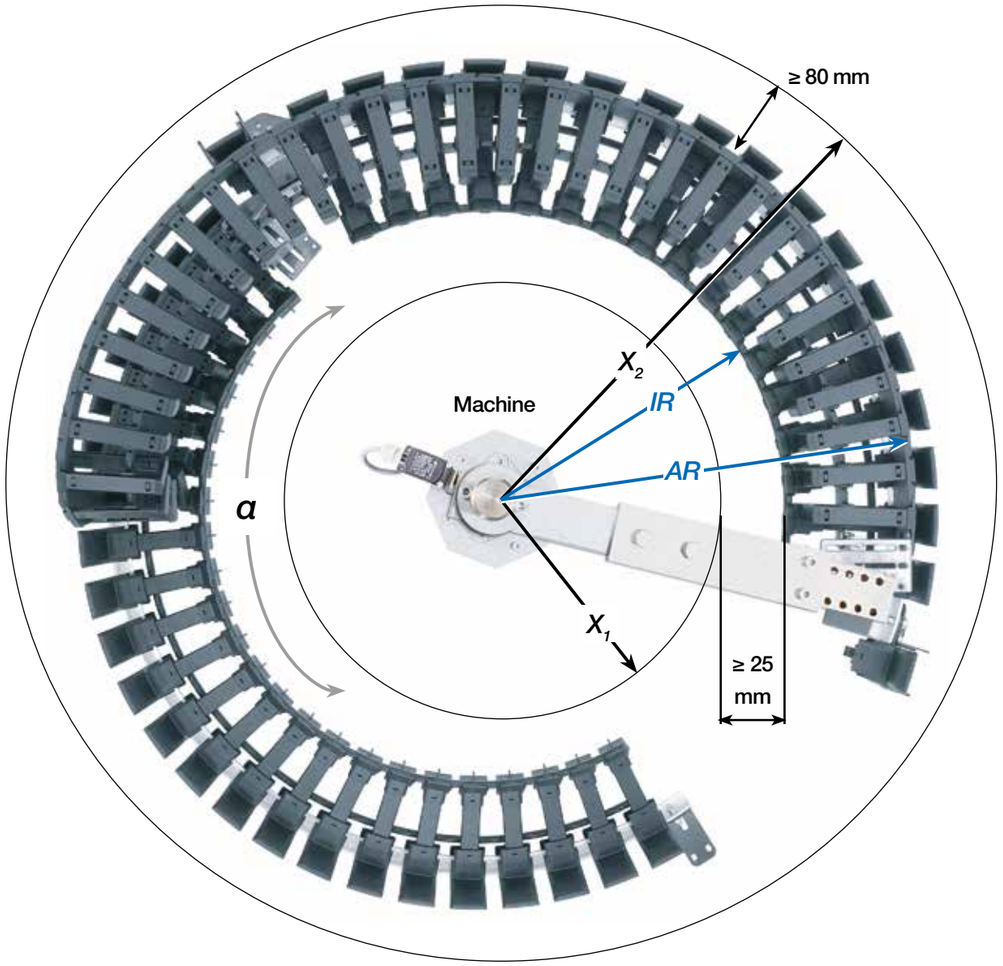
*The delivery times indicated correspond to the average time until the ordered goods are dispatched.

Quickly generate complete twisterchain 3D CAD models

- Get complete 3D models just by inputting the angle of rotation and basic dimensions
- Free positioning of the e-chain® moving end along the travel length
- Optional generation of twisterchain as an individual part or complete with guide trough and base support
- Fast download of the CAD files without registration
- 11 different 3D formats and 8 different 2D formats available

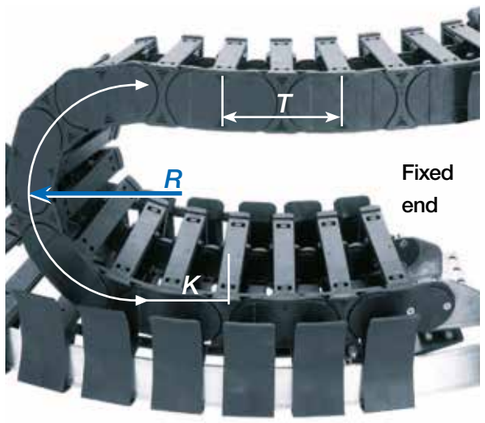
More information ▶ www.igus.eu/twister-configurator

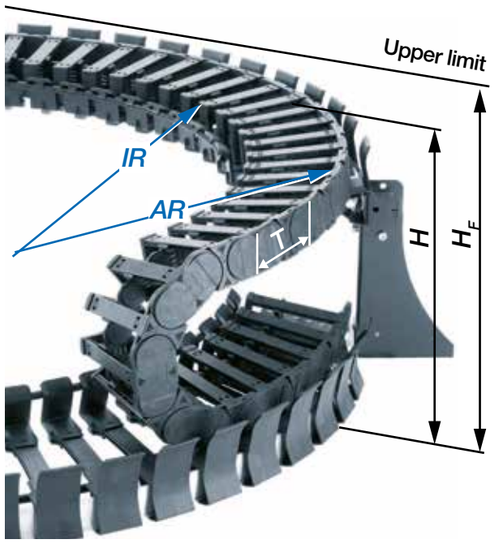




twisterchain general information

In the case of machines which rotate in one direction then the other, the total rotation angle required is the sum of the two angles.





AR = Outer radius of e-chain®
IR = Inner radius e-chain®
R = Bend radius e-chain®
X_1 = Inner machine limit
X_2 = Outer machine limit
T = Pitch
H_F = e-chain® height incl. 50mm clearance
H = e-chain® height
K = Add-on for bend radius
hi = Inner height e-chain®
ha = Outer height e-chain®
α = Rotation angle

Technical data

Speed / acceleration	upon request
Material - permitted temperature °C, igumid G	**-40°C / +120°C**
Flammability class, igumid G	**VDE 0304 IIC UL94-HB**

Order example | Order key

Order example for complete e-chain® (1.0m), colour black, with mounting brackets:

e-chain® (1.0m)	Please indicate e-chain® length or number of links: 1.0m or 11 links	**TC56.12.250/650.0**
+ Mounting brackets	1 set	**TC5600.34.VS.E**
Order text:	**1 m TC56.12.250/650.0 + TC5600.34.VS.E**	

Order key

TC56.12.250/650.0

- Series
- Inner height
- Width index (depends on *Bi*)
- Bend radius *R*
- Outer radius *AR*
- Standard colour black

TC56.12.250/650.0 =
e-chain® openable along the inner radius, from both sides
Bi 12mm inner width, *R* 250mm bend radius /
AR 650mm outer radius, colour black

twisterchain classic* | Series 2208 | Product range

28

e-chains® for circular and spiral movements up to 360°

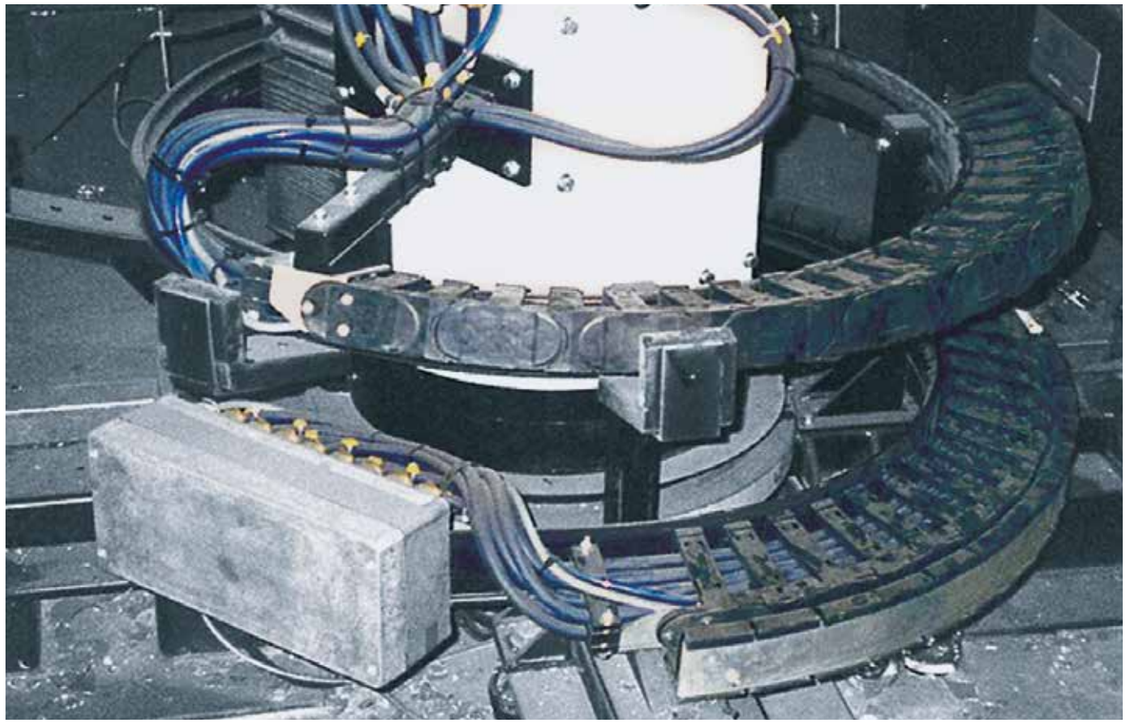
Series 2208 | Crossbars removable along the inner and outer radius

AR	IR	Bi	Ba	R 055 [mm]	R 063 [mm]	R 075 [mm]	R 100 [mm]	R 125 [mm]	R 150 [mm]	2208
[mm]	[mm]	[mm]	[mm]	2208...	2208...	2208...	2208...	2208...	2208...	[kg/m]
300	227	52.5	80	.052.063/300	.052.063/300	.052.075/300	.052.100/300	.052.125/300	.052.150/300	≈ 1.20
300	217	62.5	90	–	–	.062.075/300	.062.100/300	.062.125/300	.062.150/300	≈ 1.24
300	205	74.5	102	–	–	–	.074.100/300	.074.125/300	.074.150/300	≈ 1.29
300	192	87.5	115	–	–	–	.087.100/300	.087.125/300	.087.150/300	≈ 1.35
300	167	112.5	140	–	–	–	–	.112.125/300	.112.150/300	≈ 1.46

*twisterchain classic (1st generation),

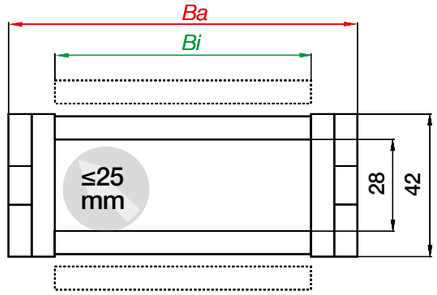
R	055	063	075	100	125	150
K	265	290	330	410	485	565

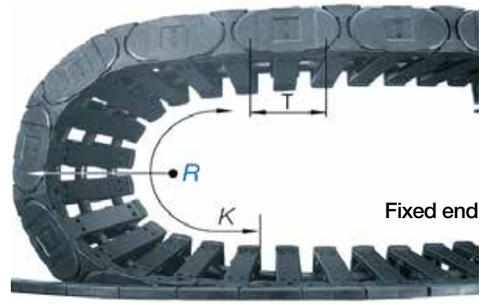
Pitch [mm/link]	44
Links/m	23
corresponds to [mm]	1,012



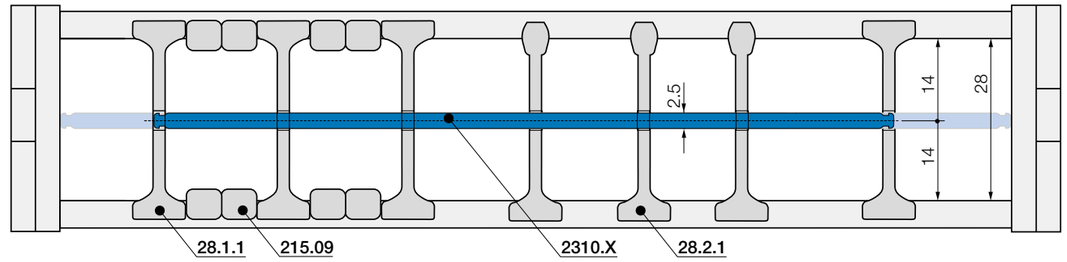
Combined spiral and circular movement - igus® twisterchain classic (1st generation)

Dimensions





Series 2208 | interior separation



For this series the interior separation products for series E4.28 may be used (except side plates) ▶ From page 586

AR = Outer radius of e-chain®
IR = Inner radius e-chain®
R = Bend radius e-chain®
X_1 = Inner machine limit
X_2 = Outer machine limit
A1 = Intermediate link position
H = Nominal clearance height
K = Add-on for bend radius
T = Pitch

twisterchain | Series TC32 | Product range

e-chains® for circular and spiral movements up to 360°

32

Series TC32 | Crossbars removable along the inner and outer radius

AR	Bi	Ba	X_2	X_1	R 100 [mm]	R 125 [mm]	R 150 [mm]	R 175 [mm]	R 200 [mm]	R 250 [mm]	TC32
[mm]	[mm]	[mm]	[mm]	[mm]	TC32...	TC32...	TC32...	TC32...	TC32...	TC32...	[kg/m]
400	87.5	108.5	480	270	087.100/400	087.125/400	087.150/400	087.175/400	087.200/400	087.250/400	≈ 1.82
400	100	121	480	250	–	–	10.150/400	10.175/400	10.200/400	10.250/400	≈ 1.90
400	108	129	480	250	–	–	–	11.175/400	11.200/400	11.250/400	≈ 1.95
400	125	146	480	220	–	–	–	12.175/400	12.200/400	12.250/400	≈ 2.05
400	137.5	158.5	480	210	–	–	–	–	–	137.250/400	≈ 2.13
400	150	171	480	200	–	–	–	–	–	15.250/400	≈ 2.21
500	100	121	580	350	10.100/500	10.125/500	10.150/500	10.175/500	10.200/500	10.250/500	≈ 1.90
500	108	129	580	350	–	11.125/500	11.150/500	11.175/500	11.200/500	11.250/500	≈ 1.95
500	125	146	580	320	–	12.125/500	12.150/500	12.175/500	12.200/500	12.250/500	≈ 2.05
500	137.5	158.5	580	310	–	–	137.150/500	137.175/500	137.200/500	137.250/500	≈ 2.13
500	150	171	580	300	–	–	15.150/500	15.175/500	15.200/500	15.250/500	≈ 2.21
600	108	129	680	450	11.100/600	11.125/600	11.150/600	–	–	–	≈ 1.95
600	125	146	680	420	–	12.125/600	12.150/600	12.175/600	12.200/600	12.250/600	≈ 2.05
600	137.5	158.5	680	410	–	137.125/600	137.150/600	137.175/600	137.200/600	137.250/600	≈ 2.13
600	150	171	680	400	–	–	15.150/600	15.175/600	15.200/600	15.250/600	≈ 2.21

R	100	125	150	175	200	250
H^{+2}_{0}	254	304	354	404	454	554
K	465	550	620	700	780	940

Pitch [mm/link]	56
Links/m	18
corresponds to [mm]	1,008



twisterchain 2nd generation from igus® - successfully tested for over 1 million cycles in the igus® laboratory

twisterchain | Series TC32 | Installation dimensions

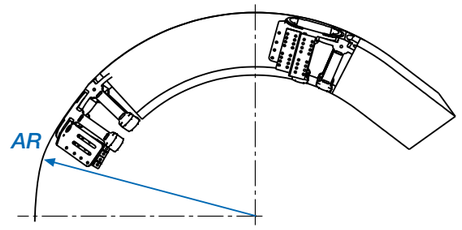
01

▶ 982

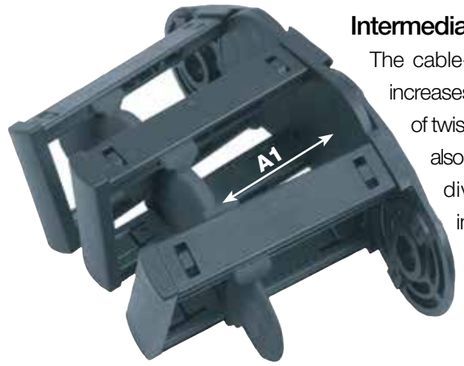
Dimension A1 dependent on outer radius AR

AR	R 100	R 125	R 150	R 175	R 200	R 250
[mm]	A1 [mm]	A1 [mm]	A1 [mm]	A1 [mm]	A1 [mm]	A1 [mm]
400	51	51	52	53	53	58
500	65	65	66	67	69	71
600	79	80	81	81	82	85

Dimension A1 always with tolerance of ± 2.5mm



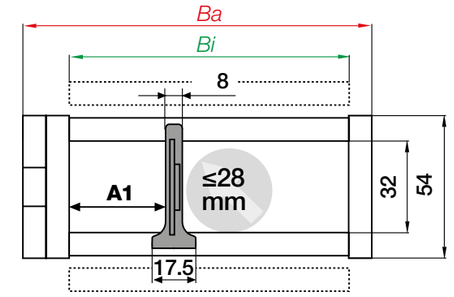
Note: outer radius *AR* (see drawing) determines **dimension A1!**



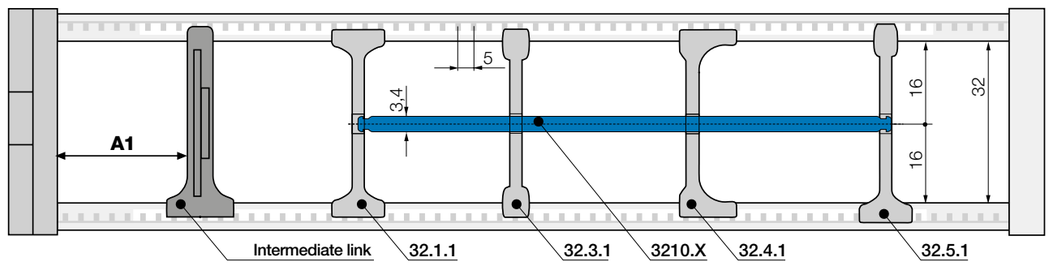
Intermediate link

The cable-friendly intermediate link increases the strength and stability of twisterchain many times over. It also serves as interior separation, dividing the filling space into two chambers. **Outer radius *AR* determines dimension A1.**

Dimensions



Series TC32 | Interior separation



For this series the interior separation products for series E4.32 may be used (except side plates) ▶ From page 594

AR = Outer radius of e-chain®
IR = Inner radius e-chain®
R = Bend radius e-chain®
X_1 = Inner machine limit
X_2 = Outer machine limit
A1 = Intermediate link position
H = Nominal clearance height
K = Add-on for bend radius
T = Pitch

twisterchain | Series TC42 | Product range

e-chains® for circular and spiral movements up to 360°

42

Series TC42 | Crossbars removable along the inner and outer radius

AR	Bi	Ba	X_2	X_1	R 100 [mm]	R 125 [mm]	R 150 [mm]	R 175 [mm]	R 200 [mm]	R 250 [mm]	TC42
[mm]	[mm]	[mm]	[mm]	[mm]	TC42...	TC42...	TC42...	TC42...	TC42...	TC42...	[kg/m]
400	87.5	110.5	480	270	087.100/400	087.125/400	087.150/400	087.175/400	087.200/400	087.250/400	≈ 1.97
400	100	123	480	250	10.100/400	10.125/400	10.150/400	10.175/400	10.200/400	10.250/400	≈ 2.03
400	108	131	480	250	–	11.125/400	11.150/400	11.175/400	11.200/400	11.250/400	≈ 2.07
400	125	148	480	220	–	12.125/400	12.150/400	12.175/400	12.200/400	12.250/400	≈ 2.16
400	137.5	160.5	480	210	–	137.125/400	137.150/400	137.175/400	137.200/400	137.250/400	≈ 2.22
400	150	173	480	200	–	–	–	15.175/400	15.200/400	15.250/400	≈ 2.29
400	162.5	185.5	480	190	–	–	–	–	162.200/400	162.250/400	≈ 2.35
400	168	191	480	190	–	–	–	–	–	17.250/400	≈ 2.38
400	175	198	480	180	–	–	–	–	–	18.250/400	≈ 2.41
500	100	123	580	350	10.100/500	10.125/500	10.150/500	10.175/500	10.200/500	10.250/500	≈ 2.03
500	108	131	580	350	–	11.125/500	11.150/500	11.175/500	11.200/500	11.250/500	≈ 2.07
500	125	148	580	320	–	12.125/500	12.150/500	12.175/500	12.200/500	12.250/500	≈ 2.16
500	137.5	160.5	580	310	–	–	137.150/500	137.175/500	137.200/500	137.250/500	≈ 2.22
500	150	173	580	300	–	–	15.150/500	15.175/500	15.200/500	15.250/500	≈ 2.29
500	162.5	185.5	580	290	–	–	162.150/500	162.175/500	162.200/500	162.250/500	≈ 2.35
500	168	191	580	290	–	–	–	17.175/500	17.200/500	17.250/500	≈ 2.38
500	175	198	580	280	–	–	–	–	18.200/500	18.250/500	≈ 2.41
500	187.5	210.5	580	280	–	–	–	–	187.200/500	187.250/500	≈ 2.48
500	200	223	580	250	–	–	–	–	20.200/500	20.250/500	≈ 2.54
600	108	131	680	450	11.100/600	11.125/600	11.150/600	11.175/600	11.200/600	–	≈ 2.07
600	125	148	680	420	12.100/600	12.125/600	12.150/600	12.175/600	12.200/600	12.250/600	≈ 2.16
600	137.5	160.5	680	410	137.100/600	137.125/600	137.150/600	137.175/600	137.200/600	137.250/600	≈ 2.22
600	150	173	680	400	15.100/600	15.125/600	15.150/600	15.175/600	15.200/600	15.250/600	≈ 2.29
600	162.5	185.5	680	390	–	162.125/600	162.150/600	162.175/600	162.200/600	162.250/600	≈ 2.35
600	168	191	680	390	–	–	17.150/600	17.175/600	17.200/600	17.250/600	≈ 2.38
600	175	198	680	380	–	–	18.150/600	18.175/600	18.200/600	18.250/600	≈ 2.41
600	187.5	210.5	680	380	–	–	187.150/600	187.175/600	187.200/600	187.250/600	≈ 2.48
600	200	223	680	350	–	–	20.150/600	20.175/600	20.200/600	20.250/600	≈ 2.54
650	125	148	730	470	12.100/650	12.125/650	12.150/650	12.175/650	12.200/650	12.250/650	≈ 2.16
650	137.5	160.5	730	460	137.100/650	137.125/650	137.150/650	137.175/650	137.200/650	137.250/650	≈ 2.22
650	150	173	730	450	15.100/650	15.125/650	15.150/650	15.175/650	15.200/650	15.250/650	≈ 2.29
650	162.5	185.5	730	440	–	162.125/650	162.150/650	162.175/650	162.200/650	162.250/650	≈ 2.35
650	168	191	730	430	–	17.125/650	17.150/650	17.175/650	17.200/650	17.250/650	≈ 2.38
650	175	198	730	430	–	–	18.150/650	18.175/650	18.200/650	18.250/650	≈ 2.41
650	187.5	210.5	730	420	–	–	187.150/650	187.175/650	187.200/650	187.250/650	≈ 2.48
650	200	223	730	400	–	–	20.150/650	20.175/650	20.200/650	20.250/650	≈ 2.54
750	137.5	160.5	830	560	137.100/750	137.125/750	137.150/750	137.175/750	137.200/750	137.250/750	≈ 2.22
750	150	173	830	550	15.100/750	15.125/750	15.150/750	15.175/750	15.200/750	15.250/750	≈ 2.29
750	162.5	185.5	830	540	–	162.125/750	162.150/750	162.175/750	162.200/750	162.250/750	≈ 2.35
750	168	191	830	540	–	17.125/750	17.150/750	17.175/750	17.200/750	17.250/750	≈ 2.38
750	175	198	830	530	–	18.125/750	18.150/750	18.175/750	18.200/750	18.250/750	≈ 2.41
750	187.5	210.5	830	520	–	187.125/750	187.150/750	187.175/750	187.200/750	187.250/750	≈ 2.48
750	200	223	830	500	–	20.125/750	20.150/750	20.175/750	20.200/750	20.250/750	≈ 2.54
850	150	173	930	650	15.100/850	15.125/850	15.150/850	15.175/850	15.200/850	15.250/850	≈ 2.29
850	162.5	185.5	930	640	162.100/850	162.125/850	162.150/850	162.175/850	162.200/850	162.250/850	≈ 2.35
850	168	191	930	630	17.100/850	17.125/850	17.150/850	17.175/850	17.200/850	17.250/850	≈ 2.38
850	175	198	930	630	–	18.125/850	18.150/850	18.175/850	18.200/850	18.250/850	≈ 2.41
850	187.5	210.5	930	620	–	187.125/850	187.150/850	187.175/850	187.200/850	187.250/850	≈ 2.48
850	200	223	930	600	–	20.125/850	20.150/850	20.175/850	20.200/850	20.250/850	≈ 2.54

R	100	125	150	175	200	250
H $^{0}_{+25}$	267	317	367	417	467	567
K	500	650	725	800	875	1,050

Pitch [mm/link]	67
Links/m	15
corresponds to [mm]	1,005

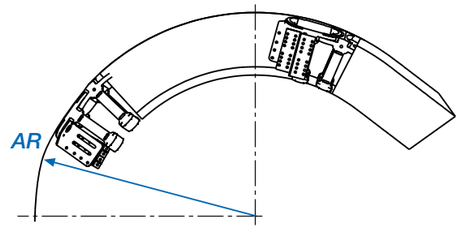
twisterchain | Series TC42 | Installation dimensions

01 ▶ 982

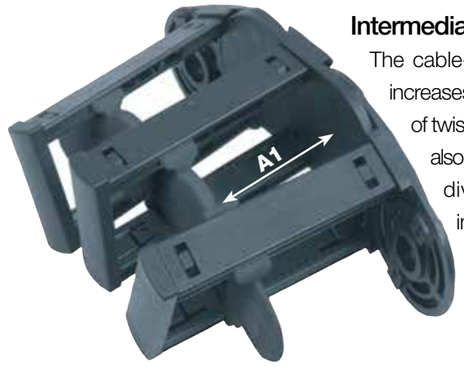
Dimension A1 dependent on outer radius AR

AR	R 100	R 125	R 150	R 175	R 200	R 250
[mm]	A1 [mm]	A1 [mm]	A1 [mm]	A1 [mm]	A1 [mm]	A1 [mm]
400	49	50	51	53	54	58
500	64	65	66	67	68	71
600	79	79	80	81	82	85
650	86	87	87	88	89	92
750	101	101	102	103	104	106
850	116	116	117	118	118	120

Dimension A1 always with tolerance of ± 2.5mm



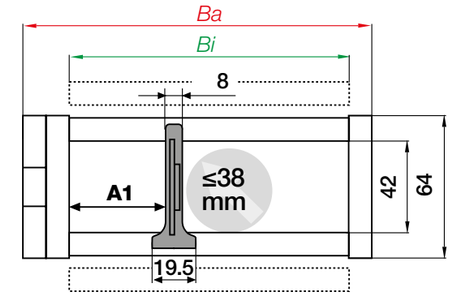
Note: outer radius *AR* (see drawing) determines **dimension A1!**



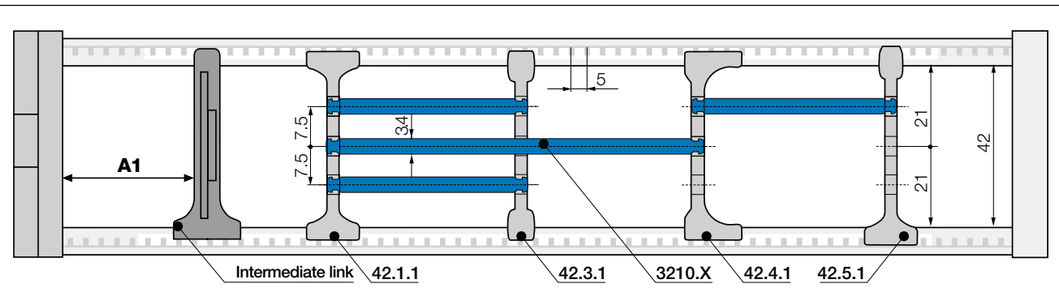
Intermediate link

The cable-friendly intermediate link increases the strength and stability of twisterchain many times over. It also serves as interior separation, dividing the filling space into two chambers. **Outer radius *AR* determines dimension A1.**

Dimensions



Series TC42 | Interior separation



For this series the interior separation products for series E4.42 may be used (except side plates) ▶ From page 604

AR = Outer radius of e-chain®
IR = Inner radius e-chain®
R = Bend radius e-chain®
X_1 = Inner machine limit
X_2 = Outer machine limit
A1 = Intermediate link position
H = Nominal clearance height
K = Add-on for bend radius
T = Pitch

twisterchain | Series TC56 | Product range

56

e-chains® for circular and spiral movements up to 360°

Series TC56 | Crossbars removable along the inner and outer radius

AR	Bi	Ba	X_2	X_1	R 150 [mm]	R 200 [mm]	R 250 [mm]	R 300 [mm]	R 400 [mm]	TC56
[mm]	[mm]	[mm]	[mm]	[mm]	TC56...	TC56...	TC56...	TC56...	TC56...	[kg/m]
650	125	155	730	470	12.150/650	12.200/650	12.250/650	12.300/650	–	≈ 3.45
650	137.5	168	730	460	–	13.200/650	13.250/650	13.300/650	13.400/650	≈ 3.54
650	150	180	730	450	–	–	15.250/650	15.300/650	15.400/650	≈ 3.62
650	162.5	193	730	440	–	–	16.250/650	16.300/650	16.400/650	≈ 3.70
650	175	205	730	430	–	–	–	17.300/650	17.400/650	≈ 3.78
650	187.5	218	730	420	–	–	–	18.300/650	18.400/650	≈ 3.87
650	200	230	730	400	–	–	–	–	20.400/650	≈ 3.95
750	137.5	168	830	560	.13.150/750	.13.200/750	.13.250/750	.13.300/750	–	≈ 3.54
750	150	180	830	550	–	.15.200/750	.15.250/750	.15.300/750	.15.400/750	≈ 3.62
750	162.5	193	830	540	–	.16.200/750	.16.250/750	.16.300/750	.16.400/750	≈ 3.70
750	175	205	830	530	–	–	.17.250/750	.17.300/750	.17.400/750	≈ 3.78
750	187.5	218	830	520	–	–	.18.250/750	.18.300/750	.18.400/750	≈ 3.87
750	200	230	830	500	–	–	.20.250/750	.20.300/750	.20.400/750	≈ 3.95
850	150	180	930	650	15.150/850	15.200/850	15.250/850	15.300/850	15.400/850	≈ 3.62
850	162.5	193	930	640	16.150/850	16.200/850	16.250/850	16.300/850	16.400/850	≈ 3.70
850	175	205	930	630	17.150/850	17.200/850	17.250/850	17.300/850	17.400/850	≈ 3.78
850	187.5	218	930	620	–	18.200/850	18.250/850	18.300/850	18.400/850	≈ 3.87
850	200	230	930	600	–	–	20.250/850	20.300/850	20.400/850	≈ 3.95

R	150	200	250	300	400
H^{0}_{+25}	384	484	584	684	884
K	750	900	1,050	1,225	1,450

Pitch [mm/link]	91
Links/m	11
corresponds to [mm]	1,001



twisterchain in a guide trough type 01 for rotary movement on an articulated robot - long service life and robust: tested successfully for more than 1,000,000 cycles

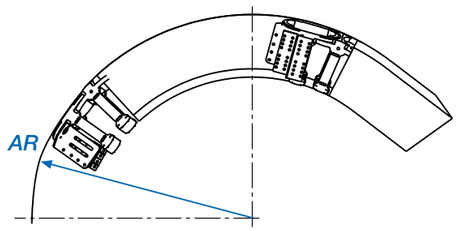
twisterchain | Series TC56 | Installation dimensions

01 ▶ 982

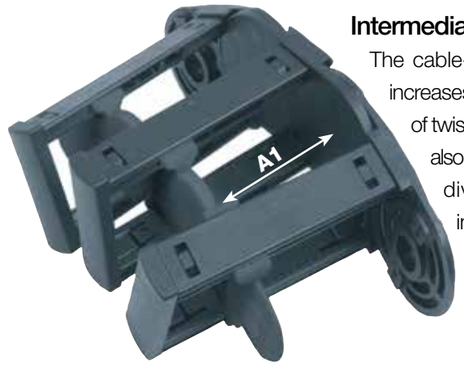
Dimension A1 dependent on outer radius AR

AR	R 150	R 200	R 250	R 300	R 400
[mm]	A1 [mm]	A1 [mm]	A1 [mm]	A1 [mm]	A1 [mm]
650	83	85	88	90	97
750	98	101	102	103	110
850	113	116	117	118	124

Dimension A1 always with tolerance of ± 2.5mm



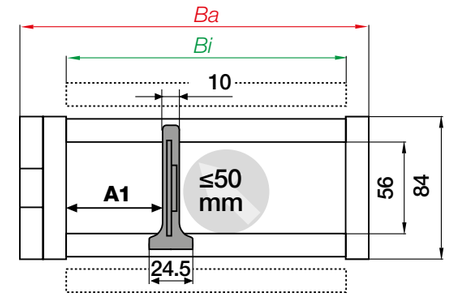
Note: outer radius *AR* (see drawing) determines **dimension A1!**



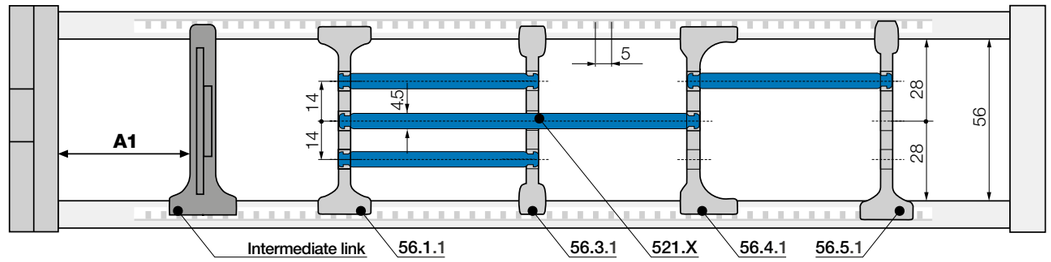
Intermediate link

The cable-friendly intermediate link increases the strength and stability of twisterchain many times over. It also serves as interior separation, dividing the filling space into two chambers. **Outer radius *AR* determines dimension A1.**

Dimensions



Series TC56 | Interior separation

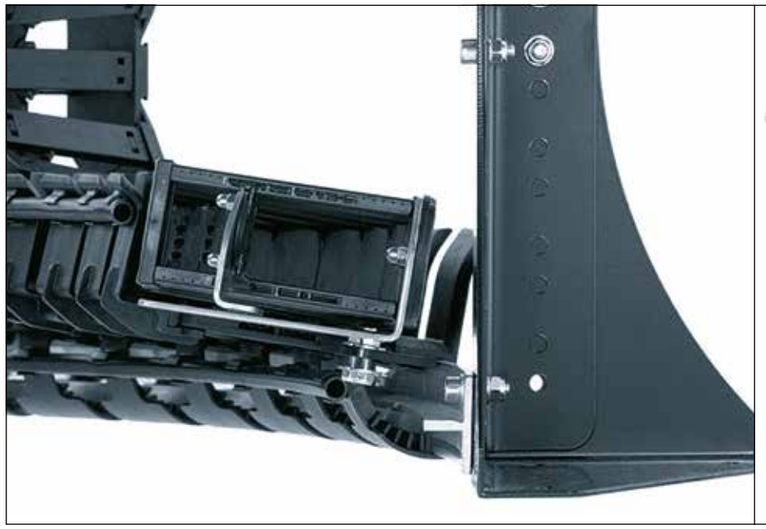


For this series the interior separation products for series E4.56 may be used (except side plates) ▶ From page 616

AR = Outer radius of e-chain®
IR = Inner radius e-chain®
R = Bend radius e-chain®
X_1 = Inner machine limit
X_2 = Outer machine limit
A1 = Intermediate link position
H = Nominal clearance height
K = Add-on for bend radius
T = Pitch

twisterchain | Series TC32·TC42·TC56 | Accessories

Steel mounting bracket for twisterchain (2nd generation)



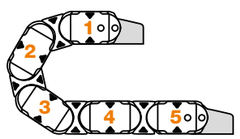


Position 1 Position 2

- One part for all e-chain® widths
- Electrically conductive
- Universal installation
- Material: stainless steel 1.4301

Steel, one-piece design for twisterchain (2nd generation) | Recommended for unsupported and circular applications

For series	Part No. full set	Part No. position 1	Part No. position 2
TC32 ▶	TC3200.34.VS.E	TC3200.30.VS.E	TC3200.40.VS.E
TC42 ▶	TC4200.34.VS.E	TC4200.30.VS.E	TC4200.40.VS.E
TC56 ▶	TC5600.34.VS.E	TC5600.30.VS.E	TC5600.40.VS.E



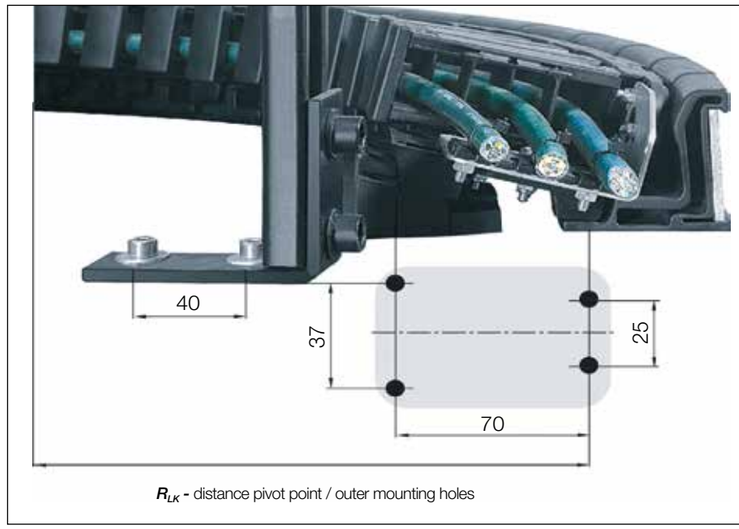
Note: twisterchain e-chains® must always start and end on an outer side-link. Please note when calculating!

TC3200.34.VS.E **Order example**

Stainless steel (standard)
Standard: bolted
Full set
Series

twisterchain classic | Series 2208 | Accessories

Steel mounting bracket for twisterchain classic (1st generation)



R_{LK} - distance pivot point / outer mounting holes



Position 1 Position 2

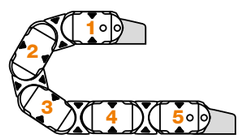
- One part for all e-chain® widths
- Electrically conductive
- Universal installation
- Material: stainless steel 1.4301

Steel, one-piece design for twisterchain (1st generation) | Recommended for unsupported and circular applications

For series	Part No. full set	Part No. position 1	Part No. position 2
2208 ▶	22080.34.VS.E	22080.30.VS.E	22080.40.VS.E

The guide trough is attached to the fixed end of the twisterchain classic based on the drill pattern shown in the diagram above

The following bolted connections are permitted: ● Plain holes: 4 x Ø 6.6 - 7mm ● Mounting only with bolts: 4 x bolts M6



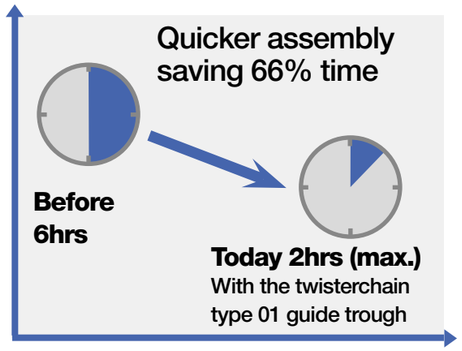
Note: twisterchain e-chains® must always start and end on an outer side-link. Please note when calculating!

22080. 34.VS.E **Order example**

Stainless steel (standard)
Standard: bolted
Full set
Series

Save installation time and cost - better guidance for circular movement - increase service life!





Guide trough type 02 for series 2208 ▶ From page 986

With the twisterchain trough type 01, complex adjustment work is reduced and so assembly time is reduced from 6 hours to 2 hours. It also reduces noise, whilst travel speed and service life can be increased, thanks to its nearly all-plastic design. Available for all twisterchains from the new and original product range.

- Suitable for high dynamics, because of the full guidance of the upper run
- Much smoother and quieter motion in the trough due to continuous guidance of the upper run
- Upper run guided in the polymer trough over the full length
- Preassembled delivery possible
- Easy adjustment, alignment and handling
- Assembly time reduced from 6 hours to 2 hours

twisterchain type 01 guide trough options



9XXX.31
Complete trough
(**with** base support, height adjustment and attachment angle brackets)

9XXX.32
Upper and lower run trough
(**without** floor support and height adjustment)
Special option: customer supplies base supports

9XXX.30
Lower run trough
(**with** mounting angle brackets)
Special option: customer builds upper run trough

Product range | twisterchain guide trough type 01

Part No. series	Outer radius AR [mm]	Angle of rotation min.-max. α	Part No. complete trough	Part No. upper/lower run trough	Part No. lower run trough
TC32 / TC42	400	0 - 90°	9XXX.31.90 .400/Bi.R	9XXX.32.90 .400/Bi.R	9XXX.30.90 .400/Bi.R
		90° - 180°	9XXX.31.180.400/Bi.R	9XXX.32.180.400/Bi.R	9XXX.30.180.400/Bi.R
		180° - 270°	9XXX.31.270.400/Bi.R	9XXX.32.270.400/Bi.R	9XXX.30.270.400/Bi.R
		270° - 360°	9XXX.31.360.400/Bi.R	9XXX.32.360.400/Bi.R	9XXX.30.360.400/Bi.R
	500	0 - 90°	9XXX.31.90 .500/Bi.R	9XXX.32.90 .500/Bi.R	9XXX.30.90 .500/Bi.R
		90° - 180°	9XXX.31.180.500/Bi.R	9XXX.32.180.500/Bi.R	9XXX.30.180.500/Bi.R
		180° - 270°	9XXX.31.270.500/Bi.R	9XXX.32.270.500/Bi.R	9XXX.30.270.500/Bi.R
		270° - 360°	9XXX.31.360.500/Bi.R	9XXX.32.360.500/Bi.R	9XXX.30.360.500/Bi.R
	600	0 - 90°	9XXX.31.90 .600/Bi.R	9XXX.32.90 .600/Bi.R	9XXX.30.90 .600/Bi.R
		90° - 180°	9XXX.31.180.600/Bi.R	9XXX.32.180.600/Bi.R	9XXX.30.180.600/Bi.R
		180° - 270°	9XXX.31.270.600/Bi.R	9XXX.32.270.600/Bi.R	9XXX.30.270.600/Bi.R
		270° - 360°	9XXX.31.360.600/Bi.R	9XXX.32.360.600/Bi.R	9XXX.30.360.600/Bi.R
TC42 / TC56	650	0 - 90°	9XXX.31.90 .650/Bi.R	9XXX.32.90 .650/Bi.R	9XXX.30.90 .650/Bi.R
		90° - 180°	9XXX.31.180.650/Bi.R	9XXX.32.180.650/Bi.R	9XXX.30.180.650/Bi.R
		180° - 270°	9XXX.31.270.650/Bi.R	9XXX.32.270.650/Bi.R	9XXX.30.270.650/Bi.R
		270° - 360°	9XXX.31.360.650/Bi.R	9XXX.32.360.650/Bi.R	9XXX.30.360.650/Bi.R
	750	0 - 90°	9XXX.31.90 .750/Bi.R	9XXX.32.90 .750/Bi.R	9XXX.30.90 .750/Bi.R
		90° - 180°	9XXX.31.180.750/Bi.R	9XXX.32.180.750/Bi.R	9XXX.30.180.750/Bi.R
		180° - 270°	9XXX.31.270.750/Bi.R	9XXX.32.270.750/Bi.R	9XXX.30.270.750/Bi.R
		270° - 360°	9XXX.31.360.750/Bi.R	9XXX.32.360.750/Bi.R	9XXX.30.360.750/Bi.R
	850	0 - 90°	9XXX.31.90 .850/Bi.R	9XXX.32.90 .850/Bi.R	9XXX.30.90 .850/Bi.R
		90° - 180°	9XXX.31.180.850/Bi.R	9XXX.32.180.850/Bi.R	9XXX.30.180.850/Bi.R
		180° - 270°	9XXX.31.270.850/Bi.R	9XXX.32.270.850/Bi.R	9XXX.30.270.850/Bi.R
		270° - 360°	9XXX.31.360.850/Bi.R	9XXX.32.360.850/Bi.R	9XXX.30.360.850/Bi.R

Complete Part No. **9XXX** with required series (TC32, TC42, TC56),
value ***Bi*** and required **bend radius** ***R*** ▶ **9TC32.31.180.600/06.250**
For series 2208 please use guide troughs type 02 ▶ **Page 986**

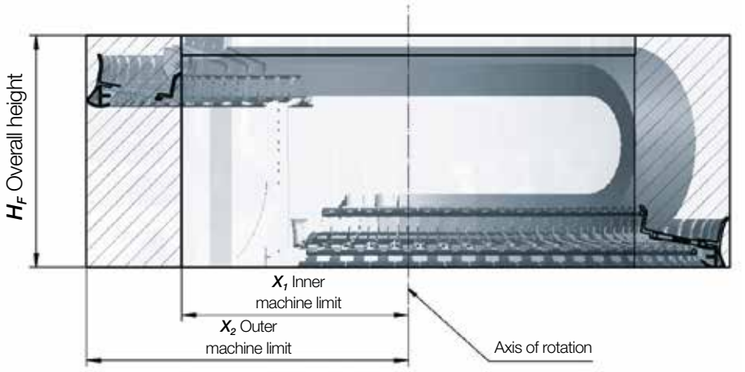
9TC32.31.180.600/12.250
9XXXX.31.180.600/Bi. R

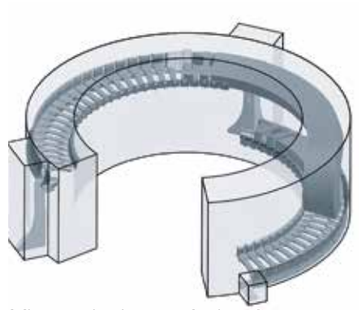
Order key
Guide trough type 01

- ***R*** - Bend radius, please add required value
- ***Bi*** - width index, please add required value
- Outer radius of e-chain®
- Angle of rotation of application (90°, 180°, 270°, 360°)
- Trough version
- Guide trough of selected series

More order examples

Complete trough	Part No.	9TC32.31.180.600/12.250
Lower run trough only	Part No.	9TC32.30.180.600/12.250
Upper and lower run trough without base support	Part No.	9TC32.32.180.600/12.250





Min. required space for igus® twisterchain-guide trough system

Installation dimensions | X_1 inner machine limit and X_2 outer machine limit

AR	X_2	X_1 depending on *Bi*										
[mm]	[mm]	[mm]										
TC32		87.5	100	108	125	137.5	150					
400	**480**	270	250	250	220	210	200					
500	**580**	–	350	350	320	310	300					
600	**680**	–	–	450	420	410	400					
TC42		87.5	100	108	125	137.5	150	162.5	168	175	187.5	200
400	**480**	270	250	250	220	210	200	190	190	180	–	–
500	**580**	–	350	350	320	310	300	290	290	280	280	250
600	**680**	–	–	450	420	410	400	390	390	380	380	350
650	**730**	–	–	–	470	460	450	440	440	430	420	400
750	**830**	–	–	–	–	560	550	540	540	530	520	500
850	**930**	–	–	–	–	–	650	640	640	630	620	600
TC56			–	–	125	137.5	150	162.5	–	175	187	200
650	**730**	–	–	–	470	460	450	440	–	430	420	400
750	**830**	–	–	–	–	560	550	540	–	530	520	500
850	**930**	–	–	–	–	–	650	640	–	630	620	600

For series 2208 please use guide troughs type 02 ▶ **Page 986**

Construction height | H_F depending on bend radius of twisterchain guide trough

Part No.	*R* [mm]	100	125	150	175	200	250	300	400
series		H_F Installation height [mm]							
TC32		370	420	470	520	570	670	–	–
TC42		380	430	480	530	580	680	–	–
TC56		–	–	500	–	600	700	800	1,000

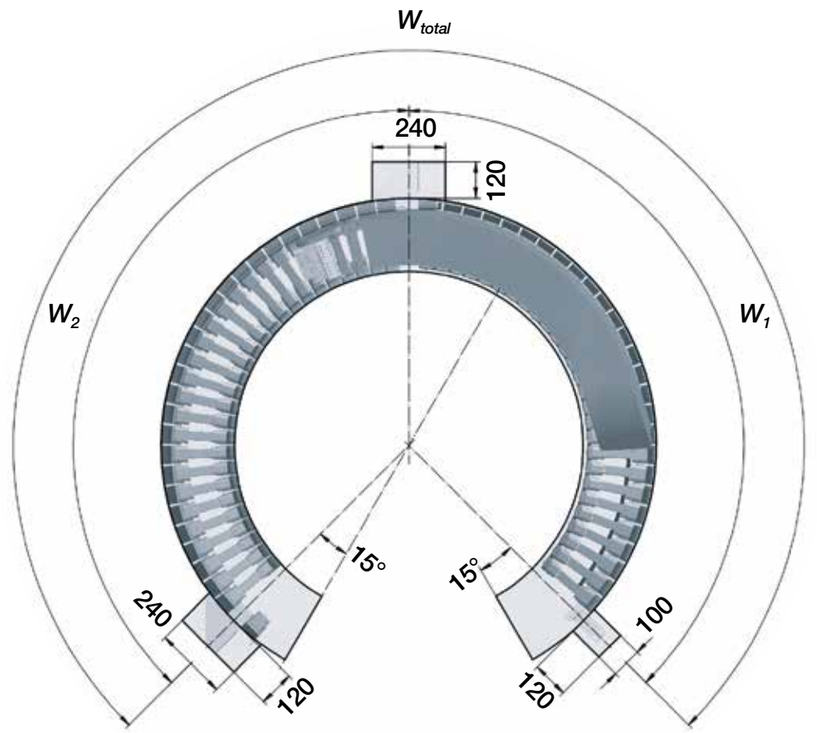
Angle of rotation for 360° | W_2 angle of upper run twisterchain guide trough

Part No.	*AR*	*R* [mm]	100	125	150	175	200	250	300	400
series	[mm]		W_2 angle of rotation							
TC32/TC42	400		90°	90°	90°	90°	90°	90°	90°	90°
TC32/TC42	500		90°	90°	90°	90°	90°	90°	90°	90°
TC32/TC42	600		135°	135°	135°	135°	90°	90°	90°	90°
TC42/TC56	650		135°	135°	135°	135°	90°	90°	90°	90°
TC42/TC56	750		135°	135°	135°	135°	135°	135°	90°	90°
TC42/TC56	850		135°	135°	135°	135°	135°	135°	135°	135°

Support for the upper run as of 180° rotation angle

Angle of rotation | W_1 | W_{total}

Angle of rotation of system	Angle of lower run
$W_{ges.}$	W_1
90°	45°
180°	90°
270°	135°
360°	180°



AR = Outer radius of e-chain®
IR = Inner radius e-chain®
R = Bend radius e-chain®
X_1 = Inner machine limit
X_2 = Outer machine limit
H_F = Total trough height
H_F = e-chain® height incl. 50mm clearance
H = e-chain® height
K = Add-on for bend radius
W1 = Angle of upper run
W2 = Angle of lower run
W_{total} = Angle of rotation of system

Type 02 guide trough for twisterchain classic (1st generation) series 2208

- Support for the upper run and guidance of twisterchain classic series 2208
- Angle of rotation up to 360° possible, 400° upon request
- The modular design of the guide trough makes it possible to connect a large number of e-chains® radii, circle and bend radii by using the same trough sections
- If the e-chain® radius changes, the trough can simply be adapted without purchasing a completely new trough
- The specified part number shown below includes the complete trough system



Product range | Guide trough type 02 for twisterchain classic (1st generation)

Part No. series	Outer radius *AR* [mm]	Angle of rotation min.-max. α	Part No. guide trough type 02	Part No. guide trough with bottom support	Number of supports
2208	300	45° - 100°	**92208.4.45.300/** ***Bi.R***	not necessary	–
	300	>100° - 180°	**92208.4.90.300/** ***Bi.R***	not necessary	–
	300	>180° - 270°	**92208.4.135.300/*Bi.R****	**92208.5.135.300/*Bi.R***	1
	300	>270° - 360°	**92208.4.180.300/*Bi.R****	**92208.5.180.300/*Bi.R***	2

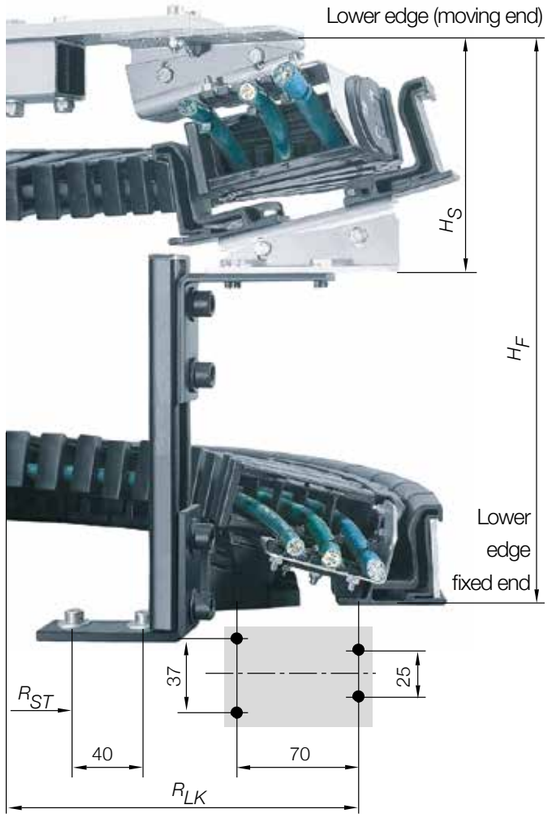
* These troughs feature one support for the upper run / ** These troughs feature two supports for the upper run

Complete Part No. with the required *Bi* and bend radius *R* e.g. **92208.5.180.600/112.150**

92208.5.180.600/112.150

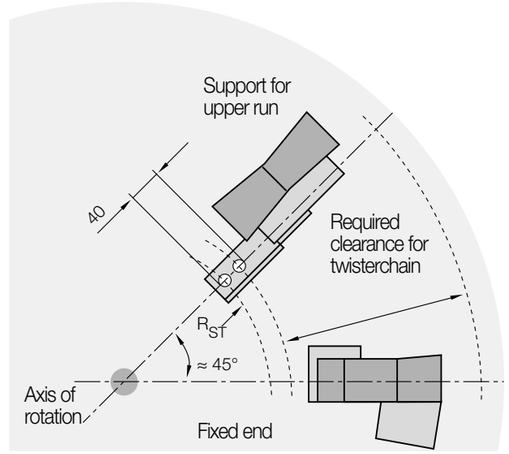
Order key
Guide trough type 02

- *R* - Bend radius, please add required value
- *Bi* - width index, please add required value
- Outer radius of e-chain®
- Trough angle (Standard 180°, 135°, 90°, 45°)
- Trough version (.5. with and .4. without bottom support)
- Guide trough - series 2208

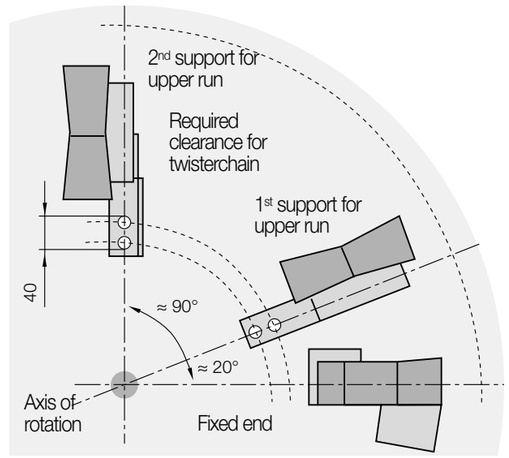


The guide trough must be mounted at the fixed end of the twisterchain using the drilling template shown. The following screw connections are allowed:

- Bore hole: 4 x Ø 6.6 - 7mm
- Mounting only with bolts: 4 x bolt M6



Mounting position for one support



Mounting position for two supports

Installation dimensions | Guide trough type 02 (1st generation)

Part No. series	R_{LK} [mm]	H_S [mm]	Part No. guide trough	R_{ST} [mm]	*R* [mm]	055	063	075	100	125	150
						H_F Installation height [mm]					
2208...	265	130	92208...	145		195	211	235	285	335	385



twisterband

Up to 7,000°* rotary movement in the smallest spaces

twisterband advantages:

- Rotary movements up to 7,000°*
- Rotary speeds up to 180°/s possible
- Openable with film hinge or openable "easy" design
- HD version with strong pin and hook connection for an even longer service life
- Compact, modular and lightweight
- Bands can be lengthened and shortened as required
- Minimum installation space, fits very closely around the rotary axis
- Cost-effective and easy to fill

When to use another igus® solution:

- For applications with a high fill weight
  ▶ **twisterchain system, from page 966**
- For applications with multi-axis movements
  ▶ **triflex® R, from page 866**
- ***RBR*** versions with a high fill weight
  ▶ **Designing, page 126**
- If a lubrication and maintenance-free slewing ring bearing for "endless" rotation is required
  ▶ **iglidur® slewing ring bearings, www.igus.eu/PRT**
- If shielded cables are necessary
  ▶ **Please contact us**

*Depending on installation orientation - vertical: up to 3,000°, horizontal: 7,000° and more possible



Up to 7,000°* rotary movement in the smallest spaces - twisterband

With the compact igus® twisterband, rotations of up to 7,000°* can be achieved cost-effectively, even in confined spaces. Energy, data and media are securely guided.

- Rotary movements up to 7,000°*
- Rotary speeds up to 180°/s possible
- Openable with film hinge or openable "easy" design
- HD version with strong pin and hook connection for an even longer service life
- Compact, modular and lightweight
- Bands can be lengthened and shortened as required
- Minimum installation space, fits very closely around the rotary axis
- Cost-effective and easy to fill

Typical industries and applications

● Cable reels ● Robots (robot arms, axis1/6, SCARA robots) ● Machine tools ● Medical equipment ● Radar and telescope equipment ● Aerospace, test, measurement, handling, lifting and installation equipment ● Wind turbines (e.g. blade adjustment) ● Wherever rotary unions or slip rings are used

*Depending on installation orientation - vertical: up to 3,000°, horizontal: 7,000° and more possible

Series	Inner height *hi* [mm]	Inner width *Bi* [mm]	Ø X_1 [mm]	Ø X_2 [mm]	≥ *R* [mm]	≤ *R* [mm]	≤ *d1* [mm]	Interior separation	Opening principle	Page
										
twisterband e-chain® links on a strip. Openable with film hinge or openable "easy" design										
TB12.23.9	9	**23**	40	140	**024**	**035**	7	–	"easy" design	**994**
TB20.44.12	12	**44**	50	220	**034**	**057**	9	–	"easy" design	**994**
TB20.44.18	18	**44**	50	220	**034**	**057**	14	yes	lock	**994**
TB29.27.22	22	**27**	200	320	**069**	**082**	17	yes	lock	**994**
TB30.75.22	22	**75**	90	330	**044**	**077**	17	yes	lock	**994**
										
twisterband HD e-chain® links with strong pin and hook connection. Openable with film-hinge										
TBHD30.75.22	22	**75**	90	330	**044**	**077**	17	yes	lock	**998**
TBHD42.135.30 New	30	**135**	90	500	**056**	**119**	20	yes	lock	**998**

Other sizes available upon request. X_1 =inner machine limit X_2 = outer machine limit

Available from stock. Ready to ship in 24 - 48hrs.*

*The delivery times indicated correspond to the average time until the ordered goods are dispatched.

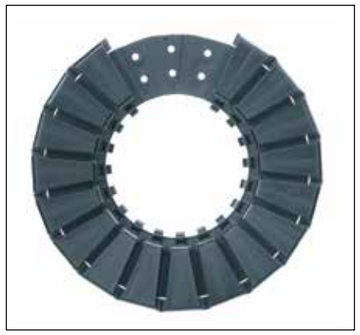
Bi = Inner width e-chain® *hi* = Inner height e-chain® X_1 = Inner machine limit X_2 = Outer machine limit ≥ *R* = Minimum bend radius e-chain® ≤ *R* = Max. bend radius e-chain® *d1* = Max. cable diameter XX = Number of strips



A central shaft must be installed for horizontal orientation angles of rotation above 1,500°



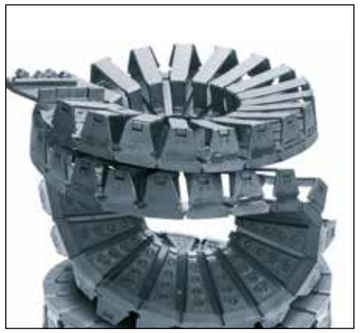
Max. angle of rotation: as a rule of thumb: each segment gives 180° = 360° more rotation



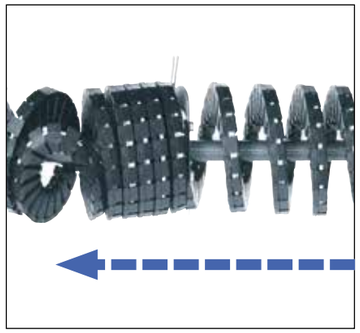
Minimum installation space, fits very closely around the rotary axis



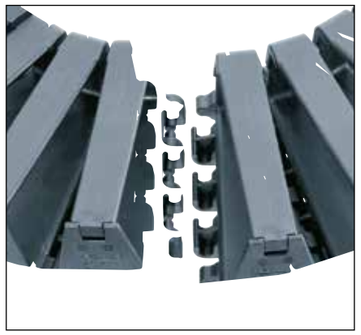
Film hinge: easy access and quick filling with cables and hoses



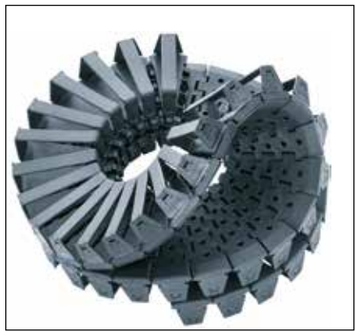
Compact, modular, cost-effective - up to 7,000° rotary movement* in the most confined spaces



Can be reliably used in various installation positions (horizontal: 7,000° and more). Limited length compensation possible



The twisterband HD is an advanced version of the standard twisterband ...



... instead of bands with integral hinges, the twisterband HD version is composed of separate e-chain® links with the pin/hook connecting system ...



... the advantage is a defined radius with higher strength.

iF product design award
2011 igus® twisterband

reddot design award
winner 2011

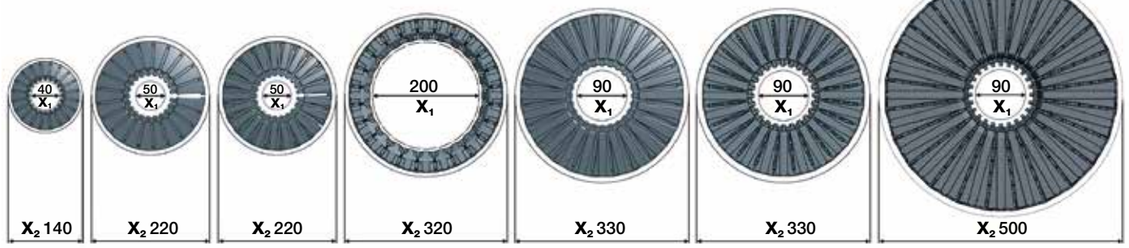
Technical data

Speed / acceleration*	**180°/s**
twisterband - material - permitted temperature °C, igumid TE	**0°C / +70°C**
twisterband HD - material - permitted temperature °C, igumid G	**0°C / +80°C**
Flammability class, igumid G	**VDE 0304 IIC UL94-HB**
Flammability class, igumid TE	**VDE 0304 IIC UL94-HB**

*Speed / acceleration for TB29.27. upon request

Size overview

New



Bi = Inner width e-chain®
hi = Inner height e-chain®
X_1 = Inner machine limit
X_2 = Outer machine limit
≥ *R* = Minimum bend radius e-chain®
≤ *R* = Max. bend radius e-chain®
d1 = Max. cable diameter
XX = Number of strips



**Base plates are delivered as standard as part of the twisterband module!

Up to 7,000°* rotary movement in the smallest spaces - twisterband

With the compact igus® twisterband rotations can be achieved cost-effectively and with low wear and low maintenance, even in a confined space. Energy, data and media are securely guided. Available in 5 sizes.

- Rotary movements up to 7,000°*
- Rotary speeds up to 180°/s possible
- Compact, modular and lightweight
- Bands can be lengthened and shortened as required
- Minimum installation space, fits very closely around the rotary axis
- Can be reliably used in various installation positions (horizontal or vertical)
- Cost-effective
- Easy filling
- Ideal in combination with igus® chainflex® cables for rotary movements in very limited installation spaces

Typical industries and applications

● Cable reels ● Robots (robot arms, axis1/6, SCARA robots) ● Machine tools ● Leisure rides ● Medical equipment ● Radar and telescope equipment ● Aerospace, test, measurement, handling, lifting and installation equipment ● Wind turbines (e.g. blade adjustment) ● Wherever rotary unions are used

*Depending on installation orientation - vertical: up to 3,000°, horizontal: 7,000° and more possible

Available from stock. Ready to ship in 24 - 48hrs.*

*The delivery times indicated correspond to the average time until the ordered goods are dispatched.

e-chain® links on a strip



twisterband | Openable with film hinge or with "easy" design

Part No. twisterband	*Bi1* [mm]	*hi* [mm]	X_1 ø [mm]	X_2 ø [mm]	≥ *R* [mm]	≤ *R* [mm]	≤ *d1* [mm]	Opening principle
TB12. 23 .9. XX .01.0	23	9	40	140	24	35	7	"easy" design
TB20. 44 .12. XX .01.0	44	12	50	220	34	57	9	"easy" design
TB20. 44 .18. XX .01.0	44	18	50	220	34	57	14	lock
TB29. 27 .22. XX .01.0*	27	22	200	320	69	82	17	lock
TB30. 75 .22. XX .01.0	75	22	90	330	44	77	17	lock

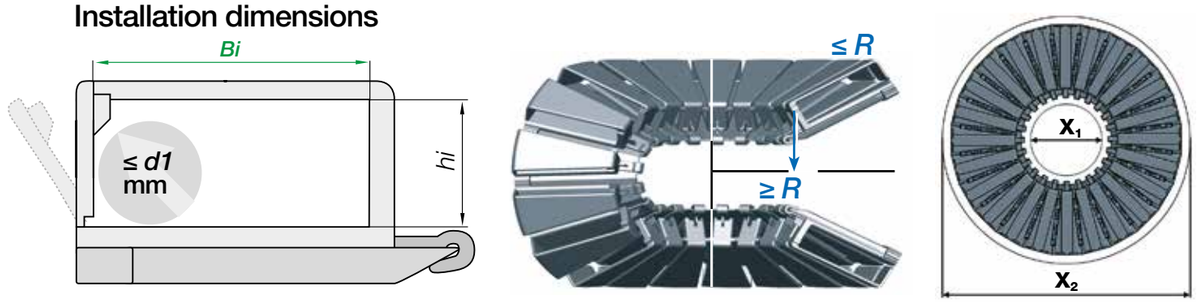
More twisterband sizes upon request! **Note**: Series TB29.27.22. Rotary movement up to max. 720°

Base plates are delivered as standard as part of the twisterband module!

X_1 = ø inner machine installation space X_2 = ø outer machine installation space

Complete Part No. with required number of strips **XX**. Example: **TB20.44.12.6.01.0**

Installation dimensions



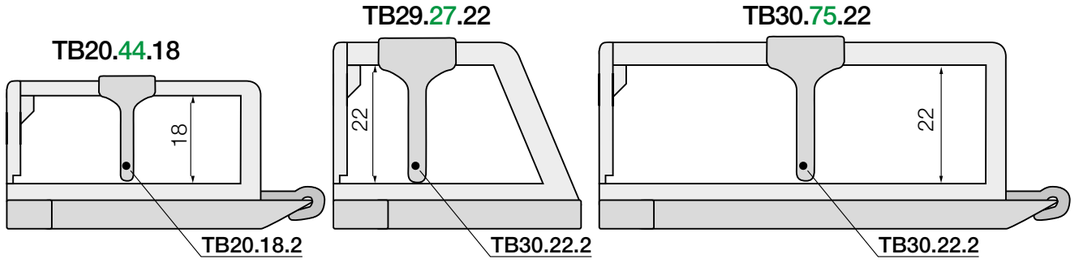
Calculation: number of strips depends on angle of rotation (please always round up number of strips)

TB12: XX ≈ $\frac{XXXX°}{360}$ + 2 =	Example: XX ≈ $\frac{1200°}{360}$ + 2 =	Result: XX ≈ 6 strips
TB20: XX ≈ $\frac{XXXX°}{340}$ + 2 =	Example: XX ≈ $\frac{1200°}{340}$ + 2 =	Result: XX ≈ 6 strips
TB29: XX ≈ $\frac{XXXX°}{180}$ + 2 =	Example: XX ≈ $\frac{720°}{180}$ + 2 =	Result: XX ≈ 6 strips
TB30: XX ≈ $\frac{XXXX°}{180}$ + 6 =	Example: XX ≈ $\frac{1200°}{180}$ + 6 =	Result: XX ≈ 13 strips

XXXX° = Angle of rotation

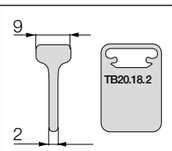
twisterband (7,000° rotation) | Accessories

Interior separation for twisterband



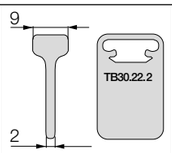
Separators are delivered unassembled.
Simply push onto the openable crossbar.





Separator, for TB20.44.18
unassembled **TB20.18.2**





Separator, for TB29.27.22+TB30.75.22
unassembled **TB30.22.2**

Separators

To fit, simply open the e-chain®, insert a cable and press the separator onto the crossbar. Then add more cables. The separators provide a clear, cable-friendly interior separation.



Easy opening and filling of the twisterband with a click or with the "easy" design. Simply press separators on and add more cables. The separators provide a clear, cable-friendly interior separation.



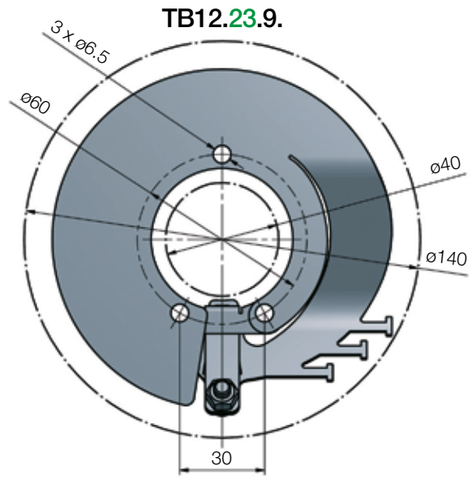
igus® twisterband TB30 for circular movements up to 360°, E2 mini and E2/000 e-chains® are used in this loading and unloading unit

twisterband (7,000° rotation) | Accessories

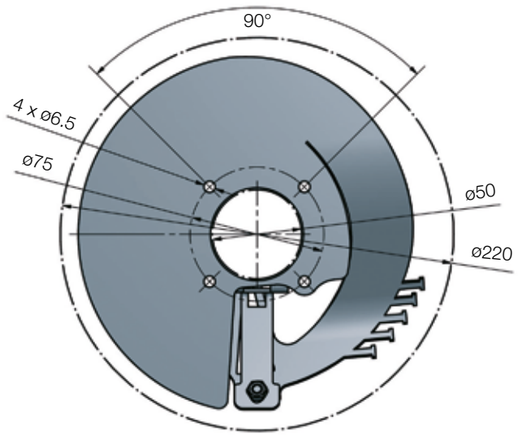
Base plates with strain relief for twisterband

Steel base plate dimensions for twisterband
(for TB29.27.22 upon request)

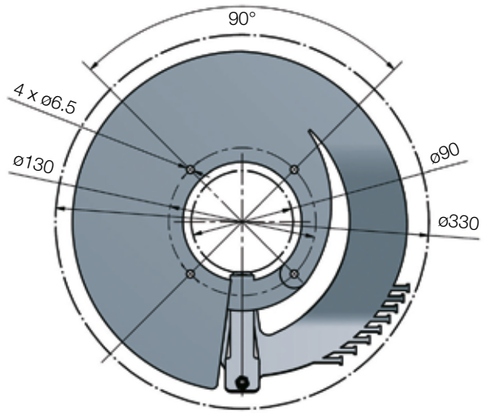
TB12.23.9.

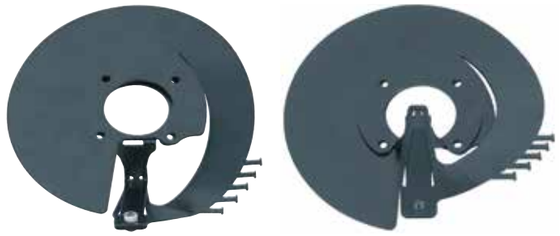


TB20.44.12. / TB20.44.18.



TB30.75.22.





Base plates are delivered as standard as part of the twisterband module!



twisterband application of two systems mounted above one another. This space-saving solution allows double filling space with a constant outer diameter of the system



**Base plates are delivered as standard as part of the twisterband module!

Rotary movement in the most confined spaces, now even stronger - twisterband HD

Instead of strips, the twisterband HD has a strong pin/hook connection between the e-chain® links. Longer service life and higher filling are possible.

- Continuous cable guidance in rotational movements
- Strong pin/hook connection for high load and long service life
- For routing of electrical, fibre optic and pneumatic cables in one system
- Stop-dogs for defined bend radius
- Cable-friendly due to defined radius stop
- Max. rotating speed: 180°/s

Typical industries and applications

● Machining heads on machine tools ● Rotary tables ● Axis 6 on robots ● Generally all applications that currently work with slip rings

Available from stock. Ready to ship in 24 - 48hrs.*

*The delivery times indicated correspond to the average time until the ordered goods are dispatched.

e-chain® links with strong pin and hook connection



twisterband | Openable with film hinge

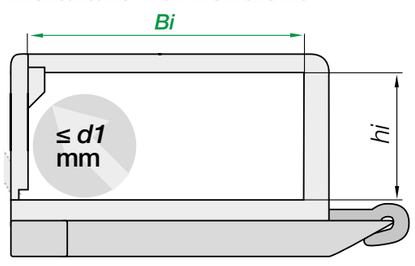
Part No. twisterband	*Bi1* [mm]	*hi* [mm]	X_1 ø [mm]	X_2 ø [mm]	≥ *R* [mm]	≤ *R* [mm]	≤ *d1* [mm]	Opening principle
TBHD30.75 .22. XXX .01.0	75	22	90	330	044	077	17	lock
TBHD42.135.30. XXX .01.0	135	30	90	500	056	119	20	lock

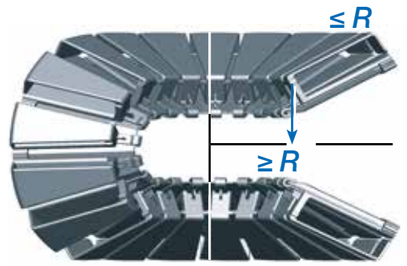
Base plates are delivered as standard as part of the twisterband module!

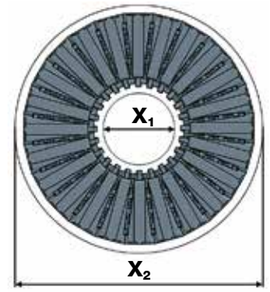
X_1 = ø inner machine installation space X_2 = ø outer machine installation space

Complete Part No. with required number of strips **XXX**. Example: **TBHD30.75.22.180.01.0**

Installation dimensions

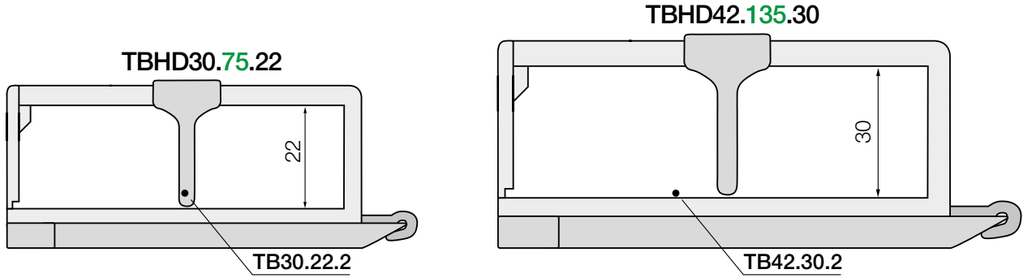






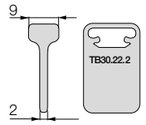
twisterband (7,000° rotation) | Accessories

Interior separation for twisterband HD



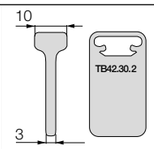
Separators are delivered unassembled.
Simply push onto the openable crossbar.





Separator, for TB30.75.22
unassembled **TB30.22.2**





Separator, for TB42.135.30
unassembled **TB42.30.2**

Separators

To fit, simply open the e-chain®, insert a cable and press the separator onto the crossbar. Then add more cables. The separators provide a clear, cable-friendly interior separation.



Easy opening and filling of the twisterband with a click or with the "easy" design. Simply press separators on and add more cables. The separators provide a clear, cable-friendly interior separation.



igus® twisterband and other e-chains® in a wood working machine

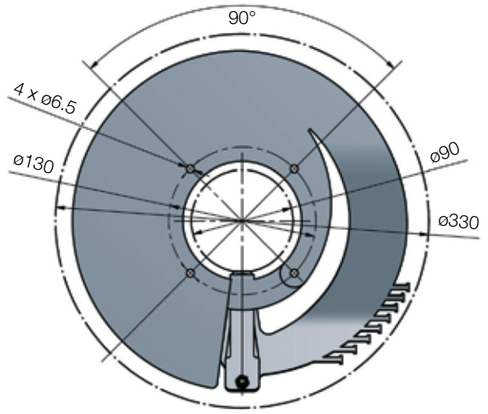
twister-
band
HD

twisterband (7,000° rotation) | Accessories

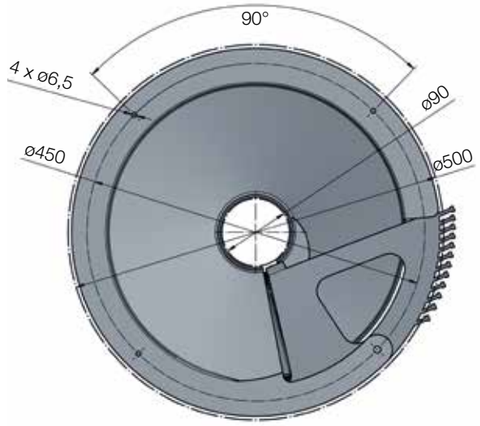
Base plates with strain relief for twisterband HD

Steel base plate dimensions for twisterband HD

TBHD30.75.22



TBHD42.135.30





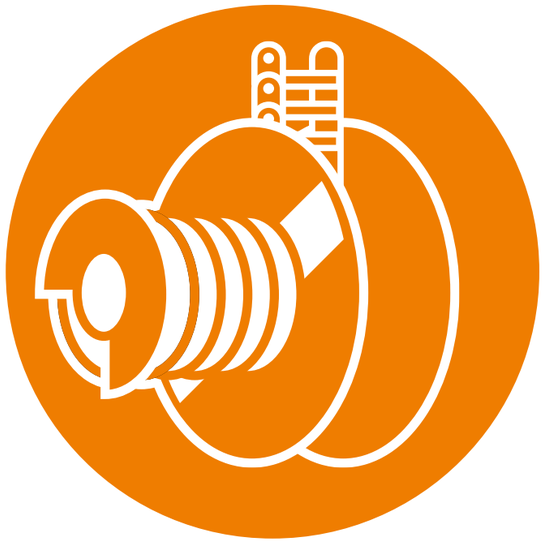




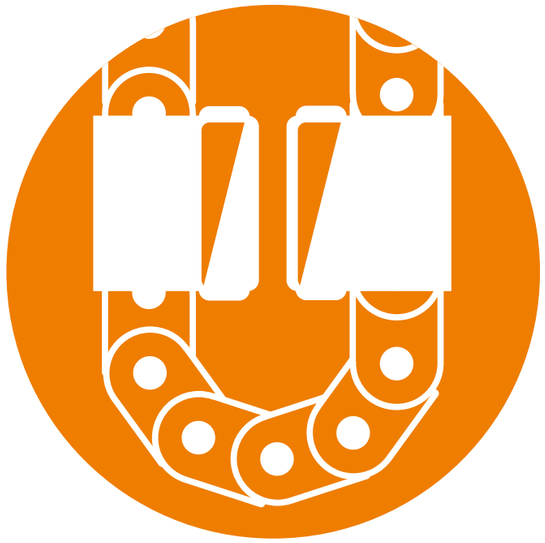
Base plates are delivered as standard as part of the twisterband module!

igus®
solutions for:

- Multi-axis motion
- Vertical motion
- Horizontal motion
- Predictive maintenance, condition monitoring and engineered projects



Solutions for
multi-axis motion
► From page 1006



Solutions for
vertical motion
► From page 1026



Solutions for
horizontal motion
► From page 1038



Predictive maintenance,
condition monitoring
and engineered projects
► From page 1080



Multi-axis motion
▶ From page 1006



e-spool standard and HD - flexible use

- Telescopic/retractable applications
- Theatre, stage and lighting technology
- Space-saving alternative to zig-zag solutions

▶ Page 1012



e-spool compact - space-saving, spring driven

- Retractable applications - linear or rotary
- Small circular movements

▶ Page 1016



e-spool for manual operation - reliable and space-saving

- Robot teach pendants
- Workstations
- Assembly lines

▶ Page 1020



e-spool power - motor driven for long extension lengths

- Theatre, stage and lighting technology
- Indoor and outdoors cranes

▶ Page 1024



Vertical motion
▶ From page 1026



liftband - cable guidance up to 13m height with limited installation space

- Theatre and stage technology
- Indoor cranes
- Mobile telescopic antennas

▶ Page 1026



guidelok slimline P - safe vertical guidance

- Storage and retrieval units for high-bay warehouses
- Lifts
- Elevators
- Construction and crane lifts
- Hoists
- Automatic mini-load system

▶ Page 1032



guidelok slimline P.S - lightweight plastic construction, cost-effective

- Storage and retrieval units for high-bay warehouses
- Lifts
- Construction and crane lifts
- Automated car parks
- Ship lifts

More information
▶ www.igus.eu/glsl-ps



guidelite GLV - lighter, lower noise, simpler and less cost

- Shuttle systems
- High bay warehouse
- Lifts
- Hoists

More information
▶ www.igus.eu/GLV

igus® solutions for special applications | Overview



Horizontal motion
▶ From page 1038



guidelok horizontal - upper run guide for long travels

- Machine tools
- Heavy swarf environments
- Wherever a gliding application is not recommended

▶ Page 1038



basic flizz® - enclosed solution for long travels

- Wastewater and sewage treatment works (longitudinal scrapers, sand/grease traps)
- Electroplating facilities
- Cranes
- River locks

▶ Page 1044



micro flizz® - safe guidance of energy, data and air

- Storage and retrieval units for high-bay warehouses
- Indoor cranes
- Industrial gates
- Workplace equipment
- Wastewater and sewage treatment plants
- Camera systems
- Sliding doors

▶ Page 1052



Condition monitoring and engineered projects
▶ From page 1064



isense smart plastics for predictive maintenance New

- Wherever predictive maintenance is required
- Harbour installations
- Cranes
- Car plants
- Gantries

▶ Page 1064



PPDS - Push/Pull Detection System

- Downtime sensitive plants, such as conveyor systems in power plants
- Waste incineration systems
- Chemical plants
- Cranes

▶ Page 1080



Modular projects - special solutions from stock

- Cranes
- Offshore
- And many other industries

▶ Page 1084



Solutions for multi-axis motion

e-spool

The alternative to cable reeling drums - reduce cable wear and reliably guide different media together in one system

e-spool advantages:

- Energy supply is possible in all directions (horizontal, vertical, diagonal)
- More versatile and flexible to use than cable reeling drums
- Different media (power, data and fluids) can be routed together in one system
- If travels must be kept free
- If the technical system is to be hidden behind false ceilings/floors
- Very well suited for use in theatre and stage technology

When to use another system:

- With very high loads that have to be guided vertically
  ▶ **zig-zag applications, page 123**
- For high dynamics with lateral accelerations
  ▶ **guidelok slimline P, page 1032**



The cable reel without a slip ring - igus® e-spool

Routing many different cables in a small space: e-spool uniquely combines two different energy supply systems. The standard e-chain® is guided by a roller and always provides the correct length and tension of the energy supply system through an integrated retaining spring. In the starting position, the e-chain® is rolled up completely to save space. The twisterband connects the roller with the shaft block, which serves as an interface to the supply side. With twisterband no slip ring is needed. This makes data transmission highly reliable, while enabling a high degree of flexibility at the same time. Different media and cable/hose diameters can be carried side by side in one drum (diameters up to 17mm)

- No tensile load on the cables
- Energy supply is possible in all directions (horizontal, vertical, diagonal)
- Space-saving when e-chain® is rolled into the home position, paths remain free
- Cables can be retrospectively added or changed
- Alternative to zig-zag solutions
- Maximum extension and retraction speed 1m/s
- Large standard product range and special projects available

Typical industries and applications

● Telescopic/retractable applications ● Theatre, stage and lighting technology ● Space-saving alternative to zig-zag solutions

Available from stock. Ready to ship in 5 - 10 days*

*The delivery times indicated correspond to the average time until the ordered goods are dispatched.

Part No. with 1 twisterband	Part No. with 2 twisterbands	Travel length ≤ [m]	Drum ø [mm]	Cable length [m]	Page
		**e-spool standard** flexible use (Illustration shows e-spool with 1 twisterband)			
SP1.600.	**SP2.600.**	4	600	8.6	**1013**
SP1.700.	**SP2.700.**	7	700	11.7	**1013**
SP1.850.	**SP2.850.**	14	850	19.9	**1013**
		**e-spool HD** flexible use, with increased retraction force (Illustration shows e-spool with 1 twisterband HD)			
SPHD1.600.	**SPHD2.600.**	4	600	8.6	**1014**
SPHD1.700.	**SPHD2.700.**	7	700	11.7	**1014**
SPHD1.850.	**SPHD2.850.**	14	850	19.9	**1014**
		**e-spool compact** compact, space-saving			
SP1.240. New	–	2	240	4.0	**1016**
SP1.400. New	–	4	400	6.6	**1016**
		**e-spool for manual operation** for applications where only one cable or hose is pulled out manually			
SPC1.300. New		5	300	3.3 - 8.3	**1020**
		**e-spool power** motor-driven, for long extension lengths			
e-spool power New		35	upon request	upon request	**1024**

igus® project Product upon request

Technical data

Speed	**≤ 1.5m/s**
Acceleration	**≤ 2m/s²**
Lateral speed	**≤ 1m/s**
Lateral acceleration (radial) / (axial)	**≤ 1m/s² / ≤ 0.25m/s²**

Order key | e-spool

Order key - e-spool standard

SP1.600.4000.03.**R**.0

- 1 twisterband
- Drum diameter ø
- Max. extension length
- Version number
- Extension R / L
- Standard colour black

Standard system with a single twisterband with 600mm drum diameter, and 4,000mm maximum extension length, extension right

Order key - e-spool HD

SPHD2.850.14000.03.**R**.0

- 2 HD twisterbands
- Drum diameter ø
- Max. extension length
- Version number
- Extension R / L
- Standard colour black

HD system with two twisterbands with 850mm drum diameter, and 14,000mm maximum extension length, extension right

Order key - e-spool compact

SP1.240.2000.01.**R**.0

- 1 twisterband
- Drum diameter ø
- Max. extension length
- Version number
- Extension R / L
- Standard colour black

Compact system with a single twisterband with 240mm drum diameter, and 2,000mm maximum extension length, extension right

Order key - e-spool for manual operation

SPC1.300.5000.01.**R**.0

- 1 twisterband
- Drum diameter ø
- Max. extension length
- Version number
- Extension R / L
- Standard colour black

System for manual operation with a single twisterband with 300mm drum diameter and 5,000mm maximum extension length, extension right

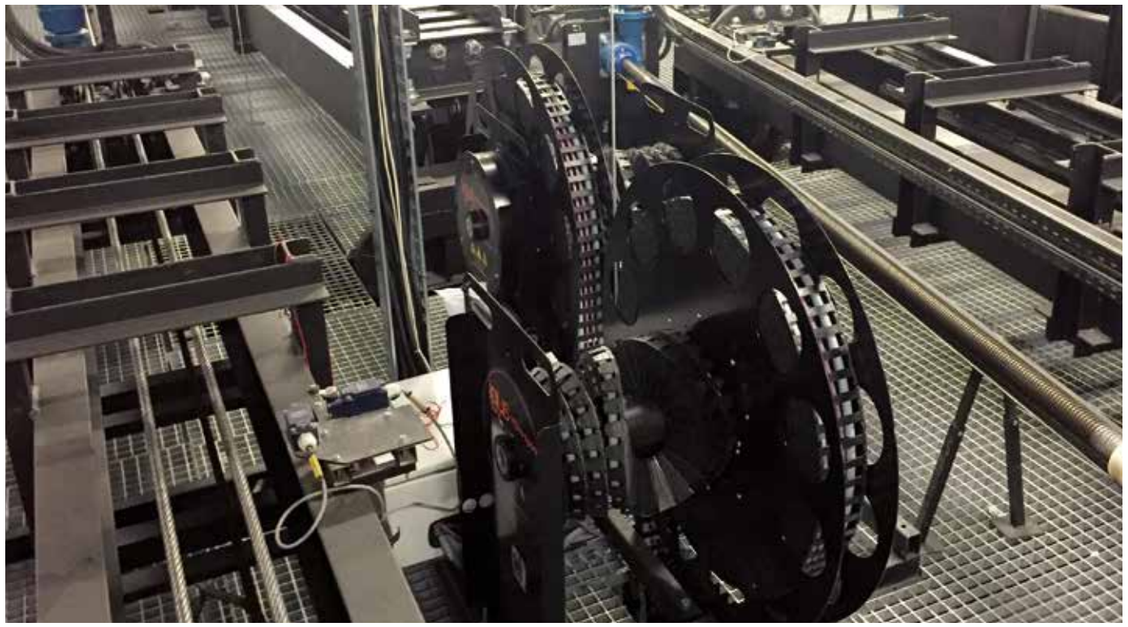
Guidelines for using e-spool

In view of the special mechanical stress inside an e-spool, we recommend using igus® chainflex® cables. We also recommend that the following guidelines are observed:

1. Only put cables side by side in the linear chain - never stack them!
2. Where possible, cables with a TPE outer jacket should be used for unshielded cables
3. Shielded cables should be chosen from the CFROBOT range
4. The maximum bend radius of the twisterband must be accounted for
5. Where possible, use separators to protect cables against cross-over and abrasion against each other. To save space, install the separators alternately in segments positioned one behind the other
6. Insert cables sorted by diameter and/or bend radius - insert, small ones in the centre then increasingly larger ones towards the outside
7. Apply strain relief to both ends of the cable - when using a cable tie for strain relief, please ensure the head of the cable tie is underneath to avoid cable damage
8. Always install cables in the twisterband close to the axis of rotation with space on the outside
9. Always install cables in the twisterband with a slight gap to the axis of rotation

Installation instructions

For applications that move horizontally, a smooth surface is required for the e-chain® to travel over.



e-spool - the solution for stage and theatre technology. Supplying energy, data and fluids without interruption. As shown here, at the Cultural and Congress Centre in Toruń (Poland). A total of ten igus® HD e-spool systems have been installed

e-spool standard and HD | Advantages



Flexible use:
energy supply in any direction is possible

Cost-effective:
HD twisterband enables rotary movement

Flexible energy supply:
guidance of different media in one system

Space-saving:
e-chain® retracts into a compact unit

Flexible use - igus® e-spool standard and HD

With igus® e-spools, cables are wound up in an e-chain® to save space. Various media can be supplied without interruption by the use of the twisterband. Adjustments and extensions of the filling are also possible at any time afterwards.

- Flexible energy supply - guidance of different media in one system
- Flexible use - energy supply in any direction is possible
- Cost-effective - twisterband enables rotary movement
- Space-saving - e-chain® retracts into a compact unit
- No tensile load on the cables
- Cables can be retrospectively added or changed

Typical industries and applications

● Telescopic/retractable applications ● Theatre, stage and lighting technology ● Space-saving alternative to zig-zag solutions

iF product design award
2013 for igus® e-spool

e-spool standard | Series SP1·SP2 | Product range

Reduce cable wear and reliably guide different media together

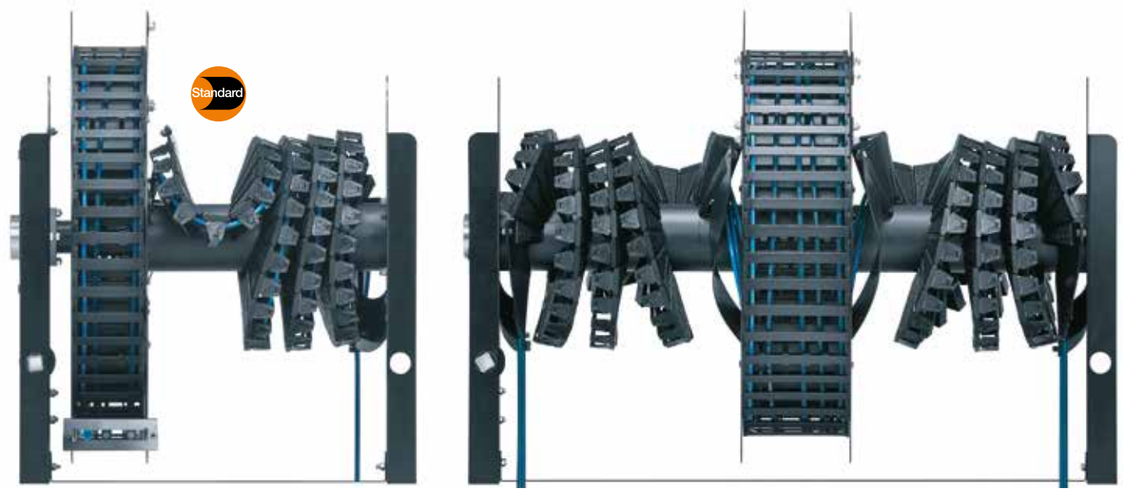


Illustration shows e-spool standard with 1 and 2 twisterbands

e-spool standard | With e-chain® and 1 or 2 twisterbands

Part No. e-spool with **1 twisterband, extension right**	Part No. e-spool with **1 twisterband, extension left**	*Bi* [mm]	*hi* [mm]	Travel length ≤ [m]	SP1 [kg]
SP1.600.4000.03.**R**.0	SP1.600.4000.03.**L**.0	75	21	4	≈ 33.0
SP1.700.7000.03.**R**.0	SP1.700.7000.03.**L**.0	75	21	7	≈ 38.0
SP1.850.14000.03.**R**.0	SP1.850.14000.03.**L**.0	75	21	14	≈ 48.0

Maximum cable and hose diameters: 17mm

The max. bend radii of 44mm in the inner radius and 77mm in the outer radius should be observed.

Part No. e-spool with **2 twisterbands, extension right**	Part No. e-spool with **2 twisterbands, extension left**	*Bi* [mm]	*hi* [mm]	Travel length ≤ [m]	SP2 [kg]
SP2.600.4000.03.**R**.0	SP2.600.4000.03.**L**.0	125	21	4	≈ 40.0
SP2.700.7000.03.**R**.0	SP2.700.7000.03.**L**.0	125	21	7	≈ 45.0
SP2.850.14000.03.**R**.0	SP2.850.14000.03.**L**.0	125	21	14	≈ 55.0

Maximum cable and hose diameters: 17mm

The max. bend radii of 44mm in the inner radius and 77mm in the outer radius should be observed

Note: If the e-chain® extension is upwards, igus® recommends the standard e-spool. If the e-chain® extension is vertical or horizontal, the application should be discussed with your igus® engineer. The HD version with greater retraction force may be required.

e-spool HD | Series SPHD1·SPHD2 | Product range

Reduce cable wear and reliably guide different media together

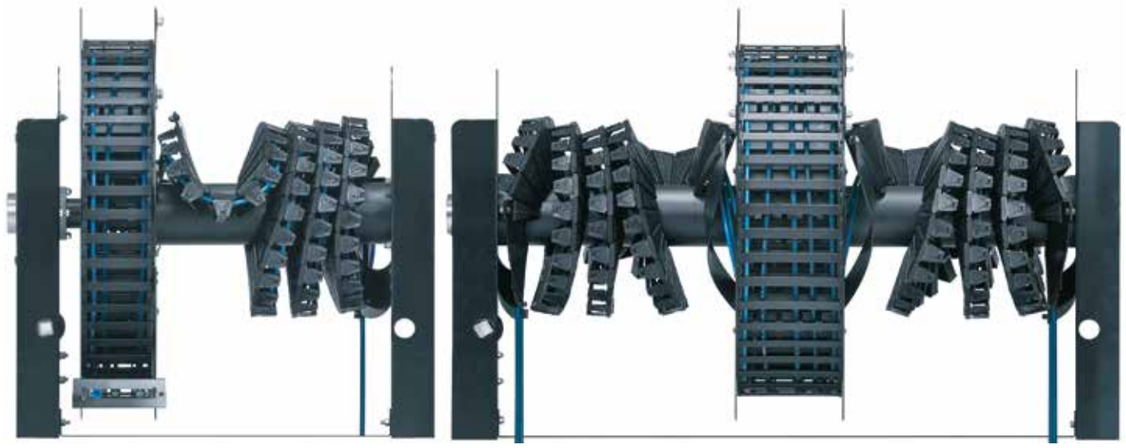


Illustration shows e-spool HD with 1 and 2 twisterbands

e-spool HD | With e-chain® and 1 or 2 twisterbands

Part No. e-spool HD with **1 twisterband, extension right**	Part No. e-spool HD with **1 twisterband, extension left**	*Bi* [mm]	*hi* [mm]	Travel length ≤ [m]	SP1 [kg]
SPHD1.600.4000.03.**R**.0	SPHD1.600.4000.03.**L**.0	75	21	4	≈ 33.0
SPHD1.700.7000.03.**R**.0	SPHD1.700.7000.03.**L**.0	75	21	7	≈ 38.0
SPHD1.850.14000.03.**R**.0	SPHD1.850.14000.03.**L**.0	75	21	14	≈ 48.0

Maximum cable and hose diameters: 17mm

The max. bend radii of 44mm in the inner radius and 77mm in the outer radius should be observed

Part No. e-spool HD with **2 twisterbands, extension right**	Part No. e-spool HD with **2 twisterbands, extension left**	*Bi* [mm]	*hi* [mm]	Travel length ≤ [m]	SP2 [kg]
SPHD2.600.4000.03.**R**.0	SPHD2.600.4000.03.**L**.0	125	21	4	≈ 40.0
SPHD2.700.7000.03.**R**.0	SPHD2.700.7000.03.**L**.0	125	21	7	≈ 45.0
SPHD2.850.14000.03.**R**.0	SPHD2.850.14000.03.**L**.0	125	21	14	≈ 55.0

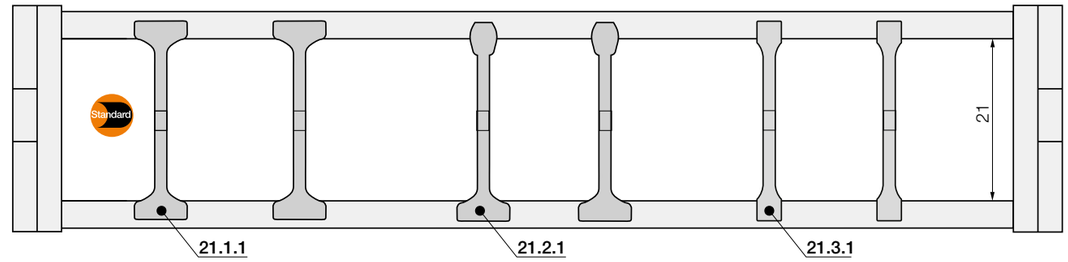
Maximum cable and hose diameters: 17mm

The max. bend radii of 44mm in the inner radius and 77mm in the outer radius should be observed

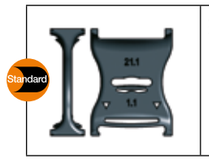
Note: If the e-chain® extension is upwards, igus® recommends the standard e-spool. If the e-chain® extension is vertical or horizontal, the application should be discussed with your igus® engineer. In most cases, the HD version with increased retraction force is required.

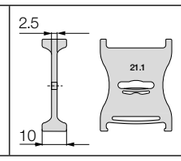
e-spool standard and HD | Accessories

Interior separation



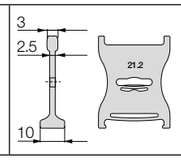
E2/000 interior separation - no lateral gap to side links necessary.
Separators are assembled every 5th e-chain® link.





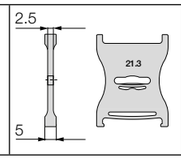
Standard separator, wide base	
unassembled	**21.1**
assembled	**21.1.1**





Separator, narrow top	
unassembled	**21.2**
assembled	**21.2.1**





Separator, narrow	
unassembled	**21.3**
assembled	**21.3.1**

Interior separation for E2/000 e-chains®

Standard - for any application

Separator with a wide base for maximum holding force in the e-chain®.

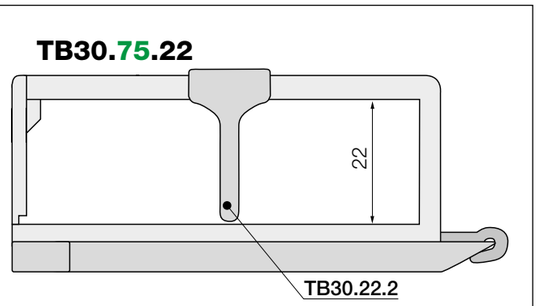
For even faster installation

Wide on one side for high holding force, narrow on opposite side for easy cable fitting.

For small cables

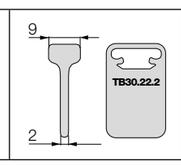
Separator with a narrow base for a large number of small cables side by side. Saves space in the e-chain®.





twisterband interior separation - separators are delivered unassembled.
Simply pushed onto the openable crossbar. Separators are assembled every 4th e-chain® link.

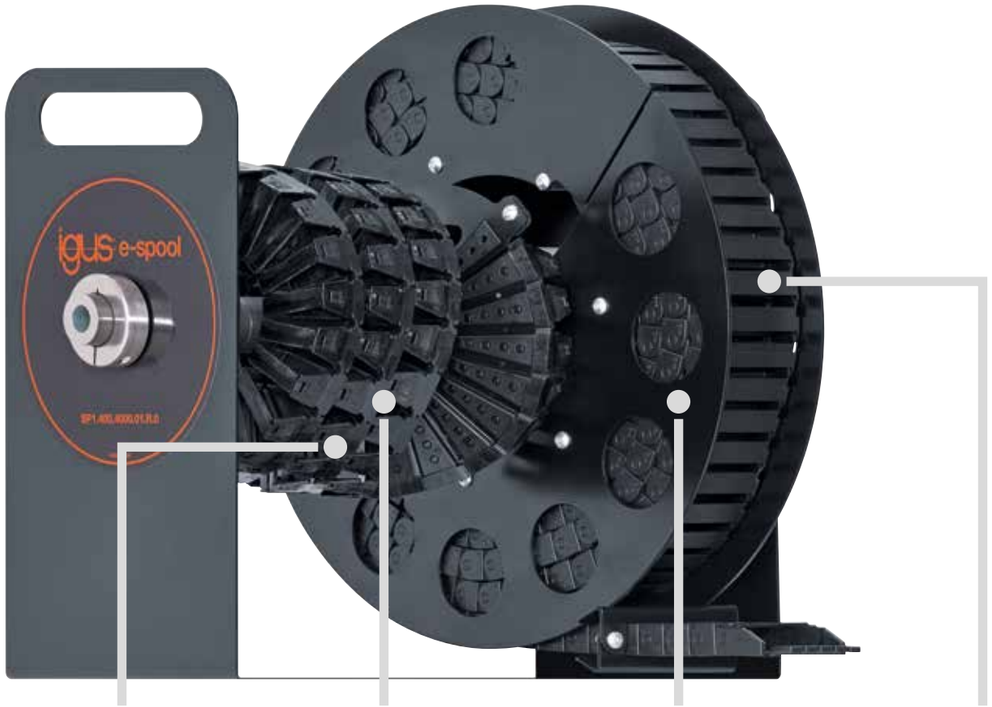




Separator, for TB30.75.22	
unassembled	**TB30.22.2**

Interior separation for twisterband

Separators - for installation simply open the e-chain®, insert a cable and press the separator onto the crossbar. Then add more cables. The separators provide a clear, cable-friendly interior separation.



Flexible use:
energy supply in any direction is possible

Cost-effective:
twisterband enables rotary movement

Flexible energy supply:
guidance of different media in one system

Space-saving:
e-chain® retracts into a compact unit

Compact, space-saving cable reel without slip ring - e-spool compact

The compact e-spools for 2m and 4m extension are optimised for small installation spaces with smaller linear chains and twisterbands for a wide range of applications. As with the larger standard and HD systems, the compact e-spool systems enable trouble-free guidance and flexible filling.

- Compact, space-saving cable reel without slip ring
- Different media (power, air data and fluids) can be routed together in one system
- Energy supply in all directions
- Space-saving and virtually "invisible"
- Very lightweight design (SP1.240 series made from aluminium)
- Extension lengths up to 2 and 4m
- Cables can be retrospectively added or changed

Typical industries and applications

- Small circular movements
- Retractable applications - linear or rotary

e-spool compact | Series SP1 | Product range

Route various media in a space-saving and flexible way

e-spool compact | With e-chain® and 1 twisterband

Part No. e-spool with **1 twisterband, extension right**	Part No. e-spool with **1 twisterband, extension right**	*Bi* [mm]	*hi* [mm]	Travel length ≤ [m]	SP1 [kg]
SP1.240.2000.01.**R**.0 1)	–	23	9	2	≈ 3.30
SP1.400.4000.01.**R**.0 2)	–	44	15	4	≈ 13.5

Maximum cable and hose diameters: for SP1.240 = 7mm and for SP1.400 = 12mm

1) The max. bend radii of 24mm in the inner radius and 35mm in the outer radius should be observed

2) The max. bend radii of 34mm in the inner radius and 57mm in the outer radius should be observed

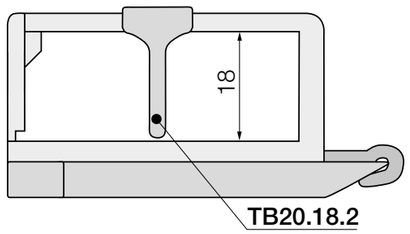
Note: The compact e-spools for 2m and 4m extension are optimised for small installation spaces with smaller linear chains and twisterbands for a wide range of applications. As with the larger standard and HD systems, the compact e-spool systems enable trouble-free guidance and flexible filling.

e-spool compact | Series SP1 | Accessories

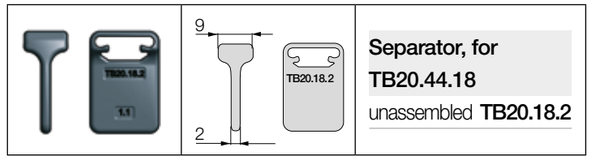
Interior separation



TB20.44.18



twisterband interior separation - separators are delivered unassembled.
Simply pushed onto the openable crossbar. Separators are assembled every 4th e-chain® link.



Separator, for TB20.44.18
unassembled **TB20.18.2**

Interior separation for twisterband

Separators - for installation simply open the e-chain®, insert a cable and press the separator onto the crossbar. Then add more cables. The separators provide a clear, cable-friendly interior separation.



Space-saving solution for a secure vertical movement. igus® e-spool with 3,500mm extension length in this handling unit. Fitted with igus® chainflex® CF9 control and CF30 motor cables as well as CF.Robot torsion cable and CA.PU pneumatic hose

e-spool compact | Series SP1 | My sketches

e-spool compact

e-spool for manual operation | Advantages New



Flexible use:
energy supply in any direction is possible

Locking:
inertia locking function

Flexible energy supply:
for routing of a single cable or hose

Space-saving:
cable retracts neatly when not in use, paths remain free

For applications where only one cable or hose is pulled out manually - e-spool for manual operation

The manually operated e-spool is designed for applications where only one cable or hose is pulled out by hand. The operator pulls out the cable to the required length for a control pendant or tool and can be retracted again after use. To prevent the cable from being under tension all the time, an inertia reel is fitted. In this way, the extension length can be locked. An extension length of up to 5m can be achieved.

- For applications where only one cable or hose is pulled out manually
- Compact, space-saving cable reel without slip ring
- Integrated locking mechanism against "unwanted" reverse winding (very similar to a vacuum cleaner cable)
- Also suitable for media and air hoses
- Handle with mounting option and strain relief

Typical industries and applications

- Robot teach pendants
- Workstations
- Assembly lines

e-spool for manual operation | SPC1 | Product range

Retract a single cable or hose compactly

e-spool for manual operation | With 1 twisterband

Part No. e-spool with	*hi*	Travel length	SP1
1 twisterband, extension right	[mm]	≤ [m]	[kg]
SPC1.300.5000.01.**R**.0	18	5	≈ 12.5

Maximum cable and hose diameters: 12mm

The max. bend radii of 57mm should be observed.



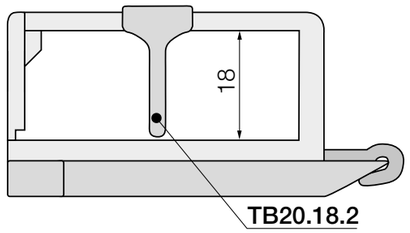
The igus® e-spool in an extendable fan system made by Becker Electric Forklift Service in Erftstadt. Vertically extendable up to 10m. The e-spool supplies the motor with media and energy cables

e-spool for manual operation | Series SPC1 | Accessories

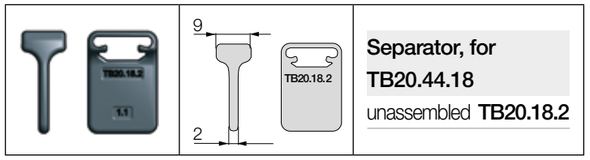
Interior separation



TB20.44.18



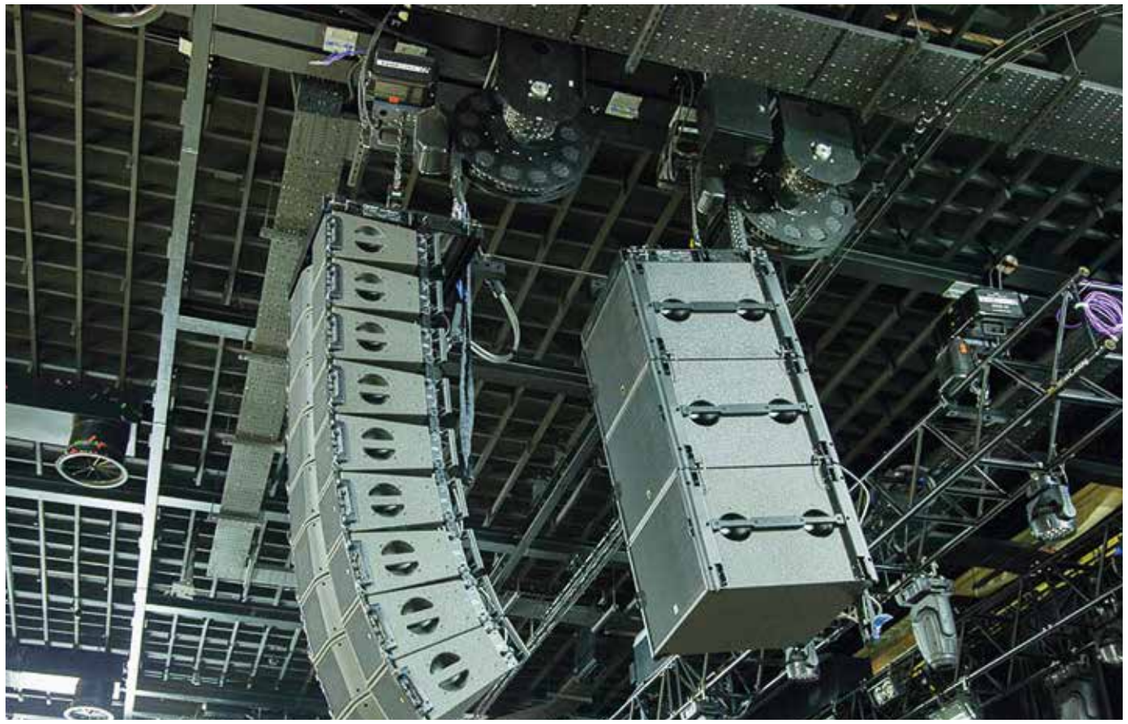
twisterband interior separation - separators are delivered unassembled.
Simply pushed onto the openable crossbar. Separators are assembled every 4th e-chain® link.



Separator, for TB20.44.18
unassembled **TB20.18.2**

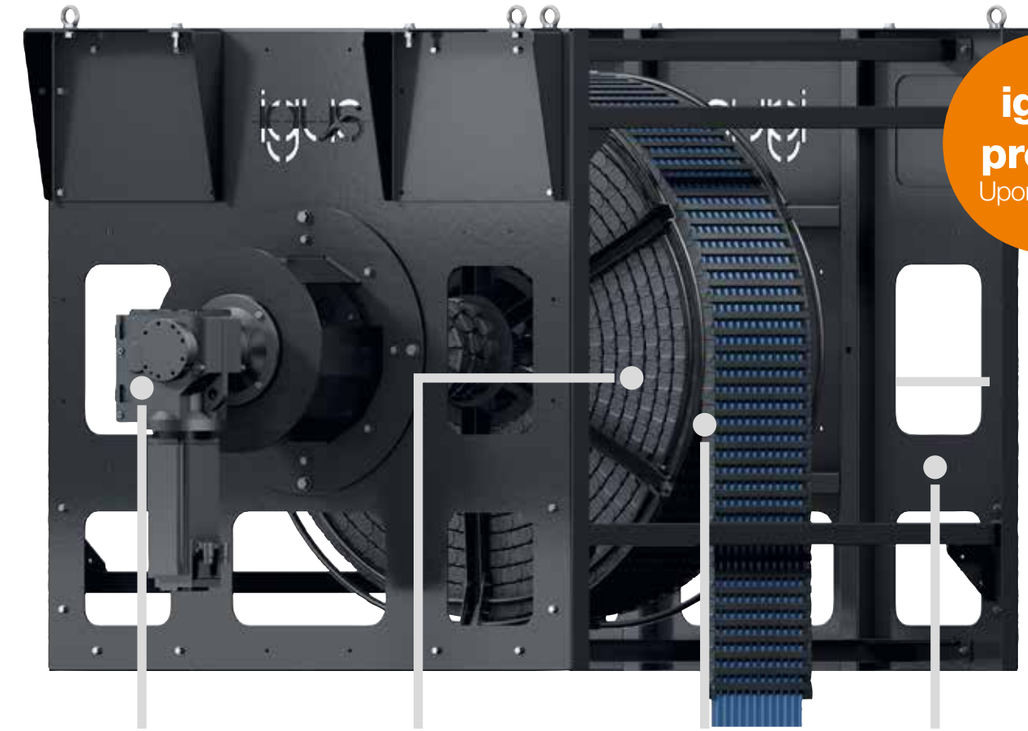
Interior separation for twisterband

Separators - for installation simply open the e-chain®, insert a cable and press the separator onto the crossbar. Then add more cables. The separators provide a clear, cable-friendly interior separation.



At Liverpool University (UK), e-spools supply power and data to arrays of height-adjustable speakers. End to end cables ensure the best possible transmission reliability and sound quality

e-spool for manual operation | My sketches



Motor-driven: for extension lengths up to 35m

Flexible energy supply: guidance of different media in one system

Space-saving: e-chain® retracts into a compact unit

Optional control system: plug & play controller, developed by igus®

Motor-driven for long extension lengths - e-spool power

The e-spool power is a motor-driven e-spool for travels up to 35m. Like all e-spool systems, it can be filled with various cables and hoses and ensures reliable transmission with no breaks or slip rings. An igus® controller, which adapts dynamically to the travel speed, was specially developed for vertically hanging applications in theatres and opera houses and can be ordered as an option.

- Travel distances up to 35m
- Solid tubular steel construction
- Flexible filling with electrical and fibre optic cables, and pneumatic hoses
- Future-proof, additions and upgrades possible
- No tensile load on the cables

Typical industries and applications

- Theatre, stage and lighting technology
- Indoor and outdoor cranes





Solutions for vertical motion

liftband

Cable guidance up to 13m height with limited installation space

Advantages of liftband:

- For high vertical applications that need a compact solution
- Modular, silent, space-saving; vertical guidance for energy, data and media
- Max. extension length 13m
- Available in 2 sizes
- Alternative to zig-zag solutions, but lighter and requires less installation space
- Vertical applications implemented with ease

When to use another system:

- With very high loads that have to be guided vertically
  ▶ **Zig-zag applications, page 123**
- For high dynamics with lateral accelerations
  ▶ **guidelok slimline P, page 1032**



Extended:
secure cable supply up to 13m

Robust drive plate:
for easy attachment to your application

Safe and strong:
nylon straps for secure guidance and high fill weight

Tough:
even with lateral system movements
through "push-button" joint

Light:
lightweight, compact design

Available in 2 sizes:
easy triflex® for easy fitting of cables

Chamfered basket:
for safe operation

Retracted:
safe storage in a solid steel basket

Optimised for space:
compact steel basket for best use of space

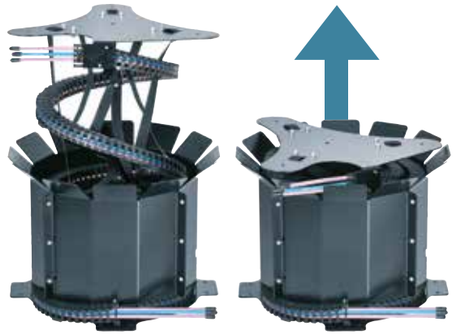
Cable guidance up to 13m height with limited installation space - liftband

liftband - modular, silent, space-saving - igus® vertical guidance for energy, data and media. High vertical applications that need a compact solution can be achieved with liftband.

- 2 sizes: inner width 25mm and 32mm
- 2 bend radii: 175mm and 250mm
- Alternative to zig-zag solutions
- Lighter and smaller installation space
- Vertical applications implemented with ease
- Max. extension length 13m

Typical industries and applications

- Theatre and stage technology
- Indoor cranes
- Mobile telescopic antennas

Series	Extension height [m]	Inner height *hi* [mm]	Inner width *Bi* [mm]	Bend radius ≤ *R* [mm]	Cable ≤ ø [mm]	Page
						
LB.E332.25 [1]	1 - 13	2 x 13	25	175	ø 9	**1030**
LB.E332.32 [2]	1 - 13	2 x 17	32	250	ø 12	**1030**

liftband -
cable guidance up to 13m height
with limited installation space

1) Simply press cables up to a diameter of 9mm into the e-chain®/pull cables up to a diameter of 11mm into the e-chain®

2) Simply press cables up to a diameter of 12mm into the e-chain®/pull cables up to a diameter of 15mm into the e-chain®

liftband - delivery time* 3-5 business days

*The delivery times indicated correspond to the average time until the ordered goods are dispatched.

Technical data

Speed	**≤ 1m/s**
Acceleration	**≤ 2m/s²**
Lateral speed	**≤ 1m/s**
Lateral acceleration	**≤ 2m/s²**

liftband | LB.E332.25· LB.E332.32 | Product range

liftband Series LB.E332.25 | e-chain® with "easy" design | Inner width 25mm

Part No. liftband	Extension height [m]	*Bi* [mm]	*hi* [mm]	≤ *R* [mm]	Cable ≤ ø [mm]*
LB.E332.25.2.175.1.01.0	1	25	2 x 13	175	ø 9
LB.E332.25.2.175.2.01.0	2	25	2 x 13	175	ø 9
LB.E332.25.2.175.3.01.0	3	25	2 x 13	175	ø 9
LB.E332.25.2.175.4.01.0	4	25	2 x 13	175	ø 9
LB.E332.25.2.175.5.01.0	5	25	2 x 13	175	ø 9
LB.E332.25.2.175.6.01.0	6	25	2 x 13	175	ø 9
LB.E332.25.2.175.7.01.0	7	25	2 x 13	175	ø 9
LB.E332.25.2.175.8.01.0	8	25	2 x 13	175	ø 9
LB.E332.25.2.175.9.01.0	9	25	2 x 13	175	ø 9
LB.E332.25.2.175.10.01.0	10	25	2 x 13	175	ø 9
LB.E332.25.2.175.11.01.0	11	25	2 x 13	175	ø 9
LB.E332.25.2.175.12.01.0	12	25	2 x 13	175	ø 9
LB.E332.25.2.175.13.01.0	13	25	2 x1 3	175	ø 9

*Simply press cables up to a diameter of 9mm into the e-chain®/pull cables up to a diameter of 11mm into the e-chain®

liftband Series LB.E332.32 | e-chain® with "easy" design | Inner width 32mm

Part No. liftband	Extension height [m]	*Bi* [mm]	*hi* [mm]	≤ *R* [mm]	Cable ≤ ø [mm]*
LB.E332.32.2.250.1.01.0	1	32	2 x 17	250	ø 12
LB.E332.32.2.250.2.01.0	2	32	2 x 17	250	ø 12
LB.E332.32.2.250.3.01.0	3	32	2 x 17	250	ø 12
LB.E332.32.2.250.4.01.0	4	32	2 x 17	250	ø 12
LB.E332.32.2.250.5.01.0	5	32	2 x 17	250	ø 12
LB.E332.32.2.250.6.01.0	6	32	2 x 17	250	ø 12
LB.E332.32.2.250.7.01.0	7	32	2 x 17	250	ø 12
LB.E332.32.2.250.8.01.0	8	32	2 x 17	250	ø 12
LB.E332.32.2.250.9.01.0	9	32	2 x 17	250	ø 12
LB.E332.32.2.250.10.01.0	10	32	2 x 17	250	ø 12
LB.E332.32.2.250.11.01.0	11	32	2 x 17	250	ø 12
LB.E332.32.2.250.12.01.0	12	32	2 x 17	250	ø 12
LB.E332.32.2.250.13.01.0	13	32	2 x 17	250	ø 12

*Simply press cables up to a diameter of 12mm into the e-chain®/pull cables up to a diameter of 15mm into the e-chain®

liftband | Application



liftband test setup in the igus® test lab



Solutions for vertical motion

guidelok slimline P

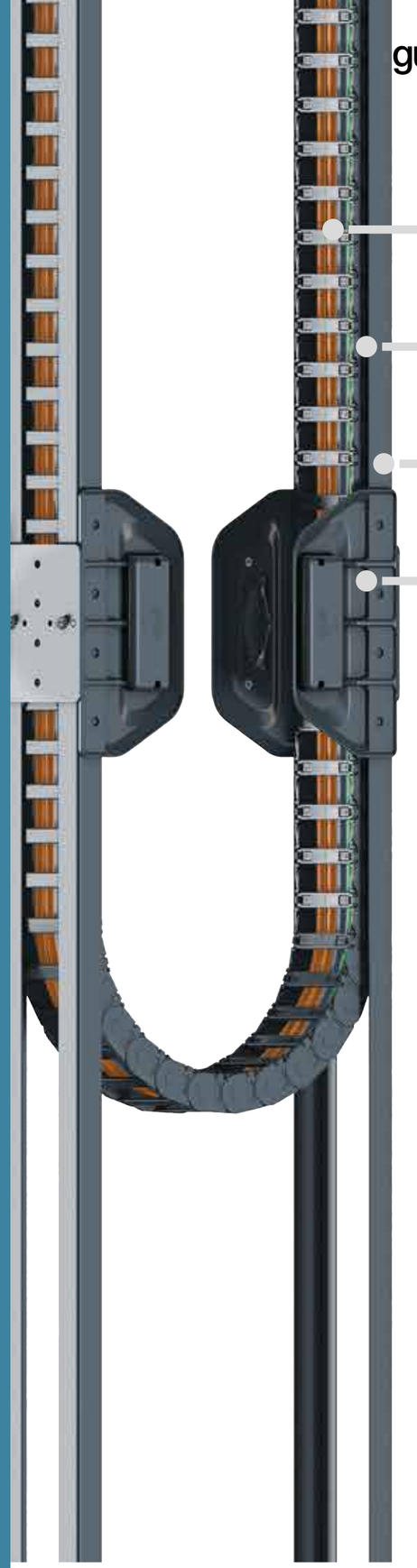
Safe vertical guidance

Advantages of guidelok slimline P:

- Up to 7m/s and 10m/s²
- Up to 80% less trough required, saving costs and weight
- For hanging systems up to 50m
- No swinging of the e-chain®, high reliability due to the lock mechanism and guiding rails
- Faster and easier installation
- Reduced noise
- Easy access for servicing
- Energy, data and all kinds of media can be safely guided

When to use another system:

- With very high loads that have to be guided vertically
  ► **Zig-zag applications, page 123**
- For high vertical applications with limited space
  ► **liftband, page 1026**



Safe guidance:
even for high travel speeds

Quick assembly:
lightweight glass-fibre reinforced plastic profiles ensure easy and quick installation

Long travels:
travels up to 50m in 1.5m or 2m channel section length possible

No swinging of the e-chain®:
guidelok safety catches the e-chain® even under high lateral accelerations

Safe vertical guidance - guidelok slimline P

In highly dynamic storage and retrieval systems a horizontal movement speed exceeding 7m/s is not uncommon. The advanced igus® guidelok slimline guides e-chains® even at the fastest speeds. Note: Systems of this type should be designed with our engineering team. We can provide a quotation quickly - please contact us.

- Up to 7m/s and 10m/s²
- Up to 80% less trough required, saving costs and weight
- For hanging systems up to 50m
- No swinging of the e-chain®, high reliability due to the lock mechanism and guiding rails
- Faster and easier installation
- Reduced noise
- Easy access for servicing
- Low weight due to plastic construction
- Energy and data and all kinds of media can be safely guided

Typical industries and applications

● Storage and retrieval units ● Lifts ● Elevators ● Construction and crane lifts ● Hoists ● Automatic miniload warehouses

Series	For e-chains® series	Inner height *hi* [mm]	Inner width *Bi* [mm]	Bend radius *R* [mm]	Page
		guidelok slimline P - safe vertical guidance			
GLSL.P.255.10	255	24	100	150 - 250	1034
GLSL.P.2700.10	2700	35	100	150 - 250	1034

Special versions with different widths, radii and channel section lengths possible. Please consult igus® for delivery time.

Available from stock. Ready to ship in 24 - 48hrs.*

*The delivery times indicated correspond to the average time until the ordered goods are dispatched.

Find a video online
▶ www.igus.eu/glslp-movie

Made completely from plastic, cost-effective, light and easy to assemble - guidelok slimline P.S

- Significant savings in costs and weight
- Fast, safe and easy assembly with clip-on guide rails
- Reduced noise
- Easy access for servicing
- Energy, data and all kinds of media can be safely guided
- For hanging systems up to 50m
- Speed up to 7m/s and acceleration up to 10m/s²

More information ▶ www.igus.eu/glsl-ps



guidelok slimline P | Series GLSL.P | Product range

Part No. guidelok P	For series	*Bi* [mm]	*R* [mm]
GLSL.P.255. 10.*R*.LLLL/FFFF	255	103	| 150 |175 |200 |225 | 250 |
GLSL.P.2700.10.*R*.LLLL/FFFF	2700	100	| 150 |175 |200 | – |250 |

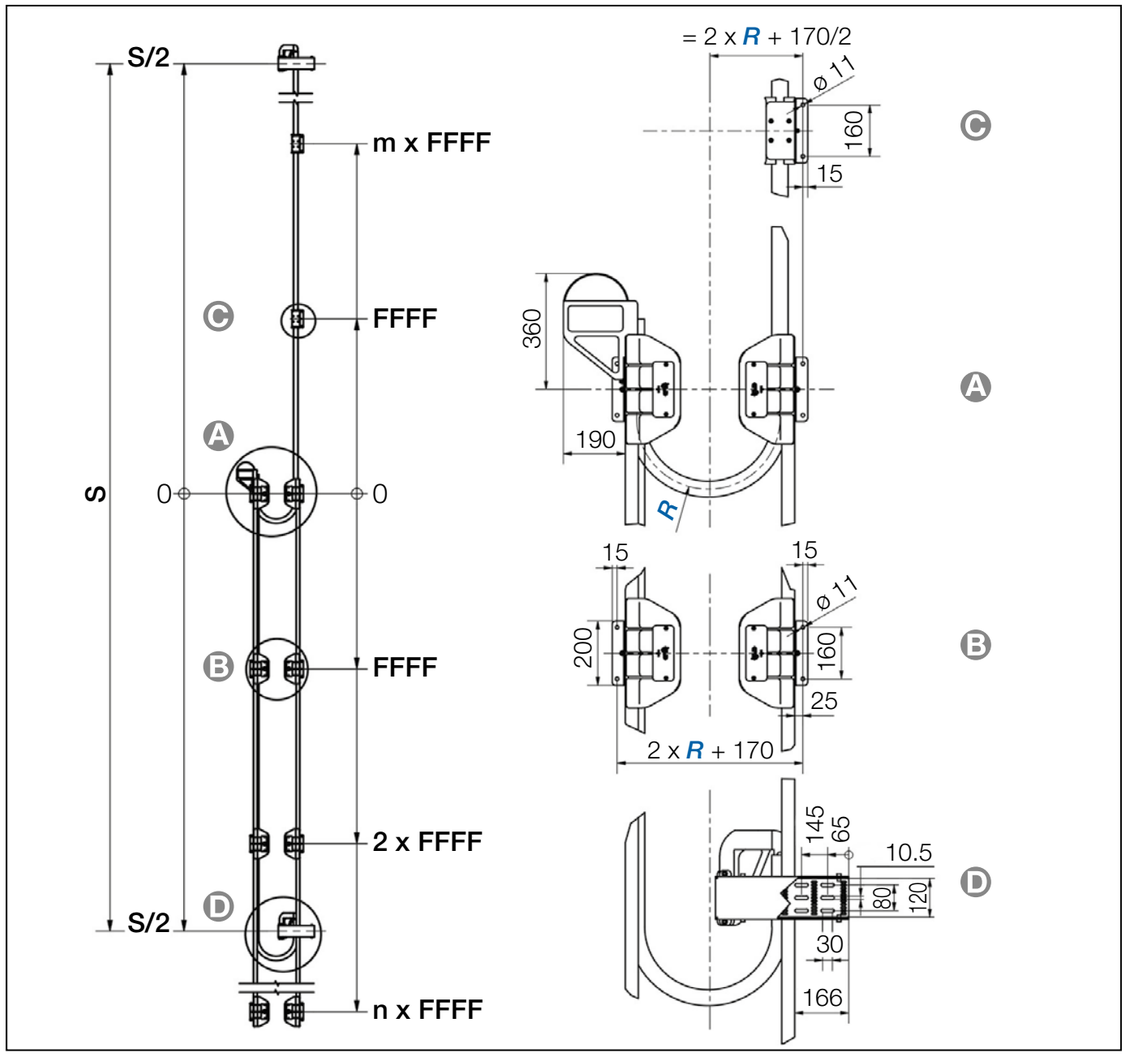
LLLL = Total length **FFFF** = Channel section length

Special versions with different widths, radii and channel section lengths possible. Please consult igus® for delivery time.

Complete Part No. with required radius (*R*) and required value for total length and channel section length

Example: **GLSL.P.2700.10.150.9000/1500**

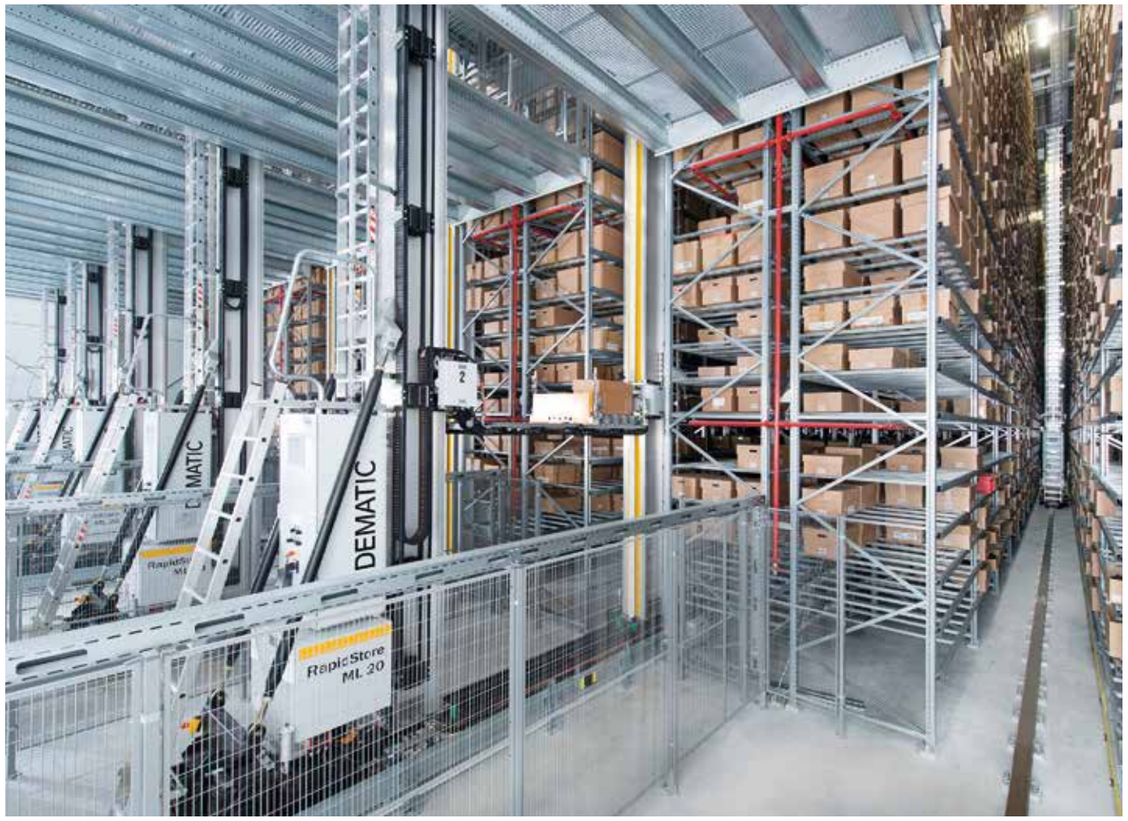
Installation dimensions



guidelok slimline P | Series GLSL.P | Technical data

Technical data

Speed vertical	≤ 7m/s
Acceleration	≤ 10m/s²

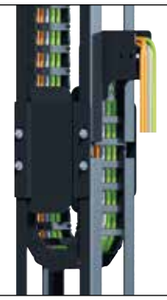


guidelok slimline P in a high-bay warehouse

Cable guidance for vertical applications: lighter, low-noise, easier - lower costs - guidelite GLV - New

- The "guidelite vertical" (GLV) guide trough guides e-chains® and cables for vertical applications such as high bay warehouse safely in one system
- Segmental design and lightweight components reduce weight and noise
- Open design and self-locking screws facilitate easy assembly
- Significant savings in costs and weight when compared with a complete housing
- Easy access for servicing

More information ▶ www.igus.eu/GLV





Solutions for horizontal motion

guidelok horizontal

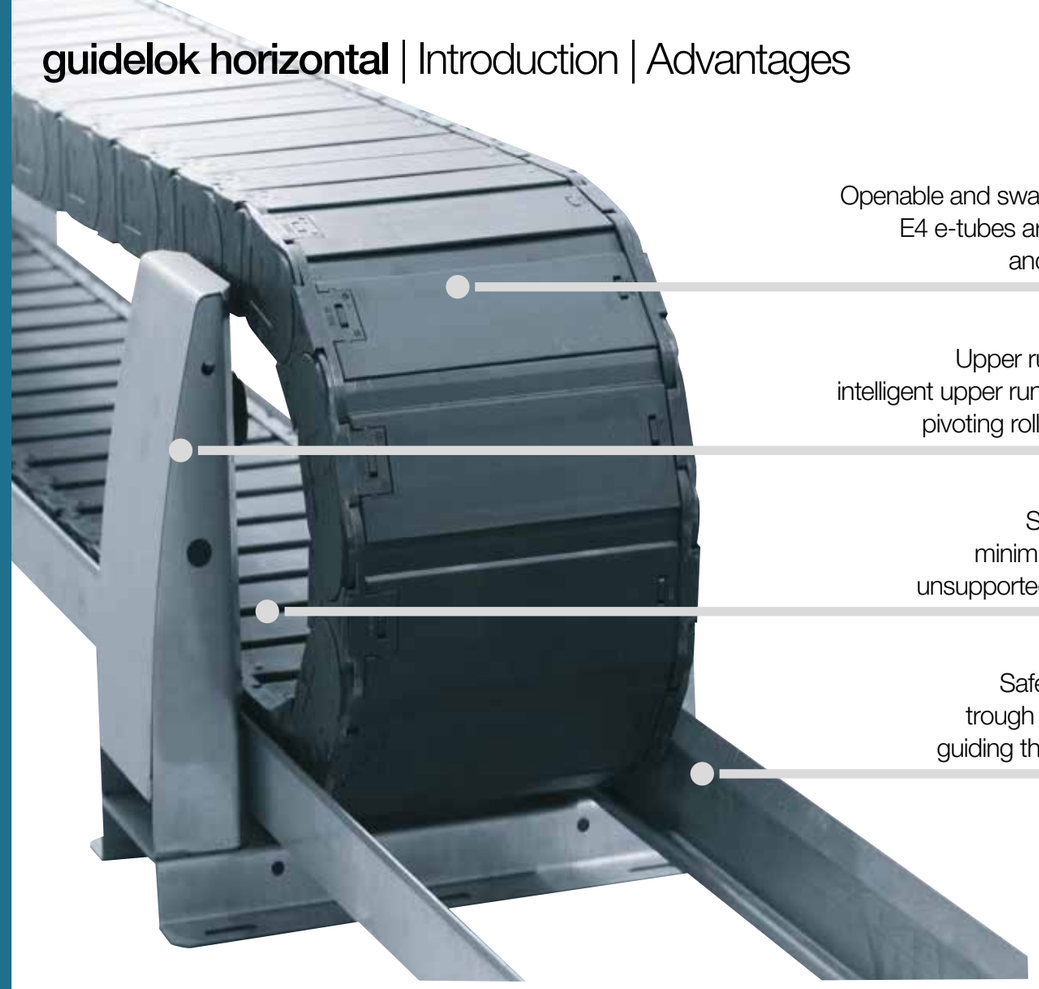
Upper run guide for long travels, unsupported in swarf areas

Advantages of guidelok horizontal:

- Swarf cannot get stuck between upper and lower run
- Modular system with few parts (also possible without lateral trough)
- Lower cost than most steel chains or gliding systems
- Open guide trough design, swarf can fall through

When to use another system:

- For a cost-effective and fully enclosed complete solution
  ► **basic flizz®, Page 1044**
- For a compact, quiet and cost-effective complete system as a maintenance-free alternative to a busbar
  ►**micro flizz®, page 1052**



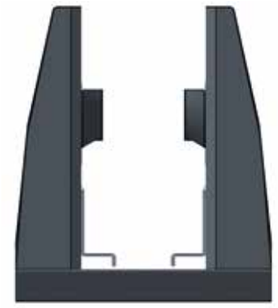
Upper run guide for long travels, unsupported in swarf areas - guidelok horizontal

Especially for long travels on machine tools, when the e-chain® would normally need to glide but metallic swarf is a problem. guidelok horizontal is a cost-effective solution.

- Unsupported travels up to 50m are possible
- Swarf cannot get stuck between upper and lower run
- Modular system with few parts (also possible without lateral trough)
- Enormous increase of unsupported lengths for e-chains®
- Lower push/pull forces (smaller e-chains®, unsupported and rollers = energy-efficient)
- Lower cost than most steel chains or gliding systems
- Open guide trough design, swarf can fall through

Typical industries and applications

- Machine tools
- Heavy swarf environmentss
- Wherever a gliding application is not advisable

Series Part No.	For e-chain® series	For bend radii from - up to *R* [mm]	Page
	**guidelok horizontal -** upper run guide for long travels, 2 options (depending on the bend radius)		
907.645.	● E4.56/R4.56 ● E4.80/R4.80 ● E4.120/R4.120	150 - 300	**1042**
907.837.	● E4.56/R4.56 ● E4.80/R4.80 ● E4.120/R4.120	350 - 500	**1042**

Material: galvanised steel

Available from stock. Ready to ship in 24 - 48hrs.*

*The delivery times indicated correspond to the average time until the ordered goods are dispatched.

Technical data

Speed horizontal	**≤ 1m/s**
Acceleration	**≤ 5m/s²**



guidelok - swarf-proof and unsupported over long travels, more cost-effective than most steel chains or complex gliding systems

guidelok horizontal | Product range | Installation dimensions

Product range | Series 907.645 | For bend radii up to 300mm

Part No. guidelok	For E4.1 series	*Bi* [mm]	*R* Available bend radii [mm]
907.645.*Bi*.*R*.LLLL/FFFF	E4.56	50 - 600	| 150 | 175 | 200 | 250 | 300 |
907.645.*Bi*.*R*.LLLL/FFFF	E4.80	50 - 600	| 150 | 175 | 200 | 250 | 300 |
907.645.*Bi*.*R*.LLLL/FFFF	E4.112	50 - 600	| – | – | 200 | 250 | 300 |
907.645.*Bi*.*R*.LLLL/FFFF	R4.56	75 - 462	| 150 | 175 | 200 | 250 | 300 |
907.645.*Bi*.*R*.LLLL/FFFF	R4.80	150 - 462	| – | 175 | 200 | 250 | 300 |
907.645.*Bi*.*R*.LLLL/FFFF	R4.112	200 - 500	| – | – | – | 250 | 300 |

More series and radii upon request. Please consult igus® for delivery time.

LLLL = Total length **FFFF** = Channel section length

Complete Part No. with required value for total length and channel section length. Example: **907.645.200.300.20000/2000.0**

Product range | Series 907.837 | For bend radii from 350 up to 500mm

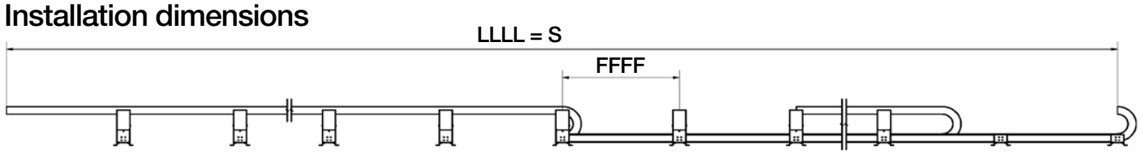
Part No. guidelok	For E4.1 series	*Bi* [mm]	*R* Available bend radii [mm]
907.837.*Bi*.*R*.LLLL/FFFF	E4.56	50 - 600	| 350 | 400 | 450 | 500 |
907.837.*Bi*.*R*.LLLL/FFFF	E4.80	50 - 600	| 350 | 400 | 450 | 500 |
907.837.*Bi*.*R*.LLLL/FFFF	E4.112	50 - 600	| 350 | 400 | 450 | 500 |
907.837.*Bi*.*R*.LLLL/FFFF	R4.56	75 - 462	| 350 | 400 | 450 | 500 |
907.837.*Bi*.*R*.LLLL/FFFF	R4.80	150 - 462	| 350 | 400 | 450 | 500 |
907.837.*Bi*.*R*.LLLL/FFFF	R4.112	200 - 500	| 350 | 400 | 450 | 500 |

More series and radii upon request. Please consult igus® for delivery time.

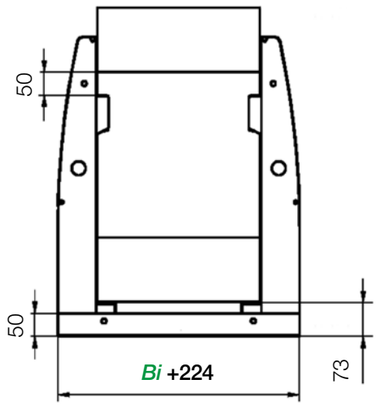
LLLL = Total length **FFFF** = Channel section length

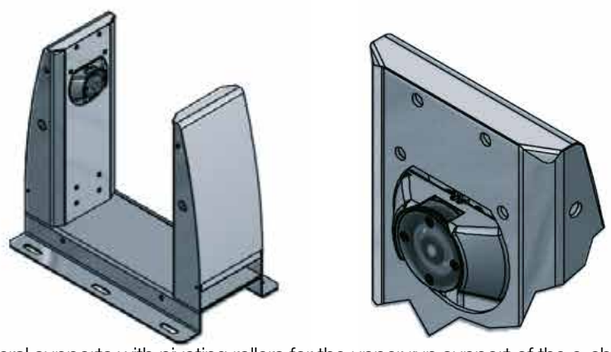
Complete Part No. with required value for total length and channel section length. Example: **907.645.200.300.20000/2000.0**

Installation dimensions



Principle sketch - guidelok horizontal - **LLLL** = Total length **FFFF** = Channel section length





Lateral supports with pivoting rollers for the upper run support of the e-chain®

guidelok horizontal | Design principle

Design principle - horizontal guidelok guides the e-chain® on special spring loaded roller supports, that are pushed back by the e-chains® radius



The e-chain® is guided in the trough channel, pushing back the spring loaded roller supports with its radius ...

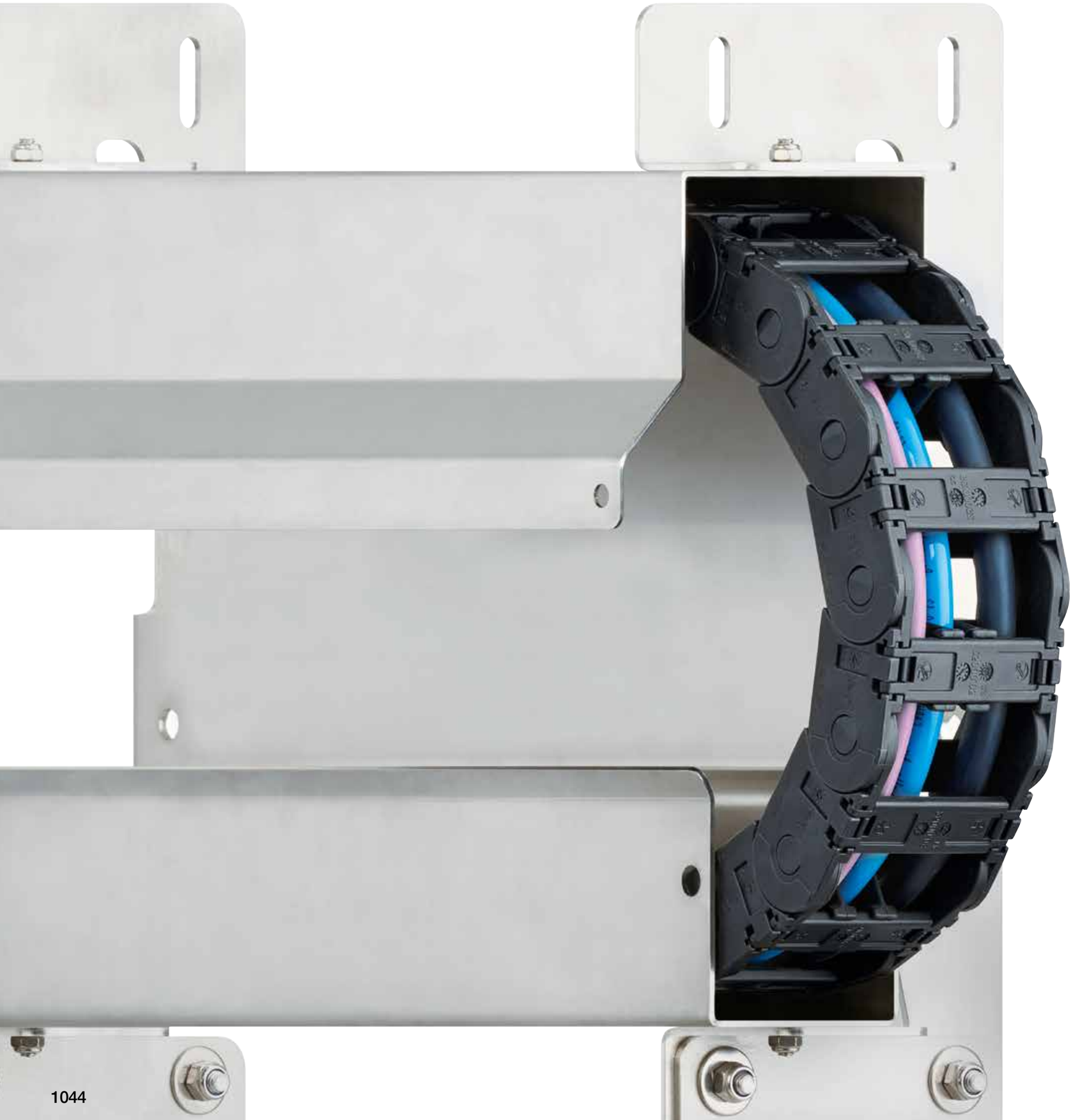


... ... which snap back out again after the e-chain® radius has passed ...



... the upper run then lays on the roller support

Find a video online
▶ www.igus.eu/glhr-movie



Solutions for horizontal motion

basic flizz®

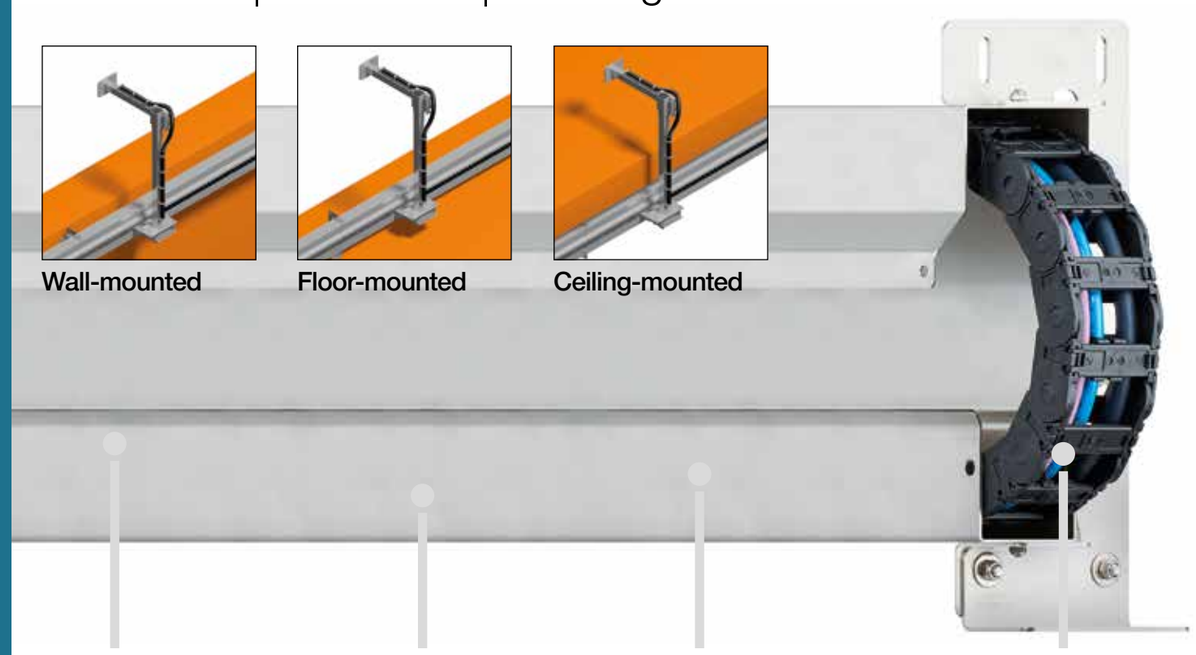
Cost-effective, enclosed solution for long travels, e.g. waste-water treatment plants

Advantages of basic flizz®:

- Protection against weather and dirt exposure
- Low-maintenance system
- Cost-effective and fully enclosed complete system
- Standardised and modular design
- Easy wall, floor or ceiling mounting options
- Cables or hoses can be easily retrofitted
- Reduce power costs - directly driven by the scraper. No additional drives needed (as is the case on cable reels)

When to use another system:

- For an upper run guide for long travels, unsupported in swarf areas
  ► **guidelok horizontal, Page 1038**
- For a compact, quiet and cost-effective complete system as a maintenance-free alternative to a busbar
  ►**micro flizz®, page 1052**



Safe guidance:
guide rail integrated
into the profile

Modular design:
easy assembly,
compact construction

Protected:
weather-resistant
stainless steel enclosure

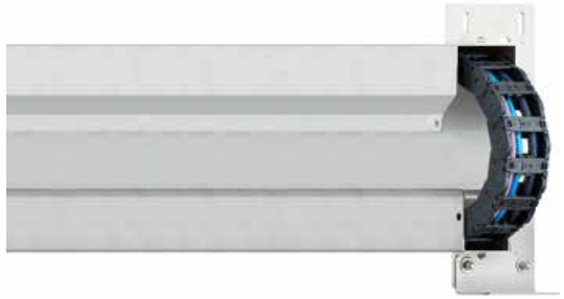
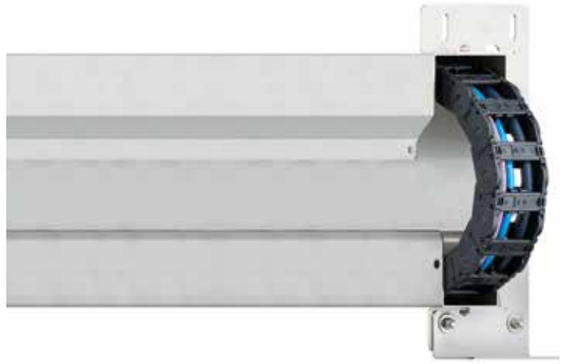
Save time:
openable e-chain®

Cost-effective, enclosed solution for long travels, e.g. waste water treatment plants - basic flizz®

- Low-maintenance system for travels up to 100m
- Protection against weather and dirt exposure
- Cost-effective and fully enclosed complete system
- Standardised and modular design
- Easy installation using a bracket with different mounting options
- Cable lengths up to 50% shorter than festoons, low-profile installation
- Cables are guided with a defined bend radius so tensile forces are absorbed by the e-chain®
- Cables cannot tangle or get damaged
- No slip ring contact (as with cable reels)
- Cables or hoses can be easily retrofitted
- Reduce power costs - directly driven by the scraper. No additional drives needed (as is the case on cable reels)
- Optionally available moving end arm (e.g. as mechanical connection for scraper trolley)
- Available in 2 sizes, each also available in HD version for even higher push/pull forces
- 3500 v2 and 3500 HD optionally available as rol e-chain® for travels up to 200 m and more

Typical industries and applications

● Wastewater and sewage treatment works (longitudinal scrapers, sand/grease traps) ● Electroplating facilities ● Cranes ● Plant construction ● River locks

Series Part No.	For e-chains® series	Outer height [mm]	Support gap [m]	Travel length ≤ [m]	Page
	**basic flizz® 2500 v2 and basic flizz® 2500 HD** weather-resistant, fully enclosed complete solution				
2500 v2	**2500.05.100.0**	408	3	100	**1048**
2500 HD	**E4.28.052.100.0**	408	3	100	**1048**
HD version for even higher push/pull forces					
Appropriate e-chain® must be ordered separately.					
	**basic flizz® 3500 v2 and basic flizz® 3500 HD** weather-resistant, fully enclosed complete solution for higher push/pull forces and fill weight				
3500 v2*	**3500.115.150.0 / 3500R.115.150.S10.0.E**	618	3	150	**1049**
3500 HD*	**E4.42.11.150.0 / 3838CR.11.150.S10.0.E**	618	3	150	**1049**
HD version for even higher push/pull forces					
Appropriate e-chain® must be ordered separately.					
*Available upon request. Please consult igus® for delivery time.					

Standard material: 304 stainless steel, material 1.4301 (AISI 304). Option: galvanised steel or 316L stainless steel, material 1.4404 (AISI 316L)

Available from stock. Ready to ship in 24 - 48hrs.*

*The delivery times indicated correspond to the average time until the ordered goods are dispatched.

QuickCad - 3D CAD configurator for basic flizz®

- Generate basic flizz® as a 3D model quickly and easily
- Fast download of the CAD files without registration
- Select installation version, infeed and operating direction
- Parts list generation and PDF data sheet of the application

More information ▶ www.igus.eu/basic-flizz

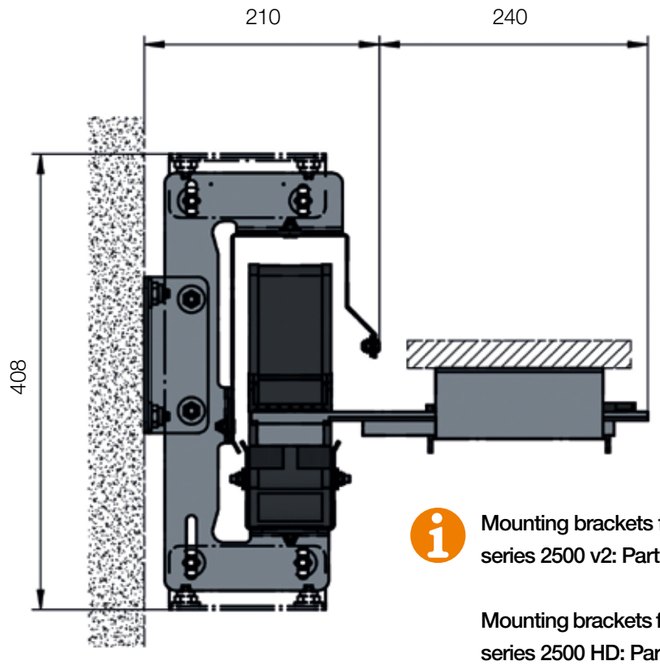


basic flizz® product range | Series 2500 v2 | Series 2500 HD

Specification	Part No. basic flizz® 2500 v2	Part No. basic flizz® 2500 HD
Trough module without glide bar	**IE31.3134.E**	**IE31.3134.E**
Trough module fixed end at the joint	**IE31.3135.E**	**IE31.3220.E**
Trough module fixed end at the centre	**IE31.3136.E**	**IE31.3222.E**
Trough module with glide bar	**IE31.3137.E**	**IE31.3137.E**
Trough module with glide bar and tiewrap plate	**IE31.3217.E**	**IE31.3217.E**
Installation set v2	**IE31.3138.E**	**IE31.3138.E**
Floating moving end	**IE20.2500.05.ST.05.E**	**IE20.2500.05.ST.05.E**
Moving arm ▶ **please also see page 1050**	**IE31.2316.E**	**IE31.2316.E**

Standard material: AISI 304 stainless steel, material 1.4301 (AISI 304). Option: galvanised steel or AISI 316L stainless steel, material 1.4404 (AISI 316L)

basic flizz® installation dimensions | Series 2500 v2 | Series 2500 HD



Mounting brackets for e-chain® 2500 basic flizz® series 2500 v2: Part No. 2500.34PZB.A2

Mounting brackets for e-chain® E4.28 basic flizz® series 2500 HD: Part No. 916.809.1.052.VS.E.A2

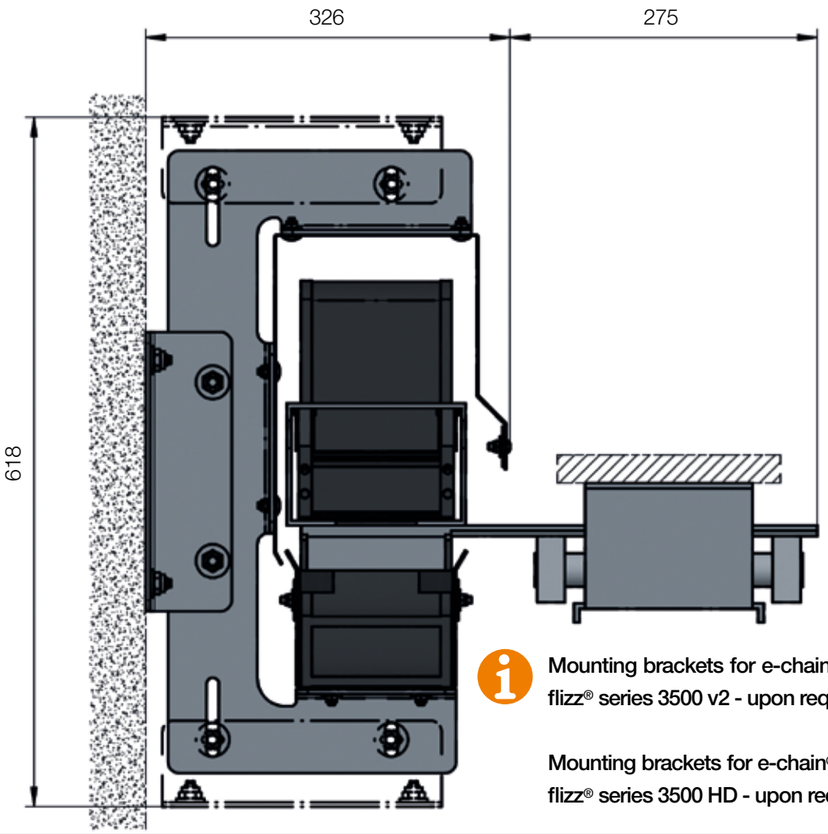
basic flizz® product range | Series 3500 v2 | Series 3500 HD

Specification	Part No. basic flizz® 3500 v2	Part No. basic flizz® 3500 HD
Trough module without glide bar	IE31.3946.E*	IE31.3946.E*
Trough module fixed end at the joint	IE31.3947.E*	IE31.3947.E*
Trough module fixed end at the centre	IE31.3948.E*	IE31.3948.E*
Trough module with glide bar	IE31.3949.E*	IE31.3949.E*
Trough module with glide bar and tiewrap plate	IE31.3951.E*	IE31.3951.E*
Installation set v2	IE31.3950.E*	IE31.3950.E*
Floating moving end	IE20.3500.115.ST.01.E*	IE20.3500.115.ST.01.E*

*Available upon request. Please consult igus® for delivery time.

Standard material: AISI 304 stainless steel, material 1.4301 (AISI 304). Option: galvanised steel or AISI 316L stainless steel, material 1.4404 (AISI 316L)

basic flizz® installation dimensions | Series 3500 v2 | Series 3500 HD



Mounting brackets for e-chain® 3500 basic flizz® series 3500 v2 - upon request

Mounting brackets for e-chain® E4.42 basic flizz® series 3500 HD - upon request



In addition to the floating moving end of the basic flizz® 2500 v2 and 2500 HD, igus® offers a modular and adjustable moving end arm for easy installation onto the existing structure



basic flizz® fully enclosed complete solution



Sand trap with telescopic igus® moving end arm - travel 19m



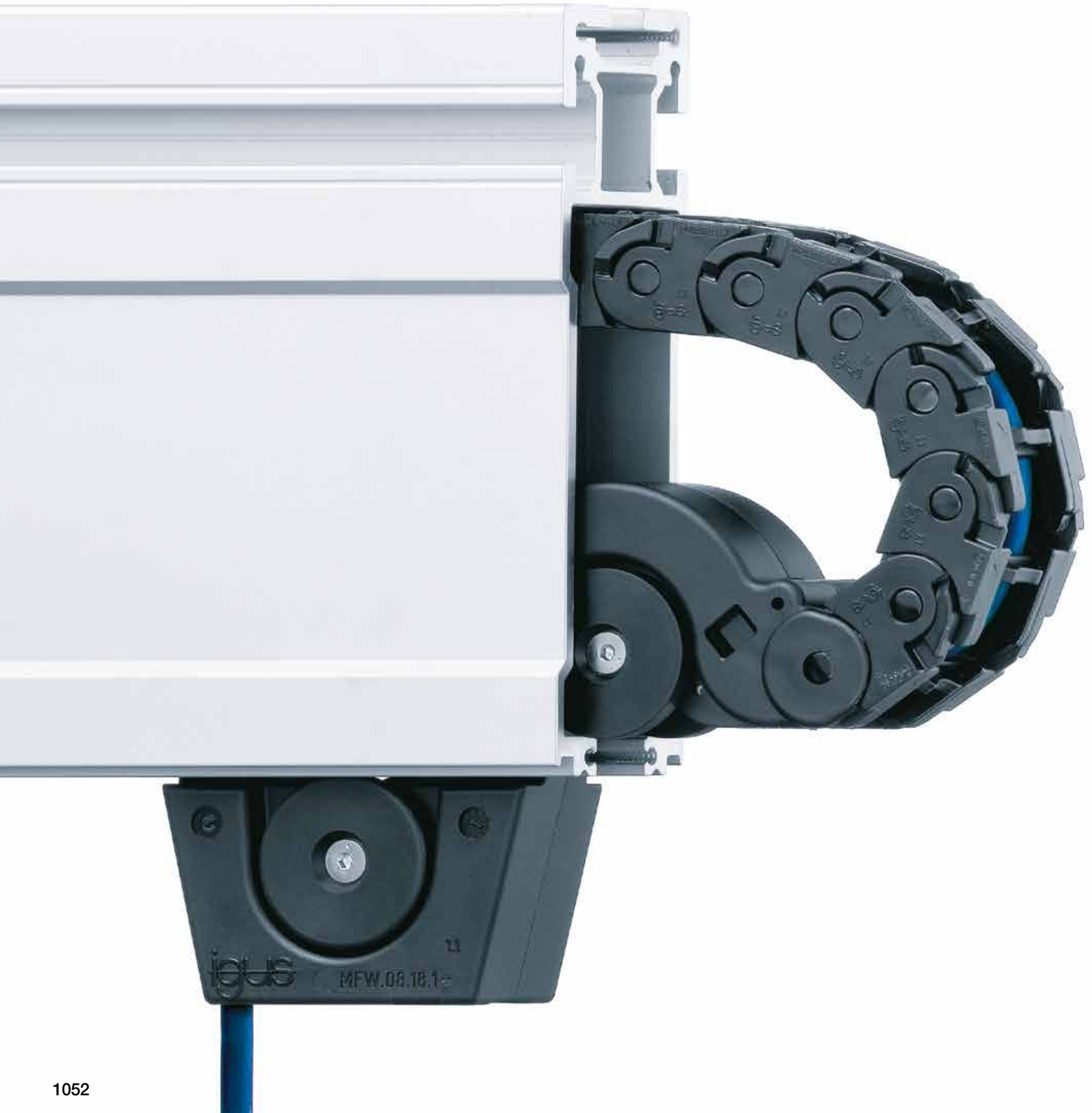
Longitudinal scraper, mounted in the basin, sewage treatment plant in Plauen, Germany - travel 53m



Sewage treatment plant in Volmetal, Germany - travel 26m



Sand traps, sewage plant in Bamberg (Germany) - travel 26m



Solutions for horizontal motion

micro flizz®

A system for the safe guidance of energy, data and air

Advantages of micro flizz®:

- Compact, quiet, cost-effective complete system as a maintenance-free alternative to a busbar
- e-chain® is guided in special slots, no gliding
- Smooth running due to ball bearings in the guide carriages
- Fast assembly due to pre-configured, modular system
- Less space required
- Also available as pre-assembled system
- Control option via stationary switch cabinet

When to use another system:

- For an upper run guide for long travels, unsupported in swarf areas
  ▶ **guidelok horizontal, Page 1038**
- For a cost-effective and fully enclosed complete solution
  ▶ **basic flizz®, Page 1044**



Easy connection:
easy and versatile mounting options due to T-grooves

Unsupported:
winglets hold the e-chain® securely in the guide channel

Secure:
integrated strain relief within the guide carriage

Maintenance-free:
aluminium channel and lubrication-free plastic e-chain®

A system for the safe guidance of energy, data and air. Data rates up to 10Gbit/s - micro flizz®

micro flizz® - compact system for a secure guidance of power, data and air as a maintenance-free alternative to a busbar.

- Smooth running due to ball bearings in the guide carriages
- e-chain® is guided in special slots, no gliding
- Accelerations up to 50m/s², speeds up to 6m/s and data rates up to 10Gbit/s
- Fast assembly due to pre-configured, modular system
- Less space required
- Also available as pre-assembled system
- Also available with an ESD e-chain® material version (upon request)
- 3 sizes available: cable/hose diameters MF06: max. Ø 8.0mm, MF08: max. Ø 9.5mm, MF10: max. Ø 16mm
- Control option via stationary switch cabinet

Typical industries and applications

● Storage and retrieval equipment ● Indoor cranes ● Industrial gates ● Workstations ● Wastewater and sewage treatment plants ● Camera systems ● Sliding doors ● Operator panels ● Measure systems ● Studio equipment ● Material handling equipment

Find a video online
▶ www.igus.eu/MF-movie

iF product design award
2006 for igus® micro flizz®

Series	Inner height *hi* [mm]	Inner width *Bi* [mm]	Outer width *Ba* [mm]	Outer height *ha* [mm]	Bend radius *R* [mm]	Travel ≤ [m]	Page
							
micro flizz® MF06 unsupported e-chain® in an aluminium profile							
MF.06.10.018	11	10	19	17	018	30	**1058**
							
micro flizz® MF08 unsupported e-chain® in an aluminium profile							
MF.08.18.035	13	18	29	21	035	50	**1059**
							
micro flizz® MF10 unsupported e-chain® in an aluminium profile							
MF.10.18.035	20	50	63	27.5	075	100	**1060**

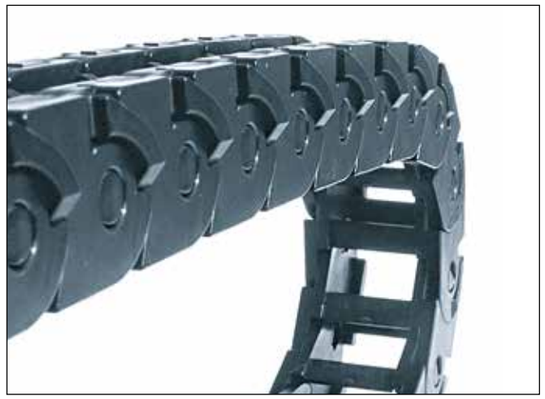
Available from stock. Ready to ship in 24 - 48hrs.*
*The delivery times indicated correspond to the average time until the ordered goods are dispatched.

Technical data, dynamic values

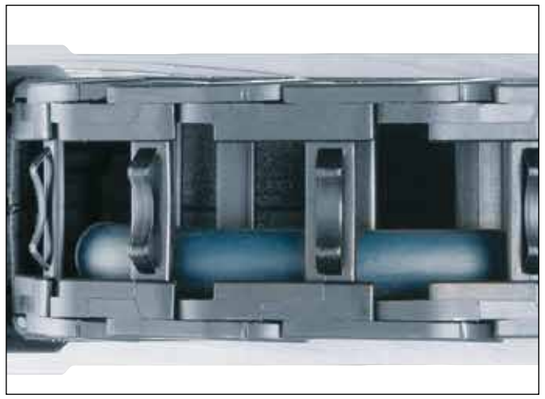
Series	Speed ≤ [m/s]	Acceleration ≤ [m/s²]	Data transmission rate ≤ [Gbit/s]
MF.06.10.018	6	20	10
MF.08.18.035	6	30	10
MF.10.50.075	6	50	10



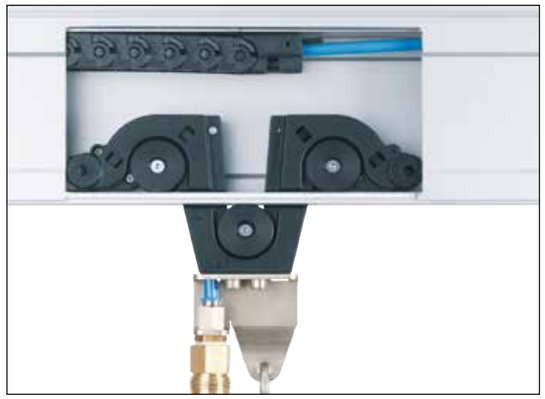
Separated upper and lower run. Running through the radius, integrated winglets fold in. The e-chain® glides freely



Folding out after coming out of the radius, the e-chain® is held securely in the micro flizz® guide channel

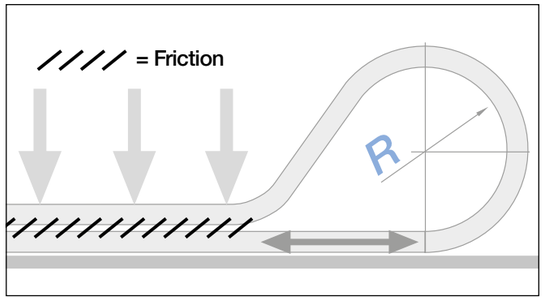


Plastic spring dampens the rolling noise of the e-chain® in the flizz® channel

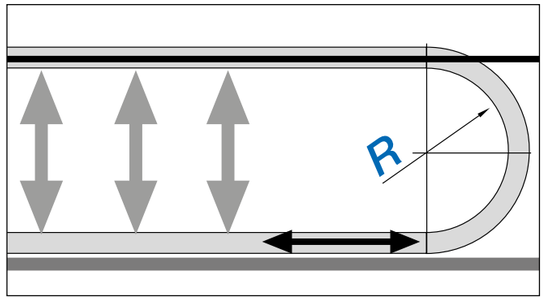


igus® micro flizz® accessory - moving-end connection for compressed air coupling

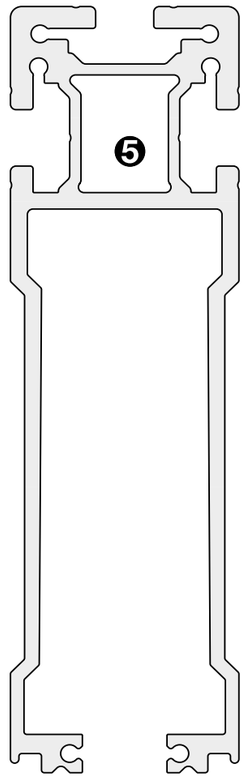
Special feature of the micro flizz® design



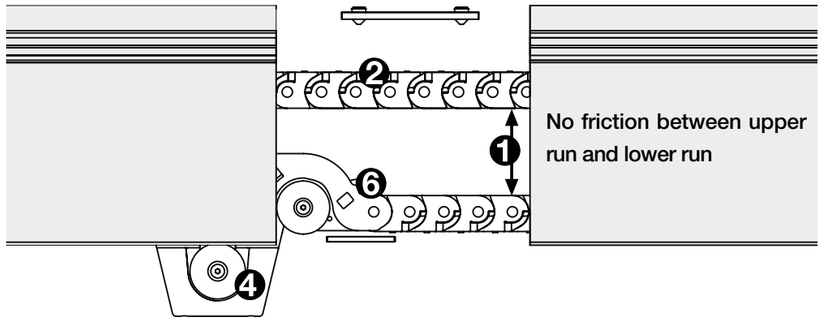
Before: Moving lower run, gliding mode. Long travels need larger, stronger e-chains®

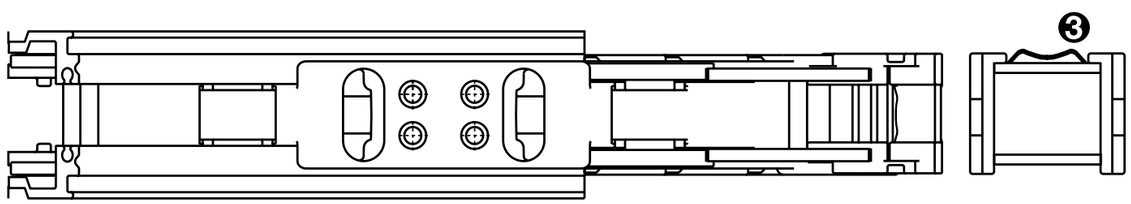


Today micro flizz®: Small e-chains® self-guiding in the guide channel. Compared to the conventional system, friction has been reduced by a factor of 3



❶ The upper run and lower run of the flizz® e-chain® are separated from each other, which means less friction and less energy used when the e-chain® moves
❷ Winglets hold the e-chain® securely in the guidance channel
❸ Plastic spring causes the e-chain® to roll along gently in the flizz® channel, as a result noise is significantly reduced
❹ Integrated strain relief in the guide carriage for secure fixation of the cables
❺ Universal connection possible due to T-slots
❻ Attachment of the e-chain® by roller carriage on the moving end
❼ Opposing travel: double filling or two independent travels possible





chainflex® special cables for micro flizz®
For the micro flizz® system, igus® has many suitable, highly-flexible special chainflex® cables for dynamic applications, available from stock! **More information ▶ www.igus.eu/chainflex**



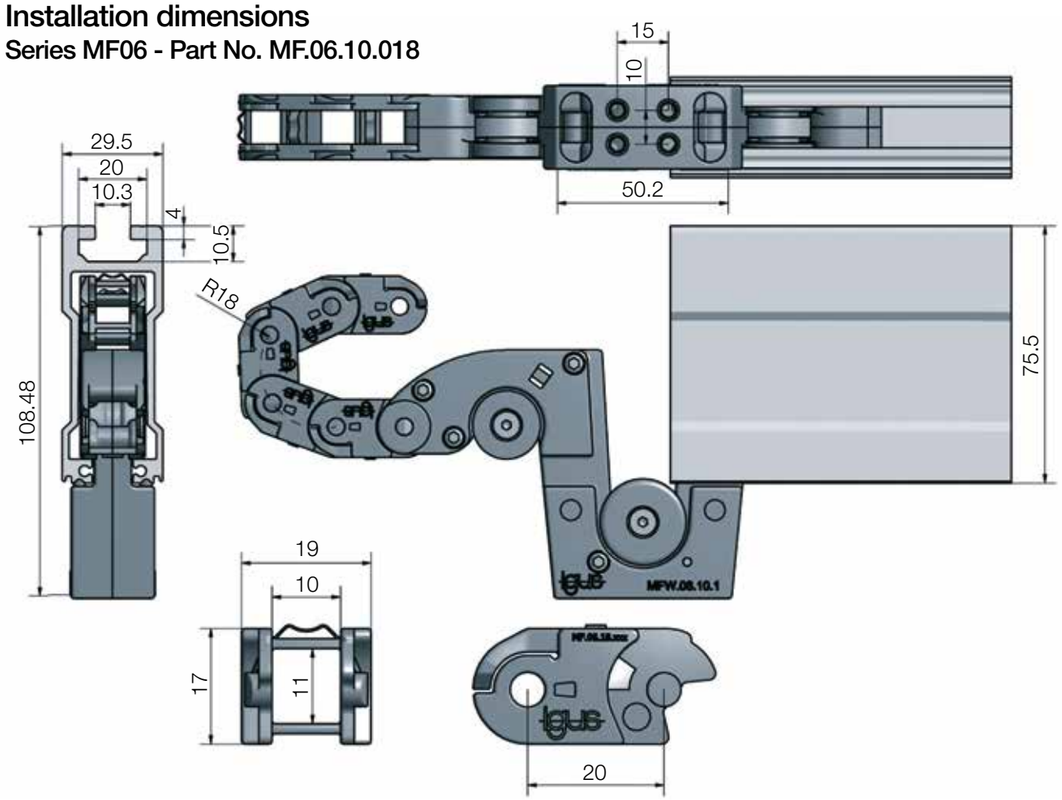


e-chain® visible for illustration only

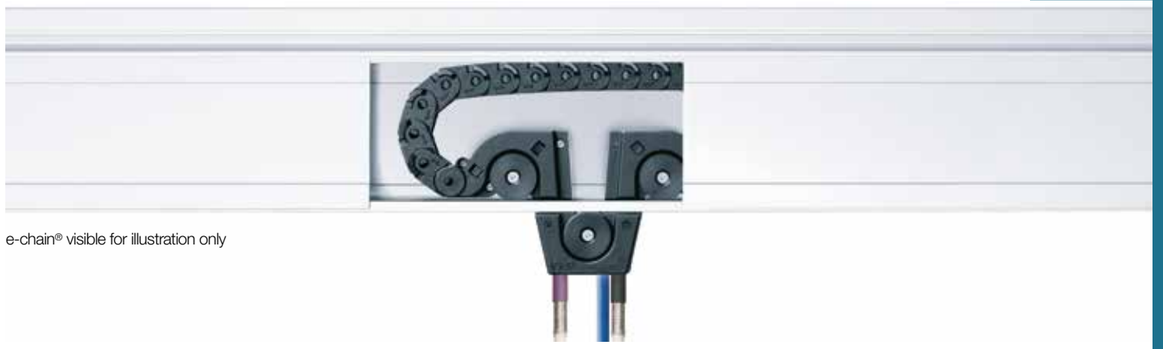
micro flizz® | Series MF06 | Product range

Part No.	*Bi*	*Ba*	*hi*	*ha*	*R* Bend radius
series	[mm]	[mm]	[mm]	[mm]	[mm]
MF.06.10.018	10	19	11	17	| 018 |

Installation dimensions
Series MF06 - Part No. MF.06.10.018



Installation height complete system	**108.48mm**
Installation width complete system	**29.5mm**
Recommended length channel pieces (die-cast aluminium material)	**2.0m / 3.0m / 6.0m**
Cable/hose diameters	**Max. ø 8mm**

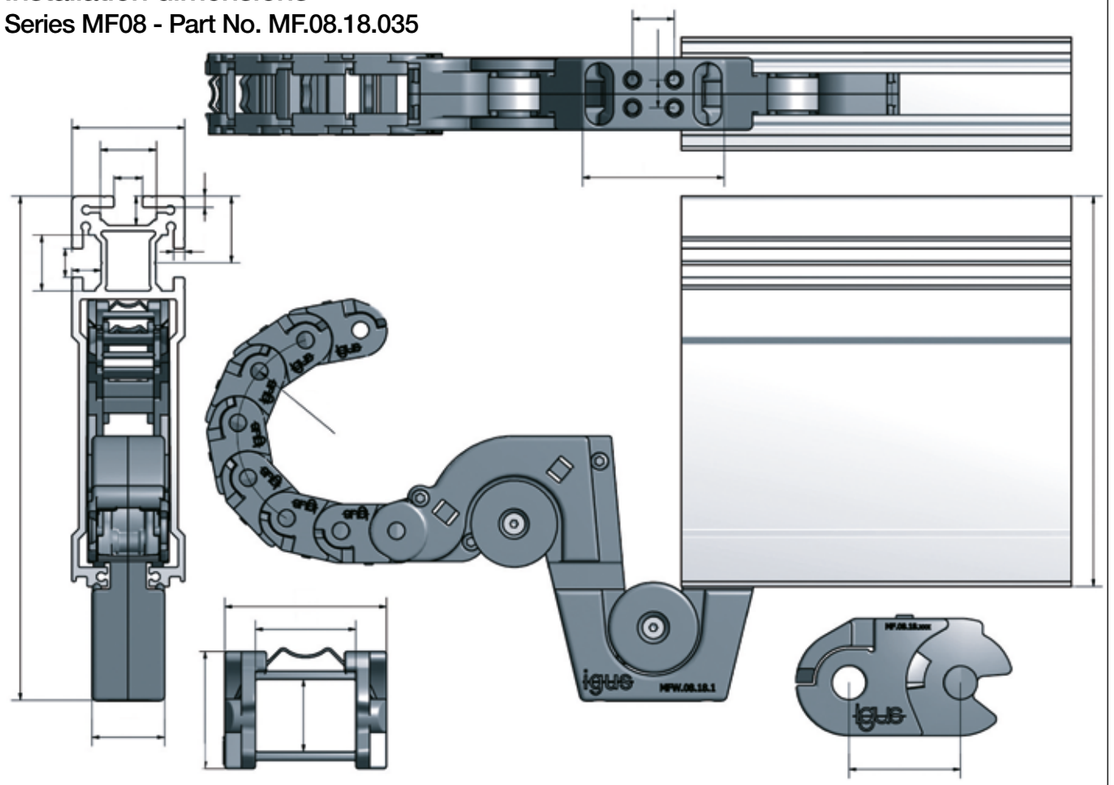


e-chain® visible for illustration only

micro flizz® | Series MF08 | Product range

Part No.	*Bi*	*Ba*	*hi*	*ha*	*R* Bend radius
series	[mm]	[mm]	[mm]	[mm]	[mm]
MF.08.18.035	18	29	13	21	| 035 |

Installation dimensions
Series MF08 - Part No. MF.08.18.035



Installation height complete system	**161mm**
Installation width complete system	**40.5mm**
Recommended length channel pieces (die-cast aluminium material)	**2.0m / 3.0m / 6.0m**
Cable/hose diameters	**Max. ø 9.5mm**

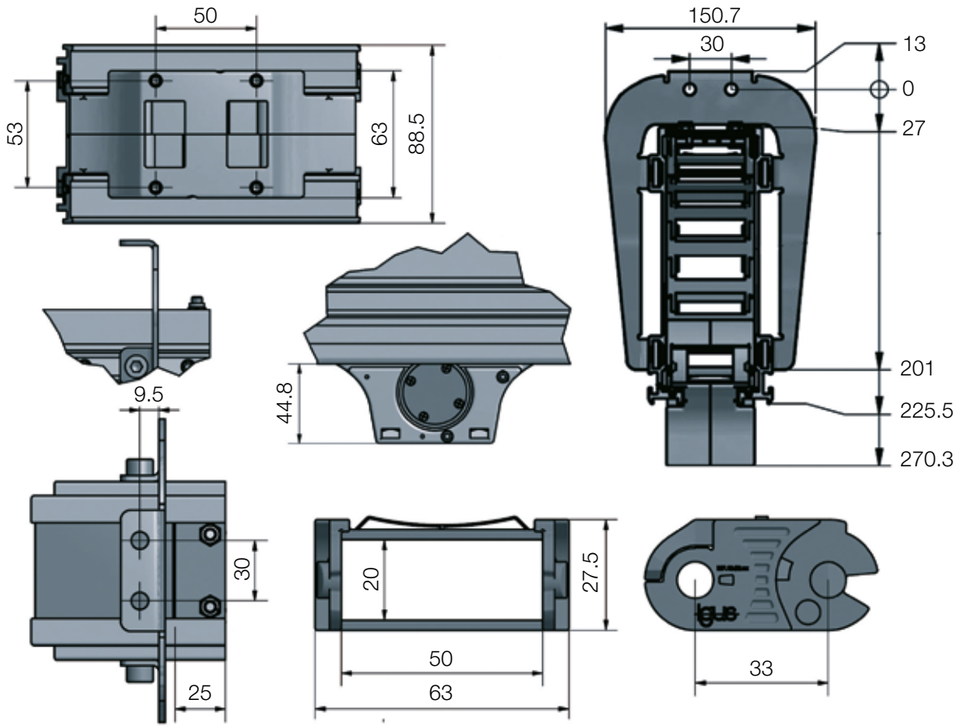


e-chain® visible for illustration only

micro flizz® | Series MF010 | Product range

Part No.	*Bi*	*Ba*	*hi*	*ha*	*R* Bend radius
series	[mm]	[mm]	[mm]	[mm]	[mm]
MF.10.50.075	50	63	20	27.5	| 075 |

Installation dimensions
Series MF10 - Part No. MF.10.50.075



Installation height complete system	**275mm**
Installation width complete system	**107.6**
Recommended length channel pieces (die-cast aluminium material)	**2.0m / 3.0m / 6.0m**
Cable/hose diameters	**Max. ø 16mm**



Up to 10GBit/s at a speed of 6m/s - together with the power supply in the micro flizz® MF10



micro flizz® in the food sector



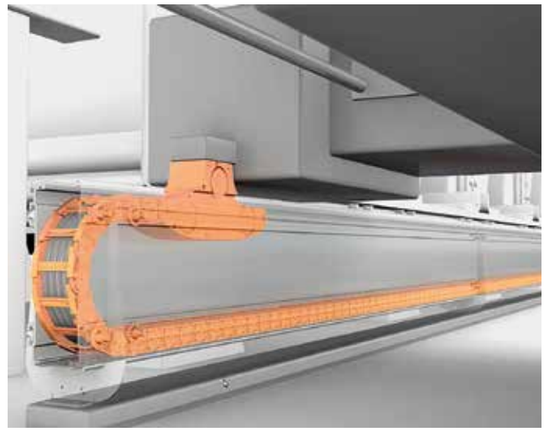
micro flizz® connecting a set of movable scales



igus® micro flizz® in a sewage plant



Aisle movements over distances of up to 100m at speeds up to 6m/s



Guidance of 4 single cores up to 35mm² and FOC cables with data rates of more than 10Gbit/s ▶ **www.igus.eu/MF10**

micro flizz® | Order example | End infeed

Order example - end infeed

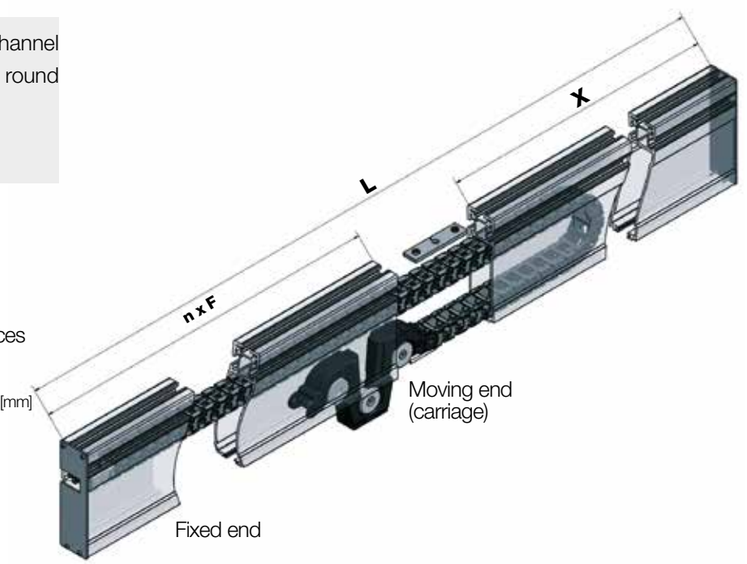
MF	06.	10.	018.	L / F	**MF.06.10.018.5000/2000**
MF	08.	18.	035.	L / F	**MF.08.18.035.5000/2000**
MF	10.	50.	075.	L / F	**MF.10.50.075.5000/2000**

F = Channel section length [mm]
L = Total length [mm]
R = Bend radius [mm]
Bi = e-chain® inner width
Version (series)
End infeed

micro flizz® as an end infeed version with a total length of 5,000mm, consisting of two 2,000mm channels and 1 channel with a residual length of 1,000mm

Calculate the number of channel sections needed (**n**). Then round off the result.

$$n = \frac{L}{F}$$



Bi = e-chain® inner width
R = Bend radius [mm]
n = Number of channel pieces
S = Travel (**L** - 300 [mm])
F = Channel section length [mm]
L = Total length [mm]
X = Residual length [mm]

F = Recommended channel lengths: 2,000, 3,000, 6,000mm
Bi = Series 06: 10mm / Series 08: 18mm / Series 10: 50mm
hi = Series 06: 11mm / Series 08: 13mm / Series 10: 20mm

micro flizz® | Order example | Centre infeed

Order example - 2 carriages, opposing travel

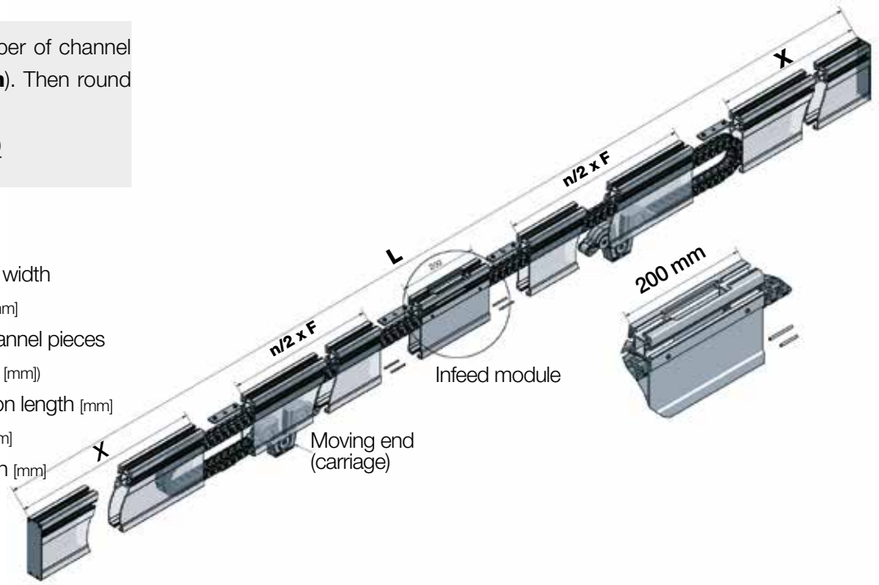
MFG2	06.	10.	018.	L / F	**MFG2.06.10.018.10000/3000**
MFG2	08.	18.	035.	L / F	**MFG2.08.18.035.10000/3000**
MFG2	10.	50.	075.	L / F	**MFG2.10.50.075.10000/3000**

F = Channel section length [mm]
L = Total length [mm]
R = Bend radius [mm]
Bi = e-chain® inner width
Version (series)
2 carriages in opposite directions

micro flizz® mounted with 2 opposing carriages. Total length 10,000mm, consisting of two 3,000mm channels, the infeed module (200mm) and two channels each with a residual length of 1,900mm

Calculate the number of channel sections needed (**n**). Then round off the result.

$$n = 2 \times \frac{L - 200}{2 \times F}$$



Bi = e-chain® inner width
R = Bend radius [mm]
n = Number of channel pieces
S = Travel (**L** - 300 [mm])
F = Channel section length [mm]
L = Total length [mm]
X = Residual length [mm]

F = Recommended channel lengths: 2,000, 3,000, 6,000mm
Bi = Series 06: 10mm / Series 08: 18mm / Series 10: 50mm
hi = Series 06: 11mm / Series 08: 13mm / Series 10: 20mm

Solutions for predictive maintenance

isense smart plastics

For greater plant availability

- Make maintenance and repair of your machines more efficient and cost-effective with smart plastics
- smart plastics reduce failures
- Intelligent products predict the maintenance date in good time and can be integrated into your processes and systems
- Wherever predictive maintenance is required





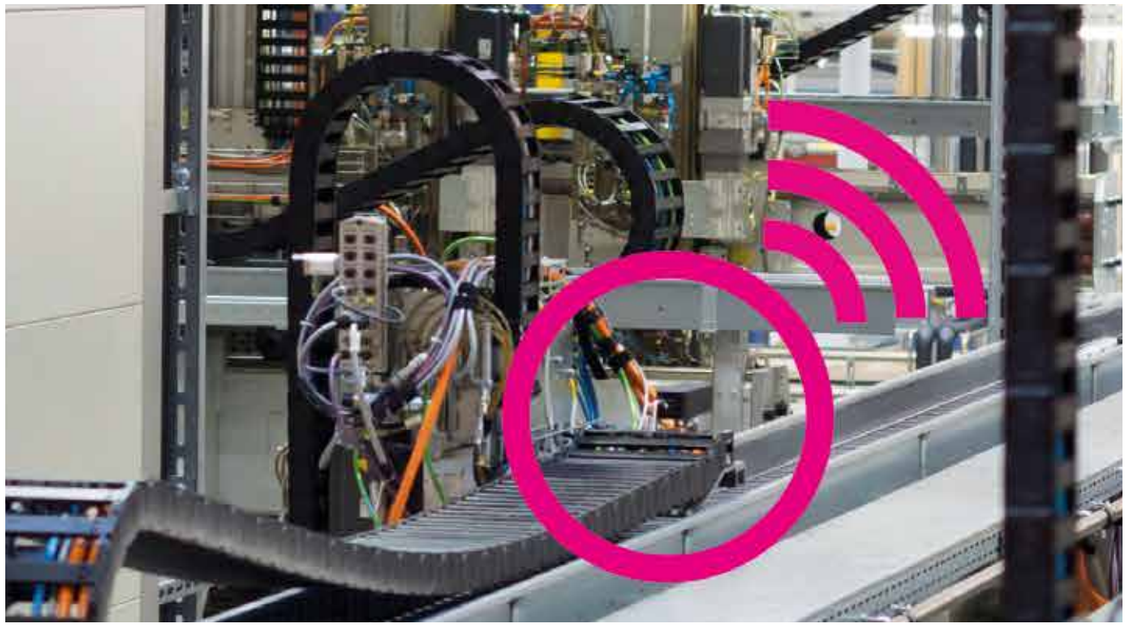
Moving energy made smart - smart plastics make smart factories - igus® isense

As a manufacturer and supplier of plastic components such as energy chains, cables and bearings, igus® is also going through a digital development process and is increasingly orienting its products towards use in smart factories. The aim is to make the maintenance and repair of its plastics more efficient and cost-effective. Thanks to the newly developed igus® isense products, maintenance and repair are not only being focused on more in industrial production; they also benefit from digitisation and its advantages.

- Reduce maintenance costs
- Eliminate unplanned downtime
- Increase service life
- Increase equipment efficiency
- Save time - faster detection of faults
- Reduce energy consumption

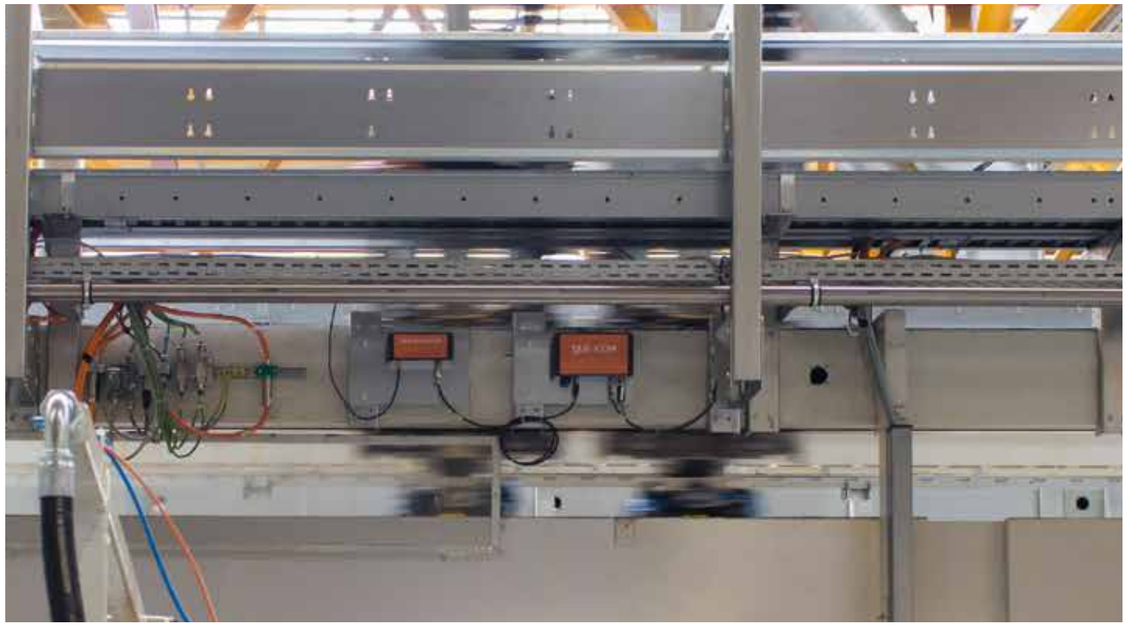
Typical industries and applications

● Wherever predictive maintenance is required ● Harbour installations ● Cranes ● Car plants ● Gantries



Making maintenance and repair of machines and systems more efficient and cost-effective

Many new sensors and monitoring systems have been developed for the isense product family, making igus® plastic solutions into intelligent products. The result is that igus® components do not simply develop a defect unexpectedly but predict the defect and indicate the need for maintenance in advance. With this new development, igus® has added predictive maintenance - intelligent production meets equally intelligent maintenance.



smart plastics in action - isense EC.B modules from igus® monitor the condition of the chain by means of a polymer wire inside the e-chain® and a sensor unit

isense | smart plastics | Sensors

isense smart plastics

igus® isense modules, which use sensors to collect data from energy chains, cables, linear guides or slewing ring bearings, are equipped with an interface and can be easily integrated into a control cabinet. A data logger allows values to be stored on an SD card. The data measured by the various isense modules is then sent wirelessly to the icom module, summarised and processed.

EC.M - e-chain® cycle monitoring / EC.W - e-chain® wear monitoring

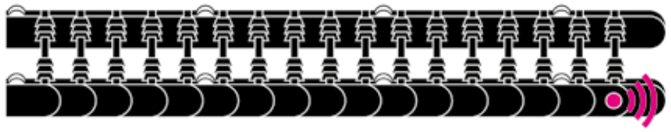
Always moving - EC.M sensor / wear detection - EC.W sensor



The EC.M sensor is mounted on the moving end of the e-chain® in order to record the application data. It detects values such as acceleration, velocity, temperature and number of cycles, and determines the distances completed as well as the remaining service life of the system.
The EC.W sensor measures the wear on the crossbar, on the pin/bore connection or on the liners depending on the product and sends a signal when the limit is reached.

EC.I - integrated

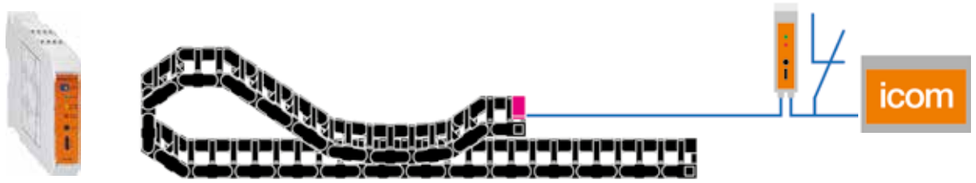
Non-contact wear measurement



For rol e-chains®, e.g. series P4.1, the pin/bore connection is the mechanically most stressed component. Directly integrated in the e-chain® link, the EC.I sensor contactlessly measures the wear in the pin/bore connection for maintenance planning.

EC.P - Push/Pull force monitoring

When forces are critical: EC.P sensor measures push/pull forces



Use of the EC.P sensor saves maintenance personnel from having to inspect long travel distances - information is always available and can automatically be passed on to the isense system.

EC.B - e-chains® breakage detection

Detect e-chain® breakages automatically with the EC.B sensor



The EC.B break detection sensor reduces the amount of work of maintenance technicians responsible for looking after crane installations and gantries. The EC.B sensor can detect breakage of a chain link caused by parts or debris falling into the system. In the past, this problem played a part in the failure of a crane, as breakage of an e-chain® link automatically leads to overloading and failure of the opposite side.

EC.RC - run control

Monitoring the operating status of the e-chains®, especially in guide troughs



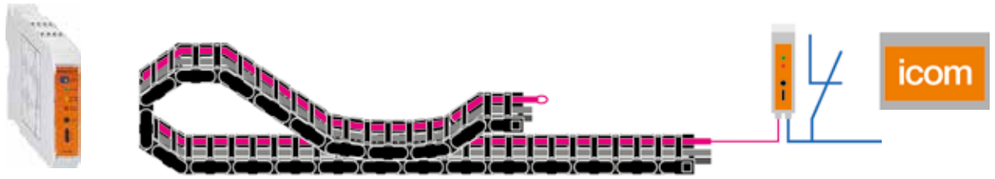
Sensors measure and check the position of the e-chain®. In this way, the machine is prevented from continuing to operate if mechanical faults occur; meaning that total loss of the e-chain® or an electrical shutdown due to cable damage are avoided.

isense | smart plastics | Sensors

isense smart plastics

CF.Q - chainflex® cable service life

Detect hidden cable damage early



The CF.Q sensor indicates changes in the electrical properties; and allows detection of impending cable failure in advance. The engineer then decides what priority the replacement of a cable has and what the consequences of a defect might be.

CF.P - Push/Pull force monitoring

Prolong cable life



Tensile forces acting on the cables of an e-chain system® can significantly reduce the service life. The CF.P system measures the forces directly at the strain relief and indicates the need for action.

DLT.W - drylin® T wear monitoring

Monitor wear status of drylin® linear units



Used to detect when the wear of a drylin® linear guide has reached a level normally associated with the end of the guide's service life. A plastic element that has an integrated sensor and can be retrofitted, signals the need for replacement in good time.

PRT.W - iglidur® PRT wear monitoring

Monitor wear status of iglidur® slewing ring bearings



To determine the wear limit of iglidur® slewing ring bearings. Mounted in a milled slot below the sliding elements of the PRT, the PRT.W sensor measures the abrasion and can indicate the required replacement promptly via the icom communication module before a failure.

icom - data concentrator

Data collection and transmission



These sensors become even more useful when linked to the icom module - a data concentrator - that can transfer the measured values to an isense system. How the sensor data can be further processed depends on the respective system chosen.
igus® currently offers four different variants.

A choice of four different isense smart plastics concepts makes integration into existing infrastructure seamless

The icom module sends the data gathered by the sensors to a PC or integrates it via a computer into the existing software environment or IT infrastructure. In addition, connection to the igus® Data Centre is possible. By comparing live data with data collected from many existing test applications conducted at the igus® 2,750m² test facility using machine learning techniques and AI algorithms, maintenance recommendations can be provided.
Due to the numerous test findings that are fed into the online service life calculators, igus® is able to predict precisely how long an e-chain® will work reliably in a particular application. The isense modules provide live service life updates of the system, improving overall safety. This is because it includes the current ambient conditions of the actual application. Predictive maintenance ensures that repair or replace tasks are planned only when it is really necessary. This saves time and maintenance cost.

isense online



Flexibility ■■■■■
Networking ■■■■□
Safety ■■■■□
Cost ■■□□□

Connected solution

Plan maintenance and service activities efficiently with isense online and only carry out the work that is really necessary. Efficient work prioritisation after the alert, and supply of the appropriate replacement part from stock.

▶ From page 1074

isense integration



Flexibility ■■■■□
Networking ■■■■□
Safety ■■■■□
Cost ■■■■■

Early ordering of replacement parts

Thanks to a wide range of options (Profinet, Ethernet, EtherCat, CC-Link IE Field), integration into existing IT infrastructure is possible with trained igus® specialists.

▶ From page 1075

isense standalone



Flexibility ■■■□□
Networking ■□□□□
Safety ■■■□□
Cost ■■□□□

Added value for service technicians in specialised production

The isense standalone system lends itself to those businesses that are only concerned about maximising production uptime.

▶ From page 1076

isense offline

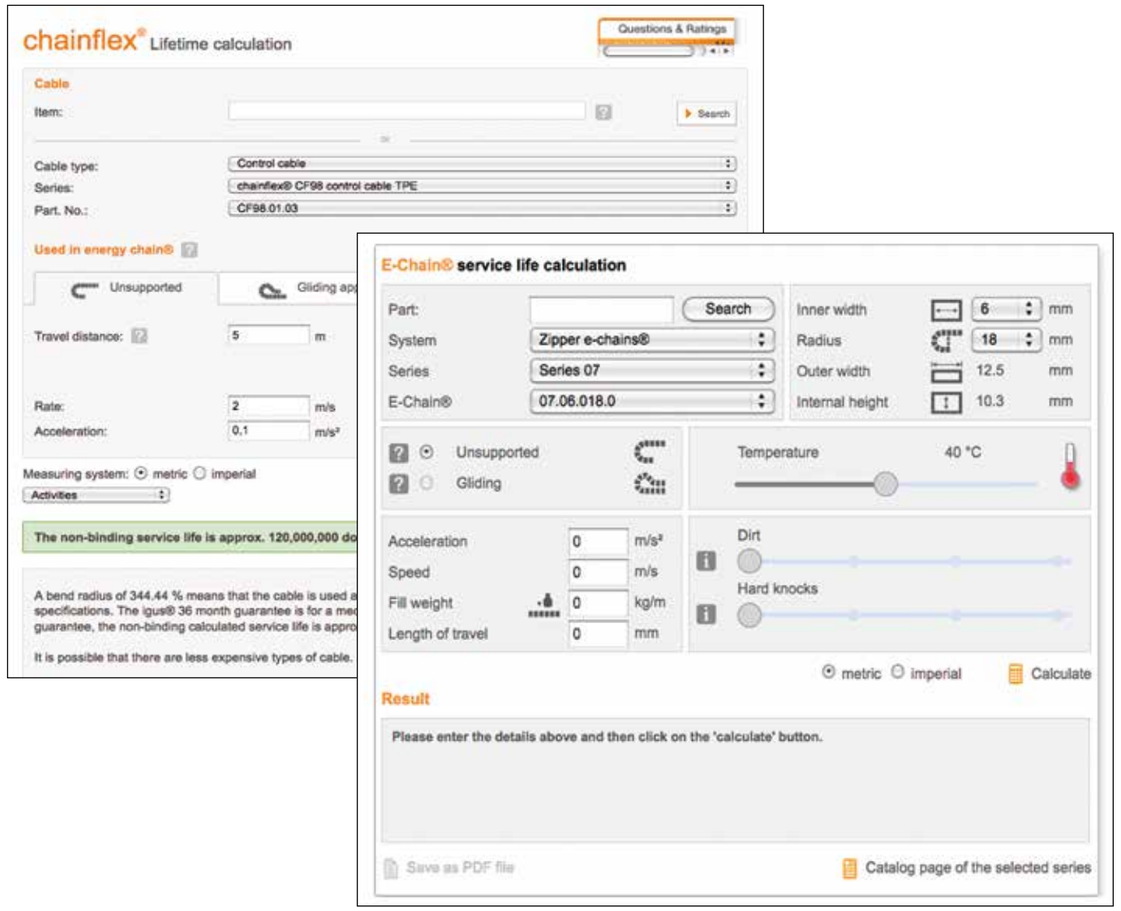


Flexibility ■■□□□
Networking ■■□□□
Safety ■■□□□
Cost ■■■■■

Keep track of things at all times in large factories

isense offline is the best solution when the service technician has to monitor a large number of e-chains®, cables and bearings.

▶ From page 1077



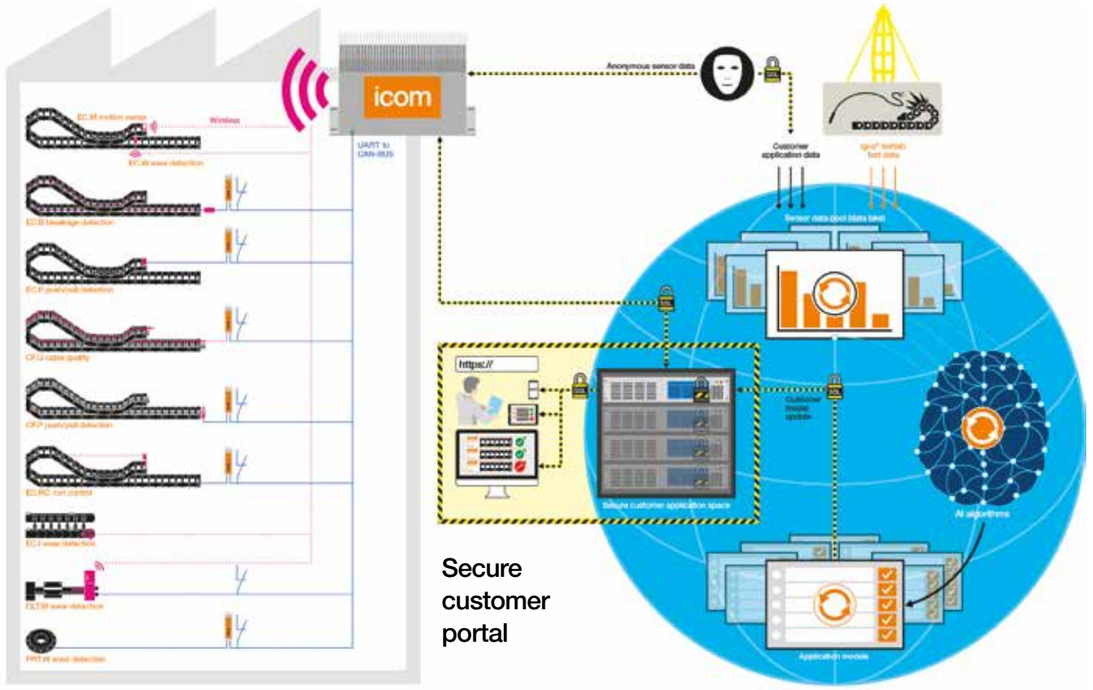
When the isense online system is used, the time shown until the next maintenance is based on the algorithms of the service life calculators for e-chain systems® and chainflex® cables, which have been available on the Internet for many years: The service life calculator combines the results of many thousands of tests and applications in the field into a predicted life in double strokes or kilometres. In the isense system, the starting values are compared with the real application and a constant comparison takes place with the online models based on AI and machine learning algorithms.
Through numerous tests, the results of which are incorporated into the online service life calculator, igus® can predict very accurately how long an e-chain® will reliably work in the respective application.

More information ▶ www.igus.eu/lifetime



isense online | smart plastics

Smart production - connected solution



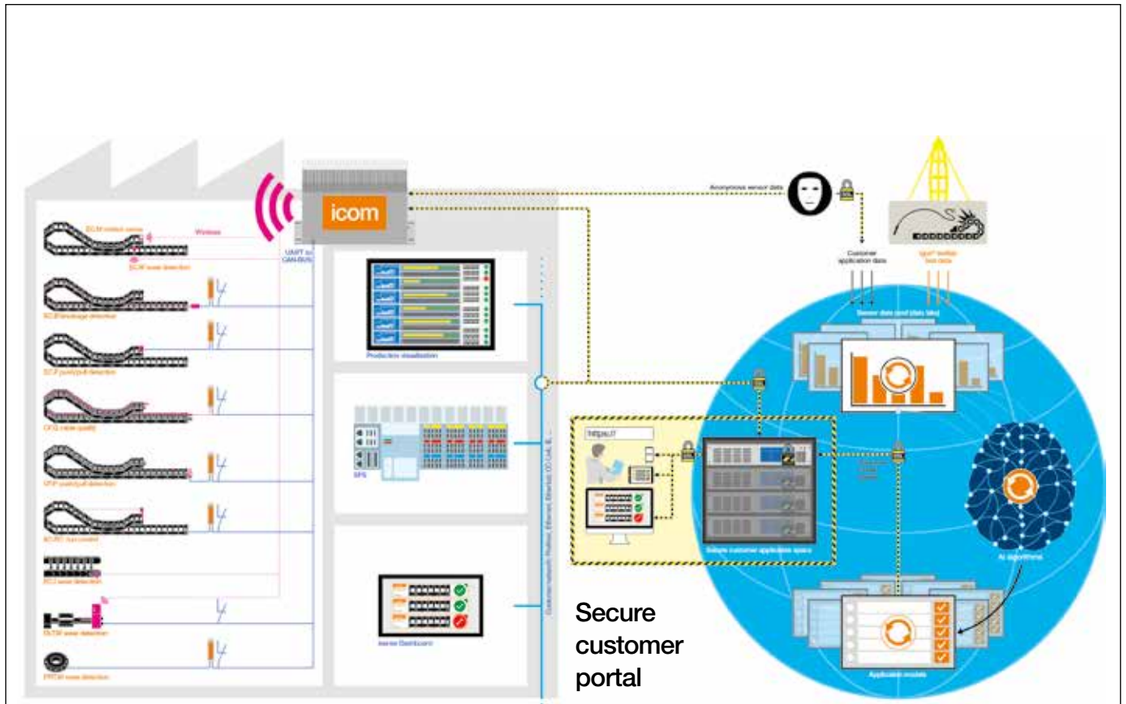
isense online benefits at a glance

- The best method to plan maintenance and minimise inspection work
- Efficient maintenance organisation according to priority and, thanks to integration into the ERP, with appropriate replacement parts from stock provided after the sensor alert
- Predictive and plannable maintenance due to early information on necessary service or replacement
- Data from the igus® laboratory is processed on a server with anonymised customer data and also with open data from other customer applications in order to create a full data model
- Service life predictions from the protected customer area are regularly compared with the data model
- Benefits from all of the test data in the igus® database and keeps learning every day

isense integration | smart plastics

Early ordering of replacement parts with direct connection to ERP

isense smart plastics

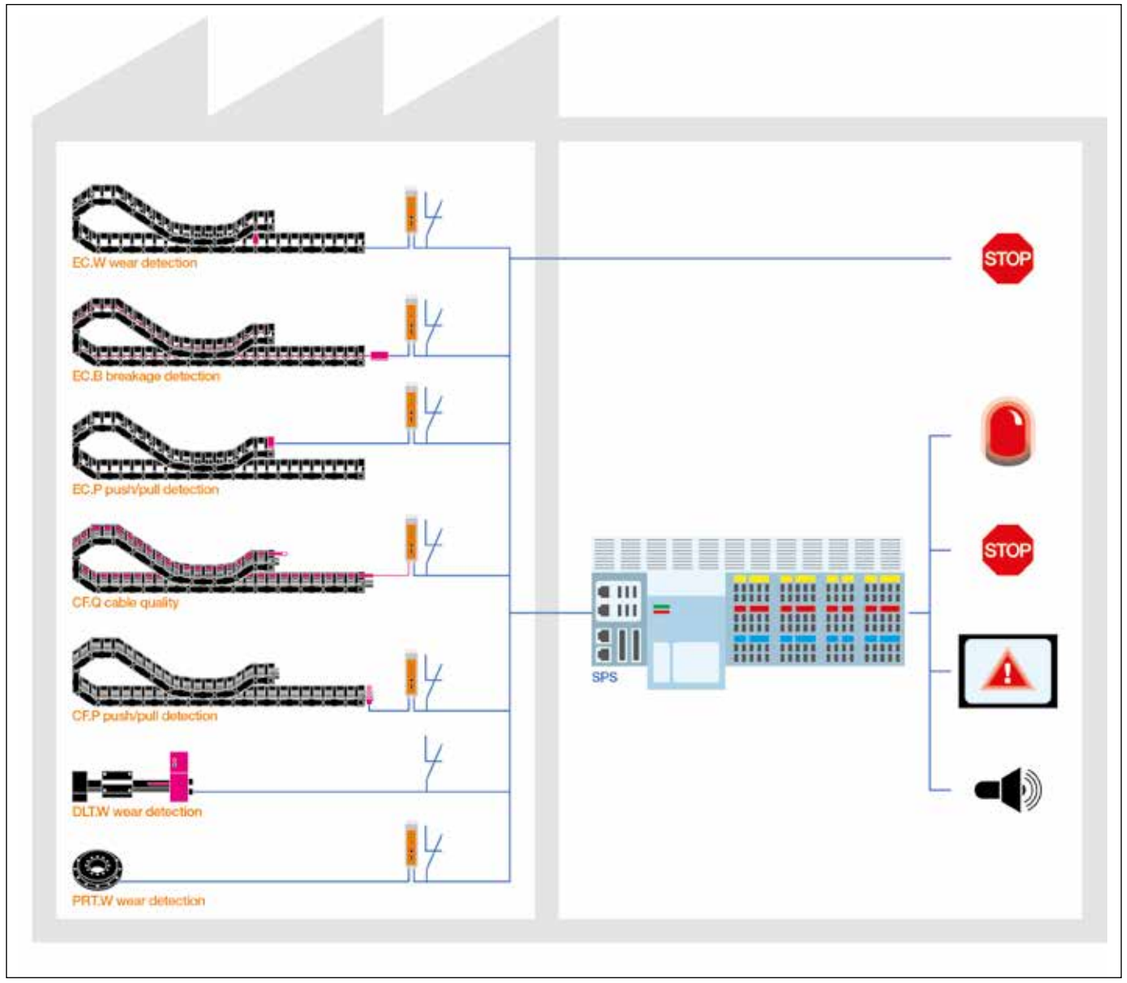


isense integration benefits at a glance

- Wide variety of protocols and standards (Profinet, Ethernet, EtherCat, CC-Link IE Field), OPC-UA, MQTT
- Integration into the existing software environment and the IT infrastructure
- Integration into the customer's production visualisation software
- Operating states of different igus® components visible at a click of the mouse
- Ordering of replacement parts via a connected ERP system
- Connection to control software via customer's infrastructure (Ethernet, Profinet, CC-Link IE Field etc.)
- Machine shutdown or acoustic / visual warnings

isense standalone | smart plastics

Keep production trouble-free easily

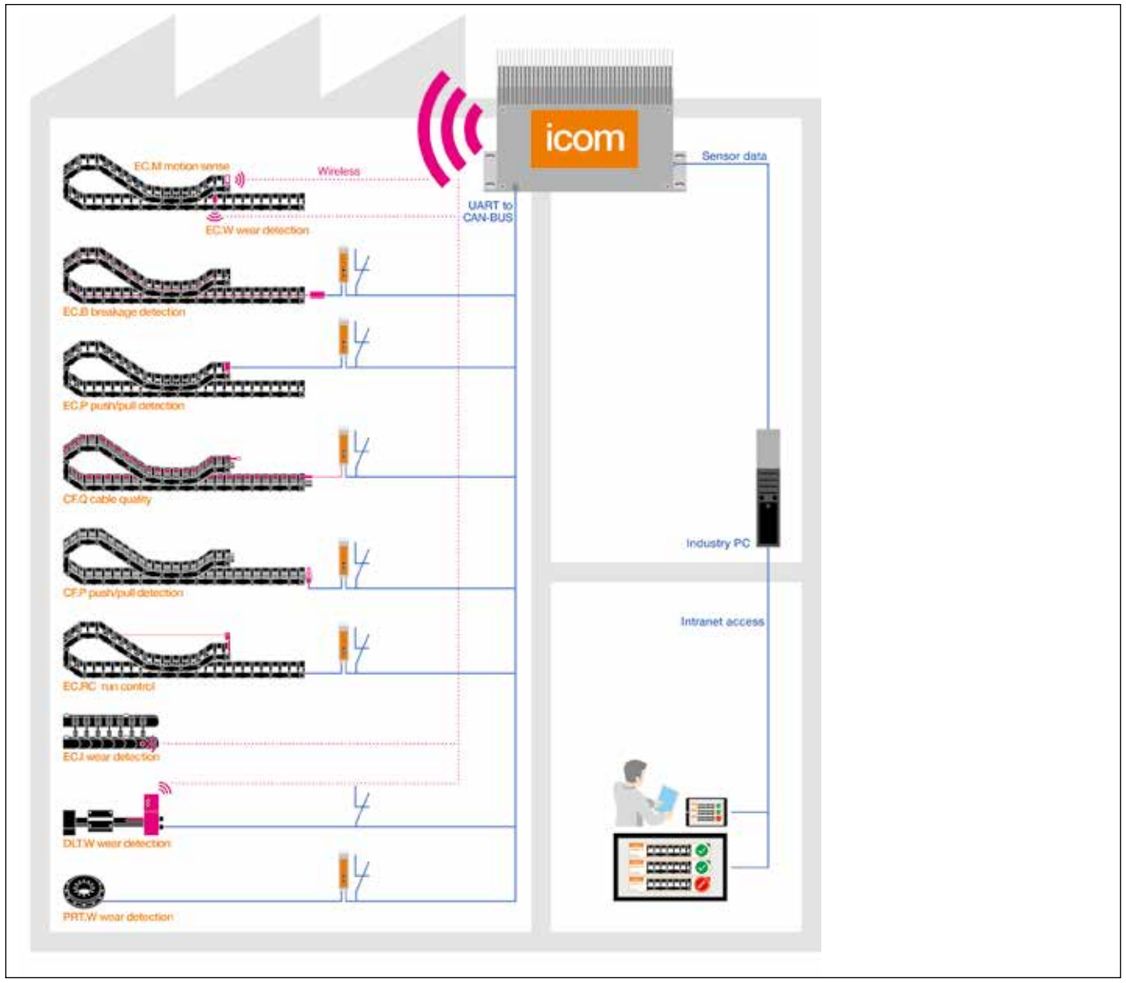


isense standalone benefits at a glance

- Easily integrated by a machine programmer
- Sensors (EC.B - break, CF.Q - cable monitoring) on e-chains® and cables gather the measured values
- The machinery can be switched off in two ways: directly by means of the normally closed (NC) contact switch or through evaluation via an I/O interface on the customer's PLC
- The data can be sent to the maintenance team via a serial interface (RS2322/UART) to allow in-house evaluation of the data

isense offline | smart plastics

Keep track of things at all times in large factories

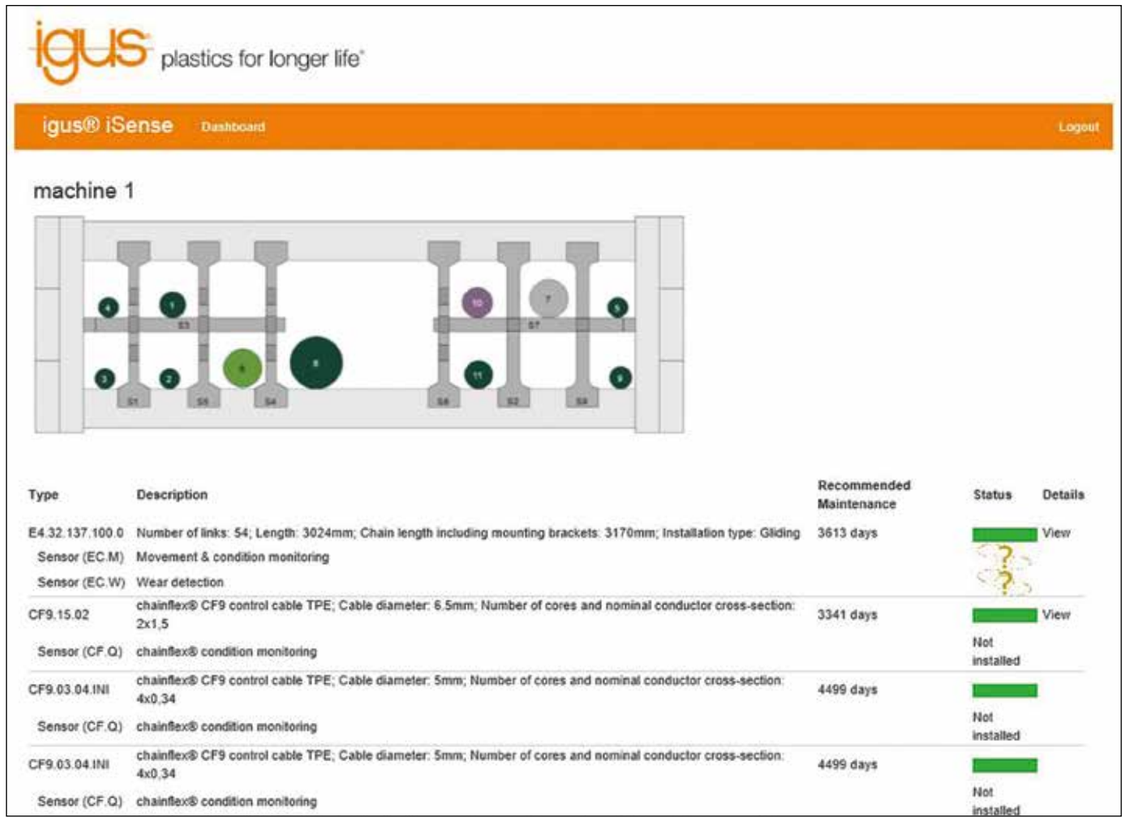


isense offline benefits at a glance

- An additional industrial PC is required to display all messages via the customer's IT infrastructure.
- No connection to the Internet therefore no comparison of the maintenance recommendations with an online database
- Manual update of service life information through comparison with the igus® database is necessary
- Good overview on the Industrial PC: all impending failures in the production environment are displayed
- Ideal for production managers and shift supervisors who are interested in facilitating smooth day-to-day work in component manufacturing or service provision and want to efficiently deploy their maintenance technicians
- Quickly and easily installed lean software solution
- All messages are displayed on an additional industrial PC

isense online | smart plastics

Daily maintenance recommendations



Online condition monitoring from anywhere in the world - daily maintenance recommendations

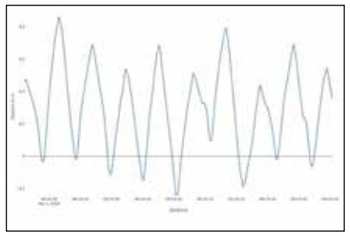
In addition to the maintenance recommendation alerts, all measured sensor values can be displayed with history on a detailed page. In this way, exceptional operating conditions or creeping mechanical changes can be detected early on and corresponding measures initiated in good time.



Control dashboard



History



Each sensor can be called up individually

isense | smart plastics | Product range

icom online		Part No.
	icom data concentrator central unit	IS.ICOM.03.14.0.BETA
	EC.M sensor dynamics & temperature measurement	IS.EC.M.02.15.BETA
	EC.W sensor crossbar type 385, wireless, battery-operated	IS.EC.W.03.385.BETA
	EC.W sensor crossbar type 450, wireless, battery-operated	IS.EC.W.03.450.BETA
	3G modem DIN rail with external antenna	IS.ZB.M.01.15.0
EC.P		**Part No.**
	EC.P module push/pull force detection	IS.EC.P.03.01.0
	PPDS diagnostic tool SMD	IS.EC.P.02.15.0
	Load cell for FTA installation 1t	IS.EC.P.Z3.020
	Load cell for FTA installation 2t	IS.EC.P.Z3.021
	Load cell for KMA installation	IS.EC.P.Z3.XX.XX
EC.B		**Part No.**
	EC.B module ECS breakage detection	IS.EC.B.03.01.0
	EC.B sensor type .A	IS.EC.B.SU.02.A
	EC.B sensor type .B	IS.EC.B.SU.02.B
	EC.B polymer sensor cable 1.75mm assembled	IS.EC.B.00.Z2.001.1
	EC.B polymer sensor cable 1.75mm roll, to 45m	IS.EC.B.00.Z2.001.0
	EC.B special separator E4.32	IS.EC.B.S.E4.32
	EC.B special separator E4.42	IS.EC.B.S.E4.42
	EC.B special separator E4.56	IS.EC.B.S.E4.56
	EC.B special separator 4040HD	IS.EC.B.S.4040HD
	EC.B special separator E4.32 assembled	IS.EC.B.S.E4.32.1
	EC.B special separator E4.42 assembled	IS.EC.B.S.E4.42.1
	EC.B special separator E4.56 assembled	IS.EC.B.S.E4.56.1
	EC.B special separator 4040HD assembled	IS.EC.B.S.4040HD.1
CF.Q		**Part No.**
	CF.Q module for core breakage monitoring BETA version	IS.CF.Q.03.01.0.BETA
	CF.Q temperature sensor	IS.CF.Q.00.008.0

Solutions for predictive maintenance

PPDS

Push/Pull force monitoring

- Easy installation, non-interchangeable connectors
- Easy programming using the keypad directly at the device
- Compact housing, corrosion-resistant and with EMC protection
- The force limit is programmed in tensile and compression directions
- The plant shuts down when the force is exceeded
- Custom programmable
- Event logging in the data memory
- igus® smart plastics - intelligent products forecast maintenance date in good time ► **Page 1064**



PPDS basic: reliability from stock

PPDS evaluation unit: signal or alarm in response to system overload

PPF Sensor: force is measured directly at the mounting bracket of the e-chain®

Complete package: including connecting cables

Push-pull force monitoring - Push-Pull Force Detection System - PPDS

The PPDS system is an electronic diagnostics tool that performs online monitoring of push/pull forces on e-chains® in order to avoid system damage and stoppages. Excessive dirt, ice, and snow and foreign objects that fall into the e-chain® can block the system, causing the e-chain® to break. The PPDS system measures the forces on the e-chain® several times per second, and compares the information with the calculated specification. If a difference is found, a signal is triggered. How the signal is used can be freely selected (e.g. immediate stop, slow down, acoustic signal, light signal)

- 3 PPDS system options are available
- Easy installation by means of non-interchangeable connectors
- Easy programming using the keypad directly at the device
- Compact housing, corrosion-resistant and with EMC protection
- The force limit is programmed in tensile and compression directions
- The plant shuts down when the force is exceeded
- Custom programmable and event logging in the data memory

Typical industries and applications

● Installations and systems that are susceptible to disruption such as conveyors in power plants ● Waste incineration plants ● Chemical plants ● and cranes ● In general, for long travels where a high degree of reliability is required ● For long travels when push/pull force monitoring is needed

Available from stock. Ready to ship in 24 - 48hrs.*

*The delivery times indicated correspond to the average time until the ordered goods are dispatched.

PPDS basic - standard

So far the realisation of Condition Monitoring Systems was limited to large-scale e-chain® projects, e.g. ship-to-shore cranes. PPDS basic now makes this technology available for all standard industrial applications. Simple force measurement at the mounting bracket of the e-chain® enables monitoring at a reasonable price, even in the case of e-chains® with travels of considerably less than 100m. ● Cost-effective system protection ● Signal or alarm in the event of system overloading ● Very space-saving ● New floating moving end now available for PPDS basic.

More information ► www.igus.eu/PPDSbasic



Electronic pull/push force monitor with the igus® PPDS system

PPDS advanced - for long travels

The system for very long gliding applications with an igus® floating moving end (used to compensate lateral movements). The force sensor is integrated in the floating moving end and works in connection with the PPDS evaluation unit.

More information ► www.igus.eu/PPDSadvanced

PPDS pro - when the requirements for operational reliability are extremely high

The system for long travels when extreme operational reliability is essential. The PPDS pro analysis unit can analyse force thresholds by position. Here as well, a load cell is installed in the floating moving end.

More information ► www.igus.eu/PPDSpro

When planning integration of these products, please consult igus®.



PPDS system, testing equipment in the igus® laboratory

Floating moving end as an individual part

- Compensates parallel errors - compensates lateral offset tolerances between moving end and e-chain system® (horizontal ± 25mm)
- Easy assembly, small, light, and cost-effective
- Compatible with PPDS basic
- Max. 2m/s² acceleration (the speed depends on the e-chain® type)

More information ► www.igus.eu/FTAbasic

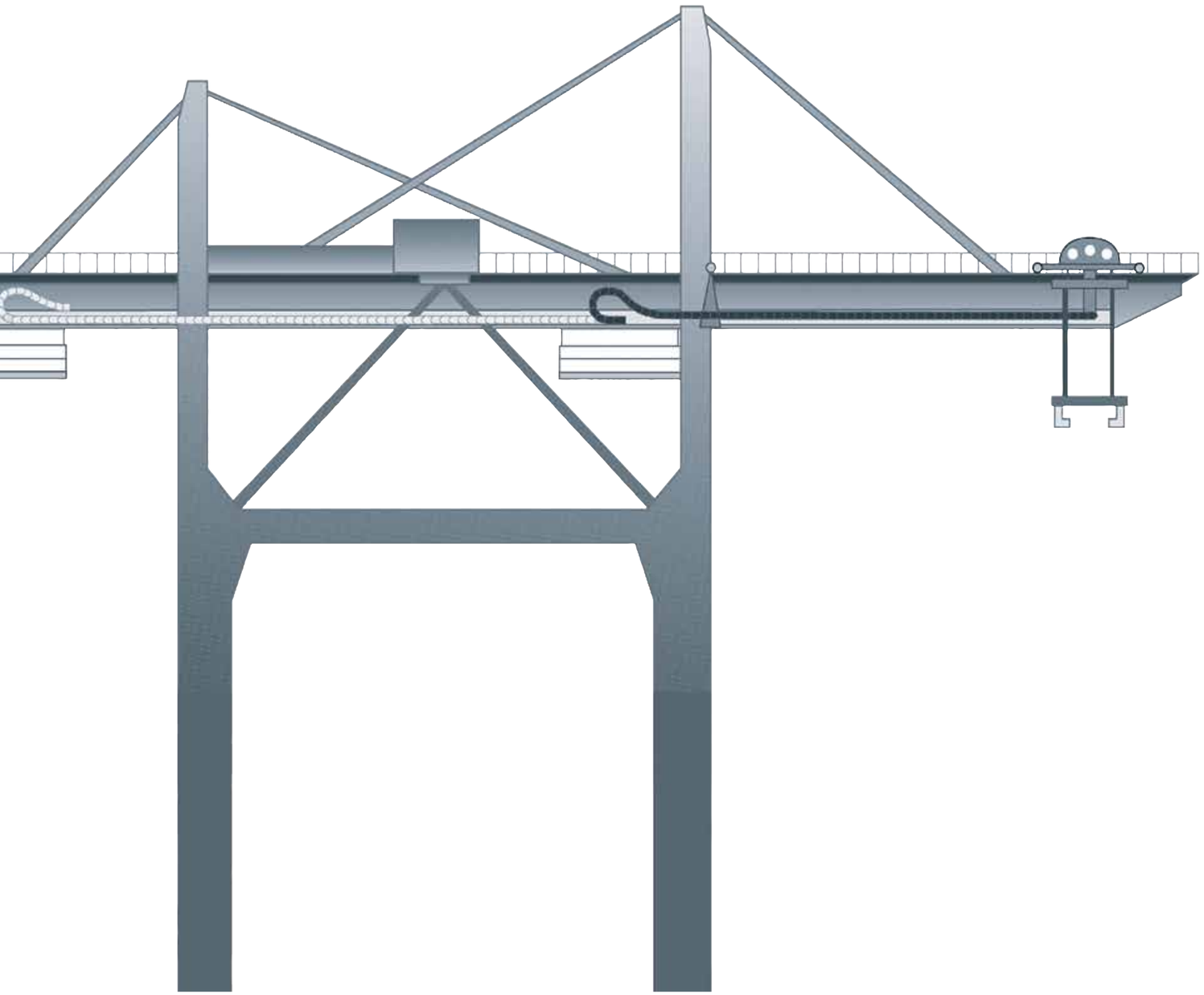


Product range

Part No. floating moving end as separate component	For series	For system
FTA.B.01.2500.XX	2500	E2/000
FTA.B.01.2700.XX	2700	E2/000
FTA.B.01.3400.XX	2500	E2/000
FTA.B.01.E4.28.XX	E4.28	E4.1
FTA.B.01.E4.32.XX	E4.32	E4.1
FTA.B.01.E4.42.XX	E4.42	E4.1

More series available upon request. Please consult igus® for delivery time.

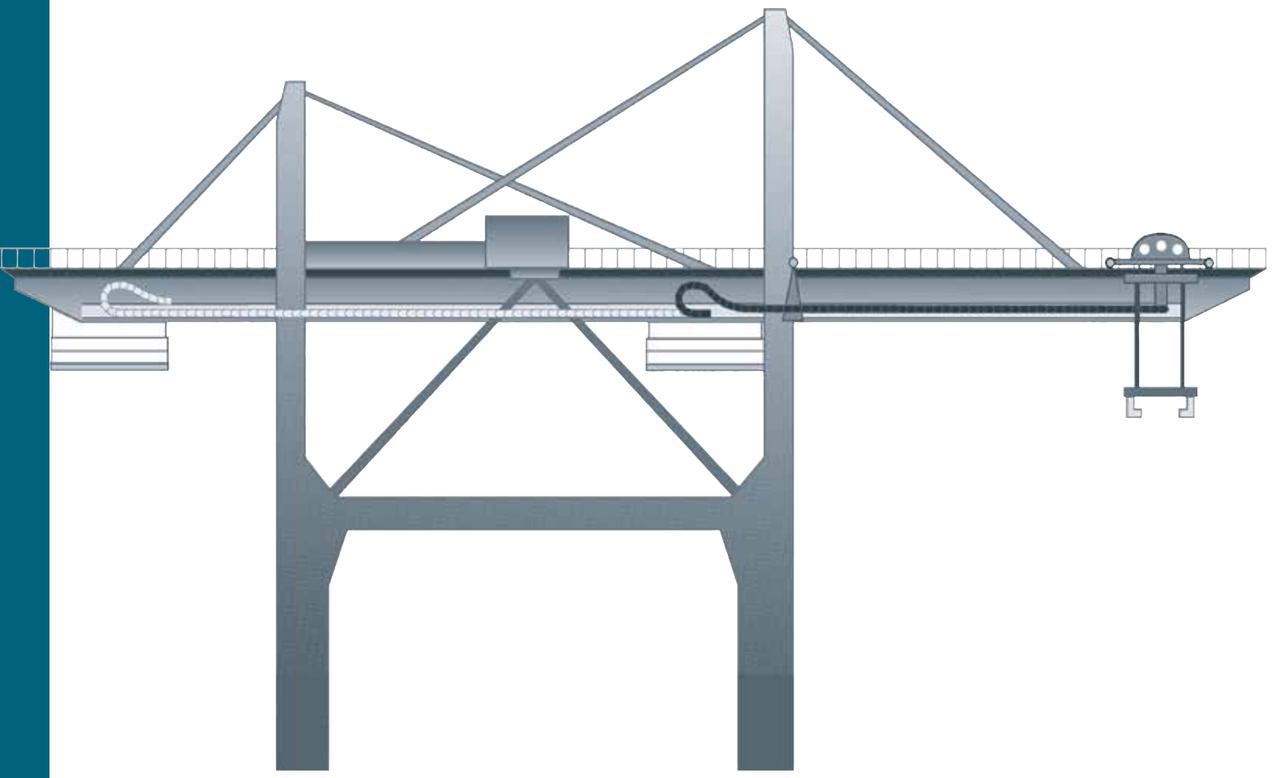
Complete Part No. with the required e-chain® width index ***Bi***.
Example: **FTA.B.01.2500.05**



Modular projects

Special solutions from stock

- Faster quotations, faster project planning
- Detailed service manuals and documentation
- Time and cost savings
- Absolute functional reliability
- System guarantee available upon request and depending on the application
- PPDS moving end - electronic Push/Pull Detection System
- Fixed end modules for easy attachment of the e-chain®
  inside the guide trough, with no drilling required
- Extreme gliding - gliding elements for even longer service
  life of e-chains® where long travels are involved
- HD trough systems with different installation set designs,
  matching the respective application and duty levels



Special solutions from stock - modular projects

The igus® project kit system - tested project solutions proven in numerous applications are now available as standard modular kits.

- Faster quotations, faster project planning
- Detailed service manuals and documentation
- Time and cost savings
- Absolute functional reliability
- System guarantee available upon request and depending on the application
- PPDS moving end - electronic Push/Pull Detection System
- Fixed end modules for easy attachment of the e-chain® inside the guide trough, with no drilling required
- Extreme gliding - gliding elements for even longer service life of e-chains® where long travels are involved
- HD trough systems with different installation set designs, matching the respective application and duty levels

Typical industries and applications

● Cranes ● Offshore ● and many other industries

Find a video online
▶ www.igus.eu/System-Project

Available from stock. Ready to ship in 24 - 48hrs.*

*The delivery times indicated correspond to the average time until the ordered goods are dispatched.



Long travels with electronic push/pull force monitoring with the igus® PPDS system



Engineered projects - customer-specific developments with many solutions from the modular kit
▶ www.igus.eu/projects



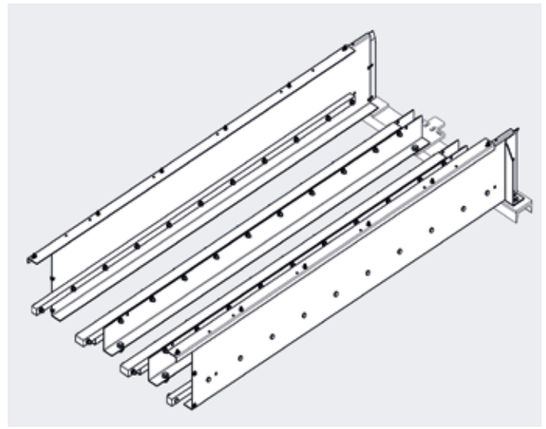
Series 4040R on a coal unloading system. Travel 190m, speed 0.5m/s, fill weight 8.05kg/m



Series 4040HD on 180m travel lengths with housing. Temperature range from -40°C/+40°C and in very dirty environments



Crane system designed by igus®



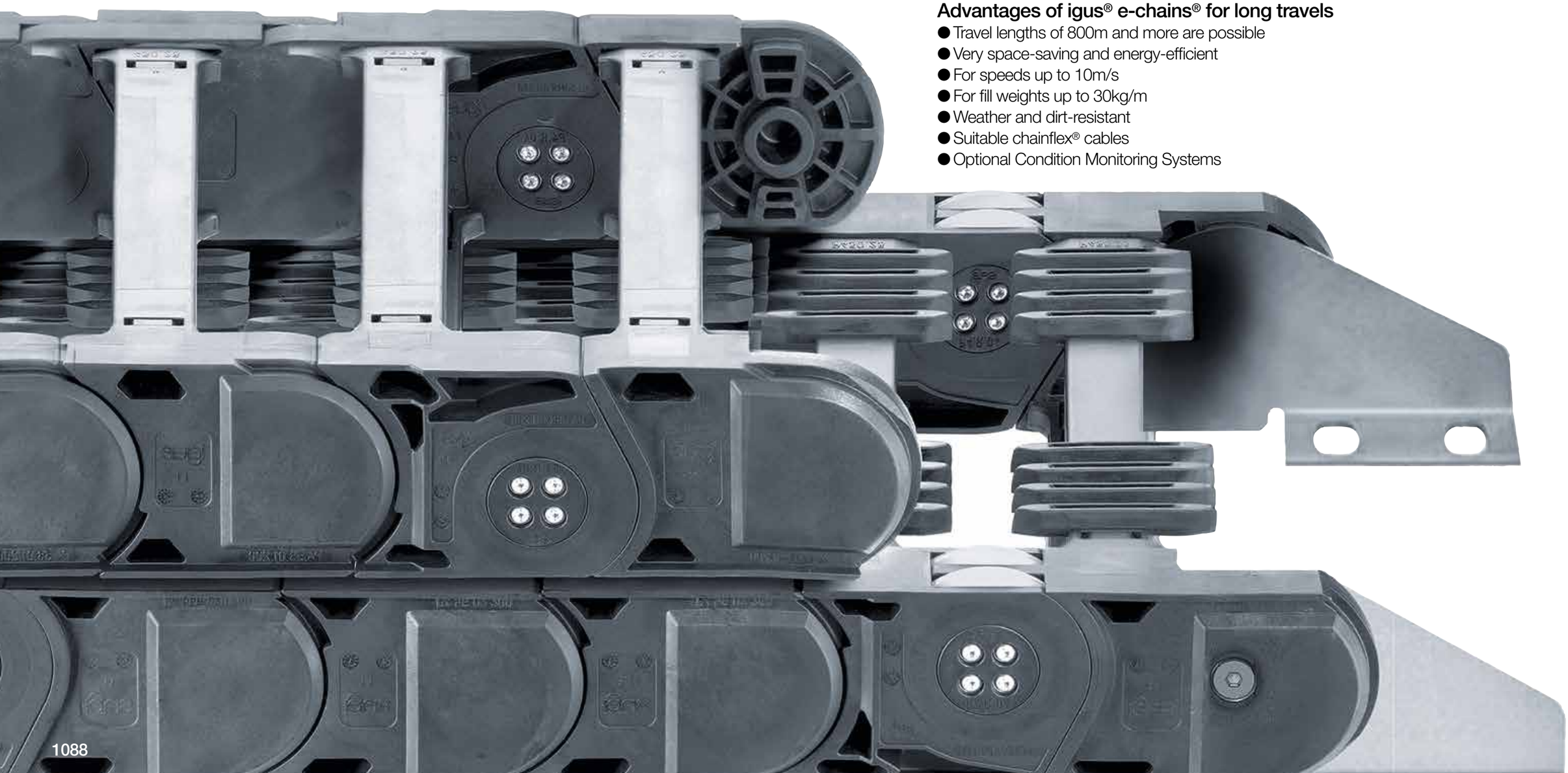
igus® project planning example, here: trough modules

e-chains®
for long travels

E4/4HD | System P4 | rol e-chains® | autoglide

Advantages of igus® e-chains® for long travels

- Travel lengths of 800m and more are possible
- Very space-saving and energy-efficient
- For speeds up to 10m/s
- For fill weights up to 30kg/m
- Weather and dirt-resistant
- Suitable chainflex® cables
- Optional Condition Monitoring Systems



E4/4HD | P4 | Rol e-chains® | E2/000 rol e-chains®

e-chains® for long travels



Very high fill weights for long travels - E4/4HD "Heavy-Duty"

- For very heavy fill weights and long travels
- Strong, even when used in very dirty or humid environments
- High torsional rigidity
- Long service life
- Recommended for heavy-duty applications

▶ **From page 1092**



Reduce energy consumption by 57% - P4 profile-rol e-chain®

- Safe, low-noise, abrasion-resistant energy supply system for long travels
- Long travels up to 800m and more, high fill weights up to 30kg/m
- For very long travels and high travel speeds up to 10m/s
- autoglide crossbars for safe guidance

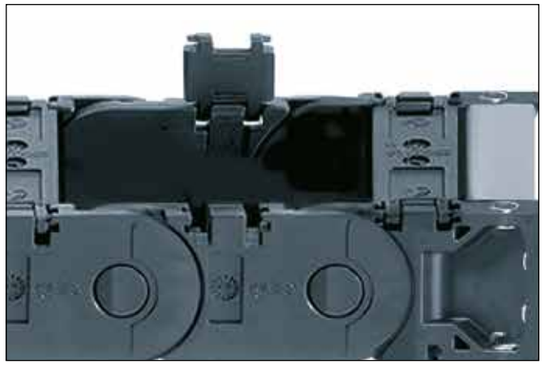
▶ **From page 1112**



Rolling instead of gliding, long travels up to 800m - E4/4 rol e-chain®

- 75% reduction of drive power needed to move the e-chain®
- Long travels up to 800m with E4/4 rol e-chain®
- Speeds up to 6m/s possible
- Can be used in dirty environments

● ▶ **From page 1142**



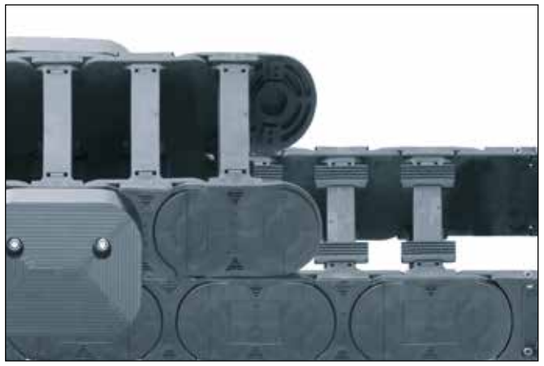
Long travels up to 150m, energy-efficient and cost-effective - E2/000 rol e-chain®

- Required drive power is reduced up to 75% while increasing the service life of the e-chain®
- Max. rolling speed up to 4m/s
- Available as cost-effective ready-to-fit harnessed system
- Many accessories available

▶ **From page 1160**

autoglide | 4 versions

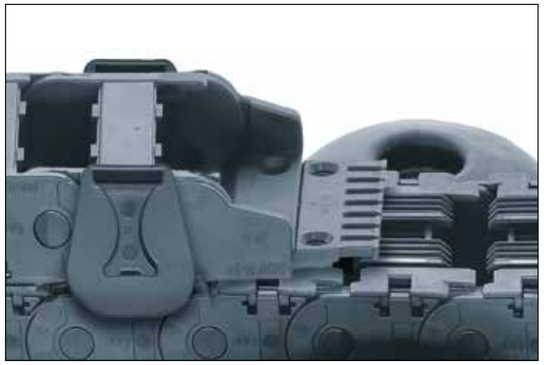
Self-guiding e-chain systems®, without the need for any guide troughs



Self-guiding e-chains® for system E4.1 - autoglide version 01

- For the larger E4.1 e-chains®
- Simple guide elements for quick installation
- The autoglide crossbars safely guide the e-chain® replacing the need for a guide trough
- For travels over 10m
- Floor guides can be driven over

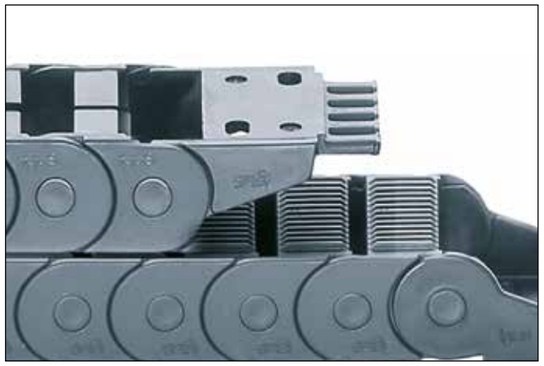
▶ **From page 1174**



Self-guiding e-chains® for system E2/000 - autoglide version 02

- Travel distance up to 70m and speed up to 2.0m/s
- Very compact, removes troughs forming an obstacle in the working area
- Quick installation for long travels
- Openable along the inner radius
- Clip-on glide wings, secure movement of the e-chain®

▶ **From page 1182**



easy chain® openable along the outer radius, fitted with moulded autoglide grooves along the inner radius - autoglide Version 03

- Doubly cost-effective due to elimination of guide troughs and economical, one-piece e-chain®
- Very quick assembly time - "easy" design
- Small width, quiet operation
- UL94-V2 classification

▶ **From page 1190**



Special glide shoes provide a safe guiding for the E2/000 - autoglide version 04

- Reliable and precise guidance due to special plastic glide shoes
- Long travels with easier filling
- Provides precise lateral guidance and a smooth gliding of the e-chain®
- e-chains® openable along the outer radius

▶ **From page 1194**

E4/4HD

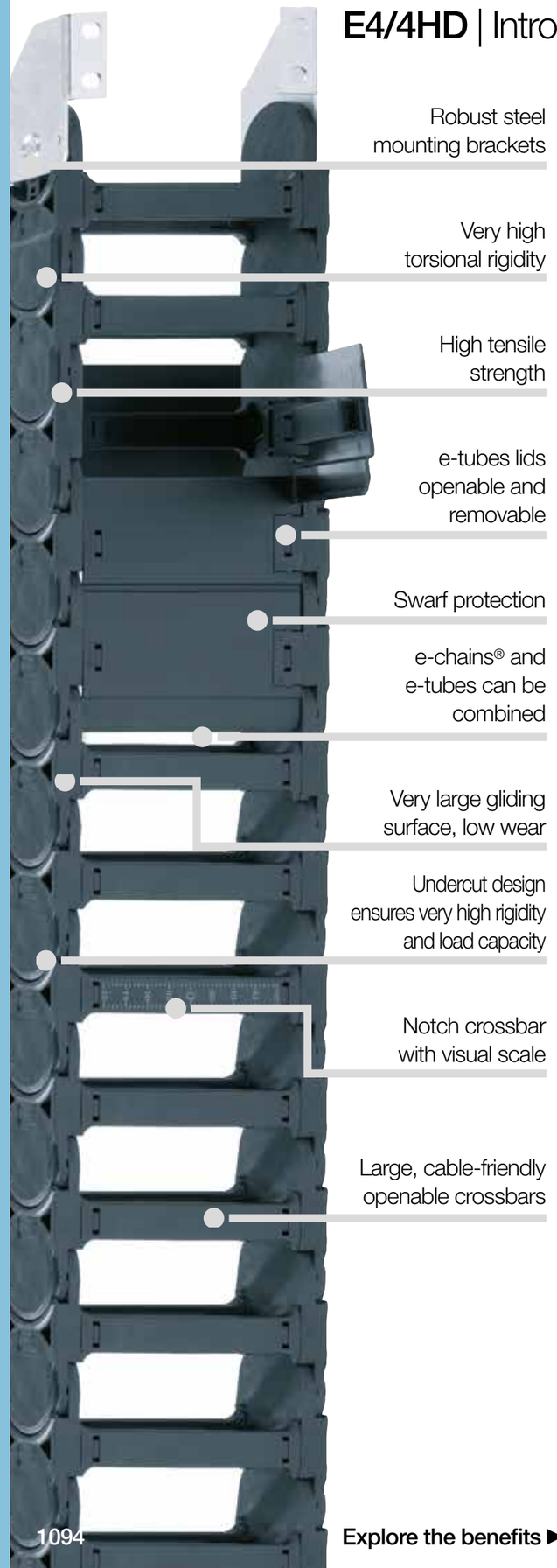
Very high fill weights for long travels

E4/4HD advantages:

- For heavy-duty applications
- For very heavy fill weights and long travels
- The E4/4HD offers the required strength for long travels, dirty environments or with high humidity
- The undercut design provides extremely high torsional rigidity
- Extended service life is facilitated by particularly large glide surfaces
- Recommended for heavy-duty applications

When to use another e-chain® series:

- When you want a profile-rol e-chain® with which you can reduce energy consumption by up to 57%
  ▶ **P4 system, page 1112**
- When you want a strong E4/4 rol e-chain® requiring 75% less drive power
  ▶ **E4/4 rol e-chain®, page 1142**
- When you want a self-guiding e-chain system® without any guide troughs
  ▶ **autoglide, page 1170**



Very high fill weights for long travels - E4/4HD

The E4/4HD system was designed for the most demanding tasks. The E4/4HD provides the required strength for long travels, with high fill weights, dirty environments or with high humidity.

- Sturdy side links for very high fill weights and long travels
- The undercut design provides extremely high torsional rigidity
- Extended service life is facilitated by particularly large glide surfaces
- Recommended for heavy-duty applications

Typical industries and applications

● RTGs, quayside cranes, and many other types of crane ● Heavy machinery ● Steelworks ● Shipyards ● Composting plants ● Construction machines ● Plaster, concrete, chemical and mineral factories ● Farms ● General mechanical engineering etc.

E4/4HD - high torsional rigidity

Electrically conductive ESD e-chains® upon request

E4/4HD system, tried and tested for very long travels

e-tubes available as special design with HT material for 850°C swarf

Explore the benefits ▶ www.igus.eu/best/E4HD

Series	Inner height *hi* [mm]	Inner width *Bi* [mm]	Outer width *Ba* [mm]	Outer height *ha* [mm]	Bend radius *R* [mm]	Travel ≤ [m]	Page
 **e-chains® with crossbars every link** for particularly demanding applications							
4040HD	56	50 - 600	104 - 654	84	135 - 400	350	**1098**
5050HD	80	50 - 600	110 - 660	108	150 - 500	500	**1104**
 **e-tubes** fully enclosed, excellent cable protection							
8840HD	56	75 - 462	129 - 516	84	150 - 400	350	**1098**
9850HD	80	75 - 462	135 - 522	108	150 - 500	500	**1104**

Available from stock. Ready to ship in 24 - 48hrs.*

*The delivery times indicated correspond to the average time until the ordered goods are dispatched.

Reduce assembly time - E4 e-chain® opener

- e-chain® opener tools for easy opening and closing of e-chains®
- Simple opening and closing of e-chain® crossbars
- Also for use in hard to reach locations
- Significant assembly time reduction

More information ▶ www.igus.eu/E4savetime



AX - special e-chains® - especially for fine dust applications

- For long travels in fine-particulate applications
- Exterior stop-dogs prevent the build-up of dust, dirt, swarf, flour, etc.
- Mounting brackets and accessories available

More information ▶ www.igus.eu/4040AX



Technical data

Speed gliding	**≤ 10 [m/s]**
Acceleration gliding	**≤ 50 [m/s²]**
Material - permitted temperature °C, igumid G	**-40°C / +120°C**
Flammability class, igumid G	**VDE 0304 IIC UL94-HB**

Order example | Order key

Order example for complete e-chain® (1.0m), colour black, with mounting brackets and interior separation:

e-chain® (1.0m)	Please indicate e-chain® length or number of links: 1.0m or 11 links	**4040HD.30.300.0**
+ Mounting brackets	1 full set, steel	**40400HD.12.E**
Interior separation	with 2 separators assembled every 2nd link	**2 x 56.1.1**
Order text:	**1 m 4040HD.30.300.0 + 40400HD.12.E + 2 x 56.1.1**	

Order key
4040HD.30.300.0

- Default colour black
- Bend radius ***R***
- Width index
- Series / Type



The maintenance-free series 4040HD protects the igus® chainflex® motor and signal cables during the lifting and lowering movements of this tidal turbine and protects them against the aggressive ambient conditions. 20m vertical movement above and below water

P4 profile-rol e-chain® - reduce energy consumption by 57%
- Safe, low-noise, abrasion-resistant energy supply system for long travels
- Long travels up to 800m and more, high fill weights up to 30kg/m
- For very long travels and high travel speeds up to 10m/s
- autoglide crossbars for safe guidance

More information ▶ From page 1112



E4/4 rol e-chain® - rolling instead of gliding
- 75% reduction of drive power needed to move the e-chain®
- Long travels up to 800m with E4/4 rol e-chain®
- Speeds up to 6m/s possible
- Uniform roller resistance

More information ▶ From page 1142

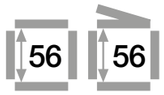


autoglide - self-guiding e-chain systems®
- Self-guiding e-chains® without the need for guide troughs, available in 4 versions
- Travels up to 80m and travel speeds up to 2.5m/s
- Quick installation for long travels
- Small width, quiet operation, cost-effective

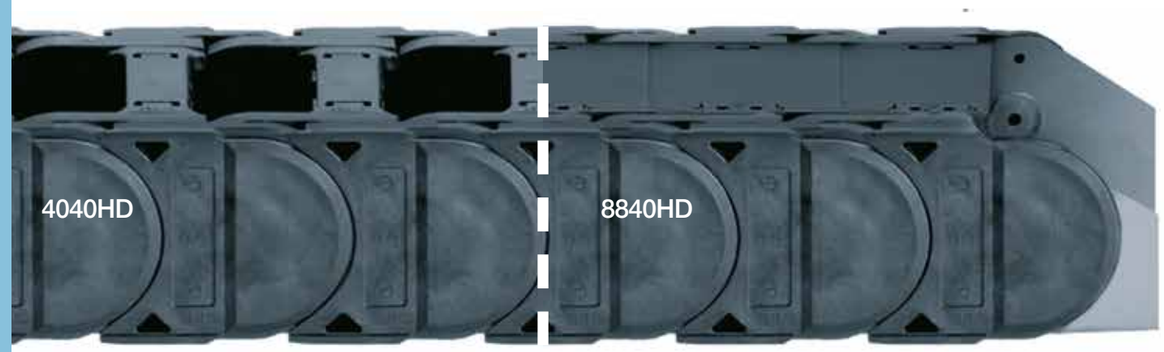
More information ▶ From page 1170



E4/4HD | 4040HD·8840HD | Product range



Heavy-duty, high fill weights for long travels



e-chains® | Series 4040HD | Crossbars every link (crossbars removable along the inner and outer radius)
e-tubes | Series 8840HD | Fully closed (lids openable along the outer radius, from one side)

Part No. e-chains® / e-tubes			Bi [mm]	Ba [mm]	4040HD [kg/m]	8840HD [kg/m]
4040HD. –	05.	R.0	50	104	≈ 5.03	–
4040HD. –	06.	R.0	65	119	≈ 5.12	–
4040HD. 8840HD.	07.	R.0[1)]	75	129	≈ 5.19	≈ 5.64
4040HD. –	08.	R.0	87	141	≈ 5.27	–
4040HD. 8840HD.	10.	R.0	100	154	≈ 5.36	≈ 5.93
4040HD. –	11.	R.0	112	166	≈ 5.48	–
4040HD. 8840HD.	12.	R.0	125	179	≈ 5.56	≈ 6.29
4040HD. –	13.	R.0	137	191	≈ 5.69	–
4040HD. 8840HD.	15.	R.0	150	204	≈ 5.73	≈ 6.67
4040HD. –	16.	R.0	162	216	≈ 5.84	–
4040HD. 8840HD.	17.	R.0	175	229	≈ 5.97	≈ 6.98
4040HD. –	18.	R.0	187	241	≈ 6.09	–
4040HD. 8840HD.	20.	R.0	200	254	≈ 6.14	≈ 7.29
4040HD. –	21.	R.0	212	266	≈ 6.21	–
4040HD. –	22.	R.0	225	279	≈ 6.28	–
4040HD. –	23.	R.0	237	291	≈ 6.39	–
4040HD. 8840HD.	25.	R.0	250	304	≈ 6.50	≈ 8.02
4040HD. –	26.	R.0	262	316	≈ 6.59	–
4040HD. 8840HD.	27.	R.0	275	329	≈ 6.70	≈ 8.38
4040HD. –	28.	R.0	287	341	≈ 6.75	–
4040HD. 8840HD.	30.	R.0	300	354	≈ 6.91	≈ 8.68
4040HD. –	31.	R.0	312	366	≈ 6.94	–
4040HD. –	32.	R.0	325	379	≈ 7.05	–
4040HD. –	33.	R.0	337	391	≈ 7.17	–
4040HD. 8840HD.	35.	R.0	350	404	≈ 7.37	≈ 9.38
4040HD. –	36.	R.0	362	416	≈ 7.28	–
4040HD. –	37.	R.0	375	429	≈ 7.38	–
4040HD. –	38.	R.0	387	441	≈ 7.49	–
4040HD. 8840HD.	40.	R.0	400	454	≈ 7.76	≈ 10.38
4040HD. –	41.	R.0	412	466	≈ 7.68	–
4040HD. –	42.	R.0	425	479	≈ 7.98	–
4040HD. –	43.	R.0	437	491	≈ 7.82	–
4040HD. –	45.	R.0	450	504	≈ 8.15	–
4040HD. 8840HD.	46.	R.0	462	516	≈ 8.10	≈ 10.85
4040HD. –	47.	R.0	475	529	≈ 8.14	–
4040HD. –	48.	R.0	487	541	≈ 8.39	–
4040HD. –	50.	R.0	500	554	≈ 8.39	–
4040HD. –	51.	R.0	512	566	≈ 8.44	–
4040HD. –	52.	R.0	525	579	≈ 8.57	–
4040HD. –	53.	R.0	537	591	≈ 8.66	–
4040HD. –	55.	R.0	550	604	≈ 9.08	–
4040HD. –	60.	R.0	600	654	≈ 9.31	–

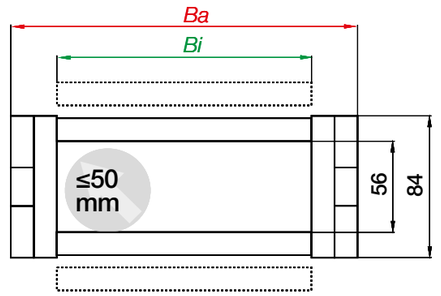
*Radius not available for e-tubes 1) Lid removable only, no hinged option

Available bend radii

R [mm] | 135* | 150 | 200 | 250 | 300 | 350 | 400 |

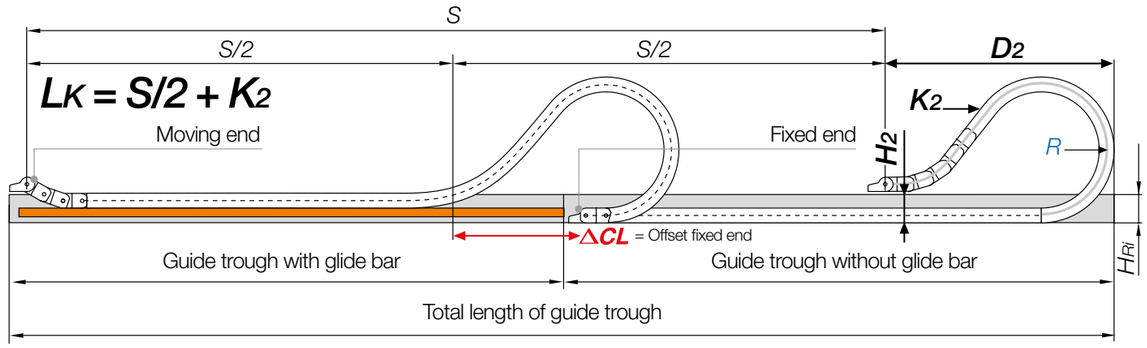
Complete Part No. with required radius (*R*). Example: **4040HD.30.300.0**

E4/4HD | 4040HD·8840HD | Installation dimensions



Inner height [mm]	56
Pitch [mm/link]	91
Links/m	11
corresponds to [mm]	1,001
e-chain® length	$L_K = S/2 + K$

Gliding applications | Long travels up to max. 350m | Fill weight 16kg/m



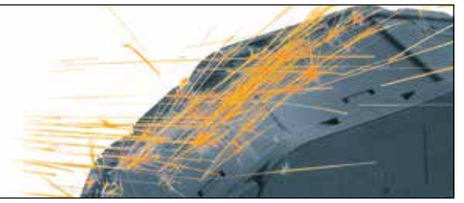
Note: We recommend the project planning of such a system to be carried out by igus®.
In case of travels under 10m we recommend an unsupported e-chain®.

R	135*	150	200	250	300	350	400
H_2	266	266	266	266	266	266	266
D_2	390	450	710	920	1,180	1,440	1,530
K_2	728	819	1,274	1,638	2,002	2,366	2,548
ΔCL	124	159	359	509	709	909	959

**Radius not available for e-tubes.

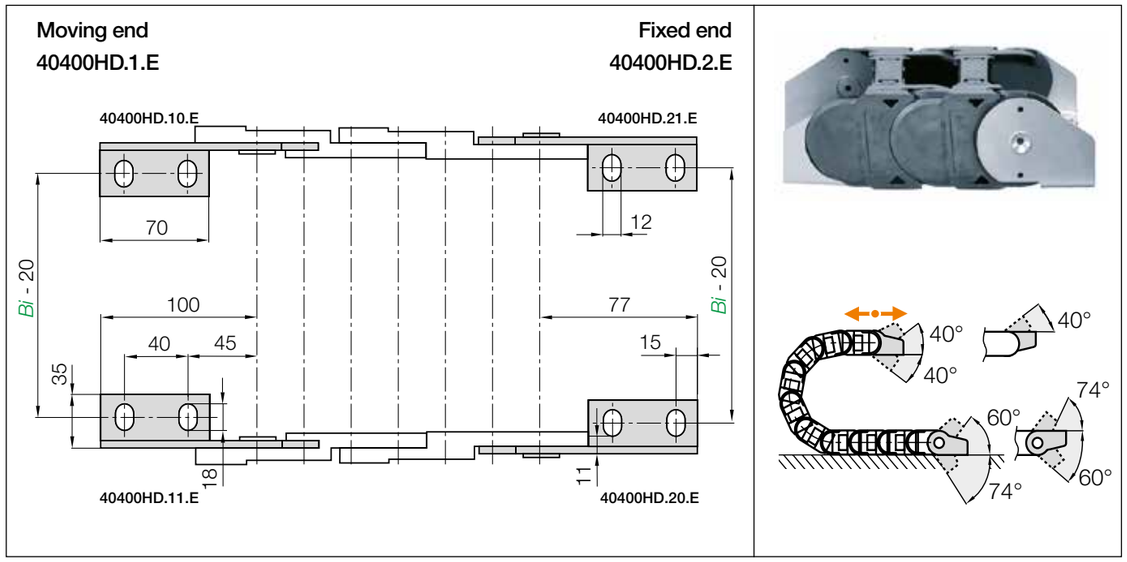
Swarf up to +850°C
- e-tubes to withstand +850°C swarf, as a special option
- No hot swarf melting or embedding into the chain
- igus® igumid HT material

More information ▶ www.igus.eu/HT



E4/4HD | Series 4040HD·8840HD | Accessories

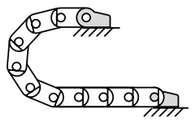
Steel mounting brackets | Pivoting



Steel, pivoting| For gliding applications and long travels

Part No. full set **steel pivoting**	Description mounting bracket
40400HD.12.2.VS.E	Set of stainless steel mounting brackets, assembled
40400HD.1.2.VS.E	Mounting brackets moving end, assembled
40400HD.2.2.VS.E	Mounting brackets fixed end, assembled

Stainless steel version available. Please add the index **.E**! (Material: stainless steel 1.4301)

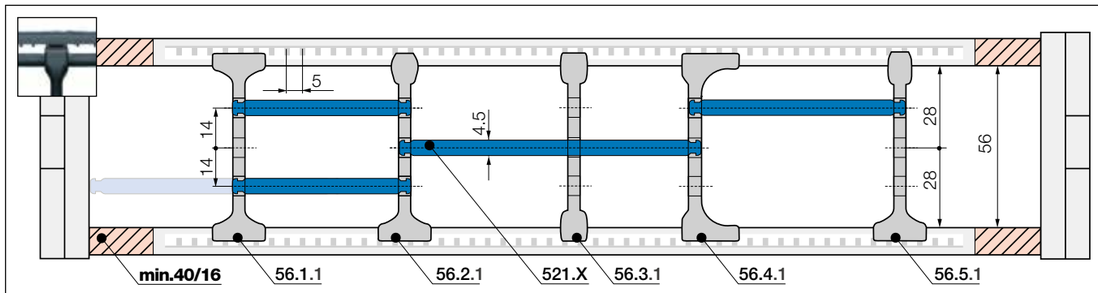


Attachment options for these steel mounting brackets.
Note: By ordering steel mounting brackets in combination with an e-chain® / e-tube, they will be delivered assembled!

Strain relief **e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with ordering options ▶ From page 1300**

Interior separation | Increase cable service life

More interior separation options ▶ **next page**



Note: Please be aware of the minimum lateral gap to the side links! **e-tube: 40mm** | **e-chain®: 16mm**
As standard separators are fitted every 2nd e-chain® link!



Standard separator, wide base	
unassembled	**56.1**
assembled	**56.1.1**

Standard - for any application

Separator with a wide base for maximum holding force in the e-chain®.



Separator, narrow top	
unassembled	**56.2**
assembled	**56.2.1**

For even faster installation

Wide on one side for high holding force, narrow on opposite side for easy cable fitting.



Separator, narrow	
unassembled	**56.3**
assembled	**56.3.1**

For small cables

Separator with a narrow base for a large number of small cables side by side. Saves space in the e-chain®. Also available for QuickLock crossbars.



Separator, asymmetrical	
unassembled	**56.4**
assembled	**56.4.1**

For side-mounted applications

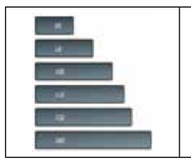
Asymmetrical separator, for defined gap distance. No additional spacers required.



Notch separator for notched crossbar	
unassembled	**56.5**
assembled	**56.5.1**

Locks securely in preset increments

Notch separator for exact positioning in e-chains®. Recommended for side-mounted applications.



Shelf, lockable	
unassembled	**520.X**
assembled	**521.X**

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Shelves

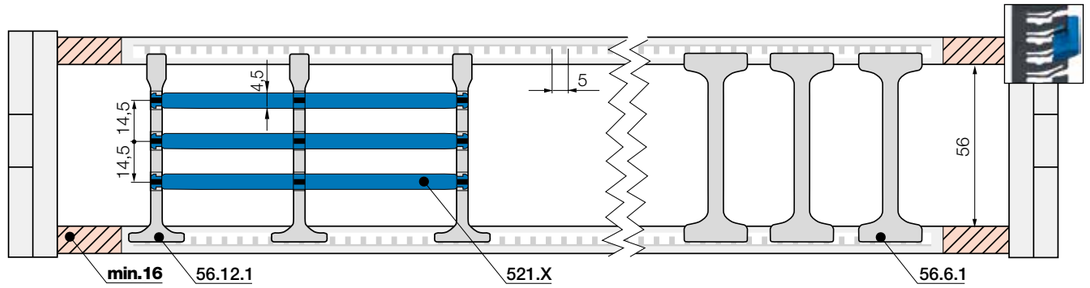
Width = X [mm]



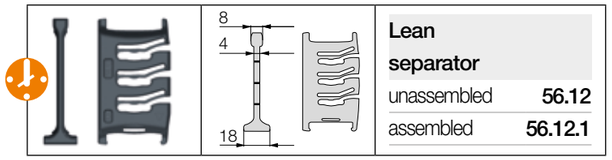
X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
050	**520.050**	**521.050**	150	**520.150**	**521.150**	300	**520.300**	**521.300**
065	**520.065**	**521.065**	175	**520.175**	**521.175**	350	**520.350**	**521.350**
075	**520.075**	**521.075**	200	**520.200**	**521.200**	375	**520.375**	**520.375**
100	**520.100**	**521.100**	225	**520.225**	**521.225**	387	**520.387**	**520.387**
125	**520.125**	**521.125**	250	**520.250**	**521.250**	450	**520.450**	**521.450**

E4/4HD | Series 4040HD·8840HD | Accessories

Interior separation | To allow faster filling



Note: Please be aware of the minimum lateral gap to the side links! **e-tube: 40mm** | **e-chain®: 16mm**
As standard separators are fitted every 2nd e-chain® link!



Lean separator	
unassembled	**56.12**
assembled	**56.12.1**

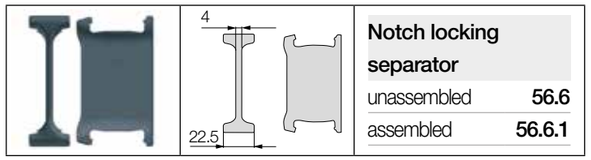
Lean separators New

New design allows extremely fast fitting of shelves in several layers, which significantly reduces assembly time. Enables extremely fast replacement of individual cables in a very full e-chain®.

Lean separator design - several layers of cables fitted quickly, save up to 50%* assembly time
(*Lean separator vs. standard separator - measured on a 4m long e-chain® fitted with 12 cables in the igus® readychain® factory)



More interior separation options



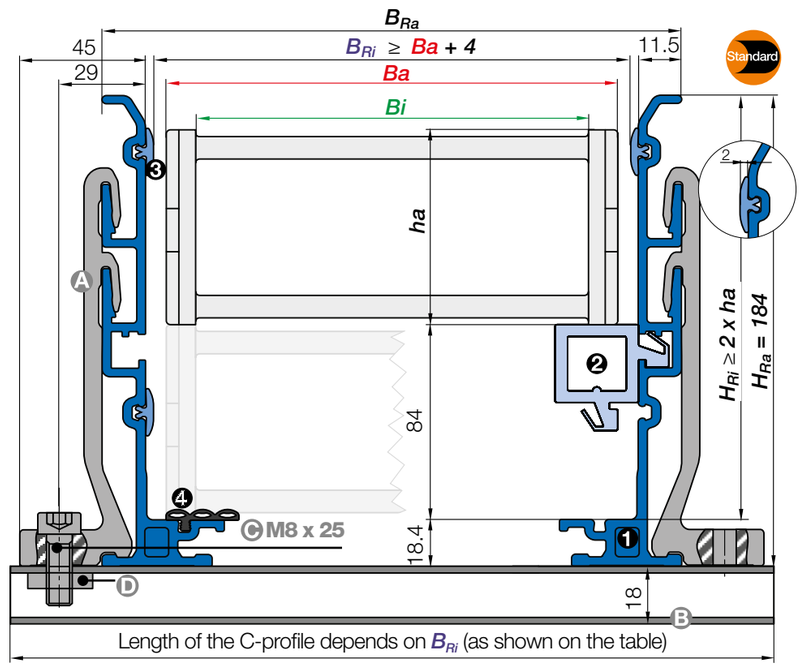
Notch locking separator	
unassembled	**56.6**
assembled	**56.6.1**

Notch locking separator for increased holding force

Notch locking separators offer higher crossbar opening forces for high humidity and/or large hydraulic hoses. They can be positioned precisely and then locked in position.

Aluminium SuperTrough | Heavy-duty version

Part No. 974.30.SL | 974.31.SL | Trough height: 184mm

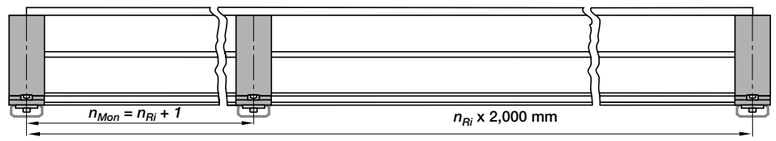


Length of the C-profile depends on B_{Ri} (as shown on the table)

● **Trough set heavy duty:** ❶ Trough side parts, aluminium, 2m ❷ Glide bar, plastic, 2m ❸ Glide strips, plastic, 2m (without glide strips upon request) ❹ Optional: rubber silencer profile
● **Installation set heavy duty:** Ⓐ Bottom clamp, aluminium Ⓑ C-profile, galvanised steel, length ▶ Table Ⓒ Allen wrench M8 x 25 Ⓓ Glide nut M8

Order example: length of 30m - centre fixed for series 4040HD.30.300.0 with B_{Ri} = 358

Guide trough set (set of 2 trough side parts, incl. glide strips) **without** glide bars **Order text: 16m guide trough without glide bar (8 x 2m sections)**	**974.30.SL**
Guide trough set (set of 2 trough side parts, incl. glide strips) **with** glide bar **Order text: 16m guide trough with glide bar (8 x 2m sections)**	**974.31.SL**
Installation set complete **(quantity: guide trough sets + 1)** **Order text: 17 installation sets**	**974.50.475**
Option: for an additional noise dampening with **silencer profile**, please add Index **A**	**974.30.SLA**



Principle sketch: number of installation sets to be installed = number of trough sections + 1

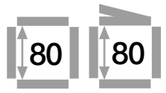
● Trough set
● Installation set
● Glide bar
● C-profile

Ba = e-chain® outer width
Bi = e-chain® inner width
B_{Ri} = Trough inner width
B_{Ra} = Trough outer width
H_{Ri} = Trough inner height
H_{Ra} = Trough outer height
n_{Mon} = Number of installation sets
n_{Ri} = Number of trough sets

Installation set heavy duty with C-Profile

Width index	B_{Ri} [mm]	Part No. installation set
.05	108	974.50.225
.06	123	974.50.250
.07	133	974.50.250
.08	145	974.50.275
.10	158	974.50.275
.11	170	974.50.300
.12	183	974.50.300
.13	195	974.50.325
.15	208	974.50.325
.16	220	974.50.350
.17	233	974.50.350
.18	245	974.50.375
.20	258	974.50.375
.21	270	974.50.400
.22	283	974.50.400
.23	295	974.50.425
.25	308	974.50.425
.26	320	974.50.450
.27	333	974.50.450
.28	345	974.50.475
.30	358	974.50.475
.31	370	974.50.500
.32	383	974.50.500
.33	395	974.50.525
.35	408	974.50.525
.36	420	974.50.550
.37	433	974.50.550
.38	445	974.50.575
.40	458	974.50.575
.41	470	974.50.600
.42	483	974.50.600
.43	495	974.50.625
.45	508	974.50.625
.46	520	974.50.650
.47	533	974.50.650
.48	545	974.50.675
.50.	558	974.50.675
.51	570	974.50.700
.52	583	974.50.700
.53	595	974.50.725
.55	608	974.50.725
.60	658	974.50.775

E4/4HD | 5050HD·9850HD | Product range



Heavy-duty, high fill weights for long travels



e-chains® | Series 5050HD | Crossbars every link (crossbars removable along the inner and outer radius)
e-tubes | Series 9850HD | Fully closed (lids openable along the outer radius, from one side)

Part No. e-chains® / e-tubes	Bi [mm]	Ba [mm]	5050HD [kg/m]	9850HD [kg/m]
5050HD. – 05. R.0	50	110	≈ 6.65	–
5050HD. – 06. R.0	65	125	≈ 6.74	–
5050HD. 9850HD. 07 R.0[1)]	75	135	≈ 6.81	≈ 7.25
5050HD. – 08. R.0	87	147	≈ 6.89	–
5050HD. 9850HD. 10. R.0	100	160	≈ 6.99	≈ 7.55
5050HD. – 11. R.0	112	172	≈ 7.10	–
5050HD. 9850HD. 12. R.0	125	185	≈ 7.18	≈ 7.91
5050HD. – 13. R.0	137	197	≈ 7.32	–
5050HD. 9850HD. 15. R.0	150	210	≈ 7.35	≈ 8.29
5050HD. – 16. R.0	162	222	≈ 7.47	–
5050HD. 9850HD. 17. R.0	175	235	≈ 7.60	≈ 8.60
5050HD. – 18. R.0	187	247	≈ 7.71	–
5050HD. 9850HD. 20. R.0	200	260	≈ 7.77	≈ 8.91
5050HD. – 21. R.0	212	272	≈ 7.84	–
5050HD. – 22. R.0	225	285	≈ 7.91	–
5050HD. – 23. R.0	237	297	≈ 8.02	–
5050HD. 9850HD. 25. R.0	250	310	≈ 8.13	≈ 9.64
5050HD. – 26. R.0	262	322	≈ 8.22	–
5050HD. 9850HD. 27 R.0	275	335	≈ 8.32	≈ 10.00
5050HD. – 28. R.0	287	347	≈ 8.38	–
5050HD. 9850HD. 30. R.0	300	360	≈ 8.53	≈ 10.30

Part No. e-chains® / e-tubes	Bi [mm]	Ba [mm]	5050HD [kg/m]	9850HD [kg/m]
5050HD. – 31. R.0	312	372	≈ 8.57	–
5050HD. – 32. R.0	325	385	≈ 8.67	–
5050HD. – 33. R.0	337	397	≈ 8.79	–
5050HD. 9850HD. 35. R.0	350	410	≈ 8.99	≈ 11.00
5050HD. – 36. R.0	362	422	≈ 8.90	–
5050HD. – 37. R.0	375	435	≈ 9.00	–
5050HD. – 38. R.0	387	447	≈ 9.11	–
5050HD. 9850HD. 40. R.0	400	460	≈ 9.38	≈ 12.00
5050HD. – 41. R.0	412	472	≈ 9.31	–
5050HD. – 42. R.0	425	485	≈ 9.60	–
5050HD. – 43. R.0	437	497	≈ 9.44	–
5050HD. – 45. R.0	450	510	≈ 9.55	–
5050HD. 9850HD. 46. R.0	462	522	≈ 9.72	≈ 12.47
5050HD. – 47. R.0	475	535	≈ 9.76	–
5050HD. – 48. R.0	487	547	≈ 10.01	–
5050HD. – 50. R.0	500	560	≈ 10.11	–
5050HD. – 51. R.0	512	572	≈ 10.02	–
5050HD. – 52. R.0	525	585	≈ 10.19	–
5050HD. – 53. R.0	537	597	≈ 10.29	–
5050HD. – 55. R.0	550	610	≈ 10.71	–
5050HD. – 60. R.0	600	660	≈ 10.94	–

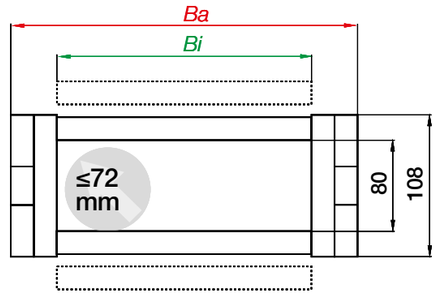
1) Lid removable only, no hinged option

Available bend radii

R [mm] | 150 | 200 | 250 | 300 | 350 | 400 | 500 |

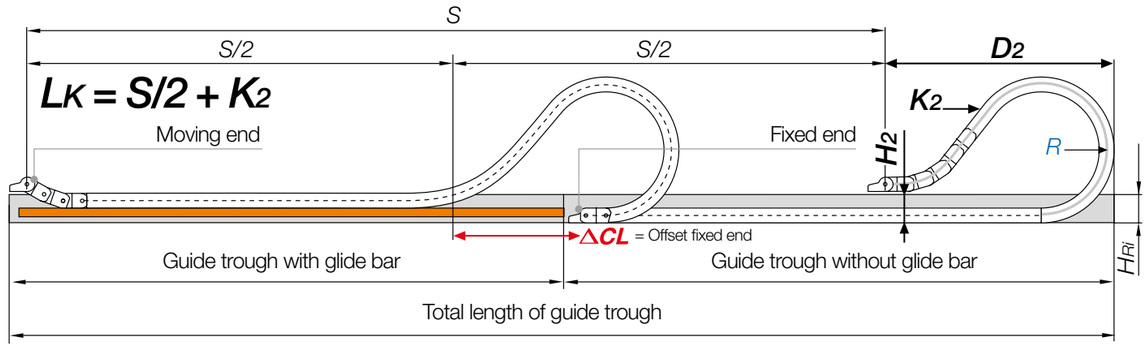
Complete Part No. with required radius (*R*). Example: **5050HD.30.300.0**

E4/4HD | 5050HD·9850HD | Installation dimensions



Inner height [mm]	80
Pitch [mm/link]	91
Links/m	11
corresponds to [mm]	1,001
e-chain® length	$L_K = S/2 + K$

Gliding applications | Long travels up to max. 500m | Fill weight 30kg/m



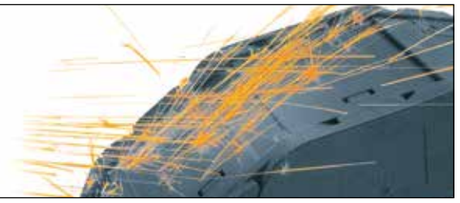
Note: We recommend the project planning of such a system to be carried out by igus®.
In case of travels under 10m we recommend an unsupported e-chain®.

R	150	200	250	300	350	400	500
H_2	242	242	242	242	242	242	242
D_2	550	800	950	1,200	1,550	1,700	2,175
K_2	910	1,274	1,638	2,002	2,457	2,730	3,458
ΔCL	209	409	509	709	1,009	1,109	1,484

**Radius not available for e-tubes.

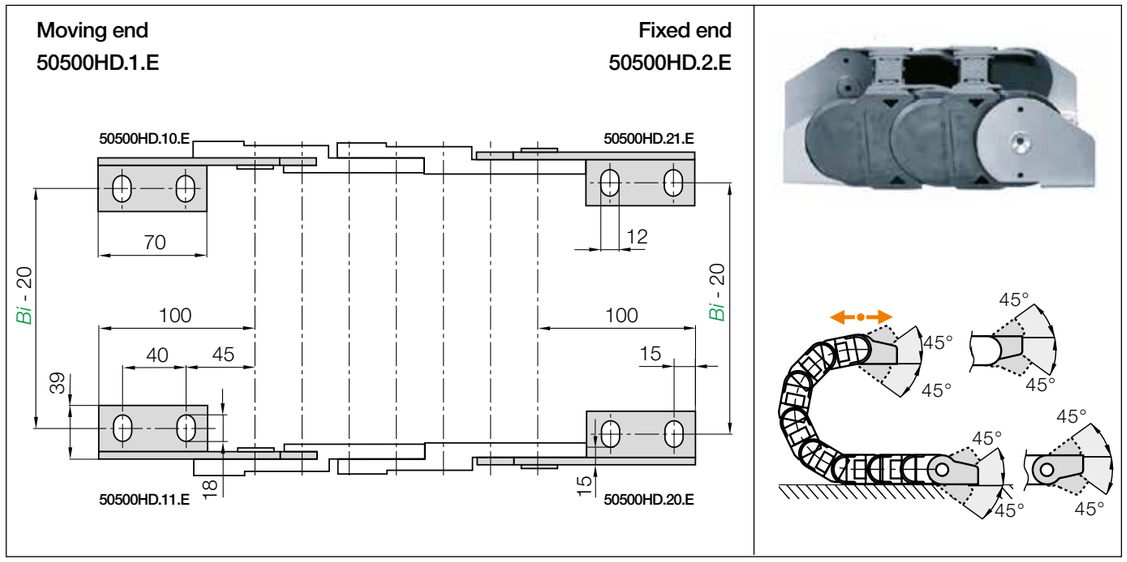
Swarf up to +850°C
- e-tubes to withstand +850°C swarf, as a special option
- No hot swarf melting or embedding into the chain
- igus® igumid HT material

More information ▶ www.igus.eu/HT



E4/4HD | Series 5050HD·9850HD | Accessories

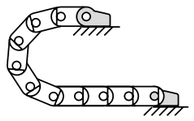
Steel mounting brackets | Pivoting



Steel, pivoting| For gliding applications and long travels

Part No. full set	Description
steel pivoting	**mounting bracket**
50500HD.12.2.VS.E	Set of stainless steel mounting brackets, assembled
50500HD.1.2.VS.E	Mounting brackets moving end, assembled
50500HD.2.2.VS.E	Mounting brackets fixed end, assembled

Stainless steel version available. Please add the index **.E**! (Material: stainless steel 1.4301)

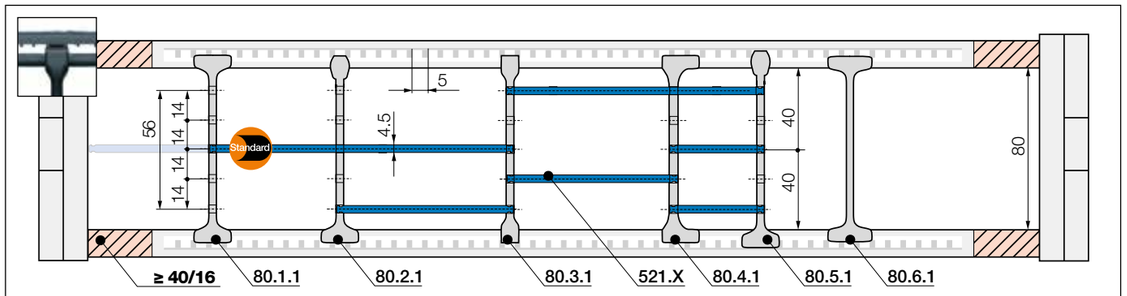


Attachment options for these steel mounting brackets.
Note: By ordering steel mounting brackets in combination with an e-chain® / e-tube, they will be delivered assembled!

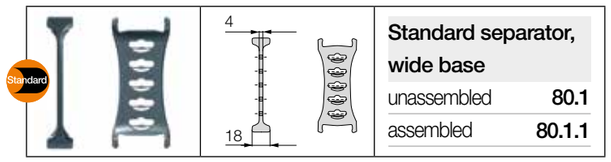
Strain relief **e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with ordering options ▶ From page 1300**

Interior separation | Increase cable service life

More interior separation options ▶ **next page**



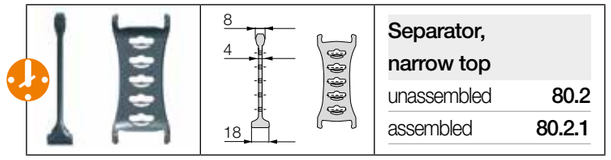
Note: Please be aware of the minimum lateral gap to the side links! **e-tube: 40mm** | **e-chain®: 16mm**
As standard separators are fitted every 2nd e-chain® link!



Standard separator, wide base	
unassembled	**80.1**
assembled	**80.1.1**

Standard - for any application

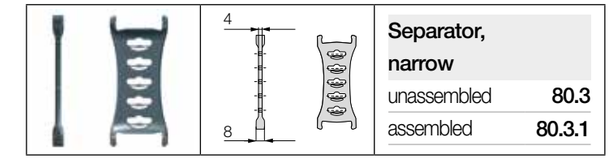
Separator with a wide base for maximum holding force in the e-chain®.



Separator, narrow top	
unassembled	**80.2**
assembled	**80.2.1**

For even faster installation

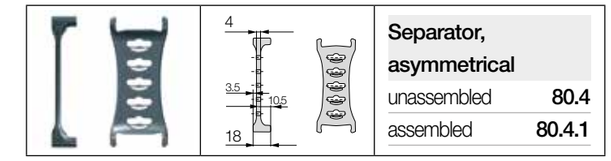
Wide on one side for high holding force, narrow on opposite side for easy cable fitting.



Separator, narrow	
unassembled	**80.3**
assembled	**80.3.1**

For small cables

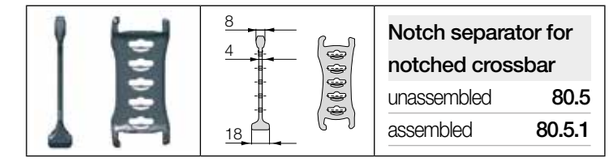
Separator with a narrow base for a large number of small cables side by side. Saves space in the e-chain®. Also available for QuickLock crossbars.



Separator, asymmetrical	
unassembled	**80.4**
assembled	**80.4.1**

For side-mounted applications

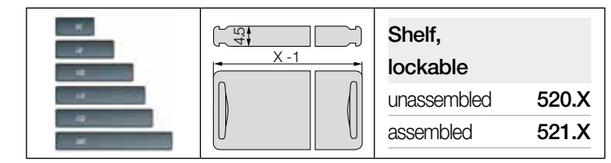
Asymmetrical separator, for defined gap distance. No additional spacers required.



Notch separator for notched crossbar	
unassembled	**80.5**
assembled	**80.5.1**

Locks securely in preset increments

Notch separator for exact positioning in e-chains®. Recommended for side-mounted applications.



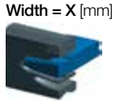
Shelf, lockable	
unassembled	**520.X**
assembled	**521.X**

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Shelves

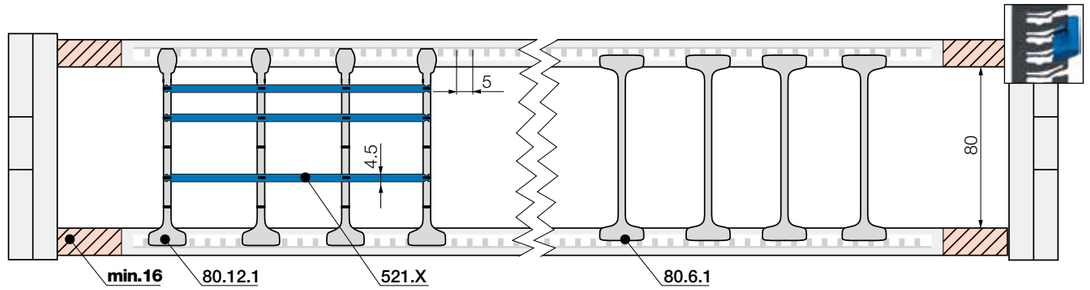
Width = X [mm]



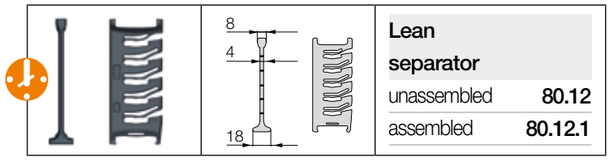
X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
050	**520.050**	**521.050**	150	**520.150**	**521.150**	300	**520.300**	**521.300**
065	**520.065**	**521.065**	175	**520.175**	**521.175**	350	**520.350**	**521.350**
075	**520.075**	**521.075**	200	**520.200**	**521.200**	375	**520.375**	**520.375**
100	**520.100**	**521.100**	225	**520.225**	**521.225**	387	**520.387**	**520.387**
125	**520.125**	**521.125**	250	**520.250**	**521.250**	450	**520.450**	**521.450**

E4/4HD | Series 5050HD·9850HD | Accessories

Interior separation | To allow faster filling



Note: Please be aware of the minimum lateral gap to the side links! **e-chain®: 16mm**
As standard separators are fitted every 2nd e-chain® link!



Lean separator	
unassembled	**80.12**
assembled	**80.12.1**

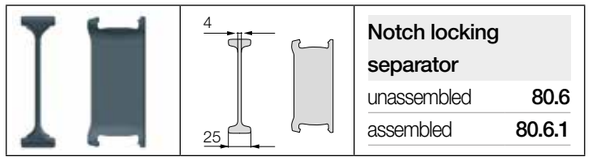
Lean separators New

New design allows extremely fast fitting of shelves in several layers, which significantly reduces assembly time. Enables extremely fast replacement of individual cables in a very full e-chain®.



Lean separator design - several layers of cables fitted quickly, save up to 50%* assembly time
(*Lean separator vs. standard separator - measured on a 4m long e-chain® fitted with 12 cables in the igus® readychain® factory)

More interior separation options



Notch locking separator	
unassembled	**80.6**
assembled	**80.6.1**

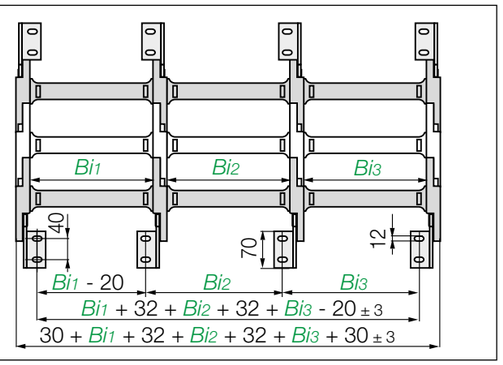
Notch locking separator for increased holding force

Notch locking separators offer higher crossbar opening forces for high humidity and/or large hydraulic hoses. They can be positioned precisely and then locked in position.

E4/4HD | Series 5050HD·9850HD | Further accessories

Extension links





Extension links | For extremely wide e-chains® up to 3.0m

- Virtually unlimited side-by-side attachment when high fill weights necessitate extremely wide e-chains® (up to 3,000mm)
- The unsupported length FL_G max. can be increased when high fill weights are required



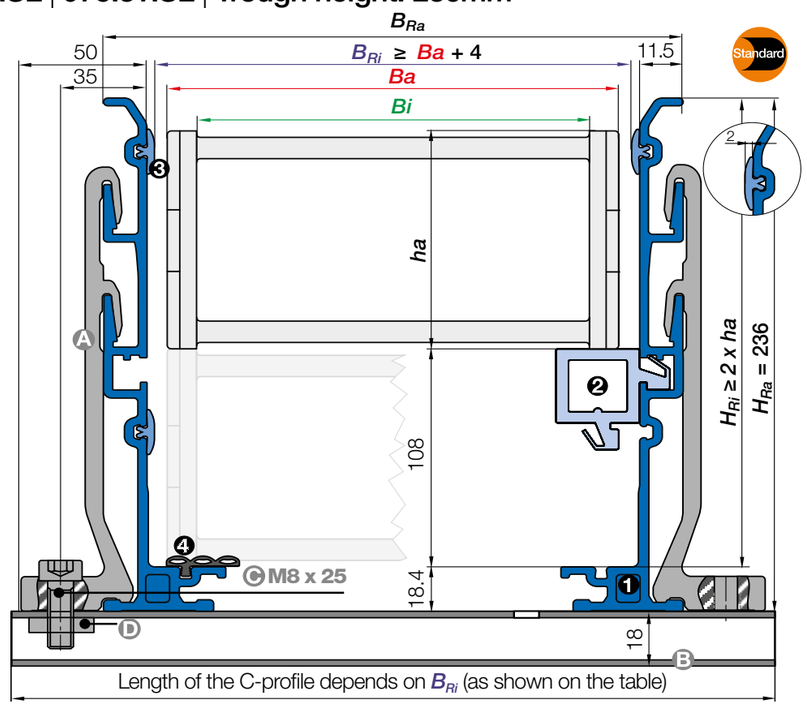
igus® e-chains® on a container crane. High loads and high speeds in difficult weather conditions

Aluminium SuperTrough | Heavy-duty version

Part No. 975.30.SL | 975.31.SL | Trough height: 236mm

Installation set heavy duty with C-Profile

Width index	B_{Ri} [mm]	Part No. installation set
.05	114	975.50.250
.06	129	975.50.250
.07	139	975.50.275
.08	151	975.50.275
.10	164	975.50.300
.11	176	975.50.300
.12	189	975.50.325
.13	201	975.50.325
.15	214	975.50.350
.16	226	975.50.350
.17	239	975.50.375
.18	251	975.50.375
.20	264	975.50.400
.21	276	975.50.400
.22	289	975.50.425
.23	301	975.50.425
.25	314	975.50.450
.26	326	975.50.450
.27	339	975.50.475
.28	351	975.50.475
.30	364	975.50.500
.31	376	975.50.500
.32	389	975.50.525
.33	401	975.50.525
.35	414	975.50.550
.36	426	975.50.550
.37	439	975.50.575
.38	451	975.50.575
.40	464	975.50.600
.41	476	975.50.600
.42	489	975.50.625
.43	501	975.50.625
.45	514	975.50.650
.46	526	975.50.650
.47	539	975.50.675
.48	551	975.50.675
.50.	564	975.50.700
.51	576	975.50.700
.52	589	975.50.725
.53	601	975.50.725
.55	614	975.50.750
.60	664	975.50.800

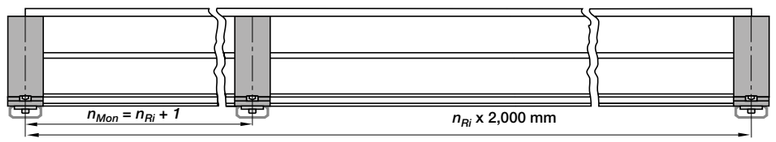


● **Trough set heavy duty:** ❶ Trough side parts, aluminium, 2m ❷ Glide bar, plastic, 2m ❸ Glide strips, plastic, 2m (without glide strips upon request) ❹ Optional: rubber silencer profile

● **Installation set heavy duty:** Ⓐ Bottom clamp, aluminium Ⓑ C-profile, galvanised steel, length ▶ Table Ⓒ Allen wrench M8 x 25 Ⓓ Glide nut M8

Order example: length of travel 30m - centre fixed for series 5050HD.30.300.0 with B_{Ri} = 364

Guide trough set (set of 2 trough side parts, incl. glide strips) **without** glide bars **Order text: 16m guide trough without glide bar (8 x 2m sections)**	975.30.SL
Guide trough set (set of 2 trough side parts, incl. glide strips) **with** glide bar **Order text: 16m guide trough with glide bar (8 x 2m sections)**	975.31.SL
Installation set complete **(quantity: guide trough sets + 1)** **Order text: 17 installation sets**	975.50.500
Option: for an additional noise dampening with **silencer profile**, please add Index **A**	975.30.SLA



Principle sketch: number of installation sets to be installed = number of trough sections + 1

● Trough set
● Installation set
● Glide bar
● C-profile

Ba = e-chain® outer width
Bi = e-chain® inner width
B_{Ri} = Trough inner width
B_{Ra} = Trough outer width

H_{Ri} = Trough inner height
H_{Ra} = Trough outer height
n_{Mon} = Number of installation sets
n_{Ri} = Number of trough sets

E4/4HD | My sketches

5050HD
9850HD

P4

Reduce energy consumption by up to 57% - with profile-rol e-chain®

Advantages of P4:

- Reduce energy consumption by up to 57% - P4 profile-rol e-chain system®
- Safe, low-noise, abrasion-resistant energy supply system for long travels
- Long travels up to 800m and more, high fill weights up to 30kg/m
- For very long travels and high travel speeds up to 10m/s
- Identical pitch of the e-chain® link with or without roller
- Extremely quiet - considerable reduction of operating noise
- autoglide crossbars for safe guidance
- P4 modular system with interior separation for the system E4.1

When to use another e-chain® series:

- For very high fill weights for long travels
  ► **E4/4HD heavy-duty, page 1092**
- When you want a strong rol e-chain® requiring 75% less drive power
  ► **E4/4 rol e-chain®, page 1142**
- When you want a self-guiding e-chain system® without any guide troughs
  ► **autoglide, page 1170**



Low vibration: offset operation of upper and lower run

Low maintenance: tribo-optimised plastic rollers

Low noise: special roller and e-chain® link design

Secure guidance: comb style auto glide crossbars

Tough: steel mounting brackets



Reduce energy consumption by up to 57% - P4 system, profile rol e-chain®

System P4 - safe, low-noise, abrasion-resistant energy supply system for long travels up to 800m and more. With the low-maintenance igus® system P4, a secure energy supply system can be implemented on long travels up to 800m for cranes or conveyor systems. The upper run and lower run roll staggered on each other. In this way the tribo-optimised plastic rollers don't impact on each other, but roll on a continuous, wide rolling surface. The P4 profile-rol e-chain® is safely guided by the comb-shaped autoglide crossbars and the special trough system. Systems of this type should be designed in conjunction with our engineering team.

- Long travels up to 800m and more, high fill weights up to 30kg/m
- For very long travels and high travel speeds up to 10m/s
- Identical pitch of the e-chain® link with or without roller
- Extremely quiet - considerable reduction of operating noise
- Integrated captive roller in the side part
- autoglide crossbars for a safe guidance
- Large modular P4 system with interior separation for the system E4

Typical industries and applications

● Crane equipment ● Automated storage and retrieval systems ● Plant construction ● Gantry robots ● Material handling

iF product design award 2007 for igus® System P4

Find a video online
▶ www.igus.eu/P4_Film

Series	Inner height *hi* [mm]	Inner width *Bi* [mm]	Outer width *Ba* [mm]	Outer height *ha* [mm]	Bend radius *R* [mm]	Travel ≤ [m]	Page
P4.32	32	100 - 250	132 - 282	54	150 - 250	500	**1118**
P4.42	42	100 - 200	154 - 254	64	100 - 350	600	**1124**
P4.56	56	187 - 400	257 - 470	84	250 - 350	800	**1130**
P4.80	80	187 - 400	263 - 476	108	250 - 350	800	**1136**



Profile rol e-chain®
safe, low-noise, abrasion-resistant for long travels

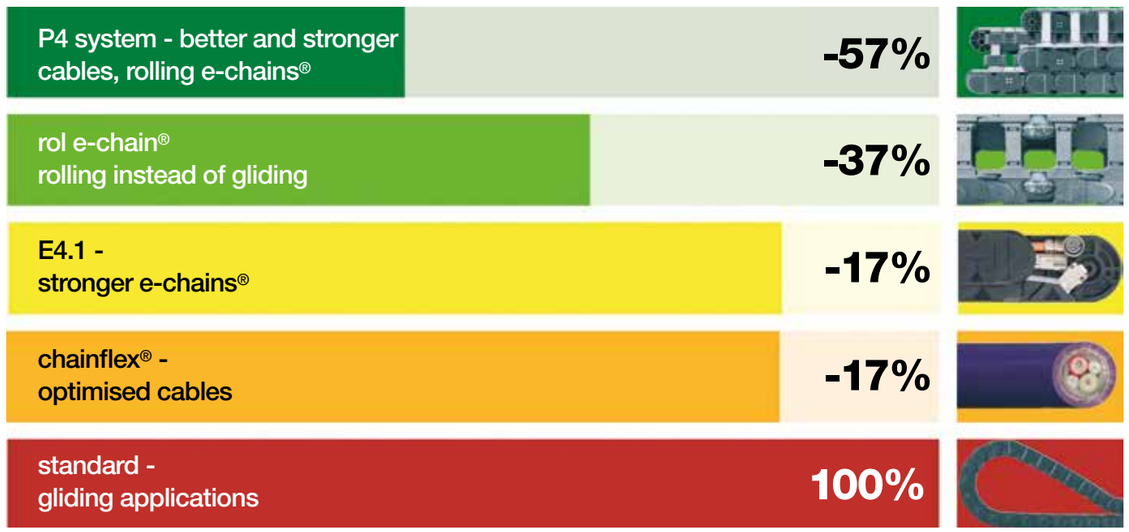
Available from stock. Ready to ship in 24 - 48hrs.*

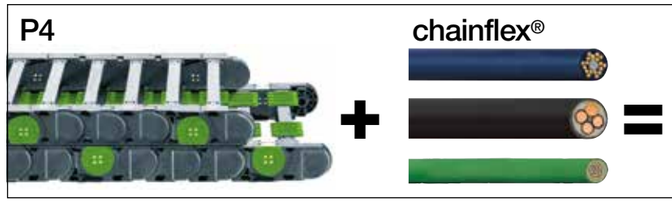
*The delivery times indicated correspond to the average time until the ordered goods are dispatched.

Energy efficient e-chains® and cables reduce energy consumption by 57%

Thanks to the right materials and the ingenious design, the energy consumption of machines and equipment can be significantly reduced, as shown by tests and sample calculations carried out in the igus® test laboratory for e-chains® and cables. The latest e-chains® and chainflex® cables from igus® reduce the drive power needed and increase the service life of the application.

P4 system - better and stronger cables, rolling e-chains®	-57%
rol e-chain® rolling instead of gliding	-37%
E4.1 - stronger e-chains®	-17%
chainflex® - optimised cables	-17%
standard - gliding applications	100%

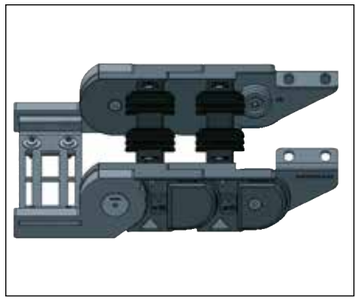




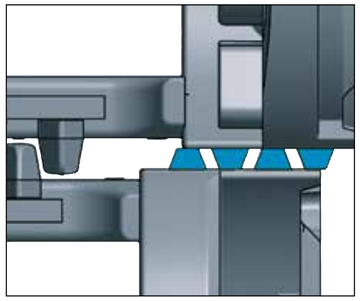
-57%
less energy consumption
Calculation examples online
▶ www.igus.eu/energy_efficiency



Optimised interior separation products, cables last up to 4 times longer



Robust igus® pivoting mounting brackets



Offset operation of upper and lower run, resulting in continuous rolling surface



- Extension link for heavy fill weights
- Available in 2 inner heights (56, 80mm)
- 50% higher fill weight possible
- High rigidity
- Divides the e-chain® cross section into compartments (electric/hydraulic)



- Tribo-optimised plastic rollers for all igus® P4 systems
- Wear optimised
- Long service life
- Improved rolling
- Noise-reducing, vibration damping
- Same size of rolling and standard e-chain® links



- Aluminium guide trough system
- Special geometry combined with autoglide crossbars enables offsetting of the upper and lower runs
- Robust mounting bracket for long service life
- Corrosion-resistant

Less friction, twice the service life - the new generation P4.1 system

Twice the service life due to tribo-optimised iglidur® bearings

- Predictive maintenance with optional intelligent service life monitoring
- Travel distance up to 800m and speed higher than 5m/s

More information ▶ www.igus.eu/P4-1





Targeted maintenance and smart monitoring with P4.1 - New

- Online status and service life monitoring worldwide with the optional EC.I "smart wear measurement"
- Targeted planning of maintenance and servicing
- Optional module, can also be retrofitted
- Combination of igus® lab data and anonymised customer data
- Use of advanced machine learning strategies

More information ▶ www.igus.eu/P4-1

Technical data

Speed gliding	**≤ 10 [m/s]**
Acceleration gliding	**≤ 50 [m/s²]**
Material - permitted temperature °C, igumid G	**-40°C / +120°C**
Flammability class, igumid G	**VDE 0304 IIC UL94-HB**

Order example | Order key

Order example for complete e-chain® (1.0m), colour black, with mounting brackets and interior separation:

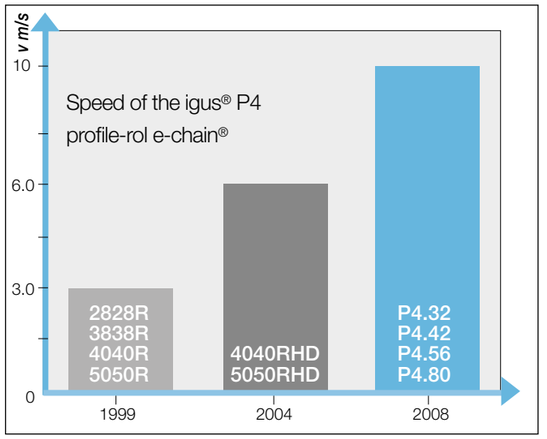
e-chain® (1.0m)	Please indicate e-chain® length or number of links: 1.0m or 11 links	**P4.56.30.300.0**
+ Mounting brackets	1 full set, steel	**P4.56100.54.VS.E45**
Interior separation	with 2 separators assembled every 2nd link	**2 x 56.1.1**
Order text:	**1 m P4.56.30.300.0 + P4.56100.54.VS.E45 + 2 x 56.1.1**	

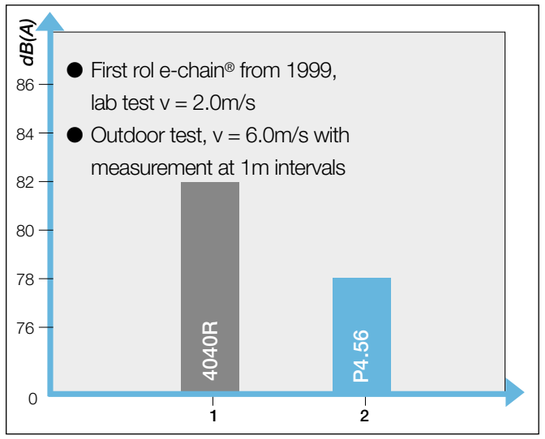
Order key

P4.56.30.300.0

- Default colour black
- Bend radius *R*
- Width index
- Inner height
- Series / Type

System P4 | profile-rol e-chain® Tests





System P4 | Series P4.32 | Product range

Profile-rol e-chain® with comb style autoglide crossbars

32



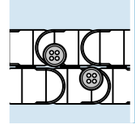
e-chains® | Series P4.32 | Crossbar every link (crossbars removable along the inner and outer radius)

Part No.	*Bi*	*Ba*	*R* Available bend radii	P4.32
e-chains®	[mm]	[mm]	[mm]	[kg/m]
P4.32.10.*R*.0	100	132	| 075* | 100* | 125* | 150 | 200 | 250 | 300* |	≈ 2.71
P4.32.15.*R*.0	150	182	| 075* | 100* | 125* | 150 | 200 | 250 | 300* |	≈ 3.04
P4.32.20.*R*.0	200	232	| 075* | 100* | 125* | 150 | 200 | 250 | 300* |	≈ 3.34
P4.32.25.*R*.0	250	282	| 075* | 100* | 125* | 150 | 200 | 250 | 300* |	≈ 3.66

*Radius available upon request. Please consult igus® for delivery time.

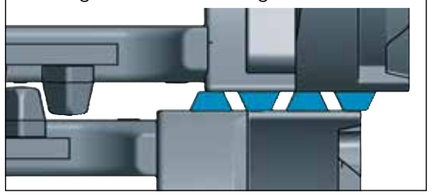
Complete Part No. with required radius (*R*). Example: **P4.32.15.150.0**

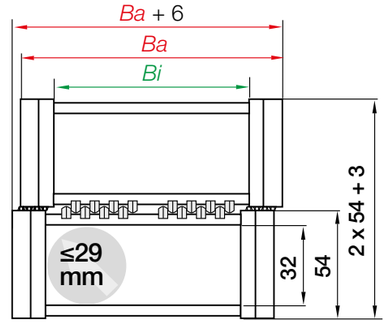
System P4 | Series P4.32 | Installation dimensions

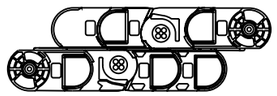


System P4 mechanism

Offset operation of upper and lower run, resulting in continuous rolling surface

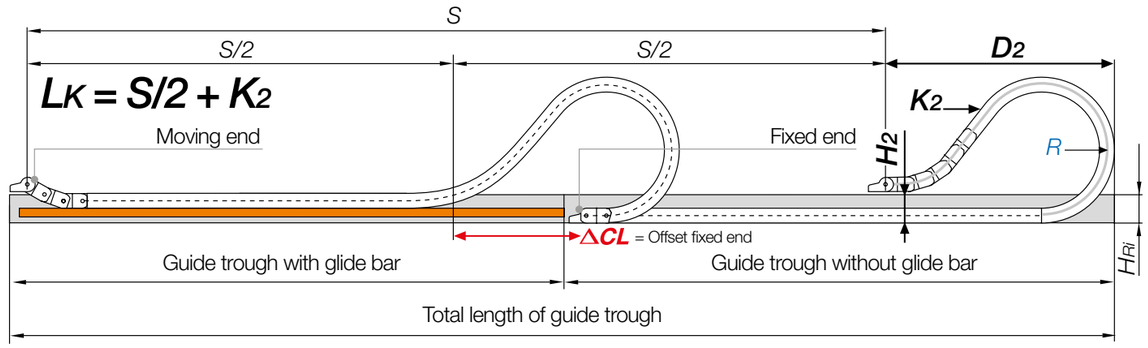






Inner height [mm]	32
Pitch [mm/link]	56
Links/m	18
corresponds to [mm]	1,008
e-chain® length	$L_K = S/2 + K$

Rolling applications | Long travels up to max. 500m | Fill weight 6.0kg/m



Note: We recommend the project planning of such a system to be carried out by igus®.
In case of travels under 10m we recommend an unsupported e-chain®.

R	075*	100*	125*	150	200	250	300*
H_2	125	125	125	125	125	125	125
D_2	425	500	635	760	1,015	1,400	1,625
K_2	728	840	1,064	1,232	1,624	2,072	2,464
ΔCL	100	150	263	376	596	835	1,054

*Radius available upon request. Please consult igus® for delivery time.

System P4 - aluminium guide trough system
- Special geometry combined with autoglide crossbars enables offsetting of the upper and lower runs
- Robust mounting bracket for long service life
- Aluminium trough segments, corrosion-resistant

More information ▶ Page 1122

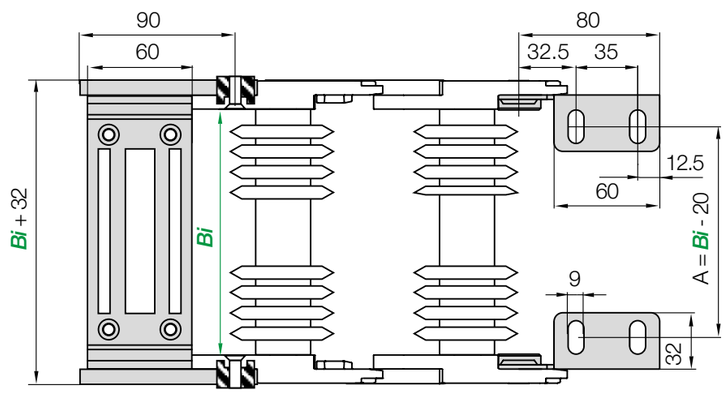


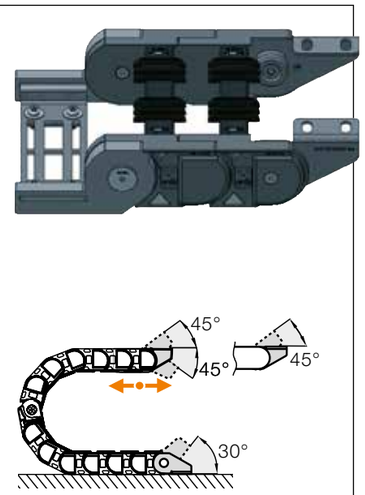
System P4 | Series P4.32 | Accessories

Steel mounting brackets | Pivoting

Fixed end
plastic
P4.32100.5.VS.E45

Moving end
steel
P4.32100.4.VS.E45





Mounting brackets pivoting | Recommended for rolling applications on long travels

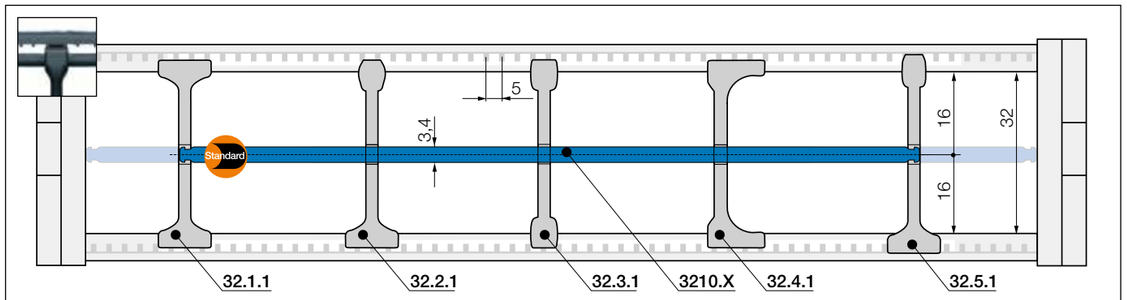
Width index	Part No. full set for **fixed end / moving end**	A [mm]	*Bi* [mm]
10. ▶	**P4.32100.54.10.VS.E45**	80	100
15. ▶	**P4.32100.54.15.VS.E45**	130	150
20. ▶	**P4.32100.54.20.VS.E45**	180	200
25. ▶	**P4.32100.54.25.VS.E45**	230	250

Note: The mounting brackets for P4 e-chains® consist of a steel mounting bracket at the moving end and a polymer mounting bracket at the fixed end. This ensures that the rollers move over a plain surface at the fixed end. There is a fixed end module integrated that can be clamped directly into the trough without drilling any holes. No additional holes have to be drilled.

Strain relief e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with ordering options ▶ From page 1300

Interior separation | Increase cable service life

More interior separation options ▶ **next page**



No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-chain® link!



Standard separator, wide base
unassembled **32.1**
assembled **32.1.1**

Standard - for any application

Separator with a wide base for maximum holding force in the e-chain®.



Separator, narrow top
unassembled **32.2**
assembled **32.2.1**

For even faster installation

Wide on one side for high holding force, narrow on opposite side for easy cable fitting.



Separator, narrow
unassembled **32.3**
assembled **32.3.1**

For small cables

Separator with a narrow base for a large number of small cables side by side. Saves space in the e-chain®. Also available for QuickLock crossbars.



Separator, asymmetrical
unassembled **32.4**
assembled **32.4.1**

For side-mounted applications

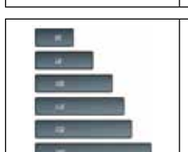
Asymmetrical separator, for defined gap distance. No additional spacers required.



Notch separator for notched crossbar
unassembled **32.5**
assembled **32.5.1**

Locks securely in preset increments

Notch separator for exact positioning in e-chains®. Recommended for side-mounted applications.



Shelf, lockable
unassembled **3200.X**
assembled **3210.X**

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Shelves
Width = X [mm]



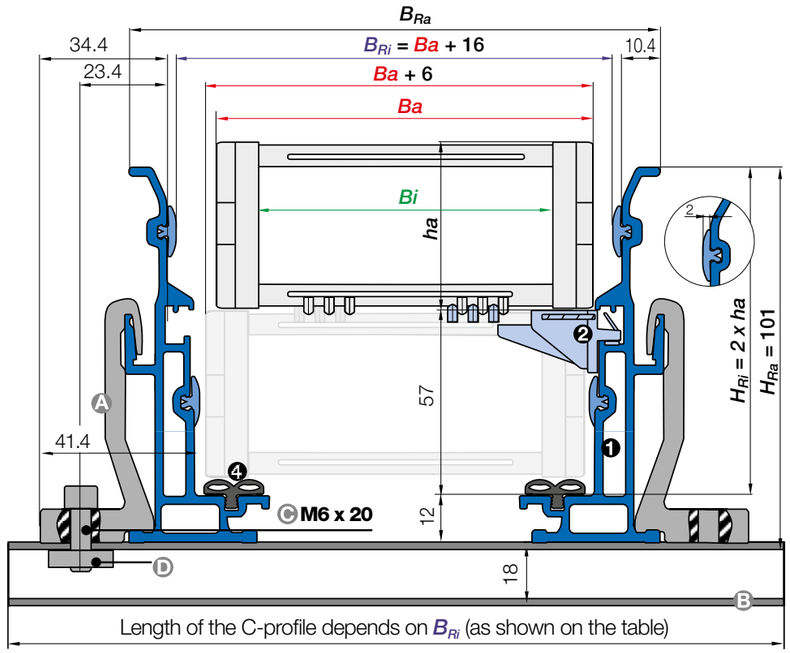
X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
050	**3200.050**	**3210.050**	125	**3200.125**	**3210.125**	225	**3200.225**	**3210.225**
075	**3200.075**	**3210.075**	150	**3200.150**	**3210.150**	250	**3200.250**	**3210.250**
100	**3200.100**	**3210.100**	175	**3200.175**	**3210.175**			
115	**3200.115**	**3210.115**	200	**3200.200**	**3210.200**			

Aluminium SuperTrough | P4.32 | Accessories New

Part No. P972.30.SL | P975.31.*Bi*.SL | Trough height: 101mm

Part No. installation set with C-profile

Width index	B_{Ri} [mm]	Part No. installation set
.10	148	971.50.250
.15	198	971.50.300
.20	248	971.50.350
.25	298	971.50.400

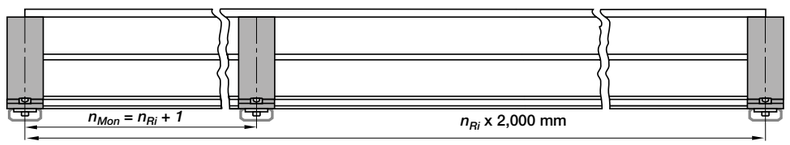


● **Trough set:** ❶ Trough side parts, aluminium, 2m ❷ Glide bar, plastic, 2m ❸ Glide strips, plastic, 2m (without glide strips upon request) ❹ Optional: rubber silencer profile

● **Installation set:** Ⓐ Bottom clamp, aluminium Ⓑ C-profile, galvanised steel, length ▶ Table Ⓒ Allen wrench M6 x 20 Ⓓ Glide nut M6

Order example: length of travel 30m - centre fixed for series P4.32.10.150.0 with B_{Ri} = 148

Guide trough set (set of 2 trough side parts, incl. glide strips) **without** glide bars **Order text: 16m guide trough without glide bar (8 x 2m sections)**	P972.30.SL
Guide trough set (set of 2 trough side parts, incl. glide strips) **with** glide bar **Order text: 16m guide trough with glide bar (8 x 2m sections)**	P972.31.*Bi*.SL
Installation set complete **(quantity: guide trough sets + 1)** **Order text: 17 installation sets**	971.50.250
Option: for an additional noise dampening with **silencer profile**, please add Index **A**	P972.30.SL.A



Principle sketch: number of installation sets to be installed = number of trough sections + 1

● Trough set
● Installation set
● Glide bar
● C-profile

Ba = e-chain® outer width
Bi = e-chain® inner width
B_{Ri} = Trough inner width
B_{Ra} = Trough outer width
H_{Ri} = Trough inner height
H_{Ra} = Trough outer height
n_{Mon} = Number of installation sets
n_{Ri} = Number of trough sets



igus® P4 rol e-chain® in matching aluminium guide trough. High speeds, longest travels, smooth running - giving longest lifetime

System P4 | Series P4.42 | Product range

Profile-rol e-chain® with comb style autoglide crossbars

42



e-chains® | Series P4.42 | Crossbars every link (crossbars removable along the inner and outer radius)

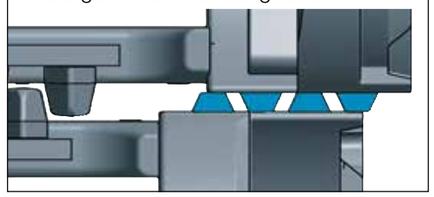
Part No.	*Bi*	*Ba*	*R* Available bend radii	P4.42
e-chains®	[mm]	[mm]	[mm]	[kg/m]
P4.42.10.*R*.0	100	154	| 100 | 125 | 150 | 200 | 250 | 300 | 350 |	≈ 3.95
P4.42.15.*R*.0	150	202	| 100 | 125 | 150 | 200 | 250 | 300 | 350 |	≈ 4.22
P4.42.20.*R*.0	200	254	| 100 | 125 | 150 | 200 | 250 | 300 | 350 |	≈ 4.47

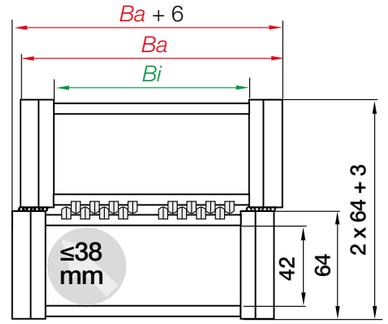
Complete Part No. with required radius (*R*). Example: **P4.42.15.150.0**

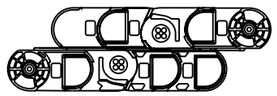
System P4 | Series P4.42 | Installation dimensions

System P4 mechanism

Offset operation of upper and lower run, resulting in continuous rolling surface

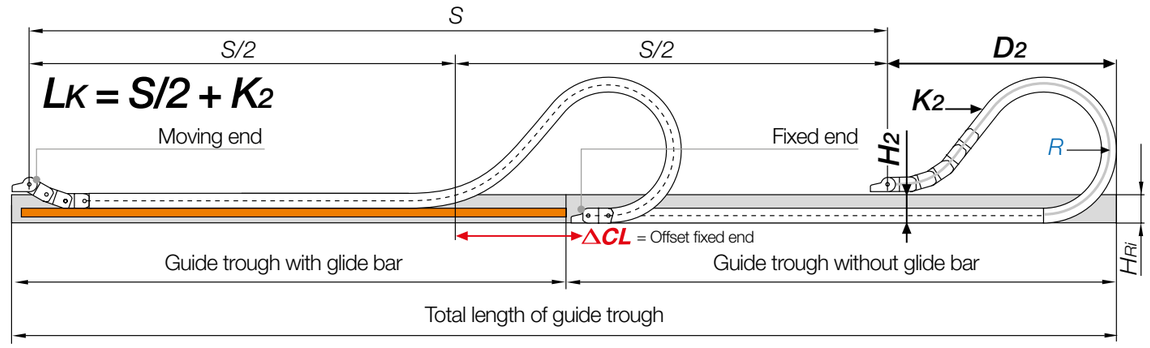






Inner height [mm]	42
Pitch [mm/link]	67
Links/m	15
corresponds to [mm]	1,005
e-chain® length	$L_K = S/2 + K$

Rolling applications | Long travels up to max. 600m | Fill weight 7.0kg/m



Note: We recommend the project planning of such a system to be carried out by igus®.
In case of travels under 10m we recommend an unsupported e-chain®.

R	100	125	150	200	250	300	350
H_2	140	140	140	140	140	140	140
D_2	520	785	940	1,280	1,620	1,960	2,265
K_2	930	1,206	1,407	1,876	2,345	2,814	3,216
ΔCL	195	335	470	765	1045	1,330	1,615

System P4 - aluminium guide trough system

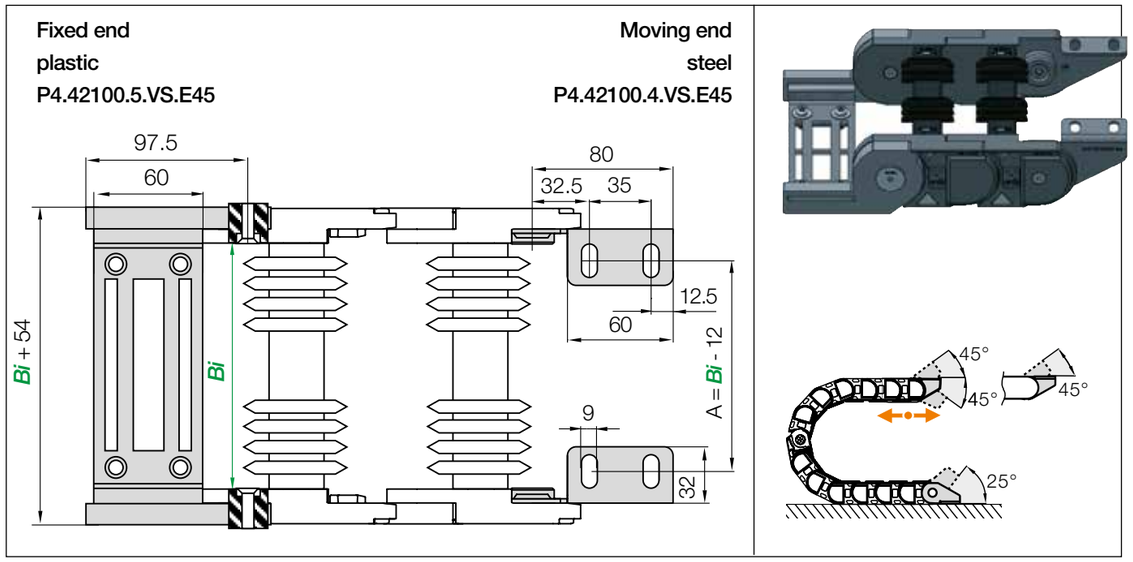
- Special geometry combined with autoglide crossbars enables offsetting of the upper and lower runs
- Robust mounting bracket for long service life
- Aluminium trough segments, corrosion-resistant

More information ▶ Page 1129



System P4 | Series P4.42 | Accessories

Steel mounting brackets | Pivoting



Mounting brackets pivoting | Recommended for rolling applications on long travels

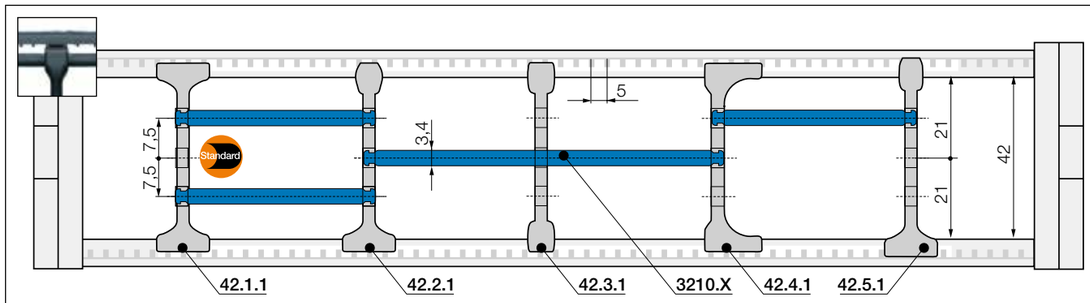
Width index	Part No. full set for **fixed end / moving end**	A [mm]	*Bi* [mm]
10. ▶	**P4.42100.54.10.VS.E45**	80	100
15. ▶	**P4.42100.54.15.VS.E45**	130	150
20. ▶	**P4.42100.54.20.VS.E45**	180	200

Note: The mounting brackets for P4 e-chains® consist of a steel mounting bracket at the moving end and a polymer mounting bracket at the fixed end. This ensures that the rollers move over a plain surface at the fixed end. There is a fixed end module integrated that can be clamped directly into the trough without drilling any holes. No additional holes have to be drilled.

Strain relief **e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with ordering options ▶ From page 1300**

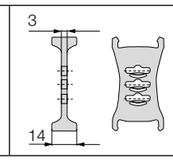
Interior separation | Increase cable service life

More interior separation options ▶ **next page**



No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-chain® link!



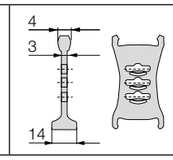


Standard separator, wide base
unassembled **42.1**
assembled **42.1.1**

Standard - for any application

Separator with a wide base for maximum holding force in the e-chain®.



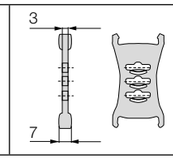


Separator, narrow top
unassembled **42.2**
assembled **42.2.1**

For even faster installation

Wide on one side for high holding force, narrow on opposite side for easy cable fitting.



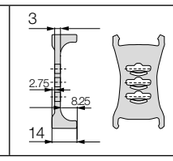


Separator, narrow
unassembled **42.3**
assembled **42.3.1**

For small cables

Separator with a narrow base for a large number of small cables side by side. Saves space in the e-chain®. Also available for QuickLock crossbars.



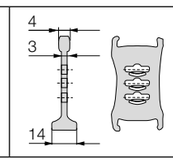


Separator, asymmetrical
unassembled **42.4**
assembled **42.4.1**

For side-mounted applications

Asymmetrical separator, for defined gap distance. No additional spacers required.

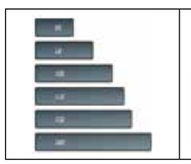


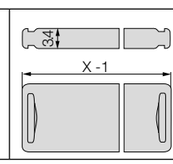


Notch separator for notched crossbar
unassembled **42.5**
assembled **42.5.1**

Locks securely in preset increments

Notch separator for exact positioning in e-chains®. Recommended for side-mounted applications.





Shelf, lockable
unassembled **3200.X**
assembled **3210.X**

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Shelves

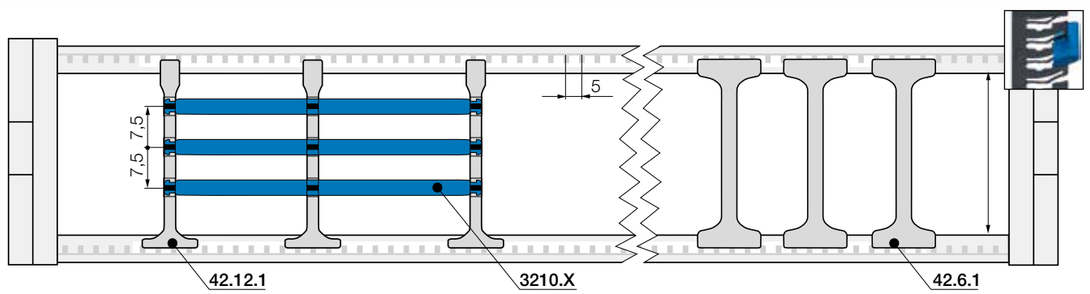
Width = X [mm]



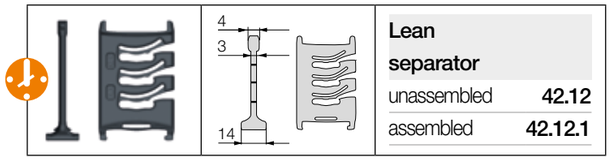
X [mm]	unassembled	assembled	**X** [mm]	unassembled	assembled	**X** [mm]	unassembled	assembled
050	**3200.050**	**3210.050**	125	**3200.125**	**3210.125**	225	**3200.225**	**3210.225**
075	**3200.075**	**3210.075**	150	**3200.150**	**3210.150**	250	**3200.250**	**3210.250**
100	**3200.100**	**3210.100**	175	**3200.175**	**3210.175**			
115	**3200.115**	**3210.115**	200	**3200.200**	**3210.200**			

System P4 | Series P4.42 | Accessories

Interior separation | To allow faster filling



No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-chain® link!



Lean separator	
unassembled	42.12
assembled	42.12.1

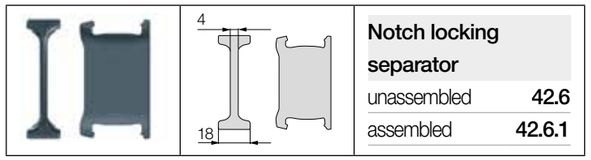
Lean separators New

New design allows extremely fast fitting of shelves in several layers, which significantly reduces assembly time. Enables extremely fast replacement of individual cables in a very full e-chain®.

Lean separator design - several layers of cables fitted quickly, save up to 50%* assembly time
(*Lean separator vs. standard separator - measured on a 4m long e-chain® fitted with 12 cables in the igus® readychain® factory)



More interior separation options



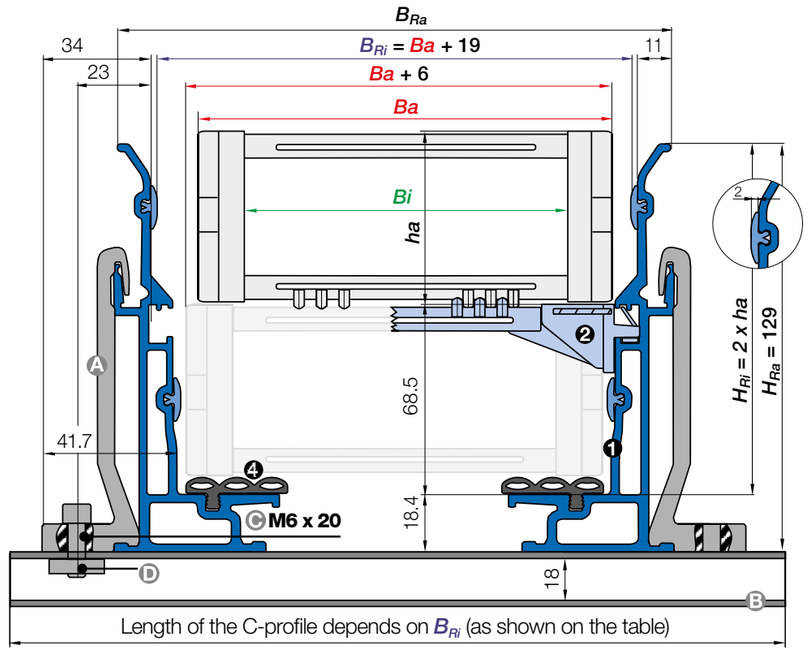
Notch locking separator	
unassembled	42.6
assembled	42.6.1

Notch locking separator for increased holding force

Notch locking separators offer higher crossbar opening forces for high humidity and/or large hydraulic hoses. They can be positioned precisely and then locked in position.

Aluminium SuperTrough | P4.42 | Accessories New

Part No. P973.30.SL | P973.31.*Bi*.SL | Trough height: 129mm



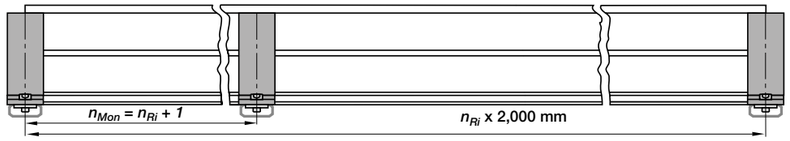
Part No. installation set with C-profile

Width index	B_{Ri} [mm]	Part No. installation set
.10	173	972.50.300
.15	221	972.50.350
.20	273	972.50.400

● **Trough set:** ❶ Trough side parts, aluminium, 2m ❷ Glide bar, plastic, 2m ❸ Glide strips, plastic, 2m (without glide strips upon request) ❹ Optional: rubber silencer profile
● **Installation set:** Ⓐ Bottom clamp, aluminium Ⓑ C-profile, galvanised steel, length ▶ Table Ⓒ Allen wrench M6 x 20 Ⓓ Glide nut M6

Order example: length of travel 30m - centre fixed for series P4.42.10.100.0 with B_{Ri} = 173

Guide trough set (set of 2 trough side parts, incl. glide strips) **without** glide bars **Order text: 16m guide trough without glide bar (8 x 2m sections)**	P973.30.SL
Guide trough set (set of 2 trough side parts, incl. glide strips) **with** glide bar **Order text: 16m guide trough with glide bar (8 x 2m sections)**	P973.31.*Bi*.SL
Installation set complete **(quantity: guide trough sets + 1)** **Order text: 17 installation sets**	972.50.300
Option: for an additional noise dampening with **silencer profile**, please add Index **A**	P973.30.SL.A



Principle sketch: number of installation sets to be installed = number of trough sections + 1

● Trough set
● Installation set
● Glide bar
● C-profile

Ba = e-chain® outer width
Bi = e-chain® inner width
B_{Ri} = Trough inner width
B_{Ra} = Trough outer width

H_{Ri} = Trough inner height
H_{Ra} = Trough outer height
n_{Mon} = Number of installation sets
n_{Ri} = Number of trough sets

System P4 | Series P4.56 | Product range

Profile-rol e-chain® with comb style autoglide crossbars

56



e-chains® | Series P4.56 | Crossbars every link (crossbars removable along the inner and outer radius)

Part No.	*Bi*	*Ba*	*R* Available bend radii	P4.56
e-chains®	[mm]	[mm]	[mm]	[kg/m]
P4.56.18.*R*.0	187	257	| 150* | 200 | 250 | 300 | 350 | 400* | 450* | 500* |	≈ 6.72
P4.56.20.*R*.0	200	270	| 150* | 200 | 250 | 300 | 350 | 400* | 450* | 500* |	≈ 7.03
P4.56.25.*R*.0	250	320	| 150* | 200 | 250 | 300 | 350 | 400* | 450* | 500* |	≈ 7.39
P4.56.30.*R*.0	300	370	| 150* | 200 | 250 | 300 | 350 | 400* | 450* | 500* |	≈ 7.79
P4.56.35.*R*.0	350	420	| 150* | 200 | 250 | 300 | 350 | 400* | 450* | 500* |	≈ 8.19
P4.56.40.*R*.0	400	470	| 150* | 200 | 250 | 300 | 350 | 400* | 450* | 500* |	≈ 8.49

*Radius available upon request. Please consult igus® for delivery time.

Complete Part No. with required radius (*R*). Example: **P4.56.20.250.0**

Extension link for heavy fill weights

- 50% higher fill weight possible
- High rigidity
- Divides the e-chain® cross section into compartments (electric/hydraulic)
- 2 inner heights (56, 80mm) available upon request

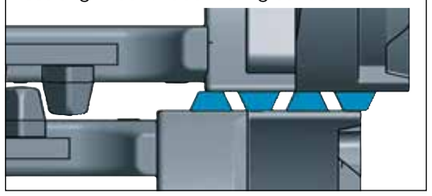
More information ▶ www.igus.eu/P4

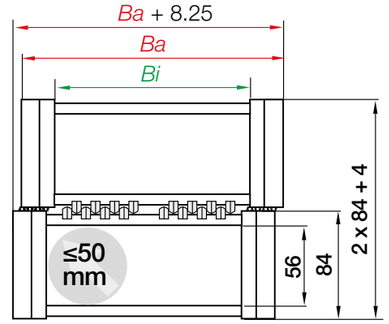


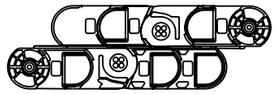
System P4 | Series P4.56 | Installation dimensions

System P4 mechanism

Offset operation of upper and lower run, resulting in continuous rolling surface

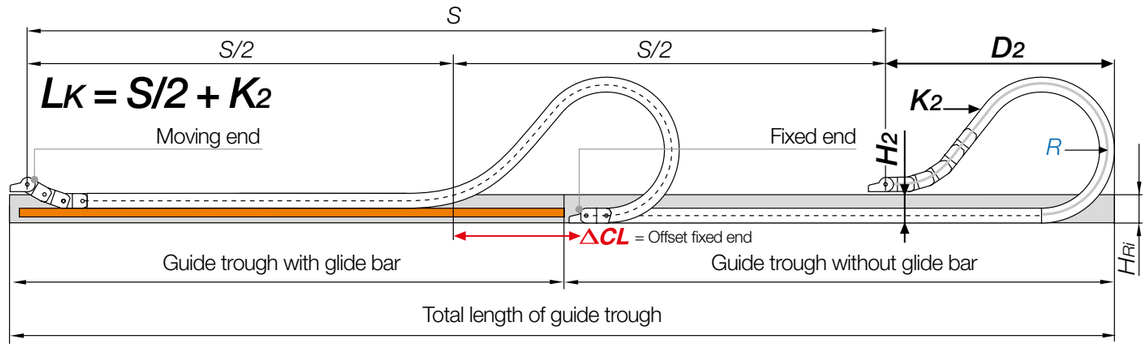






Inner height [mm]	56
Pitch [mm/link]	91
Links/m	11
corresponds to [mm]	1,001
e-chain® length	$L_K = S/2 + K$

Rolling applications | Long travels up to max. 800m | Fill weight 13kg/m



Note: We recommend the project planning of such a system to be carried out by igus®.

In case of travels under 10m we recommend an unsupported e-chain®.

R	150*	200	250	300	350	400*	450*	500*
H_2	**	180	180	180	180	180	**	**
D_2	**	1,140	1,470	1,700	1,950	2,255	**	**
K_2	**	1,820	2,275	2,639	3,003	3,458	**	**
ΔCL	**	550	800	1,000	1,200	1,450	**	**

*Radius available upon request. *Radius available upon request, please consult igus® for delivery time. **Values upon request

System P4 - aluminium guide trough system

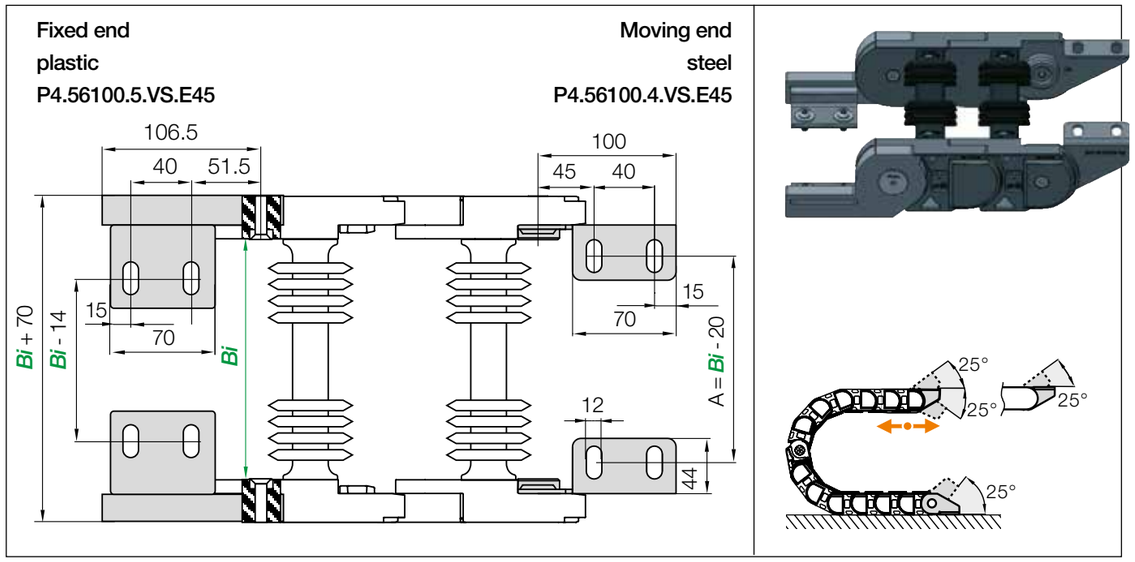
- Special geometry combined with autoglide crossbars enables offsetting of the upper and lower runs
- Robust mounting bracket for long service life
- Aluminium trough segments, corrosion-resistant

More information ▶ Page 1135



System P4 | Series P4.56 | Accessories

Steel mounting brackets | Pivoting



Mounting brackets pivoting | Recommended for rolling applications on long travels

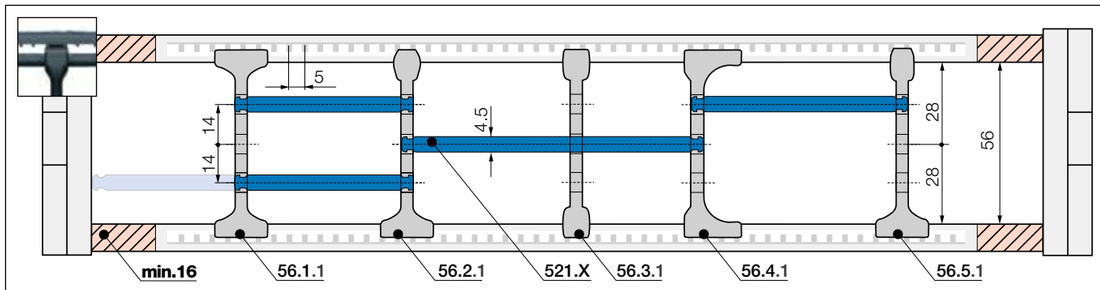
Width index	Part No. full set for **fixed end / moving end**	A [mm]	*Bi* [mm]
18. ▶	**P4.56100.54.VS.E45**	160	180
20. ▶	**P4.56100.54.VS.E45**	180	200
25. ▶	**P4.56100.54.VS.E45**	230	250
30. ▶	**P4.56100.54.VS.E45**	280	300
35. ▶	**P4.56100.54.VS.E45**	330	350
40. ▶	**P4.56100.54.VS.E45**	380	400

Note: The mounting brackets for P4 e-chains® consist of a steel mounting bracket at the moving end and a polymer mounting bracket at the fixed end. This ensures that the rollers move over a plain surface at the fixed end. There is a fixed end module integrated that can be clamped directly into the trough without drilling any holes. No additional holes have to be drilled.

Strain relief **e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with ordering options ▶ From page 1300**

Interior separation | Increase cable service life

More interior separation options ▶ **next page**



Note: Please be aware of the minimum lateral gap to the side links! **e-chain®: 16mm**
As standard separators are fitted every 2nd e-chain® link!



Standard separator, wide base
unassembled **56.1**
assembled **56.1.1**

Standard - for any application

Separator with a wide base for maximum holding force in the e-chain®.



Separator, narrow top
unassembled **56.2**
assembled **56.2.1**

For even faster installation

Wide on one side for high holding force, narrow on opposite side for easy cable fitting.



Separator, narrow
unassembled **56.3**
assembled **56.3.1**

For small cables

Separator with a narrow base for a large number of small cables side by side. Saves space in the e-chain®.



Separator, asymmetrical
unassembled **56.4**
assembled **56.4.1**

For side-mounted applications

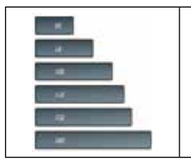
Asymmetrical separator, for defined gap distance. No additional spacers required.



Notch separator for notched crossbar
unassembled **56.5**
assembled **56.5.1**

Locks securely in preset increments

Notch separator for exact positioning in e-chains®. Recommended for side-mounted applications.



Shelf, lockable
unassembled **520.X**
assembled **521.X**

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Shelves

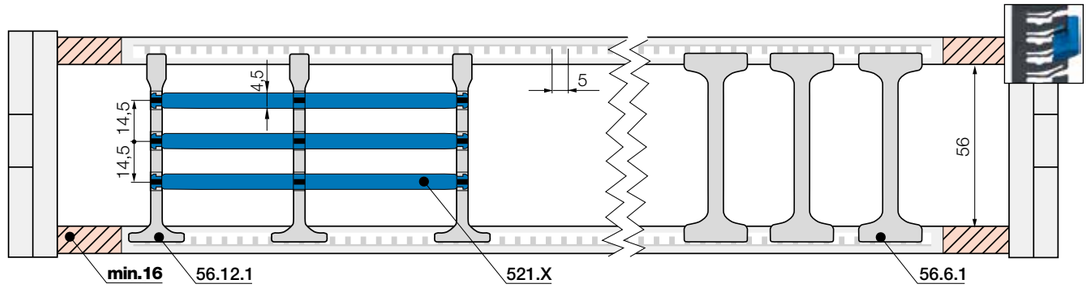
Width = X [mm]



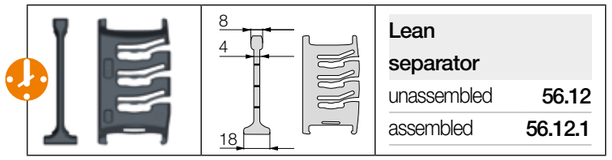
X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
050	**520.050**	**521.050**	150	**520.150**	**521.150**	300	**520.300**	**521.300**
065	**520.065**	**521.065**	175	**520.175**	**521.175**	350	**520.350**	**521.350**
075	**520.075**	**521.075**	200	**520.200**	**521.200**	375	**520.375**	**520.375**
100	**520.100**	**521.100**	225	**520.225**	**521.225**	387	**520.387**	**520.387**
125	**520.125**	**521.125**	250	**520.250**	**521.250**	450	**520.450**	**521.450**

System P4 | Series P4.56 | Accessories

Interior separation | To allow faster filling



Note: Please be aware of the minimum lateral gap to the side links! **e-chain®: 16mm**
As standard separators are fitted every 2nd e-chain® link!



Lean separator	
unassembled	**56.12**
assembled	**56.12.1**

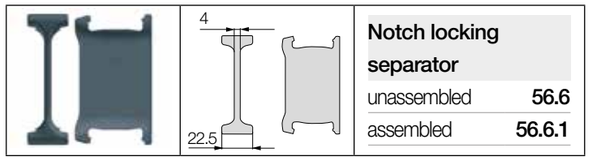
Lean separators New

New design allows extremely fast fitting of shelves in several layers, which significantly reduces assembly time. Enables extremely fast replacement of individual cables in a very full e-chain®.

Lean separator design - several layers of cables fitted quickly, save up to 50%* assembly time
(*Lean separator vs. standard separator - measured on a 4m long e-chain® fitted with 12 cables in the igus® readychain® factory)



More interior separation options



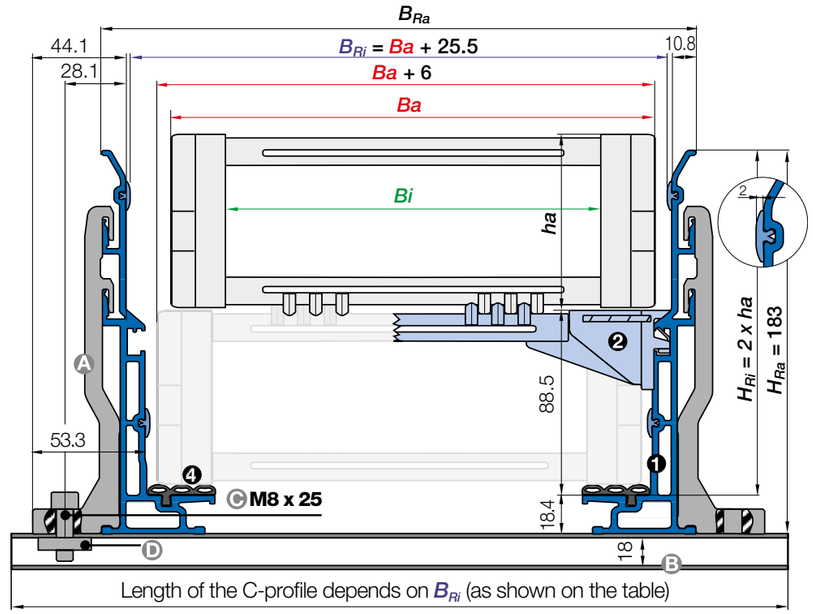
Notch locking separator	
unassembled	**56.6**
assembled	**56.6.1**

Notch locking separator for increased holding force

Notch locking separators offer higher crossbar opening forces for high humidity and/or large hydraulic hoses. They can be positioned precisely and then locked in position.

Aluminium SuperTrough | P4.56 | Accessories New

Part No. P974.30.SL | P974.31.*Bi*.SL | Trough height: 183mm



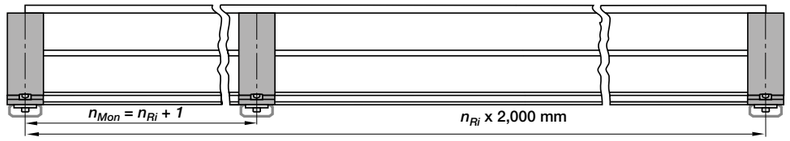
Part No. installation set with C-profile

Width index	B_{Ri} [mm]	Part No. installation set
.18	282.5	**974.50.425**
.20	295.5	**974.50.425**
.25	345.5	**974.50.475**
.30	395.5	**974.50.525**
.35	445.5	**974.50.575**
.40	495.5	**974.50.625**

● **Trough set:** ❶ Trough side parts, aluminium, 2m ❷ Glide bar, plastic, 2m ❸ Glide strips, plastic, 2m (without glide strips upon request) ❹ Optional: rubber silencer profile
● **Installation set:** Ⓐ Bottom clamp, aluminium Ⓑ C-profile, galvanised steel, length ▶ Table Ⓒ Allen wrench M8 x 25 Ⓓ Glide nut M8

Order example: length of travel 30m - centre fixed for series P4.56.20.200.0 with B_{Ri} = 295.5

Guide trough set (set of 2 trough side parts, incl. glide strips) **without** glide bars **Order text: 16m guide trough without glide bar (8 x 2m sections)**	**P974.30.SL**
Guide trough set (set of 2 trough side parts, incl. glide strips) **with** glide bar **Order text: 16m guide trough with glide bar (8 x 2m sections)**	**P974.31.*Bi*.SL**
Installation set complete **(quantity: guide trough sets + 1)** **Order text: 17 installation sets**	**974.50.425**
Option: for an additional noise dampening with **silencer profile**, please add Index **A**	**P974.30.SL.A**



Principle sketch: number of installation sets to be installed = number of trough sections + 1

● Trough set
● Installation set
● Glide bar
● C-profile

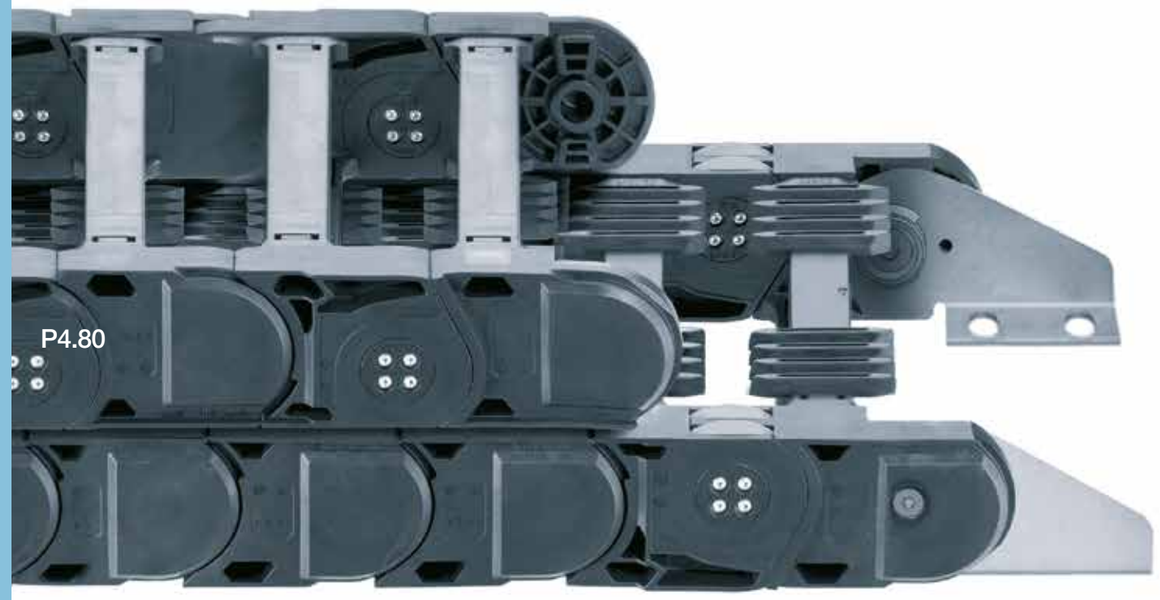
Ba = e-chain® outer width
Bi = e-chain® inner width
B_{Ri} = Trough inner width
B_{Ra} = Trough outer width

H_{Ri} = Trough inner height
H_{Ra} = Trough outer height
n_{Mon} = Number of installation sets
n_{Ri} = Number of trough sets

System P4 | Series P4.80 | Product range

Profile-rol e-chain® with comb style autoglide crossbars

80



e-chain® | Series P4.80 | Crossbars every link (removable along the inner and outer radius)

Part No.	Bi	Ba	R Available bend radii	P4.80
e-chains®	[mm]	[mm]	[mm]	[kg/m]
P4.80.18.R.0	187	263	| 150* | 200* | 250 | 300 | 350 | 400* | 450* | 500 |	≈ 8.85
P4.80.20.R.0	200	276	| 150* | 200* | 250 | 300 | 350 | 400* | 450* | 500 |	≈ 9.13
P4.80.25.R.0	250	326	| 150* | 200* | 250 | 300 | 350 | 400* | 450* | 500 |	≈ 9.46
P4.80.30.R.0	300	376	| 150* | 200* | 250 | 300 | 350 | 400* | 450* | 500 |	≈ 9.83
P4.80.35.R.0	350	426	| 150* | 200* | 250 | 300 | 350 | 400* | 450* | 500 |	≈ 10.19
P4.80.40.R.0	400	476	| 150* | 200* | 250 | 300 | 350 | 400* | 450* | 500 |	≈ 10.46

*Radius available upon request. Please consult igus® for delivery time.

Complete Part No. with required radius (R). Example: **P4.80.20.250.0**

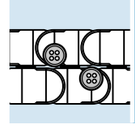
Extension link for heavy fill weights

- 50% higher fill weight possible
- High rigidity
- Divides the e-chain® cross section into compartments (electric/hydraulic)
- 2 inner heights (56, 80mm) available upon request

More information ▶ www.igus.eu/P4

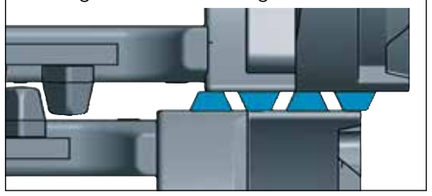


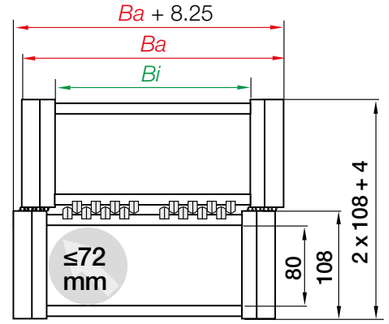
System P4 | Series P4.80 | Installation dimensions

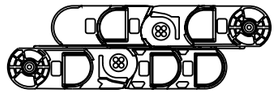


System P4 mechanism

Offset operation of upper and lower run, resulting in continuous rolling surface

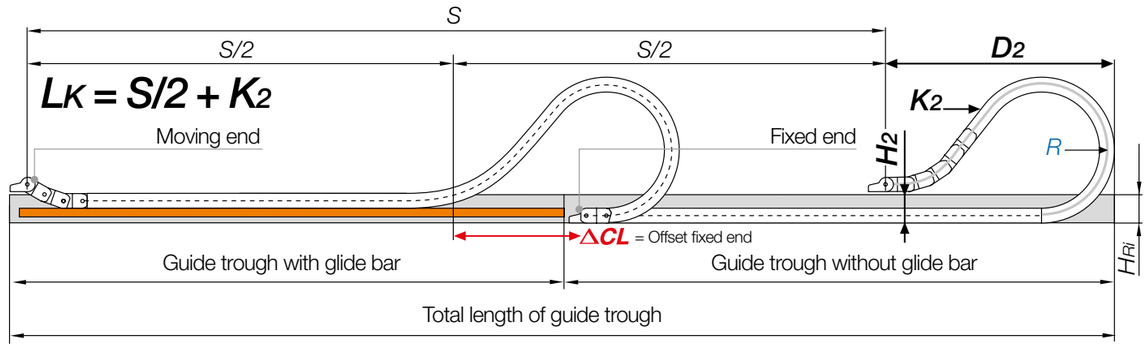






Inner height [mm]	80
Pitch [mm/link]	100
Links/m	10
corresponds to [mm]	1,000
e-chain® length	$L_K = S/2 + K$

Rolling applications | Long travels up to max. 800m and more | Fill weight 30kg/m



Note: We recommend the project planning of such a system to be carried out by igus®.
In case of travels under 10m we recommend an unsupported e-chain®.

R	150*	200*	250	300	350	400*	450*	500
H_2	180	180	180	180	180	180	180	180
D_2	955	1,310	1,610	1,974	2,060	2,625	2,910	3,275
K_2	900	1,400	1,800	2,300	2,700	3,200	3,600	4,100
ΔCL	**	**	600	800	970	1,160	**	1,530

*Radius available upon request. *Radius available upon request, please consult igus® for delivery time. **Values upon request

System P4 - aluminium guide trough system

- Special geometry combined with autoglide crossbars enables offsetting of the upper and lower runs
- Robust mounting bracket for long service life
- Aluminium trough segments, corrosion-resistant

More information ▶ Page 1141

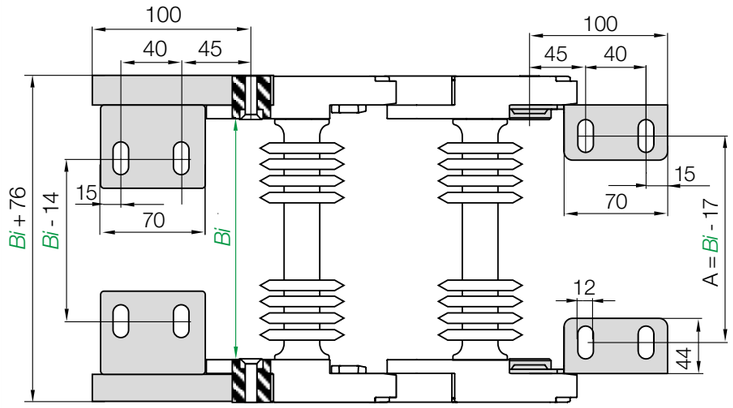


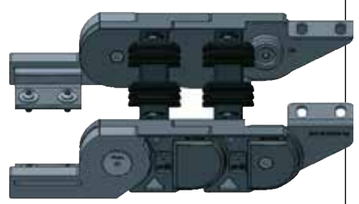
System P4 | Series P4.80 | Accessories

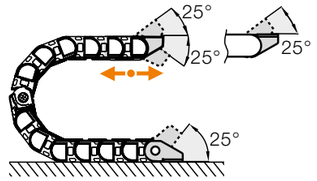
Steel mounting brackets | Pivoting

Fixed end
plastic
P4.80100.5.VS.E45

Moving end
steel
P4.80100.4.VS.E45







Mounting brackets pivoting | Recommended for rolling applications on long travels

Width index	Part No. full set for **fixed end / moving end**	A [mm]	*Bi* [mm]
18. ▶	**P4.80100.54.VS.E45**	160	180
20. ▶	**P4.80100.54.VS.E45**	180	200
25. ▶	**P4.80100.54.VS.E45**	230	250
30. ▶	**P4.80100.54.VS.E45**	280	300
35. ▶	**P4.80100.54.VS.E45**	330	350
40. ▶	**P4.80100.54.VS.E45**	380	400

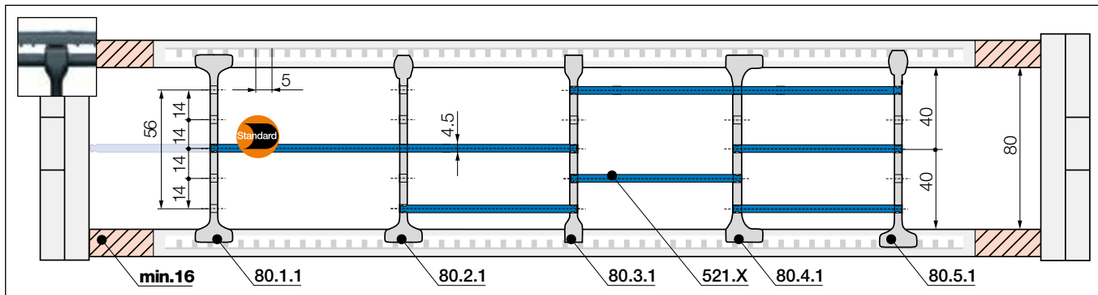
Note: The mounting brackets for P4 e-chains® consist of a steel mounting bracket at the moving end and a polymer mounting bracket at the fixed end. This ensures that the rollers move over a plain surface at the fixed end. There is a fixed end module integrated that can be clamped directly into the trough without drilling any holes. No additional holes have to be drilled.

Strain relief e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with ordering options ▶ From page 1300

System P4 | Series P4.80 | Accessories

Interior separation | Increase cable service life

More interior separation options ▶ **next page**



Note: Please be aware of the minimum lateral gap to the side links! **e-chain®: 16mm**
As standard separators are fitted every 2nd e-chain® link!



Standard separator, wide base	
unassembled	**80.1**
assembled	**80.1.1**

Standard - for any application

Separator with a wide base for maximum holding force in the e-chain®.



Separator, narrow top	
unassembled	**80.2**
assembled	**80.2.1**

For even faster installation

Wide on one side for high holding force, narrow on opposite side for easy cable fitting.



Separator, narrow	
unassembled	**80.3**
assembled	**80.3.1**

For small cables

Separator with a narrow base for a large number of small cables side by side. Saves space in the e-chain®.



Separator, asymmetrical	
unassembled	**80.4**
assembled	**80.4.1**

For side-mounted applications

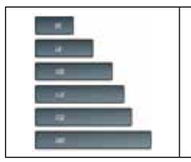
Asymmetrical separator, for defined gap distance. No additional spacers required.



Notch separator for notched crossbar	
unassembled	**80.5**
assembled	**80.5.1**

Locks securely in preset increments

Notch separator for exact positioning in e-chains®. Recommended for side-mounted applications.



Shelf, lockable	
unassembled	**520.X**
assembled	**521.X**

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Shelves

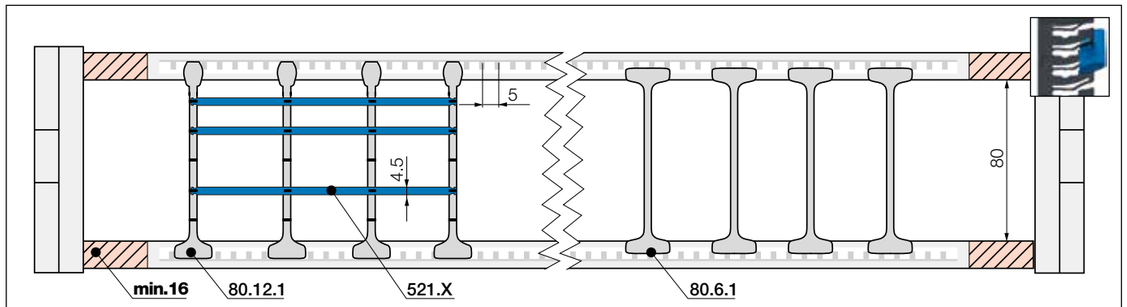
Width = X [mm]



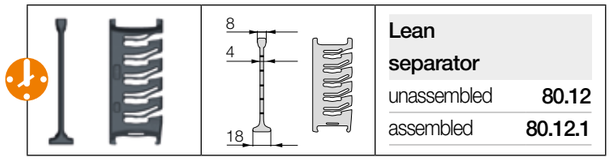
X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
050	**520.050**	**521.050**	150	**520.150**	**521.150**	300	**520.300**	**521.300**
065	**520.065**	**521.065**	175	**520.175**	**521.175**	350	**520.350**	**521.350**
075	**520.075**	**521.075**	200	**520.200**	**521.200**	375	**520.375**	**520.375**
100	**520.100**	**521.100**	225	**520.225**	**521.225**	387	**520.387**	**520.387**
125	**520.125**	**521.125**	250	**520.250**	**521.250**	450	**520.450**	**521.450**

System P4 | Series P4.80 | Accessories

Interior separation | To allow faster filling



Note: Please be aware of the minimum lateral gap to the side links! **e-chain®: 16mm**
As standard separators are fitted every 2nd e-chain® link!



Lean separator	
unassembled	**80.12**
assembled	**80.12.1**

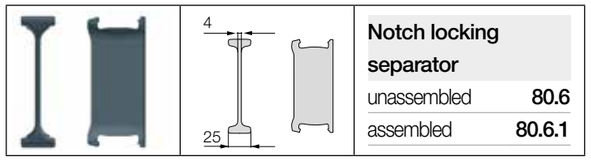
Lean separators New

New design allows extremely fast fitting of shelves in several layers, which significantly reduces assembly time. Enables extremely fast replacement of individual cables in a very full e-chain®.

Lean separator design - several layers of cables fitted quickly, save up to 50%* assembly time
(*Lean separator vs. standard separator - measured on a 4m long e-chain® fitted with 12 cables in the igus® readychain® factory)



More interior separation options



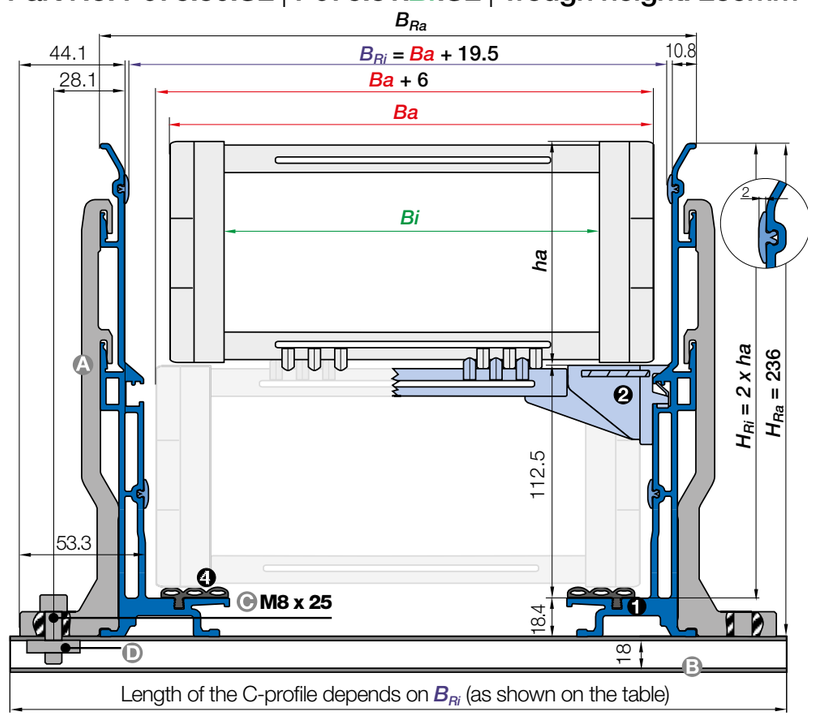
Notch locking separator	
unassembled	**80.6**
assembled	**80.6.1**

Notch locking separator for increased holding force

Notch locking separators offer higher crossbar opening forces for high humidity and/or large hydraulic hoses. They can be positioned precisely and then locked in position.

Aluminium SuperTrough | P4.80 | Accessories New

Part No. P975.30.SL | P975.31.*Bi*.SL | Trough height: 236mm



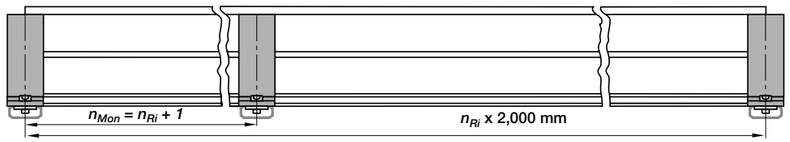
Part No. installation set with C-profile

Width index	B_{Ri} [mm]	Part No. installation set
.18	282.5	**975.50.425**
.20	295.5	**975.50.425**
.25	345.5	**975.50.475**
.30	395.5	**975.50.525**
.35	445.5	**975.50.575**
.40	495.5	**975.50.625**

● **Trough set:** ❶ Trough side parts, aluminium, 2m ❷ Glide bar, plastic, 2m ❸ Glide strips, plastic, 2m (without glide strips upon request) ❹ Optional: rubber silencer profile
● **Installation set:** Ⓐ Bottom clamp, aluminium Ⓑ C-profile, galvanised steel, length ▶ Table Ⓒ Allen wrench M8 x 25 Ⓓ Glide nut M8

Order example: length of travel 30m - centre fixed for series P4.56.20.200.0 with B_{Ri} = 295.5

Guide trough set (set of 2 trough side parts, incl. glide strips) **without** glide bars **Order text: 16m guide trough without glide bar (8 x 2m sections)**	**P975.30.SL**
Guide trough set (set of 2 trough side parts, incl. glide strips) **with** glide bar **Order text: 16m guide trough with glide bar (8 x 2m sections)**	**P975.31.*Bi*.SL**
Installation set complete **(quantity: guide trough sets + 1) Order text: 17 installation sets**	**974.50.425**
Option: for an additional noise dampening with **silencer profile**, please add Index **A**	**P975.30.SL.A**



Principle sketch: number of installation sets to be installed = number of trough sections + 1

● Trough set
● Installation set
● Glide bar
● C-profile

Ba = e-chain® outer width
Bi = e-chain® inner width
B_{Ri} = Trough inner width
B_{Ra} = Trough outer width

H_{Ri} = Trough inner height
H_{Ra} = Trough outer height
n_{Mon} = Number of installation sets
n_{Ri} = Number of trough sets

E4/4
rol e-chain®
Long travels up to 800m, rolling instead of gliding

Advantages E4/4 rol e-chain®
- Special solution for long travels
- 75% less drive power, rolling
- Reduction of drive power needed to move the e-chain®
- Long travels up to 800m with E4/4 rol e-chain®
- Speeds up to 6m/s possible
- Various roller types for optimum application adaption
- Can be used in dirty environments

When to use another e-chain® series:
- For very high fill weights for long travels
  ► **E4/4HD heavy-duty, page 1092**
- When you want a profile-rol e-chain® with which you can reduce energy consumption by up to 57%
  ► **P4 system, page 1112**
- When you want a self-guiding e-chain system® without any guide troughs
  ► **autoglide, page 1170**



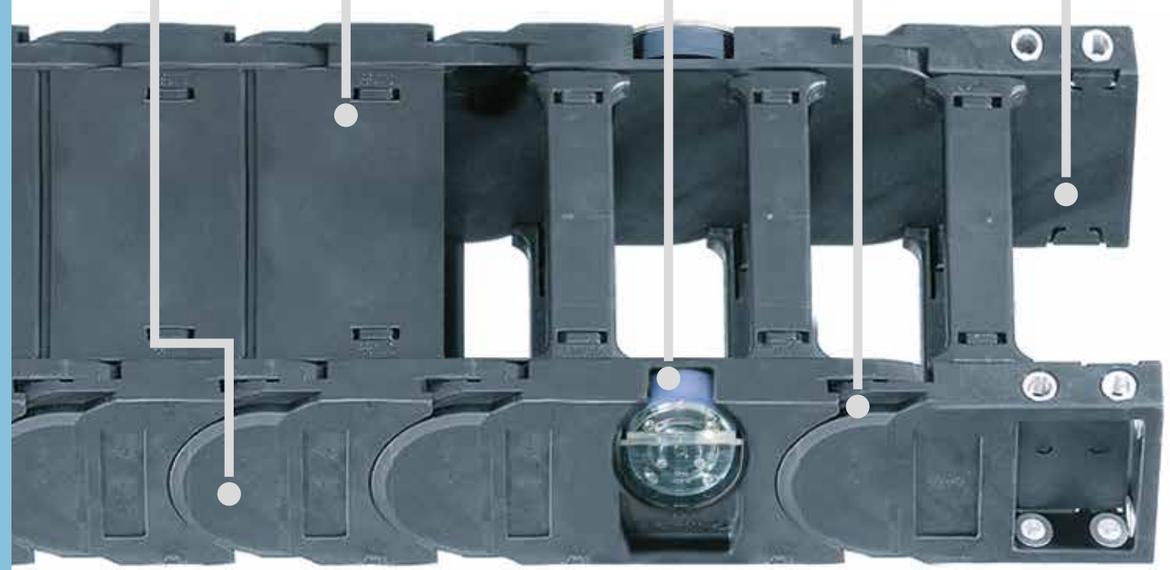
High push/pull forces: large pin/bore connection

Fast filling: lids open on both sides, flip open along the outer radius

Long service life: high-strength rollers, quiet design, stainless steel ball bearings

High strength: undercut design for torsional rigidity

Universal: KMA with attachment from any side



Long travels up to 800m, rolling instead of gliding - E4/4 rol e-chain®

Conventional design e-chains® are used gliding for long travels. The technical limits of this operating mode were the reason for development of the igus® E4/4 rol-e chain®. The demands have increased steadily in recent years. Travels of 800 metres now pose new challenges in cranes along with high travel speeds and low noise with high cable loads.
Please contact us if you have decided to use this product. We'll assist you in the project planning!

- Reduction of drive power needed to move the e-chain®
- Travels up to 800m possible
- Speeds up to 6m/s possible
- Various roller types for optimum application adaption
- Can be used in dirty environments
- Available as ready-to-fit harnessed system with guarantee

Typical industries and applications

- Crane facilities
- Bulk handling/material handling
- Mining/construction machinery
- Displacement systems

Series	Inner height *hi* [mm]	Inner width *Bi* [mm]	Outer width *Ba* [mm]	Outer height *ha* [mm]	Bend radius *R* [mm]	Travel ≤ [m]	Page
							
e-chains® with crossbars every link for particularly demanding applications							
2828R	32	50 - 400	74 - 424	54	125 - 300**	250	**1148**
3838R	42	50 - 400	77 - 427	64	150 - 350**	330	**1150**
4040R	56	50 - 600	86 - 636	84	200 - 400**	500	**1152**
5050R	80	50 - 600	100 - 650	108	250 - 500**	600	**1156**
							
e-tubes fully enclosed, excellent cable protection							
7728R	32	50 - 300	74 - 324	54	150 - 300	250	**1148**
7838R	42	50 - 300	77 - 327	64	200 - 350	330	**1150**
8840R	56	75 - 462	111 - 499	84	300 - 400	500	**1152**
9850R	80	75 - 462	125 - 513	108	300 - 500	600	**1156**
							
Heavy-duty e-chain® with crossbars every link for very long travels with very heavy fill weights							
4040RHD	56	50 - 600	104 - 654	84	200 - 400	600	**1154**
5050RHD	80	50 - 600	110 - 660	108	250 - 500	800	**1158**

**Smaller bend radii (only for e-chains®) available upon request. Please consult igus® for delivery time.

Available from stock. Ready to ship in 24 - 48hrs.*

*The delivery times indicated correspond to the average time until the ordered goods are dispatched.

Technical data

Speed rolling	≤ 10 [m/s]
Acceleration rolling	≤ 50 [m/s²]
Material - permitted temperature °C, igumid G	-40°C / +120°C
Flammability class, igumid G	VDE 0304 IIC UL94-HB

Order example | Order key

Order example for complete e-chain® (3.0m), colour black, with mounting brackets and interior separation:

e-chain® (1.0m)	Please indicate e-chain® length or number of links: 3.0m or 54 links	**2828R.30.300.0**
+ Mounting brackets	1 full set, KMA pivoting	**28280.30.12**
Interior separation	with 2 separators assembled every 2nd link	**2 x 32.1.1**
Order text:	**3 m 2828R.30.300.0 + 28280.30.12 + 2 x 32.1.1**	

Order key
2828R.30.300.0

- Default colour black
- Bend radius *R*
- Width index
- Series / Type

P4 profile-rol e-chain® - reduce energy consumption by 57%
- Safe, low-noise, abrasion-resistant energy supply system for long travels
- Long travels up to 800m and more, high fill weights up to 30kg/m
- For very long travels and high travel speeds up to 10m/s
- autoglide crossbars for safe guidance

More information ▶ From page 1112



autoglide - self-guiding e-chain systems®
- Self-guiding e-chains® without the need for guide troughs, available in 4 versions
- Travels up to 80m and travel speeds up to 2.5m/s
- Quick installation for long travels
- Small width, quiet operation, cost-effective

More information ▶ From page 1170





Shipyard crane: travel 180m, weight 30kg/m: since installation in 2001, this igus® E4/4 rol e-chain® has run trouble-free in spite of severe weather conditions. Even a typhoon did not cause any operating problems

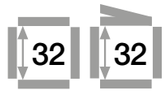


igus® E4/4 rol e-chain® saves drive power on long travels. Safely guided in igus® guide troughs



Cross travel of 441.3m, implemented with igus® E4/4 rol e-chain® series 5050R

Rol e-chains® | 2828R·7728R | Product range



Rolling instead of gliding, long travels up to 250m



e-chains® | Series 2828R | Crossbars every link (crossbars removable along the inner and outer radius)
e-tubes | Series 7728R | Fully enclosed (lids openable along the outer radius, from one side)

Part No. e-chains® / e-tubes			Bi [mm]	Ba [mm]	2828R [kg/m]	7728R [kg/m]
2828R.	7728R.	05. R.0[1)]	50	74	≈ 1.73	≈ 2.63
2828R.	–	06. R.0	68	92	≈ 1.79	–
2828R.	7728R.	07. R.0	75	99	≈ 1.84	≈ 2.75
2828R.	–	087.R.0	87	111	≈ 1.93	–
2828R.	–	097.R.0	97	120	≈ 1.99	–
2828R.	7728R.	10. R.0	100	124	≈ 2.02	≈ 2.83
2828R.	7728R.	11. R.0	108	132	≈ 2.08	≈ 2.94
2828R.	–	112.R.0	112	137	≈ 2.15	–
2828R.	7728R.	12. R.0	125	149	≈ 2.20	≈ 3.03
2828R.	–	137.R.0	137	162	≈ 2.29	–
2828R.	7728R.	15. R.0	150	174	≈ 2.38	≈ 3.19
2828R.	–	162.R.0	162	187	≈ 2.44	–
2828R.	7728R.	17. R.0	168	192	≈ 2.51	≈ 3.39
2828R.	–	18. R.0	175	199	≈ 2.56	–
2828R.	–	187.R.0	187	212	≈ 2.65	–
2828R.	7728R.	20. R.0	200	224	≈ 2.74	≈ 3.59

Part No. e-chains® / e-tubes			Bi [mm]	Ba [mm]	2828R [kg/m]	7728R [kg/m]
2828R.	–	212.R.0	212	237	≈ 2.87	–
2828R.	–	23. R.0	225	249	≈ 2.92	–
2828R.	–	237.R.0	237	262	≈ 3.05	–
2828R.	7728R.	25. R.0	250	274	≈ 3.10	≈ 4.04
2828R.	–	262.R.0	262	286	≈ 3.19	–
2828R.	–	28. R.0	275	299	≈ 3.28	–
2828R.	–	29. R.0	287	312	≈ 3.37	–
2828R.	7728R.	30. R.0	300	324	≈ 3.46	≈ 4.43
2828R.	–	312.R.0	312	337	≈ 3.59	–
2828R.	–	325.R.0	325	349	≈ 3.68	–
2828R.	–	337.R.0	337	362	≈ 3.77	–
2828R.	–	350.R.0	350	374	≈ 3.86	–
2828R.	–	362.R.0	362	387	≈ 3.95	–
2828R.	–	375.R.0	375	399	≈ 4.04	–
2828R.	–	387.R.0	387	412	≈ 4.11	–
2828R.	–	400.R.0	400	424	≈ 4.18	–

*Radius not available for e-tubes 1) Lid removable only, no hinged option

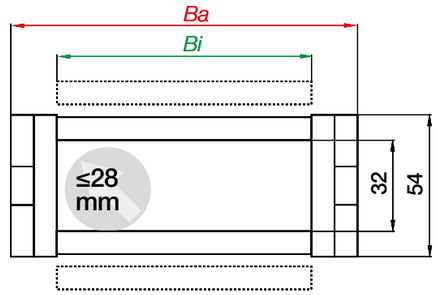
Smaller bend radii (only for e-chains®) available upon request. Please consult igus® for delivery time.

Available bend radii

R [mm] | 125* | 150 | 175 | 200 | 220 | 250 | 300 |

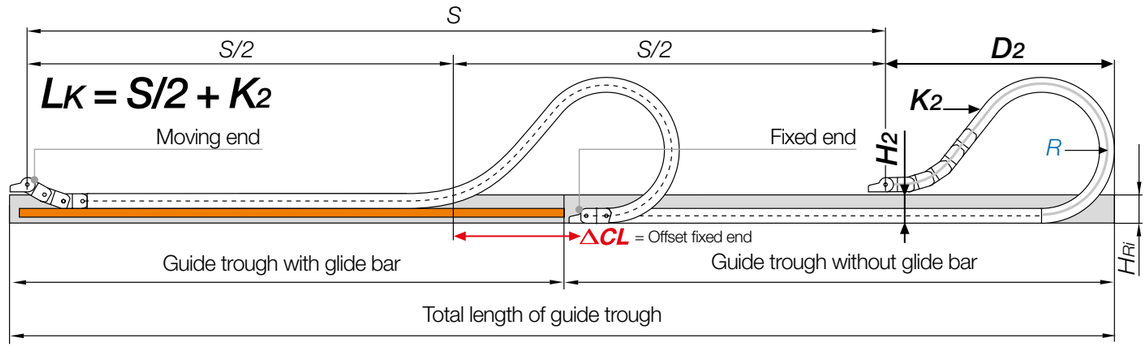
Complete Part No. with required radius (*R*). Example: **2828R.30.300.0**

Rol e-chains® | 2828R·7728R | Installation dimensions



Inner height [mm]	32
Pitch [mm/link]	56
Links/m	18
corresponds to [mm]	1,008
e-chain® length	$L_K = S/2 + K$

Rolling applications | Long travels up to max. 250m | Fill weight 6.0kg/m



Note: We recommend the project planning of such a system to be carried out by igus®.
In case of travels under 10m we recommend an unsupported e-chain®.

R	125*	150	175	200	220	250	300
H_2	166	166	166	166	166	166	166
D_2	575	700	845	960	1,040	1,270	1,540
K_2	896	1,064	1,288	1,456	1,624	1,904	2,296
ΔCL	270	380	490	600	700	840	1,055

*Radius not available for e-tubes. Smaller bend radii (only for e-chains®) available upon request. Please consult igus® for delivery time.

Accessories | More information ▶ www.igus.eu/2828R ▶ www.igus.eu/7728R



Optimised, cable-friendly interior separation



Pivoting KMA mounting bracket with attachment from any side



Aluminium SuperTrough, basic version

Rol e-chains® | 3838R·7838R | Product range



Rolling instead of gliding, long travels up to 330m



e-chains® | Series 3838R | Crossbars every link (crossbars removable along the inner and outer radius)
e-tubes | Series 7838R | Fully enclosed (lids openable along the outer radius, from one side)

Part No.			Bi	Ba	3838R	7838R
e-chains® / e-tubes			[mm]	[mm]	[kg/m]	[kg/m]
3838R.	7838R.	05. R.0[1)]	50	77	≈ 2.06	≈ 2.25
3838R.	–	06. R.0	68	95	≈ 2.09	–
3838R.	7838R.	07. R.0	75	102	≈ 2.12	≈ 2.38
3838R.	–	087.R.0	87	115	≈ 2.18	–
3838R.	–	097.R.0	97	123	≈ 2.23	–
3838R.	7838R.	10. R.0	100	127	≈ 2.25	≈ 2.60
3838R.	7838R.	11. R.0	108	135	≈ 2.30	≈ 2.65
3838R.	–	112.R.0	112	140	≈ 2.30	–
3838R.	7838R.	12. R.0	125	152	≈ 2.40	≈ 2.81
3838R.	–	137.R.0	137	165	≈ 2.44	–
3838R.	7838R.	15. R.0	150	177	≈ 2.53	≈ 3.07
3838R.	–	162.R.0	162	190	≈ 2.55	–
3838R.	7838R.	17. R.0	168	195	≈ 2.62	≈ 3.24
3838R.	–	18. R.0	175	202	≈ 2.62	–
3838R.	–	187.R.0	187	215	≈ 2.69	–
3838R.	7838R.	20. R.0	200	227	≈ 2.77	≈ 3.53

Part No.			Bi	Ba	3838R	7838R
e-chains® / e-tubes			[mm]	[mm]	[kg/m]	[kg/m]
3838R.	–	212.R.0	212	240	≈ 2.84	–
3838R.	–	23. R.0	225	252	≈ 2.92	–
3838R.	–	237.R.0	237	265	≈ 2.96	–
3838R.	7838R.	25. R.0	250	277	≈ 3.05	≈ 4.33
3838R.	–	262.R.0	262	290	≈ 3.06	–
3838R.	–	28. R.0	275	302	≈ 3.17	–
3838R.	–	29. R.0	287	315	≈ 3.19	–
3838R.	7838R.	30. R.0	300	327	≈ 3.32	≈ 4.89
3838R.	–	312.R.0	312	340	≈ 3.34	–
3838R.	–	325.R.0	325	352	≈ 3.41	–
3838R.	–	337.R.0	337	365	≈ 3.46	–
3838R.	–	350.R.0	350	377	≈ 3.68	–
3838R.	–	362.R.0	362	390	≈ 3.74	–
3838R.	–	375.R.0	375	402	≈ 3.79	–
3838R.	–	387.R.0	387	415	≈ 3.85	–
3838R.	–	400.R.0	400	427	≈ 3.90	–

*Radius not available for e-tubes 1) Lid removable only, no hinged option

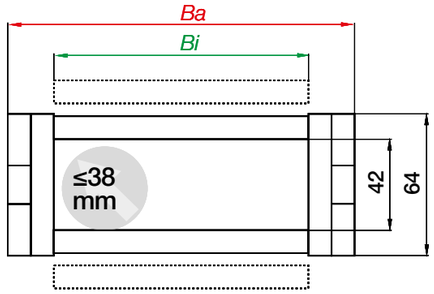
Smaller bend radii (only for e-chains®) available upon request. Please consult igus® for delivery time.

Available bend radii

R [mm] | 150* | 170* | 200 | 215 | 250 | 300 | 350 |

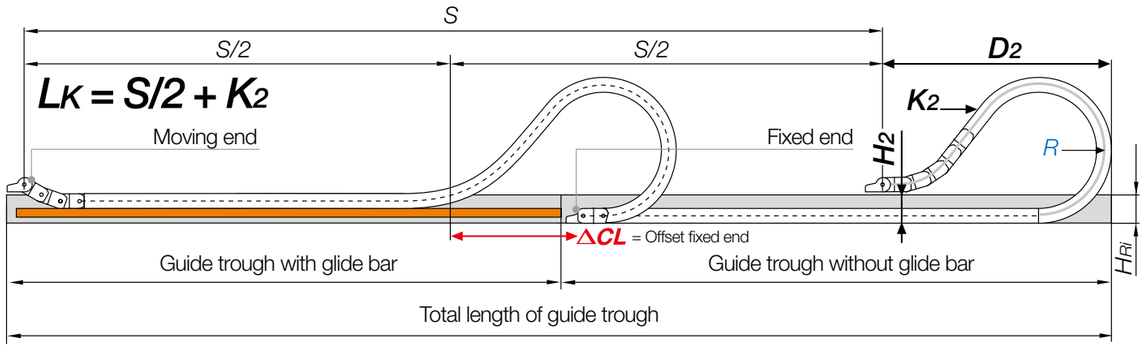
Complete Part No. with required radius (R). Example: **3838R.30.300.0**

Rol e-chains® | 3838R·7838R | Installation dimensions



Inner height [mm]	42
Pitch [mm/link]	67
Links/m	15
corresponds to [mm]	1,005
e-chain® length	$L_K = S/2 + K$

Rolling applications | Long travels up to max. 330m | Fill weight 7.0kg/m



Note: We recommend the project planning of such a system to be carried out by igus®.
In case of travels under 10m we recommend an unsupported e-chain®.

R	150*	170*	200	215	250	300	350
H_2^{+10}	186	186	186	186	186	186	186
D_2^{+50}	680	820	1,010	1,030	1,245	1,630	1,830
K_2	107	1,273	1,541	1,608	1,876	2,479	2,747
ΔCL	345	455	610	670	825	1,075	1,285

*Radius not available for e-tubes. Smaller bend radii (only for e-chains®) available upon request. Please consult igus® for delivery time.

Accessories | More information ▶ www.igus.eu/3838R ▶ www.igus.eu/7838R



Optimised, cable-friendly interior separation

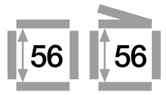


Pivoting KMA mounting bracket with attachment from any side



Aluminium SuperTrough, basic version

Rol e-chains® | 4040R·8840R | Product range



Rolling instead of gliding, long travels up to 500m



e-chains® | Series 4040R | Crossbars every link (crossbars removable along the inner and outer radius)
e-tubes | Series 8840R | Fully enclosed (lids openable along the outer radius, from one side)

Part No. e-chains® / e-tubes			Bi [mm]	Ba [mm]	4040R [kg/m]	8840R [kg/m]
4040R.	–	05. R.0	50	86	≈ 3.65	–
4040R.	–	06. R.0	65	101	≈ 3.67	–
4040R.	8840R.	07. R.0[1)]	75	111	≈ 3.78	≈ 4.24
4040R.	–	08. R.0	87	123	≈ 3.83	–
4040R.	8840R.	10. R.0	100	136	≈ 3.96	≈ 4.52
4040R.	–	11. R.0	112	149	≈ 4.09	–
4040R.	8840R.	12. R.0	125	161	≈ 4.16	≈ 4.88
4040R.	–	13. R.0	137	174	≈ 4.29	–
4040R.	8840R.	15. R.0	150	186	≈ 4.36	≈ 5.31
4040R.	–	16. R.0	162	199	≈ 4.47	–
4040R.	8840R.	17. R.0	175	211	≈ 4.58	≈ 5.56
4040R.	–	18. R.0	187	224	≈ 4.69	–
4040R.	8840R.	20. R.0	200	236	≈ 4.71	≈ 5.89
4040R.	–	21. R.0	212	249	≈ 4.82	–
4040R.	–	22. R.0	225	261	≈ 4.88	–
4040R.	–	23. R.0	237	274	≈ 5.02	–
4040R.	8840R.	25. R.0	250	286	≈ 5.10	≈ 6.61
4040R.	–	26. R.0	262	299	≈ 5.19	–
4040R.	8840R.	27. R.0	275	311	≈ 5.30	≈ 6.89
4040R.	–	28. R.0	287	324	≈ 5.32	–
4040R.	8840R.	30. R.0	300	336	≈ 5.54	≈ 7.27
4040R.	–	31. R.0	312	349	≈ 5.58	–
4040R.	–	32. R.0	325	361	≈ 5.63	–
4040R.	–	33. R.0	337	374	≈ 5.81	–
4040R.	8840R.	35. R.0	350	386	≈ 5.96	≈ 8.02
4040R.	–	36. R.0	362	399	≈ 5.96	–
4040R.	–	37. R.0	375	411	≈ 5.98	–
4040R.	–	38. R.0	387	424	≈ 6.07	–
4040R.	8840R.	40. R.0	400	436	≈ 6.27	≈ 8.98
4040R.	–	41. R.0	412	449	≈ 6.42	–
4040R.	–	42. R.0	425	461	≈ 6.58	–
4040R.	–	43. R.0	437	474	≈ 6.64	–
4040R.	–	45. R.0	450	486	≈ 6.71	–
4040R.	8840R.	46. R.0	462	499	≈ 6.73	≈ 9.44
4040R.	–	47. R.0	475	511	≈ 6.86	–
4040R.	–	48. R.0	487	524	≈ 6.88	–
4040R.	–	50. R.0	500	536	≈ 7.00	–
4040R.	–	51. R.0	512	549	≈ 7.02	–
4040R.	–	52. R.0	525	561	≈ 7.06	–
4040R.	–	53. R.0	537	574	≈ 7.22	–
4040R.	–	55. R.0	550	586	≈ 7.70	–
4040R.	–	60. R.0	600	636	≈ 7.90	–

*Radius not available for e-tubes 1) Lid removable only, no hinged option

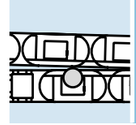
Smaller bend radii (only for e-chains®) available upon request. Please consult igus® for delivery time.

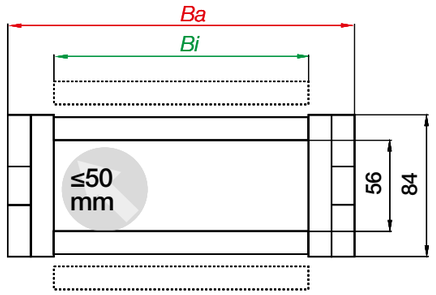
Available bend radii

R [mm] | 200* | 250* | 300 | 350 | 400 |

Complete Part No. with required radius (*R*). Example: **4040R.30.300.0**

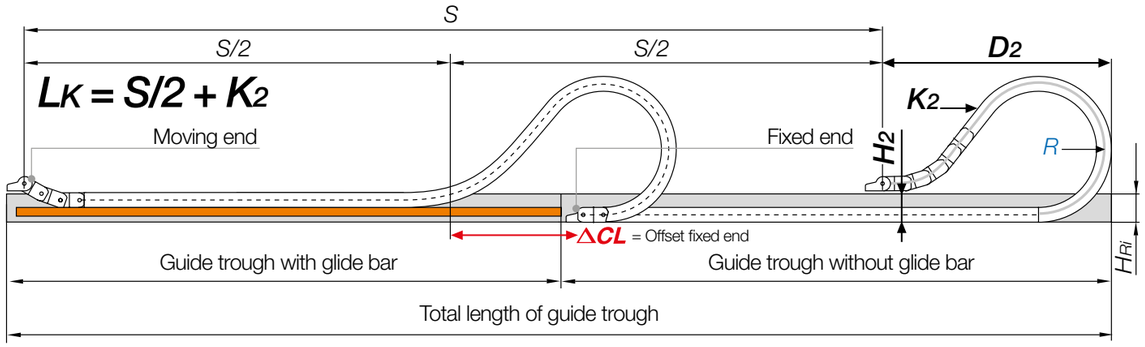
Rol e-chains® | 4040R·8840R | Installation dimensions





Inner height [mm]	56
Pitch [mm/link]	91
Links/m	11
corresponds to [mm]	1,001
e-chain® length	$L_K = S/2 + K$

Rolling applications | Long travels up to max. 500m | Fill weight 13kg/m



Note: We recommend the project planning of such a system to be carried out by igus®.
In case of travels under 10m we recommend an unsupported e-chain®.

R	200*	250*	300	350	400
H_2 +10	180	180	180	180	180
D_2 +50	1,230	1,370	1,600	1,850	2,070
K_2	1,820	2,184	2,548	2,912	3,276
ΔCL	525	710	900	1,090	1,275

*Radius not available for e-tubes. Smaller bend radii (only for e-chains®) available upon request. Please consult igus® for delivery time.

Accessories | More information ▶ www.igus.eu/4040R ▶ www.igus.eu/8840R



Optimised, cable-friendly interior separation



Pivoting KMA mounting bracket with attachment from any side

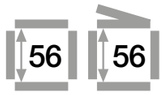


Extension links - for extremely wide e-chains® up to 3.0m



Aluminium SuperTrough, basic version

Rol e-chains® | 4040RHD | Product range



Heavy-duty - rolling instead of gliding, long travels up to 600m



e-chains® | Series 4040RHD | Crossbars every link (crossbars removable along the inner and outer radius)

Part No. e-chains®	Bi [mm]	Ba [mm]	4040RHD [kg/m]
4040RHD. 05. R.0	50	104	≈ 5.03
4040RHD. 06. R.0	65	119	≈ 5.12
4040RHD. 07. R.0[1)]	75	129	≈ 5.19
4040RHD. 08. R.0	87	141	≈ 5.27
4040RHD. 10. R.0	100	154	≈ 5.36
4040RHD. 11. R.0	112	166	≈ 5.48
4040RHD. 12. R.0	125	179	≈ 5.56
4040RHD. 13. R.0	137	191	≈ 5.69
4040RHD. 15. R.0	150	204	≈ 5.73
4040RHD. 16. R.0	162	216	≈ 5.84
4040RHD. 17. R.0	175	229	≈ 5.97
4040RHD. 18. R.0	187	241	≈ 6.09
4040RHD. 20. R.0	200	254	≈ 6.14
4040RHD. 21. R.0	212	266	≈ 6.21
4040RHD. 22. R.0	225	279	≈ 6.28
4040RHD. 23. R.0	237	291	≈ 6.39
4040RHD. 25. R.0	250	304	≈ 6.50
4040RHD. 26. R.0	262	316	≈ 6.59
4040RHD. 27. R.0	275	329	≈ 6.70
4040RHD. 28. R.0	287	341	≈ 6.75
4040RHD. 30. R.0	300	354	≈ 6.91

Part No. e-chains®	Bi [mm]	Ba [mm]	4040RHD [kg/m]
4040RHD. 31. R.0	312	366	≈ 6.94
4040RHD. 32. R.0	325	379	≈ 7.05
4040RHD. 33. R.0	337	391	≈ 7.17
4040RHD. 35. R.0	350	404	≈ 7.37
4040RHD. 36. R.0	362	416	≈ 7.28
4040RHD. 37. R.0	375	429	≈ 7.38
4040RHD. 38. R.0	387	441	≈ 7.49
4040RHD. 40. R.0	400	454	≈ 7.76
4040RHD. 41. R.0	412	466	≈ 7.68
4042RHD. 42. R.0	425	479	≈ 7.98
4040RHD. 43. R.0	437	491	≈ 7.82
4040RHD. 45. R.0	450	504	≈ 8.15
4040RHD. 46. R.0	462	516	≈ 8.10
4040RHD. 47. R.0	475	529	≈ 8.14
4040RHD. 48. R.0	487	541	≈ 8.39
4040RHD. 50. R.0	500	554	≈ 8.48
4040RHD. 51. R.0	512	566	≈ 8.40
4040RHD. 52. R.0	525	579	≈ 8.57
4040RHD. 53. R.0	537	591	≈ 8.66
4040RHD. 55. R.0	550	604	≈ 9.08
4040RHD. 60. R.0	600	654	≈ 9.31

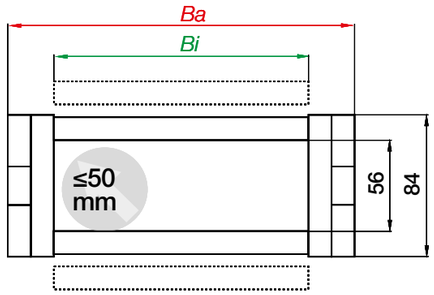
*Radius not available for e-tubes 1) Lid removable only, no hinged option

Available bend radii

R [mm] | 200* | 250* | 300 | 350 | 400 |

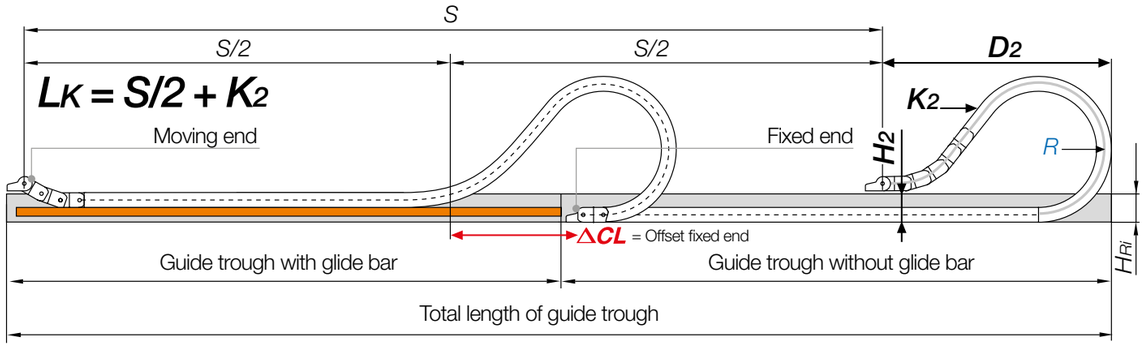
Complete Part No. with required radius (R). Example: **4040RHD.30.300.0**

Rol e-chains® | 4040RHD | Installation dimensions



Inner height [mm]	56
Pitch [mm/link]	91
Links/m	11
corresponds to [mm]	1,001
e-chain® length	$L_K = S/2 + K$

Rolling applications | Long travels up to max. 600m | Fill weight 16kg/m



Note: We recommend the project planning of such a system to be carried out by igus®.
In case of travels under 10m we recommend an unsupported e-chain®.

R	200*	250*	300	350	400
H_2 +10	180	180	180	180	180
D_2 +50	1,145	1,390	1,620	1,870	2,095
K_2	1,820	2,184	2,548	2,912	3,276
ΔCL	525	710	900	1,090	1,275

**Radius not available for e-tubes.

Accessories | More information ▶ www.igus.eu/4040RHD



Optimised, cable-friendly interior separation

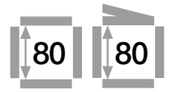


Steel mounting brackets, pivoting, tough and electrically conductive



Aluminium SuperTrough, Heavy-duty Version

Rol e-chains® | 5050R·9850R | Product range



Rolling instead of gliding, long travels up to 600m



e-chains® | Series 5050R | Crossbars every link (crossbars removable along the inner and outer radius)
e-tubes | Series 9850R | Fully enclosed (lids openable along the outer radius, from one side)

Part No.			Bi	Ba	5050R	9850R
e-chains® / e-tubes			[mm]	[mm]	[kg/m]	[kg/m]
5050R.	–	05. R.0	50	100	≈ 5.62	–
5050R.	–	06. R.0	65	115	≈ 5.68	–
5050R.	9850R.	07. R.0[1)]	75	125	≈ 5.70	≈ 6.24
5050R.	–	08. R.0	87	137	≈ 5.76	–
5050R.	9850R.	10. R.0	100	150	≈ 5.79	≈ 6.52
5050R.	–	11. R.0	112	163	≈ 5.85	–
5050R.	9850R.	12. R.0	125	175	≈ 5.89	≈ 6.89
5050R.	–	13. R.0	137	188	≈ 5.95	–
5050R.	9850R.	15. R.0	150	200	≈ 5.98	≈ 7.32
5050R.	–	16. R.0	162	213	≈ 6.04	–
5050R.	9850R.	17. R.0	175	225	≈ 6.09	≈ 7.58
5050R.	–	18. R.0	187	238	≈ 6.15	–
5050R.	9850R.	20. R.0	200	250	≈ 6.16	≈ 7.89
5050R.	–	21. R.0	212	263	≈ 6.22	–
5050R.	–	22. R.0	225	275	≈ 6.25	–
5050R.	–	23. R.0	237	288	≈ 6.31	–
5050R.	9850R.	25. R.0	250	300	≈ 6.36	≈ 8.61
5050R.	–	26. R.0	262	313	≈ 6.40	–
5050R.	9850R.	27. R.0	275	325	≈ 6.46	≈ 8.82
5050R.	–	28. R.0	287	338	≈ 6.47	–
5050R.	9850R.	30. R.0	300	350	≈ 6.58	≈ 9.27

Part No.			Bi	Ba	5050R	9850R
e-chains® / e-tubes			[mm]	[mm]	[kg/m]	[kg/m]
5050R.	–	31. R.0	312	363	≈ 6.60	–
5050R.	–	32. R.0	325	375	≈ 6.62	–
5050R.	–	33. R.0	337	388	≈ 6.71	–
5050R.	9850R.	35. R.0	350	400	≈ 6.79	≈ 10.02
5050R.	–	36. R.0	362	413	≈ 6.80	–
5050R.	–	37. R.0	375	425	≈ 6.80	–
5050R.	–	38. R.0	387	438	≈ 6.84	–
5050R.	9850R.	40. R.0	400	450	≈ 6.94	≈ 10.98
5050R.	–	41. R.0	412	463	≈ 7.02	–
5050R.	–	42. R.0	425	475	≈ 7.10	–
5050R.	–	43. R.0	437	488	≈ 7.13	–
5050R.	–	45. R.0	450	500	≈ 7.16	–
5050R.	9850R.	46. R.0	462	513	≈ 7.17	≈ 11.44
5050R.	–	47. R.0	475	525	≈ 7.24	–
5050R.	–	48. R.0	487	538	≈ 7.26	–
5050R.	–	50. R.0	500	550	≈ 7.30	–
5050R.	–	51. R.0	512	563	≈ 7.32	–
5050R.	–	52. R.0	525	575	≈ 7.34	–
5050R.	–	53. R.0	537	588	≈ 7.41	–
5050R.	–	55. R.0	550	600	≈ 7.66	–
5050R.	–	60. R.0	600	650	≈ 7.76	–

*Radius not available for e-tubes 1) Lid removable only, no hinged option

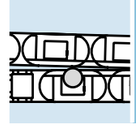
Smaller bend radii (only for e-chains®) available upon request. Please consult igus® for delivery time.

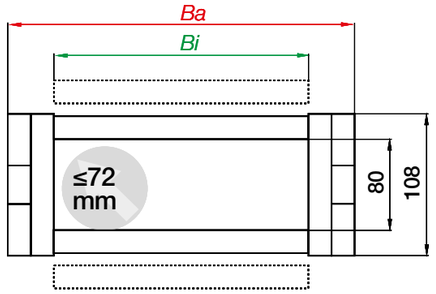
Available bend radii

R [mm] | 250* | 300 | 350 | 400 | 500 |

Complete Part No. with required radius (R). Example: **5050R.30.300.0**

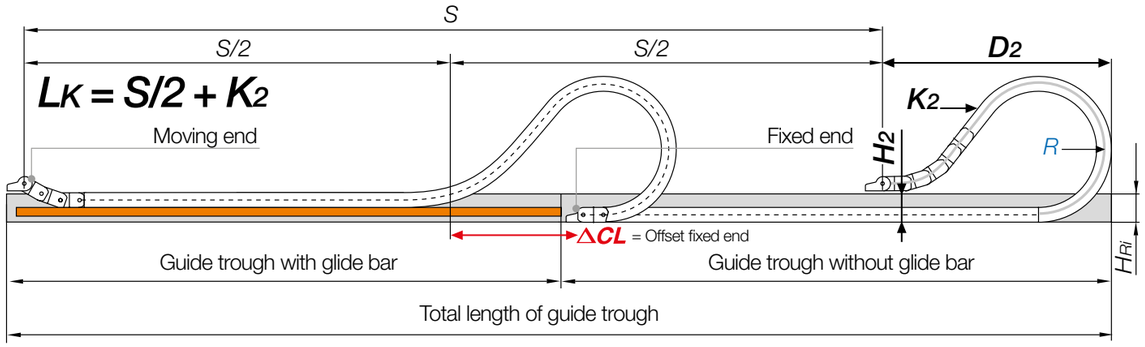
Rol e-chains® | 5050R·9850R | Installation dimensions





Inner height [mm]	80
Pitch [mm/link]	91
Links/m	11
corresponds to [mm]	1,001
e-chain® length	$L_K = S/2 + K$

Rolling applications | Long travels up to max. 600m | Fill weight 25kg/m



Note: We recommend the project planning of such a system to be carried out by igus®.
In case of travels under 10m we recommend an unsupported e-chain®.

R	250*	300	350	400	500
H_2 +10	242	242	242	242	242
D_2 +50	1,250	1,550	1,720	1,990	2,460
K_2	2,002	2,457	2,730	3,185	3,913
ΔCL	600	800	970	1,160	1,530

*Radius not available for e-tubes. Smaller bend radii (only for e-chains®) available upon request. Please consult igus® for delivery time.

Accessories | More information ▶ www.igus.eu/5050R ▶ www.igus.eu/9850R



Optimised, cable-friendly interior separation



Pivoting KMA mounting bracket with attachment from any side

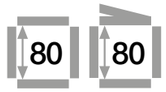


Extension links - for extremely wide e-chains® up to 3.0m



Aluminium SuperTrough, basic version

Rol e-chains® | 5050RHD | Product range



Heavy-duty - rolling instead of gliding, long travels up to 800m



e-chains® | Series 5050RHD | Crossbars every link (crossbars removable along the inner and outer radius)

Part No. e-chains®	Bi [mm]	Ba [mm]	5050RHD [kg/m]
5050RHD. 05. R.0	50	110	≈ 6.65
5050RHD. 06. R.0	65	125	≈ 6.74
5050RHD. 07 R.0[1)]	75	135	≈ 6.81
5050RHD. 08. R.0	87	147	≈ 6.89
5050RHD. 10. R.0	100	160	≈ 6.99
5050RHD. 11. R.0	112	172	≈ 7.10
5050RHD. 12. R.0	125	185	≈ 7.18
5050RHD. 13. R.0	137	197	≈ 7.32
5050RHD. 15. R.0	150	210	≈ 7.35
5050RHD. 16. R.0	162	222	≈ 7.47
5050RHD. 17. R.0	175	235	≈ 7.60
5050RHD. 18. R.0	187	247	≈ 7.71
5050RHD. 20. R.0	200	260	≈ 7.77
5050RHD. 21. R.0	212	272	≈ 7.84
5050RHD. 22. R.0	225	285	≈ 7.91
5050RHD. 23. R.0	237	297	≈ 8.02
5050RHD. 25. R.0	250	310	≈ 8.13
5050RHD. 26. R.0	262	322	≈ 8.22
5050RHD. 27 R.0	275	335	≈ 8.32
5050RHD. 28. R.0	287	347	≈ 8.38
5050RHD. 30. R.0	300	360	≈ 8.53

Part No. e-chains®	Bi [mm]	Ba [mm]	5050RHD [kg/m]
5050RHD. 31. R.0	312	372	≈ 8.57
5050RHD. 32. R.0	325	385	≈ 8.67
5050RHD. 33. R.0	337	397	≈ 8.79
5050RHD. 35. R.0	350	410	≈ 8.99
5050RHD. 36. R.0	362	422	≈ 8.90
5050RHD. 37. R.0	375	435	≈ 9.00
5050RHD. 38. R.0	387	447	≈ 9.11
5050RHD. 40. R.0	400	460	≈ 9.38
5050RHD. 41. R.0	412	472	≈ 9.31
5050RHD. 42. R.0	425	485	≈ 9.60
5050RHD. 43. R.0	437	497	≈ 9.44
5050RHD. 45. R.0	450	510	≈ 9.55
5050RHD. 46. R.0	462	522	≈ 9.72
5050RHD. 47. R.0	475	535	≈ 9.76
5050RHD. 48. R.0	487	547	≈ 10.01
5050RHD. 50. R.0	500	560	≈ 10.11
5050RHD. 51. R.0	512	572	≈ 10.02
5050RHD. 52. R.0	525	585	≈ 10.19
5050RHD. 53. R.0	537	597	≈ 10.29
5050RHD. 55. R.0	550	610	≈ 10.71
5050RHD. 60. R.0	600	660	≈ 10.94

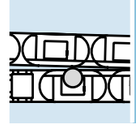
*Radius not available for e-tubes 1) Lid removable only, no hinged option

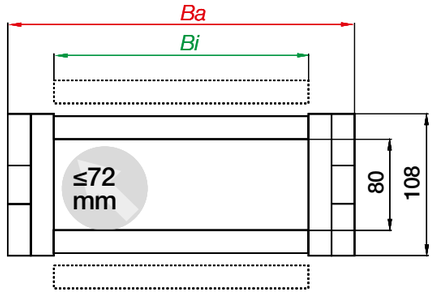
Available bend radii

R [mm] | 250* | 300 | 350 | 400 | 500 |

Complete Part No. with required radius (R). Example: **5050RHD.30.300.0**

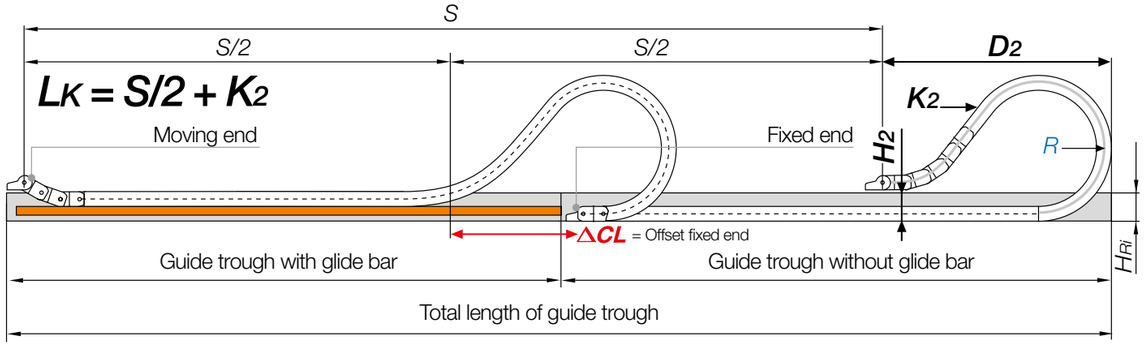
Rol e-chains® | 5050RHD | Installation dimensions





Inner height [mm]	80
Pitch [mm/link]	91
Links/m	11
corresponds to [mm]	1,001
e-chain® length	$L_K = S/2 + K$

Rolling applications | Long travels up to max. 800m | Fill weight 30kg/m



Note: We recommend the project planning of such a system to be carried out by igus®.
In case of travels under 10m we recommend an unsupported e-chain®.

R	250*	300	350	400	500
H_2 +10	242	242	242	242	242
D_2 +50	1,280	1,570	1,750	2,010	2,480
K_2	2,002	2,457	2,730	3,185	3,913
ΔCL	600	800	970	1,160	1,530

**Radius not available for e-tubes.

Accessories | More information ▶ www.igus.eu/5050RHD



Optimised, cable-friendly interior separation



Steel mounting brackets, pivoting, tough and electrically conductive



Extension links - for extremely wide e-chains® up to 3.0m

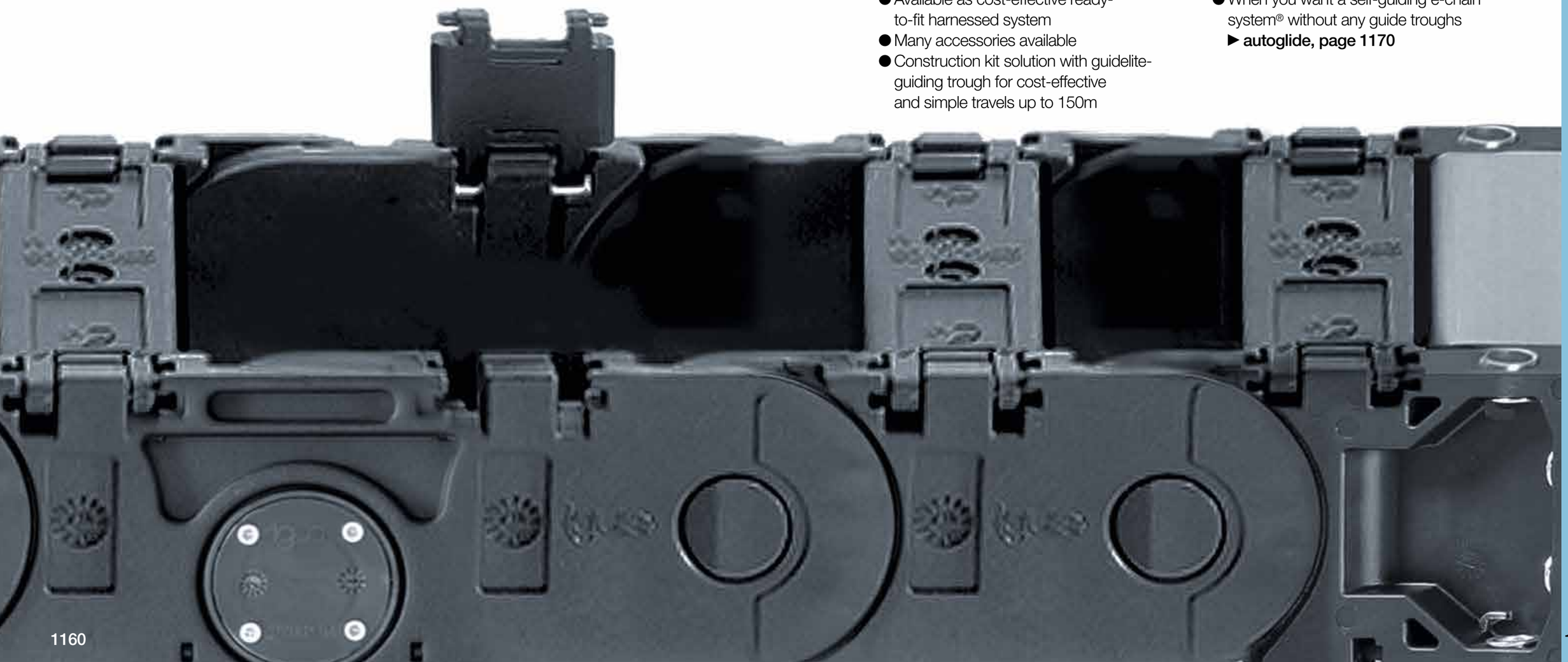


Aluminium SuperTrough, Heavy-duty Version

E2/000
rol e-chain®
For long travels up to 150m, energy efficient and cost-effective

Advantages E2/000 rol e-chain®:
- Required drive power is reduced up to 75% while increasing the service life of the e-chain®
- Low-noise operation as the roller link has the same pitch as the standard link
- Max. rolling speed up to 4m/s
- Available in 2 sizes
- Available as cost-effective ready-to-fit harnessed system
- Many accessories available
- Construction kit solution with guidelite-guiding trough for cost-effective and simple travels up to 150m

When to use another e-chain® series:
- For very high fill weights for long travels
  ▶ **E4/4HD heavy-duty, page 1092**
- When you want a profile-rol e-chain® with which you can reduce energy consumption by up to 57%
  ▶ **P4 system, page 1112**
- When you want a self-guiding e-chain system® without any guide troughs
  ▶ **autoglide, page 1170**



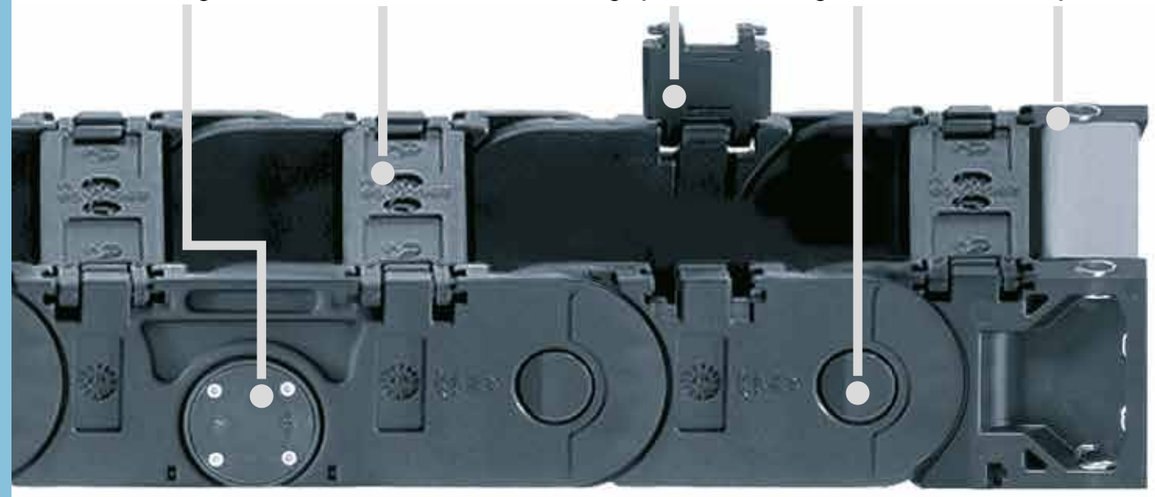
Long service life: high-strength rollers, quiet design, stainless steel ball bearings

Fast filling: openable along the outer radius, from both sides

Easy to assemble: fast opening and closing by hand

High strength: large pin/bore and crossbar with high locking force

Universal: KMA attachment from any side



Long travels up to 150m, energy-efficient and cost-effective - E2/000 rol e-chain®

The igus® rol e-chain® of the E2/000 series enables very cost-effective long travels up to 150m. As a result, the drive power needed is reduced by up to **75% and the service life of the e-chain®** is increased. The rol e-chain® of the E2/000 series is the perfect solution for long travels in simple environments, e.g. in greenhouses, etc.

- Economic, long travel up to 150m
- Required drive power is **reduced up to 75%** while increasing the service life of the e-chain®
- Low-noise operation as the roller e-chain® link has the same pitch as the standard e-chain® link
- Max. rolling speed up to 4m/s
- Available in 2 sizes
- Available as cost-effective ready-to-fit harnessed system
- Construction kit solution with guidelite guide trough for cost-effective and simple travels up to 150m

Typical industries and applications

● Greenhouses ● Crane equipment ● Bulk-handling/material handling equipment ● Traversing systems ● Travel distances up to 150m ● Applications with low cycle numbers

Series	Inner height *hi* [mm]	Inner width *Bi* [mm]	Outer width *Ba* [mm]	Outer height *ha* [mm]	Bend radius *R* [mm]	Travel ≤ [m]	Page
 **E2/000 rol e-chains® -** crossbars openable along the outer radius, from both sides							
2700R	35	50 - 175	66 - 194	50	150	150	**1166**
3500R	45	50 - 250	70 - 270	64	125 - 200	150	**1168**

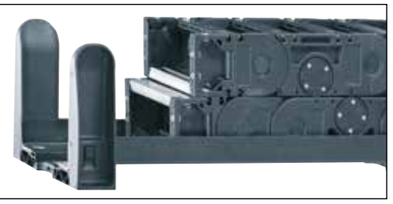
Available from stock. Ready to ship in 24 - 48hrs.*

*The delivery times indicated correspond to the average time until the ordered goods are dispatched.

Even more cost-effective: E2/000 rol e-chain® with guidelite guide trough as a construction kit solution

- Cost-effective long travels up to 150m
- Construction kit system for long travels with low cycle duty
- Lightweight, cost-effective and corrosion-resistant

More information ▶ www.igus.eu/guidelite



Technical data

Speed rolling	≤ 4 [m/s]
Acceleration rolling	≤ 50 [m/s²]
Material - permitted temperature °C, igumid G	-40°C / +120°C
Flammability class, igumid G	VDE 0304 IIC UL94-HB

Order example | Order key

Order example for complete e-chain® (1.0m), colour black, with mounting brackets and interior separation:

e-chain® (1.0m)	Please indicate e-chain® length or number of links: 1.0m or 15 links	3500R.100.150.0
+ Mounting brackets	1 set, KMA pivoting	34001.100.12.C
Interior separation	with 2 separators assembled every 2nd link	2 x 45.1.1
Order text:	1 m 3500R.100.150.0 + 34001.100.12.C + 2 x 45.1.1	

Order key
3500R.100.150.0

- Default colour black
- Bend radius *R*
- Width index
- Series / Type



E2/000 rol e-chain® in a guidelite guide trough on an irrigation plant

P4 profile-rol e-chain® - reduce energy consumption by 57%
- Safe, low-noise, abrasion-resistant energy supply system for long travels
- Long travels up to 800m and more, high fill weights up to 30kg/m
- For very long travels and high travel speeds up to 10m/s
- autoglide crossbars for safe guidance

More information ▶ From page 1112



autoglide - self-guiding e-chain systems®
- Self-guiding e-chains® without the need for guide troughs, available in 4 versions
- Travels up to 80m and travel speeds up to 2.5m/s
- Quick installation for long travels
- Small width, quiet operation, cost-effective

More information ▶ From page 1170



E2/000 rol e-chain® | 2700R | Product range

35

Long travels up to 150m - energy-efficient and cost-effective



e-chain® | Series 2700R | Openable along the outer radius, from both sides

Part No.	Bi	Ba	R Available bend radii						2700R
e-chains®	[mm]	[mm]	[mm]						[kg/m]
2700R.05 .R.0	50	66	100*	125*	150	200*	–		≈ 1.17
2700R.06 .R.0	65	81	100*	125*	150	200*	250*		≈ 1.24
2700R.07 .R.0	75	91	100*	125*	150	200*	250*		≈ 1.30
2700R.09 .R.0	90	106	100*	125*	150	200*	250*		≈ 1.37
2700R.10 .R.0	100	116	100*	125*	150	200*	250*		≈ 1.39
2700R.12 .R.0	125	141	100*	125*	150	200*	250*		≈ 1.48
2700R.15 .R.0	150	166	100*	125*	150	200*	250*		≈ 1.62
2700R.17 .R.0	175	194	100*	125*	150	200*	250*		≈ 1.85

*Radius available upon request. Please consult igus® for delivery time.

Complete Part No. with required radius (*R*). Example: **2700R.100.150.0**

Even more cost-effective: E2/000 rol e-chain® with guidelite guide trough as a construction kit solution

- Cost-effective long travels up to 150m
- Construction kit system for long travels with low cycle duty
- Lightweight, cost-effective and corrosion-resistant

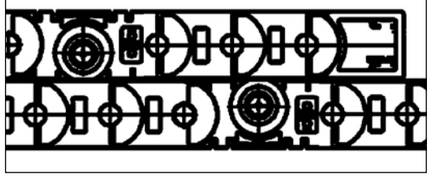
More information ▶ www.igus.eu/guidelite

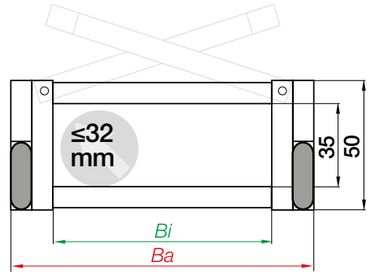


E2/000 rol e-chains® | 2700R | Installation dimensions

E2/000 rol e-chains® mechanism

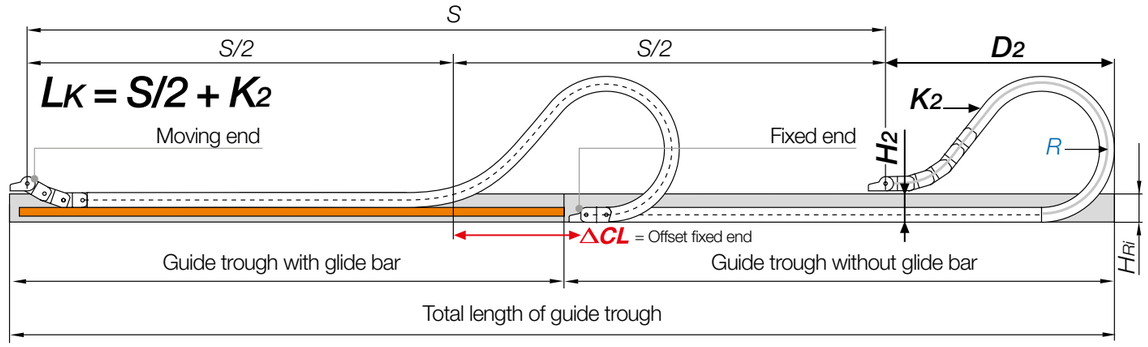
The upper run rolls on the lower run of the e-chain®. "Rolling instead of gliding"





Inner height [mm]	35
Pitch [mm/link]	56
Links/m	18
corresponds to [mm]	1,008
e-chain® length	$L_K = S/2 + K$

Rolling applications | Long travels up to max. 150m | Fill weight 2.5kg/m



Note: We recommend the project planning of such a system to be carried out by igus®.
In case of travels under 10m we recommend an unsupported e-chain®.

R	100*	125*	150	200*	250*
H_2	166	166	166	166	166
D_2^{+25}	350	475	500	770	950
K_2	616	784	896	1,288	1,624
ΔCL	144	244	244	464	594

*Radius available upon request. Please consult igus® for delivery time.

Accessories | More information ▶ www.igus.eu/2700R



Optimised, cable-friendly interior separation



Pivoting KMA mounting bracket with attachment from any side



Plastic mounting brackets with many strain relief options



Steel mounting brackets, tough and electrically conductive



Aluminium SuperTrough, basic version

E2/000 rol e-chain® | Series 3500R | Product range

45

Long travels up to 150m - energy-efficient and cost-effective



e-chains® | Series 3500R | Openable along the outer radius, from both sides

Part No.	Bi	Ba	R Available bend radii					3500R
e-chains®	[mm]	[mm]	[mm]					[kg/m]
3500R.050 .R.0	50	70	125	150	200	–	–	≈ 1.60
3500R.075 .R.0	75	95	125	150	200	250*	300*	≈ 1.78
3500R.100 .R.0	100	120	125	150	200	250*	300*	≈ 1.93
3500R.115 .R.0	115	135	125	150	200	250*	300*	≈ 1.99
3500R.125 .R.0	125	145	125	150	200	250*	300*	≈ 2.03
3500R.150 .R.0	150	170	125	150	200*	250*	300*	≈ 2.17
3500R.175 .R.0	175	195	125	150	200	250*	300*	≈ 2.28
3500R.200 .R.0	200	220	125	150	200	250*	300*	≈ 2.45
3500R.225 .R.0	225	245	125	150	200	250*	300*	≈ 2.59
3500R.250 .R.0	250	270	125	150	200	250*	300*	≈ 2.73

*Radius available upon request. Please consult igus® for delivery time.

Complete Part No. with required radius (*R*). Example: **3500R.100.150.0**

Even more cost-effective: E2/000 rol e-chain® with guidelite guide trough as a construction kit solution

- Cost-effective long travels up to 150m
- Construction kit system for long travels with low cycle duty
- Lightweight, cost-effective and corrosion-resistant

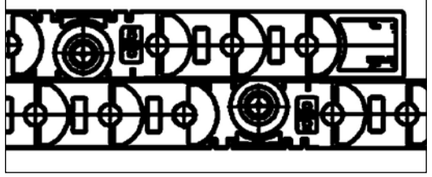
More information ▶ www.igus.eu/guidelite

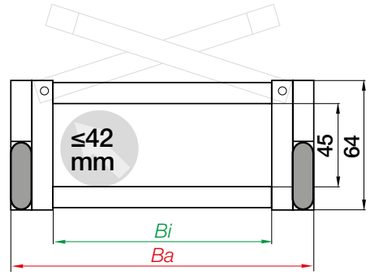


E2/000 rol e-chains® | 3500R | Installation dimensions

E2/000 rol e-chains® mechanism

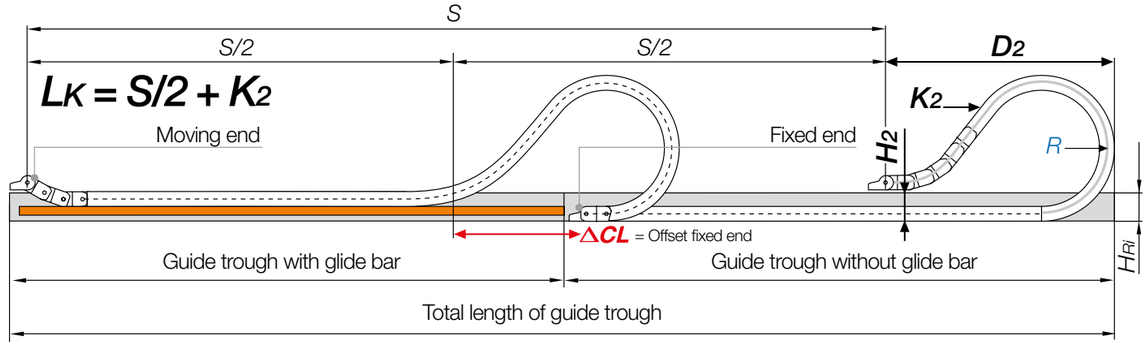
The upper run rolls on the lower run of the e-chain®. "Rolling instead of gliding"





Inner height [mm]	45
Pitch [mm/link]	67
Links/m	15
corresponds to [mm]	1,005
e-chain® length	$L_K = S/2 + K$

Rolling applications | Long travels up to max. 150m | Fill weight 8.0kg/m



Note: We recommend the project planning of such a system to be carried out by igus®.
In case of travels under 10m we recommend an unsupported e-chain®.

R	125	150	200[1)]	250*	300*
H_2	186	186	186	186	186
D_2^{+25}	475	570	780	1,010	1,150
K_2	804	1,005	1,340	1,675	1,943
ΔCL	233	303	463	643	733

*Radius available upon request. Please consult igus® for delivery time. 1) Radius for series 3500R.150.200.0 available upon request. Delivery time upon request

Accessories | More information ▶ www.igus.eu/3500R



Optimised, cable-friendly interior separation



Pivoting KMA mounting bracket with attachment from any side



Plastic mounting brackets with many strain relief options



Steel mounting brackets, tough and electrically conductive



Aluminium SuperTrough, basic version

autoglide

Make savings on long travel distances with self-guiding e-chains®

Advantages autoglide:

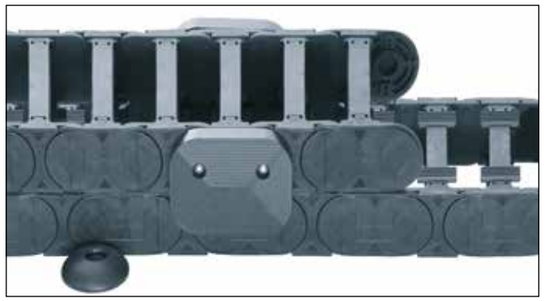
- Self-guiding e-chain systems®, without the need for any guide troughs
- Safe, low-noise, abrasion-resistant energy supply system for long travels
- Available in 4 versions
- Travels up to 80m and travel speeds up to 2.5m/s
- Cost-effective solution, guide troughs not required
- Small width, quiet operation

When to use another e-chain® series:

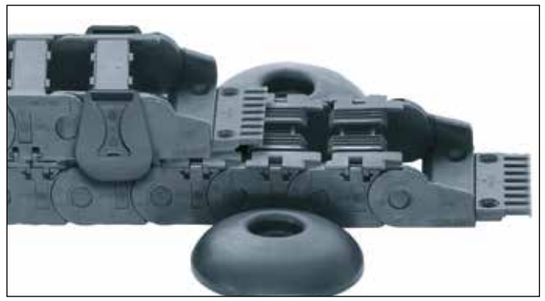
- For very high fill weights for long travels
  ► **E4/4HD heavy-duty, page 1092**
- When you want a profile-rol e-chain® with which you can reduce energy consumption by up to 57%
  ► **P4 system, page 1112**
- When you want a strong rol e-chain® requiring 75% less drive power
  ► **E4/4 rol e-chain®, page 1142**



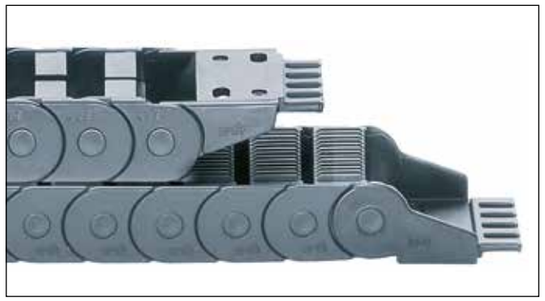
There are 4 versions of the igus® autoglide system



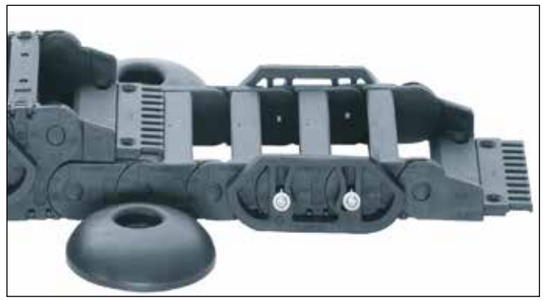
Version 01 - for igus® E4.1 e-chains®
Special crossbars along the inner radius of the igus® e-chain® fitted with moulded autoglide grooves



Version 02 - for igus® E2/000 e-chains®
Special crossbars with moulded autoglide grooves. Openable along the inner radius



Version 03 - for igus® easy chain® e-chains®
Combination of the easy to fill easy chain® and moulded autoglide grooves along the inner radius



Version 04 - for series E2/000 e-chains®
Special plastic autoglide grooves side-mounted on the e-chain® keep the e-chain® on track

Make savings on long travel distances with self-guiding e-chains® - autoglide

Long travels are always demanding for an e-chain system®. For much of the travel, the e-chain® must run on the lower run or on glide bars. In addition the e-chain system® needs guides, in order to prevent sideways movement. In most cases this is ensured by using a guide trough. However, there are also applications where a guide trough is not desirable for space reasons, whether this is due to visual or spatial requirements. In order to meet this need, igus® developed the autoglide system in 1995. autoglide is a self-aligning e-chain®, which can dispense with guide troughs for up to 80m travel.

- Travels up to 80m and travel speeds up to 2.5m/s
- Cost-effective solution, guide troughs not required
- Very fast installation for long travel distances, no guide troughs needed!
- Small width, quiet operation

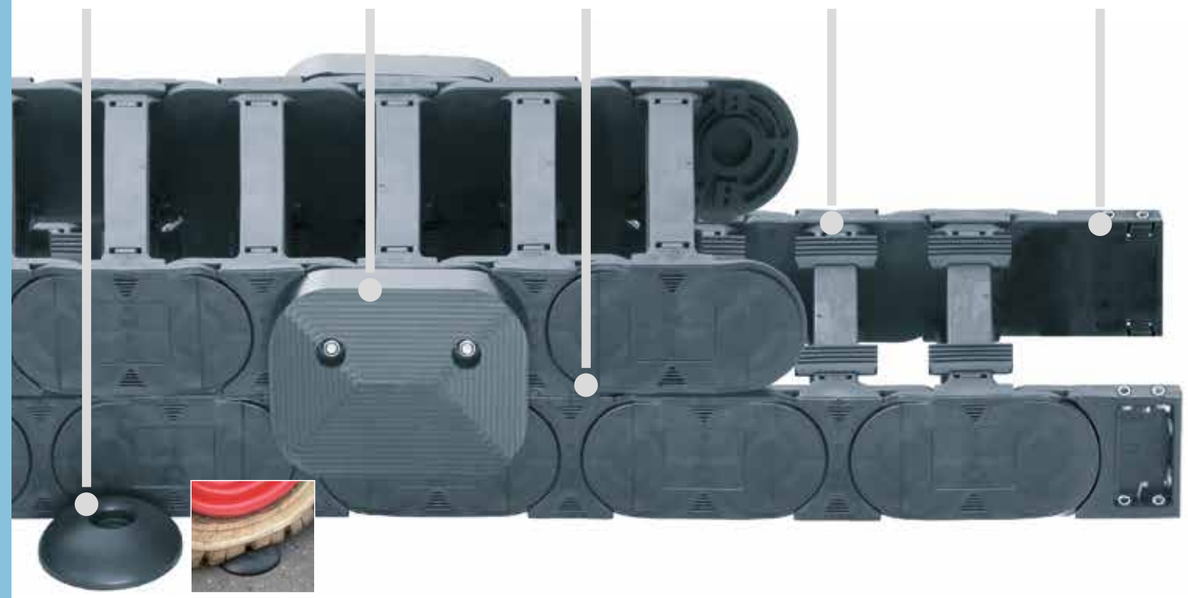
Typical industries and applications

● Industrial vehicles ● Long travels with light filling ● Simple outdoor applications

Series	Inner height *hi* [mm]	Inner width *Bi* [mm]	Outer width *Ba* [mm]	Outer height *ha* [mm]	Bend radius *R* [mm]	Travel ≤ [m]	Page
	**autoglide version 01 - self-guiding e-chains® for system E4.1** crossbars along the inner radius of the e-chain® fitted with moulded autoglide grooves						
E4.32AG	32	112 - 262	136 - 286	54	100 - 300	60	**1176**
E4.42AG	42	112 - 262	139 - 289	64	125 - 350	70	**1178**
E4.56AG	56	150 - 250	184 - 284	84	150 - 500	80	**1180**
	**autoglide version 02- self-guiding e-chains® for system E2/000** crossbars along the inner radius of the e-chain® fitted with moulded autoglide grooves						
2400AG	25	57 - 77	73 - 93	35	075 - 250	40	**1184**
2600AG	35	50 - 75	66 - 91	50	075 - 250	60	**1186**
3400AG	45	75 - 100	95 - 120	64	100 - 300	70	**1188**
	**autoglide version 03- easy filling - simply press cables in** easy chain® design along outer radius, moulded autoglide combs along the inner radius						
EA16	32	48	60	39	065 - 100	20	**1192**
EA25	25	50	60	25.2	075 - 100	20	**1193**
	**autoglide version 04 - special glide elements provide** safe guidance in the case of the E2/000: e-chains® half and full e-tubes						
2400/2500.AG	25	57 - 125	73 - 141	35	055 - 250	20	**1196**
2600/2700.AG	35	50 - 250	66 - 194	50	075 - 250	30	**1198**

Available from stock. Ready to ship in 24 - 48hrs.*

*The delivery times indicated correspond to the average time until the ordered goods are dispatched.



Self-guiding e-chains® for system E4.1 - autoglide version 01

For the larger e-chains® of the E4.1 system. Glide wings and floor guides - simple guide elements for quick installation on the floor are available for the autoglide system version 01. The eccentric guides are fastened to the floor every 2 metres. The glide wing fastened on the moving end keeps the e-chain® securely on track. The autoglide crossbars safely guide the e-chain® and replace the guide trough.

- For the larger E4.1 e-chains®
- Simple guide elements for quick installation
- The autoglide crossbars safely guide the e-chain® replacing the need for a guide trough
- For travels over 10m
- Floor guides can be driven over

Note: Only two glide wings AG.XXX.OF are required for the safe running of the e-chain®. The glide wing is mounted on the outer link of the upper run, which then holds onto the lower run.

Typical industries and applications

● Industrial vehicles ● Long travels with easier filling ● Simple outdoor applications

Find a video online
▶ www.igus.eu/autoglide

Available from stock. Ready to ship in 24 - 48hrs.*
*The delivery times indicated correspond to the average time until the ordered goods are dispatched.

Technical data

Speed gliding	**≤ 2.5 [m/s]**
Acceleration gliding	**≤ 2.5 [m/s²]**
Material - permitted temperature °C, igumid G	**-40°C / +120°C**
Flammability class, igumid G	**VDE 0304 IIC UL94-HB**

Order example | Order key

Order example for complete e-chain® (15.0m), colour black, with mounting brackets and interior separation:

e-chain® (15m)	indicate e-chain® length: 15m	E4.32.15.150.0.AG.NC
e-chain® + Glide wings	Module, containing 3 e-chain® links and 2 glide wings	E4.32.15.150.0.AG.**OF**.NC
+ Floor guides	8 pieces (2 units every 2m from the half of the travel)	AG.380.BF
Order text:	**15 m E4.32.15.150.0.AG.NC + E4.32.15.150.0.AG.OF.NC + AG.380.BF**	

(mounting bracket + interior separation optional)

Note: we require one glide wing per e-chain® to the left and right at the position where the upper run first meets the lower run.

Order key
E4.32.15.150.0.AG.OF.NC

- Assembled as NC version
- with assembled glide wing
- autoglide
- Default colour black
- Bend radius ***R***
- Width index
- Series / Type



autoglide with assembled glide wing. Module, containing 3 e-chain® links and 2 glide wings Part No. **E4.32.15.150.0.AG.OF.NC**



autoglide self-guiding e-chains® Part No. **E4.32.15.150.0.AG.NC**



Glide wing Part No. **AG.280.OF** and floor guide Part No. **AG.380.BF** as an individual part

Version 01 | Series E4.32AG | Product range

32

Crossbars along the inner radius fitted with moulded autoglide grooves



Series E4.32AG | Crossbars every link (crossbars removable along the inner and outer radius)

Part No. e-chains®	Bi [mm]	Ba [mm]	R Available bend radii [mm]	E4.32AG [kg/m]	Glide wing*	Floor guide*
E4.32. 112 .R.0.AG.NC	112	136	| 100 | 125 | 150 | 175 | 200 | 220 | 250 | 300 |	≈ 2.106	AG.280.OF	AG.380.BF
E4.32. 12 .R.0.AG.NC	125	148	| 100 | 125 | 150 | 175 | 200 | 220 | 250 | 300 |	≈ 2.176	AG.280.OF	AG.380.BF
E4.32. 15 .R.0.AG.NC	150	173	| 100 | 125 | 150 | 175 | 200 | 220 | 250 | 300 |	≈ 2.343	AG.280.OF	AG.380.BF
E4.32. 17 .R.0.AG.NC	168	191	| 100 | 125 | 150 | 175 | 200 | 220 | 250 | 300 |	≈ 2.444	AG.280.OF	AG.380.BF
E4.32. 20 .R.0.AG.NC	200	223	| 100 | 125 | 150 | 175 | 200 | 220 | 250 | 300 |	≈ 2.657	AG.280.OF	AG.380.BF
E4.32. 262 .R.0.AG.NC	262	286	| 100 | 125 | 150 | 175 | 200 | 220 | 250 | 300 |	≈ 3.050	AG.280.OF	AG.380.BF

More widths upon request. Please consult igus® for delivery time. *Part No. of individual part

Complete Part No. with required radius (R). Example: **E4.32.15.150.0.AG.NC**

To receive autoglide e-chains® with pre-fitted glide wings please add index **.OF**. Example:. **E4.32.15.150.0.AG.OF.NC**

P4 profile-rol e-chain® - reduce energy consumption by 57%

- Safe, low-noise, abrasion-resistant energy supply system for long travels
- Long travels up to 800m and more, high fill weights up to 30kg/m
- For very long travels and high travel speeds up to 10m/s
- autoglide crossbars for safe guidance

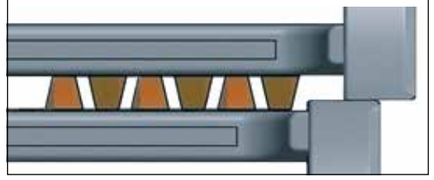
More information ▶ From page 1112

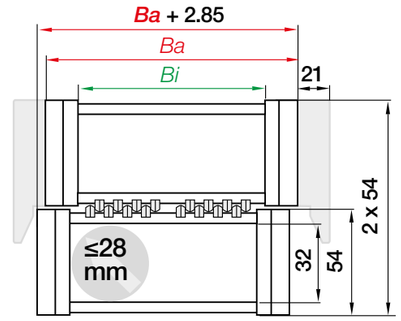


Version 01 | Series E4.32AG | Installation dimensions

autoglide principle

Offset operation of upper and lower run, offering a consistent glide surface

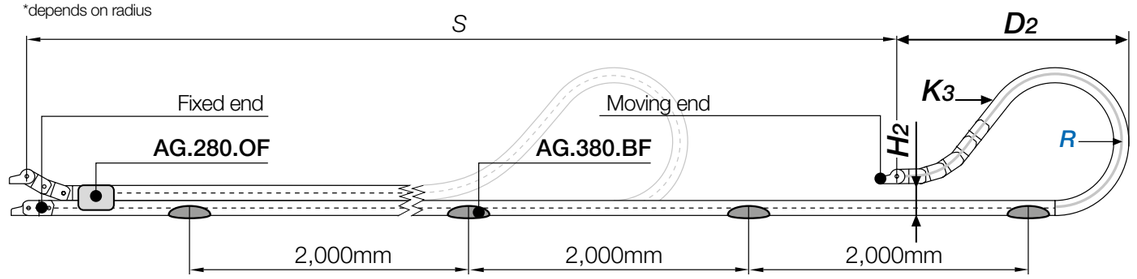




Inner height [mm]	32
Pitch [mm/link]	56
Links/m	18
corresponds to [mm]	1,008
e-chain® length	$L_K = S/2 + K$

Gliding applications | Long travels up to max. 60m | Fill weight* 5.0 - 7.0kg/m

*depends on radius



Note: We recommend the project planning of such a system to be carried out by igus®.
In case of travels under 10m we recommend an unsupported e-chain®.

R	100	125	150	175	200	220	250	300
H_2	166	166	166	166	166	166	166	166
D_2	370	470	500	655	770	900	930	1,100
K_3	840	1,064	1,232	1,568	1,848	2,072	2,240	2,688

Accessories | More information ▶ www.igus.eu/E4.32AG



Optimised, cable-friendly interior separation



Pivoting KMA mounting bracket with attachment from any side

Version 01 | Series E4.42AG | Product range

42

Crossbars along the inner radius fitted with moulded autoglide grooves



Series E4.42AG | Crossbars every link (crossbars removable along the inner and outer radius)

Part No. e-chains®	Bi [mm]	Ba [mm]	R Available bend radii [mm]	E4.42AG [kg/m]	Glide wing*	Floor guide*
E4.42. 112 .R.0.AG.NC	112	139	| 125 | 150 | 160 | 175 | 200 | 250 | 300 | 350 |	≈ 2.372	AG.380.OF	AG.380.BF
E4.42. 12 .R.0.AG.NC	125	151	| 125 | 150 | 160 | 175 | 200 | 250 | 300 | 350 |	≈ 2.430	AG.380.OF	AG.380.BF
E4.42. 15 .R.0.AG.NC	150	176	| 125 | 150 | 160 | 175 | 200 | 250 | 300 | 350 |	≈ 2.569	AG.380.OF	AG.380.BF
E4.42. 17 .R.0.AG.NC	168	194	| 125 | 150 | 160 | 175 | 200 | 250 | 300 | 350 |	≈ 2.654	AG.380.OF	AG.380.BF
E4.42. 20 .R.0.AG.NC	200	226	| 125 | 150 | 160 | 175 | 200 | 250 | 300 | 350 |	≈ 2.831	AG.380.OF	AG.380.BF
E4.42. 262 .R.0.AG.NC	262	289	| 125 | 150 | 160 | 175 | 200 | 250 | 300 | 350 |	≈ 3.159	AG.380.OF	AG.380.BF

More widths upon request. Please consult igus® for delivery time. *Part No. of individual part

Complete Part No. with required radius (R). Example: **E4.42.15.150.0.AG.NC**

To receive autoglide e-chains® with pre-fitted glide wings please add index .**OF** .Example: **E4.42.15.150.0.AG.OF.NC**

P4 profile-rol e-chain® - reduce energy consumption by 57%

- Safe, low-noise, abrasion-resistant energy supply system for long travels
- Long travels up to 800m and more, high fill weights up to 30kg/m
- For very long travels and high travel speeds up to 10m/s
- autoglide crossbars for safe guidance

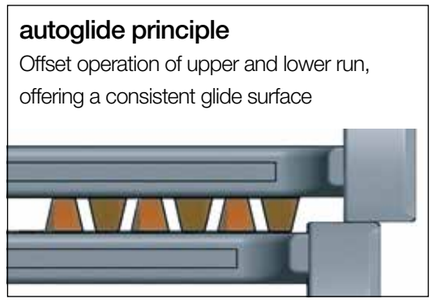
More information ▶ From page 1112

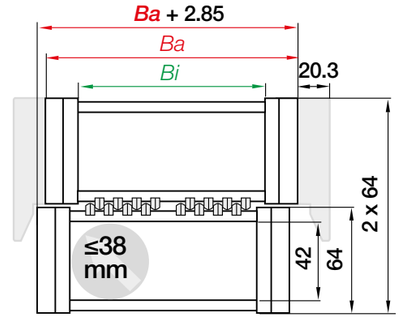


Version 01 | Series E4.42AG | Installation dimensions

autoglide principle

Offset operation of upper and lower run, offering a consistent glide surface

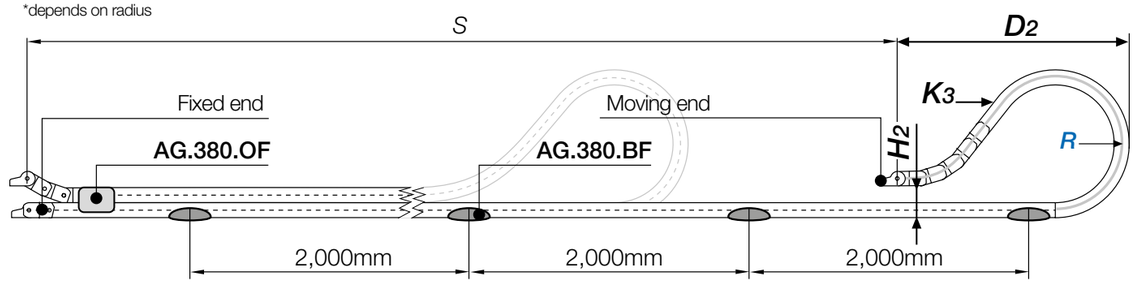




Inner height [mm]	42
Pitch [mm/link]	67
Links/m	15
corresponds to [mm]	1,005
e-chain® length	$L_K = S/2 + K$

Gliding applications | Long travels up to max. 70m | Fill weight* 4.0 - 9.6kg/m

*depends on radius



Note: We recommend the project planning of such a system to be carried out by igus®.
In case of travels under 10m we recommend an unsupported e-chain®.

R	125	150	160	175	200	250	300	350
H_2	186	186	186	186	186	186	186	186
D_2	475	570	623	670	780	1,030	1,150	1,500
K_3	1,139	1,340	1,474	1,608	1,876	2,412	2,747	3,551

Accessories | More information ▶ www.igus.eu/E4.42AG



Optimised, cable-friendly interior separation



Pivoting KMA mounting bracket with attachment from any side

Version 01 | Series E4.56AG | Product range

56

Crossbars along the inner radius fitted with moulded autoglide grooves



Series E4.56AG | Crossbars every link (crossbars removable along the inner and outer radius)

Part No. e-chains®	Bi [mm]	Ba [mm]	R Available bend radii [mm]	E4.56AG [kg/m]	Glide wing*	Floor guide*
E4.56. 15 .R.0.AG.NC	150	184	|150|175|200|240|250|300|350|400|450|500|	≈ 4.109	AG.400.OF	AG.380.BF
E4.56. 21 .R.0.AG.NC	212	247	|150|175|200|240|250|300|350|400|450|500|	≈ 4.567	AG.400.OF	AG.380.BF
E4.56. 25 .R.0.AG.NC	250	284	|150|175|200|240|250|300|350|400|450|500|	≈ 4.896	AG.400.OF	AG.380.BF

More widths upon request. Please consult igus® for delivery time. *Part No. of individual part

Complete Part No. with required radius (R). Example: **E4.56.15.150.0.AG.NC**

To receive autoglide e-chains® with pre-fitted glide wings please add index .**OF** .Example: **E4.56.15.150.0.AG.OF.NC**

P4 profile-rol e-chain® - reduce energy consumption by 57%

- Safe, low-noise, abrasion-resistant energy supply system for long travels
- Long travels up to 800m and more, high fill weights up to 30kg/m
- For very long travels and high travel speeds up to 10m/s
- autoglide crossbars for safe guidance

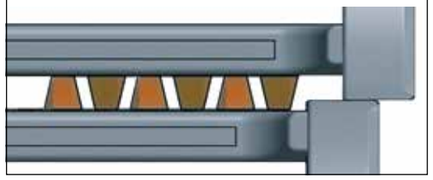
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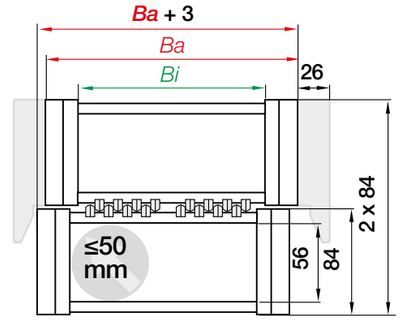


Version 01 | Series E4.56AG | Installation dimensions

autoglide principle

Offset operation of upper and lower run, offering a consistent glide surface

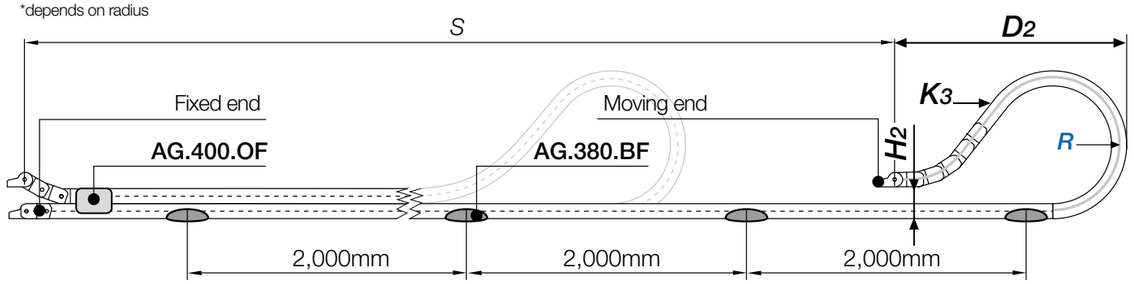




Inner height [mm]	56
Pitch [mm/link]	91
Links/m	11
corresponds to [mm]	1,001
e-chain® length	$L_K = S/2 + K$

Gliding applications | Long travels up to max. 80m | Fill weight* 6.4 - 12kg/m

*depends on radius



Note: We recommend the project planning of such a system to be carried out by igus®.
In case of travels under 10m we recommend an unsupported e-chain®.

R	150	175	200	240	250	300	350	400	450	500
H_2	266	266	266	266	266	266	266	266	266	266
D_2	450	580	710	900	980	1,180	1,440	1,530	1,700	1,850
K_3	1,092	1,456	1,729	2,184	2,366	2,821	3,276	3,640	4,095	4,550

Accessories | More information ▶ www.igus.eu/E4.56AG



Optimised, cable-friendly interior separation



Pivoting KMA mounting bracket with attachment from any side

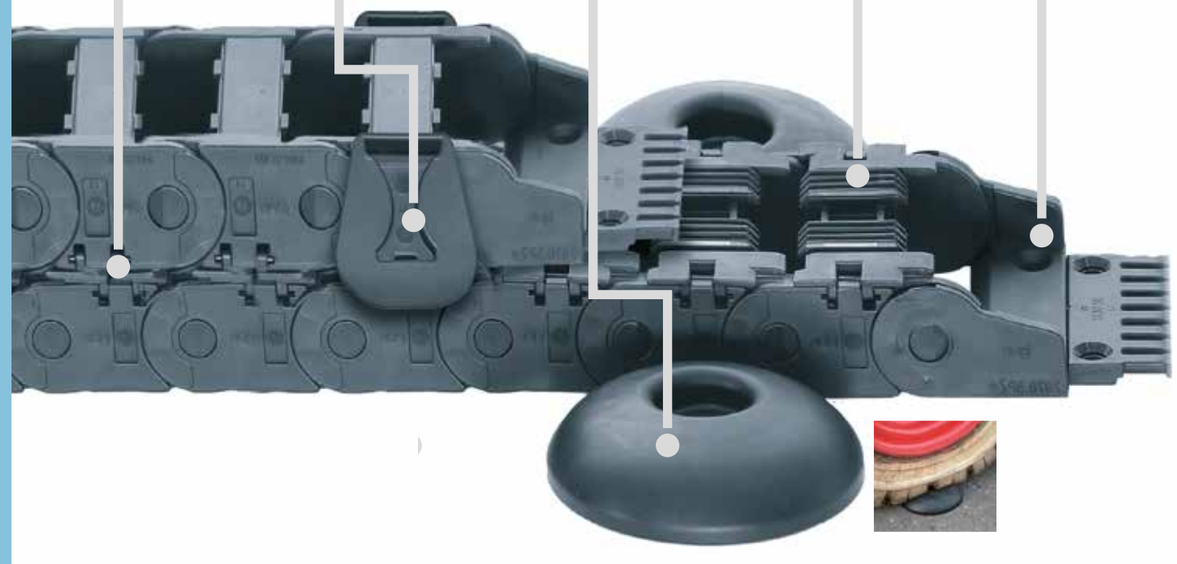
Smooth running: offset operation of upper and lower run

Safely on track: clip-on glide wing holds the e-chain®

Practical: traversable floor guides

Secure guidance: comb style auto glide crossbars

Universal: mounting bracket with strain relief



Self-guiding e-chains® for system E2/000 - autoglide version 02

Guide troughs for long travels can be dispensed with when using the autoglide system. Self-guiding e-chains® can glide safely on top of each other for up to 70 metres. The system has now been extended to the igus® E2/000 and further improved. The autoglide crossbars ensure even longer life. A clip-on glide wing ensures safe e-chain® alignment over the first few metres of travel. The eccentric guides are fastened to the floor every 2 metres.

- Travel distance up to 70m and speed up to 2.0m/s
- Very compact, removes troughs forming an obstacle in the working area
- Quick installation for long travels
- Openable along the inner radius
- Also for "half tube" fully enclosed in the outer radius
- Clip-on glide wings, secure movement of the e-chain®
- Floor guides can be driven over

Typical industries and applications

● Greenhouses ● Storage and retrieval systems ● Conveyor belts ● Indoor cranes ● Handlings ● And many other long travel applications

Find a video online
▶ www.igus.eu/safetrough

Technical data

Speed gliding	**≤ 2.0 [m/s]**
Acceleration gliding	**≤ 1.0 [m/s²]**
Material - permitted temperature °C, igumid G	**-40°C / +120°C**
Flammability class, igumid G	**VDE 0304 IIC UL94-HB**

Order example | Order key

Order example for complete e-chain® (15.0m), colour black, with mounting brackets and interior separation:

e-chain® (15m)	indicate e-chain® length: 15m	E4.32.15.150.0.AG.NC
+ Glide wings	2 glide wings are required per e-chain®	E4.32.15.150.0.AG.**OF**.NC
+ Floor guides	8 pieces (2 units every 2m from the half of the travel)	AG.380.BF
Order text:	**15 m 2400.05AG.100.0 + AG.2400.OF + AG.380.BF**	

(mounting bracket + interior separation optional)

Note: we require one glide wing per e-chain® to the left and right at the position where the upper run first meets the lower run.

Order key
2400.05AG.100.0

- Default colour black
- Bend radius *R*
- autoglide
- Width index
- Series / Type

Available from stock. Ready to ship in 24 - 48hrs.*

*The delivery times indicated correspond to the average time until the ordered goods are dispatched.

Version 02 | Series 2400AG | Product range

Crossbars with moulded autoglide grooves

25



2400AG | Crossbars openable along the inner radius, from both sides

Part No. e-chains®	Bi [mm]	Ba [mm]	R Available bend radii [mm]	2400AG [kg/m]	Glide wing*	Floor guide*
2400.05 AG.R.0	57	73	| 075 | 100 | 125 | 150 | 175 | 200 | 225 | 250 |	≈ 1.00	AG.2400.OF	AG.380.BF
2400.07 AG.R.0	77	93	| 075 | 100 | 125 | 150 | 175 | 200 | 225 | 250 |	≈ 1.10	AG.2400.OF	AG.380.BF

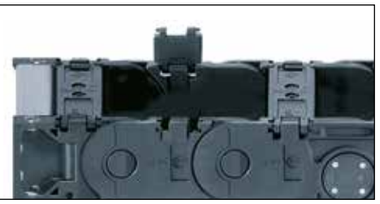
More widths upon request. Please consult igus® for delivery time. *Part No. of individual part

Complete Part No. with required radius (*R*). Example: **2400.05AG.100.0**

E2/000 rol e-chain® - energy-efficient and cost-effective

- Required drive power is reduced up to 75% while increasing the service life of the e-chain®
- Travels up to 150m, max. rolling speed up to 4m/s
- Available as cost-effective ready-to-fit harnessed system with many accessories

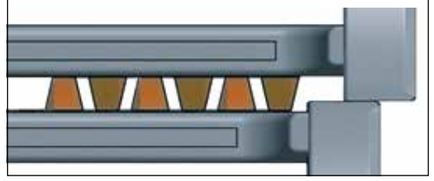
More information ▶ From page 1160

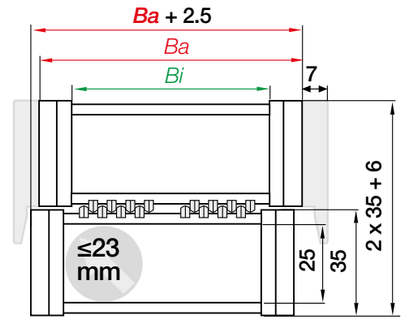


Version 02 | Series 2400AG | Installation dimensions

autoglide principle

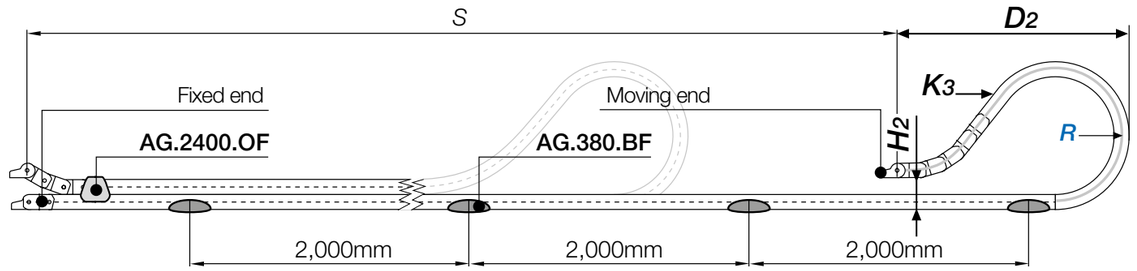
Offset operation of upper and lower run, offering a consistent glide surface





Inner height [mm]	25
Pitch [mm/link]	46
Links/m	22
corresponds to [mm]	1,012
e-chain® length	$L_K = S/2 + K$

Gliding applications | Long travels up to max. 40m | Fill weight 2.0kg/m



Note: We recommend the project planning of such a system to be carried out by igus®.
For travels between 4.0 and 10m we recommend an unsupported e-chain®.

R	075	100	125	150	175	200	225	250
H_2	150	100	100	100	100	100	100	100
D_2	162	380	440	590	755	950	1,040	1,130
K_3	598	920	1,058	1,426	1,794	2,208	2,438	2,668

Accessories | More information ▶ www.igus.eu/2400AG



Optimised, cable-friendly interior separation



Pivoting mounting brackets - recommended for gliding applications



KMA mounting bracket with attachment from any side

Version 02 | Series 2600AG | Product range

Crossbars with moulded autoglide grooves

35



2600AG | Crossbars openable along the inner radius, from both sides

Part No. e-chains®	Bi [mm]	Ba [mm]	R Available bend radii [mm]	2600AG [kg/m]	Glide wing*	Floor guide*
2600.05 AG.R.0**	50	66	| 075 | 100 | 125 | 150 | 175 | 200 | 250 |	≈ 1.27	AG.2600.OF	AG.380.BF
2600.07 AG.R.0	75	91	| 075 | 100 | 125 | 150 | 175 | 200 | 250 |	≈ 1.40	AG.2600.OF	AG.380.BF

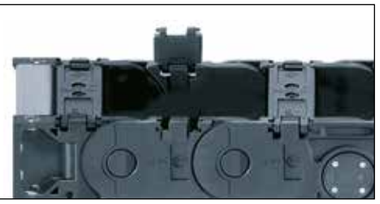
**Width and more widths upon request, please consult igus® for delivery time. Please consult igus® for delivery time. *Part No. of individual part

Complete Part No. with required radius (R). Example: **2600.05AG.100.0**

E2/000 rol e-chain® - energy-efficient and cost-effective

- Required drive power is reduced up to 75% while increasing the service life of the e-chain®
- Travels up to 150m, max. rolling speed up to 4m/s
- Available as cost-effective ready-to-fit harnessed system with many accessories

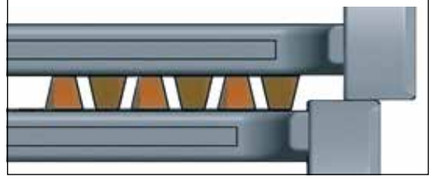
More information ▶ From page 1160

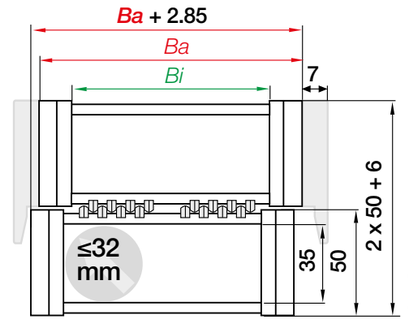


Version 02 | Series 2600AG | Installation dimensions

autoglide principle

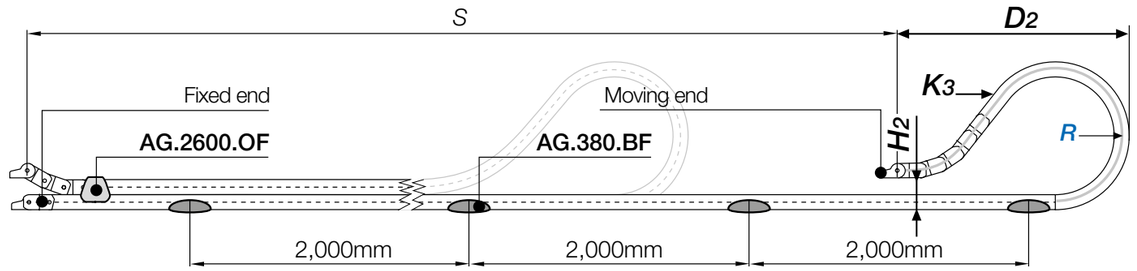
Offset operation of upper and lower run, offering a consistent glide surface





Inner height [mm]	35
Pitch [mm/link]	56
Links/m	18
corresponds to [mm]	1,008
e-chain® length	$L_K = S/2 + K$

Gliding applications | Long travels up to max. 60m | Fill weight 2.5kg/m



Note: We recommend the project planning of such a system to be carried out by igus®.
For travels between 5.0 and 10m we recommend an unsupported e-chain®.

R	075	100	125	150	175	200	250
H_2	150	166	166	166	166	166	166
D_2^{+25}	150	350	475	500	655	770	950
K_3	616	840	1,120	1,232	1,568	1,848	2,296

Accessories | More information ▶ www.igus.eu/2600AG



Optimised, cable-friendly interior separation



Pivoting mounting brackets - recommended for gliding applications



KMA mounting bracket with attachment from any side

Version 02 | Series 3400AG | Product range

45

Crossbars with moulded autoglide grooves



3400AG | Crossbars openable along the inner radius, from both sides

Part No. e-chains®	Bi [mm]	Ba [mm]	R Available bend radii [mm]	3400AG [kg/m]	Glide wing*	Floor guide*
3400.075AG.R.0**	75	95	| 100 | 125 | 150 | 200 | 250 | 300 |	≈ 1.89	AG.3400.OF	AG.380.BF
3400.100AG.R.0**	100	120	| 100 | 125 | 150 | 200 | 250 | 300 |	≈ 2.04	AG.3400.OF	AG.380.BF

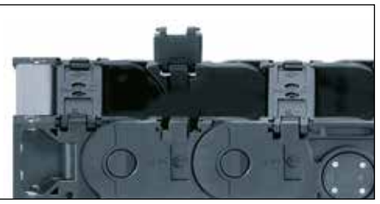
**Width and more widths upon request, please consult igus® for delivery time. Please consult igus® for delivery time. *Part No. of individual part

Complete Part No. with required radius (*R*). Example: **3400.100AG.100.0**

E2/000 rol e-chain® - energy-efficient and cost-effective

- Required drive power is reduced up to 75% while increasing the service life of the e-chain®
- Travels up to 150m, max. rolling speed up to 4m/s
- Available as cost-effective ready-to-fit harnessed system with many accessories

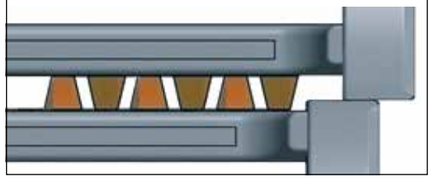
More information ▶ From page 1160

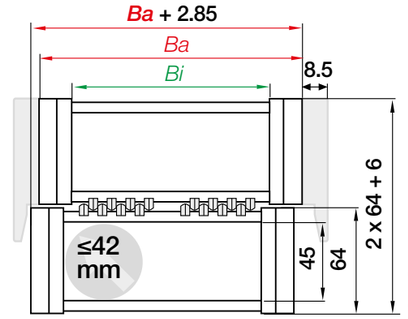


Version 02 | Series 3400AG | Installation dimensions

autoglide principle

Offset operation of upper and lower run, offering a consistent glide surface

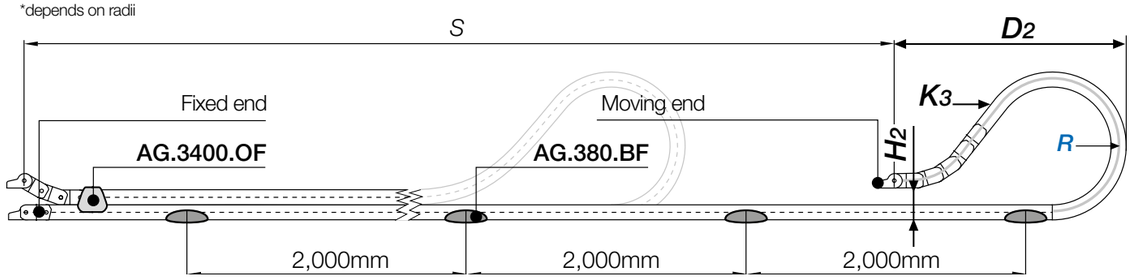




Inner height [mm]	45
Pitch [mm/link]	67
Links/m	15
corresponds to [mm]	1,005
e-chain® length	$L_K = S/2 + K$

Gliding applications | Long travels up to max. 70m | Fill weight* 5.0 - 8.0 kg/m

*depends on radii



Note: We recommend the project planning of such a system to be carried out by igus®.
For travels between 6.0 and 10m we recommend an unsupported e-chain®.

R	100	125	150	200	250	300
H_2	200	186	186	186	186	186
D_2	233	475	570	780	1,010	1,150
K_3	871	1,139	1,407	1,876	2,412	2,747

Accessories | More information ▶ www.igus.eu/3400AG



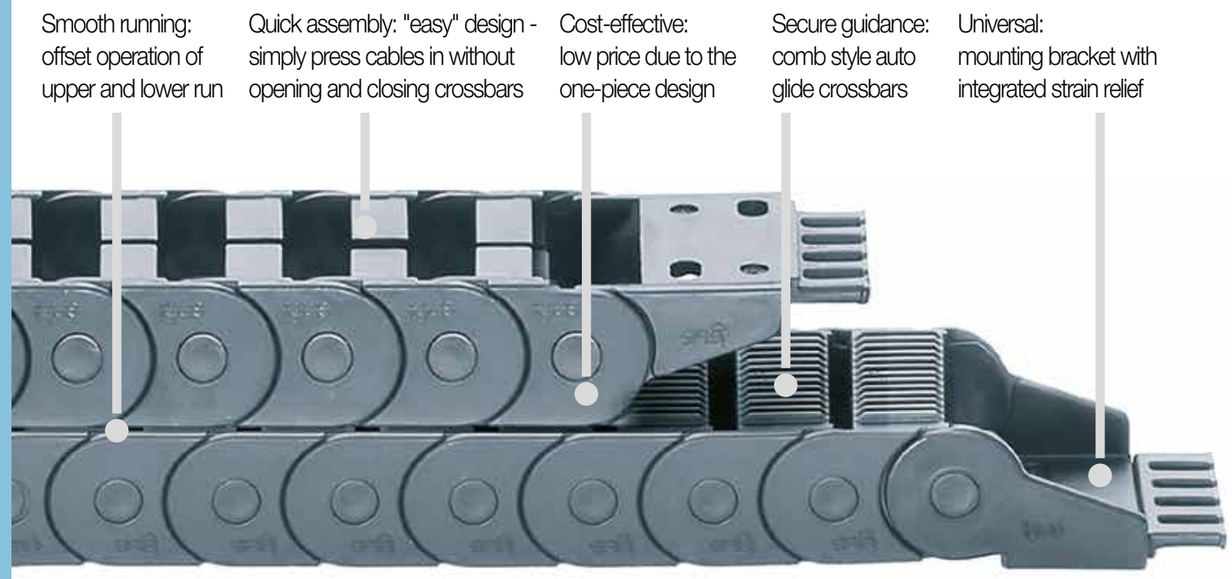
Optimised, cable-friendly interior separation



Pivoting mounting brackets - recommended for gliding applications



KMA mounting bracket with attachment from any side



easy chain® openable along the outer radius, fitted with moulded autoglide grooves along the inner radius - autoglide Version 03

Version 03 is the quickly filled and cost-effective easy chain® e-chain® with moulded autoglide combs along the inner radius. The combs, similar to tiewrap plates, are moulded directly into the e-chain® link and are available in two sizes. The primary reason to choose easy chains® is to save time when fitting cables. The material, igumid NB, presents more application opportunities due to its elasticity, UL94-V2 classification and excellent suitability for cleanrooms. The one-piece design keeps the easy chain® very cost-effective.

- Doubly cost-effective. Elimination of guide troughs and cost-effective, one-piece e-chain®
- Very quick assembly time - even for long travels
- "easy" design: easy to fill - cables and hoses can be inserted without opening
- Single part design
- Small width, quiet operation
- UL94-V2 classification

Typical industries and applications

- Industrial vehicles
- Long travels with easier filling
- Simple outdoor applications

Available from stock. Ready to ship in 24 - 48hrs.*

*The delivery times indicated correspond to the average time until the ordered goods are dispatched.

Technical data

Speed gliding	**≤ 1.0 [m/s]**
Acceleration gliding	**≤ 1.0 [m/s²]**
Material - permitted temperature °C, igumid G	**-40°C / +80°C**
Flammability class, igumid G	**VDE 0304 IIC UL94-V2**

Order example | Order key

Order example for complete e-chain® (1.0m), colour black, with mounting brackets and interior separation:

e-chain® (1.0m)	Please indicate e-chain® length or number of links: 1.0m or 40 links	**EA25.050.100.0**
+ Mounting brackets	1 set (with tiewrap plates)	**EA25.050.12PZ**
Order text:	**1 m EA25.050.100.0 + EA25.050.12PZ**	

Order key
EA25.050.100.0

- Default colour black
- Bend radius ***R***
- Width index
- Series / Type



Simply press in the cables in the e-chain® by hand - and it's ready! For removal just pull out the cables from the e-chain®

Version 03 | Series EA16 | Product range

"easy" design along outer radius, autoglide crossbars along inner radius

32



Series EA16 | "easy" design - split crossbar along the outer radius

Part No.	Bi	Ba	R Available bend radii	EA16
e-chains®	[mm]	[mm]	[mm]	[kg/m]
EA16. 4 .R.0.	48	60	| 065 | 075 | 100 |	≈ 0.66

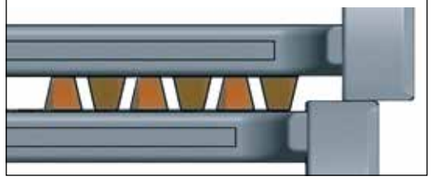
More widths upon request. Please consult igus® for delivery time.

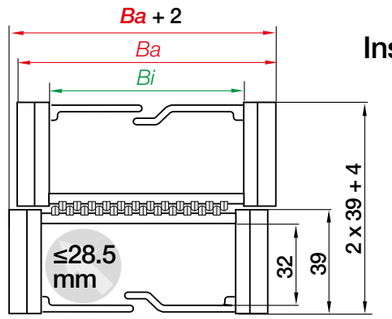
Mounting brackets: full set incl. tiewrap plates **Part No. 117.4.12PZ**, full set without tiewrap plates **Part No. 117.4.12P**

Complete Part No. with required radius (*R*). Example: **EA16.4.100.0**

autoglide principle

Offset operation of upper and lower run, offering a consistent glide surface

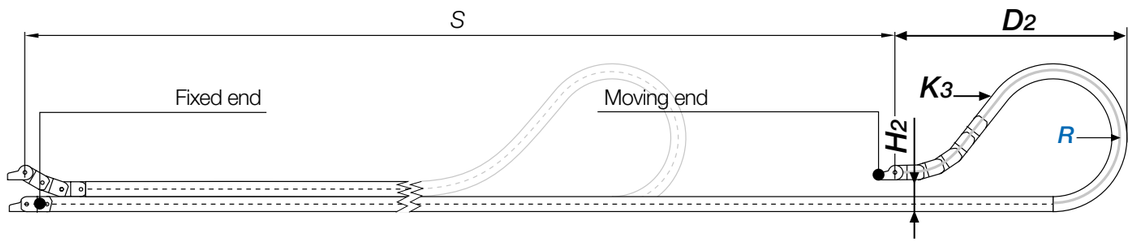




Installation dimensions

Inner height [mm]	32
Pitch [mm/link]	30.5
Links/m	33
corresponds to [mm]	1,006.5
e-chain® length	$L_K = S/2 + K$

Gliding applications | Long travels up to max. 20m | Fill weight 0.4kg/m



Note: We recommend the project planning of such a system to be carried out by igus®.

R	065	075	100
H_2	100	100	100
D_1	325	355	570
K_3	702	763	1,251

Version 03 | Series EA25 | Product range

"easy" design along outer radius, autoglide crossbars along inner radius

25.2



Series EA25 | "easy" design - split crossbar along the outer radius

Part No.	Bi	Ba	R Available bend radii	EA25
e-chains®	[mm]	[mm]	[mm]	[kg/m]
EA25. 050 .R.0.	50	60	| 075 | 100 |	≈ 0.49

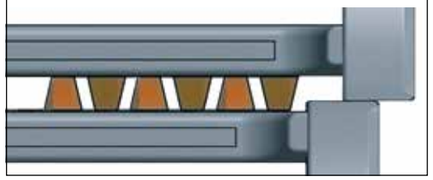
More widths upon request. Please consult igus® for delivery time.

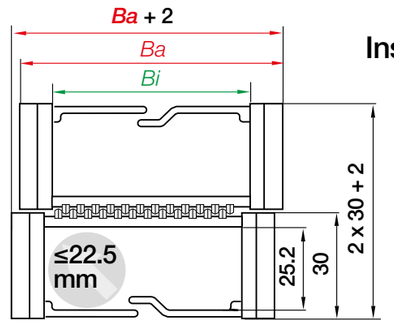
Mounting brackets: full set incl. tiewrap plates **Part No.EA25.050.12PZB**, full set without tiewrap plates **Part No. EA25.050.12PZ**

Complete Part No. with required radius (*R*). Example: **EA25.050.100.0**

autoglide principle

Offset operation of upper and lower run, offering a consistent glide surface

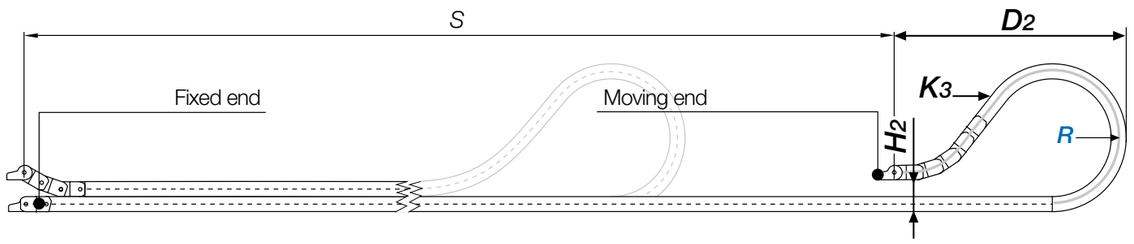




Installation dimensions

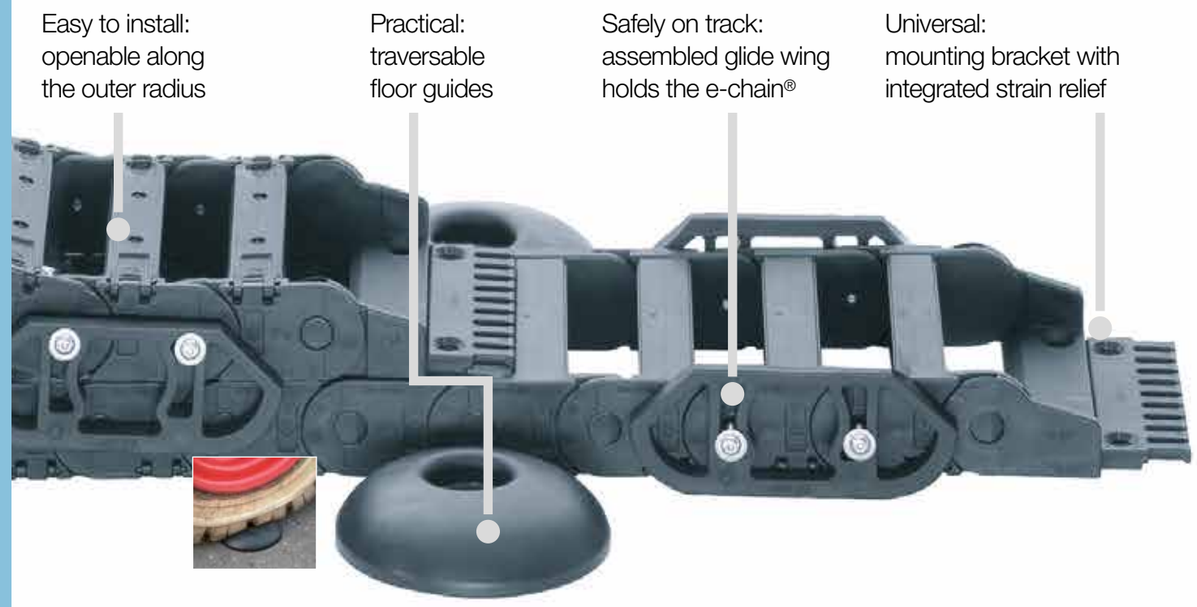
Inner height [mm]	25.2
Pitch [mm/link]	25
Links/m	40
corresponds to [mm]	1,000
e-chain® length	$L_K = S/2 + K$

Gliding applications | Long travels up to max. 20m | Fill weight 0.4kg/m



Note: We recommend the project planning of such a system to be carried out by igus®.

R	075	100
H_2	100	100
D_1	330	330
K_3	750	1,125



Special glide shoes provide a safe guiding for the E2/000 - autoglide version 04

In this version, special plastic glide shoes are fitted to the sides of the e-chain® links every 1-2m. The function of these gliding shoes resembles the leeboards used on sail boats. The glide shoes pivot upwards to enable the constant travel. They provide the precise lateral guidance and a smooth gliding of the e-chain®. The glide shoes are assembled every 24th e-chain® link from the moving end. Up to 10m length without floor guides is possible in the series 2400/2450/2480/2500.

- Reliable and precise guidance due to special plastic glide shoes
- Long travels with easier filling
- Provides precise lateral guidance and a smooth gliding of the e-chain®
- Easy to install - openable along the outer radius

Typical industries and applications

- Industrial vehicles
- Long travels with easier filling
- Simple outdoor applications

Find a video online
▶ **www.igus.eu/AG_Film**

Available from stock. Ready to ship in 24 - 48hrs.*
*The delivery times indicated correspond to the average time until the ordered goods are dispatched.

Technical data

Speed gliding	**≤ 0.5 [m/s]**
Acceleration gliding	**≤ 1.0 [m/s²]**
Material - permitted temperature °C, igumid G	**-40°C / +120°C**
Flammability class, igumid G	**VDE 0304 IIC UL94-HB**

Order example | Order key

Order example for complete e-chain® (10.0m), colour black, with mounting brackets and interior separation:

e-chain® (10m)	Please indicate e-chain® length*: 10m or 209 links	**2500.05.150.0**
e-chain® + Glide wing	Module, containing 4 e-chain® links and 2 glide wings	**2500.05.150.0.AG**
+ Floor guides	8 pieces (2 units every 2m from the half of the travel)	**AG.380.BF**
Order text:	**10 m 2500.05.150.0 + 10 X 2500.05.150.0.AG**	

*Length= number of links in the assembly must still be deducted = **209 links**(optional: mounting bracket and interior separation)

Note: the lateral glide wings are assembled on every 24th e-chain® link

Order key
2500.05.150.0.AG

- autoglide
- Default colour black
- Bend radius ***R***
- Width index
- Series / Type

Version 04 | 2400·2450·2480·2500 | Product range

25 25

Special glide shoes provide secure guidance



e-chains® | Series 2400 | Openable along the inner radius
e-chains® | Series 2500 | Openable along outer radius
Half e-tubes | Series 2450 | Openable along the inner radius, closed along outer radius
Full e-tubes | Series 2480 | Openable along the inner radius, fully enclosed

Part No. e-chains® / e-tubes	Bi [mm]	Ba [mm]	R Available bend radii [mm]	Floor guide*
2400/2500/2450/2480.05 .R.0.AG	57	73	| 055* | 075 | 100 | 125 | 150 | 175 | 200 | 225 | 250 |	AG.380.BF
2400/2500/2450/2480.07 .R.0.AG	77	93	| 055* | 075 | 100 | 125 | 150 | 175 | 200 | 225 | 250 |	AG.380.BF
2400/2500/2450/2480.09 .R.0.AG	89	105	| 055* | 075 | 100 | 125 | 150 | 175 | 200 | 225 | 250 |	AG.380.BF
2400/2500/2450/2480.10 .R.0.AG	103	119	| 055* | 075 | 100 | 125 | 150 | 175 | 200 | 225 | 250 |	AG.380.BF
2400/2500/2450/2480.12 .R.0.AG	125	141	| 055* | 075 | 100 | 125 | 150 | 175 | 200 | 225 | 250 |	AG.380.BF

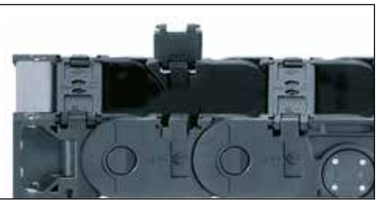
*Radius for series 2450/2480 available upon request. Please consult igus® for delivery time. *Part No. of individual part

Complete Part No. with required radius (R). Example: **2500.05.150.0.AG**

E2/000 rol e-chain® - energy-efficient and cost-effective

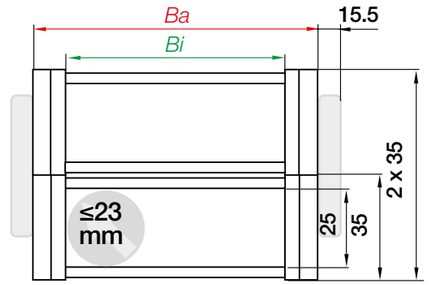
- Required drive power is reduced up to 75% while increasing the service life of the e-chain®
- Travels up to 150m, max. rolling speed up to 4m/s
- Available as cost-effective ready-to-fit harnessed system with many accessories

More information ▶ From page 1160



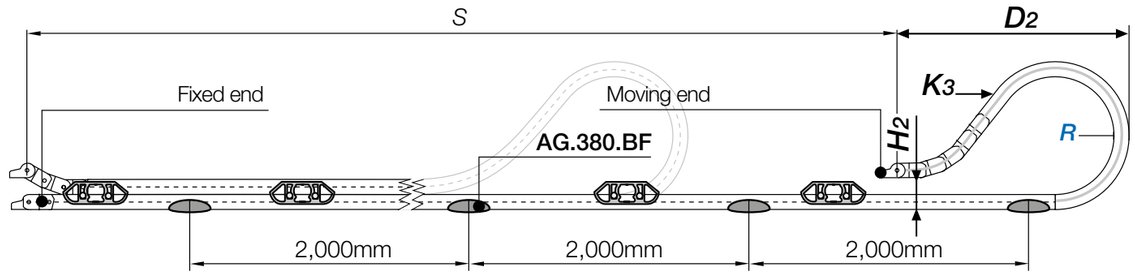
Version 04 | 2400·2450·2480·2500 | Installation dimensions

2400
2450
2480
2500



Inner height [mm]	25
Pitch [mm/link]	46
Links/m	22
corresponds to [mm]	1,012
e-chain® length	$L_K = {}^{S}/_{2} + K$

Gliding applications | Long travels up to max. 20m | Fill weight 1.6kg/m



The lateral glide wings are assembled on every 24th e-chain® link.
Note: We recommend the project planning of such a system to be carried out by igus®.
In case of travels under 3.0m we recommend an unsupported e-chain®.

R	055*	075	100	125	150	175	200	225	250
H_2	110	150	100	100	100	100	100	100	100
D_2^{+25}	142	162	380	440	590	755	950	1,040	1,130
K_3	506	598	920	1,058	1,426	1,794	2,208	2,438	2,668

*Radius for series 2450/2480 available upon request. Please consult igus® for delivery time.

Accessories | More information ▶ www.igus.eu/autoglide



Optimised, cable-friendly interior separation

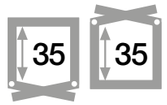


Pivoting mounting brackets - recommended for gliding applications

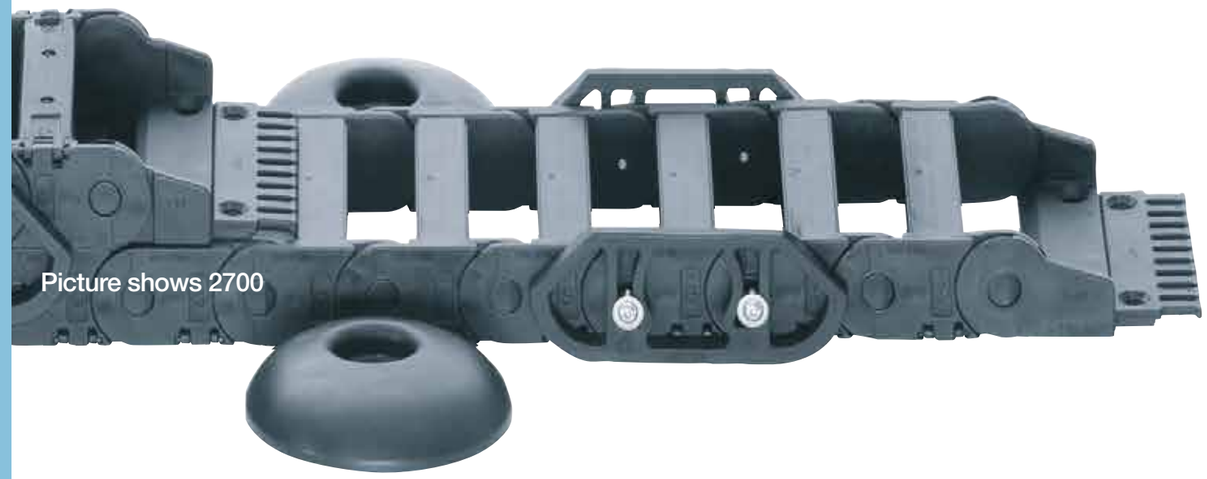


KMA mounting bracket with attachment from any side

Version 04 | 2600·2650·2680·2700 | Product range



Special glide shoes provide secure guidance



e-chains® | Series 2600 | Openable along the inner radius
e-chains® | Series 2700 | Openable along outer radius
Half e-tubes | Series 2650 | Openable along the inner radius, closed along outer radius
Full e-tubes | Series 2680 | Openable along the inner radius, fully enclosed

Part No. e-chains® / e-tubes	Bi [mm]	Ba [mm]	R Available bend radii [mm]	Floor guide*
2600/2700/2650/2680.05 .R.0.AG	50	66	| 075* | 100 | 125 | 150 | 175 | 200 | 250 |	AG.380.BF
2600/2700/2650/2680.06 .R.0.AG	65	81	| 075* | 100 | 125 | 150 | 175 | 200 | 250 |	AG.380.BF
2600/2700/2650/2680.07 .R.0.AG	75	91	| 075* | 100 | 125 | 150 | 175 | 200 | 250 |	AG.380.BF
2600/2700/2650/2680.09 .R.0.AG	90	106	| 075* | 100 | 125 | 150 | 175 | 200 | 250 |	AG.380.BF
2600/2700/2650/2680.10 .R.0.AG	100	116	| 075* | 100 | 125 | 150 | 175 | 200 | 250 |	AG.380.BF
2600/2700/2650/2680.12 .R.0.AG	125	141	| 075* | 100 | 125 | 150 | 175 | 200 | 250 |	AG.380.BF
2600/2700/2650/2680.15 .R.0.AG	150	166	| 075* | 100 | 125 | 150 | 175 | 200 | 250 |	AG.380.BF
2600/2700/2650/2680.17 .R.0.AG	175	194	| 075* | 100 | 125 | 150 | 175 | 200 | 250 |	AG.380.BF

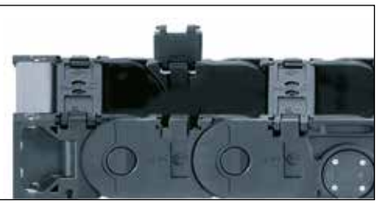
*Radius for series 2650/2680 available upon request. Please consult igus® for delivery time. *Part No. of individual part

Complete Part No. with required radius (*R*). Example: **2600.05.100.0.AG**

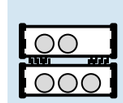
E2/000 rol e-chain® - energy-efficient and cost-effective

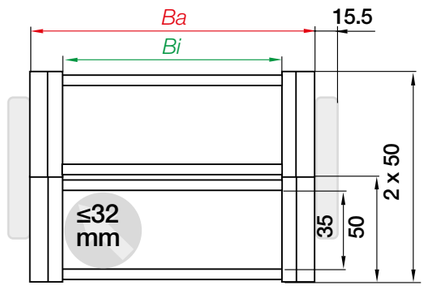
- Required drive power is reduced up to 75% while increasing the service life of the e-chain®
- Travels up to 150m, max. rolling speed up to 4m/s
- Available as cost-effective ready-to-fit harnessed system with many accessories

More information ▶ From page 1160



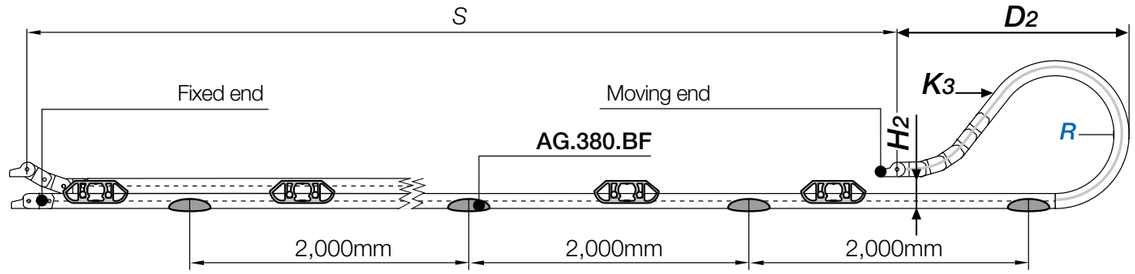
Version 04 | 2600·2650·2680·2700 | Installation dimensions





Inner height [mm]	35
Pitch [mm/link]	56
Links/m	18
corresponds to [mm]	1,008
e-chain® length	$L_K = S/2 + K$

Gliding applications | Long travels up to max. 30m | Fill weight 2.0kg/m



The lateral glide wings are assembled on every 24th e-chain® link

Note: We recommend the project planning of such a system to be carried out by igus®.
In case of travels under 3.0m we recommend an unsupported e-chain®.

R	075*	100	125	150	175	200	250
H_2	150	166	166	166	166	166	166
D_2	150	350	475	500	655	770	950
K_3	616	840	1,120	1,232	1,568	1,848	2,296

*Radius for series 2650/2680 available upon request. Please consult igus® for delivery time.

Accessories | More information ▶ www.igus.eu/autoglide



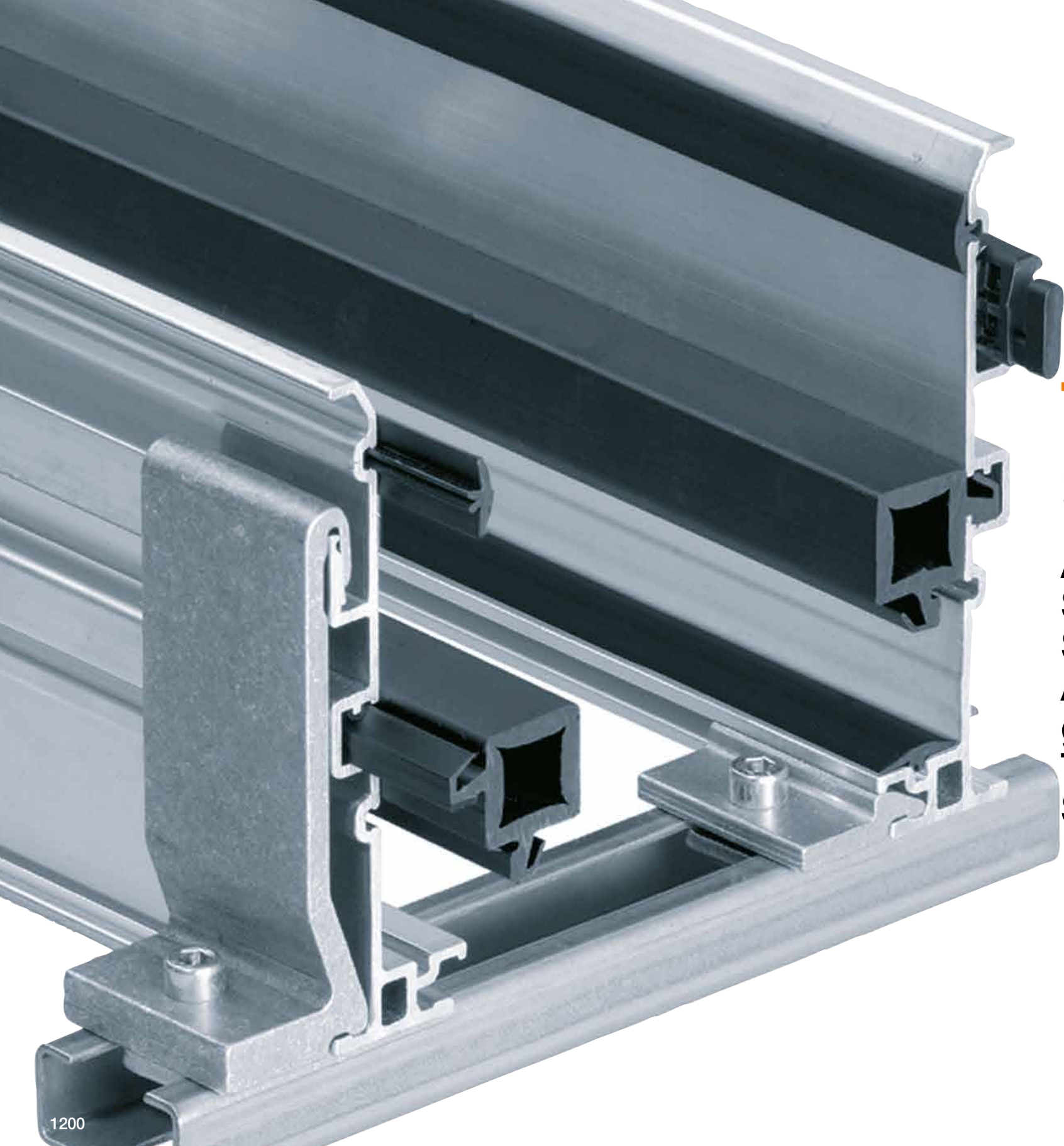
Optimised, cable-friendly interior separation



Pivoting mounting brackets - recommended for gliding applications

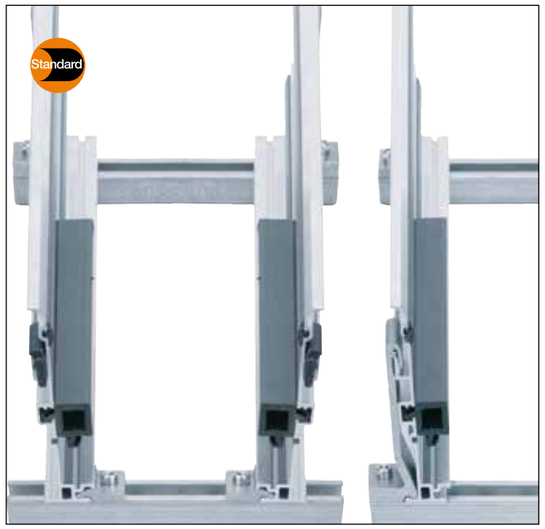


KMA mounting bracket with attachment from any side



Guide trough systems

Aluminium SuperTrough | Steel guide trough | Steel support tray Aluminium support tray | guidefast | guidelite | Tubular trough | Snap-in trough



For general applications - aluminium SuperTrough, basic version, standard

- Huge range available for almost all igus® e-chains®
- Very simple, modular assembly
- Corrosion-resistant, seawater-resistant aluminium profile
- Flexible assembly
- Plastic glide bar made of PE
- Glide strips for wear protection at high-speed
- Bottom clamp attached either inwards or outwards - directly on the surface or on the C-profile
- Heavy-duty bracket option for high load applications: you can configure this version using our online catalogue ▶ **www.igus.eu/alu-guide**
- Conductivity according to DIN EN 61537 - as standard

Aluminium SuperTroughs ▶ From page 1208



For heavy-duty applications - steel guide trough

- Very tough steel guide trough for applications in tough environments
- Easy assembly due to installation set for joining and fixing
- Easy mounting directly to the C-profile
- Large range, 2-piece design, adjustable to e-chain® width
- Available in galvanised steel and stainless steel
- Low friction: Glide bar made of PE
- Fixed end module option, for fast and easy fitting without any drilling
- Conductivity according to DIN EN 61537 - as standard

Steel guide troughs ▶ From page 1234



For easy support of the lower run - steel support tray

- Simple one-piece steel support trays as a modular construction kit
- Complete system, ready to install
- Easy installation onto your machine, on profiles or wall brackets

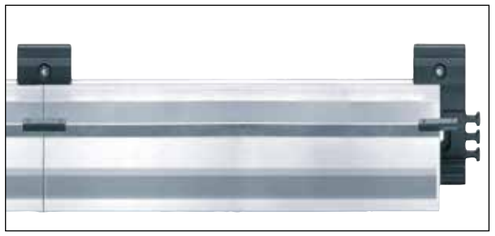
Steel support trays ▶ From page 1264



The flexible construction kit to support the lower run - aluminium support tray

- Corrosion-resistant and seawater-resistant aluminium rails with adjustable width and open principle
- Wear-reducing glide strip integrated as standard
- Easy installation and connection of the e-chain®

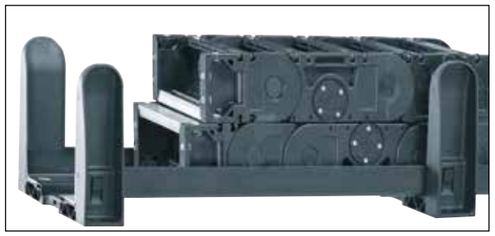
Aluminium support trays ▶ From page 1270



Energy supply for crane girders and indoor cranes - guidefast

- Save up to 80% installation time
- Fits virtually any standard crane girder
- Static cable can be fixed to the trough brackets
- Low wear polymer glide bars (optional)

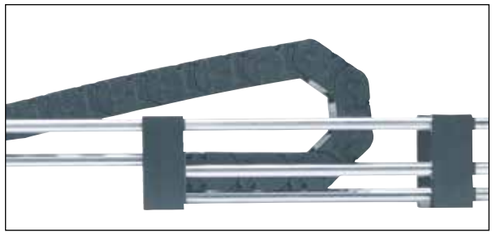
guidefast ▶ From page 1276



Long travels up to 150m, quick and cost-effective - igus® guidelite

- Time saving through fast assembly
- Very lightweight polymer components
- Corrosion-resistant
- Construction kit solution, from stock

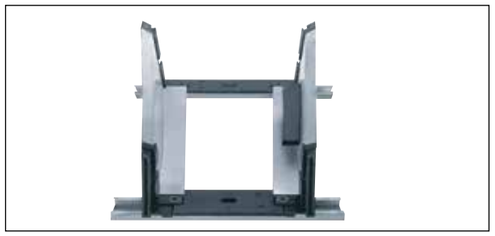
guidelite ▶ From page 1282



Lets light and dirt through - tubular trough system RS

- Resistant to dirt - wear debris falls through
- More open than sheet metal constructions
- Easy and fast assembly and cost-effective
- Easy and space-saving delivery

Tubular trough system RS ▶ From page 1288



Simple and cost-effective - snap-in trough system SP

- Quick and easy assembly
- Fixed inner width with spacer
- No complex width setting required
- Cost-effective due to easy assembly

Snap-in trough system SP ▶ From page 1294



Various igus® guide trough systems are available



Hundreds of igus® guide troughs are available from stock

igus® guide troughs

Guide troughs are used for long travels. They support the low friction gliding operation of the e-chain® and e-tubes. If the fixed end is installed in the centre of the travel ("centre-fixed"), the e-chains® glide on themselves for half the travel. For the other half, we recommend glide bars, which are assembled into the trough and on which the e-chains® glide. igus® guide troughs are available from stock with these highly abrasion resistant polymer glide bars, which are optimised for use with igus® e-chains® in terms of noise, abrasion and friction.

Trough type

igus® offers guide troughs made of corrosion-resistant aluminium, steel or stainless steel. The trough type to be used depends on the application and the requirements of the customer. We recommend the igus® aluminium SuperTrough as standard.

Glide bars

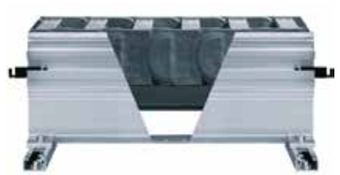
Glide bars made from igulen are optimised for use with the e-chain® material and offer the lowest gliding friction, noise and wear. Glide bars must be used if the fixed end is in the centre of the travel. This means that half of the guide trough has glide bars and the other half is without.

Delivery details

The troughs are delivered in 2m sections. Special lengths up to 6m are possible. The left and right side parts are installed with the appropriate spacing - depending on the width of the igus® e-chain®. The necessary width is shown by the dimension B_{Ri} on the guide trough pages. The trough side parts can be linked with the base by screwing, welding or a special igus® installation set. The fixed end module for the igus® aluminium SuperTrough is a quick fix for mounting the stationary end of an e-chain® with a KMA-mounting bracket. With this module, easy attachment of the e-chain® with plastic-metal mounting bracket (KMA) to the super aluminium trough is possible without drilling.



Trough without glide bars - e-chain® glides on e-chain®



Trough with glide bars - e-chain® glides on glide bars



Centre fixed = 1/2 travel with glide bars - 1/2 travel without glide bars

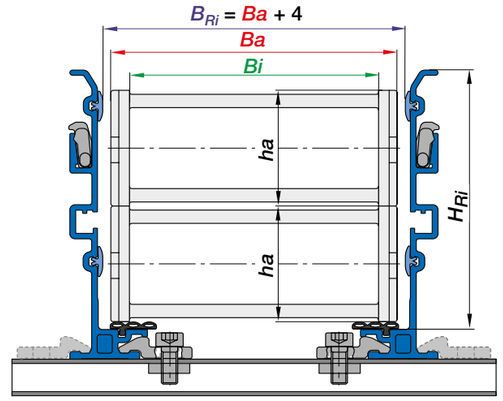
For lateral guidance on long travels, an igus® guide trough is necessary. In most cases, the upper run of the e-chain® glides partly on the lower run and partly on a glide bar; this is shown in the diagram below. If the fixed end of the system can be placed in the centre, the e-chain® length is calculated as follows: $L_K = {}^{S}/_{2} + K_2$.
Placing the fixed end in the centre of the travel offers the shortest e-chain® length and cables. The length of the e-chain® then corresponds to slightly more than half of the travel length. Depending on the technical data for the selected e-chain®, the mounting height of the moving end of the e-chain® must be lowered on some applications. In these cases please contact igus® and we'd be glad to advise.

Selection criteria

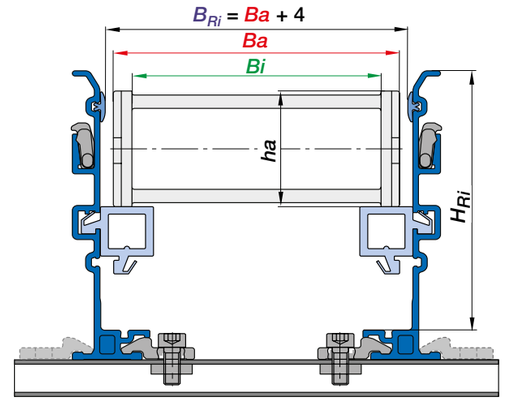
Following parameters are required for design of a trough system: ● e-chain® type (Series, width *Bi*, radius *R*) ● Travel and travel speed ● Fill weight ● Acceleration ● Lateral acceleration ● Environmental conditions

Design and installation of the guide trough

Usually, the height of the trough must be at least twice that of the e-chain® link height: $H_{Ri} \geq 2 \times ha$. The sides must provide a chamfered opening. The trough inner width is the same as the e-chain® outer width, plus 4mm or 5mm (eg $B_{Ri} = Ba + 4$). Along the side of the trough, where the upper run cannot glide on the lower run, glide bars must be installed. Guide troughs with and without glide bars can be obtained from stock for almost all igus® e-chains®.
Important: When assembling the trough parts, the following points must be given particular attention: ● Properly align all trough parts during installation ● All screw heads should be flush with the trough ● Smooth level transition between the end of the e-chain® and the glide bars ● Solid connection with the glide surface. **These points must be observed when using igus® guide troughs.**

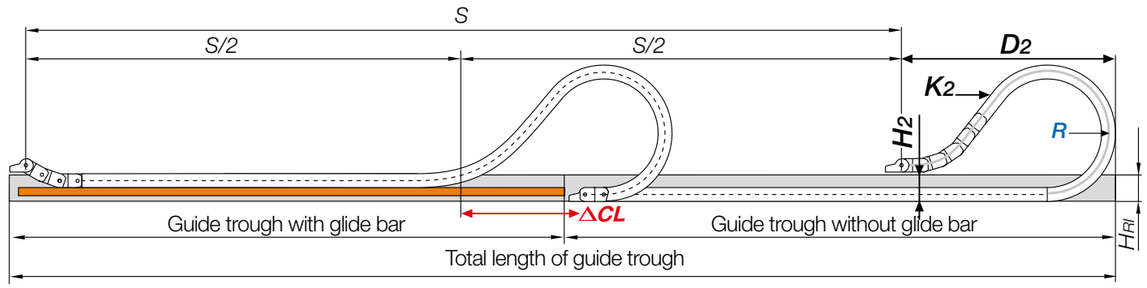


Aluminium SuperTrough without glide bars - upper run glides on the lower run



Aluminium SuperTrough with glide bars. The upper run glides on the glide bars from the centre of the travel

e-chain® length	$L_K = {}^{S}/_{2} + K_2$
Trough inner height	$H_{Ri} \geq 2 \times ha$
Inner width, aluminium SuperTroughs	$B_{Ri} = Ba + 4$
Inner width, steel guide trough	$B_{Ri} = Ba + 5$



● Trough set ● Installation set ● Glide bar ● C-profile

Ba = e-chain® outer width; *Bi* = e-chain® inner width; *R* = Bend radius; *ΔCL* = Offset fixed end

S = Length of travel; $S/2$ = Half length of travel; B_{Ri} = Trough inner width; B_{Ra} = Trough outer width

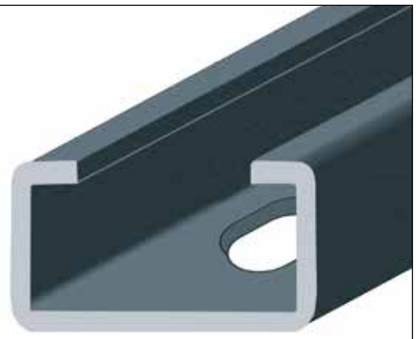
H_{Ri} = Trough inner height; H_{Ra} = Trough outer height; *ha* = e-chain® outer height; L_K = e-chain® length

H_2 = Installation height (with lowered moving end); D_2 = Over length for long travels gliding; K_2 = Add-on (with lowered moving end); H_F = Required clearance height

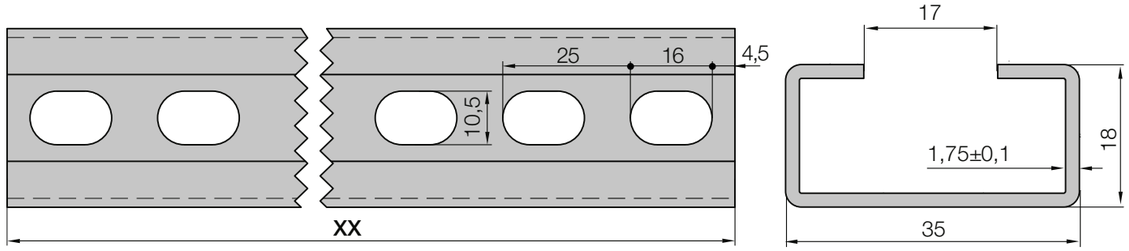
C-profile Part No. 92.52.**XX**

- For all igus® aluminium SuperTrough and steel guide troughs
- With increased holding force for heavy-duty applications
- Standard material galvanised steel **Part No. 92.52.XX**
- Also available as stainless steel version*, please add Index **.E** Example: **Part No. 92.52.XX.E**
- Length tolerances for C-profiles of ±5mm possible!

XX = length mm / *Material: stainless steel 1.4301/AISI 304



C-profile Part No. 92.52.**XX** | With increased holding force for heavy-duty applications





C-profile Part No. 92.52.XX - for all igus® aluminium SuperTrough and steel guide troughs











igus® has experience with all kinds of installations and travels. Very long travels up to 615m or "green systems", they help save energy cost and are made with igus® e-chains®, chainflex® cables and guide troughs. Together with the igus® accessories, they offer long service life even in tough weather conditions or in areas of dust and dirt

Aluminium SuperTrough

For general use

Advantages aluminium SuperTrough

- Huge range available for almost all igus® e-chains®
- Very simple, modular assembly
- Corrosion-resistant, seawater-resistant aluminium profile
- Flexible assembly
- Heavy-duty bracket option for high load applications: you can configure the heavy-duty version online
  ► **www.igus.eu/alu-guide**
- Conductivity according to DIN EN 61537 - as standard
- Glide strips for wear protection at high-speed

When to use another guide trough:

- When a very tough guide trough made from steel is required for heavy-duty applications
  ► **Steel guide troughs, page 1234**



Huge range:
aluminium profile (standard: 2m section)
available for almost all igus® e-chains®,
seawater and corrosion-resistant

Wear-reducing: glide strips
protect from wear on the sides

Fast connection:
interface connector, basic,
made of plastic; easy to
assemble without tools

Easy click-on assembly:
wear-reducing polymer glide bar

Noise-reducing:
optional rubber silencer profile

Easy installation:
basic bottom clamp, attached
either inwards or outwards

Easy fastening: C-profile,
for bottom clamps

For heavy-duty applications: heavy-duty clamp
You can configure the heavy-duty version
using our online catalogue ▶ www.igus.eu/alu-guide

Simple connection:
optimised polymer fixed end module option,
for fast and easy fitting, without any drilling

For general applications - aluminium SuperTrough, basic version, standard

- Simple and cost-effective basic design as well as version for complex engineering applications
- Very simple, modular assembly
- Corrosion-resistant, seawater-resistant aluminium profile
- Flexible assembly
- Misalignment-free installation - no screwing or welding of the profiles required
- Conductivity according to DIN EN 61537 - as standard

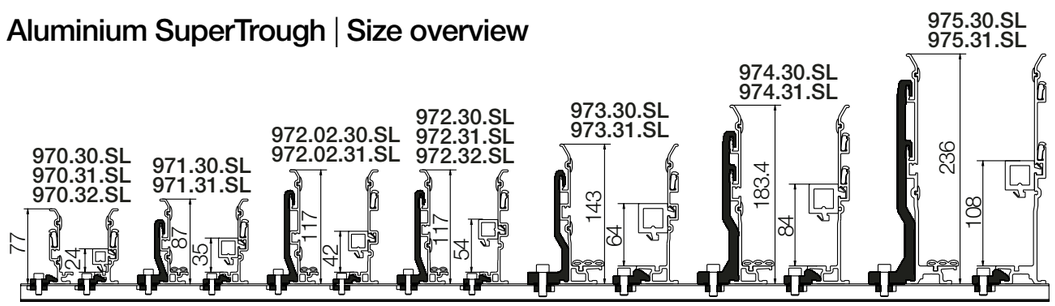
Part No. **without** glide bars	Part No. **with** glide bars	Outer height H_{Ra} [mm]	Part No. installation set*	Side part material	Page Link
					
			Standard	**Basic version, standard -** for general use	
970.30.SL	**970.31.SL**	77	960.30	aluminium	**1216**
970.30.SL	**970.32.SL**	77	960.30	aluminium	**1218**
971.30.SL	**971.31.SL**	87	960.30	aluminium	**1220**
972.02.30.SL	**972.02.31.SL**	117	960.30	aluminium	**1222**
972.30.SL	**972.31.SL**	117	960.30	aluminium	**1224**
972.30.SL	**972.32.SL**	117	960.30	aluminium	**1226**
973.30.SL	**973.31.SL**	144	960.40	aluminium	**1228**
974.30.SL	**974.31.SL**	184	960.50	aluminium	**1230**
975.30.SL	**975.31.SL**	236	960.50	aluminium	**1232**
				**Heavy-duty version -** for tough plant construction You can configure the heavy-duty version according to the respective e-chain® you've chosen or ▶ **www.igus.eu/alu-guide**	
971.30.SL	**971.31.SL**	87	971.50	aluminium	▶ **www.igus.eu/alu-guide**
972.02.30.SL	**972.02.31.SL**	117	972.50	aluminium	▶ **www.igus.eu/alu-guide**
972.30.SL	**972.31.SL**	117	972.50	aluminium	▶ **www.igus.eu/alu-guide**
972.30.SL	**972.32.SL**	117	972.50	aluminium	▶ **www.igus.eu/alu-guide**
973.30.SL	**973.31.SL**	144	973.50	aluminium	▶ **www.igus.eu/alu-guide**
974.30.SL	**974.31.SL**	184	974.50	aluminium	▶ **www.igus.eu/alu-guide**
975.30.SL	**975.31.SL**	236	975.50	aluminium	▶ **www.igus.eu/alu-guide**

*The basic Installation sets are the standard for the aluminium SuperTroughs. They can be fastened inside or outside and are recommended for most application areas. The basic clamps are made of aluminium. The heavy-duty version is differentiated only by the type of the installation set. The part numbers of the channel side plates, glide strips, etc., are the same as the basic model. The heavy-duty installation set consists of a larger aluminium bracket, fastened on the outside of the guide trough.

Available from stock. Ready to ship in 24 - 48 hrs.*

*The delivery times indicated correspond to the average time until the ordered goods are dispatched.

Aluminium SuperTrough | Size overview



Aluminium SuperTrough | Basic version | Individual parts

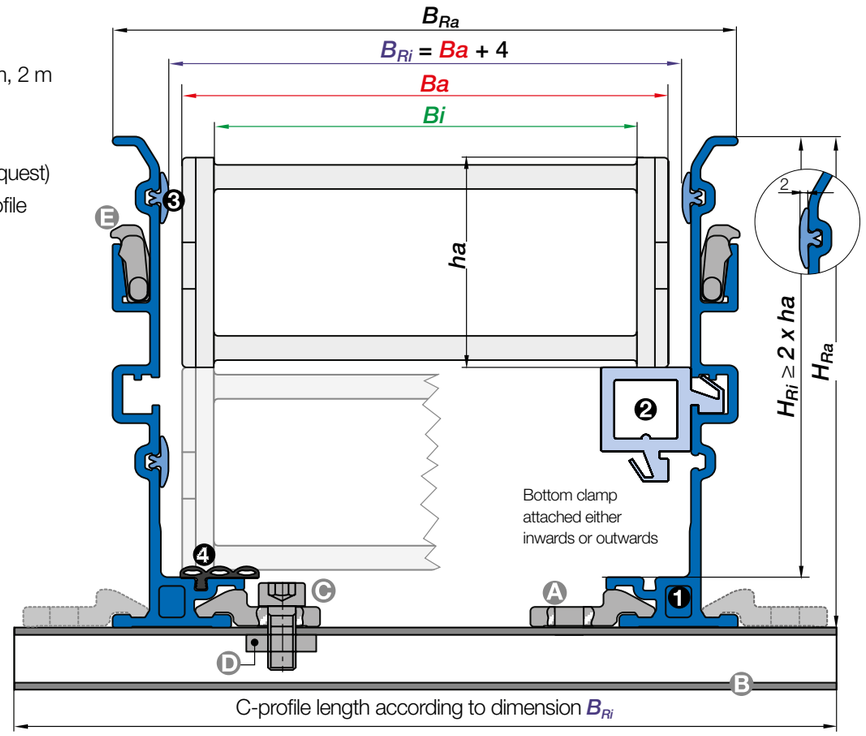
Components, guide troughs and components, mounting kits

Components

❶ Trough side parts, aluminium, 2 m
❷ Glide bar, plastic, 2 m
❸ Glide strips, plastic, 2 m
(without glide strips upon request)
❹ Optional: rubber silencer profile

Components, installation set

Ⓐ Bottom clamp, aluminium
Ⓑ C-profile[1)], galvanised steel
Ⓒ Allen wrench
Ⓓ Sliding nut
Ⓔ Interface connector, plastic



Ba = e-chain® outer width
Bi = e-chain® inner width
ha = e-chain® outer height
H_{Ri} = Trough inner height
H_{Ra} = Trough outer height
B_{Ri} = Trough inner width
B_{Ra} = Trough outer width

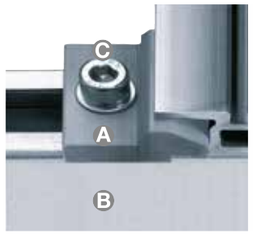
1) C-profile also available in 304 stainless steel. Material 1.4301 (AISI 304)

Aluminium SuperTrough | Features

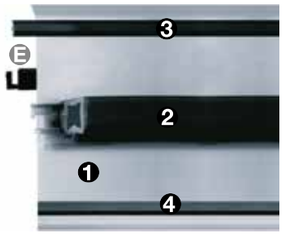


Aluminium SuperTrough basic version - external view

Aluminium SuperTrough - internal view basic version without and with glide bar



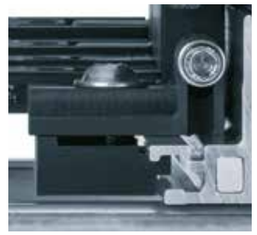
Simple fastening with basic bottom clamp and C-profile



Wear-reducing with polymer glide bar and glide strip



Noise-reducing with silencer profile option



Simple connection to the e-chain® with the fixed end module

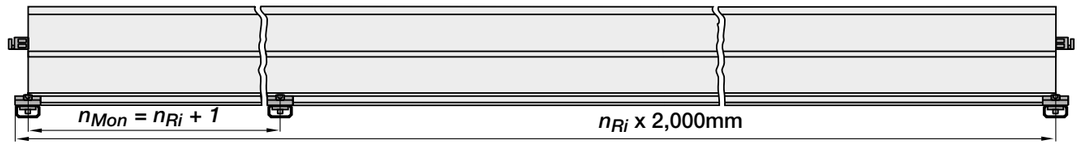
▶ Page 1214

Aluminium SuperTrough | Basic version

Configured according to your requirements

Quickly and easily assemble the right trough for your application

- Selection of the suitable guide trough according to the e-chain® series and e-chain® width *Bi*
- Determine the infeed point of the cables
- Determine travel distance and thus the length of the required guide trough and the number of trough pieces. (Standard length of a trough side part: 2,000mm). For centre infeed, the length of the guide trough is calculated from half the travel length with and half the travel length without the glide bar
- Option: sound damping rubber silencer profile
- Number and type of the installation set
  There are two installation set options: basic (standard), heavy-duty (for plant construction)
  The quantity of the installation set is calculated from the number of the trough pieces + 1 set:



- The installation set matches the igus® C-profile option
- If you have opted for an e-chain® with KMA mounting brackets, we offer a fixed end module for the quick and simple fixing of the e-chain® in the trough without drilling
- **Installation Guide-PDF with detailed assembly information ▶ www.igus.eu/installation-guide-pdf**

Order example | Examples based on Part No. 973.30.SL | 973.31.SL

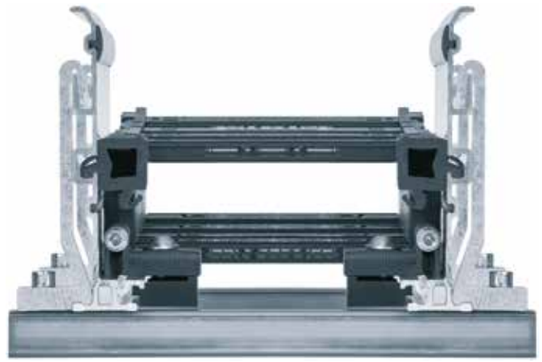
Order example: length of travel 30m - centre fixed for series 3500.100.200.0 with B_{Ri} = 124

Guide trough set (set of 2 trough side parts, incl. glide strips) **without** glide bars **Order text: 16m guide trough without glide bar (8 x 2m sections)**	973.30.SL
Guide trough set (set of 2 trough side parts, incl. glide strips) **with** glide bar **Order text: 16m guide trough with glide bar (8 x 2m sections)**	973.31.SL
Installation set basic complete **(quantity: guide trough sets + 1)** **Order text: 17 installation sets, basic**	960.40.175
Fixed end module **Order text: 1 set**	973.80.5
Option: For an additional noise dampening with silencer profile, please add Index **A**	973.30.SL**A**

Calculation - travel centre fixed: half travel length, rounded to full 2m sections = X m.
Guide trough length **without** glide bars + Xm guide trough length **with** glide bars + installation set, basic (number of trough pieces + 1)

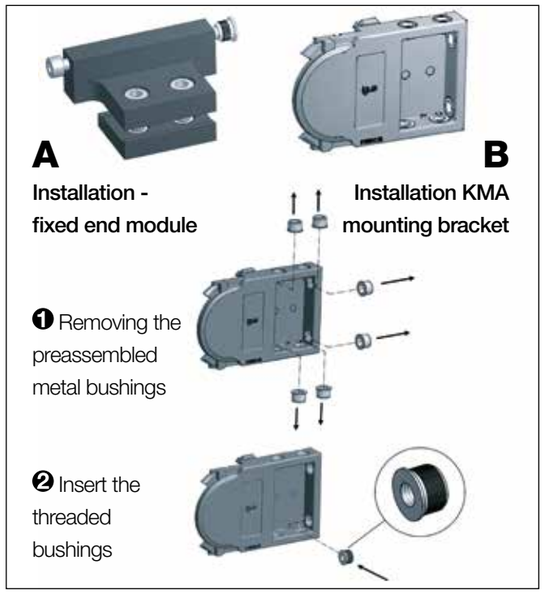
Aluminium SuperTrough | Basic version | Fixed end module

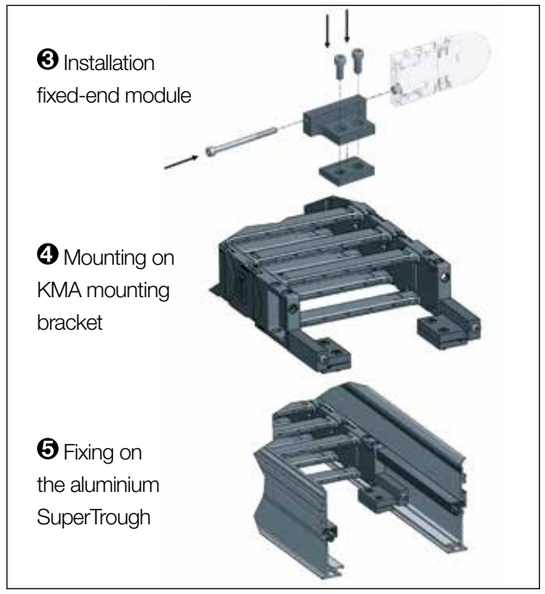
Quick and simple fixing onto the aluminium SuperTrough

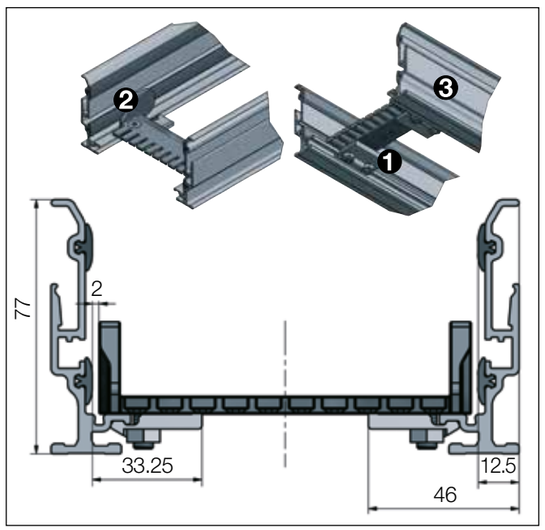


Optimised fixed end module - lightweight, low-cost, for connection of the e-chain® in aluminium SuperTrough

- Mounting bracket attachment on the aluminium SuperTrough without drilling
- Fixed end module is clamped to the trough
- Save installation time
- Minimise errors from drilling holes
- Stainless and cost-effective







Fixed end clamp to attach the e-chain® into the smallest aluminium SuperTrough 970.30.SL

For mounting brackets from series: 10, 15/R15, B15, 1500. The fixed end clamp enables quick and simple attachment by clamping onto the aluminium SuperTrough without drilling.

- Quick attachment of the e-chain® to the aluminium SuperTrough
- The mounting point of the e-chain® can be changed quickly

Fixed end clamp principle:

❶ Fixed end clamp 970.80
❷ Mounting bracket
❸ Aluminium SuperTrough 970.30.SL

Fixed end module| Fixed end clamp| Product range

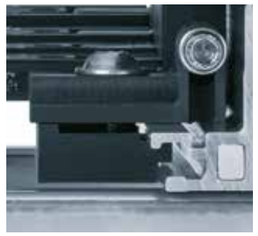
Series Part No.	For aluminium SuperTroughs	For e-chain® series	From inner width *Bi* [mm]	Mounting bracket
970.80[1]	**970.30.SL** | **970.31.SL**	10, B15, 15/R15[3]	050	one-piece
970.80[1]	**970.30.SL** | **970.32.SL**	1500[3]	050	one-piece
971.80.4[1]	**971.30.SL** | **971.31.SL**	E2.26, 2500, E6.29, EF61.29/E61.29	07	KMA
972.80.4[1]	**972.02.30.SL** | **972.02.31.SL**	E4.28/R4.28, E4.31L/R4.31L, E6.35, E61.35	06	KMA
972.80.4[1]	**972.30.SL** | **972.31.SL**	E4.32/H4.32/R4.32, E4.38L/R4.38L, E6.40/R6.40, E61.40	06	KMA
972.80.4[1]	**972.30.SL** | **972.32.SL**	2700, R58	06	KMA
973.81.5[1]	**973.30.SL** | **973.31.SL**	E4.42/H4.42/R4.42, E4.48L/R4.48L, E6.52/R6.52, E61.52	10	KMA
973.80.5[1]	**973.30.SL** | **973.31.SL**	3500, R68	100	KMA
974.81.5[1]	**974.30.SL** | **974.31.SL**	14040/14140/R18840, 14240/14340, E4.64L	10	KMA
974.80.5[1]	**974.30.SL** | **974.31.SL**	E4.56/H4.56/R4.56, E6.62, E61.62	10	KMA
975.80[2]	**975.30.SL** | **975.31.SL**	E4.80/H4.80/R4.80, E6.80 E61.80	10	KMA
975.81[2]	**975.30.SL** | **975.31.SL**	15050/15150/R19850, 15250/15350	10	KMA

1) Material: polymer 2) Material: Aluminium AlMg3, seawater resistant 3) Fixed end clamp

Material screw kits: Standard steel, galvanised. Optional: 316 stainless steel, material 1.4571 (AISI 316Ti). Standard: galvanised steel

Available from stock. Ready to ship in 24 - 48 hrs.*

*The delivery times indicated correspond to the average time until the ordered goods are dispatched.







Fixed end module - simple fixing of the e-chain® without drilling

Aluminium SuperTrough | Test examples





The igus® aluminium SuperTrough has been used in test setups since 2005. Test setup axis 1: speed 1.5m/s, travel: 18m, travel so far: about 50,000km (test running since 2005)

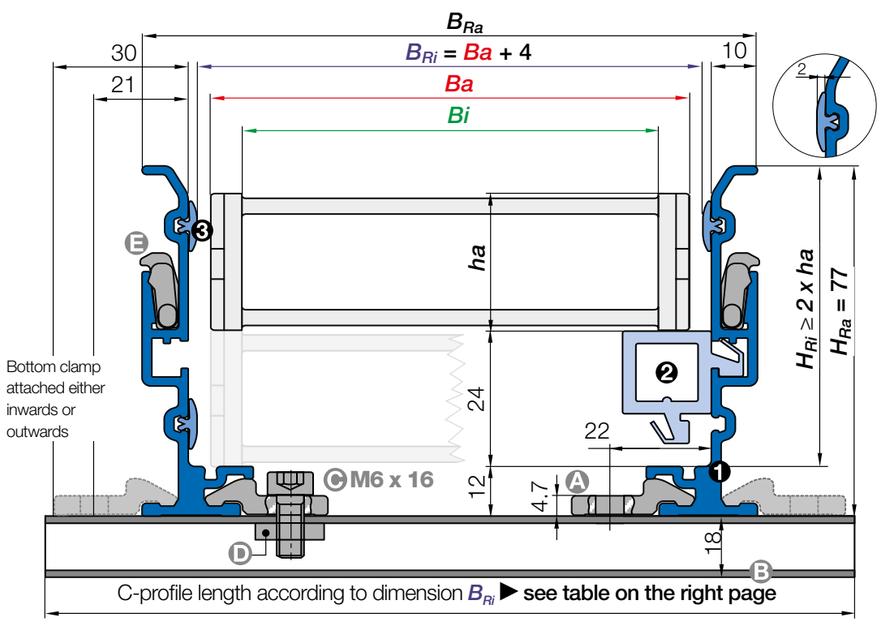
Aluminium SuperTrough | 970.30.SL | 970.31.SL

Trough height: 77mm | Product range

For the following igus® series

E2 mini
- 10
- B15

zipper
- 15/R15



Note: The inner width of the guide through and the C-profile length of the installation set can differ according to the mounting bracket you choose. Please call us.

Aluminium SuperTrough | Full set

Trough side parts sets - consisting of part ❶ | ❷ | ❸	Part No.	Weight
1 set of 2 trough side parts, incl. glide strips, **without** glide bars, 2m section	970.30.SL	≈ 4.20kg
1 set of 2 trough side parts, incl. glide strips, **with** glide bars, 2m section	970.31.SL	≈ 4.90kg

Installation sets - consisting of part Ⓐ | Ⓑ | Ⓒ | Ⓓ | Ⓔ	Part No.	Weight
1 installation set **without** C-profile	960.30	≈ 0.06kg
1 installation set **with** C-profile (C-profile length according to dimension B_{Ri})	960.30.XXX*	upon request

*Please add the C-profile length XXX as shown on the tables on the right page. Example: **960.30.125**

Aluminium SuperTrough | Components as individual parts

Individual parts, trough	Part No.	Weight
❶ 1 trough side part, individual, 2m section	70.11	≈ 2.04kg
❷ 1 glide bar, plastic, individual, 2m section	81.79	≈ 0.42kg
❸ 1 glide strip, plastic, individual, 2m section	75.01	≈ 0.06kg

Individual parts, installation set	Part No.	Weight
Ⓐ 1 bottom clamp, aluminium individual	75.40	≈ 0.03kg
Ⓑ 1 C-profile, individual (C-profile length according to dimension B_{Ri})	92.52.XXX.E*	≈ 0.90kg/m
Ⓒ 1 screw M6 x 16, individual	MAT 0040209 / M6 x16	
Ⓓ 1 glide nut, individual	MAT 0040057 / M6	
Ⓔ 1 interface connector, individual	75.60	
Additional option for simple fixing of the e-chain® without drilling	**Part No.**	
1 set fixed end module (more information ▶ **Page 1214**)	970.80	

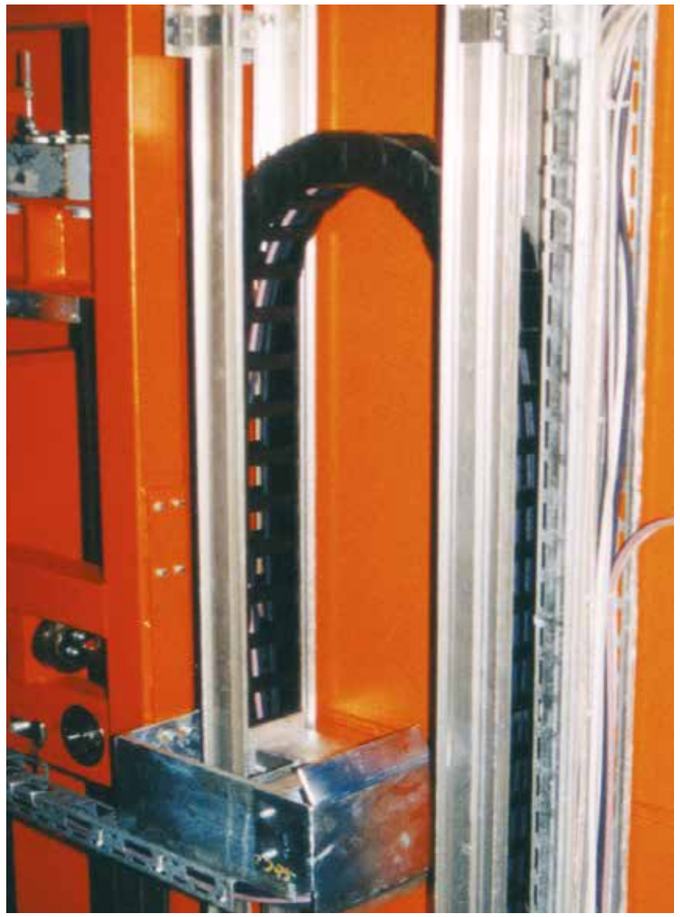
*Please add the C-profile length XXX as shown on the tables on the right page. Example: **92.52.125.E**

C-profile also available in 304 stainless steel. Material 1.4301 (AISI 304). Please add index **E** to the Part No.

C-profile lengths (according to Dim. B_{Ri}) | Basic version

Bottom clamp attached either inwards or outwards

10				B15				15				R15			
Width index	B_{Ri} [mm]	Part No. attached inwards	Part No. attached outwards	Width index	B_{Ri} [mm]	Part No. attached inwards	Part No. attached outwards	Width index	B_{Ri} [mm]	Part No. attached inwards	Part No. attached outwards	Width index	B_{Ri} [mm]	Part No. attached inwards	Part No. attached outwards
.015	30	upon request	960.30.125	.015	30	upon request	960.30.125	.015	30	upon request	960.30.125	.025	40	upon request	960.30.150
.025	40	upon request	960.30.150	.025	40	upon request	960.30.150	.025	40	upon request	960.30.150	.038	80	upon request	960.30.150
.038	53	upon request	960.30.150	.038	53	upon request	960.30.150	.038	53	upon request	960.30.150	.063	80	upon request	960.30.175
.050	65	960.30.125	960.30.175	.050	65	960.30.125	960.30.175	.050	65	960.30.125	960.30.175	.080	98	960.30.150	960.30.200
.5	80	960.30.125	960.30.175	.5	80	960.30.125	960.30.175	.5	80	960.30.125	960.30.175				
.6	98	960.30.150	960.30.200	.6	98	960.30.150	960.30.200	.6	98	960.30.150	960.30.200				
.7	117	960.30.175	960.30.225	.7	117	960.30.175	960.30.225	.7	117	960.30.175	960.30.225				



e-chain® on the tower of a storage and retrieval unit for high-bay warehouses is guided by an aluminium SuperTrough system

Aluminium SuperTrough | 970.30.SL | 970.32.SL

Trough height: 77mm | Product range

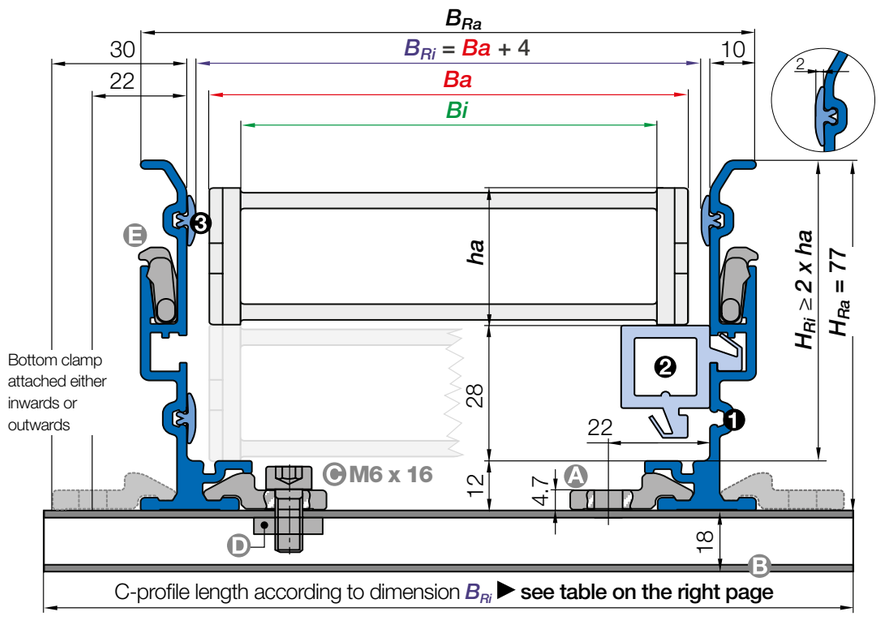
For the following igus® series

E2/000

- 1500

E4.1

- E4.21



Note: The inner width of the guide through and the C-profile length of the installation set can differ according to the mounting bracket you choose. Please call us.

Aluminium SuperTrough | Full set

Trough side parts sets - consisting of part ❶ | ❷ | ❸	Part No.	Weight
1 set of 2 trough side parts, incl. glide strips, **without** glide bars, 2m section	**970.30.SL**	≈ 4.20kg
1 set of 2 trough side parts, incl. glide strips, **with** glide bars, 2m section	**970.32.SL**	≈ 5.00kg

Installation sets - consisting of part Ⓐ | Ⓑ | Ⓒ | Ⓓ | Ⓔ	Part No.	Weight
1 installation set **without** C-profile	**960.30**	≈ 0.06kg
1 installation set **with** C-profile (C-profile length according to dimension B_{Ri})	**960.30.XXX***	upon request

*Please add the C-profile length XXX as shown on the tables on the right page. Example: **960.30.125**

Aluminium SuperTrough | Components as individual parts

Individual parts, trough	Part No.	Weight
❶ 1 trough side part, individual, 2m section	**70.11**	≈ 2.04kg
❷ 1 glide bar, plastic, individual, 2m section	**81.79**	≈ 0.42kg
❸ 1 glide strip, plastic, individual, 2m section	**75.01**	≈ 0.06kg

Individual parts, installation set	Part No.	Weight
Ⓐ 1 bottom clamp, aluminium individual	**75.40**	≈ 0.03kg
Ⓑ 1 C-profile, individual (C-profile length according to dimension B_{Ri})	**92.52.XXX.E***	≈ 0.90kg/m
Ⓒ 1 screw M6 x 16, individual	**MAT 0040209 / M6 x16**	
Ⓓ 1 glide nut, individual	**MAT 0040057 / M6**	
Ⓔ 1 interface connector, individual	**75.60**	
Additional option for simple fixing of the e-chain® without drilling	**Part No.**	
1 set fixed end module (more information ▶ **Page 1214**)	**970.80**	

*Please add the C-profile length XXX as shown on the tables on the right page. Example: **92.52.125.E**

C-profile also available in 304 stainless steel. Material 1.4301 (AISI 304). Please add index **E** to the Part No.

C-profile lengths (according to Dim. B_{Ri}) | Basic version

Bottom clamp attached either inwards or outwards

1500				E4.21			
Width index	B_{Ri} [mm]	Part No. attached inwards	Part No. attached outwards	Width index	B_{Ri} [mm]	Part No. attached inwards	Part No. attached outwards
.015	33	upon request	960.30.125	.030	48	upon request	960.30.150
.020	38	upon request	960.30.125	.040	58	960.30.125	960.30.150
.025	43	upon request	960.30.150	.050	68	960.30.125	960.30.175
.038	56	upon request	960.30.150	.060	78	960.30.125	960.30.175
.050	68	960.30.125	960.30.175	.070	88	960.30.150	960.30.175
.068	86	960.30.150	960.30.175	.080	98	960.30.150	960.30.200
.080	98	960.30.150	960.30.200	.090	108	960.30.175	960.30.200
.100	118	960.30.175	960.30.225	.100	118	960.30.175	960.30.225
.125	143	960.30.200	960.30.250	.110	128	960.30.175	960.30.225
				.120	138	960.30.200	960.30.225
				.140	158	960.30.225	960.30.250



Seawater-resistant aluminium SuperTrough for an igus® E4 system on an RTG crane

Aluminium SuperTrough | 971.30.SL | 971.31.SL

Trough height: 87mm | Product range

For the following igus® series

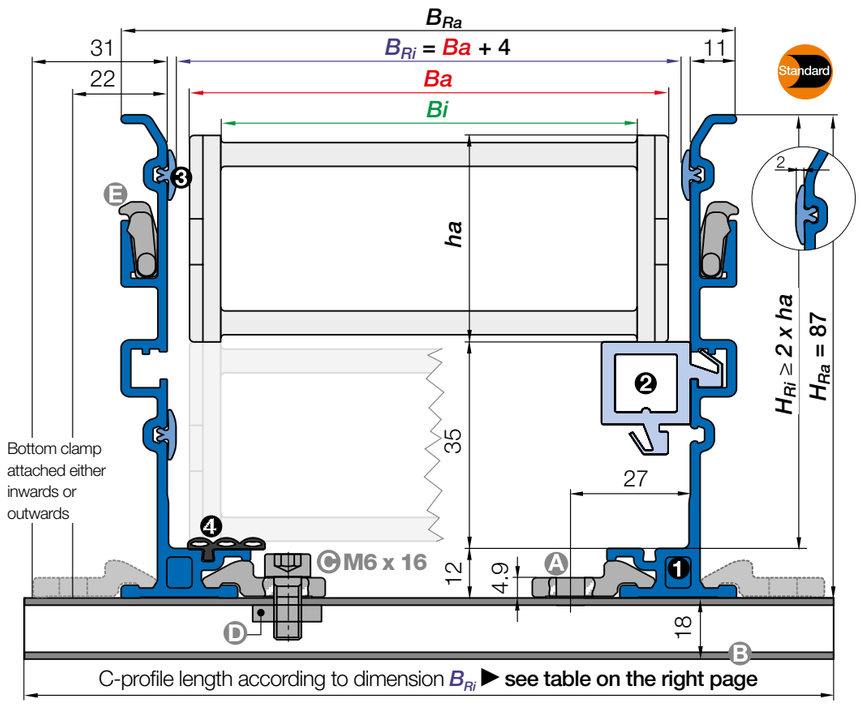
E2.1
- E2.26

E2/000
- 2500
- 255

E2 R
- R48

E6.1
- EF61.29/E61.29

E6
- E6.29/R6.29



Note: The inner width of the guide through and the C-profile length of the installation set can differ according to the mounting bracket you choose. Please call us.

Aluminium SuperTrough | Full set

Trough side parts sets - consisting of part ❶ | ❷ | ❸ | ❹	Part No.	Weight
1 set of 2 trough side parts, incl. glide strips, **without** glide bars, 2m section	971.30.SLA**	≈ 5.00kg
1 set of 2 trough side parts, incl. glide strips, **with** glide bars, 2m section	971.31.SL	≈ 6.40kg

For an additional noise dampening with silencer profile, please add index **A to the Part No. Example: **971.30.SLA**

Installation sets - consisting of part Ⓐ | Ⓑ | Ⓒ | Ⓓ | Ⓔ	Part No.	Weight
1 installation set **without** C-profile	960.30	≈ 0.06kg
1 installation set **with** C-profile (C-profile length according to dimension B_{Ri})	960.30.XXX*	upon request

*Please add the C-profile length **XXX** as shown on the tables on the right page. Example: **960.30.150**

Aluminium SuperTrough | Components as individual parts

Individual parts, trough	Part No.	Weight
❶ 1 trough side part, individual, 2m section	71.11	≈ 2.44kg
❷ 1 glide bar, plastic, individual, 2m section	82.79	≈ 0.60kg
❸ 1 glide strip, plastic, individual, 2m section	75.01	≈ 0.06kg
❹ 1 silencer profile, rubber, individual, 2m section (optional for an additional noise dampening)	75.67.H	≈ 0.16kg
Individual parts, installation set	**Part No.**	**Weight**
Ⓐ 1 bottom clamp, aluminium individual	75.40	≈ 0.03kg
Ⓑ 1 C-profile, individual (C-profile length according to dimension B_{Ri})	92.52.XXX.E*	≈ 0.90kg/m
Ⓒ 1 screw M6 x 16, individual	MAT 0040209 / M6 x16	
Ⓓ 1 glide nut, individual	MAT 0040057 / M6	
Ⓔ 1 interface connector, individual	75.60	
Additional option for simple fixing of the e-chain® without drilling	**Part No.**	
1 set fixed end module (more information ▶ **Page 1214**)	971.80.4	

*Please add the C-profile length **XXX** as shown on the tables on the right page. Example: **92.52.125.E**

C-profile also available in 304 stainless steel. Material 1.4301 (AISI 304). Please add index **E** to the Part No.

C-profile lengths (according to Dim. B_{Ri}) | Basic version

Bottom clamp attached either inwards or outwards

E2.26

Width index	B_{Ri} [mm]	Part No. attached inwards	Part No. attached outwards
.025	45	upon request	960.30.150
.038	58	upon request	960.30.150
.057	77	960.30.125	960.30.175
.077	97	960.30.150	960.30.200
.089	109	960.30.175	960.30.225
.103	123	960.30.175	960.30.225
.125	145	960.30.200	960.30.250

2500

Width index	B_{Ri} [mm]	Part No. attached inwards	Part No. attached outwards
.02	45	upon request	960.30.150
.03	58	upon request	960.30.150
.05	77	960.30.125	960.30.175
.07	97	960.30.150	960.30.200
.09	109	960.30.175	960.30.225
.10	123	960.30.175	960.30.225
.12	145	960.30.200	960.30.250

255

Width index	B_{Ri} [mm]	Part No. attached inwards	Part No. attached outwards
.03	58	upon request	960.30.150
.05	77	960.30.125	960.30.175
.07	97	960.30.150	960.30.200
.10	123	960.30.175	960.30.225

R48

Width index	B_{Ri} [mm]	Part No. attached inwards	Part No. attached outwards
.025	40	upon request	960.30.150
.050	65	upon request	960.30.175
.075	90	960.30.150	960.30.200
.100	115	960.30.175	960.30.225
.130	145	960.30.200	960.30.250

E61.29/EF61.29

Width index	B_{Ri} [mm]	Part No. attached inwards	Part No. attached outwards
.030	48	upon request	960.30.150
.040	58	upon request	960.30.150
.050	68	upon request	960.30.175
.060	78	960.30.125	960.30.175
.070	88	960.30.150	960.30.175
.080	98	960.30.150	960.30.200
.090	108	960.30.175	960.30.200
.100	118	960.30.175	960.30.225
.110	128	960.30.175	960.30.225
.120	138	960.30.200	960.30.225
.140	158	960.30.225	960.30.250

E6.29/R6.29

Width index	B_{Ri} [mm]	Part No. attached inwards	Part No. attached outwards
.030	50	upon request	960.30.150
.040	60	upon request	960.30.175
.050	70	upon request	960.30.175
.060	80	960.30.150	960.30.175
.070	90	960.30.150	960.30.200
.080	100	960.30.150	960.30.200
.090	110	960.30.175	960.30.225
.100	120	960.30.175	960.30.225
.110	130	960.30.200	960.30.225
.120	140	960.30.200	960.30.250
.140	160	960.30.225	960.30.250



Series E4 in a seawater resistant igus® aluminium guide trough

Heavy-duty version for high load applications

- This aluminium SuperTrough is also available with special heavy-duty brackets for secure connection
- You can configure the heavy-duty version using our online catalogue
- **Installation set Part No. 971.50.**

More information ▶ www.igus.eu/alu-guide



Aluminium SuperTrough | 972.02.30.SL | 972.02.31.SL

Trough height: 117mm | Product range

For the following igus® series

E4.1L

E4.31L/R4.31L

E4.1

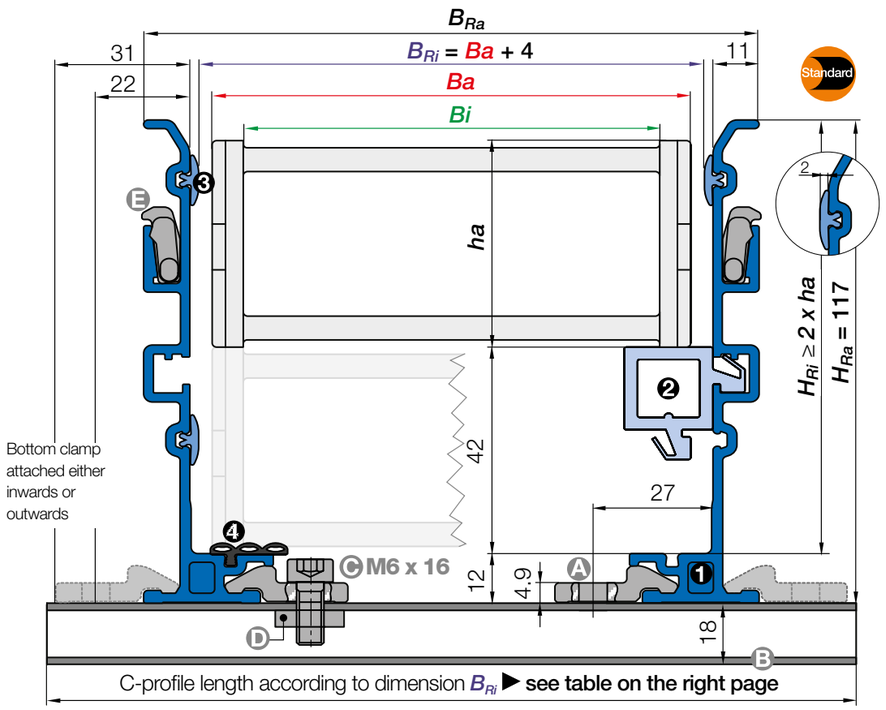
● E4.28/R4.28

E6.1

● E61.35

E6

● E6.35



Note: The inner width of the guide through and the C-profile length of the installation set can differ according to the mounting bracket you choose. Please call us.

Aluminium SuperTrough | Full set

Trough side parts sets - consisting of part ❶ | ❷ | ❸ | ❹	Part No.	Weight
1 set of 2 trough side parts, incl. glide strips, **without** glide bars, 2m section	972.02.30.SLA**	≈ 6.00kg
1 set of 2 trough side parts, incl. glide strips, **with** glide bars, 2m section	972.02.31.SL	≈7.40kg

For an additional noise dampening with silencer profile, please add index A to the Part No. Example: **972.02.30.SLA

Installation sets - consisting of part Ⓐ | Ⓑ | Ⓒ | Ⓓ | Ⓔ	Part No.	Weight
1 installation set **without** C-profile	960.30	≈ 0.06kg
1 installation set **with** C-profile (C-profile length according to dimension B_{Ri})	960.30.XXX*	upon request

*Please add the C-profile length XXX as shown on the tables on the right page. Example: **960.30.175**

Aluminium SuperTrough | Components as individual parts

Individual parts, trough	Part No.	Weight
❶ 1 trough side part, individual, 2m section	72.02.11	≈ 2.94kg
❷ 1 glide bar, plastic, individual, 2m section	82.79	≈ 1.30kg
❸ 1 glide strip, plastic, individual, 2m section	75.01	≈ 0.06kg
❹ 1 silencer profile, rubber, individual, 2m section (optional for an additional noise dampening)	75.67.H	≈ 0.16kg
Individual parts, installation set	**Part No.**	**Weight**
Ⓐ 1 bottom clamp, aluminium individual	75.40	≈ 0.03kg
Ⓑ 1 C-profile, individual (C-profile length according to dimension B_{Ri})	92.52.XXX.E*	≈ 0.90kg/m
Ⓒ 1 screw M6 x 16, individual	MAT 0040209 / M6 x16	
Ⓓ 1 glide nut, individual	MAT 0040057 / M6	
Ⓔ 1 interface connector, individual	75.60	
Additional option for simple fixing of the e-chain® without drilling	**Part No.**	
1 set fixed end module (more information ▶ **Page 1214**)	972.80.4	

*Please add the C-profile length XXX as shown on the tables on the right page. Example: **92.52.125.E**

C-profile also available in 304 stainless steel. Material 1.4301 (AISI 304). Please add index **E** to the Part No.

C-profile lengths (according to Dim. B_{Ri}) | Basic version

Bottom clamp attached either inwards or outwards

E4.31L/R4.31L				E4.28/R4.28			
Width index	B_{Ri} [mm]	Part No. attached inwards	Part No. attached outwards	Width index	B_{Ri} [mm]	Part No. attached inwards	Part No. attached outwards
.040	58	upon request	960.30.150	.040	64	upon request	960.30.175
.050	68	upon request	960.30.175	.050	74	960.30.125	960.30.175
.062	80	960.30.150	960.30.175	.062	86	960.30.150	960.30.200
.075	93	960.30.150	960.30.200	.070	94	960.30.150	960.30.200
.087	105	960.30.175	960.30.200	.075	99	960.30.150	960.30.200
.100	118	960.30.175	960.30.225	.087	111	960.30.175	960.30.225
.112	130	960.30.200	960.30.225	.100	124	960.30.175	960.30.225
.125	143	960.30.200	960.30.250	.125	149	960.30.200	960.30.250
.137	155	960.30.225	960.30.250	.150	174	960.30.225	960.30.275
.150	168	960.30.225	960.30.275	.175	199	960.30.250	960.30.300
.162	180	960.30.250	960.30.275	.200	224	960.30.275	960.30.325
.175	193	960.30.250	960.30.300	.225	249	960.30.300	960.30.350
.187	205	960.30.275	960.30.300	.250	274	960.30.325	960.30.375
.200	218	960.30.275	960.30.325	.275	299	960.30.350	960.30.400
				.300	324	960.30.375	960.30.425

E61.35				E6.35			
Width index	B_{Ri} [mm]	Part No. attached inwards	Part No. attached outwards	Width index	B_{Ri} [mm]	Part No. attached inwards	Part No. attached outwards
.30	50	upon request	960.30.150	.030	54	upon request	960.30.150
.40	60	upon request	960.30.150	.040	64	upon request	960.30.175
.50	70	upon request	960.30.175	.050	74	960.30.125	960.30.175
.60	80	960.30.150	960.30.175	.060	84	960.30.150	960.30.200
.70	90	960.30.150	960.30.200	.070	94	960.30.150	960.30.200
.80	100	960.30.150	960.30.200	.080	104	960.30.150	960.30.200
.90	110	960.30.175	960.30.200	.090	114	960.30.175	960.30.225
100	120	960.30.175	960.30.225	.100	124	960.30.175	960.30.225
110	130	960.30.200	960.30.225	.110	134	960.30.200	960.30.250
120	140	960.30.200	960.30.250	.120	144	960.30.200	960.30.250
140	160	960.30.225	960.30.250				



Safely guide an e-chain® for a longer travel. Aluminium SuperTrough is increasingly popular because of corrosion resistance, weight saving and faster assembly

Heavy-duty version for high load applications

- This aluminium SuperTrough is also available with special heavy-duty brackets for secure connection
- You can configure the heavy-duty version using our online catalogue
- **Installation set Part No. 972.50.**

More information ▶ www.igus.eu/alu-guide



Aluminium SuperTrough | 972.30.SL | 972.31.SL

Trough height: 117mm | Product range

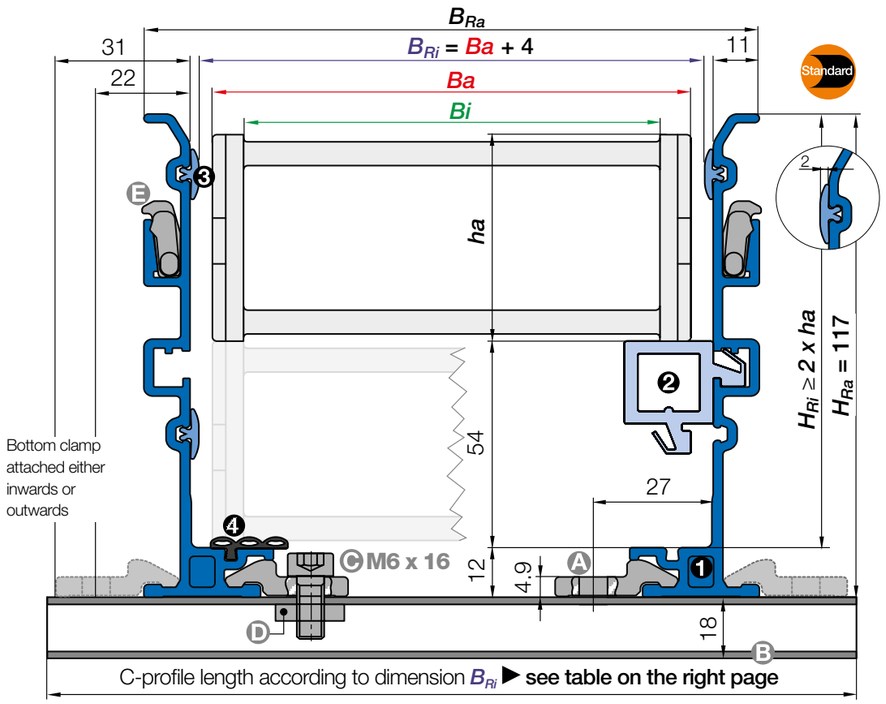
For the following igus® series

E4.1L
- E4.38L/R4.38L

E4.1
- E4.32/H4.32/R4.32

E6.1
- E61.40

E6
- E6.40/R6.40



Note: The inner width of the guide through and the C-profile length of the installation set can differ according to the mounting bracket you choose. Please call us.

Aluminium SuperTrough | Full set

Trough side parts sets - consisting of part ❶ | ❷ | ❸ | ❹	Part No.	Weight
1 set of 2 trough side parts, incl. glide strips, **without** glide bars, 2m section	972.30.SLA**	≈ 6.00kg
1 set of 2 trough side parts, incl. glide strips, **with** glide bars, 2m section	972.31.SL	≈ 7.40kg

For an additional noise dampening with silencer profile, please add index A to the Part No. Example: **972.30.SLA

Installation sets - consisting of part Ⓐ | Ⓑ | Ⓒ | Ⓓ | Ⓔ	Part No.	Weight
1 installation set **without** C-profile	960.30	≈ 0.06kg
1 installation set **with** C-profile (C-profile length according to dimension B_{Ri})	960.30.XXX*	upon request

*Please add the C-profile length XXX as shown on the tables on the right page. Example: **960.30.150**

Aluminium SuperTrough | Components as individual parts

Individual parts, trough	Part No.	Weight
❶ 1 trough side part, individual, 2m section	72.11	≈ 2.94kg
❷ 1 glide bar, plastic, individual, 2m section	82.79	≈ 0.60kg
❸ 1 glide strip, plastic, individual, 2m section	75.01	≈ 0.06kg
❹ 1 silencer profile, rubber, individual, 2m section (optional for an additional noise dampening)	75.67.H	≈ 0.16kg
Individual parts, installation set	**Part No.**	**Weight**
Ⓐ 1 bottom clamp, aluminium individual	75.40	≈ 0.03kg
Ⓑ 1 C-profile, individual (C-profile length according to dimension B_{Ri})	92.52.XXX.E*	≈ 0.90kg/m
Ⓒ 1 screw M6 x 16, individual	MAT 0040209 / M6 x16	
Ⓓ 1 glide nut, individual	MAT 0040057 / M6	
Ⓔ 1 interface connector, individual	75.60	
Additional option for simple fixing of the e-chain® without drilling	**Part No.**	
1 set fixed end module (more information ▶ **Page 1214**)	972.80.4	

*Please add the C-profile length XXX as shown on the tables on the right page. Example: **92.52.125.E**

C-profile also available in 304 stainless steel. Material 1.4301 (AISI 304). Please add index **E** to the Part No.

C-profile lengths (according to Dim. B_{Ri}) | Basic version

Bottom clamp attached either inwards or outwards

E4.38L/R4.38L				E4.32/H4.32/R4.32				E61.40				E6.40/R6.40			
Width index	B_{Ri} [mm]	Part No. attached inwards	Part No. attached outwards	Width index	B_{Ri} [mm]	Part No. attached inwards	Part No. attached outwards	Width index	B_{Ri} [mm]	Part No. attached inwards	Part No. attached outwards	Width index	B_{Ri} [mm]	Part No. attached inwards	Part No. attached outwards
050.	70	upon request	960.30.200	.05	77	960.30.125	960.30.175	.40	60	upon request	960.30.150	.040	64	upon request	960.30.175
062.	82	upon request	960.30.200	.06	95	960.30.150	960.30.200	.86	74	960.30.125	960.30.175	.050	74	960.30.125	960.30.175
075.	95	upon request	960.30.225	.07	102	960.30.150	960.30.200	.88	76	960.30.125	960.30.175	.062	86	960.30.150	960.30.200
087.	107	upon request	960.30.225	.087	114	960.30.175	960.30.225	.98	86	960.30.150	960.30.175	.070	94	960.30.150	960.30.200
100.	120	960.30.175	960.30.250	.10	127	960.30.175	960.30.225	.106	94	960.30.150	960.30.200	.075	99	960.30.150	960.30.200
105.	125	960.30.175	960.30.250	.11	135	960.30.200	960.30.250	.111	99	960.30.150	960.30.200	.087	111	960.30.175	960.30.225
112.	132	960.30.200	960.30.250	.112	140	960.30.200	960.30.250	.123	111	960.30.175	960.30.200	.100	124	960.30.175	960.30.225
125.	145	960.30.200	960.30.275	.12	152	960.30.200	960.30.250	.136	124	960.30.175	960.30.225	.125	149	960.30.200	960.30.250
137.	157	960.30.225	960.30.275	.137	165	960.30.225	960.30.275	.161	149	960.30.200	960.30.250	.150	174	960.30.225	960.30.275
150.	170	960.30.225	960.30.300	.15	177	960.30.225	960.30.275	.186	174	960.30.225	960.30.275	.175	199	960.30.250	960.30.300
162.	182	960.30.250	960.30.300	.162	190	960.30.250	960.30.300	.211	199	960.30.250	960.30.300	.200	224	960.30.275	960.30.325
175.	195	960.30.250	960.30.325	.17	195	960.30.250	960.30.300	.236	224	960.30.275	960.30.325	.225	249	960.30.300	960.30.350
187.	207	960.30.275	960.30.325	.18	202	960.30.250	960.30.300	.261	249	960.30.300	960.30.350	.250	274	960.30.325	960.30.375
200.	220	960.30.275	960.30.350	.187	215	960.30.275	960.30.325	.286	274	960.30.325	960.30.375	.275	299	960.30.350	960.30.400
212.	232	960.30.300	960.30.350	.20	227	960.30.275	960.30.325	.311	299	960.30.350	960.30.400	.300	324	960.30.375	960.30.425
225.	245	960.30.300	960.30.375	.212	240	960.30.300	960.30.350	.336	324	960.30.375	960.30.425				
237.	257	960.30.325	960.30.375	.23	252	960.30.300	960.30.350								
.250	270	960.30.325	960.30.375	.237	265	960.30.325	960.30.375								
.262	282	960.30.325	960.30.375	.25	277	960.30.325	960.30.375								
.275	295	960.30.350	960.30.400	.262	290	960.30.350	960.30.400								
.287	307	960.30.350	960.30.400	.28	302	960.30.350	960.30.400								
.300	320	960.30.375	960.30.425	.29	315	960.30.375	960.30.425								
.312	332	960.30.375	960.30.425	.30	327	960.30.375	960.30.425								
.325	345	960.30.400	960.30.450	.312	340	960.30.400	960.30.450								
.337	357	960.30.400	960.30.450	.325	352	960.30.400	960.30.450								
.350	370	960.30.425	960.30.475	.337	365	960.30.425	960.30.475								
.362	382	960.30.450	960.30.475	.350	377	960.30.425	960.30.475								
.375	395	960.30.450	960.30.500	.362	390	960.30.450	960.30.500								
.387	407	960.30.450	960.30.500	.375	402	960.30.450	960.30.500								
.400	420	960.30.475	960.30.500	.387	415	960.30.475	960.30.525								
				.400	427	960.30.475	960.30.525								

Heavy-duty version for high load applications

- This aluminium SuperTrough is also available with special heavy-duty brackets for secure connection
- You can configure the heavy-duty version using our online catalogue
- **Installation set Part No. 972.50.**

More information ▶ www.igus.eu/alu-guide



Aluminium SuperTrough | 972.30.SL | 972.32.SL

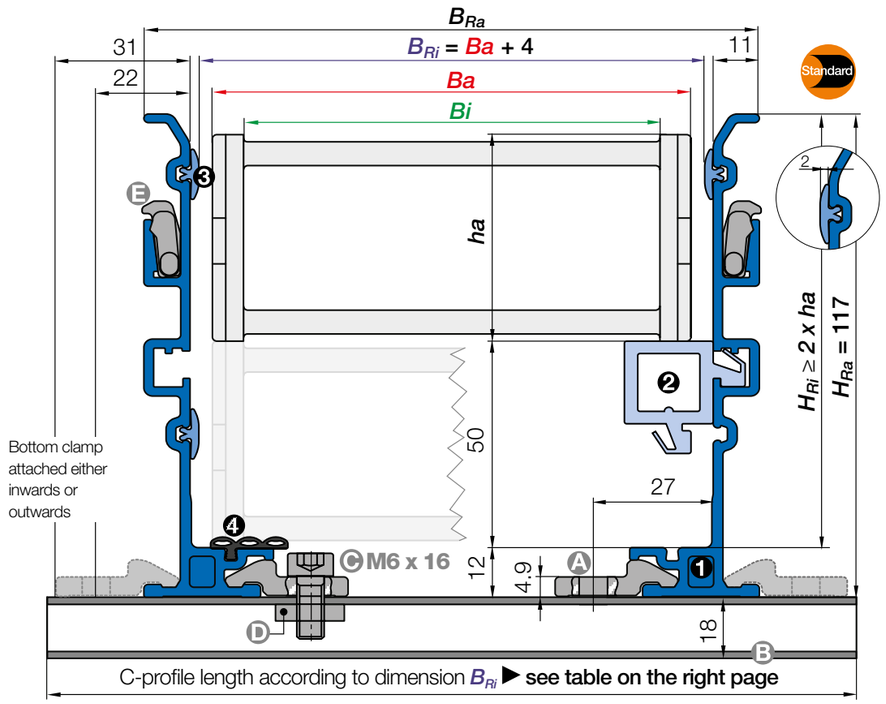
Trough height: 117mm | Product range

For the following igus® series

E2.1
- E2.38

E2/000
- 2700

E2 R
- R58



Note: The inner width of the guide through and the C-profile length of the installation set can differ according to the mounting bracket you choose. Please call us.

Aluminium SuperTrough | Full set

Trough side parts sets - consisting of part ❶ | ❷ | ❸ | ❹	Part No.	Weight
1 set of 2 trough side parts, incl. glide strips, **without** glide bars, 2m section	972.30.SLA**	≈ 6.00kg
1 set of 2 trough side parts, incl. glide strips, **with** glide bars, 2m section	972.32.SL	≈ 7.40kg

For an additional noise dampening with silencer profile, please add index A to the Part No. Example: **972.30.SLA

Installation sets - consisting of part Ⓐ | Ⓑ | Ⓒ | Ⓓ | Ⓔ	Part No.	Weight
1 installation set **without** C-profile	960.30	≈ 0.06kg
1 installation set **with** C-profile (C-profile length according to dimension B_{Ri})	960.30.XXX*	upon request

*Please add the C-profile length XXX as shown on the tables on the right page. Example: **960.30.150**

Aluminium SuperTrough | Components as individual parts

Individual parts, trough	Part No.	Weight
❶ 1 trough side part, individual, 2m section	72.11	≈ 2.94kg
❷ 1 glide bar, plastic, individual, 2m section	82.79	≈ 0.60kg
❸ 1 glide strip, plastic, individual, 2m section	75.01	≈ 0.06kg
❹ 1 silencer profile, rubber, individual, 2m section (optional for an additional noise dampening)	75.67.H	≈ 0.16kg
Individual parts, installation set	**Part No.**	**Weight**
Ⓐ 1 bottom clamp, aluminium individual	75.40	≈ 0.03kg
Ⓑ 1 C-profile, individual (C-profile length according to dimension B_{Ri})	92.52.XXX.E*	≈ 0.90kg/m
Ⓒ 1 screw M6 x 16, individual	MAT 0040209 / M6 x16	
Ⓓ 1 glide nut, individual	MAT 0040057 / M6	
Ⓔ 1 interface connector, individual	75.60	
Additional option for simple fixing of the e-chain® without drilling	**Part No.**	
1 set fixed end module (more information ▶ **Page 1214**)	972.80.4	

*Please add the C-profile length XXX as shown on the tables on the right page. Example: **92.52.125.E**

C-profile also available in 304 stainless steel. Material 1.4301 (AISI 304). Please add index **E** to the Part No.

C-profile lengths (according to Dim. B_{Ri}) | Basic version

Bottom clamp attached either inwards or outwards

E2.38

Width index	B_{Ri} [mm]	Part No. attached inwards	Part No. attached outwards
.50	70	upon request	960.30.175
.65	85	960.30.150	960.30.200
.75	95	960.30.150	960.30.200
.90	110	960.30.175	960.30.225
.100	120	960.30.175	960.30.225
.125	145	960.30.200	960.30.250
.150*	170	960.30.225	960.30.275
.175	198	960.30.250	960.30.300

2700

Width index	B_{Ri} [mm]	Part No. attached inwards	Part No. attached outwards
.05	70	upon request	960.30.175
.06	85	960.30.150	960.30.200
.07	95	960.30.150	960.30.200
.09	110	960.30.175	960.30.225
.10	120	960.30.175	960.30.225
.12	145	960.30.200	960.30.250
.15	170	960.30.225	960.30.275
.17	198	960.30.250	960.30.300

R58

Width index	B_{Ri} [mm]	Part No. attached inwards	Part No. attached outwards
.050	70	upon request	960.30.175
.075	95	960.30.150	960.30.200
.100	120	960.30.175	960.30.225
.125	145	960.30.200	960.30.250
.150	170	960.30.225	960.30.275
.175	195	960.30.250	960.30.300
.200	220	960.30.275	960.30.325



Due to the Compact design of the Aluminium SuperTrough, less space is required along the travel distance. Long travel crane; 32m travel, operating speed 80m/min.

Heavy-duty version for high load applications

- This aluminium SuperTrough is also available with special heavy-duty brackets for secure connection
- You can configure the heavy-duty version using our online catalogue
- **Installation set Part No. 972.50.**

More information ▶ www.igus.eu/alu-guide



Aluminium SuperTrough | 973.30.SL | 973.31.SL

Trough height: 144mm | Product range

For the following igus® series

E2.1
- E2.48

E2/000
- 3500

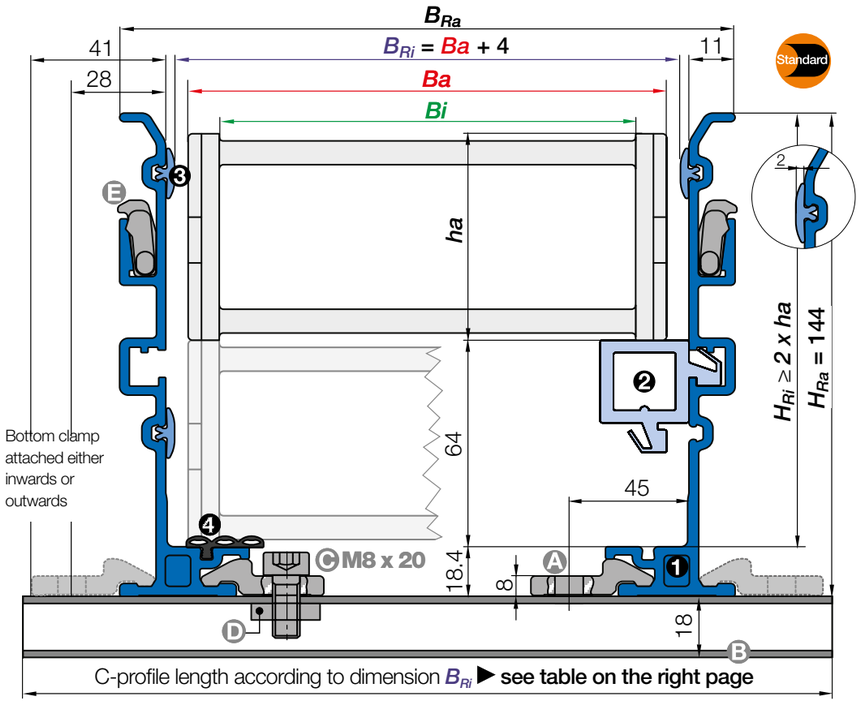
E2 R
- R68

E4.1L
- E4.48L/R4.48L

E4.1
- E4.42/H4.42/R4.42

E6.1
- E61.52

E6
- E6.52/R6.52



Note: The inner width of the guide through and the C-profile length of the installation set can differ according to the mounting bracket you choose. Please call us.

Aluminium SuperTrough | Full set

Trough side parts sets - consisting of part ❶ | ❷ | ❸ | ❹	Part No.	Weight
1 set of 2 trough side parts, incl. glide strips, **without** glide bars, 2m section	**973.30.SLA****	≈ 8.00kg
1 set of 2 trough side parts, incl. glide strips, **with** glide bars, 2m section	**973.31.SL**	≈ 10.8kg

For an additional noise dampening with silencer profile, please add index **A to the Part No. Example: **973.30.SLA**

Installation sets - consisting of part Ⓐ | Ⓑ | Ⓒ | Ⓓ | Ⓔ	Part No.	Weight
1 installation set **without** C-profile	**960.40**	≈ 0.08kg
1 installation set **with** C-profile (C-profile length according to dimension B_{Ri})	**960.40.XXX***	upon request

*Please add the C-profile length **XXX** as shown on the tables on the right page. Example: **960.40.175**

Aluminium SuperTrough | Components as individual parts

Individual parts, trough	Part No.	Weight
❶ 1 trough side part, individual, 2m section	**73.11**	≈ 3.94kg
❷ 1 glide bar, plastic, individual, 2m section	**83.79**	≈ 1.30kg
❸ 1 glide strip, plastic, individual, 2m section	**75.01**	≈ 0.06kg
❹ 1 silencer profile, rubber, individual, 2m section (optional for an additional noise dampening)	**75.68.H**	≈ 0.38kg
Individual parts, installation set	**Part No.**	**Weight**
Ⓐ 1 bottom clamp, aluminium individual	**75.50**	≈ 0.04kg
Ⓑ 1 C-profile, individual (C-profile length according to dimension B_{Ri})	**92.52.XXX.E***	≈ 0.90kg/m
Ⓒ 1 screw M6 x 16, individual	**MAT 0040445 / M8 x 20**	
Ⓓ 1 glide nut, individual	**MAT 0040413 / M8**	
Ⓔ 1 interface connector, individual	**75.60**	
Additional option for simple fixing of the e-chain® without drilling	**Part No.**	
1 set fixed end module (more information ▶ **Page 1214**)	**973.80.5[A] / 973.81.5[B]**	

*Please add the C-profile length **XXX** as shown on the tables on the right page. Example: **92.52.125.E**

C-profile also available in 304 stainless steel. Material 1.4301 (AISI 304). Please add index **E** to the Part No.

A) - for series 3500, R68 B) - for series E4.42/H4.42/R4.42, E4.48L/R4.48L, E6.52/R6.52

C-profile lengths (according to Dim. B_{Ri}) | Basic version

Bottom clamp attached either inwards or outwards

E2.48

Width index	B_{Ri} [mm]	Part No. attached inwards	Part No. attached outwards
.050	74	upon request	960.40.200
.075	99	upon request	960.40.225
.100	124	960.40.175	960.40.250
.115	139	960.40.200	960.40.275
.125	149	960.40.200	960.40.275
.150	174	960.40.225	960.40.300
.175	199	960.40.250	960.40.325
.200	224	960.40.275	960.40.350
.225	249	960.40.300	960.40.375
.250	274	960.40.325	960.40.400

3500

Width index	B_{Ri} [mm]	Part No. attached inwards	Part No. attached outwards
.050	74	upon request	960.40.200
.075	99	upon request	960.40.225
.100	124	960.40.175	960.40.250
.115	139	960.40.200	960.40.275
.125	149	960.40.200	960.40.275
.150	174	960.40.225	960.40.300
.175	199	960.40.250	960.40.325
.200	224	960.40.275	960.40.350
.225	249	960.40.300	960.40.375
.250	274	960.40.325	960.40.400

R68

Width index	B_{Ri} [mm]	Part No. attached inwards	Part No. attached outwards
.050	72	upon request	960.40.200
.075	97	upon request	960.40.225
.100	122	960.40.175	960.40.250
.115	137	960.40.200	960.40.275
.125	147	960.40.200	960.40.275
.150	172	960.40.225	960.40.300
.175	197	960.40.250	960.40.325
.200	222	960.40.275	960.40.350
.225	247	960.40.300	960.40.375
.250	272	960.40.325	960.40.400

E61.52/E6.52/R6.52

Width index	B_{Ri} [mm]	Part No. attached inwards	Part No. attached outwards
.040	68	upon request	960.40.200
.050	78	upon request	960.40.200
.062	90	upon request	960.40.225
.070	98	upon request	960.40.225
.075	103	upon request	960.40.225
.087	115	upon request	960.40.250
.100	128	960.40.175	960.40.250
.125	153	960.40.200	960.40.275
.150	178	960.40.225	960.40.300
.175	203	960.40.250	960.40.325
.200	228	960.40.275	960.40.350
.225	253	960.40.300	960.40.375
.250	278	960.40.325	960.40.400
.275	303	960.40.350	960.40.425
.300	328	960.40.375	960.40.450

E4.48L/R4.48L

Width index	B_{Ri} [mm]	Part No. attached inwards	Part No. attached outwards
.050	74	upon request	960.40.200
.062	86	upon request	960.40.200
.075	99	upon request	960.40.225
.087	111	960.40.175	960.40.225
.100	124	960.40.175	960.40.250
.105	125	960.40.200	960.40.250
.112	136	960.40.200	960.40.250
.125	149	960.40.225	960.40.275
.137	161	960.40.225	960.40.275
.150	174	960.40.250	960.40.300
.162	186	960.40.250	960.40.300
.175	199	960.40.275	960.40.325
.187	211	960.40.275	960.40.325
.200	224	960.40.300	960.40.350
.212	236	960.40.300	960.40.350
.225	249	960.40.325	960.40.375
.237	261	960.40.325	960.40.375
.250	274	960.40.325	960.40.375
.262	282	960.40.325	960.40.375
.275	295	960.40.350	960.40.400
.287	307	960.40.350	960.40.400
.300	320	960.40.375	960.40.425
.312	332	960.40.375	960.40.425
.325	345	960.40.400	960.40.450
.337	357	960.40.400	960.40.450
.350	370	960.40.425	960.40.475
.362	382	960.40.450	960.40.475
.375	395	960.40.450	960.40.500
.387	407	960.40.450	960.40.500
.400	420	960.40.475	960.40.500

E4.42/H4.42/R4.42

Width index	B_{Ri} [mm]	Part No. attached inwards	Part No. attached outwards
.05	80	upon request	960.40.200
.06	98	upon request	960.40.225
.07	105	upon request	960.40.225
.087	118	960.40.175	960.40.250
.10	130	960.40.200	960.40.250
.11	138	960.40.200	960.40.275
.112	143	960.40.200	960.40.275
.12	155	960.40.225	960.40.275
.137	168	960.40.225	960.40.300
.15	180	960.40.250	960.40.300
.162	193	960.40.250	960.40.325
.17	198	960.40.250	960.40.325
.18	205	960.40.275	960.40.325
.187	218	960.40.275	960.40.350
.20	230	960.40.300	960.40.350
.212	243	960.40.300	960.40.375
.23	255	960.40.325	960.40.375
.237	268	960.40.325	960.40.400
.25	280	960.40.350	960.40.400
.262	293	960.40.350	960.40.425
.28	305	960.40.375	960.40.425
.29	318	960.40.375	960.40.450
.30	330	960.40.400	960.40.450
.312	343	960.40.400	960.40.475
.325	355	960.40.425	960.40.475
.337	368	960.40.425	960.40.500
.350	380	960.40.450	960.40.500
.362	393	960.40.450	960.40.525
.375	406	960.40.475	960.40.525
.387	418	960.40.475	960.40.550
.400	430	960.40.500	960.40.550

Heavy-duty version for high load applications

- This aluminium SuperTrough is also available with special heavy-duty brackets for secure connection
- You can configure the heavy-duty version using our online catalogue
- **Installation set Part No. 973.50.**

More information ▶ www.igus.eu/alu-guide



Aluminium SuperTrough | 974.30.SL | 974.31.SL

Trough height: 184mm | Product range

For the following igus® series

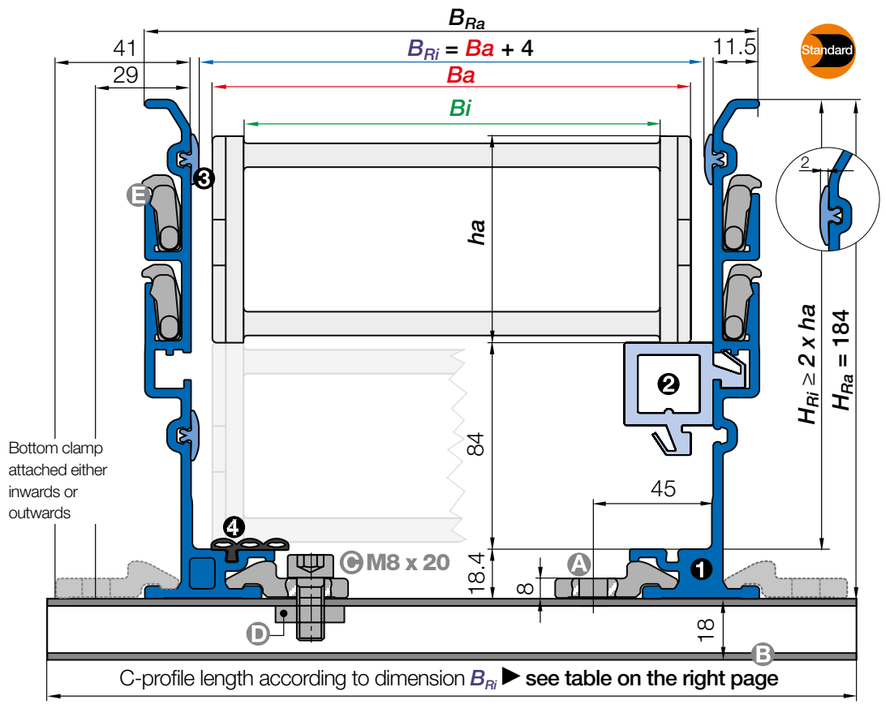
E4.1L
- E4.64L

E4.1
- E4.56/H4.56/R4.56

E4/light
- 14040/14140/R18840
- 14240/14340

E6
- E61.62

E6
- E6.62



Note: The inner width of the guide through and the C-profile length of the installation set can differ according to the mounting bracket you choose. Please call us.

Aluminium SuperTrough | Full set

Trough side parts sets - consisting of part ❶ | ❷ | ❸ | ❹	Part No.	Weight
1 set of 2 trough side parts, incl. glide strips, **without** glide bars, 2m section	974.30.SLA**	≈ 10.0kg
1 set of 2 trough side parts, incl. glide strips, **with** glide bars, 2m section	974.31.SL	≈ 12.8kg

For an additional noise dampening with silencer profile, please add index A to the Part No. Example: **974.30.SLA

Installation sets - consisting of part Ⓐ | Ⓑ | Ⓒ | Ⓓ | Ⓔ	Part No.	Weight
1 installation set **without** C-profile	960.50	≈ 0.08kg
1 installation set **with** C-profile (C-profile length according to dimension B_{Ri})	960.50.XXX*	upon request

*Please add the C-profile length XXX as shown on the tables on the right page. Example: **960.50.200**

Aluminium SuperTrough | Components as individual parts

Individual parts, trough	Part No.	Weight
❶ 1 trough side part, individual, 2m section	74.11	≈ 4.94kg
❷ 1 glide bar, plastic, individual, 2m section	83.79	≈ 1.30kg
❸ 1 glide strip, plastic, individual, 2m section	75.01	≈ 0.06kg
❹ 1 silencer profile, rubber, individual, 2m section (optional for an additional noise dampening)	75.68.H	≈ 0.38kg
Individual parts, installation set	**Part No.**	**Weight**
Ⓐ 1 bottom clamp, aluminium individual	75.50	≈ 0.04kg
Ⓑ 1 C-profile, individual (C-profile length according to dimension B_{Ri})	92.52.XXX.E*	≈ 0.90kg/m
Ⓒ 1 screw M6 x 16, individual	MAT 0040445 / M8 x 20	
Ⓓ 1 glide nut, individual	MAT 0040413 / M8	
Ⓔ 1 interface connector, individual	75.60	
Additional option for simple fixing of the e-chain® without drilling	**Part No.**	
1 set fixed end module (more information ▶ **Page 1214**)	974.80.5A) / 974.81.5B)	

*Please add the C-profile length XXX as shown on the tables on the right page. Example: **92.52.125.E**

C-profile also available in 304 stainless steel. Material 1.4301 (AISI 304). Please add index **E** to the Part No.

A) - for series E4.56/H4.56/R4.56, E6.62 B) - for series 14040/14140/R18840, 14240/14340

C-profile lengths (according to Dim. B_{Ri}) | Basic version

Bottom clamp attached either inwards or outwards

E4.56/H4.56/R4.56

Width index	B_{Ri} [mm]	Part No. attached inwards	Part No. attached outwards
.05	88	upon request	960.50.225
.06	103	upon request	960.50.225
.07	113	upon request	960.50.250
.08	125	960.50.175	960.50.250
.10	138	960.50.200	960.50.275
.11	151	960.50.200	960.50.275
.12	163	960.50.225	960.50.300
.13	176	960.50.225	960.50.300
.15	188	960.50.250	960.50.325
.16	201	960.50.250	960.50.325
.17	213	960.50.275	960.50.350
.18	226	960.50.275	960.50.350
.20	238	960.50.300	960.50.375
.21	251	960.50.300	960.50.375
.22	263	960.50.325	960.50.400
.23	276	960.50.325	960.50.400
.25	288	960.50.350	960.50.425
.26	301	960.50.350	960.50.425
.27	313	960.50.375	960.50.450
.28	326	960.50.375	960.50.450
.30	338	960.50.400	960.50.475
.31	351	960.50.400	960.50.475
.32	363	960.50.425	960.50.500
.33	376	960.50.425	960.50.500
.35	388	960.50.450	960.50.525
.36	401	960.50.450	960.50.525
.37	413	960.50.475	960.50.550
.38	426	960.50.475	960.50.550
.40	438	960.50.500	960.50.575
.41	451	960.50.500	960.50.575
.42	463	960.50.525	960.50.600
.43	476	960.50.525	960.50.600
.45	488	960.50.550	960.50.625
.46	501	960.50.550	960.50.625
.47	513	960.50.575	960.50.650
.48	526	960.50.575	960.50.650
.50	538	960.50.600	960.50.675
.51	551	960.50.600	960.50.675
.52	563	960.50.625	960.50.700
.53	576	960.50.625	960.50.700
.55	588	960.50.650	960.50.725
.60	638	960.50.700	960.50.775

14040/14140/R18840

Width index	B_{Ri} [mm]	Part No. attached inwards	Part No. attached outwards
.05	80	upon request	960.50.200
.06	95	upon request	960.50.225
.07	105	upon request	960.50.225
.08	117	960.50.175	960.50.225
.10	130	960.50.200	960.50.250
.11	143	960.50.200	960.50.275
.12	155	960.50.225	960.50.275
.13	168	960.50.225	960.50.300
.15	180	960.50.250	960.50.300
.16	193	960.50.250	960.50.325
.17	205	960.50.275	960.50.325
.18	218	960.50.275	960.50.350
.20	230	960.50.300	960.50.350
.21	243	960.50.300	960.50.375
.22	255	960.50.325	960.50.375
.23	268	960.50.325	960.50.400
.25	280	960.50.350	960.50.400
.26	293	960.50.350	960.50.425
.27	305	960.50.375	960.50.425
.28	318	960.50.375	960.50.450
.30	330	960.50.400	960.50.450
.31	343	960.50.400	960.50.475
.32	355	960.50.425	960.50.475
.33	368	960.50.425	960.50.500
.35	380	960.50.450	960.50.500
.36	393	960.50.450	960.50.525
.37	405	960.50.475	960.50.525
.38	418	960.50.475	960.50.550
.40	430	960.50.500	960.50.550
.41	443	960.50.500	960.50.575
.42	455	960.50.525	960.50.575
.43	468	960.50.525	960.50.600
.45	480	960.50.550	960.50.600
.46	493	960.50.550	960.50.625
.47	505	960.50.575	960.50.625
.48	518	960.50.575	960.50.650
.50	530	960.50.600	960.50.650
.51	543	960.50.600	960.50.675
.52	555	960.50.625	960.50.675
.53	568	960.50.625	960.50.700
.55	580	960.50.650	960.50.700
.60	630	960.50.700	960.50.750

14240/14340

Width index	B_{Ri} [mm]	Part No. attached inwards	Part No. attached outwards
.05	80	upon request	960.50.200
.06	98	upon request	960.50.225
.07	105	upon request	960.50.225
.087	118	960.50.175	960.50.250
.10	130	960.50.200	960.50.250
.11	138	960.50.200	960.50.275
.112	143	960.50.200	960.50.275
.12	155	960.50.225	960.50.275
.137	168	960.50.225	960.50.300
.15	180	960.50.250	960.50.300
.162	193	960.50.250	960.50.325
.17	198	960.50.250	960.50.325
.18	205	960.50.275	960.50.325
.187	218	960.50.275	960.50.350
.20	230	960.50.300	960.50.350
.212	243	960.50.300	960.50.375
.23	255	960.50.325	960.50.375
.237	268	960.50.325	960.50.400
.25	280	960.50.350	960.50.400
.262	293	960.50.350	960.50.425
.28	305	960.50.375	960.50.425
.29	318	960.50.375	960.50.450
.30	330	960.50.400	960.50.450
.312	343	960.50.400	960.50.475
.325	355	960.50.425	960.50.475
.337	368	960.50.425	960.50.500
.350	380	960.50.450	960.50.500
.362	393	960.50.450	960.50.525
.375	405	960.50.475	960.50.525
.387	418	960.50.475	960.50.550
.400	430	960.50.500	960.50.550

E61.62

Width index	B_{Ri} [mm]	Part No. attached inwards	Part No. attached outwards
.05	86	upon request	960.50.200
.06	104	upon request	960.50.225
.07	111	upon request	960.50.225
.087	123	960.50.175	960.50.250
.10	136	960.50.200	960.50.250
.11	144	960.50.200	960.50.250
.112	148	960.50.200	960.50.275
.12	161	960.50.225	960.50.275
.137	173	960.50.225	960.50.300
.15	186	960.50.250	960.50.300
.162	198	960.50.250	960.50.325
.17	204	960.50.275	960.50.325
.18	211	960.50.275	960.50.325
.187	223	960.50.275	960.50.350
.20	236	960.50.300	960.50.350
.212	248	960.50.300	960.50.375
.23	261	960.50.325	960.50.375
.237	273	960.50.325	960.50.400
.25	286	960.50.350	960.50.400
.262	298	960.50.350	960.50.425
.28	311	960.50.375	960.50.425
.29	323	960.50.375	960.50.450
.30	336	960.50.400	960.50.450
.312	348	960.50.400	960.50.475
.325	361	960.50.425	960.50.475
.337	373	960.50.425	960.50.500
.350	386	960.50.450	960.50.500
.362	398	960.50.450	960.50.525
.375	411	960.50.475	960.50.525
.387	423	960.50.475	960.50.550
.400	436	960.50.500	960.50.550

E6.62

Width index	B_{Ri} [mm]	Part No. attached inwards	Part No. attached outwards
.05	90	upon request	960.50.225
.06	108	upon request	960.50.225
.07	115	upon request	960.50.250
.087	127	960.50.175	960.50.250
.10	140	960.50.200	960.50.275
.11	148	960.50.200	960.50.275
.112	152	960.50.200	960.50.275
.12	165	960.50.225	960.50.300
.137	177	960.50.225	960.50.300
.15	190	960.50.250	960.50.325
.162	202	960.50.250	960.50.325
.17	208	960.50.275	960.50.325
.18	215	960.50.275	960.50.350
.187	227	960.50.275	960.50.350
.20	240	960.50.300	960.50.375
.212	252	960.50.300	960.50.375
.23	265	960.50.325	960.50.400
.237	277	960.50.325	960.50.400
.25	290	960.50.350	960.50.425
.262	302	960.50.350	960.50.425
.28	315	960.50.375	960.50.450
.29	327	960.50.375	960.50.450
.30	340	960.50.400	960.50.475
.312	352	960.50.400	960.50.475
.325	365	960.50.425	960.50.500
.337	377	960.50.425	960.50.500
.350	390	960.50.450	960.50.525
.362	402	960.50.450	960.50.525
.375	415	960.50.475	960.50.550
.387	427	960.50.475	960.50.550
.400	440	960.50.500	960.50.575

E4.64L

Width index	B_{Ri} [mm]	Part No. attached inwards	Part No. attached outwards
.087	117	960.50.175	960.50.225
.100	130	960.50.225	960.50.275
.150	180	960.50.275	960.50.325
.200	230	960.50.250	960.50.300

Heavy-duty version for high load applications

- This aluminium SuperTrough is also available with special heavy-duty brackets for secure connection
- You can configure the heavy-duty version using our online catalogue
- **Installation set Part No. 974.50.**

More information ▶ www.igus.eu/alu-guide



Aluminium SuperTrough | 975.30.SL | 975.31.SL

Trough height: 236mm | Product range

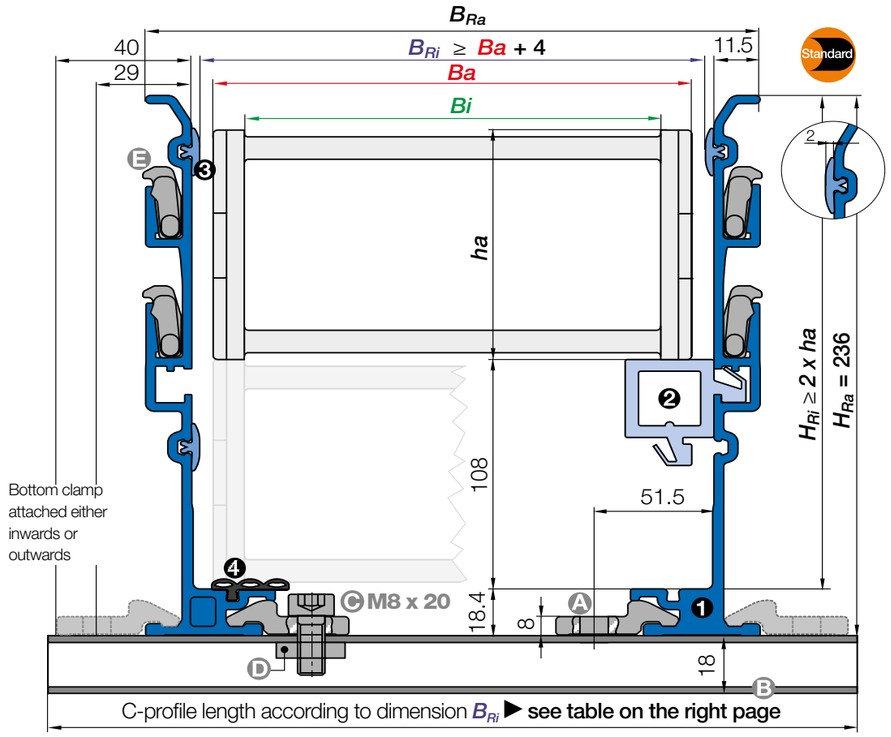
For the following igus® series

E4.1
- E4.80/H4.80/R4.80

E4/light
- 15050/15150/R19850
- 15250/15350

E6.1
- E61.80

E6
- E6.80



Note: The inner width of the guide through and the C-profile length of the installation set can differ according to the mounting bracket you choose. Please call us.

Aluminium SuperTrough | Full set

Trough side parts sets - consisting of part ❶ | ❷ | ❸ | ❹	Part No.	Weight
1 set of 2 trough side parts, incl. glide strips, **without** glide bars, 2m section	975.30.SLA**	≈ 14.0kg
1 set of 2 trough side parts, incl. glide strips, **with** glide bars, 2m section	975.31.SL	≈ 16.6kg

For an additional noise dampening with silencer profile, please add index A to the Part No. Example: **975.30.SLA

Installation sets - consisting of part Ⓐ | Ⓑ | Ⓒ | Ⓓ | Ⓔ	Part No.	Weight
1 installation set **without** C-profile	960.50	≈ 0.08kg
1 installation set **with** C-profile (C-profile length according to dimension B_{Ri})	960.50.XXX*	upon request

*Please add the C-profile length XXX as shown on the tables on the right page. Example: **960.50.200**

Aluminium SuperTrough | Components as individual parts

Individual parts, trough	Part No.	Weight
❶ 1 trough side part, individual, 2m section	75.11	≈ 6.94kg
❷ 1 glide bar, plastic, individual, 2m section	83.79	≈ 1.30kg
❸ 1 glide strip, plastic, individual, 2m section	75.01	≈ 0.06kg
❹ 1 silencer profile, rubber, individual, 2m section (optional for an additional noise dampening)	75.68.H	≈ 0.38kg
Individual parts, installation set	**Part No.**	**Weight**
Ⓐ 1 bottom clamp, aluminium individual	75.50	≈ 0.04kg
Ⓑ 1 C-profile, individual (C-profile length according to dimension B_{Ri})	92.52.XXX.E*	≈ 0.90kg/m
Ⓒ 1 screw M6 x 16, individual	MAT 0040445 / M8 x 20	
Ⓓ 1 glide nut, individual	MAT 0040413 / M8	
Ⓔ 1 interface connector, individual	75.60	
Additional option for simple fixing of the e-chain® without drilling	**Part No.**	
1 set fixed end module (more information ▶ **Page 1214**)	975.80A) / 975.81B)	

*Please add the C-profile length XXX as shown on the tables on the right page. Example: **92.52.125.E**

C-profile also available in 304 stainless steel. Material 1.4301 (AISI 304). Please add index **E** to the Part No.

A) - for series E4.80/H4.80/R4.80, E6.80 B) - for series 15050/15150/R19850, 15250/15350

C-profile lengths (according to Dim. B_{Ri}) | Basic version

Bottom clamp attached either inwards or outwards

E4.80/H4.80/R4.80				15050/15150/R19850				15250/15350				E61.80				E6.80			
Width index	B_{Ri} [mm]	Part No. attached inwards	Part No. attached outwards	Width index	B_{Ri} [mm]	Part No. attached inwards	Part No. attached outwards	Width index	B_{Ri} [mm]	Part No. attached inwards	Part No. attached outwards	Width index	B_{Ri} [mm]	Part No. attached inwards	Part No. attached outwards	Width index	B_{Ri} [mm]	Part No. attached inwards	Part No. attached outwards
.05	104	upon request	960.50.225	.05	84	upon request	960.50.200	.05	84	upon request	960.50.200	.05	104	upon request	960.50.225	05	98	upon request	960.50.225
.06	119	upon request	960.50.250	.06	99	upon request	960.50.225	.06	102	upon request	960.50.225	.06	119	upon request	960.50.250	06	113	upon request	960.50.225
.07	129	upon request	960.50.250	.07	109	upon request	960.50.225	.07	109	upon request	960.50.225	.07	129	upon request	960.50.250	07	123	upon request	960.50.250
.08	141	960.50.200	960.50.275	.08	121	upon request	960.50.250	.087	121	upon request	960.50.250	.08	141	960.50.200	960.50.275	10	148	960.50.200	960.50.275
.10	154	960.50.225	960.50.275	.10	134	upon request	960.50.250	.09	131	upon request	960.50.250	.10	154	960.50.225	960.50.275	11	160	960.50.225	960.50.275
.11	167	960.50.225	960.50.300	.11	146	960.50.200	960.50.275	.10	134	upon request	960.50.250	.11	167	960.50.225	960.50.300	12	173	960.50.225	960.50.300
.12	179	960.50.250	960.50.300	.12	159	960.50.225	960.50.275	.11	142	960.50.200	960.50.250	.12	179	960.50.250	960.50.300	13	185	960.50.250	960.50.300
.13	192	960.50.250	960.50.325	.13	171	960.50.225	960.50.300	.112	147	960.50.200	960.50.275	.13	192	960.50.250	960.50.325	15	198	960.50.250	960.50.325
.15	204	960.50.275	960.50.325	.15	184	960.50.250	960.50.300	.12	159	960.50.225	960.50.275	.15	204	960.50.275	960.50.325	16	210	960.50.275	960.50.325
.16	217	960.50.275	960.50.350	.16	196	960.50.250	960.50.325	.137	171	960.50.225	960.50.300	.16	217	960.50.275	960.50.350	17	223	960.50.275	960.50.350
.17	229	960.50.300	960.50.350	.17	209	960.50.275	960.50.325	.15	184	960.50.250	960.50.300	.17	229	960.50.300	960.50.350	18	235	960.50.300	960.50.350
.18	242	960.50.300	960.50.375	.18	221	960.50.275	960.50.350	.162	197	960.50.250	960.50.325	.18	242	960.50.300	960.50.375	20	248	960.50.300	960.50.375
.20	254	960.50.325	960.50.375	.20	234	960.50.300	960.50.350	.17	202	960.50.250	960.50.325	.20	254	960.50.325	960.50.375	21	260	960.50.325	960.50.375
.21	267	960.50.325	960.50.400	.21	246	960.50.300	960.50.375	.18	209	960.50.275	960.50.325	.21	267	960.50.325	960.50.400	22	273	960.50.325	960.50.400
.22	279	960.50.350	960.50.400	.22	259	960.50.325	960.50.375	.187	222	960.50.275	960.50.350	.22	279	960.50.350	960.50.400	23	285	960.50.350	960.50.400
.23	292	960.50.350	960.50.425	.23	271	960.50.325	960.50.400	.20	234	960.50.300	960.50.350	.23	292	960.50.350	960.50.425	25	298	960.50.350	960.50.425
.25	304	960.50.375	960.50.425	.25	284	960.50.350	960.50.400	.212	247	960.50.300	960.50.375	.25	304	960.50.375	960.50.425	26	310	960.50.375	960.50.425
.26	317	960.50.375	960.50.450	.26	296	960.50.350	960.50.425	.23	259	960.50.325	960.50.375	.26	317	960.50.375	960.50.450	27	323	960.50.375	960.50.450
.27	329	960.50.400	960.50.450	.27	309	960.50.375	960.50.425	.237	272	960.50.325	960.50.400	.27	329	960.50.400	960.50.450	.28	335	960.50.400	960.50.450
.28	342	960.50.400	960.50475	.28	321	960.50.375	960.50.450	.25	284	960.50.350	960.50.400	.28	342	960.50.400	960.50.475	.30	348	960.50.400	960.50.475
.30	354	960.50.425	960.50.475	.30	334	960.50.400	960.50.450	.262	297	960.50.350	960.50.425	.30	354	960.50.425	960.50.475	.31	360	960.50.425	960.50.475
.31	367	960.50.425	960.50.500	.31	346	960.50.400	960.50.475	.28	309	960.50.375	960.50.425	.31	367	960.50.425	960.50.500	.32	373	960.50.425	960.50.500
.32	379	960.50.450	960.50.500	.32	359	960.50.425	960.50.475	.29	322	960.50.375	960.50.450	.32	379	960.50.450	960.50.500	.33	385	960.50.450	960.50.500
.33	392	960.50.450	960.50.525	.33	371	960.50.425	960.50.500	.30	334	960.50.400	960.50.450	.33	392	960.50.450	960.50.525	.35	398	960.50.450	960.50.525
.35	404	960.50.475	960.50.525	.35	384	960.50.450	960.50.500	.312	347	960.50.400	960.50.475	.35	404	960.50.475	960.50.525	.36	410	960.50.475	960.50.525
.36	417	960.50.475	960.50.550	.36	396	960.50.450	960.50.525	.325	359	960.50.425	960.50.475	.36	417	960.50.475	960.50.550	.37	423	960.50.475	960.50.550
.37	429	960.50.500	960.50.550	.37	409	960.50.475	960.50.525	.337	372	960.50.425	960.50.500	.37	429	960.50.500	960.50.550	.38	435	960.50.500	960.50.550
.38	442	960.50.500	960.50.575	.38	421	960.50.475	960.50.550	.350	384	960.50.450	960.50.500	.38	442	960.50.500	960.50.575	.40	448	960.50.500	960.50.575
.40	454	960.50.525	960.50.575	.40	434	960.50.500	960.50.550	.362	397	960.50.450	960.50.525	.40	454	960.50.525	960.50.575	.41	460	960.50.525	960.50.575
.41	467	960.50.525	960.50600	.41	446	960.50.500	960.50.575	.375	409	960.50.475	960.50.525	.41	467	960.50.525	960.50.600	.42	473	960.50.525	960.50.600
.42	479	960.50.550	960.50.600	.42	459	960.50.525	960.50.575	.387	422	960.50.475	960.50.550	.42	479	960.50.550	960.50.600	.43	485	960.50.550	960.50.600
.43	492	960.50.550	960.50.625	.43	471	960.50.525	960.50.600	.400	434	960.50.500	960.50.550	.43	492	960.50.550	960.50.625	.45	498	960.50.550	960.50.625
.45	504	960.50.575	960.50.625	.45	484	960.50.550	960.50.600					.45	504	960.50.575	960.50.625	.46	510	960.50.575	960.50.625
.46	517	960.50.575	960.50.650	.46	496	960.50.550	960.50.625					.46	517	960.50.575	960.50.650	.47	523	960.50.575	960.50.650
.47	529	960.50.600	960.50.650	.47	509	960.50.575	960.50.625					.47	529	960.50.600	960.50.650	.48	535	960.50.600	960.50.650
.48	542	960.50.600	960.50.675	.48	521	960.50.575	960.50.650					.48	542	960.50.600	960.50.675	.50	548	960.50.600	960.50.675
.50	554	960.50.625	960.50.675	.50	534	960.50.600	960.50.650					.50	554	960.50.625	960.50.675	.51	560	960.50.625	960.50.675
.51	567	960.50.625	960.50.700	.51	546	960.50.600	960.50.675					.51	567	960.50.625	960.50.700	.52	573	960.50.625	960.50.700
.52	579	960.50.650	960.50.700	.52	559	960.50.625	960.50.675					.52	579	960.50.650	960.50.700	.53	585	960.50.650	960.50.700
.53	592	960.50.650	960.50.725	.53	571	960.50.625	960.50.700					.53	592	960.50.650	960.50.725	.55	598	960.50.650	960.50.725
.55	604	960.50.675	960.50.725	.55	584	960.50.650	960.50.700					.55	604	960.50.675	960.50.725	.60	648	960.50.700	960.50.775
.60	654	960.50.725	960.50.775	.60	634	960.50.700	960.50.750					.60	654	960.50.725	960.50.775				

Heavy-duty version for high load applications

- This aluminium SuperTrough is also available with special heavy-duty brackets for secure connection
- You can configure the heavy-duty version using our online catalogue
- **Installation set Part No. 975.50.**

More information ▶ www.igus.eu/alu-guide





Steel guide trough

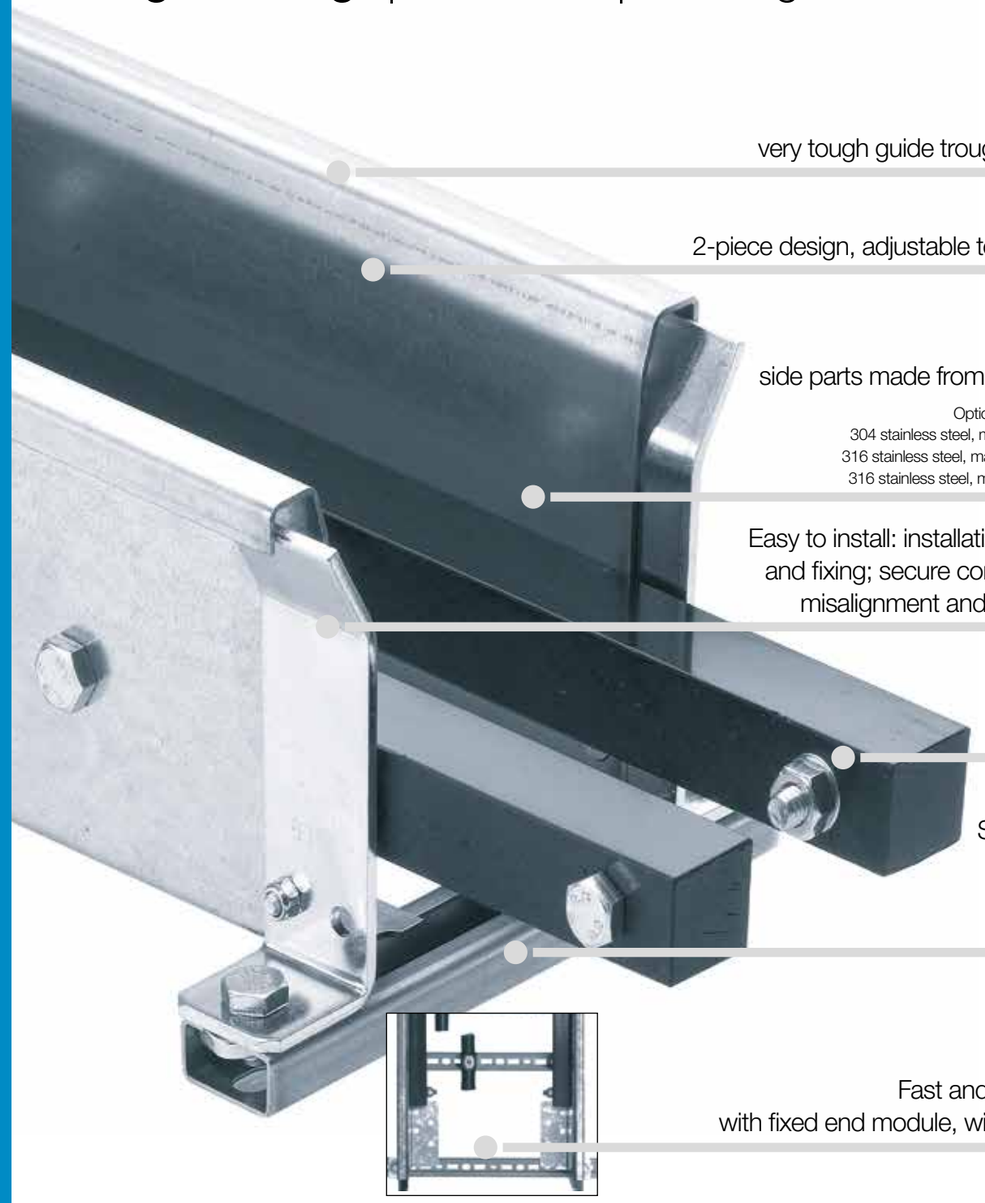
Very tough for heavy-duty applications

Advantages of the steel guide trough

- Very tough guide trough for applications in tough environments
- Easy assembly due to installation set design
- Easy mounting directly to the C-profile
- Large range, 2-piece design, adjustable to e-chain® width
- Available in galvanised steel and stainless steel
- Low friction: Glide bar made of PE
- Fixed end module option, for fast and easy fitting without any drilling
- Conductivity according to DIN EN 61537 - as standard

When to use another guide trough:

- When a corrosion-resistant, seawater-resistant aluminium trough is required,
  ► **Aluminium SuperTroughs, page 1208**



Heavy-duty:
very tough guide trough made of steel

Large range:
2-piece design, adjustable to e-chain® width

Resistant:
side parts made from galvanised steel

Optional side parts made from:
304 stainless steel, material 1.4301 (AISI 304) /
316 stainless steel, material 1.4404 (AISI 316L) /
316 stainless steel, material 1.4571 (AISI 316Ti)

Easy to install: installation set for joining and fixing; secure connection without misalignment and with no welding

Low friction:
glide bar made from PE

Simple fastening:
directly on the ground or with C-profile

Fast and easy mounting:
with fixed end module, without any drilling

Very tough for heavy-duty applications - steel guide trough

If the igus® installation sets are used, the guide troughs are very easy to assemble. All steel guide troughs are constructed according to the same basic design. On the following pages, you will find information about dimensions, weights and accessories. All sizes use a common C-profile on which the guide parts are assembled. The installation brackets used vary in height only. Conductivity according to DIN EN 61537 - as standard.

Part No. **without** glide bars	Part No. **with** glide bars	Outer height H_{Ra} [mm]	Part No. installation set	Side part material	Page
				**Steel guide trough** very tough for heavy-duty applications	
92.30	**92.31**	70	92.50	galvanised steel[1)]	**1242**
95.30	**95.31**	100	95.50	galvanised steel[1)]	**1244**
99.30	**99.31**	100	95.50	galvanised steel[1)]	**1246**
97.30	**97.31**	130	93.50	galvanised steel[1)]	**1248**
93.30	**93.31**	130	93.50	galvanised steel[1)]	**1250**
94.30	**94.31**	170	94.50	galvanised steel[1)]	**1252**
94.14550.30	**94.14550.31**	170	94.50	galvanised steel[1)]	**1254**
96.30	**96.31**	220	96.50	galvanised steel[1)]	**1256**
98.30	**98.31**	300	98.50	galvanised steel[1)]	**1258**
90.30	**90.31**	480	90.50	galvanised steel[1)]	**1260**
91.10 - 91.71[2)]		48	–	galvanised steel	**1241**

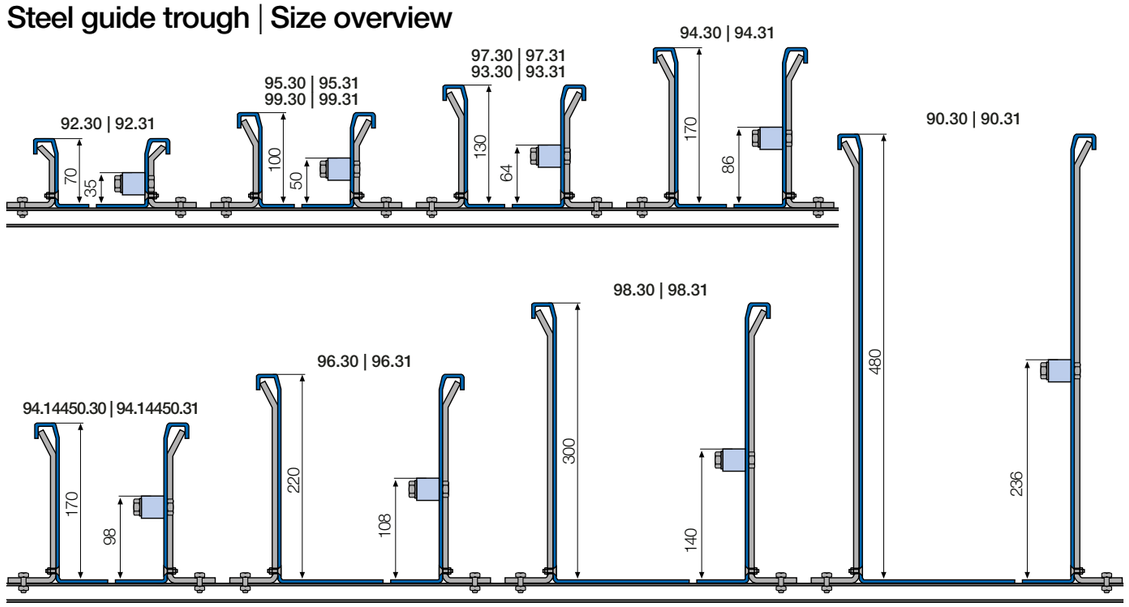
1) Optional: 304 stainless steel, material 1.4301 (AISI 304) / 316 stainless steel, material 1.4404 (AISI 316L) / 316 stainless steel, material 1.4571 (AISI 316Ti)

2) Steel guide trough, 1 piece Only for series 10, 15 and B15

Available from stock. Ready to ship in 24 - 48 hrs.*

*The delivery times indicated correspond to the average time until the ordered goods are dispatched.

Steel guide trough | Size overview

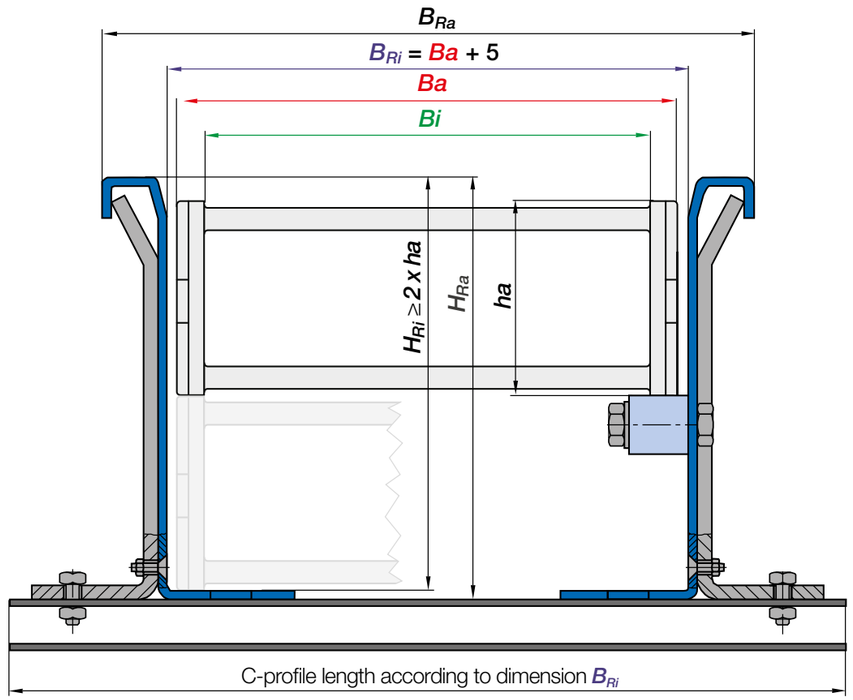


Steel guide trough | Individual parts

Components

- = Guide trough[1)]
- = Glide bar
- = Installation set
- = C-profile[2)]

Ba = e-chain® outer width
Bi = e-chain® inner width
ha = e-chain® outer height
H_{Ri} = Trough inner height
H_{Ra} = Trough outer height
B_{Ri} = Trough inner width
B_{Ra} = Trough outer width
n_{Mon} = number of installation sets (left/right)
n_{Ri} = Number of trough sets (left/right)



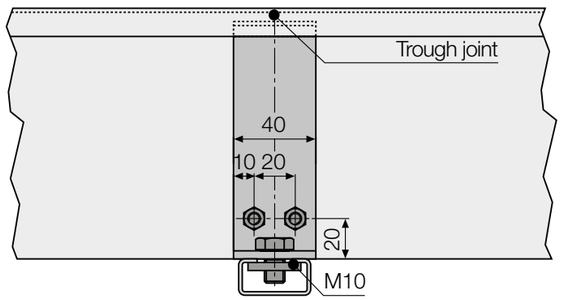
1) Guide trough side parts made from galvanised steel. Optional: 304 stainless steel, material 1.4301 (AISI 304) / 316 stainless steel, material 1.4404 (AISI 316L) / 316 stainless steel, material 1.4571 (AISI 316Ti) 2) C-profile also available in 304 stainless steel. Material 1.4301 (AISI 304)

Steel guide trough | Features

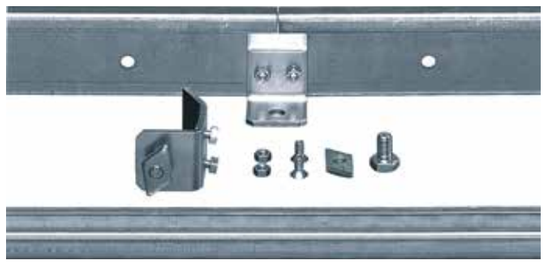




Steel guide trough available without and with glide bars



Side view of trough joint - steel guide troughs - all dimensions except height apply to all sizes



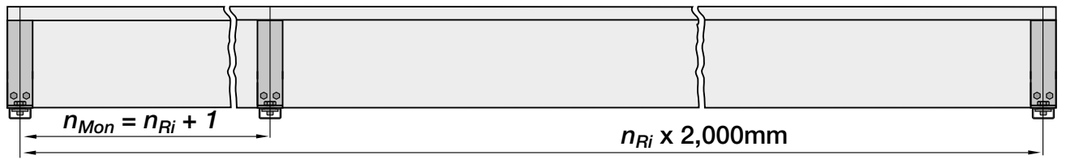
Installation set for joining and fixing; secure connection without misalignment and with no welding

Steel guide trough | Configuration

Configured according to your requirements

Quickly and easily assemble the right trough for your application

- Selection of the suitable guide trough according to the e-chain® series and e-chain® width ***Bi***
- Determine the infeed point of the cables
- Determine travel distance and thus the length of the required guide trough and the number of trough pieces. (Standard length of a trough side part: 2,000mm). For centre infeed, the length of the guide trough is calculated from half the travel length with and half the travel length without the glide bar
- Number and type of the installation set
  The quantity of the installation set is calculated from the number of the trough pieces + 1 set:



- The installation set matches the igus® C-profile option
- If you have opted for an e-chain® with KMA mounting brackets, we offer a fixed end module for the quick and simple fixing of the e-chain® in the trough without drilling
- **Installation Guide PDF with detailed assembly information ▶ www.igus.eu/installation-guide-pdf**

Order example | Examples based on Part No. 94.30 | 94.31

Order example: length of travel 30m - centre fixed for series E4.56.20.300.0 with B_{Ri} = 239

Guide trough set (set of 2 trough side parts, incl. glide strips) **without** glide bars **Order text: 16m guide trough without glide bar (8 x 2m sections)**	94.30
Guide trough set (set of 2 trough side parts, incl. glide strips) **with** glide bar **Order text: 16m guide trough with glide bar (8 x 2m sections)**	94.31
Installation set basic complete **(quantity: guide trough sets + 1)** **Order text: 17 installation sets**	94.50.350
Fixed end module **Order text: 1 set**	94.80.01

Calculation - travel centre fixed: half travel length, rounded to full 2m sections = X m.
Guide trough length **without** glide bars + Xm guide trough length **with** glide bars + installation sets (number of trough pieces + 1)

Steel guide trough | Fixed end module

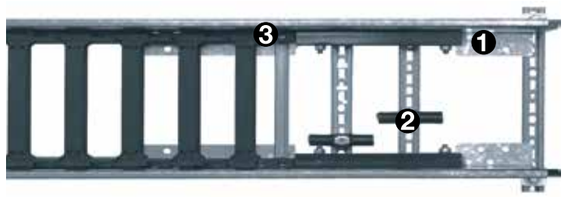
Quick and simple fixing onto the steel guide trough



When installing the mounting brackets at the fixed end, the steel trough normally needs to be drilled to match the mounting bracket hole pattern. With the new fixed end module the holes are pre-prepared so that the 2,000mm long component can be used for centre fed, end fed and even for reverse fed applications .

❶ Fast fixation of igus® mounting brackets thanks to prefabricated holes
❷ Fast installation of C-profile for strain relief
❸ Fast bolting of glide bars

Industries: power plants, coal conveyors, mining, composting plants, raw material storage, gypsum plants, etc.



Series Part No.	For steel guide trough	For e-chain® series
90.80.01*	**90.30** | **90.31**	800, 840
92.80.01	**92.30** | **92.31**	E2.26, 2500, 255, E6.29/R6.29, EF61.29/E61.29
93.80.01	**93.30** | **93.31**	E2.48, 3500, R68, E4.42/H4.42/R4.42, E4.48L/R4.48L, E6.52/R6.52, E61.52
94.80.01	**94.30** | **94.31**	E4.56/H4.56/R4.56, 14040/14140 /R18840, 14240/14340, E6.62, E4.64L
95.80.01	**95.30** | **95.31**	E2.38, 2700
96.80.01	**96.30** | **96.31**	E4.80/H4.80/R4.80, 15050/15150/R19850, E6.80, E61.80
97.80.01	**97.30** | **97.31**	E4.32/H4.32/R4.32, E4.38L/R4.38L, E6.40/R6.40, E61.40
98.80.01	**98.30** | **98.31**	E4.112/R4.112, 1640/R1608
99.80.01	**99.30** | **99.31**	E4.28/R4.28, E4.31L/R4.31L, E6.35, E61.35
94.14550.80.01*	**94.14550.30** | **94.14550.31**	14550/14650/R19050

*Fixed end module available upon request. Please consult igus® for delivery time.



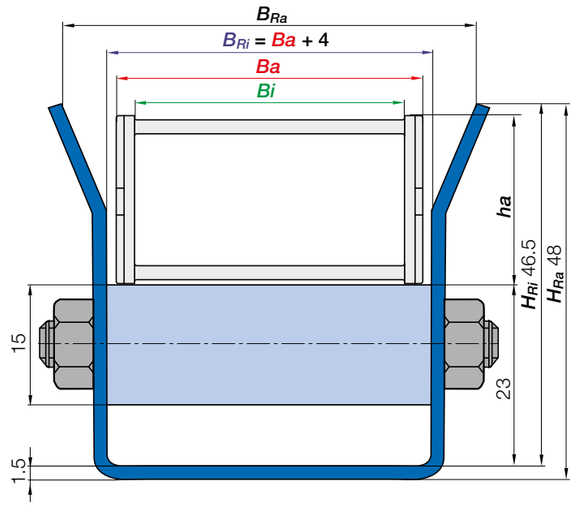
Fixed end module - length 2,000mm

Available from stock. Ready to ship in 24 - 48 hrs.*

*The delivery times indicated correspond to the average time until the ordered goods are dispatched.

Steel guide trough | One-piece, U-shaped

Special solution for series 10, B15 and 15



Components
- = Guide trough
- = Glide bar
- = fastening screws

Ba = e-chain® outer width
Bi = e-chain® inner width
ha = e-chain® outer height
H_{Ri} = Trough inner height
H_{Ra} = Trough outer height
B_{Ri} = Trough inner width
B_{Ra} = Trough outer width

For the following igus® series

E2 mini
- 10
- B15

zipper
- 15



For series 10, 15 and B15 one-piece, U-shaped steel guide troughs are available. They have a continuous glide bar for the gliding section of the trough. The guide troughs for the e-chains® with an outer width up to 100mm are available from stock. For wider e-chains® special solutions are possible. For this trough sizes no installation sets are necessary as the guide troughs are made of a single U-profile. The solution for the trough joint is specific to each application. (material: galvanised steel)

Series Part No.		For e-chain® series	B_{Ra} [mm]	B_{Ri} [mm]	Weight [kg/m]
91.10	Trough **without** glide bar, 2m section	10.015/15.015/B15.015	40.5	30	≈ 1.50
91.11	Trough **with** glide bar, 2m section	10.015/15.015/B15.015	40.5	30	≈ 2.10
91.20	Trough **without** glide bar, 2m section	10.025/15.025/B15.025	50.5	40	≈ 1.65
91.21	Trough **with** glide bar, 2m section	10.025/15.025/B15.025	50.5	40	≈ 2.35
91.30	Trough **without** glide bar, 2m section	10.038/15.038/B15.038	62.5	52	≈ 1.80
91.31	Trough **with** glide bar, 2m section	10.038/15.038/B15.038	62.5	52	≈ 2.70
91.40	Trough **without** glide bar, 2m section	10.050/15.050/B15.050	72.5	62	≈ 1.90
91.41	Trough **with** glide bar, 2m section	10.050/15.050/B15.050	72.5	62	≈ 3.15
91.50	Trough **without** glide bar, 2m section	10.5/15.5/B15.5	89.5	79	≈ 2.15
91.51	Trough **with** glide bar, 2m section	10.5/15.5/B15.5	89.5	79	≈ 4.30
91.60	Trough **without** glide bar, 2m section	10.6/15.6/B15.6	106.5	96	≈ 2.40
91.61	Trough **with** glide bar, 2m section	10.6/15.6/B15.6	106.5	96	≈ 4.60
91.70	Trough **without** glide bar, 2m section	10.7/15.7/B15.7	126.5	116	≈ 2.80
91.71	Trough **with** glide bar, 2m section	10.7/15.7/B15.7	126.5	116	≈ 5.20

Steel guide trough | 92.30 | 92.31 | Heavy-duty

Trough height: 70mm | Product range

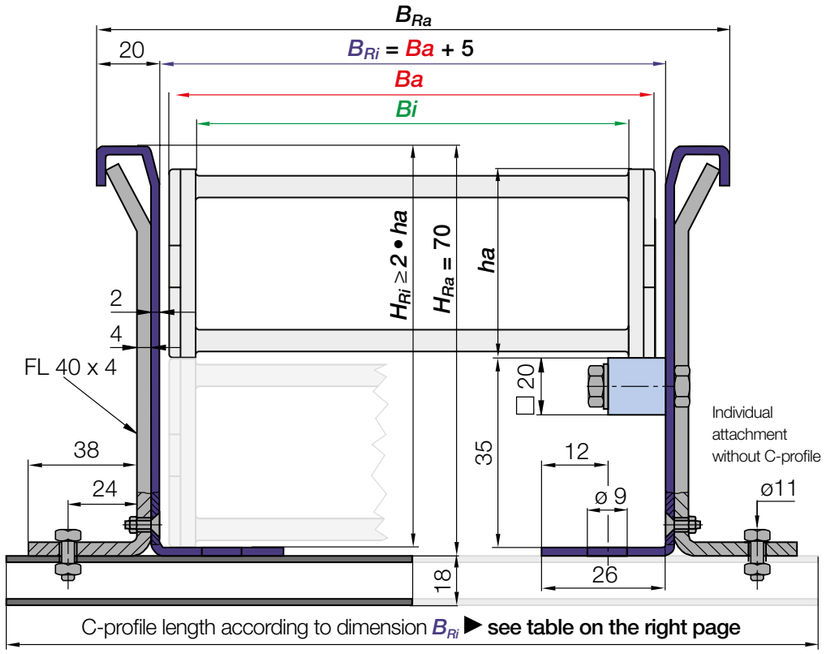
For the following igus® series

E2.1
- E2.26

E2/000
- 2500
- 255

E6.1
- EF61.29/E61.29

E6
- E6.29/R6.29



Note: The inner width of the guide through and the C-profile length of the installation set can differ according to the mounting bracket you choose. Please call us.

Steel guide trough | Full set

Trough side parts sets	Part No.	Weight
1 set of 2 trough side parts, **without** glide bars, 2m section	**92.30.E**[1] / **E44**[2] / **E45**[3]	≈ 7.60kg
1 set of 2 trough side parts, **with** glide bars, bolted, 2m section	**92.31.E**[1] / **E44**[2] / **E45**[3]	≈ 9.60kg
Installation sets	**Part No.**	**Weight**
1 installation set **without** C-profile	**92.50**	≈ 0.34kg
1 installation set **with** C-profile (C-profile length according to dimension B_{Ri})	**92.50.XXX***	upon request

*Please add the C-profile length XXX as shown on the tables on the right page. Example: **92.50.200**

Steel guide trough | Components as individual parts

Individual parts, trough	Part No.	Weight
1 trough side part, individual, 2m section	**92.11.E**[1] / **E44**[2] / **E45**[3]	≈ 3.80kg
1 glide bar, plastic, individual, 2m section	**92.01**	≈ 0.75kg
1 glide bar, individual, 2m section + 11 screw sets	**92.20**	≈ 0.98kg
1 package with 11 screw sets (for glide bar, 2m section)	**92.21**	≈ 0.23kg
Individual parts, installation set	**Part No.**	**Weight**
1 clamping bracket, individual	**92.51**	≈ 0.12kg
1 countersunk-head screw, individual	**92.53 / M6 x 14**	
1 hexagon nut, individual	**92.54 / M6**	
1 hexagon-head screw, individual	**92.55 / M10 x 16**	
1 glide nut, individual	**92.56 / M10**	
1 C-profile, individual (C-profile length according to dimension B_{Ri})	**92.52.XXX*.E**[1]	≈ 0.90kg/m
Additional option for simple fixing of the e-chain® without drilling	**Part No.**	
1 set fixed end module (more information ▶ **Page 1240**)	**92.80.01***	≈ 7.60kg

*Please add the C-profile length XXX as shown on the tables on the right page. Example: **92.52.200.E**

1) Trough side parts + C-profile - also available in 304 stainless steel, material 1.4301 (AISI 304). Please add index **E** to the Part No.

2) Trough side parts - also available in 316 stainless steel, material 1.4404 (AISI 316L). Please add index **E44** to the Part No.

3) Trough side parts - also available in 316 stainless steel, material 1.4571 (AISI 316Ti). Please add index **E45** to the Part No.

Steel guide trough | C-profile lengths

C-profile length according to dimension B_{Ri}

E2.26			2500			255			EF61.29/E61.29			E6.29/R6.29		
Width index	B_{Ri} [mm]	Part No. Installation set	Width index	B_{Ri} [mm]	Part No. Installation set	Width index	B_{Ri} [mm]	Part No. Installation set	Width index	B_{Ri} [mm]	Part No. Installation set	Width index	B_{Ri} [mm]	Part No. Installation set
.025	46	upon request	.02	46	upon request	.03	59	upon request	.030	49	upon request	.030	51	upon request
.038	59	upon request	.03	59	upon request	.05	78	92.50.200	.040	59	upon request	.040	61	upon request
.057	78	92.50.200	.05	78	92.50.200	.07	98	92.50.225	.050	69	92.50.200	.050	71	92.50.200
.077	98	92.50.225	.07	98	92.50.225	.10	124	92.50.250	.060	79	92.50.200	.060	81	92.50.200
.089	110	92.50.225	.09	110	92.50.225				.070	89	92.50.200	.070	91	92.50.200
.103	124	92.50.250	.10	124	92.50.250				.080	99	92.50.225	.080	101	92.50.225
.125	146	92.50.275	.12	146	92.50.275				.090	109	92.50.225	.090	111	92.50.225
									.100	119	92.50.250	.100	121	92.50.250
									.110	129	92.50.250	.110	131	92.50.250
									.120	139	92.50.250	.120	141	92.50.250
									.140	159	92.50.275			



igus® steel guide trough in use

Steel guide trough | 95.30 | 95.31 | Heavy-duty

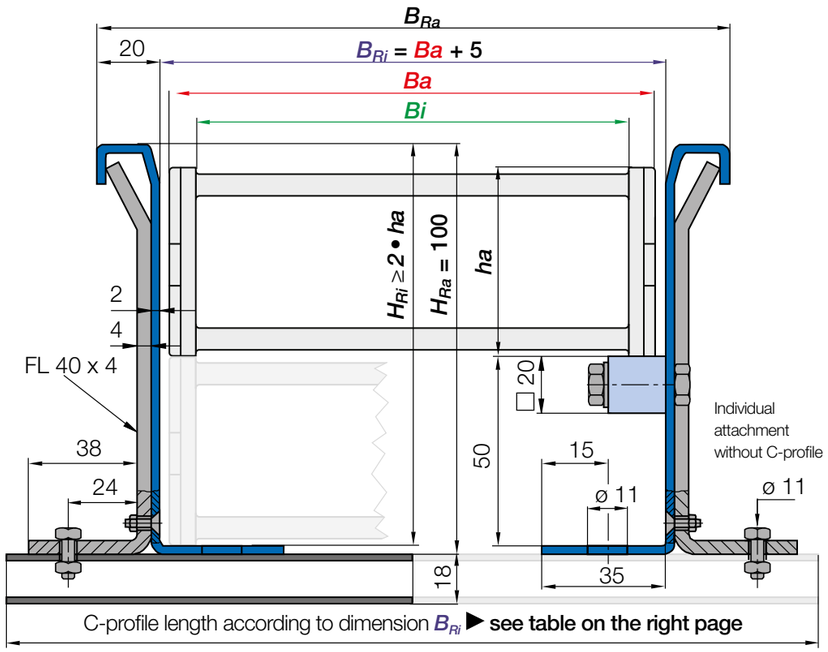
Trough height: 100mm | Product range

For the following igus® series

E2.1
- E2.38

E2/000
- 2700

E2 R
- R58



Note: The inner width of the guide through and the C-profile length of the installation set can differ according to the mounting bracket you choose. Please call us.

Steel guide trough | Full set

Trough side parts sets	Part No.	Weight
1 set of 2 trough side parts, **without** glide bars, 2m section	**95.30.E**[1] / **E44**[2] / **E45**[3]	≈ 10.00kg
1 set of 2 trough side parts, **with** glide bars, bolted, 2m section	**95.31.E**[1] / **E44**[2] / **E45**[3]	≈ 12.00kg
Installation sets	**Part No.**	**Weight**
1 installation set **without** C-profile	**95.50**	≈ 0.41kg
1 installation set **with** C-profile (C-profile length according to dimension B_{Ri})	**95.50.XXX***	upon request

*Please add the C-profile length XXX as shown on the tables on the right page. Example: **95.50.200**

Steel guide trough | Components as individual parts

Individual parts, trough	Part No.	Weight
1 trough side part, individual, 2m section	**95.11.E**[1] / **E44**[2] / **E45**[3]	≈ 5.00kg
1 glide bar, plastic, individual, 2m section	**92.01**	≈ 0.75kg
1 glide bar, individual, 2m section + 11 screw sets	**92.20**	≈ 0.98kg
1 package with 11 screw sets (for glide bar, 2m section)	**92.21**	≈ 0.23kg
Individual parts, installation set	**Part No.**	**Weight**
1 clamping bracket, individual	**95.51**	≈ 0.16kg
1 countersunk-head screw, individual	**92.53 / M6 x 14**	
1 hexagon nut, individual	**92.54 / M6**	
1 hexagon-head screw, individual	**92.55 / M10 x 16**	
1 glide nut, individual	**92.56 / M10**	
1 C-profile, individual (C-profile length according to dimension B_{Ri})	**92.52.XXX*.E**[1]	≈ 0.90kg/m
Additional option for simple fixing of the e-chain® without drilling	**Part No.**	
1 set fixed end module (more information ▶ **Page 1240**)	**95.80.01**	≈ 10.00kg

*Please add the C-profile length XXX as shown on the tables on the right page. Example: **95.52.200.E**

1) Trough side parts + C-profile - also available in 304 stainless steel, material 1.4301 (AISI 304). Please add index **E** to the Part No.

2) Trough side parts - also available in 316 stainless steel, material 1.4404 (AISI 316L). Please add index **E44** to the Part No.

3) Trough side parts - also available in 316 stainless steel, material 1.4571 (AISI 316Ti). Please add index **E45** to the Part No.

Steel guide trough | C-profile lengths

C-profile length according to dimension B_{Ri}

E2.38			2700			R58		
Width index	B_{Ri} [mm]	Part No. Installation set	Width index	B_{Ri} [mm]	Part No. Installation set	Width index	B_{Ri} [mm]	Part No. Installation set
.50	71	95.50.200	.05	71	95.50.200	.050	71	95.50.200
.65	86	95.50.200	.06	86	95.50.200	.075	96	95.50.225
.75	96	95.50.225	.07	96	95.50.225	.100	121	95.50.250
.90	111	95.50.225	.09	111	95.50.225	.125	146	95.50.275
.100	121	95.50.250	.10	121	95.50.250	.150	171	95.50.300
.125	146	95.50.275	.12	146	95.50.275	.175	196	95.50.325
.150	171	95.50.300	.15	171	95.50.300	.200	221	95.50.350
.175	199	95.50.325	.17	199	95.50.325			



igus® steel guide trough used in a storage and retrieval system using series E2/000 and chainflex® cables

Steel guide trough | 99.30 | 99.31 | Heavy-duty

Trough height: 100mm | Product range

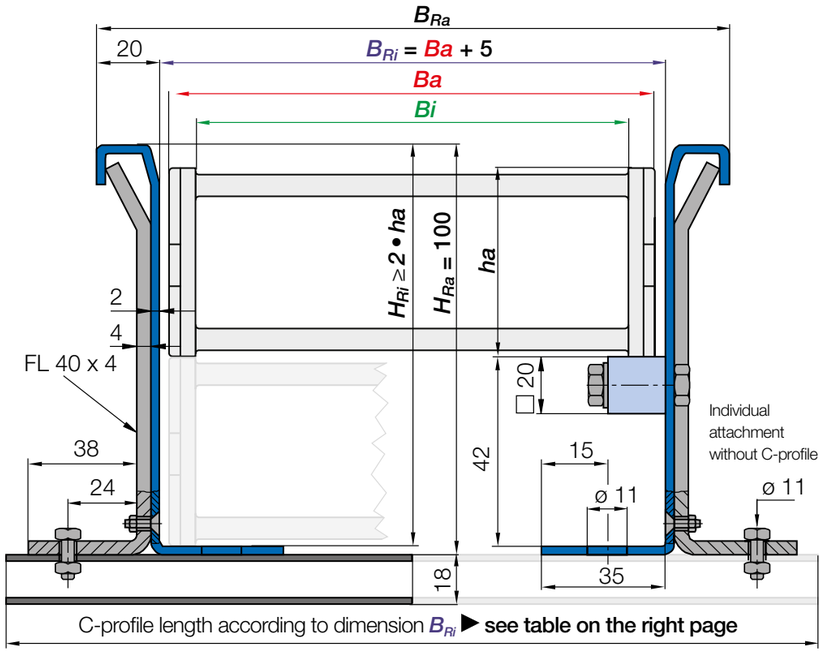
For the following igus® series

E4.1L
- E4.31L/R4.31L

E4.1
- E4.28/R4.28

E6.1
- E61.35

E6
- E6.35



Note: The inner width of the guide through and the C-profile length of the installation set can differ according to the mounting bracket you choose. Please call us.

Steel guide trough | Full set

Trough side parts sets	Part No.	Weight
1 set of 2 trough side parts, **without** glide bars, 2m section	**99.30.E**[1] / **E44**[2] / **E45**[3]	≈ 10.00kg
1 set of 2 trough side parts, **with** glide bars, bolted, 2m section	**99.31.E**[1] / **E44**[2] / **E45**[3]	≈ 12.00kg
Installation sets	**Part No.**	**Weight**
1 installation set **without** C-profile	**95.50**	≈ 0.41kg
1 installation set **with** C-profile (C-profile length according to dimension B_{Ri})	**95.50.XXX***	upon request

*Please add the C-profile length XXX as shown on the tables on the right page. Example: **95.50.200**

Steel guide trough | Components as individual parts

Individual parts, trough	Part No.	Weight
1 trough side part, individual, 2m section	**99.11.E**[1] / **E44**[2] / **E45**[3]	≈ 5.00kg
1 glide bar, plastic, individual, 2m section	**92.01**	≈ 0.75kg
1 glide bar, individual, 2m section + 11 screw sets	**92.20**	≈ 0.98kg
1 package with 11 screw sets (for glide bar, 2m section)	**92.21**	≈ 0.23kg
Individual parts, installation set	**Part No.**	**Weight**
1 clamping bracket, individual	**95.51**	≈ 0.16kg
1 countersunk-head screw, individual	**92.53 / M6 x 14**	
1 hexagon nut, individual	**92.54 / M6**	
1 hexagon-head screw, individual	**92.55 / M10 x 16**	
1 glide nut, individual	**92.56 / M10**	
1 C-profile, individual (C-profile length according to dimension B_{Ri})	**92.52.XXX*.E**[1]	≈ 0.90kg/m
Additional option for simple fixing of the e-chain® without drilling	**Part No.**	
1 set fixed end module (more information ▶ **Page 1240**)	**99.80.01**	≈ 10.00kg

*Please add the C-profile length XXX as shown on the tables on the right page. Example: **92.52.200**

1) Trough side parts + C-profile - also available in 304 stainless steel, material 1.4301 (AISI 304). Please add index **E** to the Part No.

2) Trough side parts - also available in 316 stainless steel, material 1.4404 (AISI 316L). Please add index **E44** to the Part No.

3) Trough side parts - also available in 316 stainless steel, material 1.4571 (AISI 316Ti). Please add index **E45** to the Part No.

Steel guide trough | C-profile lengths

C-profile length according to dimension B_{Ri}

E4.31L/R4.31L			E4.28/R4.28			E61.35			E6.35		
Width index	B_{Ri} [mm]	Part No. Installation set	Width index	B_{Ri} [mm]	Part No. Installation set	Width index	B_{Ri} [mm]	Part No. Installation set	Width index	B_{Ri} [mm]	Part No. Installation set
.040	59	upon request	.040	65	upon request	.030	51	upon request	.030	55	upon request
.050	69	upon request	.050	75	95.50.200	.040	61	upon request	.040	65	upon request
.062	81	95.50.200	.062	87	95.50.200	.050	71	95.50.175	.050	75	95.50.200
.075	94	95.50.200	.070	95	95.50.200	.060	81	95.50.200	.060	85	95.50.200
.087	106	95.50.225	.075	100	95.50.225	.070	91	95.50.200	.070	95	95.50.200
.100	119	95.50.225	.087	112	95.50.225	.080	101	95.50.225	.080	105	95.50.225
.112	131	95.50.250	.100	125	95.50.250	.090	111	95.50.225	.090	115	95.50.225
.125	144	95.50.250	.125	150	95.50.275	.100	121	95.50.225	.100	125	95.50.250
.137	156	95.50.275	.150	175	95.50.300	.110	131	95.50.250	.110	135	95.50.250
.150	169	95.50.275	.175	200	95.50.325	.120	141	95.50.250	.120	145	95.50.250
.162	181	95.50.300	.200	225	95.50.350	.140	161	95.50.275			
.175	194	95.50.300	.225	250	95.50.375						
.187	206	95.50.325	.250	275	95.50.400						
.200	219	95.50.325	.275	300	95.50.425						
			.300	325	95.50.450						



Light weight and high strength: this igus® polymer e-chain® carries rigid hydraulic hoses

Steel guide trough | 97.30 | 97.31 | Heavy-duty

Trough height: 130mm | Product range

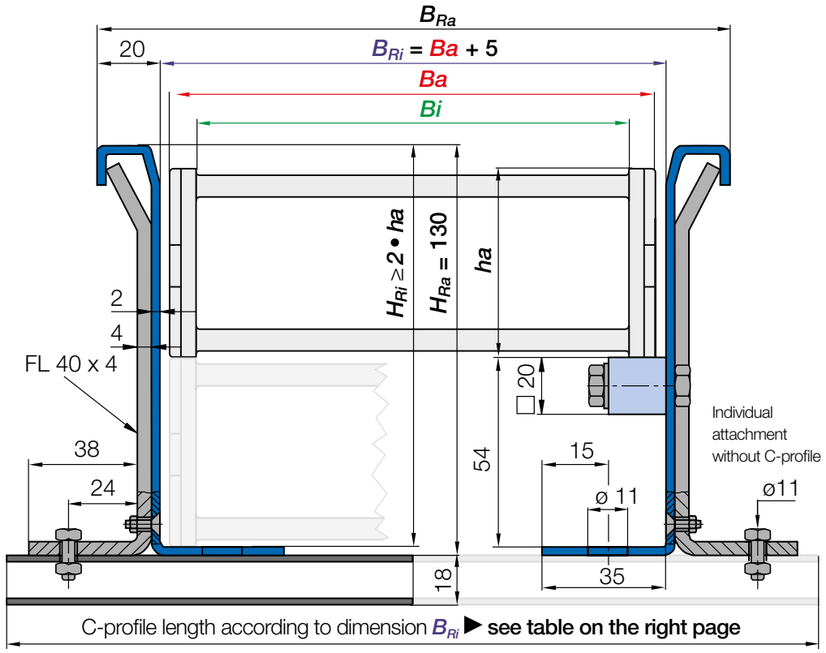
For the following igus® series

E4.1L
- E4.38L/R4.38L

E4.1
- E4.32/H4.32/R4.32

E6.1
- E61.40

E6
- E6.40/R6.40



Note: The inner width of the guide through and the C-profile length of the installation set can differ according to the mounting bracket you choose. Please call us.

Steel guide trough | Full set

Trough side parts sets	Part No.	Weight
1 set of 2 trough side parts, **without** glide bars, 2m section	**97.30.E**[1] / **E44**[2] / **E45**[3]	≈ 11.80kg
1 set of 2 trough side parts, **with** glide bars, bolted, 2m section	**97.31.E**[1] / **E44**[2] / **E45**[3]	≈ 13.60kg
Installation sets	**Part No.**	**Weight**
1 installation set **without** C-profile	**93.50**	≈ 0.49kg
1 installation set **with** C-profile (C-profile length according to dimension B_{Ri})	**93.50.XXX***	upon request

*Please add the C-profile length XXX as shown on the tables on the right page. Example: **93.50.350**

Steel guide trough | Components as individual parts

Individual parts, trough	Part No.	Weight
1 trough side part, individual, 2m section	**97.11.E**[1] / **E44**[2] / **E45**[3]	≈ 5.90kg
1 glide bar, plastic, individual, 2m section	**92.01**	≈ 0.75kg
1 glide bar, individual, 2m section + 11 screw sets	**92.20**	≈ 0.98kg
1 package with 11 screw sets (for glide bar, 2m section)	**92.21**	≈ 0.23kg
Individual parts, installation set	**Part No.**	**Weight**
1 clamping bracket, individual	**93.51**	≈ 0.20kg
1 countersunk-head screw, individual	**92.53 / M6 x 14**	
1 hexagon nut, individual	**92.54 / M6**	
1 hexagon-head screw, individual	**92.55 / M10 x 16**	
1 glide nut, individual	**92.56 / M10**	
1 C-profile, individual (C-profile length according to dimension B_{Ri})	**92.52.XXX*.E**[1]	≈ 0.90kg/m
Additional option for simple fixing of the e-chain® without drilling	**Part No.**	
1 set fixed end module (more information ▶ **Page 1240**)	**97.80.01**	≈ 11.80kg

*Please add the C-profile length XXX as shown on the tables on the right page. Example: **92.52.350**

1) Trough side parts + C-profile - also available in 304 stainless steel, material 1.4301 (AISI 304). Please add index **E** to the Part No.

2) Trough side parts - also available in 316 stainless steel, material 1.4404 (AISI 316L). Please add index **E44** to the Part No.

3) Trough side parts - also available in 316 stainless steel, material 1.4571 (AISI 316Ti). Please add index **E45** to the Part No.

Steel guide trough | C-profile lengths

C-profile length according to dimension B_{Ri}

E4.38L/R4.38L			E4.32/H4.32/R4.32			E61.40			E6.40/R6.40		
Width index	B_{Ri} [mm]	Part No. Installation set	Width index	B_{Ri} [mm]	Part No. Installation set	Width index	B_{Ri} [mm]	Part No. Installation set	Width index	B_{Ri} [mm]	Part No. Installation set
050.	71	93.50.200	.05	78	93.50.200	.040	61	upon request	.040	65	upon request
062.	83	93.50.200	.06	96	93.50.225	.050	71	93.50.200	.050	75	93.50.200
075.	96	93.50.225	.07	103	93.50.225	.062	83	93.50.200	.062	87	93.50.200
087.	108	93.50.225	.087	115	93.50.225	.070	91	93.50.200	.070	95	93.50.225
100.	121	93.50.250	.10	128	93.50.250	.075	96	93.50.225	.075	100	93.50.225
105.	126	93.50.250	.11	136	93.50.250	.087	108	93.50.225	.087	112	93.50.225
112.	133	93.50.250	.112	141	93.50.250	.100	121	93.50.250	.100	125	93.50.250
125.	146	93.50.275	.12	153	93.50.275	.125	146	93.50.275	.125	150	93.50.275
137.	158	93.50.275	.137	166	93.50.275	.150	171	93.50.300	.150	175	93.50.300
150.	171	93.50.300	.15	178	93.50.300	.175	196	93.50.325	.175	200	93.50.325
162.	183	93.50.300	.162	191	93.50.300	.200	221	93.50.350	.200	225	93.50.350
175.	196	93.50.325	.17	196	93.50.325	.225	246	93.50.375	.225	250	93.50.375
187.	208	93.50.325	.18	203	93.50.325	.250	271	93.50.400	.250	275	93.50.400
200.	221	93.50.350	.187	216	93.50.325	.275	296	93.50.425	.275	300	93.50.425
212.	233	93.50.350	.20	228	93.50.350	.300	321	93.50.450	.300	325	93.50.450
225.	246	93.50.375	.212	241	93.50.350						
237.	258	93.50.375	.23	253	93.50.375						
250.	271	93.50.400	.237	266	93.50.375						
262.	283	93.50.400	.25	278	93.50.400						
275.	296	93.50.425	.262	291	93.50.400						
287.	308	93.50.425	.28	303	93.50.425						
300.	321	93.50.450	.29	316	93.50.425						
312.	333	93.50.450	.30	328	93.50.450						
325.	346	93.50.475	.312	341	93.50.450						
337.	358	93.50.475	.325	353	93.50.475						
350.	371	93.50.500	.337	366	93.50.475						
362.	383	93.50.500	.350	378	93.50.500						
375.	396	93.50.525	.362	391	93.50.500						
387.	408	93.50.525	.375	403	93.50.525						
400.	421	93.50.550	.387	416	93.50.525						
			.400	428	93.50.550						





igus® system E4 with extension link on a ship loader for coal handling. Travel 105m, speed 240m/min, fill weight 53kg/m

Steel guide trough | 93.30 | 93.31 | Heavy-duty

Trough height: 130mm | Product range

For the following igus® series

E2.1
- E2.48

E2/000
- 3500

E2 R
- R68

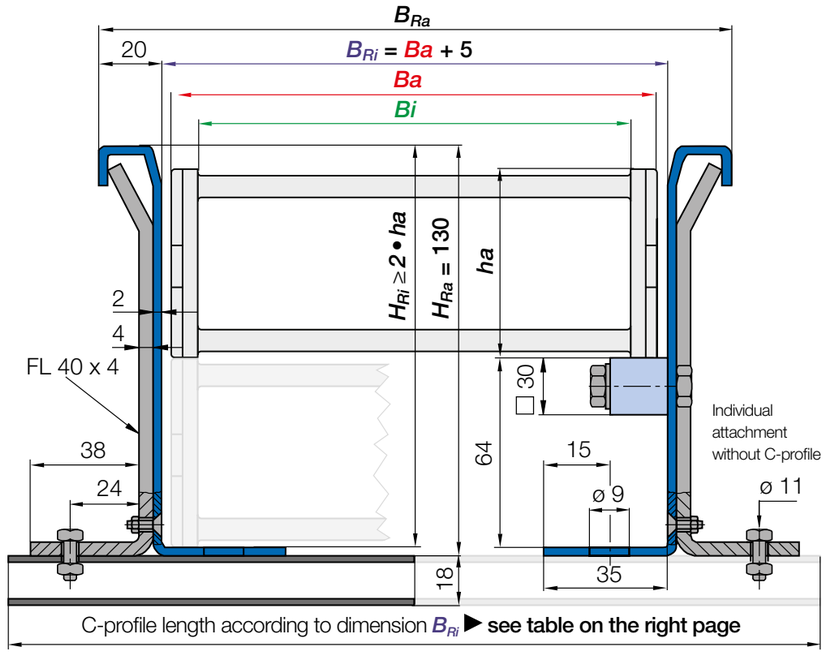
E4.1L
- E4.48L/R4.48L

E4.1
- E4.42/H4.42/R4.42

E6.1
- E61.62

E6
- E6.52/R6.52

Note: The inner width of the guide through and the C-profile length of the installation set can differ according to the mounting bracket you choose. Please call us.



Steel guide trough | Full set

Trough side parts sets	Part No.	Weight
1 set of 2 trough side parts, **without** glide bars, 2m section	**93.30.E**[1] / **E44**[2] / **E45**[3]	≈ 11.80kg
1 set of 2 trough side parts, **with** glide bars, bolted, 2m section	**93.31.E**[1] / **E44**[2] / **E45**[3]	≈ 16.20kg
Installation sets	**Part No.**	**Weight**
1 installation set **without** C-profile	**93.50**	≈ 0.49kg
1 installation set **with** C-profile (C-profile length according to dimension B_{Ri})	**93.50.XXX***	upon request

*Please add the C-profile length XXX as shown on the tables on the right page. Example: **93.50.350**

Steel guide trough | Components as individual parts

Individual parts, trough	Part No.	Weight
1 trough side part, individual, 2m section	**93.11.E**[1] / **E44**[2] / **E45**[3]	≈ 5.90kg
1 glide bar, plastic, individual, 2m section	**93.01**	≈ 1.68kg
1 glide bar, individual, 2m section + 11 screw sets	**93.20**	≈ 2.22kg
1 package with 11 screw sets (for glide bar, 2m section)	**93.21**	≈ 0.54kg
Individual parts, installation set	**Part No.**	**Weight**
1 clamping bracket, individual	**93.51**	≈ 0.20kg
1 countersunk-head screw, individual	**92.53 / M6 x 14**	
1 hexagon nut, individual	**92.54 / M6**	
1 hexagon-head screw, individual	**92.55 / M10 x 16**	
1 glide nut, individual	**92.56 / M10**	
1 C-profile, individual (C-profile length according to dimension B_{Ri})	**92.52.XXX*.E**[1]	≈ 0.90kg/m
Additional option for simple fixing of the e-chain® without drilling	**Part No.**	
1 set fixed end module (more information ▶ **Page 1240**)	**93.80.01**	≈ 11.80kg

*Please add the C-profile length XXX as shown on the tables on the right page. Example: **92.52.350**

1) Trough side parts + C-profile - also available in 304 stainless steel, material 1.4301 (AISI 304). Please add index **E** to the Part No.

2) Trough side parts - also available in 316 stainless steel, material 1.4404 (AISI 316L). Please add index **E44** to the Part No.

3) Trough side parts - also available in 316 stainless steel, material 1.4571 (AISI 316Ti). Please add index **E45** to the Part No.

Steel guide trough | C-profile lengths

C-profile length according to dimension B_{Ri}

E2.48

Width index	B_{Ri} [mm]	Part No. Installation set
.050	75	93.50.200
.075	100	93.50.225
.100	125	93.50.250
.115	140	93.50.250
.125	150	93.50.275
.150	175	93.50.300
.175	200	93.50.325
.200	225	93.50.350
.225	250	93.50.375
.250	275	93.50.400

3500

Width index	B_{Ri} [mm]	Part No. Installation set
.050	75	93.50.200
.075	100	93.50.225
.100	125	93.50.250
.115	140	93.50.250
.125	150	93.50.275
.150	175	93.50.300
.175	200	93.50.325
.200	225	93.50.350
.225	250	93.50.375
.250	275	93.50.400

E4.48L/R4.48L

Width index	B_{Ri} [mm]	Part No. Installation set
.050	75	93.50.200
.062	87	93.50.200
.075	100	93.50.225
.087	112	93.50.225
.100	125	93.50.250
.105	130	93.50.250
.112	137	93.50.250
.125	150	93.50.275
.137	162	93.50.275
.150	175	93.50.300
.162	187	93.50.300
.175	200	93.50.325
.187	212	93.50.325
.200	225	93.50.350
.212	237	93.50.350
.225	250	93.50.375
.237	262	93.50.375
.250	275	93.50.400
.262	287	93.50.400
.275	300	93.50.425
.287	312	93.50.425
.300	325	93.50.450
.312	337	93.50.450
.325	350	93.50.475
.337	362	93.50.475
.350	375	93.50.500
.362	387	93.50.500
.375	400	93.50.525
.387	412	93.50.525
.400	425	93.50.550

E4.42/H4.42/R4.42

Width index	B_{Ri} [mm]	Part No. Installation set
.05	81	93.50200
.06	99	93.50.225
.07	106	93.50.225
.087	119	93.50.250
.10	131	93.50.250
.11	139	93.50.250
.112	144	93.50.275
.12	156	93.50.275
.137	169	93.50.300
.15	181	93.50.300
.162	194	93.50.325
.17	199	93.50.325
.18	206	93.50.325
.187	219	93.50.350
.20	231	93.50.350
.212	244	93.50.375
.23	256	93.50.375
.237	269	93.50.400
.25	281	93.50.400
.262	294	93.50.425
.28	306	93.50.425
.29	319	93.50.450
.30	331	93.50.450
.312	344	93.50.475
.325	356	93.50.475
.337	369	93.50.500
.350	381	93.50.500
.362	394	93.50.525
.375	407	93.50.525
.387	419	93.50.550
.400	431	93.50.550

E61.62/E6.52/R6.52

Width index	B_{Ri} [mm]	Part No. Installation set
.040	69	upon request
.050	79	93.50.200
.062	91	93.50.200
.070	99	93.50.225
.075	104	93.50.225
.087	116	93.50.225
.100	129	93.50.250
.125	154	93.50.275
.150	179	93.50.300
.175	204	93.50.325
.200	229	93.50.350
.225	254	93.50.375
.250	279	93.50.400
.275	304	93.50.425
.300	329	93.50.450

R68

Width index	B_{Ri} [mm]	Part No. Installation set
.050	73	93.50.200
.075	98	93.50.225
.100	123	93.50.250
.115	138	93.50.250
.125	148	93.50.275
.150	173	93.50.300
.175	198	93.50.325
.200	223	93.50.350
.225	248	93.50.375
.250	273	93.50.400



Travel up to 195m with the igus® system E4, safely guided in an igus® steel trough

Steel guide trough | 94.30 | 94.31 | Heavy-duty

Trough height: 170mm | Product range

For the following igus® series

E4.1L
- E4.64L

E4.1
- E4.56/H4.56/R4.56

E4/light
- 14040/14140/R18840
- 14240/14340

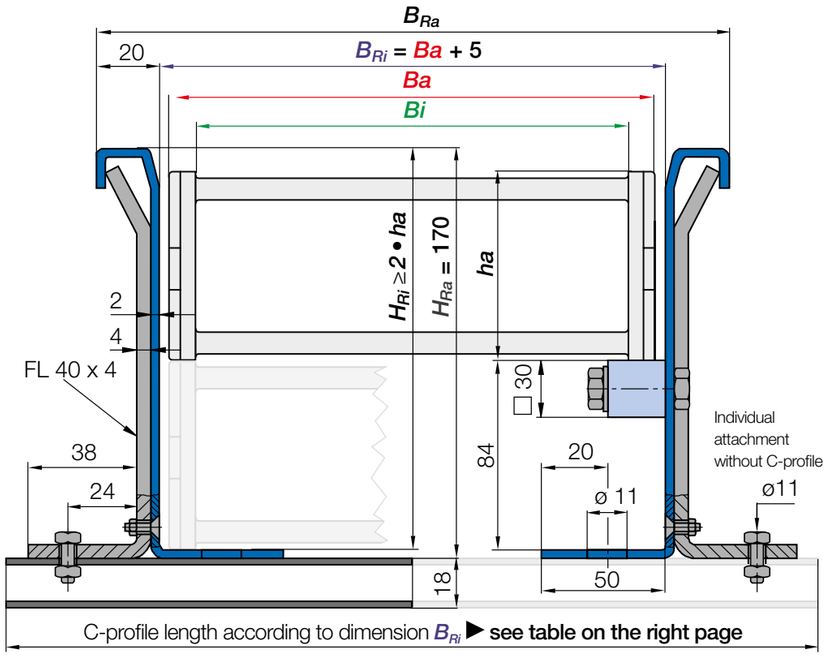
E6.1
- E61.62

E6
- E6.62



Option: with reinforced mounting angles for extremely demanding heavy-duty applications

Note: The inner width of the guide through and the C-profile length of the installation set can differ according to the mounting bracket you choose. Please call us.



Steel guide trough | Full set

Trough side parts sets	Part No.	Weight
1 set of 2 trough side parts, **without** glide bars, 2m section	**94.30.E**[1] / **E44**[2] / **E45**[3]	≈ 14.70kg
1 set of 2 trough side parts, **with** glide bars, bolted, 2m section	**94.31.E**[1] / **E44**[2] / **E45**[3]	≈19.00kg
Installation sets	**Part No.**	**Weight**
1 installation set **without** C-profile	**94.50**	≈ 0.58kg
1 installation set **with** C-profile (C-profile length according to dimension B_{Ri})	**94.50.XXX***	upon request

*Please add the C-profile length XXX as shown on the tables on the right page. Example: **94.50.350**

Steel guide trough | Components as individual parts

Individual parts, trough	Part No.	Weight
1 trough side part, individual, 2m section	**94.11.E**[1] / **E44**[2] / **E45**[3]	≈ 7.35kg
1 glide bar, plastic, individual, 2m section	**93.01**	≈ 1.68kg
1 glide bar, individual, 2m section + 11 screw sets	**93.20**	≈ 2.22kg
1 package with 11 screw sets (for glide bar, 2m section)	**93.21**	≈ 0.54kg
Individual parts, installation set	**Part No.**	**Weight**
1 clamping bracket, individual	**94.51**	≈ 0.25kg
1 countersunk-head screw, individual	**92.53 / M6 x 14**	
1 hexagon nut, individual	**92.54 / M6**	
1 hexagon-head screw, individual	**92.55 / M10 x 16**	
1 glide nut, individual	**92.56 / M10**	
1 C-profile, individual (C-profile length according to dimension B_{Ri})	**92.52.XXX*.E**[1]	≈ 0.90kg/m
Additional option for simple fixing of the e-chain® without drilling	**Part No.**	
1 set fixed end module (more information ▶ **Page 1240**)	**94.80.01**	≈ 14.70kg

*Please add the C-profile length XXX as shown on the tables on the right page. Example: **92.52.350.E**

1) Trough side parts + C-profile - also available in 304 stainless steel, material 1.4301 (AISI 304). Please add index **E** to the Part No.

2) Trough side parts - also available in 316 stainless steel, material 1.4404 (AISI 316L). Please add index **E44** to the Part No.

3) Trough side parts - also available in 316 stainless steel, material 1.4571 (AISI 316Ti). Please add index **E45** to the Part No.

Steel guide trough | C-profile lengths

C-profile length according to dimension B_{Ri}

E4.56			14040/14140/R18840			14240/14340			E61.62			E6.62		
Width index	B_{Ri} [mm]	Part No. Installation set	Width index	B_{Ri} [mm]	Part No. Installation set	Width index	B_{Ri} [mm]	Part No. Installation set	Width index	B_{Ri} [mm]	Part No. Installation set	Width index	B_{Ri} [mm]	Part No. Installation set
.05	89	upon request	.05	81	upon request	.05	81	upon request	.05	87	upon request	.05	91	upon request
.06	104	94.50.225	.06	96	upon request	.06	99	upon request	.06	105	94.50.225	.06	109	94.50.225
.07	114	94.50.225	.07	106	94.50.225	.07	106	94.50.225	.07	112	94.50.225	.07	116	94.50.225
.08	121	94.50.225	.10	131	94.50.250	.087	119	94.50.250	.087	124	94.50.250	.087	128	94.50.250
.10	139	94.50.250	.11	144	94.50.275	.10	131	94.50.250	.10	137	94.50.250	.10	141	94.50.250
.11	152	94.50.275	.12	156	94.50.275	.11	139	94.50.250	.11	145	94.50.275	.11	149	94.50.275
.12	164	94.50.275	.13	169	94.50.300	.112	144	94.50.275	.112	149	94.50.275	.112	153	94.50.275
.13	177	94.50.300	.15	181	94.50.300	.12	156	94.50.275	.12	162	94.50.275	.12	166	94.50.275
.15	189	94.50.300	.16	194	94.50.325	.137	169	94.50.300	.137	174	94.50.300	.137	178	94.50.300
.16	202	94.50.325	.17	206	94.50.325	.15	181	94.50.300	.15	187	94.50.300	.15	191	94.50.300
.17	214	94.50.325	.18	219	94.50.350	.162	194	94.50.325	.162	199	94.50.325	.162	203	94.50.325
.18	227	94.50.350	.20	231	94.50.350	.17	199	94.50.325	.17	205	94.50.325	.17	209	94.50.325
.20	239	94.50.350	.21	244	94.50.375	.18	206	94.50.325	.18	212	94.50.325	.18	216	94.50.325
.21	252	94.50.375	.22	256	94.50.375	.187	219	94.50.350	.187	224	94.50.350	.187	228	94.50.350
.22	264	94.50.375	.23	269	94.50.400	.20	231	94.50.350	.20	237	94.50.350	.20	241	94.50.350
.23	277	94.50.400	.25	281	94.50.400	.212	244	94.50.375	.212	249	94.50.375	.212	253	94.50.375
.25	289	94.50.400	.26	294	94.50.425	.23	256	94.50.375	.23	262	94.50.375	.23	266	94.50.375
.26	302	94.50.425	.27	306	94.50.425	.237	269	94.50.400	.237	274	94.50.400	.237	278	94.50.400
.27	314	94.50.425	.28	319	94.50.450	.25	281	94.50.400	.25	287	94.50.400	.25	291	94.50.400
.28	327	94.50.450	.30	331	94.50.450	.262	294	94.50.425	.262	299	94.50.425	.262	303	94.50.425
.30	339	94.50.450	.31	344	94.50.475	.28	306	94.50.425	.28	312	94.50.425	.28	316	94.50.425
.31	352	94.50.475	.32	356	94.50.475	.29	319	94.50.450	.29	324	94.50.450	.29	328	94.50.450
.32	364	94.50.475	.33	369	94.50.500	.30	331	94.50.450	.30	337	94.50.450	.30	341	94.50.450
.33	377	94.50.500	.35	381	94.50.500	.312	344	94.50.475	.312	349	94.50.475	.312	353	94.50.475
.35	389	94.50.500	.36	394	94.50.525	.325	356	94.50.475	.325	362	94.50.475	.325	366	94.50.475
.36	402	94.50.525	.37	406	94.50.525	.337	369	94.50.500	.337	374	94.50.500	.337	378	94.50.500
.37	414	94.50.525	.38	419	94.50.550	.350	381	94.50.500	.350	387	94.50.500	.350	391	94.50.500
.38	427	94.50.550	.40	431	94.50.550	.362	394	94.50.525	.362	399	94.50.525	.362	403	94.50.525
.40	439	94.50.550	.41	444	94.50.575	.375	406	94.50.525	.375	412	94.50.525	.375	416	94.50.525
.41	452	94.50.575	.42	456	94.50.575	.384	419	94.50.550	.387	424	94.50.550	.387	428	94.50.550
.42	464	94.50.575	.43	469	94.50.600	.400	431	94.50.550	.400	437	94.50.550	.400	441	94.50.550
.43	477	94.50.600	.45	481	94.50.600									
.45	489	94.50.600	.46	494	94.50.625									
.46	502	94.50.625	.47	506	94.50.625									
.47	514	94.50.625	.48	519	94.50.650									
.48	527	94.50.650	.50	531	94.50.650									
.50	539	94.50.650	.51	544	94.50.675									
.51	552	94.50.675	.52	556	94.50.675									
.52	564	94.50.675	.53	569	94.50.700									
.53	577	94.50.700	.55	581	94.50.700									
.55	589	94.50.700	.60	631	94.50.750									
.60	639	94.50.750												

E4.64L		
Width index	B_{Ri} [mm]	Part No. Installation set
.087	118	94.50.225
.100	131	94.50.250
.150	181	94.50.300
.200	231	94.50.350



Extremely dirty and tough environment in coal handling. igus® roller e-chains® guided in tough steel troughs

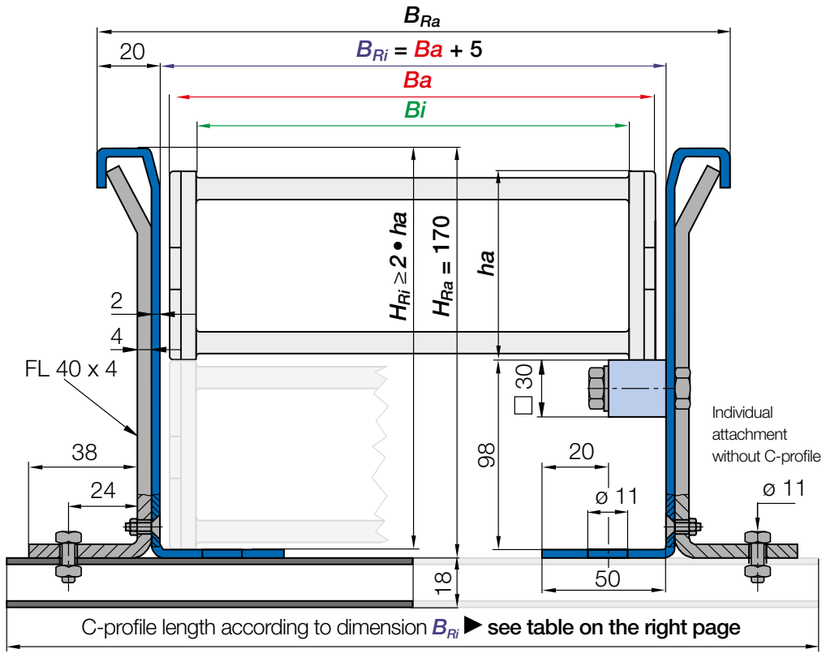
Steel guide trough | 94.14550.30 | 94.14550.31 | Heavy-duty

Trough height: 170mm | Product range

For the following igus® series

E4/light

● 14550/14650/R19050



C-profile length according to dimension B_{Ri} ▶ **see table on the right page**



Option: with reinforced mounting angles for extremely demanding heavy-duty applications

Note: The inner width of the guide through and the C-profile length of the installation set can differ according to the mounting bracket you choose. Please call us.

Steel guide trough | Full set

Trough side parts sets	Part No.	Weight
1 set of 2 trough side parts, **without** glide bars, 2m section	**94.14550.30.E**[1]**/E44**[2]**/E45**[3]	≈ 14.70kg
1 set of 2 trough side parts, **with** glide bars, bolted, 2m section	**94.14550.31.E**[1]**/E44**[2]**/E45**[3]	≈ 19.00kg
Installation sets	**Part No.**	**Weight**
1 installation set **without** C-profile	**94.50**	≈ 0.58kg
1 installation set **with** C-profile (C-profile length according to dimension B_{Ri})	**94.50.XXX***	upon request

*Please add the C-profile length **XXX** as shown on the tables on the right page. Example: **94.50.350**

Steel guide trough | Components as individual parts

Individual parts, trough	Part No.	Weight
1 trough side part, individual, 2m section	**94.11.E**[1] **/ E44**[2] **/ E45**[3]	≈ 7.35kg
1 glide bar, plastic, individual, 2m section	**93.01**	≈ 1.68kg
1 glide bar, individual, 2m section + 11 screw sets	**93.20**	≈ 2.22kg
1 package with 11 screw sets (for glide bar, 2m section)	**93.21**	≈ 0.54kg
Individual parts, installation set	**Part No.**	**Weight**
1 clamping bracket, individual	**94.51**	≈ 0.25kg
1 countersunk-head screw, individual	**92.53 / M6 x 14**	
1 hexagon nut, individual	**92.54 / M6**	
1 hexagon-head screw, individual	**92.55 / M10 x 16**	
1 glide nut, individual	**92.56 / M10**	
1 C-profile, individual (C-profile length according to dimension B_{Ri})	**92.52.XXX*.E**[1]	≈ 0.90kg/m
Additional option for simple fixing of the e-chain® without drilling	**Part No.**	
1 set fixed end module (more information ▶ **Page 1240**)	**94.14550.80.01****	≈ 14.70kg

*Please add the C-profile length **XXX** as shown on the tables on the right page. Example: **92.52.350.E**

1) Trough side parts + C-profile - also available in 304 stainless steel, material 1.4301 (AISI 304). Please add index **E** to the Part No.

2) Trough side parts - also available in 316 stainless steel, material 1.4404 (AISI 316L). Please add index **E44** to the Part No.

3) Trough side parts - also available in 316 stainless steel, material 1.4571 (AISI 316Ti). Please add index **E45** to the Part No.

**Fixed end module available upon request. Please consult igus® for delivery time.

Steel guide trough | C-profile lengths

C-profile length according to dimension B_{Ri}

14550/14650/R19050

Width index	B_{Ri} [mm]	Part No. Installation set
.05	82	upon request
.06	97	upon request
.07	107	94.50.225
.08	119	94.50.250
.10	132	94.50.250
.11	144	94.50.275
.12	157	94.50.275
.13	169	94.50.300
.15	182	94.50.300
.16	194	94.50.325
.17	207	94.50.325
.18	219	94.50.350
.20	232	94.50.350
.21	244	94.50.375
.22	257	94.50.375
.23	269	94.50.400
.25	282	94.50.400
.26	294	94.50.425
.27	307	94.50.425
.28	319	94.50.450
.30	332	94.50.450
.31	344	94.50.475
.32	357	94.50.475
.33	369	94.50.500
.35	382	94.50.500
.36	394	94.50.525
.37	407	94.50.525
.38	419	94.50.550
.40	432	94.50.550
.41	444	94.50.575
.42	457	94.50.575
.43	469	94.50.600
.45	482	94.50.600
.46	494	94.50.625
.47	507	94.50.625
.48	519	94.50.650
.50	532	94.50.650
.51	544	94.50.675
.52	557	94.50.675
.53	569	94.50.700
.55	582	94.50.700
.60	632	94.50.750



System E4 with extension links and high fill weight - long travel application on-board West Navigator drill ship

Steel guide trough | 96.30 | 96.31 | Heavy-duty

Trough height: 220mm | Product range

For the following igus® series

E4.1
- E4.80

E4/light
- 15050/15150/R19850
- 15250/15350

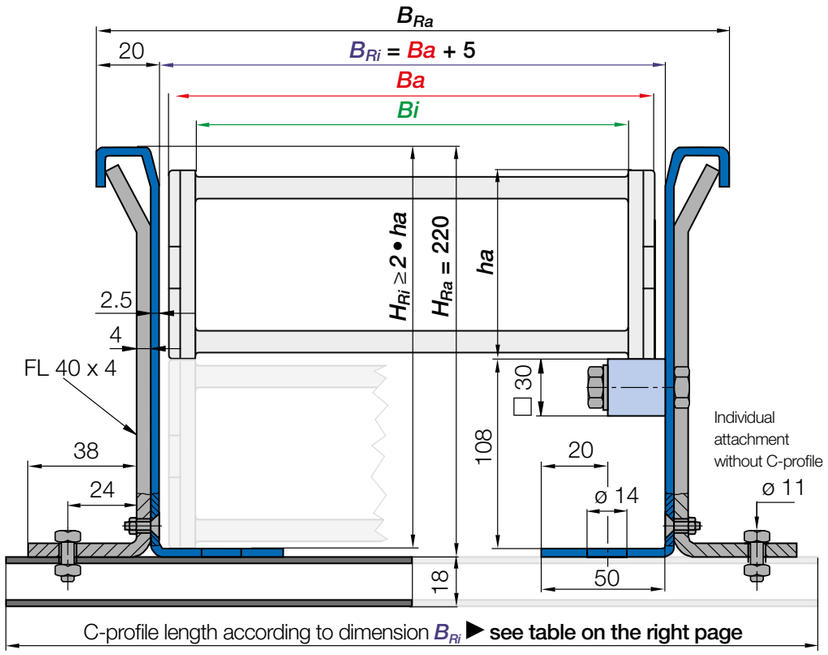
E6.1
- E61.80

E6
- E6.80



Option: with reinforced mounting angles for extremely demanding heavy-duty applications

Note: The inner width of the guide through and the C-profile length of the installation set can differ according to the mounting bracket you choose. Please call us.



Steel guide trough | Full set

Trough side parts sets	Part No.	Weight
1 set of 2 trough side parts, **without** glide bars, 2m section	**96.30.E**[1] / **E44**[2] / **E45**[3]	≈ 22.80kg
1 set of 2 trough side parts, **with** glide bars, bolted, 2m section	**96.31.E**[1] / **E44**[2] / **E45**[3]	≈ 27.20kg
Installation sets	**Part No.**	**Weight**
1 installation set **without** C-profile	**96.50**	≈ 0.72kg
1 installation set **with** C-profile (C-profile length according to dimension B_{Ri})	**96.50.XXX***	upon request

*Please add the C-profile length XXX as shown on the tables on the right page. Example: **96.50.375**

Steel guide trough | Components as individual parts

Individual parts, trough	Part No.	Weight
1 trough side part, individual, 2m section	**96.11.E**[1] / **E44**[2] / **E45**[3]	≈ 11.40kg
1 glide bar, plastic, individual, 2m section	**93.01**	≈ 1.68kg
1 glide bar, individual, 2m section + 11 screw sets	**93.20**	≈ 2.22kg
1 package with 11 screw sets (for glide bar, 2m section)	**93.21**	≈ 0.54kg
Individual parts, installation set	**Part No.**	**Weight**
1 clamping bracket, individual	**96.51**	≈ 0.31kg
1 countersunk-head screw, individual	**92.53 / M6 x 14**	
1 hexagon nut, individual	**92.54 / M6**	
1 hexagon-head screw, individual	**92.55 / M10 x 16**	
1 glide nut, individual	**92.56 / M10**	
1 C-profile, individual (C-profile length according to dimension B_{Ri})	**92.52.XXX*.E**[1]	≈ 0.90kg/m
Additional option for simple fixing of the e-chain® without drilling	**Part No.**	
1 set fixed end module (more information ▶ **Page 1240**)	**96.80.01**	≈22.80kg

*Please add the C-profile length XXX as shown on the tables on the right page. Example: **92.52.375.E**

1) Trough side parts + C-profile - also available in 304 stainless steel, material 1.4301 (AISI 304). Please add index **E** to the Part No.

2) Trough side parts - also available in 316 stainless steel, material 1.4404 (AISI 316L). Please add index **E44** to the Part No.

3) Trough side parts - also available in 316 stainless steel, material 1.4571 (AISI 316Ti). Please add index **E45** to the Part No.

Steel guide trough | C-profile lengths

C-profile length according to dimension B_{Ri}

E4.80			15050/15150/R19850			15250/15350			E61.62			E6.62		
Width index	B_{Ri} [mm]	Part No. Installation set	Width index	B_{Ri} [mm]	Part No. Installation set	Width index	B_{Ri} [mm]	Part No. Installation set	Width index	B_{Ri} [mm]	Part No. Installation set	Width index	B_{Ri} [mm]	Part No. Installation set
.05	105	96.50.225	.05	85	upon request	.05	85	upon request	.05	99	96.50.n.m	.05	105	96.50.225
.06	120	96.50.250	.06	100	upon request	.06	103	96.50.225	.06	114	96.50.225	.06	120	96.50.250
.07	130	96.50.250	.07	110	96.50.225	.07	110	96.50.225	.07	124	96.50.250	.07	130	96.50.250
.10	155	96.50.275	.10	135	96.50.250	.087	122	96.50.250	.10	149	96.50.275	.10	155	96.50.275
.11	168	96.50.300	.11	148	96.50.275	.09	132	96.50.250	.11	161	96.50.275	.11	167	96.50.300
.12	180	96.50.300	.12	160	96.50.275	.10	135	96.50.250	.12	174	96.50.300	.12	180	96.50.300
.13	193	96.50.325	.13	173	96.50.300	.11	143	96.50.275	.13	186	96.50.300	.13	192	96.50.325
.15	205	96.50.325	.15	185	96.50.300	.112	148	96.50.275	.15	199	96.50.325	.15	205	96.50.325
.16	218	96.50.350	.16	198	96.50.325	.12	160	96.50.275	.16	211	96.50.325	.16	217	96.50.350
.17	230	96.50.350	.17	210	96.50.325	.137	172	96.50.300	.17	224	96.50.350	.17	230	96.50.350
.18	243	96.50.375	.18	223	96.50.350	.15	185	96.50.300	.18	236	96.50.350	.18	242	96.50.375
.20	255	96.50.375	.20	235	96.50.350	.162	198	96.50.325	.20	249	96.50.375	.20	255	96.50.375
.21	268	96.50.400	.21	248	96.50.375	.17	203	96.50.325	.21	261	96.50.375	.21	267	96.50.400
.22	280	96.50.400	.22	260	96.50.375	.18	210	96.50.325	.22	274	96.50.400	.22	280	96.50.400
.23	293	96.50.425	.23	273	96.50.400	.187	223	96.50.350	.23	286	96.50.400	.23	292	96.50.425
.25	305	96.50.425	.25	285	96.50.400	.20	235	96.50.350	.25	299	96.50.425	.25	305	96.50.425
.26	318	96.50.450	.26	298	96.50.425	.212	248	96.50.375	.26	311	96.50.425	.26	317	96.50.450
.27	330	96.50.450	.27	310	96.50.425	.23	260	96.50.375	.27	324	96.50.450	.27	330	96.50.450
.28	343	96.50.475	.28	323	96.50.450	.237	273	96.50.400	.28	336	96.50.450	.28	342	96.50.475
.30	355	96.50.475	.30	335	96.50.450	.25	285	96.50.400	.30	349	96.50.475	.30	355	96.50.475
.31	368	96.50.500	.31	348	96.50.475	.262	298	96.50.425	.31	361	96.50.475	.31	367	96.50.500
.32	380	96.50.500	.32	360	96.50.475	.28	310	96.50.425	.32	374	96.50.500	.32	380	96.50.500
.33	393	96.50.525	.33	373	96.50.500	.29	323	96.50.450	.33	386	96.50.500	.33	392	96.50.525
.35	405	96.50.525	.35	385	96.50.500	.30	335	96.50.450	.35	399	96.50.525	.35	405	96.50.525
.36	418	96.50.550	.36	398	96.50.525	.312	348	96.50.475	.36	411	96.50.525	.36	417	96.50.550
.37	430	96.50.550	.37	410	96.50.525	.325	360	96.50.475	.37	424	96.50.550	.37	430	96.50.550
.38	443	96.50.575	.38	423	96.50.550	.337	373	96.50.500	.38	436	96.50.550	.38	442	96.50.575
.40	455	96.50.575	.40	435	96.50.550	.350	385	96.50.500	.40	449	96.50.575	.40	455	96.50.575
.41	468	96.50.600	.41	448	96.50.575	.362	398	96.50.525	.41	461	96.50.575	.41	470	96.50.600
.42	480	96.50.600	.42	460	96.50.575	.375	410	96.50.525	.42	474	96.50.600	.42	480	96.50.600
.43	493	96.50.625	.43	473	96.50.600	.387	423	96.50.550	.43	486	96.50.600	.43	492	96.50.625
.45	505	96.50.625	.45	485	96.50.600	.400	435	96.50.550	.45	499	96.50.625	.45	505	96.50.625
.46	518	96.50.650	.46	498	96.50.625				.46	511	96.50.625	.46	517	96.50.650
.47	530	96.50.650	.47	510	96.50.625				.47	524	96.50.650	.47	530	96.50.650
.48	543	96.50.675	.48	523	96.50.650				.48	536	96.50.650	.48	542	96.50.675
.50	555	96.50.675	.50	535	96.50.650				.50	549	96.50.675	.50	555	96.50.675
.51	568	96.50.700	.51	548	96.50.675				.51	561	96.50.675	.51	567	96.50.700
.52	580	96.50.700	.52	560	96.50.675				.52	574	96.50.700	.52	580	96.50.700
.53	593	96.50.725	.53	573	96.50.700				.53	586	96.50.700	.53	592	96.50.725
.55	605	96.50.725	.55	585	96.50.700				.55	599	96.50.725	.55	605	96.50.725
.60	655	96.50.775	.60	635	96.50.750				.60	649	96.50.775	.60	655	96.50.775



igus® E4 rol e-chain® and steel guide trough

Steel guide trough | 98.30 | 98.31 | Heavy-duty

Trough height: 300mm | Product range

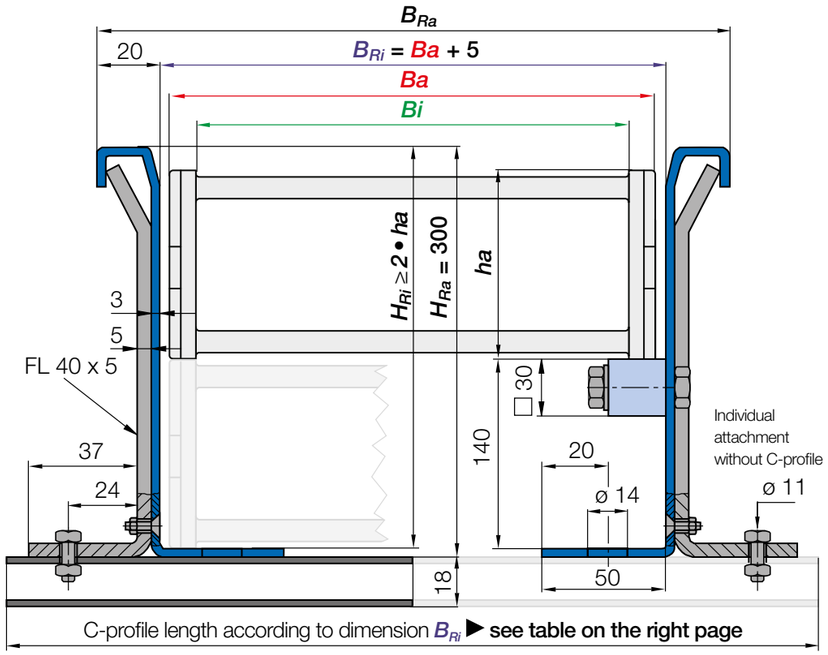
For the following igus® series

E4.1

● E4.112/R4.112

E4/light

● 1640/R1608





Option: with reinforced mounting angles for extremely demanding heavy-duty applications

Note: The inner width of the guide through and the C-profile length of the installation set can differ according to the mounting bracket you choose. Please call us.

Steel guide trough | Full set

Trough side parts sets	Part No.	Weight
1 set of 2 trough side parts, **without** glide bars, 2m section	**98.30.E**[1] / **E44**[2] / **E45**[3]	≈ 34.60kg
1 set of 2 trough side parts, **with** glide bars, bolted, 2m section	**98.31.E**[1] / **E44**[2] / **E45**[3]	≈ 39.00kg
Installation sets	**Part No.**	**Weight**
1 installation set **without** C-profile	**98.50**	≈ 1.16kg
1 installation set **with** C-profile (C-profile length according to dimension B_{Ri})	**98.50.XXX***	upon request

*Please add the C-profile length XXX as shown on the tables on the right page. Example: **98.50.350**

Steel guide trough | Components as individual parts

Individual parts, trough	Part No.	Weight
1 trough side part, individual, 2m section	**98.11.E**[1] / **E44**[2] / **E45**[3]	≈ 17.30kg
1 glide bar, plastic, individual, 2m section	**93.01**	≈ 1.68kg
1 glide bar, individual, 2m section + 11 screw sets	**93.20**	≈ 2.22kg
1 package with 11 screw sets (for glide bar, 2m section)	**93.21**	≈ 0.54kg
Individual parts, installation set	**Part No.**	**Weight**
1 clamping bracket, individual	**98.51**	≈ 0.52kg
1 countersunk-head screw, individual	**92.05 / M8 x 20**	
1 hexagon nut, individual	**92.04 / M8**	
1 hexagon-head screw, individual	**92.55 / M10 x 16**	
1 glide nut, individual	**92.56 / M10**	
1 C-profile, individual (C-profile length according to dimension B_{Ri})	**92.52.XXX*.E**[1]	≈ 0.90kg/m
Additional option for simple fixing of the e-chain® without drilling	**Part No.**	
1 set fixed end module (more information ▶ **Page 1240**)	**98.80.01**	≈ 34.60kg

*Please add the C-profile length XXX as shown on the tables on the right page. Example: **92.52.375.E**

1) Trough side parts + C-profile - also available in 304 stainless steel, material 1.4301 (AISI 304). Please add index **E** to the Part No.

2) Trough side parts - also available in 316 stainless steel, material 1.4404 (AISI 316L). Please add index **E44** to the Part No.

3) Trough side parts - also available in 316 stainless steel, material 1.4571 (AISI 316Ti). Please add index **E45** to the Part No.

Steel guide trough | C-profile lengths

C-profile length according to dimension B_{Ri}

E4.112/R4.112			1640/R1608		
Width index	B_{Ri} [mm]	Part No. Installation set	Width index	B_{Ri} [mm]	Part No. Installation set
.05	107	98.50.225	.05	89	upon request
.06	122	98.50.250	.06	104	98.50.225
.07	132	98.50.250	.07	114	98.50.250
.10	157	98.50.275	.08	124	98.50.250
.11	169	98.50.300	.10	139	98.50.275
.12	182	98.50.300	.11	151	98.50.275
.13	194	98.50.325	.12	164	98.50.300
.15	207	98.50.325	.13	176	98.50.300
.16	219	98.50.350	.15	189	98.50.325
.17	232	98.50.350	.16	201	98.50.325
.18	244	98.50.375	.17	214	98.50.350
.20	257	98.50.375	.18	226	98.50.350
.21	269	98.50.400	.20	239	98.50.375
.22	282	98.50.400	.21	251	98.50.375
.23	294	98.50.425	.22	264	98.50.400
.25	307	98.50.425	.23	276	98.50.400
.26	319	98.50.450	.25	289	98.50.425
.27	332	98.50.450	.26	301	98.50.425
.28	344	98.50.475	.27	314	98.50.450
.30	357	98.50.475	.28	326	98.50.450
.31	369	98.50.500	.30	339	98.50.475
.32	382	98.50.500	.31	351	98.50.475
.33	394	98.50.525	.32	364	98.50.500
.35	407	98.50.525	.33	376	98.50.500
.36	419	98.50.550	.35	389	98.50.525
.37	432	98.50.550	.36	401	98.50.525
.38	444	98.50.575	.37	414	98.50.550
.40	457	98.50.575	.38	426	98.50.550
.41	469	98.50.600	.40	439	98.50.575
.42	482	98.50.600	.41	451	98.50.575
.43	494	98.50.625	.42	464	98.50.600
.45	507	98.50.625	.43	476	98.50.600
.46	519	98.50.650	.45	489	98.50.625
.47	532	98.50.650	.46	501	98.50.625
.48	544	98.50.675	.47	514	98.50.650
.50	557	98.50.675	.48	526	98.50.650
.51	569	98.50.700	.50	539	98.50.675
.52	582	98.50.700	.51	551	98.50.675
.53	594	98.50.725	.52	564	98.50.700
.55	607	98.50.725	.53	576	98.50.700
.60	657	98.50.775	.55	589	98.50.725
			.60	639	98.50.775



E4 e-chain® with several extension links for extreme fill weights, guided in igus® steel trough over long travel distances in rough seas

Steel guide trough | 90.30 | 90.31 | Heavy-duty

Trough height: 480mm | Product range

For the following igus® series

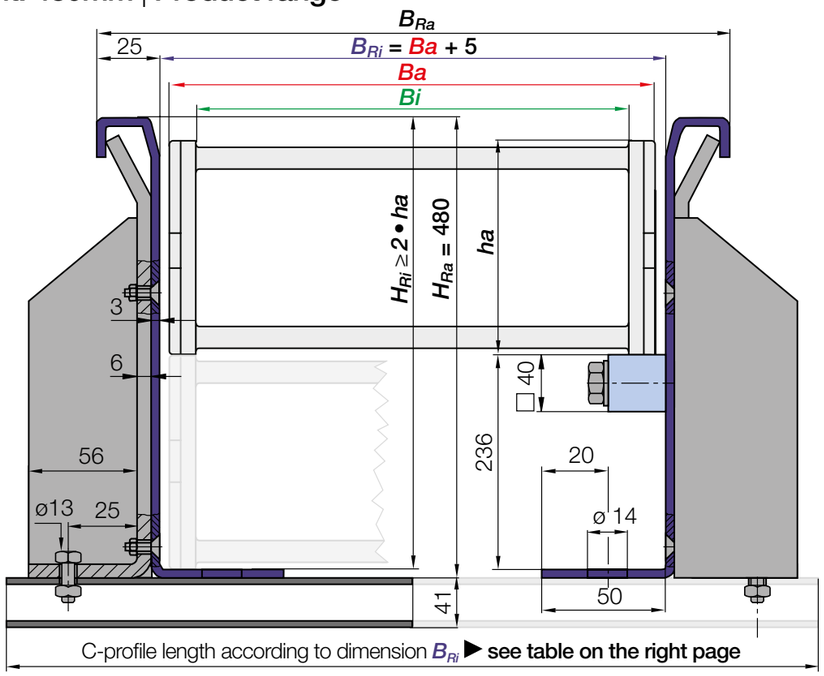
E4.1

- 800
- 840



Option: with reinforced mounting angles for extremely demanding heavy-duty applications

Note: The inner width of the guide through and the C-profile length of the installation set can differ according to the mounting bracket you choose. Please call us.



C-profile length according to dimension B_{Ri} ▶ **see table on the right page**

Steel guide trough | Full set

Trough side parts sets	Part No.	Weight
1 set of 2 trough side parts, **without** glide bars, 2m section	**90.30.E**[1] **/ E44**[2] **/ E45**[3]	≈ 53.40kg
1 set of 2 trough side parts, **with** glide bars, bolted, 2m section	**90.31.E**[1] **/ E44**[2] **/ E45**[3]	≈ 59.40kg
Installation sets	**Part No.**	**Weight**
1 installation set **without** C-profile	**90.50**	≈ 0.41kg
1 installation set **with** C-profile (C-profile length according to dimension B_{Ri})	**90.50.XXX***	upon request

*Please add the C-profile length XXX as shown on the tables on the right page. Example: **90.50.450**

Steel guide trough | Components as individual parts

Individual parts, trough	Part No.	Weight
1 trough side part, individual, 2m section	**90.11.E**[1] **/ E44**[2] **/ E45**[3]	≈ 26.70kg
1 glide bar, plastic, individual, 2m section	**90.01**	≈ 1.68kg
1 glide bar, individual, 2m section + 11 screw sets	**90.20**	≈ 2.22kg
1 package with 11 screw sets (for glide bar, 2m section)	**90.21**	≈ 0.54kg
Individual parts, installation set	**Part No.**	**Weight**
1 clamping bracket, individual	**90.51**	≈ 0.52kg
1 countersunk-head screw, individual	**MAT0040014 / M8 x 25**	
1 hexagon nut, individual	**MAT0040012 / M8**	
1 hexagon-head screw, individual	**MAT0040384 / M12 x 30**	
1 glide nut, individual	**MAT0040385 / M12**	
1 C-profile, individual (C-profile length according to dimension B_{Ri})	**IE70.41-41.XXX*.E**[1]	≈ 0.90kg/m
Additional option for simple fixing of the e-chain® without drilling	**Part No.**	
1 set fixed end module (more information ▶ **Page 1240**)	**90.80.01****	≈ 53.40kg

*Please add the C-profile length XXX as shown on the tables on the right page. Example: **IE70.41-41.450.E**

1) Trough side parts + C-profile - also available in 304 stainless steel, material 1.4301 (AISI 304). Please add index **E** to the Part No.

2) Trough side parts - also available in 316 stainless steel, material 1.4404 (AISI 316L). Please add index **E44** to the Part No.

3) Trough side parts - also available in 316 stainless steel, material 1.4571 (AISI 316Ti). Please add index **E45** to the Part No.

**Fixed end module available upon request. Please consult igus® for delivery time.

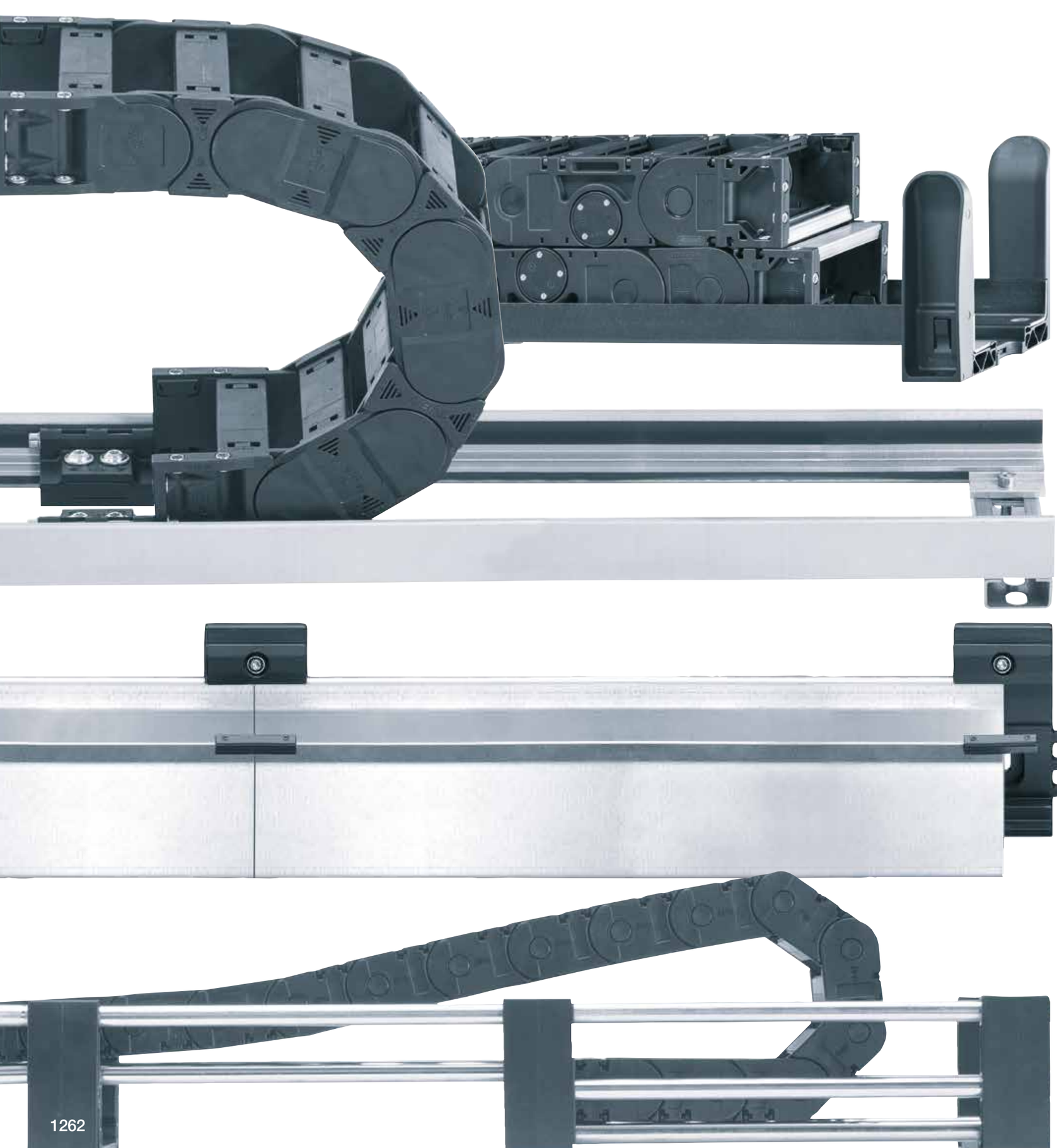
Steel guide trough | C-profile lengths

C-profile length according to dimension B_{Ri}

800			840		
Width index	B_{Ri} [mm]	Part No. Installation set	Width index	B_{Ri} [mm]	Part No. Installation set
.20	265	90.50.450	.13	165	90.50.350
.25	315	90.50.500	.15	178	90.50.350
.30	365	90.50.550	.16	190	90.50.375
.32	390	90.50.575	.17	203	90.50.375
.35	415	90.50.600	.18	215	90.50.400
.40	465	90.50.650	.20	228	90.50.400
.45	515	90.50.700	.21	240	90.50.425
.50	565	90.50.750	.22	253	90.50.425
.55	615	90.50.800	.23	265	90.50.450
.60	665	90.50.850	.25	278	90.50.450
			.26	290	90.50.475
			.27	303	90.50.475
			.28	315	90.50.500
			.30	328	90.50.500
			.31	340	90.50.525
			.32	353	90.50.525
			.33	365	90.50.550
			.35	378	90.50.550
			.36	390	90.50.575
			.37	403	90.50.575
			.38	415	90.50.600
			.40	428	90.50.600
			.41	440	90.50.625
			.42	453	90.50.625
			.43	465	90.50.650
			.45	478	90.50.650
			.46	490	90.50.675
			.47	503	90.50.675
			.48	515	90.50.700
			.50	528	90.50.700
			.51	540	90.50.725
			.52	553	90.50.725
			.53	565	90.50.750
			.55	578	90.50.750
			.60	628	90.50.800

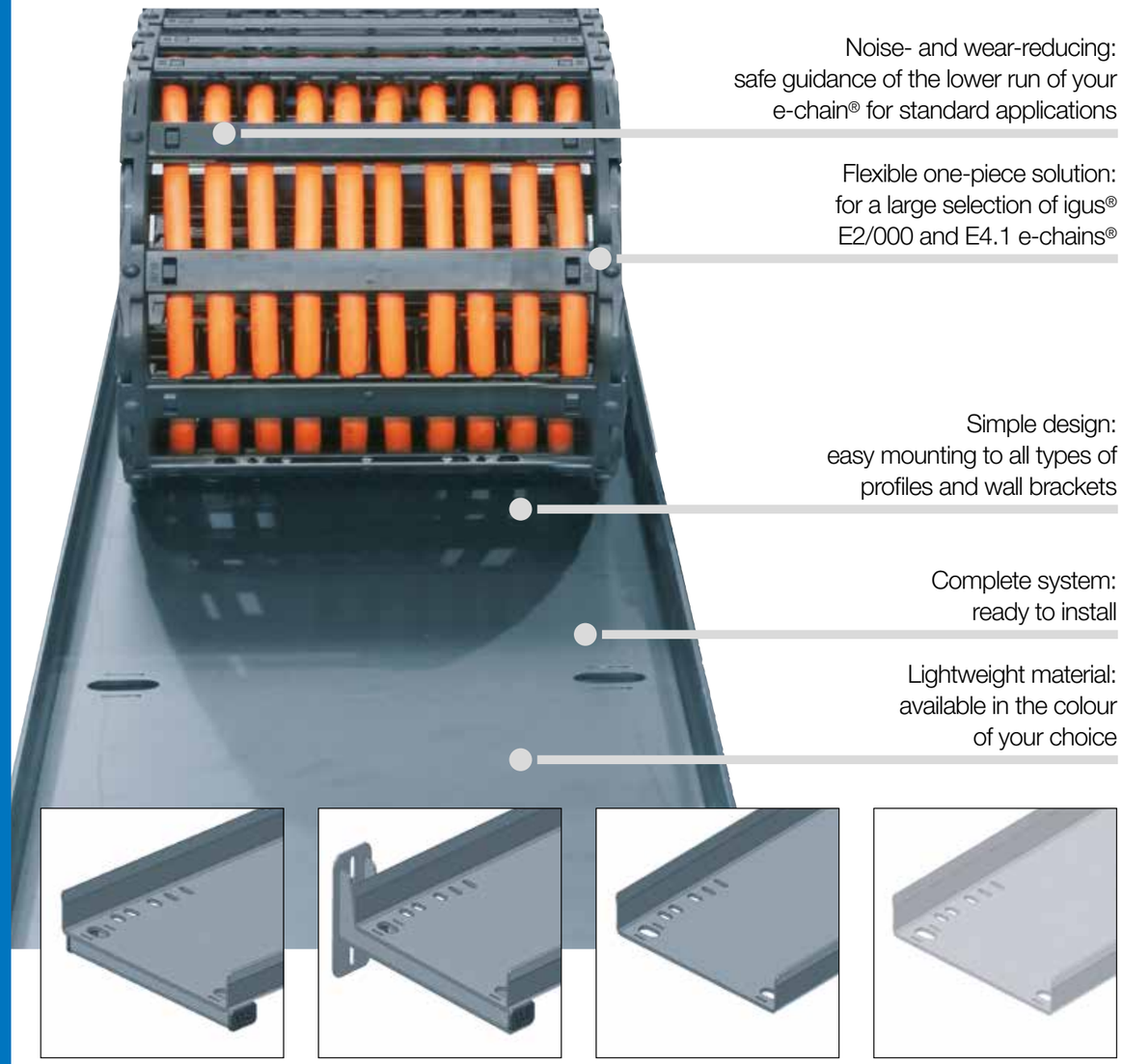


Assembly of an E4 e-chain® series 800 in a steel guide trough



Other guide trough systems

Steel support tray |
Aluminium support tray |
guidefast | guidelite |
Tubular trough |
Snap-in trough |



Noise- and wear-reducing:
safe guidance of the lower run of your e-chain® for standard applications

Flexible one-piece solution:
for a large selection of igus® E2/000 and E4.1 e-chains®

Simple design:
easy mounting to all types of profiles and wall brackets

Complete system:
ready to install

Lightweight material:
available in the colour of your choice

Option 01 -
with connection rail

Option 02 -
with wall bracket

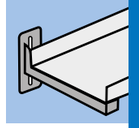
Option 03 -
without rail (upon request)

Option 04 -
customised (upon request)

For easy support of the lower run - steel support tray

Simple one-piece steel support trays for the e-chain® lower run to your requirements and specification. Your width, height and colour - we supply the fitting e-chain®, together with the support tray system, ready to install onto your machine or application. Save time on procurement and design.

- Complete system, ready to install
- Avoids costly custom designs
- Easy installation onto your machine, on profiles or wall brackets
- igus® steel support tray - available in 2 types and 4 options
- Available from stock for many e-chain® widths



Series Part No.	e-chains® *Bi* [mm]*	B_{Ra} [mm]	B_{Ri} [mm]	Material	Page
	**Type 01 for series:** ● E2.26 ● E2.38 ● 2400/2450/2480/2500 ● 2600/2650/2680/2700 ● E4.21 ● E4.28/R4.28 ● E4.31L/R4.31L ● E4.32/H4.32/R4.32 ● E4.38L/R4.38L ● EF61.29/E61.29 ● E6.29/R6.29 ● E61.35 ● E6.35 ● E61.40 ● E6.40/R6.40				
S9.010/011.05.XXXX.0	.05 / .050	89	80	steel, black	1266
S9.010/011.07.XXXX.0	.07 / .070	114	105	steel, black	1266
S9.010/011.10.XXXX.0	.10 / .100	139	130	steel, black	1266
S9.010/011.15.XXXX.0	.15 / .150	185	175	steel, black	1266
	**Type 02 for series:** ● E2.48 ● 3400/3450/3480/3500 ● E4.48L/R4.48L ● E4.64L ● E4.42/H4.42/R4.42 ● E4.56/H4.56/R4.56 ● E4.80/H4.80/R4.80 ● 14040/14140/R18840 ● 14240/14340 ● 14550/14650/19050 ● 15050/15150/R19850 ● 15250/15350 ● E61.52 ● E6.52/R6.52 ● E61.62 ● E6.62 ● E61.80 ● E6.80				
S9.020/021.10.XXXX.0	.10 / .100	167	156	steel, black	1268
S9.020/021.15.XXXX.0	.15 / .150	217	206	steel, black	1268
S9.020/021.20.XXXX.0	.20 / .200	267	256	steel, black	1268
S9.020/021.25.XXXX.0	.25 / .250	317	306	steel, black	1268

**Bi* depends on width-index

Available from stock. Ready to ship in 24 - 48hrs.*

*The delivery times indicated correspond to the average time until the ordered goods are dispatched.



Steel support tray with wall bracket for easy attachment to your application

Steel support tray | Type 01 | Product range

Standard length from stock 1m and 2m

For the following igus® series

E2.1
- E2.26
- E2.38

E2/000
- 2400/2450/2480/2500
- 2600/2650/2680/2700

E4.1L
- E4.31L/R4.31L
- E4.38L/R4.38L

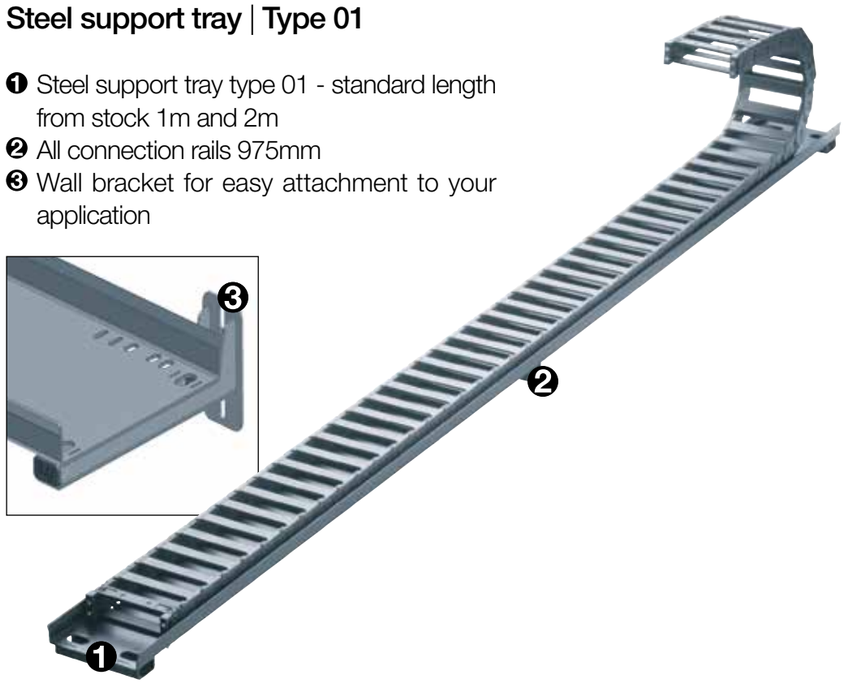
E4.1
- E4.21
- E4.28/R4.28
- E4.32/H4.32/R4.32

E6.1
- EF61.29/E61.29
- E61.35
- E61.40

E6
- E6.29/R6.29
- E6.35
- E6.40/R6.40

Steel support tray | Type 01

❶ Steel support tray type 01 - standard length from stock 1m and 2m
❷ All connection rails 975mm
❸ Wall bracket for easy attachment to your application



Type 01 | Series S9.010. | S9.011. | Product range

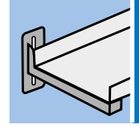
For system	Suitable for the following series	Width index	B_{Ra} [mm]	B_{Ri} [mm]	Part No. support tray, single	Part No. with wall bracket	Part No. wall bracket, single
E2.1 **E2/000**	E2.26 2400/2450/2480/2500	.05.	89	80	S9.010.05.XXXX.0	S9.011.05.XXXX.0	907.724.05.0
		.07.	114	105	S9.010.07.XXXX.0	S9.011.07.XXXX.0	907.724.07.0
		.10.	139	130	S9.010.10.XXXX.0	S9.011.10.XXXX.0	907.724.10.0
E2.1 **E2/000** **E4.1L** **E4.1**	E2.38 2600/2650/2680/2700 E4.38L/R4.38L E4.32/H4.32/R4.32	.05.	89	80	S9.010.05.XXXX.0	S9.011.05.XXXX.0	907.724.05.0
		.07.	114	105	S9.010.07.XXXX.0	S9.011.07.XXXX.0	907.724.07.0
		.10.	139	130	S9.010.10.XXXX.0	S9.011.10.XXXX.0	907.724.10.0
		.15.	185	175	S9.010.15.XXXX.0	S9.011.15.XXXX.0	907.724.15.0
E4.1 **E6.1** **E6** **E6** **E6.1**	E4.21 EF61.29/E61.29 E6.29/R6.29 E6.35 E61.35	.050.	89	80	S9.010.05.XXXX.0	S9.011.05.XXXX.0	907.724.05.0
		.070.	114	105	S9.010.07.XXXX.0	S9.011.07.XXXX.0	907.724.07.0
		.100.	139	130	S9.010.10.XXXX.0	S9.011.10.XXXX.0	907.724.10.0
E4.1L **E4.1** **E6** **E6.1**	E4.31L/R4.31L E4.28/R4.28 E6.40/R6.40 E61.40	.050.	89	80	S9.010.05.XXXX.0	S9.011.05.XXXX.0	907.724.05.0
		.070.	114	105	S9.010.07.XXXX.0	S9.011.07.XXXX.0	907.724.07.0
		.100.	139	130	S9.010.10.XXXX.0	S9.011.10.XXXX.0	907.724.10.0
		.150.	185	175	S9.010.15.XXXX.0	S9.011.15.XXXX.0	907.724.15.0

Please replace XXXX by the standard lengths 1,000 or 2,000mm available from stock

The lengths and widths mentioned here are available from stock in the standard black colour.

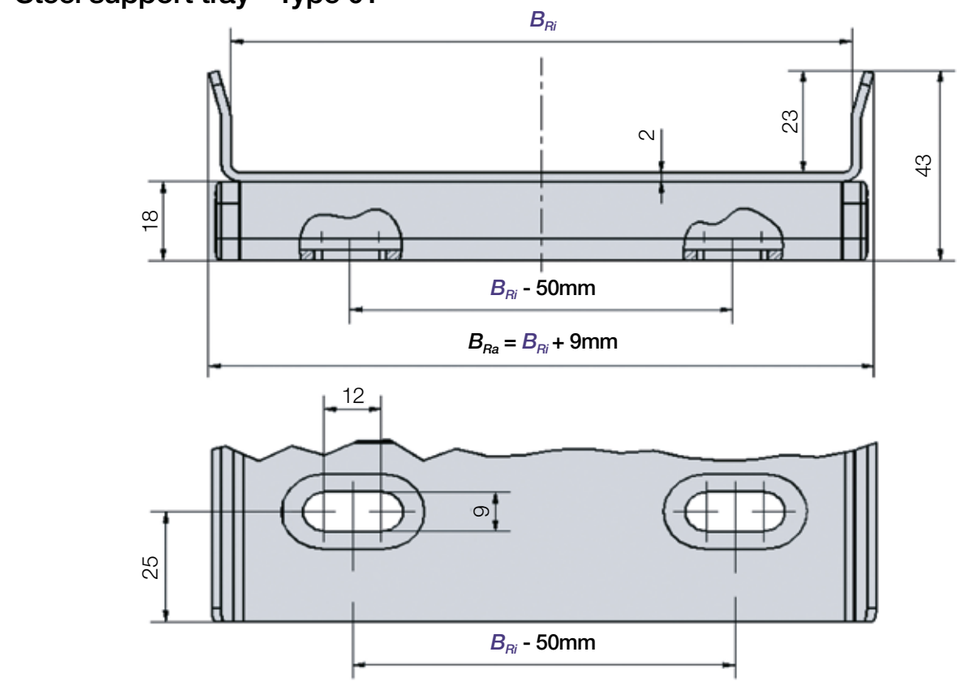
For other lengths, widths and colours, please contact us.

Steel support tray | Type 01 | Installation dimensions



Installation dimensions and mounting holes

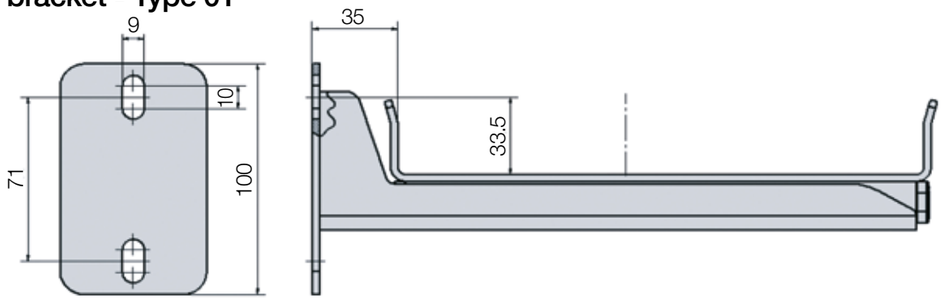
Steel support tray - Type 01



Standard lengths from stock 1m and 2m - all connection rails 975mm



Wall bracket - Type 01



Order key

S9.010.07.1000.0

For standard length of 1m
- Steel support tray
- Without wall bracket
- Width e-chain®
- Length 1,000mm
- Colour, powdered black

Order key

S9.011.15.2000.0

For standard length of 2m
- Steel support tray
- With wall bracket
- Width e-chain®
- Length 2,000mm
- Colour, powdered black

Steel support tray | Type 02 | Product range

Standard length from stock 1m and 2m

For the following igus® series

E2.1
- E2.48

E2/000
- 3400/3450/3480/3500

E4.1L
- E4.48L/R4.48L
- E4.64L

E4.1
- E4.42/H4.42/R4.42
- E4.56/H4.56/R4.56
- E4.80/H4.80/R4.80

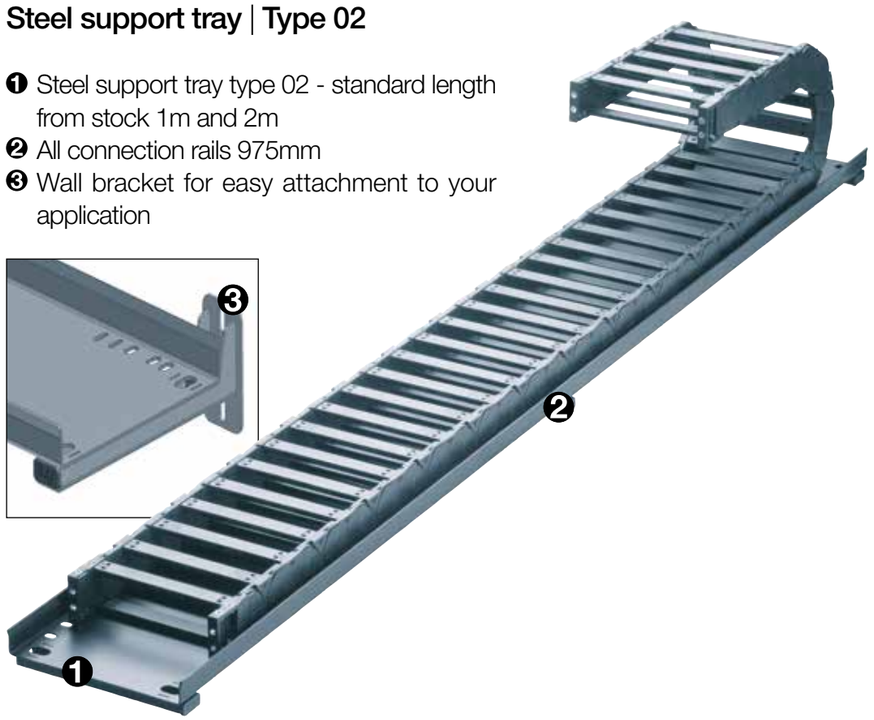
E4/light
- 14040/14140/R18840
- 14240/14340
- 14550/14650/19050
- 15050/15150/R19850
- 15250/15350

E6.1
- E61.56
- E61.62
- E61.80

E6
- E6.56
- E6.62
- E6.80

Steel support tray | Type 02

❶ Steel support tray type 02 - standard length from stock 1m and 2m
❷ All connection rails 975mm
❸ Wall bracket for easy attachment to your application



Type 02 | Series S9.020. | S9.021. | Product range

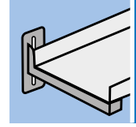
For system	Suitable for the following series	Width index	B_{Ra} [mm]	B_{Ri} [mm]	Part No. support tray, single	Part No. with wall bracket	Part No. wall bracket, single
		.10.	167	156	S9.020.10.XXXX.0	S9.021.10.XXXX.0	907.759.010.0
E4.1L	E4.48L/R4.48L	.15.	217	206	S9.020.15.XXXX.0	S9.021.15.XXXX.0	907.759.015.0
E4.1L	E4.64L	.20.	267	256	S9.020.20.XXXX.0	S9.021.20.XXXX.0	907.759.020.0
E4.1	E4.42/H4.42/R4.42	.25.	317	306	S9.020.25.XXXX.0	S9.021.25.XXXX.0	907.759.025.0
E4.1	E4.56/H4.56/R4.56						
E4.1	E4.80/H4.80/R4.80						
E4/light	14040/14140/R18840						
E4/light	14240/14340						
E4/light	14550/14650/19050						
E4/light	15050/15150/R19850						
E4	15250/15350						
E6.1	E61.62						
E6.1	E61.80						
E6	E6.62						
E6	E6.80						
		.100.	167	156	S9.020.10.XXXX.0	S9.021.10.XXXX.0	907.759.010.0
E2.1	E2.48	.150.	217	206	S9.020.15.XXXX.0	S9.021.15.XXXX.0	907.759.015.0
E2/000	3400/3450/3480/3500	.200.	267	256	S9.020.20.XXXX.0	S9.021.20.XXXX.0	907.759.020.0
E6	E6.52/R6.52	.250.	317	306	S9.020.25.XXXX.0	S9.021.25.XXXX.0	907.759.025.0

Please replace XXXX by the standard lengths 1,000 or 2,000mm available from stock

The lengths and widths mentioned here are available from stock in the standard black colour.

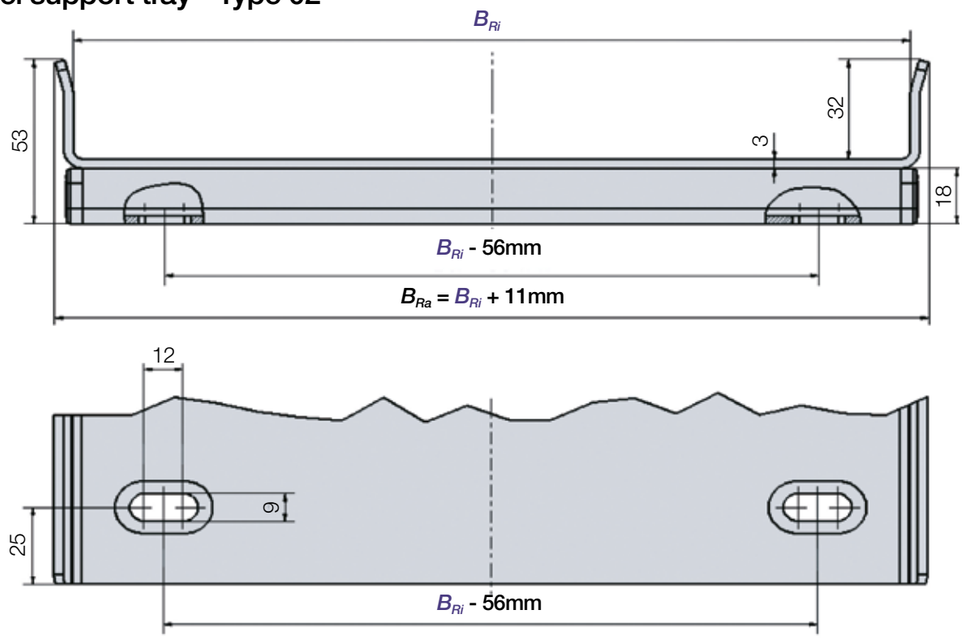
For other lengths, widths and colours, please contact us.

Steel support tray | Type 02 | Installation dimensions

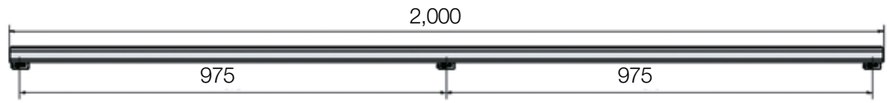


Installation dimensions and mounting holes

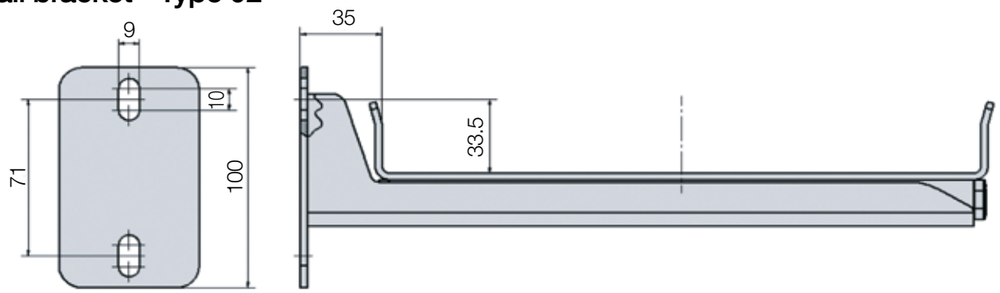
Steel support tray - Type 02



Standard lengths from stock 1m and 2m - all connection rails 975mm



Wall bracket - Type 02



Order key

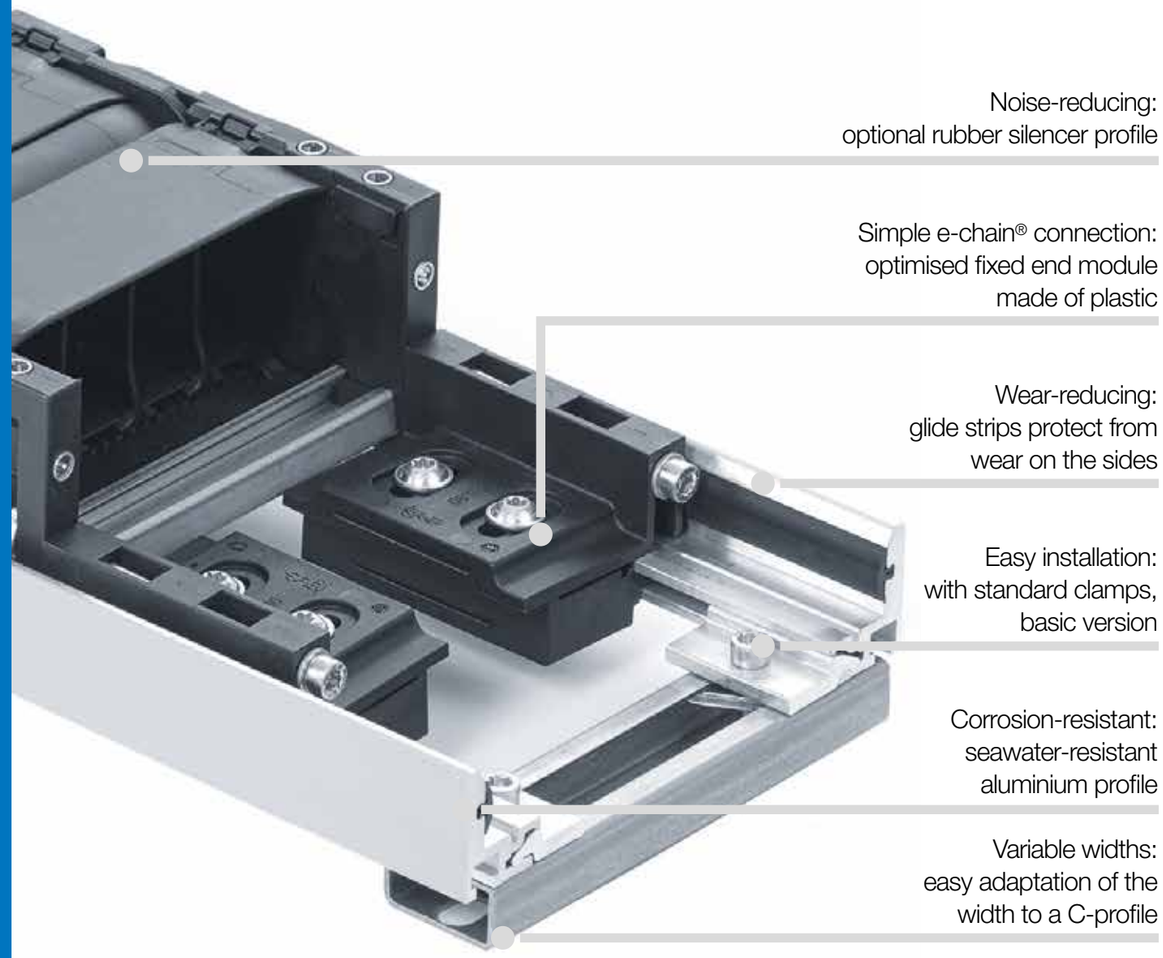
S9.020.20.1000.0

For standard length of 1m
- Steel support tray
- Without wall bracket
- Width e-chain®
- Length 1,000mm
- Colour, powdered black

Order key

S9.021.20.2000.0

For standard length of 2m
- Steel support tray
- With wall brackets
- Width e-chain®
- Length 2,000mm
- Colour, powdered black



The flexible construction kit to support the lower run - aluminium support tray

The design of this aluminium support tray emulates the igus® aluminium SuperTrough. This modular construction kit covers the standard sizes of our e-chains®. Because of its flexible width adjustment using installation sets with C-profiles, the aluminium support tray is used with various e-chains® series and widths. A support trough consists of 2 trough side pieces with 2m length. Standard installation sets can be used, just as for the aluminium SuperTrough.

- Corrosion-resistant, seawater-resistant aluminium profile
- Wear-reducing glide strips integrated as standard
- Quiet movement of the e-chain® with optional silencer profile
- Simple assembly on flexible width C-profiles with basic clamps
- e-chain® easily connects to aluminium support tray using plastic fixed end modules
- Open guide trough design, debris can fall through
- Conductivity according to DIN EN 61537 - as standard

Part No. **without** silencer profile	Part No. **with** silencer profile	Outer height H_{Ra} [mm]	Part No. installation set	Side part material	Page
					
9AT.35.SL	**9AT.35.SLA**	35	960AT.30.**XXX***	aluminium	**1270**

Aluminium support tray
available with and without silencer profile

For the following systems:
● E2.1 ● E2/000 ● R2.1 ● E4.1L ● E4.1 ● E6.1 ● E6

*XXX = C-profile length

Available from stock. Ready to ship in 24 - 48hrs.*
*The delivery times indicated correspond to the average time until the ordered goods are dispatched.



An aluminium support tray consists of two 2 trough side pieces each with 2m long

Aluminium support tray | Individual parts

Components, guide troughs and components, mounting kits

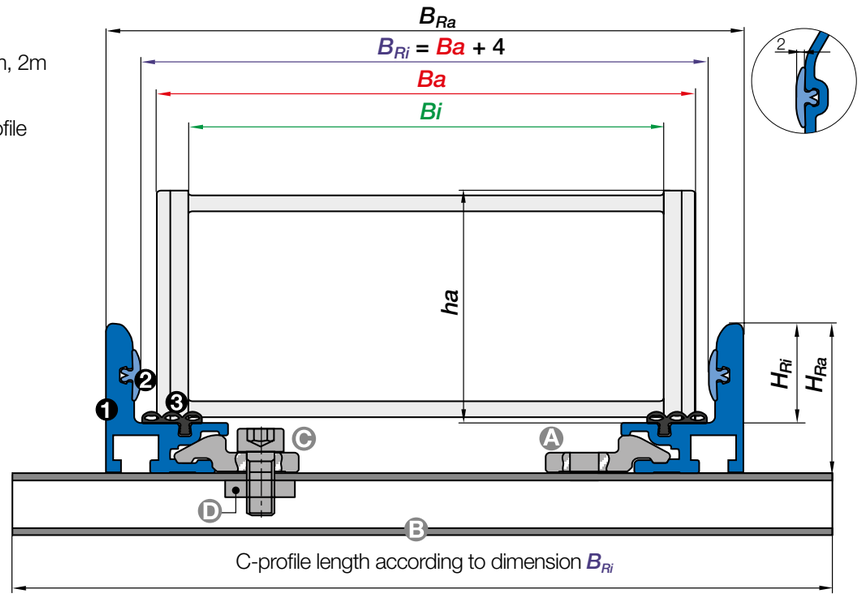
Components

❶ Trough side parts, aluminium, 2m
❷ Glide strip, plastic, 2m
❸ Optional: rubber silencer profile

Components, installation set

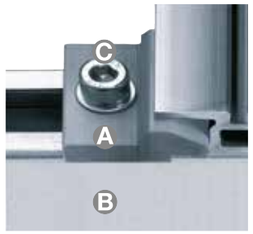
Ⓐ Bottom clamp, aluminium
Ⓑ C-profile[1)], galvanised steel
Ⓒ Allen wrench
Ⓓ Sliding nut

Ba = e-chain® outer width
Bi = e-chain® inner width
ha = e-chain® outer height
H_{Ri} = Trough inner height
H_{Ra} = Trough outer height
B_{Ri} = Trough inner width
B_{Ra} = Trough outer width

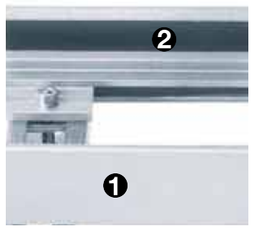


1) C-profile also available in 304 stainless steel. Material 1.4301 (AISI 304)

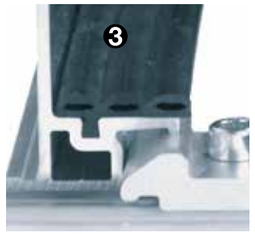
Aluminium support tray | Features



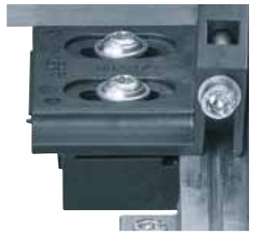
Simple fastening with basic bottom clamp and C-profile



Wear-reducing glide strips



Noise-reducing with silencer profile option



Simple connection to the e-chain® with the fixed end module

Order example| Based on Part No. 9AT.35.SLA

Order key guide trough 9AT.35.SLA

Trough system
Aluminium support tray
Outer height
With glide strip
With silencer profile

Order key installation set 960AT.30.125

Installation set
Size of bottom clamp
Length of C-profile

Aluminium support tray | Fixed end module

Quick and simple fixing onto the aluminium support tray

Fixed end module - to attach the e-chain® into the aluminium support tray

- Mounting bracket attachment on the aluminium support tray without drilling
- Fixed end module is clamped to the trough
- Save installation time
- Minimise errors from drilling holes
- Stainless and cost-effective



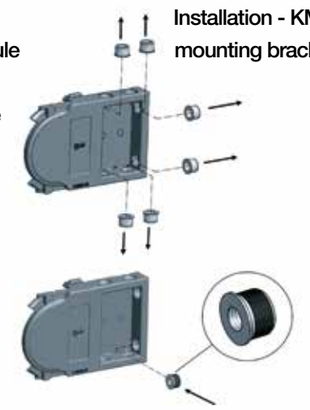


Installation - fixed end module

❶ Removing the preassembled metal bushings

❷ Insert the threaded bushings

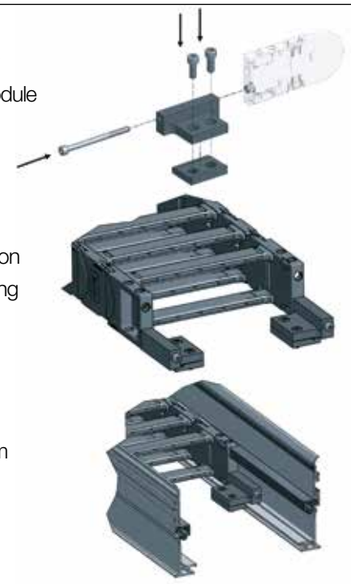
Installation - KMA mounting bracket



❸ Installation fixed end module

❹ Mounting on KMA mounting bracket

❺ Fixing on the aluminium support tray



Fixed end module | Fixed end clamp | Product range

Series Part No.	For aluminium support tray	For e-chain® series	From inner width *Bi* [mm]	Mounting bracket
971.80.4[1)]	9AT.35.SL | 9AT.35.SLA	E2.26, 2400/2500/2450/2480, E6.29, EF61.29/E61.29	.07	KMA
972.80.4[1)]	9AT.35.SL | 9AT.35.SLA	E4.28/R4.28, E4.31L/R4.31L, E6.35, E61.35	.06	KMA
972.80.4[1)]	9AT.35.SL | 9AT.35.SLA	E4.32/H4.32/R4.32, E4.38L/R4.38L, E6.40/R6.40, E61.40	.06	KMA
972.80.4[1)]	9AT.35.SL | 9AT.35.SLA	2600/2700/2650/2680	.06	KMA

More series available upon request

1) Material: plastic. Material screw kits: standard steel, galvanised. Option: 316 stainless steel, material 1.4571 (AISI 316Ti), standard steel, galvanised.

Available from stock. Ready to ship in 24 - 48hrs.*

*The delivery times indicated correspond to the average time until the ordered goods are dispatched.

Aluminium support tray | 9AT.35.SL | 9AT.35.SLA

Trough height: 35mm | Product range

For the following igus® series

E2.1
- E2.26

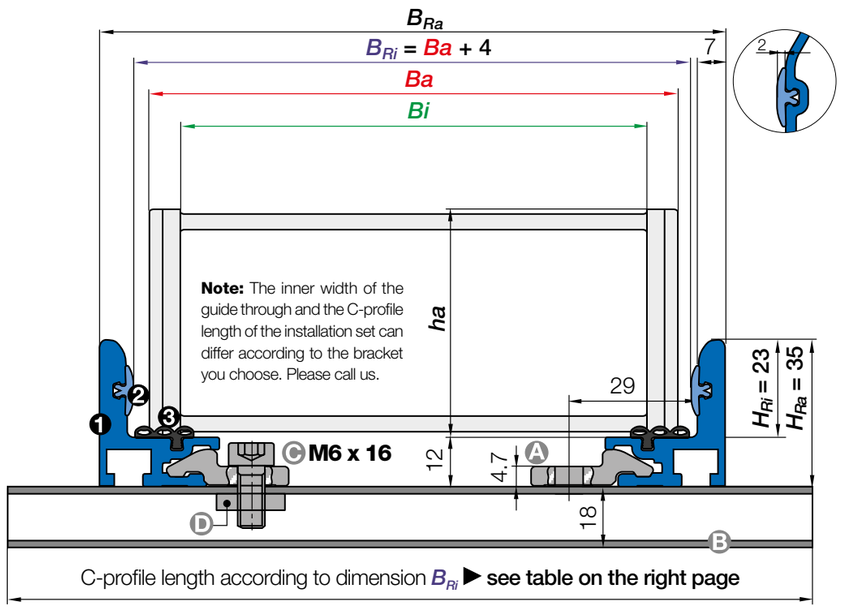
E2/000
- 2400/2500/2450/2480
- 2600/2700/2650/2680

E4.1L
- E4.31L/R4.31L
- E4.38L/R4.38L

E4.1
- E4.28/R4.28
- E4.32/H4.32/R4.32

E6.1
- EF61.29/E61.29
- E61.35
- E61.40

E6
- E6.29
- E6.35
- E6.40/R6.40



Aluminium support tray | Full set

Trough side parts sets - consisting of part ❶ | ❷ | ❸	Part No.	Weight
1 set of 2 trough side parts, incl. glide strips, **without** silencer profile, 2m section	9AT.35.SL	≈ 3.470kg
1 set of 2 trough side parts, incl. glide strips, **with** silencer profile, 2m section	9AT.35.SLA	≈ 3.714kg

Installation sets Ⓐ | Ⓑ | Ⓒ | Ⓓ	Part No.	Weight
1 installation set **without** C-profile	960.30	upon request
1 installation set **with** C-profile (C-profile length according to dimension B_{Ri})	960AT.30.XXX*	upon request

*Please add the C-profile length XXX as shown on the tables on the right page. Example: **960AT.30.150**

Aluminium support tray | Components as individual parts

Individual parts, trough	Part No.	Weight
❶ 1 trough side part, individual, 2m section	9AT.35.11	≈ 1.673kg
❷ 1 glide strip, plastic, individual, 2m section	75.01	≈ 0.062kg
❸ 1 silencer profile, rubber, individual, 2m section (optional for an additional noise dampening)	75.67.H.2000	≈ 0.122kg
Individual parts, installation set	**Part No.**	**Weight**
Ⓐ 1 bottom clamp, aluminium individual	75.40	≈ 0.03kg
Ⓑ 1 C-profile, individual (C-profile length according to dimension B_{Ri})	92.52.XXX.E*	≈ 0.90kg/m
Ⓒ 1 screw M6 x 16, individual	MAT 0040209 / M6 x16	
Ⓓ 1 glide nut, individual	MAT 0040057 / M6	
Additional option for simple fastening of the e-chain® without drilling	**Part No.**	
1 set fixed end module (more information ▶ **Page 1273**)	971.80.4 / 972.80.4	

*Please add the C-profile length XXX as shown on the tables on the right page. Example: **92.52.125.E**

C-profile also available in 304 stainless steel. Material 1.4301 (AISI 304). Please add index **E** to the Part No.

C-profile lengths

For aluminium support tray with fixed end module

(depending to dimension B_{Ri}), bottom clamp attached inwards

E2.26

Width index	B_{Ri} [mm]	Part No. attached inwards
.07	97	960AT.30.150
.09	109	960AT.30.175
.10	123	960AT.30.175
.12	145	960AT.30.200

2400/250/2450/2480

Width index	B_{Ri} [mm]	Part No. attached inwards
.07	97	960AT.30.150
.09	109	960AT.30.175
.10	123	960AT.30.175
.12	145	960AT.30.200

2600/2700/2650/2680

Width index	B_{Ri} [mm]	Part No. attached inwards
.06	85	960AT.30.150
.07	95	960AT.30.150
.09	110	960AT.30.175
.10	120	960AT.30.175
.12	145	960AT.30.200
.15	170	960AT.30.225
.17	198	960AT.30.250

E4.31L/R4.31L

Width index	B_{Ri} [mm]	Part No. attached inwards
.062	80	960AT.30.150
.075	93	960AT.30.150
.087	105	960AT.30.175
.100	118	960AT.30.175
.112	130	960AT.30.200
.125	143	960AT.30.200
.137	155	960AT.30.225
.150	168	960AT.30.225
.162	180	960AT.30.250
.175	193	960AT.30.250
.187	205	960AT.30.275
.200	218	960AT.30.275

E4.28/R4.28

Width index	B_{Ri} [mm]	Part No. attached inwards
.062	86	960AT.30.150
.070	94	960AT.30.150
.075	99	960AT.30.150
.087	111	960AT.30.175
.100	124	960AT.30.175
.125	149	960AT.30.200
.150	174	960AT.30.225
.175	199	960AT.30.250
.200	224	960AT.30.275
.225	249	960AT.30.300
.250	274	960AT.30.325
.275	299	960AT.30.350
.300	324	960AT.30.375

EF61.29/E61.29

Width index	B_{Ri} [mm]	Part No. attached inwards
.070	90	960AT.30.150
.080	100	960AT.30.150
.090	110	960AT.30.175
.100	120	960AT.30.175
.110	130	960AT.30.200
.120	140	960AT.30.200

E61.35

Width index	B_{Ri} [mm]	Part No. attached inwards
.060	84	960AT.30.150
.070	94	960AT.30.150
.080	104	960AT.30.150
.090	114	960AT.30.175
.100	124	960AT.30.175
.110	134	960AT.30.200
.120	144	960AT.30.200

E61.40

Width index	B_{Ri} [mm]	Part No. attached inwards
.062	86	960AT.30.150
.070	94	960AT.30.150
.075	99	960AT.30.150
.087	111	960AT.30.175
.100	124	960AT.30.175
.125	149	960AT.30.200
.150	174	960AT.30.225
.175	199	960AT.30.250
.200	224	960AT.30.275
.225	249	960AT.30.300
.250	274	960AT.30.325
.275	299	960AT.30.350
.300	324	960AT.30.375

E4.38L/R4.38L

Width index	B_{Ri} [mm]	Part No. attached inwards
062.	82	960AT.30.150
075.	95	960AT.30.150
087.	107	960AT.30.175
100.	120	960AT.30.175
105.	125	960AT.30.175
112.	132	960AT.30.200
125.	145	960AT.30.200
137.	157	960AT.30.225
150.	170	960AT.30.225
162.	182	960AT.30.250
175.	195	960AT.30.250
187.	207	960AT.30.275
200.	220	960AT.30.275
212.	232	960AT.30.300
225.	245	960AT.30.300
237.	257	960AT.30.325
250	270	960AT.30.325
262	282	960AT.30.325
275	295	960AT.30.350
287	307	960AT.30.350
300	320	960AT.30.375
312	332	960AT.30.375
325	345	960AT.30.400
337	357	960AT.30.400
350	370	960AT.30.425
362	382	960AT.30.450
375	395	960AT.30.450
387	407	960AT.30.450
400	420	960AT.30.475

E4.32/H4.32/R4.32

Width index	B_{Ri} [mm]	Part No. attached inwards
.06	95	960AT.30.150
.07	102	960AT.30.150
.087	114	960AT.30.175
.10	127	960AT.30.175
.11	135	960AT.30.200
.112	140	960AT.30.200
.12	152	960AT.30.200
.137	165	960AT.30.225
.15	177	960AT.30.225
.162	190	960AT.30.250
.17	195	960AT.30.250
.18	202	960AT.30.250
.187	215	960AT.30.275
.20	227	960AT.30.275
.212	240	960AT.30.300
.23	252	960AT.30.300
.237	265	960AT.30.325
.25	277	960AT.30.325
.262	290	960AT.30.350
.28	302	960AT.30.350
.29	315	960AT.30.375
.30	327	960AT.30.375
.312	340	960AT.30.400
.325	352	960AT.30.400
.337	365	960AT.30.425
.350	377	960AT.30.425
.362	390	960AT.30.450
.375	402	960AT.30.450
.387	415	960AT.30.475
.400	427	960AT.30.475

E6.29/R6.29

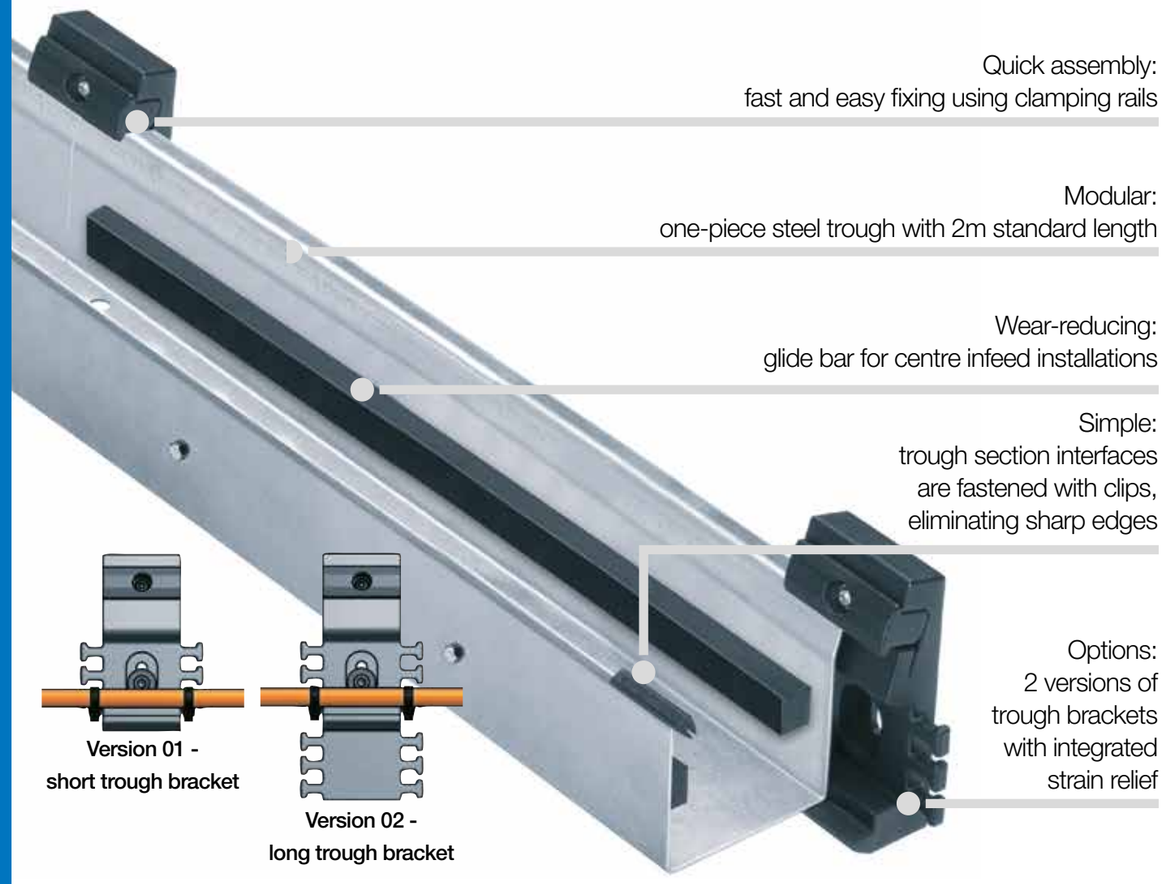
Width index	B_{Ri} [mm]	Part No. attached inwards
.070	90	960AT.30.150
.080	100	960AT.30.150
.090	110	960AT.30.175
.100	120	960AT.30.175
.110	130	960AT.30.200
.120	140	960AT.30.200

E6.35

Width index	B_{Ri} [mm]	Part No. attached inwards
.060	84	960AT.30.150
.070	94	960AT.30.150
.080	104	960AT.30.150
.090	114	960AT.30.175
.100	124	960AT.30.175
.110	134	960AT.30.200
.120	144	960AT.30.200

E6.40/R6.40

Width index	B_{Ri} [mm]	Part No. attached inwards
.062	86	960AT.30.150
.070	94	960AT.30.150
.075	99	960AT.30.150
.087	111	960AT.30.175
.100	124	960AT.30.175
.125	149	960AT.30.200
.150	174	960AT.30.225
.175	199	960AT.30.250
.200	224	960AT.30.275
.225	249	960AT.30.300
.250	274	960AT.30.325
.275	299	960AT.30.350
.300	324	960AT.30.375



Energy supply for crane girders and indoor cranes - guidefast

- The guidefast guide trough is mounted on the side of the crane girder so that welded brackets are not necessary
- Save up to 80% installation time compared to standard trough systems
- Cost-effective modular solution
- Fits virtually any standard crane girder
- 2 versions of brackets with integrated strain relief for static cable runs on the crane girder
- Suitable for any wall-mounted application - not only cranes
- Easy to install due to preassembled hole patterns of e-chain® brackets
- Standard material: galvanised steel,
- Optional: 304 stainless steel, material 1.4301 (AiSI 304) or black powder coated
- Conductivity according to DIN EN 61537: as standard with special connector
- Long-term tested to withstand vibration and tough environments

Typical industries and applications

● Crane manufacturers (mainly indoor cranes) ● Applications where wall-mounted installation of the guide trough is beneficial

Series Part No.	For e-chain® series *Bi* [mm]		*B_{Ri}* [mm]	Complete width [mm]	Material trough profile	Page
						
guidefast - without glide bar for the following series: ● E2.26 ● E2.38 ● 1500 ● 2500 ● 2700						
GF91.30.025.2000	–	1500.025.	42.5	81	galvanised steel*	**1279**
GF91.30.050.2000	–	1500.050.	67.5	106	galvanised steel*	**1279**
GF92.30.03. 2000	E2.26.038.	2500.03.	58	96.5	galvanised steel*	**1279**
GF92.30.05. 2000	E2.26.057.	2500.05.	77	115.5	galvanised steel*	**1279**
GF92.30.07. 2000	E2.26.077.	2500.07.	97	135.5	galvanised steel*	**1279**
GF92.30.09. 2000	–	2500.09.	109	145.5	galvanised steel*	**1279**
GF92.30.10. 2000	–	2500.10.	123	161.5	galvanised steel*	**1279**
GF95.30.05. 2000	E2.38.050.	2700.05.	70	108.5	galvanised steel*	**1279**
GF95.30.07. 2000	E2.38.075.	2700.07.	95	133.5	galvanised steel*	**1279**
GF95.30.10. 2000	E2.38.100.	2700.10.	120	158.5	galvanised steel*	**1279**
						
guidefast - with glide bar for the following series: ● E2.26 ● E2.38 ● 1500 ● 2500 ● 2700						
GF91.31.025.2000	–	1500.025.	42.5	81	galvanised steel*	**1279**
GF91.31.050.2000	–	1500.050.	67.5	106	galvanised steel*	**1279**
GF92.31.03. 2000	E2.26.038.	2500.03.	58	96.5	galvanised steel*	**1279**
GF92.31.05. 2000	E2.26.057.	2500.05.	77	115.5	galvanised steel*	**1279**
GF92.31.07. 2000	E2.26.077.	2500.07.	97	135.5	galvanised steel*	**1279**
GF92.31.09. 2000	–	2500.09.	109	145.5	galvanised steel*	**1279**
GF92.31.10. 2000	–	2500.10.	123	161.5	galvanised steel*	**1279**
GF95.31.05. 2000	E2.38.050.	2700.05.	70	108.5	galvanised steel*	**1279**
GF95.31.07. 2000	E2.38.075.	2700.07.	95	133.5	galvanised steel*	**1279**
GF95.31.10. 2000	E2.38.100.	2700.10.	120	158.5	galvanised steel*	**1279**

*Standard material: galvanised steel. Optional: 304 stainless steel, material 1.4301 (AiSI 304) or black powder coated

Available from stock. Ready to ship in 24 - 48hrs.*

*The delivery times indicated correspond to the average time until the ordered goods are dispatched.

guidefast guide trough | Individual parts

Standard length from stock 2m

For the following igus® series

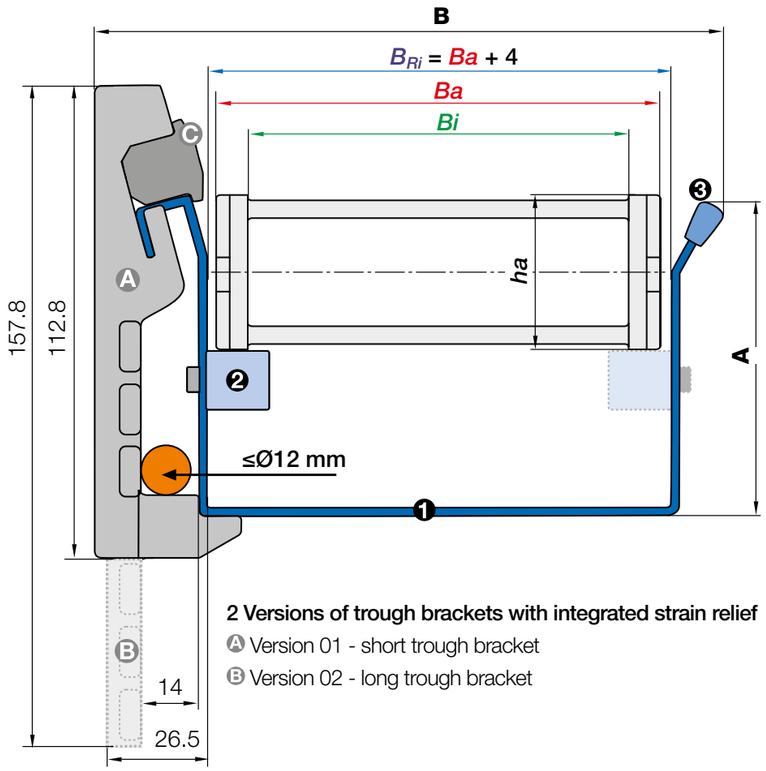
E2.1
- E2.26
- E2.38

E2/000
- 1500
- 2500
- 2700

Components, guidefast set
1. Trough profile, 2m section
2. Glide bar, polymer, 2m section, optional
3. Clip connector, Part No. 908.467
   (electrically conductive clip: 911.301.CD)

Components - trough bracket
- A Version 01 - short trough bracket
- B Version 02, long trough bracket
- C Clamping blocks, Part No. G9.2.10

Ba = e-chain® outer width
Bi = e-chain® inner width
ha = e-chain® outer height
B_{Ri} = Trough inner width



2 Versions of trough brackets with integrated strain relief
- A Version 01 - short trough bracket
- B Version 02 - long trough bracket



guidefast guide trough without glide bar, short trough bracket, standard length from stock 2m



guidefast guide trough with glide bar, short trough bracket, standard length from stock 2m

guidefast guide trough | Product range

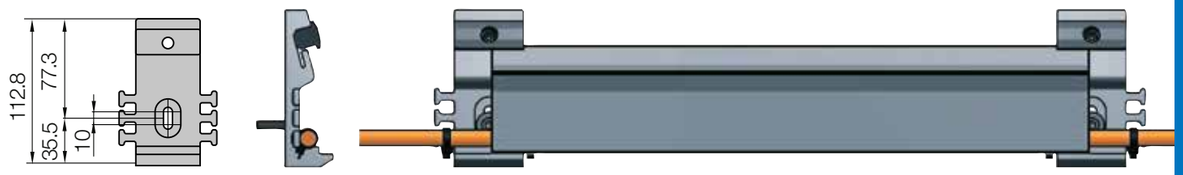
Trough profile | Product range| Installation dimensions

For e-chain® series		Trough profile **without** glide bar (set with clips)	Trough profile **with** glide bar (set with clips)	B_{Ri} [mm]	A [mm]	B [mm]
–	1500.025.	GF91.30.025.2000	GF91.31.025.2000	42.5	61	81
–	1500.050.	GF91.30.050.2000	GF91.31.050.2000	67.5	61	106
E2.26.038.	2500.03.	GF92.30.03. 2000	GF92.31.03. 2000	58	75	97
E2.26.057.	2500.05.	GF92.30.05. 2000	GF92.31.05. 2000	77	75	115.5
E2.26.077.	2500.07.	GF92.30.07. 2000	GF92.31.07. 2000	97	75	135.5
–	2500.09.	GF92.30.09. 2000	GF92.31.09. 2000	109	75	148
–	2500.10.	GF92.30.10. 2000	GF92.31.10. 2000	123	75	161.5
E2.38.050.	2700.05.	GF95.30.05. 2000	GF95.31.05. 2000	70	105	108.5
E2.38.075.	2700.07.	GF95.30.07. 2000	GF95.31.07. 2000	95	105	133.5
E2.38.100.	2700.10.	GF95.30.10. 2000	GF95.31.10. 2000	120	105	158.5

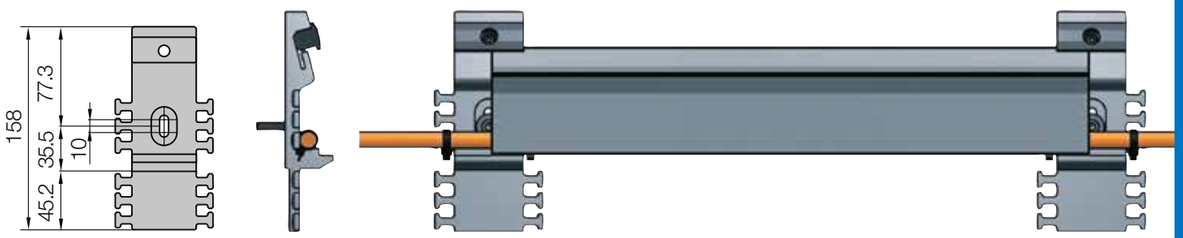
Standard material: galvanised steel. Optional: 304 stainless steel, material 1.4301 (AiSI 304) or black powder coated

Trough brackets with integrated strain relief | 2 versions | Product range | Installation dimensions

For Trough profile	guidefast trough bracket **short** version 01 (set with clamping blocks)	guidefast trough bracket **long** version 02 (set with clamping blocks)
GF91.XX.025.	GF9.2.12	GF9.2.11
GF91.XX.050.	GF9.2.12	GF9.2.11
GF92.XX.03.	GF9.2.12	GF9.2.11
GF92.XX.05.	GF9.2.12	GF9.2.11
GF92.XX.07.	GF9.2.12	GF9.2.11
GF92.XX.09.	GF9.2.12	GF9.2.11
GF92.XX.10.	GF9.2.12	GF9.2.11
GF95.XX.05.	GF9.2.12	GF9.2.11
GF95.XX.07.	GF9.2.12	GF9.2.11
GF95.XX.10.	GF9.2.12	GF9.2.11



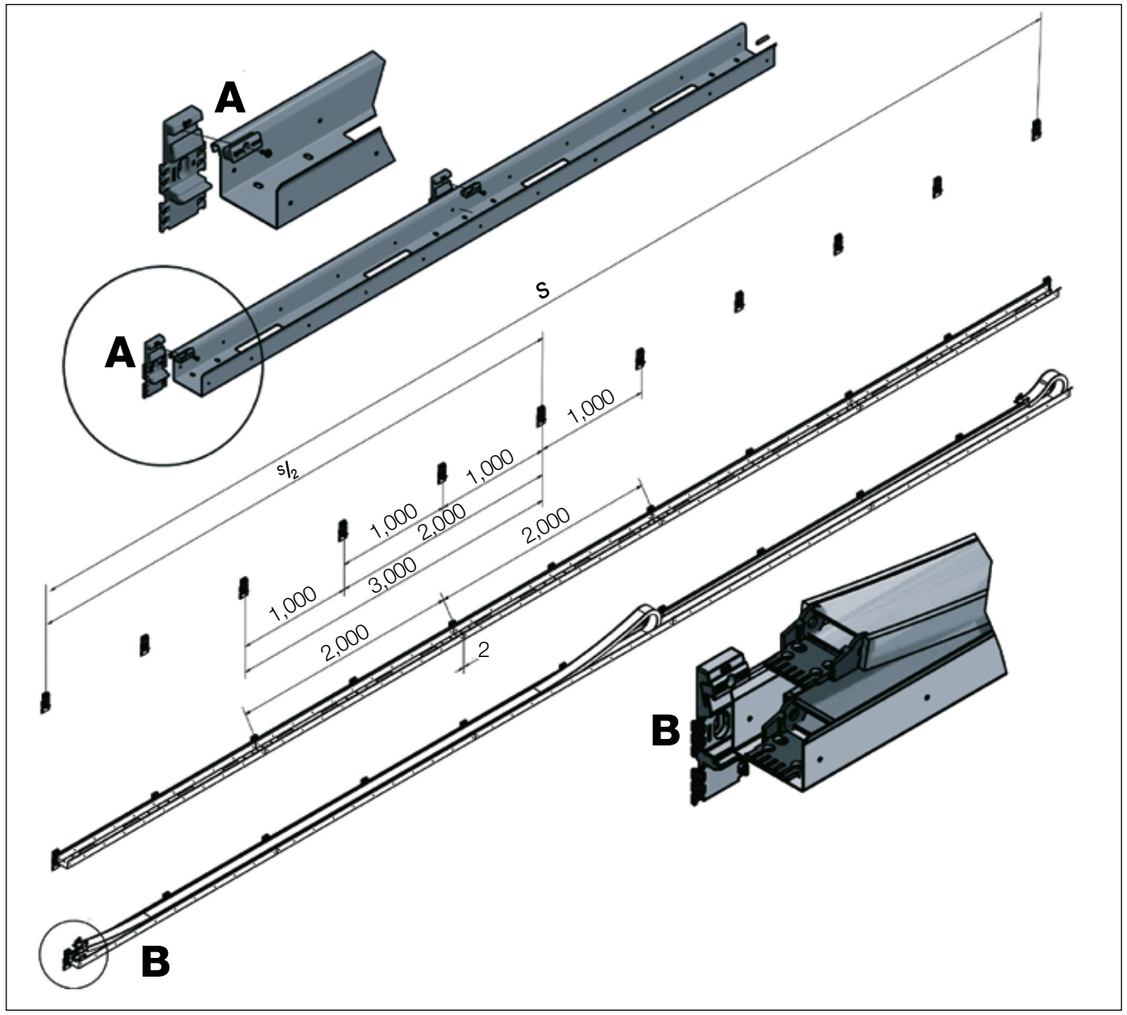
Version 01 - short trough bracket **Part No. GF9.2.12** with integrated strain relief, ± 5mm vertical adjustment (electrically conductive version: GF9.2.12.CD)



Version 02 - long trough bracket **Part No. GF9.2.11** with integrated strain relief, ± 5mm vertical adjustment (electrically conductive version: GF9.2.11.CD)

guidefast guide trough | Length calculation

Standard length from stock 2m



Order example for end infeed, travel ≈ 9.5m / guide trough 10m

Trough profile set **without** glide bar (incl. 5 clip connectors) **Order text:** 10m = 5 x 2m sections trough profile, without glide bar	GF92.30.07.2000
Trough brackets (incl. 11 clamping blocks, **"long"** Version 02) **Order text:** 11 x trough brackets	GF9.2.11

10m = 5 x 2m trough profile, without glide bar + 11 x trough brackets
10m = 5 x GF92.30.07.2000 + 11 x GF9.2.11

guidefast guide trough | Application



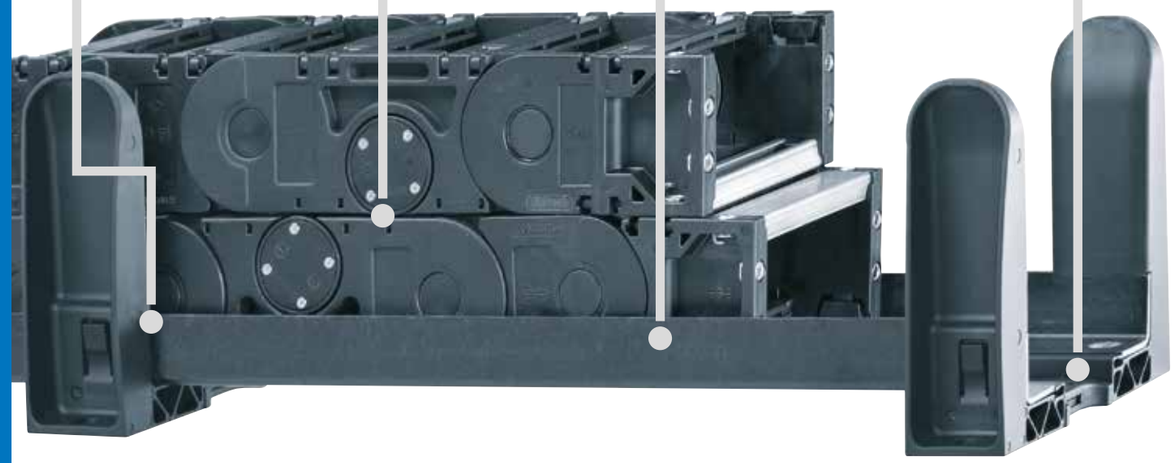
guidefast - easy attachment to the crane girder using welded bolts or nut/thread, here with version 2 long trough bracket

Corrosion-resistant: made completely from plastic components

Cost-effective: construction kit solution with e-chain®

Time saving: quick and easy assembly

2 installation set versions: 01) With spacer for a fixed width or with 02) C-profile for a larger range of widths



Long travels up to 150m, quick and cost-effective - igus® guidelite

A construction kit system primarily for slow applications with low cycle duty. The lower run of the igus® e-chain® is guided in two L-shaped guide rails made from Glass Fibre Reinforced Plastic (GFRP). The upper run of the e-chain® is partially guided by angle brackets that are installed at distances of one metre. One option to obtain the correct width is to install clip-on spacers (Version 01) between the retainers. This greatly simplifies the installation since no further adjustments are needed. Another option, which facilitates a greater range of widths, is to mount the guide angle brackets on a C-profile (Version 02).

- Time saving through fast assembly
- Very lightweight polymer components - quieter than troughs made from steel
- Cost-effective
- Corrosion-resistant
- Gliding application: max. speed 1m/s
- Unsupported application (guidelite as support tray): max. speed 5m/s (higher speeds can be attained. Please contact us for details)
- Construction kit solution, from stock

Typical industries and applications

● Irrigation and watering systems ● For applications with low duty cycles, low speed and fill weight ● As cost-effective support tray for unsupported applications

Series Part No.	For e-chain® series	Page
	**guidelite version 01 - installation set with spacer, standard** fixed width due to clip-on spacer, no adjustments needed	
9GL.64.50.450.XX	● E2.48 ● 2500 ● 2700 ● 3500 ● E4.21 ● E4.28 ● E4.32	1284
	**guidelite version 02 - installation set with C-profile** guide angle brackets are assembled on C-profile for a larger range of widths	
9GL.64.50.LLL	● E2.26 ● E2.38 ● 1500 ● 2500 ● 2700 ● 3500 ● E4.21 ● E4.28 ● E4.32	1286

Available from stock. Ready to ship in 24 - 48hrs.*

*The delivery times indicated correspond to the average time until the ordered goods are dispatched.



E2/000 rol e-chain® in a guidelite guide trough on an irrigation plant

guidelite | Version 01 | Individual parts

Installation set with spacer - fixed width with clip-on spacers

For the following igus® series

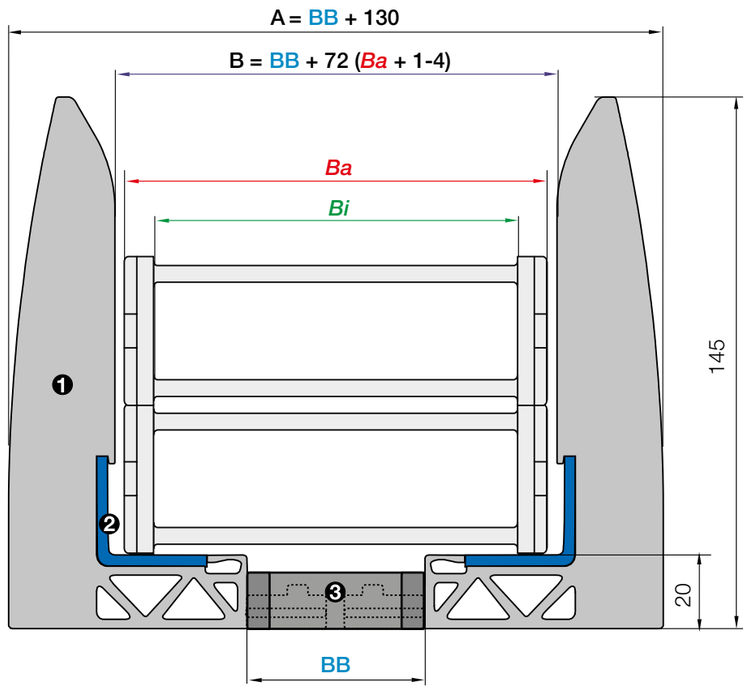
E2.1	E2/000	E4.1
● E2.48	● 2500	● E4.21
	● 2700	● E4.28
	● 3500	● E4.32

Components - version 01

❶ Angle brackets
❷ Plastic guide rail
❸ Crossbar

Ba = e-chain® outer width
Bi = e-chain® inner width
BB = Length of spacer
A = outer angle bracket distance
B = inner angle bracket distance

Dimension **B** must always be 1 to 4mm larger than *Ba* of the e-chain®



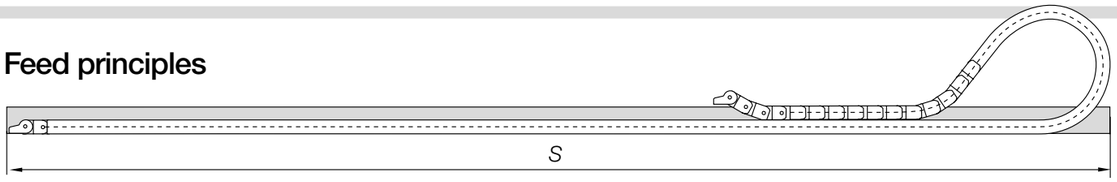
guidelite | Version 01

Specification	Part No.
Installation set with spacer for a fixed width, consisting of 2 x plastic guide rails + 1 x spacer	9GL.64.50.450.XX
Set plastic guide rails (left and right) in specified lengths (standard: 2m)	9GL.64.30.2000
Feed module that guides the upper run of the e-chain® down, 2m	
Only for series 2700R and 3500R rol e-chain® with centre infeed	9GL.64.80.XXXXX.450.XX

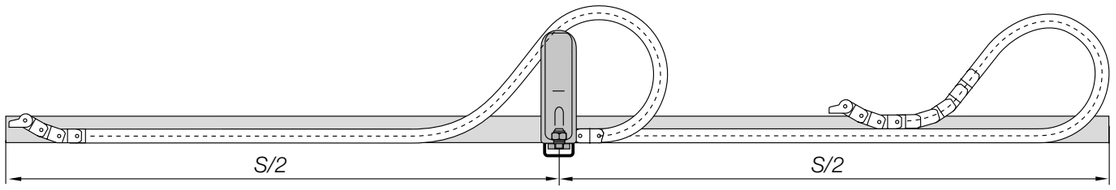
Installation set: please add the width index XX as shown on the tables on the right page. Example: **9GL.64.50.150**

Feed module: please add the width index XX as shown on the tables on the right page. Example: **9GL.64.50.450.05**

Feed principles



End infeed is recommended for all e-chains® in combination with guidelite



Centre infeed is only used with rol e-chains® of series 2700R and series 3500R.

Please use the feed module **9GL.64.80. Series 450.XX**, which guides the upper run of the e-chain® down

Installation set with crossbar - for a fixed width

Part No. including width index spacer Crossbar XX	For E2.1 series	For E2/000 / E4.1 series	For rol E2/000 series	Length of spacer BB [mm]	Outer angle bracket distance A [mm]	Inner angle bracket distance B [mm]
9GL.64.50.450.05	–	2500.10.*R*.0	–	50	180	122
9GL.64.50.450.12	–	2700.17.*R*.0	2700R.17.*R*.0	125	255	197
9GL.64.50.450.05	E2.48.100.*R*.0	3500.100.*R*.0	3500R.100.*R*.0	50	180	122
9GL.64.50.450.06	–	3500.115.*R*.0	3500R.115.*R*.0	65	195	137
9GL.64.50.450.07	–	3500.125.*R*.0	3500R.125.*R*.0	75	205	147
9GL.64.50.450.10	E2.48.150.*R*.0	3500.150.*R*.0	3500R.150.*R*.0	100	230	172
9GL.64.50.450.12	–	3500.175.*R*.0	3500R.175.*R*.0	125	255	197
9GL.64.50.450.15	–	3500.200.*R*.0	3500R.200.*R*.0	150	280	222
9GL.64.50.450.17	–	3500.225.*R*.0	3500R.225.*R*.0	175	305	247
9GL.64.50.450.20	–	3500.250.*R*.0	3500R.250.*R*.0	200	330	272
9GL.64.50.450.06	–	E4.21.120.*R*.0	–	65	195	137
9GL.64.50.450.05	–	E4.28.100.*R*.0	–	50	180	122
9GL.64.50.450.07	–	E4.28.125.*R*.0	–	75	205	147
9GL.64.50.450.05	–	E4.32.097.*R*.0	–	50	180	122
9GL.64.50.450.06	–	E4.32.112.*R*.0	–	65	195	137

Note: Dimension B (inner angle bracket distance) must always be 1 to 4mm larger than *Ba* of the e-chain®!



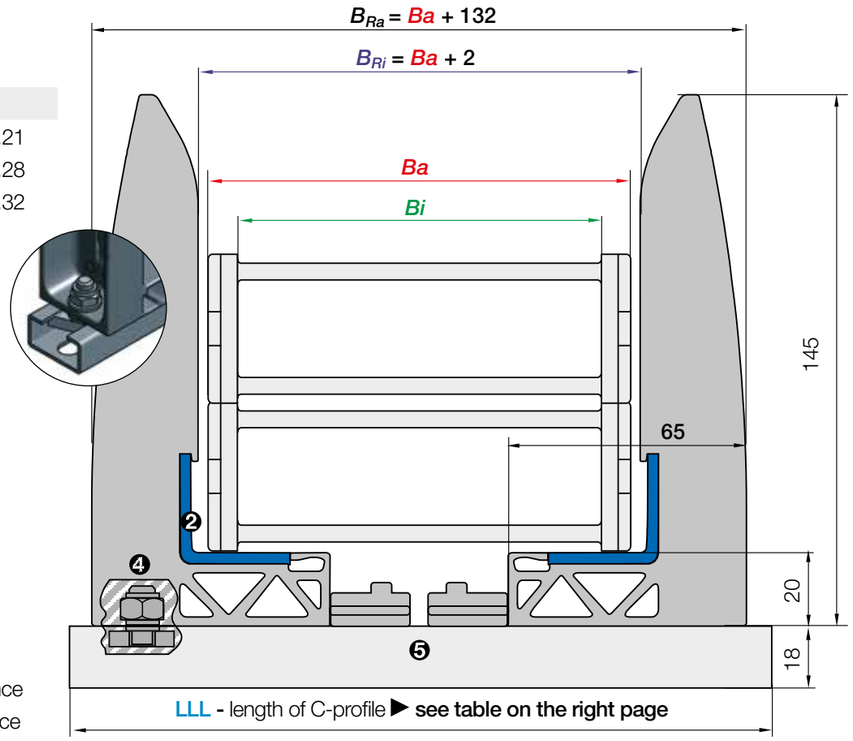
Ideal for outdoor applications - UV-resistant, corrosion-free, allows dirt to pass through

guidelite | Version 02 | Individual parts

Installation set with C-profile | Assembly of guide angles brackets on C-profiles

For the following igus® series

E2.1	E2/000	E4.1
● E2.26	● 1500	● E4.21
● E2.38	● 2500	● E4.28
	● 2700	● E4.32
	● 3500	



Components - version 02

❶ Angle brackets
❷ Plastic guide rail
❸ Screw set M8
❹ C-profile

Ba = e-chain® outer width
Bi = e-chain® inner width
B_{Ra} = outer angle bracket distance
B_{Ri} = inner angle bracket distance

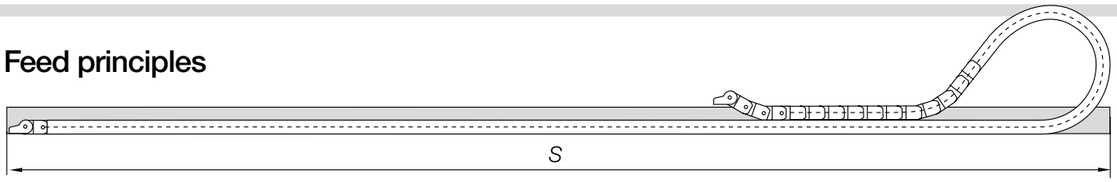
guidelite | Version 02

Specification	Part No.
Installation set with C-profiles consisting of 2 x plastic guide rails + 1 x C-profile + Screw sets M8	9GL.64.50.LLL
Set plastic guide rails (left and right) in specified lengths (standard: 2m)	9GL.64.30.2000
Feed module that guides the upper run of the e-chain® down, 2m	
Only for series 2700R and 3500R rol e-chain® with centre infeed	9GL.64.80.XXXXX.LLL

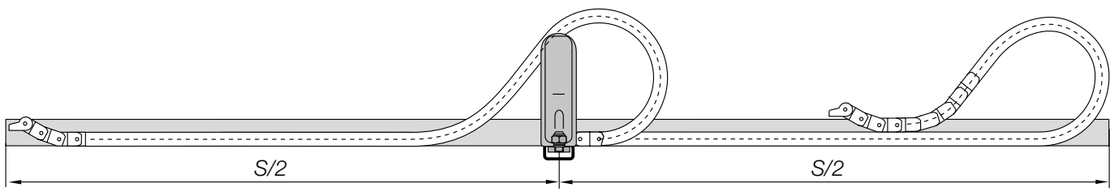
Installation set: please add the C-profile length **LLL** as shown on the tables on the right page. Example: **9GL.64.50.150**

Feed module: please add the width index **XX** as shown on the tables on the right page. Example: **9GL.64.80.3500.05**

Feed principles



End infeed is recommended for all e-chains® in combination with guidelite



Centre infeed is only used with rol e-chains® of series 2700R and series 3500R.

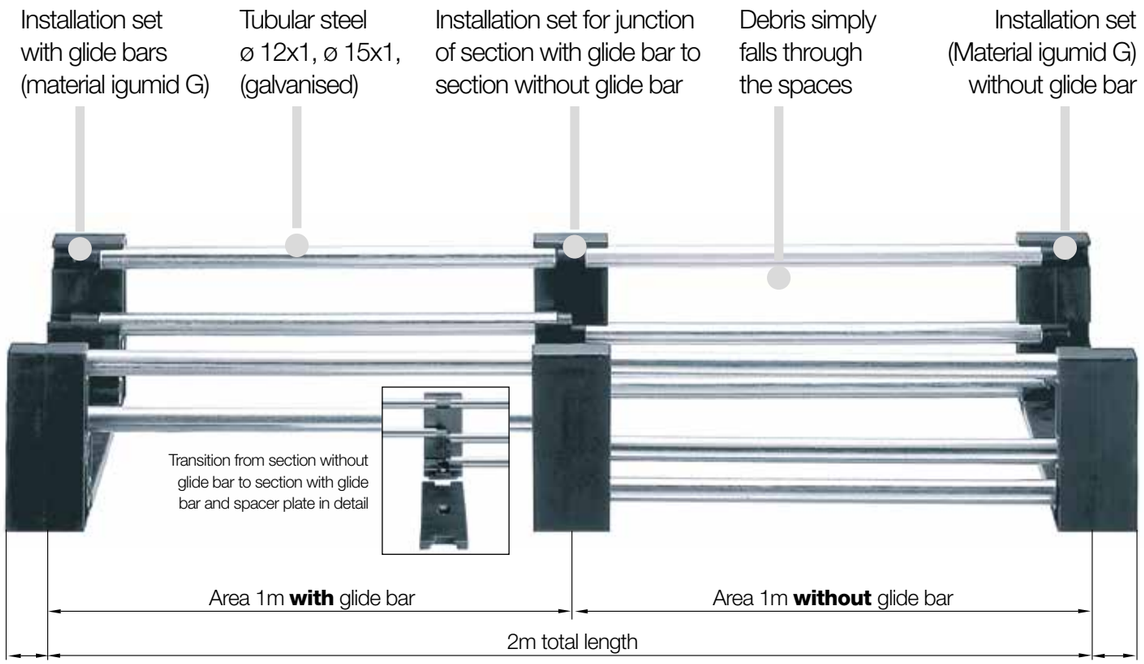
Please use the feed module **9GL.64.80.Series.LLL**, which guides the upper run of the e-chain® down.

Part No. installation set with C-profile

Part No. installation set + C-profile length LLL	For E2.1 series	For E2/000 / E4.1 series	For rol E2/000 series
1500			
9GL.64.50. 150	–	1500.068.*R*.0	–
9GL.64.50. 175	–	1500.080.*R*.0	–
9GL.64.50. 175	–	1500.100.*R*.0	–
9GL.64.50. 200	–	1500.125.*R*.0	–
E2.26 / 2500			
9GL.64.50. 150	E2.26.057.*R*.0	2500.05.*R*.0	–
9GL.64.50. 175	E2.26.077.*R*.0	2500.07.*R*.0	–
9GL.64.50. 175	–	2500.09.*R*.0	–
9GL.64.50. 200	–	2500.10.*R*.0	–
9GL.64.50. 225	–	2500.12.*R*.0	–
E2.38 / 2700			
9GL.64.50. 150	E2.38.065.*R*.0	2700.06.*R*.0	2700R.06.*R*.0
9GL.64.50. 175	E2.38.075.*R*.0	2700.07.*R*.0	2700R.07.*R*.0
9GL.64.50. 175	–	2700.09.*R*.0	2700R.09.*R*.0
9GL.64.50. 200	E2.38.100.*R*.0	2700.10.*R*.0	2700R.10.*R*.0
9GL.64.50. 225	–	2700.12.*R*.0	2700R.12.*R*.0
9GL.64.50. 250	–	2700.15.*R*.0	2700R.15.*R*.0
9GL.64.50. 275	–	2700.17.*R*.0	2700R.17.*R*.0
3500			
9GL.64.50. 175	–	3500.075.*R*.0	3500R.075.*R*.0
9GL.64.50. 200	–	3500.100.*R*.0	3500R.100.*R*.0
9GL.64.50. 200	–	3500.115.*R*.0	3500R.115.*R*.0
9GL.64.50. 225	–	3500.125.*R*.0	3500R.125.*R*.0
9GL.64.50. 250	–	3500.150.*R*.0	3500R.150.*R*.0
9GL.64.50. 275	–	3500.175.*R*.0	3500R.175.*R*.0
9GL.64.50. 300	–	3500.200.*R*.0	3500R.200.*R*.0
9GL.64.50. 325	–	3500.225.*R*.0	3500R.225.*R*.0
9GL.64.50. 350	–	3500.250.*R*.0	3500R.250.*R*.0
E4.21			
9GL.64.50. 150	–	E4.21.060.*R*.0	–
9GL.64.50. 150	–	E4.21.070.*R*.0	–
9GL.64.50. 175	–	E4.21.080.*R*.0	–
9GL.64.50. 175	–	E4.21.090.*R*.0	–
9GL.64.50. 175	–	E4.21.100.*R*.0	–
9GL.64.50. 200	–	E4.21.110.*R*.0	–
9GL.64.50. 200	–	E4.21.120.*R*.0	–

Part No. installation set + C-profile length LLL	For E2.1 series	For E2/000 / E4.1 series	For rol E2/000 series
E4.28			
9GL.64.50. 150	–	E4.28.062.*R*.0	–
9GL.64.50. 175	–	E4.28.070.*R*.0	–
9GL.64.50. 175	–	E4.28.075.*R*.0	–
9GL.64.50. 175	–	E4.28.087.*R*.0	–
9GL.64.50. 200	–	E4.28.100.*R*.0	–
9GL.64.50. 225	–	E4.28.125.*R*.0	–
9GL.64.50. 250	–	E4.28.150.*R*.0	–
9GL.64.50. 275	–	E4.28.175.*R*.0	–
9GL.64.50. 300	–	E4.28.200.*R*.0	–
9GL.64.50. 325	–	E4.28.225.*R*.0	–
9GL.64.50. 350	–	E4.28.250.*R*.0	–
9GL.64.50. 375	–	E4.28.275.*R*.0	–
9GL.64.50. 400	–	E4.28.300.*R*.0	–
E4.32			
9GL.64.50. 150	–	E4.32.05.*R*.0	–
9GL.64.50. 175	–	E4.32.06.*R*.0	–
9GL.64.50. 175	–	E4.32.07.*R*.0	–
9GL.64.50. 175	–	E4.32.087.*R*.0	–
9GL.64.50. 200	–	E4.32.09.*R*.0	–
9GL.64.50. 200	–	E4.32.10.*R*.0	–
9GL.64.50. 200	–	E4.32.11.*R*.0	–
9GL.64.50. 200	–	E4.32.112.*R*.0	–
9GL.64.50. 225	–	E4.32.12.*R*.0	–
9GL.64.50. 225	–	E4.32.137.*R*.0	–
9GL.64.50. 250	–	E4.32.15.*R*.0	–
9GL.64.50. 275	–	E4.32.162.*R*.0	–
9GL.64.50. 275	–	E4.32.17.*R*.0	–
9GL.64.50. 275	–	E4.32.18.*R*.0	–
9GL.64.50. 275	–	E4.32.187.*R*.0	–
9GL.64.50. 300	–	E4.32.200.*R*.0	–
9GL.64.50. 300	–	E4.32.212.*R*.0	–
9GL.64.50. 325	–	E4.32.23.*R*.0	–
9GL.64.50. 325	–	E4.32.237.*R*.0	–
9GL.64.50. 350	–	E4.32.25.*R*.0	–
9GL.64.50. 350	–	E4.32.262.*R*.0	–
9GL.64.50. 375	–	E4.32.28.*R*.0	–
9GL.64.50. 375	–	E4.32.29.*R*.0	–
9GL.64.50 400	–	E4.32.30.*R*.0	–

Please note: The smallest possible inner width of the guide trough is 72mm.



Lets light and dirt through - tubular trough system RS

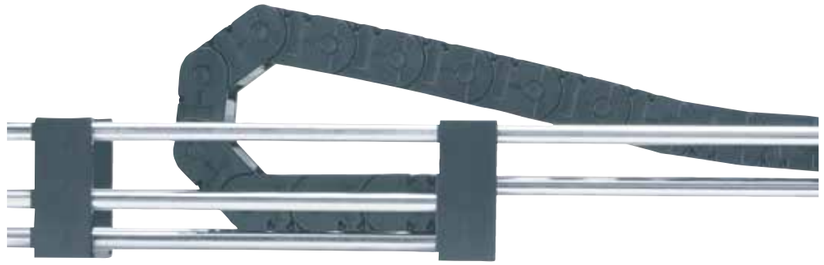
igus® tubular troughs are simple and open options to safely guide e-chains®. Recommended for less demanding applications and applications with travel speeds less than 2m/s, as well as travel distances less than 50m.

- For application areas where dirt, chips occur - the waste simply fall through the spaces
- Elegant design and easy assembly
- For applications with low mechanical loads
- No complicated setting of the correct width - the fitting spacers are delivered with the complete order
- The tubes are available in galvanised steel or polymer
- Very easy assembly - the elements are pushed together and clipped in

Typical industries and applications

- For application areas with dirt or chips

iF product design award
2000 System RS

Part No. **without** glide bars	Part No. **with** glide bars	For e-chain® series	H_{Ra} [mm]	Page
		**Tubular trough system RS** lets light and dirt through		
92.70.	**92.71.**	**E2.26 ● 2500 ● 255**	90	**1290**
93.70.	**93.71.**	**E2.48 ● 3500**	146	**1291**
95.70.	**95.71.**	**E2.38 ● 2700**	126.3	**1292**

Available from stock. Ready to ship in 24 - 48hrs.*

*The delivery times indicated correspond to the average time until the ordered goods are dispatched.

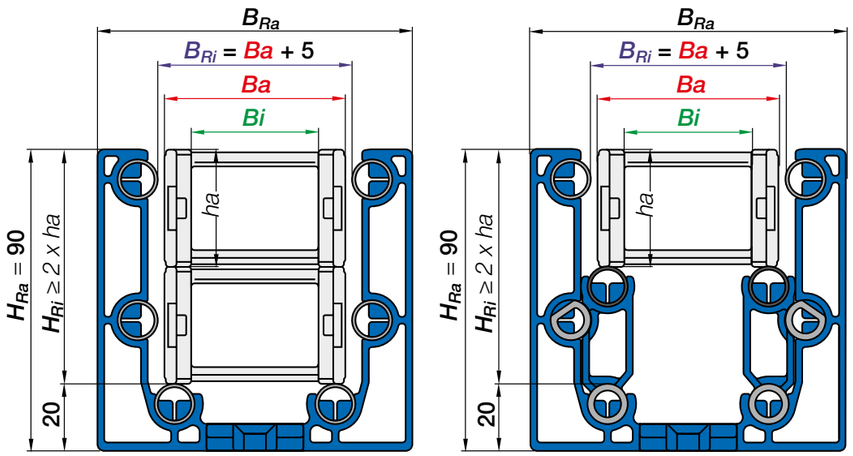
Tubular trough | System RS | 92.70 | 92.71

Trough height: 90mm | Product range

For the following igus® series

E2.1
- E2.26

E2/000
- 2500
- 255



Installation set without glide bar

Installation set **with** glide bars

For 1m trough without glide bars 6 tubes 1m long are required.
For 1m trough with glide bars 4 tubes 1m long are required.

Installation dimensions

XXX	Bi	Ba	B_{Ra}	B_{Ri}
02*	25	41	81	45
03	38	54	94	58
05	57	73	113	77
07	77	93	133	97
09	89	105	145	109
10	103	119	159	123
12	125	141	181	145

*Spacer plate upon request

XXX = Width index

Tubular trough | Components

Individual parts	Part No.	Weight
Installation set **without** glide bars	**92.70.XXX**	≈ 0.15kg
Installation set **with** glide bars	**92.71.XXX**	≈ 0.12kg
Installation set junction	**92.74.XXX**	
Fastening set	**92.77.2**	
Tubular steel, diameter ø 12 x 1 galvanised	**92.80**	≈ 0.28kg
(L = 985) for clearance Installation set 1m)		

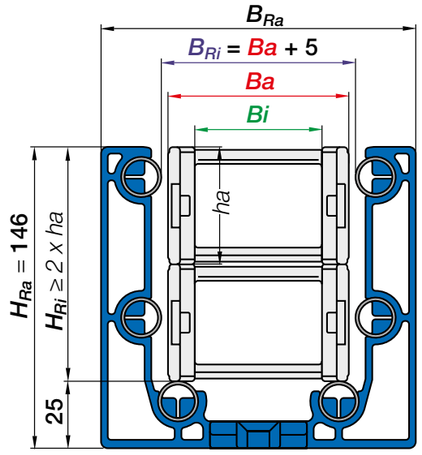
Please add the width index XXX. Example: **92.71.05**

Order example: e-chain® inner width 57mm.
For 8m trough the following parts are required:

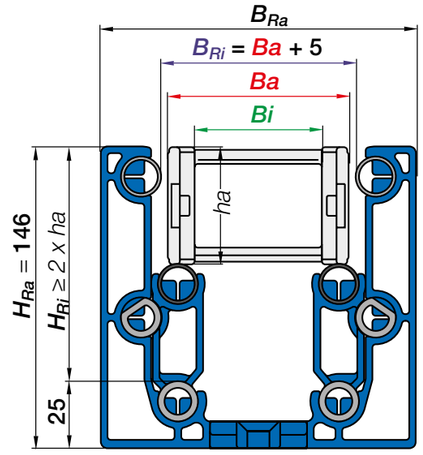
Area **with** glide bar:	4 x installation set +	**92.71.050**
	tube: 4 x 4 piece	**92.80**
Area **without** glide bar	4 x installation set +	**92.70.050**
	Tube: 4 x 6 piece	**92.80**
Transition from area **without** glide bar to area **with** glide bar	1 x installation set junction	**92.74.05**

Tubular trough | System RS | 93.70 | 93.71

Trough height: 146mm | Product range



Installation set **without** glide bars



Installation set **with** glide bars

For the following igus® series

E2.1
- E2.48

E2/000
- 3500

For 1m trough without glide bars 6 tubes 1m long are required.
For 1m trough with glide bars 4 tubes 1m long are required.

Tubular trough | Components

Individual parts	Part No.	Weight
Installation set **without** glide bars	**93.70.XXX**	≈ 0.25kg
Installation set **with** glide bars	**93.71.XXX**	≈ 0.20kg
Installation set junction	**93.74.XXX**	
Fastening set	**92.77.2**	
Tubular steel, diameter ø 15 x 1 galvanised	**93.80**	≈ 0.50kg
(L = 985) for clearance Installation set 1m)		

Please add the width index XXX. Example: **93.71.050**

Installation dimensions

XXX	Bi	Ba	B_{Ra}	B_{Ri}
050	50	70	130	75
075	75	95	155	100
100	100	120	180	125
115	115	135	195	140
125	125	145	205	150
150	150	170	230	175
175	175	195	255	200
200	200	220	280	225
225	225	245	305	250
250	250	270	330	275

XXX = Width index

Order example: e-chain® inner width 50mm.
For 8m trough the following parts are required:

Area **with** glide bar:	4 x installation set +	**93.71.050**
	tube: 4 x 4 piece	**93.80**
Area **without** glide bar	4 x installation set +	**93.70.050**
	Tube: 4 x 6 piece	**93.80**
Transition from area **without** glide bar to area **with** glide bar	1 x installation set junction	**93.74.050**

Tubular trough | System RS | 95.70 | 95.71

Trough height: 126.3mm | Product range

For the following igus® series

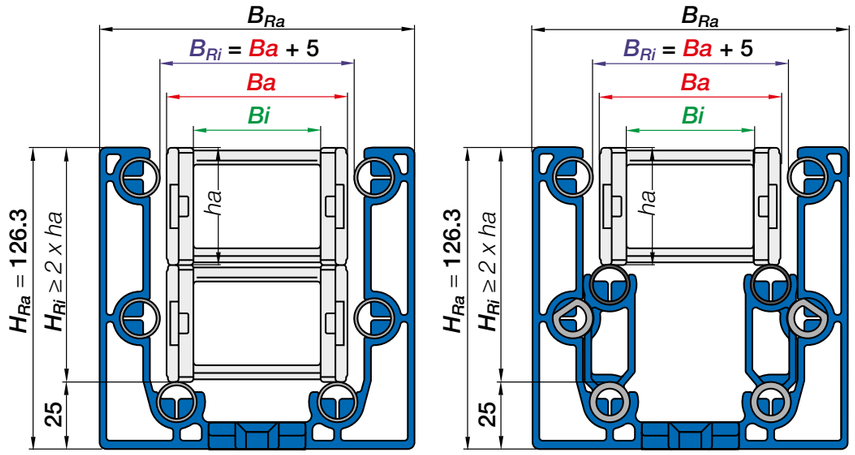
E2.1

- E2.38

E2/000

- 2700

For 1m trough without glide bars
6 tubes 1m long are required.
For 1m trough with glide bars 4
tubes 1m long are required.



Installation set **without** glide bars

Installation set **with** glide bars

Installation dimensions

XXX	Bi	Ba	B_{Ra}	B_{Ri}
05	50	66	124	71
06*	65	81	139	86
07	75	91	149	96
09*	90	106	164	111
10	100	116	174	121
12	125	141	199	146
15	150	166	224	171
17	175	194	252	199
20	200	219	277	224

*Spacer plate upon request

XXX = Width index

Tubular trough | Components

Individual parts	Part No.	Weight
Installation set **without** glide bars	**95.70.XXX**	≈ 0.21kg
Installation set **with** glide bars	**95.71.XXX**	≈ 0.17kg
Installation set junction	**95.74.XXX**	
Fastening set	**92.77.2**	
Tubular steel, diameter ø 15 x 1 galvanised	**93.80**	≈ 0.50kg
(L = 985) for clearance Installation set 1m)		

Please add the width index XXX. Example: **95.71.05**

Order example: e-chain® inner width 50mm.
For 8m trough the following parts are required:

Area **with** glide bar:	4 x installation set +	**95.71.050**
	tube: 4 x 4 piece	**93.80**
Area **without** glide bar	4 x installation set +	**95.70.050**
	Tube: 4 x 6 piece	**93.80**
Transition from area **without** glide bar to area **with** glide bar	1 x installation set junction	**95.74.05**



Simple and cost-effective - snap-in trough system SP

The igus® snap-in trough system SP is a very simple and cost-effective trough-system made from galvanised steel to guide e-chains® up to 50m lengths at low speeds.

- Smaller than conventional troughs
- Quick and easy assembly
- Fixed inner width with spacer
- No complex width setting required
- No sharp metal edges internally
- Cost-effective with easy assembly

Typical industries and applications

- For simple applications with less installation space

Part No. **without** glide bars	Part No. **with** glide bars	For e-chain® series	H_{Ra} [mm]	Page
		**Snap-in trough system SP** simple and cost-effective		
91.930	**91.931**	**10 ● B15/B15i ● 15/R15**	55.5	**1296**
92.930	**92.931**	**E2.26 ● 2500 ● 255**	76.6	**1297**
93.930	**93.931**	**E2.48 ● 3500**	138.6	**1298**
95.930	**95.931**	**E2.38 ● 2700**	106.6	**1299**

Available from stock. Ready to ship in 24 - 48hrs.*

*The delivery times indicated correspond to the average time until the ordered goods are dispatched.

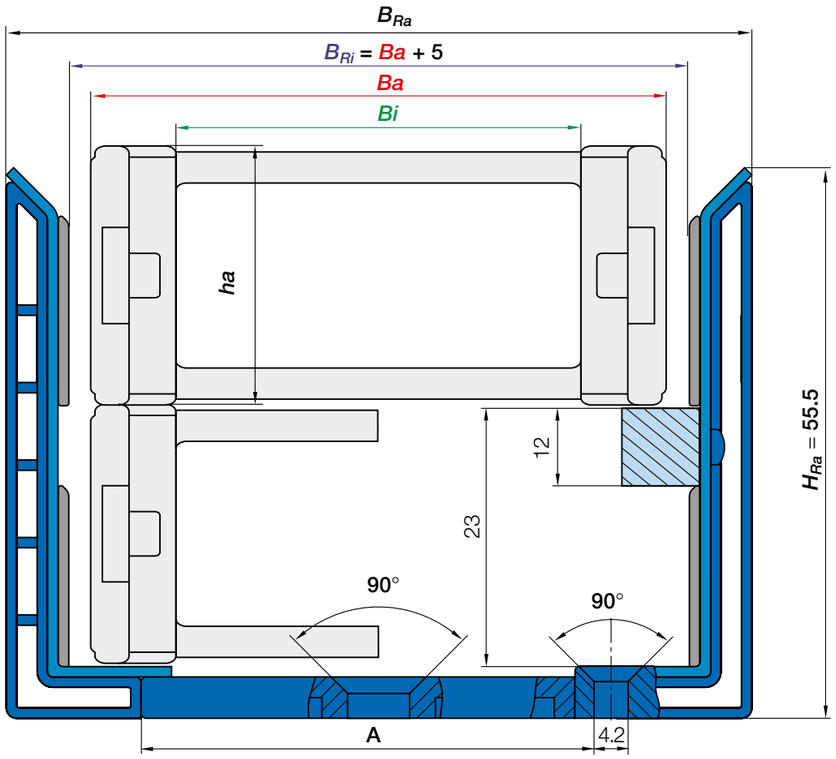
Snap-in trough | System SP | 91.930 | 91.931

Trough height: 55.5mm | Product range

For the following igus® series

E2 mini
- 10
- B15/B15i

zipper
- 15/R15



Installation dimensions

XXX	A	B_{Ra}	B_{Ri}
015	21	46	29.6
025	31	56	39.6
038	43	68	51.6
050	55	80	63.6
05	71	96	79.6
06	88	113	96.6
07	108	133	116.6

XXX = Width index

Snap-in trough | Components

Individual parts	Part No.	Weight
Trough set **without** glide bars, 2 sections of 1m	**91.930**	≈ 1.50kg
Trough set **with** glide bars, 2 sections of 1m	**91.931**	≈ 1.90kg
Glide bar set, 2 glide bars, 1m section	**91.920**	
Screw set for glide bar	**91.921**	
Installation set **with** spacer plate	**91.950.XXX**	≈ 0.05kg
Installation set **without** spacer plate	**91.950**	≈ 0.03kg

Please add the width index XXX. Example: **91.950.050**

Order example: series15 for e-chain® inner width 50mm.
For 20m trough the following parts are required:

10 x 1m, trough sections **without** glide bars (10 x 1m)	**91.930**
10 x 1m, trough sections **with** glide bars (10 x 1m)	**91.931**
Installation set with spacer plate (21x)	**91.950.050**

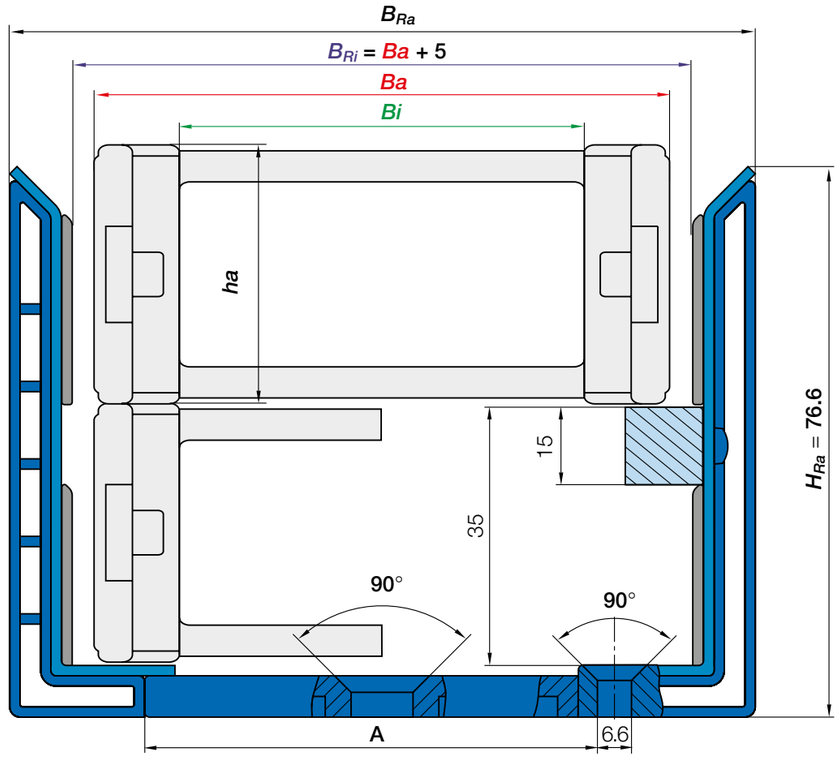
Snap-in trough | System SP | 92.930 | 92.931

Trough height: 76.6mm | Product range

For the following igus® series

E2.1
- E2.26

E2/000
- 2500



Snap-in trough | Components

Individual parts	Part No.	Weight
Trough set **without** glide bars, 2 sections of 2m	**92.930**	≈ 5.50kg
Trough set **with** glide bars, 2 sections of 2m	**92.931**	≈ 6.50kg
Glide bar set, 2 glide bars, 1m section	**92.920**	
Screw set for glide bar	**92.921**	
Installation set **with** spacer plate	**92.950.XXX**	≈ 0.10kg
Installation set **without** spacer plate	**92.950**	≈ 0.08kg

Please add the width index XXX. Example: **92.950.05**

Installation dimensions

XXX	A	B_{Ra}	B_{Ri}
02*	14	67	43
03	27	80	56
05	46	99	75
07	66	119	95
09	78	131	107
10	92	145	121
12	114	167	143

*Spacer plate upon request

XXX = Width index

Order example: series 2500 for e-chain® inner width 50mm.
For 20m trough the following parts are required:

10 x 1m, trough sections **without** glide bars (5 x 2m)	**92.930**
10 x 1m, trough sections **with** glide bars (5 x 2m)	**92.931**
Installation set with spacer plate (21x)	**92.950.05**

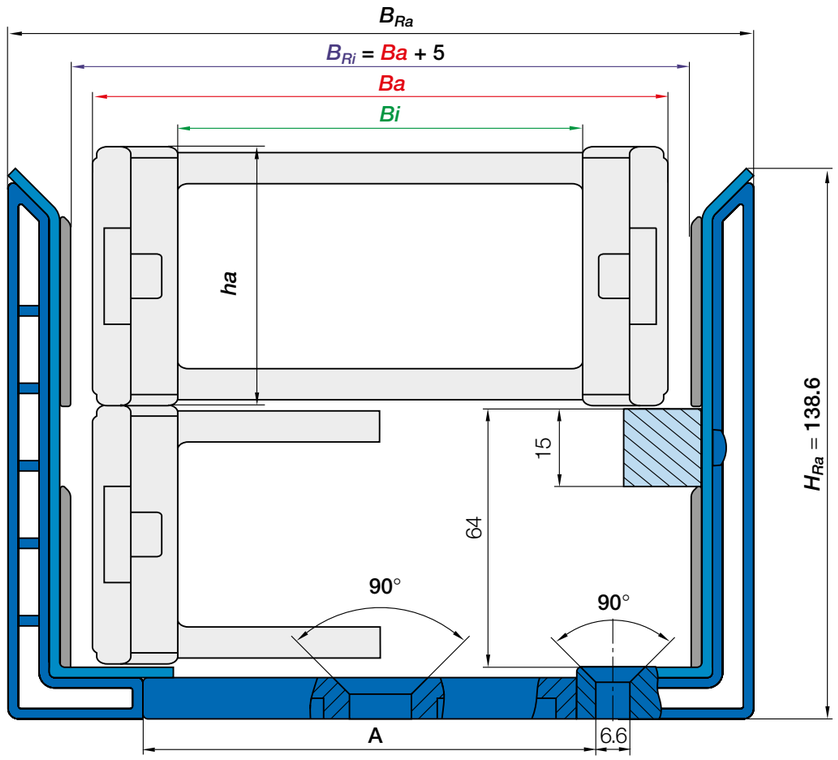
Snap-in trough | System SP | 93.930 | 93.931

Trough height: 138.6mm | Product range

For the following igus® series

E2.1
- E2.48

E2/000
- 3500



Installation dimensions

XXX	A	B_{Ra}	B_{Ri}
050	40	102	74
075	65	127	99
100	90	152	124
115	105	167	139
125	115	177	149
150	140	202	174
175	165	227	199
200	190	252	224
225	215	277	249
250	240	302	274

XXX = Width index

Snap-in trough | Components

Individual parts	Part No.	Weight
Trough set **without** glide bars, 2 sections of 2m	**93.930**	≈ 9.00kg
Trough set **with** glide bars, 2 sections of 2m	**93.931**	≈ 10.00kg
Glide bar set, 2 glide bars, 1m section	**93.920**	
Screw set for glide bar	**93.921**	
Installation set **with** spacer plate	**93.950.XXX**	≈ 0.20kg
Installation set **without** spacer plate	**93.950**	≈ 0.16kg

Please add the width index XXX. Example: **93.950.050**

**Order example: series 3500 for e-chain® inner width 50mm.
For 20m trough the following parts are required:**

10 x 1m, trough sections **without** glide bars (5 x 2m)	**93.930**
10 x 1m, trough sections **with** glide bars (5 x 2m)	**93.931**
Installation set with spacer plate (21x)	**93.950.050**

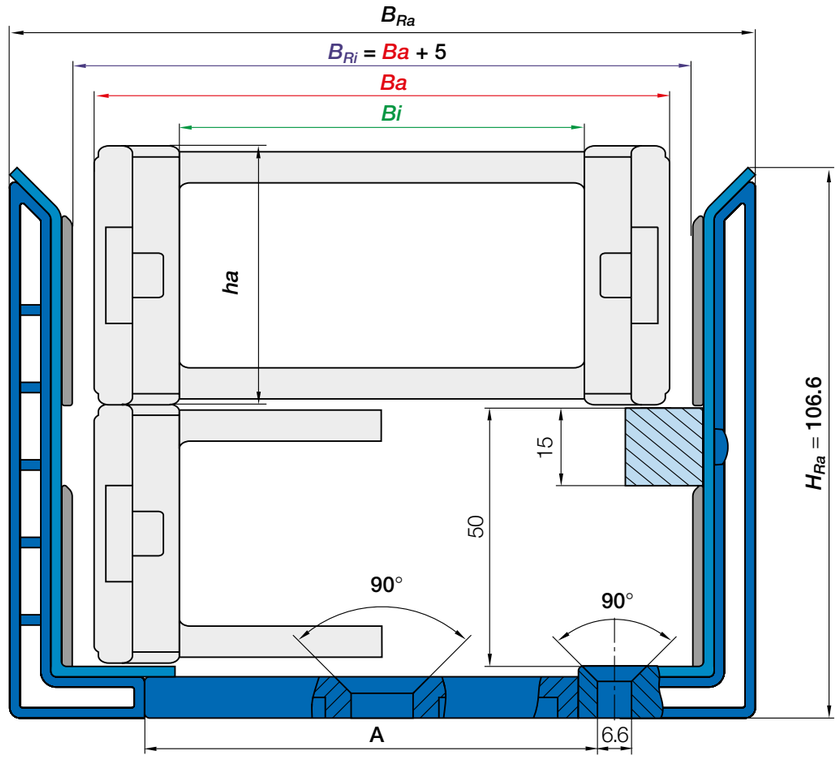
Snap-in trough | System SP | 95.930 | 95.931

Trough height: 106.6mm | Product range

For the following igus® series

E2.1
- E2.38

E2/000
- 2700



Snap-in trough | Components

Individual parts	Part No.	Weight
Trough set **without** glide bars, 2 sections of 2m	**95.930**	≈ 7.10kg
Trough set **with** glide bars, 2 sections of 2m	**95.931**	≈ 8.10kg
Glide bar set, 2 glide bars, 1m section	**95.920**	
Screw set for glide bar	**95.921**	
Installation set **with** spacer plate	**95.950.XXX**	≈ 0.11kg
Installation set **without** spacer plate	**95.950**	≈ 0.13kg

Please add the width index XXX. Example: **95.950.05**

Installation dimensions

XXX	A	B_{Ra}	B_{Ri}
05	40	94	70
06*	55	109	85
07	65	119	95
09*	80	134	110
10	90	144	120
12	115	169	145
15	140	194	170
17	165	229	195
20	190	244	220

*Spacer plate upon request

XXX = Width index

**Order example: series15 for e-chain® inner width 50mm.
For 20m trough the following parts are required:**

10 x 1m, trough sections **without** glide bars (5 x 2m)	**95.930**
10 x 1m, trough sections **with** glide bars (5 x 2m)	**95.931**
Installation set with spacer plate (21x)	**95.950.05**

igus®
chainfix
Strain relief

Advantages of igus® strain relief:

- Long service life for cables
- Specifically designed for use in energy chains
- Offers maximum holding force
- Assembly-time optimised
- Space-saving
- Tested under real-world conditions
- Wide range of options



The illustration shows the new CFU honeycomb strain relief for fast assembly. Simply insert cables and hoses into the honeycomb and close

igus® chainfix strain relief. Flexible, secure and fast.

Strain relief from igus® is specifically developed for use in e-chains® and dynamic applications. The combination of polymer strain relief components and chainflex® cable materials offers maximum holding force and very high service life for the cables. For a wide variety of applications, igus® offers the best solution with respect to cost and benefits; from the CFXL strain relief for long travels in harsh environments, or the new CFU honeycomb strain relief for fast assembly to the CFN chainfix nuggets for simple and inexpensive strain relief. igus® chainfix strain relief components have been successfully used in thousands of applications around the world for years.

Available from stock. Ready to ship in 24 - 48hrs.*

*The delivery times indicated correspond to the average time until the ordered goods are dispatched.

C-profile - standard and for heavy-duty applications	Page
● **Standard C-profile Part No. 92.42** (can be integrated into KMA)	1312
● **C-profile Part No. 92.52** for increased holding force (mounting in front of e-chain®)	1312

Steel and stainless steel clamps - for maximum holding force	Page
● **CFX*** Single, double, triple clamps with standard base	1316
● **CFXL*** Single, double, triple clamps with wide base for maximum holding force	1317
● Clamp stacker and saddle elements	1318
● chainfix multi-clamps*	1319

chainfix tiewrap plates - universal, bolted or clip-on	Page
● **Option 1A:** tiewrap plates as individual parts "Series 2000" + cable tiewraps	1320
● **Option 1B:** tiewrap plates as individual parts "Series 3000" + cable tiewraps	1321

chainfix tiewrap plates - optional variants	Page
● **Option 1**: tiewrap plates with clip-on connection for C-profile	1322
● **Option 2:** integrated strain relief for R series E2 e-tubes	1322
● **Option 3:** tiewrap plates for fixed crossbars	1323
● **Option 4:** tiewrap plates for openable crossbars	1324

CFU honeycomb strain relief - assembled in seconds New	Page
● Simply insert cables and hoses into honeycomb and close - strain relief for different cables in one slot	1325

Strain relief separators - with integrated teeth	Page
● For easy strain relief with cable tiewraps	1326

CFV - stepped strain relief for use outside of the e-chain® section	Page
● Easy strain relief for cables, even in fully enclosed e-tubes (with strain relief teeth, stepped)	1330

CFN - chainfix nuggets for C-profile and top-hat (DIN) rail	Page
● **Option 1:** simple and universal cable fixation (for diameter of Ø 20mm and Ø 30mm)	1331
● **Option 2:** fastening through clipping onto standard top-hat (DIN) rail	1331

CFB - strain relief connector system, modular and customised	Page
● **CFB** polymer strain relief connector system, for many cables in a very confined space	1332

*Standard material: galvanised steel. Also available as stainless steel version (stainless steel material: 1.4301/AISI 304)

e-chain® Series / System	CFX Clamp, standard	CFXL Clamp, for increased holding force	CFU Honeycomb strain relief New	CFN Nugget	Strain relief separator	CFV Stepped strain relief	Strain relief can be clipped onto mounting brackets / KMA		Tiewrap plate Series 2000	Tiewrap plate Series 3000	Tiewrap plate with clip-on connection for C-profile	Tiewrap plate for fixed crossbars	Tiewrap plate for openable crossbars	Tiewrap plate for triflex® R and triflex® 2)	Tiewrap plate for E2 e-tubes	Tiewrap plate/ teeth directly moulded on the mounting bracket	CFB Strain relief connector system
E1																	
E1.17.021.	–	–	–	–	–	–	–		–	–	–	E1.021.Z	–	–	–	–	–
easy chain®																	
E03	–	–	–	–	–	–	–		–	–	–	–	–	–	–	X	–
E04	–	–	–	–	–	–	–		–	–	–	–	–	–	–	X	–
E045/Z045	–	–	–	–	–	–	–		–	–	–	–	–	–	–	X	–
E06/Z06	–	–	–	–	–	–	–		–	–	–	–	–	–	–	X	–
E065/Z065	–	–	–	–	–	–	–		–	–	–	–	–	–	–	X	–
E08/Z08	–	–	–	–	–	–	–		–	–	–	–	–	–	–	X	–
E14/Z14	–	–	–	–	–	–	–		–	–	–	–	–	–	–	X	–
E200/Z200	X 1)	–	–	–	–	–	–		20XX.ZB	–	–	2050.Z	–	–	–	–	–
E16/Z16	–	–	–	–	–	–	–		–	–	–	–	–	–	–	X	–
E26/Z26	X 1)	–	–	–	–	–	–		–	30XX.ZB	–	–	–	–	–	–	–
E300/Z300	X 1)	–	–	–	–	–	–		–	30XX.ZB	–	–	–	–	–	–	–
zipper																	
047	–	–	–	–	–	–	–		–	–	–	–	–	–	–	X	–
07/R07	–	–	–	–	–	–	–		–	–	–	–	–	–	–	X	–
09/R09	–	–	–	–	–	–	–		–	–	–	–	–	–	–	X	–
15/R15	–	–	–	–	–	–	–		–	–	–	–	–	–	–	X	–
17/R17	–	–	–	–	–	–	–		–	–	–	–	–	–	–	X	–
E2 micro																	
03	–	–	–	–	–	–	–		–	–	–	–	–	–	–	X	–
04	–	–	–	–	–	–	–		–	–	–	–	–	–	–	X	–
045	–	–	–	–	–	–	–		–	–	–	–	–	–	–	X	–
B07	–	–	–	–	–	–	–		–	–	–	–	–	–	–	X	–
06	–	–	–	–	–	–	–		–	–	–	–	–	–	–	X	–
074	–	–	–	–	–	–	–		–	–	–	–	–	–	–	X	–
094	–	–	–	–	–	–	–		–	–	–	–	–	–	–	X	–
B09	–	–	–	–	–	–	–		–	–	–	–	–	–	–	X	–
08	–	–	–	–	–	–	–		–	–	–	–	–	–	–	X	–
E2 mini																	
10	–	–	–	–	–	–	–		–	–	–	–	–	–	–	X	–
11.031	–	–	–	–	–	–	–		–	–	–	–	–	–	–	X	–
11.080	–	–	–	–	–	–	–		–	–	–	–	–	–	–	X	–
11.1/11.2	–	–	–	–	–	–	–		–	–	–	–	–	–	–	X	–
14	–	–	–	–	–	–	–		–	–	–	–	–	–	–	X	–
B15/B15i	–	–	–	–	–	–	–		–	–	–	–	–	–	–	X	–
B17/B17i	–	–	–	–	–	–	–		–	–	–	–	–	–	–	X	–
F17	–	–	–	–	–	–	–		–	–	–	–	–	–	–	X	–
E2.1 micro																	
E2.10	–	–	–	–	–	–	–		–	–	–	–	–	–	–	X	–
E2.15	–	–	–	–	–	–	–		–	–	–	–	–	–	–	X	–
E2.1																	
E2.26	X 1)	X 1)	–	–	26.Z 4)	–	–		20XX.ZB	–	–	–	–	–	–	–	–
E2.38	X 1)	X 1)	–	X	–	CFV.42.C	–		20XX.ZB	30XX.ZB	–	–	C.2.522.065.ZS	–	–	–	–
E2.48	X 1)	X 1)	CFU	X	–	CFV.42.C	–		–	30XX.ZB	–	–	C.2.522.075.ZS	–	–	–	–

1) Assembled in front of the mounting bracket. (CFXL clamps are always assembled before the mounting bracket in a separate C-profile 92.52.XX)
2) You'll find on the product page of each e-chain® series 3) Half e-tube only 4) Only for the KMA mounting bracket
= recommended strain relief for selected e-chain®

e-chain® Series / System	CFX Clamp, standard	CFXL Clamp, for increased holding force	CFU Honeycomb strain relief New	CFN Nugget	Strain relief separator	CFV Stepped strain relief	Strain relief can be clipped onto mounting brackets / KMA		Tiewrap plate Series 2000	Tiewrap plate Series 3000	Tiewrap plate with clip-on connection for C-profile	Tiewrap plate for fixed crossbars	Tiewrap plate for openable crossbars	Tiewrap plate for triflex® R and triflex® 2)	Tiewrap plate for E2 e-tubes	Tiewrap plate/ teeth directly moulded on the mounting bracket	CFB Strain relief connector system
E2/000																	
1400/1500	X 1)	X 1)	–	–	21.1.Z	–	–		20XX.ZB	–	–	–	–	–	–	X	–
1450/1480	X 1)	X 1)	–	–	21.1.Z	–	–		20XX.ZB	–	–	–	–	–	–	X	–
2400/2500	X 1)	X 1)	–	–	2020.Z	–	–		20XX.ZB	–	–	2050.Z	–	–	–	–	–
2450/2480	X 1)	X 1)	–	–	2020.ZR	–	–		20XX.ZB	–	–	–	–	–	–	–	–
2600/2700	X	X 1)	–	X	262.Z	CFV.42.C	–		20XX.ZB	30XX.ZB	30XX.ZC	2050.Z	2050.Z	–	–	–	Upon request
2650/2680	X	X 1)	–	X	–	CFV.42.C	–		–	30XX.ZB	30XX.ZC	–	2050.Z 3)	–	–	–	Upon request
3400/3500	X	X 1)	CFU	X	301.Z	CFV.42.C	–		–	30XX.ZB	30XX.ZC	30XX.Z	30XX.ZS	–	–	–	Upon request
3450/3480	X	X 1)	CFU	X	34501.Z	CFV.42.C	–		–	30XX.ZB	30XX.ZC	–	30XX.ZS 3)	–	–	–	Upon request
255	–	–	–	–	–	–	–		20XX.ZB	–	–	–	–	–	–	–	–
E2 R100																	
R117/118	X 1)	X 1)	–	–	–	–	–		20XX.ZB	–	–	–	–	–	–	–	–
R157/158	X 1)	X 1)	–	–	1585.01.Z	–	–		–	–	–	–	–	–	–	–	–
R167/168	X 1)	X 1)	CFU	–	1685.01.Z	–	–		–	–	–	–	–	–	–	–	–
E2 R																	
R48	X 1)	X 1)	–	–	481.ZR	–	–		20XX.ZB	–	–	–	–	–	–	–	–
R58	X 1)	X 1)	–	–	–	–	–		–	–	–	–	–	–	5850.Z	–	–
R68	X 1)	X 1)	CFU	–	–	–	–		–	–	–	–	–	–	30XX.Z	–	–
R2.1																	
R2.26	X 1)	X 1)	–	–	R2.26.Z	CFV.R2.26.Z	–		–	–	–	–	–	–	–	–	–
R2.40	X 1)	X 1)	–	–	R2.40.Z	CFV.R2.40.Z	–		–	–	–	–	–	–	–	–	–
R2.48	X 1)	X 1)	CFU	–	–	CFV.R2.48.Z	–		–	30XX.ZB	30XX.ZC	–	–	–	–	–	–
R2.75	X 1)	X 1)	–	–	–	CFV.80.C	–		–	30XX.ZB	30XX.ZC	–	–	–	–	–	–
RX																	
RX32	–	–	–	–	–	–	X		–	–	–	–	–	–	–	–	X
RX40	–	–	–	–	–	–	X		–	–	–	–	–	–	–	–	X
RX48	–	–	–	–	–	–	Upon request		–	–	–	–	–	–	–	–	X
RX56	–	–	–	–	–	–	Upon request		–	–	–	–	–	–	–	–	X
E4.1L																	
E4.31L/R4.31L	X 1)	X 1)	–	–	31.Z	CFV.31.N15	–		–	–	–	–	–	–	–	–	–
E4.38L/R4.38L	X	X 1)	–	X	–	CFV.42.C	–		–	30XX.ZB	30XX.ZC	–	3850.ZS	–	–	–	X
E4.48L/R4.48L	X	X 1)	CFU	X	–	CFV.42.C	–		–	30XX.ZB	30XX.ZC	–	3850.ZS	–	–	–	X
E4.64L	X	X 1)	–	X	–	CFV.42.C	–		–	30XX.ZB	30XX.ZC	–	3850.ZS	–	–	–	X
E4.1																	
E4.21	X 1)	X 1)	–	–	T2103.Z	–	–		20XX.ZB	–	–	–	–	–	–	–	–
E4.28/R4.28	X 1)	X 1)	–	–	28.Z / 28.ZT	–	–		20XX.ZB	–	–	–	2050.Z	–	–	–	–
E4.32/H4.32/R4.32	X	X 1)	–	X	–	CFV.42.C	–		–	30XX.ZB	30XX.ZC	–	3850.ZS	–	–	–	X
E4.42/H4.42/R4.42	X	X 1)	CFU	X	–	CFV.42.C	–		–	30XX.ZB	30XX.ZC	–	3850.ZS	–	–	–	X
E4.56/H4.56/R4.56	X	X 1)	–	X	–	CFV.80.C	–		–	30XX.ZB	30XX.ZC	–	45XX.ZS	–	–	–	X
E4.80/H4.80/R4.80	X	X 1)	–	X	–	CFV.80.C	–		–	30XX.ZB	30XX.ZC	–	45XX.ZS	–	–	–	X
E4.112	X 1)	X 1)	–	–	–	–	–		–	30XX.ZB	–	–	45XX.ZS	–	–	–	X
E4.162	X 1)	X 1)	–	–	–	–	–		–	30XX.ZB	–	–	–	–	–	–	X
800	X 1)	X 1)	–	–	–	–	–		–	30XX.ZB	–	–	–	–	–	–	–
840	X 1)	–	–	–	–	–	–		–	–	–	–	–	–	–	–	–

1) Assembled in front of the mounting bracket. (CFXL clamps are always assembled before the mounting bracket in a separate C-profile 92.52.XX)

2) You'll find on the product page of each e-chain® series 3) Half e-tube only = recommended strain relief for selected e-chain®

e-chain® Series / System	CFX Clamp, standard	CFXL Clamp, for increased holding force	CFU Honeycomb strain relief New	CFN Nugget	Strain relief separator	CFV Stepped strain relief	Strain relief can be clipped onto mounting brackets / KMA		Tiewrap plate Series 2000	Tiewrap plate Series 3000	Tiewrap plate with clip-on connection for C-profile	Tiewrap plate for fixed crossbars	Tiewrap plate for openable crossbars	Tiewrap plate for triflex® R and triflex® 2)	Tiewrap plate for E2 e-tubes	Tiewrap plate/ teeth directly moulded on the mounting bracket	CFB Strain relief connector system
E4/light																	
14040/14140/18840	X	X 1)	–	X	–	–	–		–	30XX.ZB	30XX.ZC	–	45XX.ZS	–	–	–	X
14240/14340	X	X 1)	–	X	–	–	–		–	30XX.ZB	30XX.ZC	–	3850.ZS	–	–	–	X
14550/14650/19050	X	X 1)	–	X	–	–	–		–	30XX.ZB	30XX.ZC	–	45XX.ZS	–	–	–	X
15050/15150/19850	X	X 1)	–	–	–	–	–		–	30XX.ZB	30XX.ZC	–	45XX.ZS	–	–	–	X
15250/15350	X	X 1)	–	–	–	–	–		–	30XX.ZB	30XX.ZC	–	3850.ZS	–	–	–	X
1640/R1608	X	X 1)	–	–	–	–	–		–	30XX.ZB	–	–	45XX.ZS	–	–	–	–
T3																	
T3.29	–	–	–	–	E6.29.02.Z	–	20XX.ZB		–	–	–	–	–	–	–	–	–
E3																	
E3.10	–	–	–	–	–	–	E3.00.020		–	–	–	–	–	–	–	–	–
E3.15	–	–	–	–	–	–	E3.00.020		–	–	–	–	–	–	–	–	–
E3.22	–	–	–	–	–	–	E3.00.020		–	–	–	–	–	–	–	–	–
E6.1																	
E61.29/EF61.29	X 1)	X 1)	–	–	E6.29.02.Z	–	–		20XX.ZB	–	–	–	–	–	–	–	–
E61.35	X 1)	X 1)	–	–	E6.35.02.Z	–	–		20XX.ZB	–	–	–	–	–	–	–	X
E61.40	X	X 1)	–	X	E6.40.02.Z	–	–		20XX.ZB	–	–	–	–	–	–	–	X
E61.52	X	X 1)	–	X	–	–	–		–	30XX.ZB	30XX.ZC	–	2050.Z	–	–	–	X
E61.62	X	X 1)	–	X	–	–	–		–	30XX.ZB	30XX.ZC	–	3850.ZS	–	–	–	X
E61.80	X	X 1)	–	X	–	–	–		–	30XX.ZB	30XX.ZC	–	45XX.ZS	–	–	–	X
E6																	
E6.29	X 1)	X 1)	–	–	E6.29.02.Z	–	–		20XX.ZB	–	–	–	–	–	–	–	–
R6.29	X 1)	X 1)	–	–	–	–	–		20XX.ZB	–	–	–	–	–	–	–	–
E6.35	X 1)	X 1)	–	–	E6.35.02.Z	–	–		20XX.ZB	–	–	–	–	–	–	–	X
E6.40	X	X 1)	–	X	E6.40.02.Z	–	–		20XX.ZB	–	–	–	–	–	–	–	X
E6.52	X	X 1)	–	X	–	–	–		–	30XX.ZB	30XX.ZC	–	2050.Z	–	–	–	X
R6.52	X	X 1)	–	X	–	–	–		–	30XX.ZB	30XX.ZC	–	–	–	–	–	X
E6.62	X	X 1)	–	X	–	–	–		–	30XX.ZB	30XX.ZC	–	3850.ZS	–	–	–	X
E6.80L	X	X 1)	–	X	–	–	–		–	30XX.ZB	30XX.ZC	–	45XX.ZS	–	–	–	X
e-skin®																	
SK28	–	–	–	–	–	–	2000.077.ZB		–	–	–	–	–	–	–	–	–
SK40	–	–	–	–	–	–	2000.077.ZB		–	–	–	–	–	–	–	–	–
triflex® R																	
TRC	X 1)	X 1)	–	–	–	–	–		–	–	–	–	–	Upon request	–	–	–
TRC	X 1)	X 1)	–	–	–	–	–		–	–	–	–	–	Upon request	–	–	–
TRCF	X 1)	X 1)	–	–	–	–	–		–	–	–	–	–	Upon request	–	–	–
TRL	X 1)	X 1)	–	–	–	–	–		–	–	–	–	–	Upon request	–	–	–
TRLF	X 1)	X 1)	–	–	–	–	–		–	–	–	–	–	Upon request	–	–	–
triflex®																	
easy triflex®	X 1)	–	–	–	–	–	–		–	–	–	–	–	E33X.XX.2	–	–	
triflex®	X 1)	–	–	–	–	–	–		–	–	–	–	–	33X.XX	–	–	

1) Assembled in front of the mounting bracket. (CFXL clamps are always assembled before the mounting bracket in a separate C-profile 92.52.XX)

2) You'll find on the product page of each e-chain® series 3) Half e-tube only = recommended strain relief for selected e-chain®

chainfix strain relief | Parameters | Overview

igus® chainfix strain relief system									
	CFX - clamps	**Tiewrap plates - bolted, clip-on**	**CFU - lean honeycomb strain relief**			**CFN nuggets**	**Strain relief separators**	**CFV - strain relief element**	**CFB - strain relief connector system**
Recommended standard for the following e-chains®:	**E4, E6, for all KMA* with C-profile** *Polymer metal mounting bracket	**easy chain®, E2/000, E2 e-tubes, E4, E6**	**E2.48, 3400/3500, 3450/3480, R68, R167/168, R2.48, E4.48L/R4.48L, E4.42/H4.42/R4.42, E61.52, E6.52/R6.52**			**For all KMA* with C-profile or top-hat (DIN) rail** *Polymer metal mounting bracket	**E2/000, E2 e-tubes, E6, T3**	**E2/000, R2.1, E4.1L, E4.1**	**E4, E6, for all KMA* with C-profile** *Polymer metal mounting bracket
When to use this strain relief?	Standard for high accelerations, loads and demanding applications. For many cables, large cable diameters and stacked cables. For long travels, cranes, offshore, machine tools, high speeds and hydraulic cables.	Standard for many applications at medium and low accelerations. For unsupported, gliding, hanging and standing applications in general machinery and machine tools. For cables side by side. Also available as an individual part, for example in control cabinets etc.	Assembled in seconds - CFU honeycomb strain relief. Strain relief with honeycomb structure, openable from both sides. Simply insert cables and hoses into the honeycomb and close. Strain relief for different cables in one slot. Also suitable for gliding applications.			Cost-effective, fast strain relief for simple applications with small spaces and medium accelerations. Also available as single parts for fixed applications, such as in cabinets, etc.	Combination of separator and strain relief, ideal for small spaces. For applications with medium accelerations. For small cables diameters. Ideal for e-tubes. For machine tools and automation.	For both e-chains® and e-tubes. Stepped strain relief for use outside of the e-chain® cross section - even with different connectors. Easy to retrofit. Simple installation into top-hat (DIN) rail or C-profile on KMA mounting brackets.	Space-saving, modular strain relief with many cables in confined spaces. For applications with high accelerations and loads e.g., in machine tools.
When not to use it:	No limitation	For large cable diameters	For high loads			For high loads	For high loads	For high loads	No limitation
Properties									
Assembly time index	+	+	+ + +			+ −	+	+ +	+ −
Adjustable tensile strength	+ +	−	+			−	−	−	+
Price Index	●●◐	●○○	●●○			●○○	●○○	●○○	●●●
Modularity	yes	yes	yes			yes	yes	yes	yes (special fabrication)
Dynamics	high to very high	high	medium			high	high	medium	high to very high

Price index
- ◐○○ low
- ●◐○ medium
- ●●● high

- +++ = best suitability
- + = good suitability
- + − = suitable
- − = limited suitability

Standard C-profile Part No. 92.42.XX

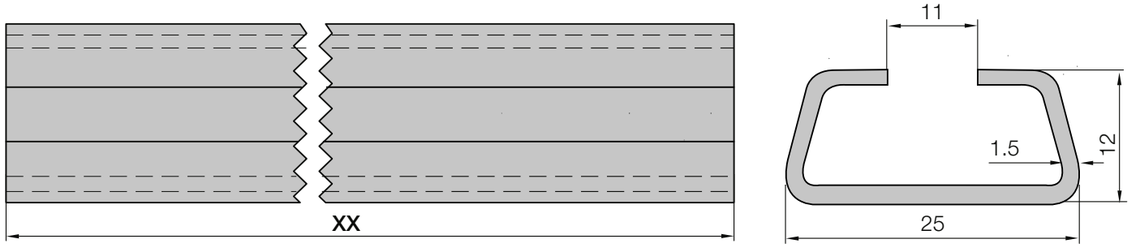
- For all igus® **CFX** clamps and KMA mounting brackets with C-profile option
- Standard material galvanised steel **Part No. 92.42.XX**
- Also available as stainless steel version, please add Index **.E**
  Example: **Part No. 92.42.XX.E**
- Length tolerances for C-profile of ±1mm possible!

XX = length mm / Material: stainless steel 1.4301/AISI 304



Standard C-profile Part No. 92.42. | For standard applications

Can be integrated into KMA with C-profile option!



Optional | For heavy-duty applications

C-profile Part No. 92.52.XX

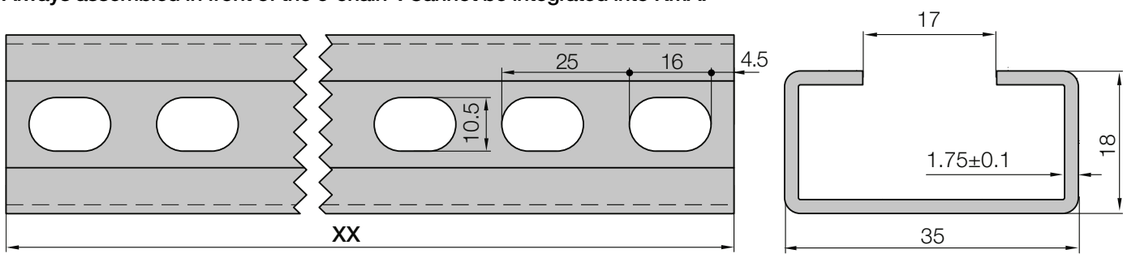
- For all igus® **CFXL** clamps
- For increased holding force - even for heavy duty applications
- Standard material galvanised steel **Part No. 92.52.XX**
- Also available as stainless steel version, please add Index **.E**
  Example: **Part No. 92.52.XX.E**
- Length tolerances for C-profile of ±5mm possible!

XX = length mm / Material: stainless steel 1.4301/AISI 304



C-profile Part No. 92.52 | For increased holding force for heavy-duty applications

Always assembled in front of the e-chain®. Cannot be integrated into KMA!

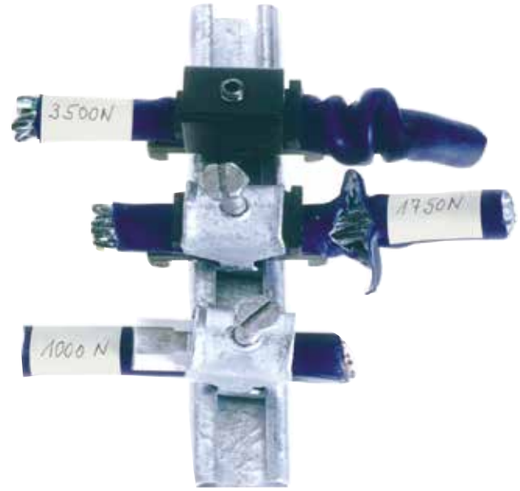




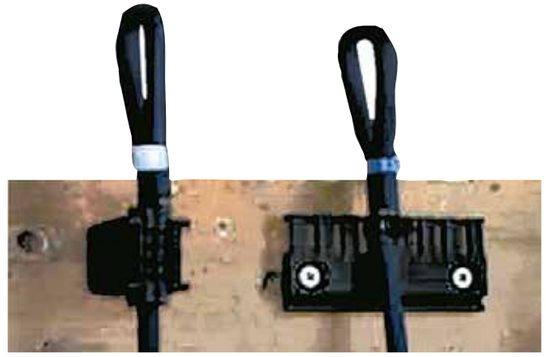
igus® tensile strength test with CFX clamps

igus® chainfix strain relief devices are tested under real world conditions, taking various parameters into account

Whether under the influence of fluids like water or oil, or at different ambient temperatures. The interaction of chainfix systems with different jacket materials of cables and hoses plays a big role in the in-house tests.



igus® test: comparison of three different strain reliefs - Result: triple tensile strength of igus® chainfix clamps when compared with conventional products



Tensile strength tests with chainflex® cables



Tensile strength tests of igus® clamps with cable tiewraps



Can be integrated into igus® KMA mounting bracket

For up to three cables stacked above one another

Reduced installation height, space-saving

High strength for dynamic applications

chainfix clamps - fitted quickly and securely

- Easy to read the Part No. and marking of the correct installation direction
- Reduced installation height due to optimal housing height (compared to conventional clamps up to 15mm)
- Space and time-saving assembly
- Delivery options for complete systems with cables and preassembled strain relief
- Improved base for easy fit into the C-profile
- Simple assembly with hex head set screw
- High strength for dynamic applications with improved stacker elements
- Built-in ribs on the stacker elements give secure grip on the cables
- Optional: CFXL clamps for increased holding force for heavy-duty applications (CFXL clamps are always assembled **in front** of the e-chain®. They **cannot** be integrated into KMA mounting brackets with C-profile option!)

Available from stock. Ready to ship in 24 - 48hrs.*

*The delivery times indicated correspond to the average time until the ordered goods are dispatched.

Product range and materials

- Steel clamp: clamp and screw black painted steel
- Stainless steel clamp: clamp and screw: blank (material 1.4301/AISI 304)
- Stacker elements: bottom saddle and stacker saddle (igumid G material)
- Steel C-profile available (material galvanised steel)
- Stainless steel C-profile available (material 1.4301/AISI 304)

Installation height

If the e-chain® glides on itself for long travels, the screw heads of the strain relief at the fixed end of the e-chain® must have a distance of at least 10mm from the top of the e-chain®. As a result, many strain relief elements described here may not be suitable for use at the fixed end on long gliding e-chains®. For unsupported e-chains® strain relief elements can always be safely used.

Please note

- The cables should ideally be fixed at both ends of the e-chain®. **As a minimum they need to be attached at the moving end of the e-chain®!**
- When using chainfix clamps on C-profile in the mounting bracket for the series E4.32/H4.32/R4.32, E4.38L/R4.38L (also for the classic series 280/290/R770, 2828/2928/R7728) a shortened bottom saddle must be used. For shortened bottom saddles supplement Part No. with index "**K**". Example: **CFX12.1K**



CFX - chainfix housing with reduced height



Save both time and space with igus® chainfix clamps

For the following igus® series

E2/000
- 2600/2700/2650/2680
- 3400/3500/3450/3480

E4.1L
- E4.38L/R4.38L
- E4.48L/R4.48L
- E4.64L

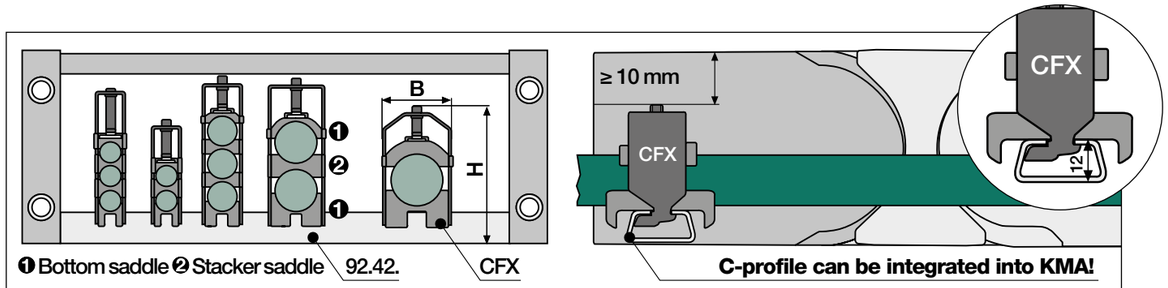
E4.1
- E4.32/H4.32/R4.32
- E4.42/H4.42/R4.42
- E4.56/H4.56/R4.56
- E4.80/H4.80/R4.80
- E4.112/R4.112
- E4.162

E4/light
- 14040/14140/18840
- 14240/14340
- 14550/14650/19050
- 15050/15150/19850
- 15250/15350

E6.1
- E61.40
- E61.52
- E61.62
- E61.80

E6
- E6.40
- E6.52/R6.52
- E6.62
- E6.80L
- E6.80

chainfix strain relief | CFX clamps



The **H** dimension in the tables is based on the maximum cable diameter. Cables with smaller diameters may result in a lower overall clamp housing heights. Tightening torque for CFX clamps 1.5Nm.

CFX | Standard clamps with standard base

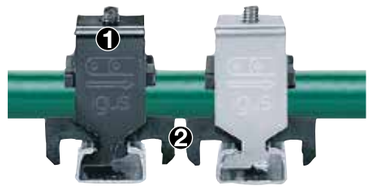
(Suitable for C-profile **92.42.XX** - can be integrated into KMA with C-profile option)

Single clamp housing, incl. bottom saddle

Part No. steel	Part No. stainless steel*	≤ Ø [mm]	B+2 [mm]	H [mm]	Part No. steel	Part No. stainless steel*	≤ Ø [mm]	B+2 [mm]	H [mm]
CFX12.1	**CFX12.1.E**	06 - 12	16	54	**CFX26.1**	**CFX26.1.E**	22 - 26	30	67
CFX14.1	**CFX14.1.E**	12 - 14	18	50	**CFX30.1**	**CFX30.1.E**	26 - 30	34	71
CFX16.1	**CFX16.1.E**	14 - 16	20	52	**CFX34.1**	**CFX34.1.E**	30 - 34	38	75
CFX18.1	**CFX18.1.E**	16 - 18	22	54	**CFX38.1**	**CFX38.1.E**	34 - 38	42	79
CFX20.1	**CFX20.1.E**	18 - 20	24	56	**CFX42.1**	**CFX42.1.E**	38 - 42	46	83
CFX22.1	**CFX22.1.E**	20 - 22	26	58					

*Stainless steel material: 1.4301/AISI 304

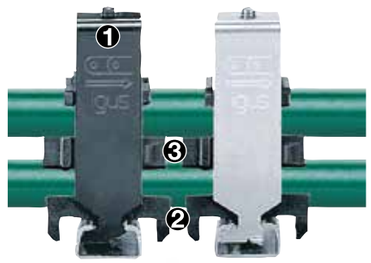
❶ Clamp
❷ Bottom saddle
❸ Stacker saddle



Double clamp housing, incl. bottom and stacker saddles

Part No. steel	Part No. stainless steel*	≤ Ø [mm]	B+2 [mm]	H [mm]	Part No. steel	Part No. stainless steel*	≤ Ø [mm]	B+2 [mm]	H [mm]
CFX12.2	**CFX12.2.E**	06 - 12	16	72	**CFX22.2**	**CFX22.2.E**	20 - 22	26	90
CFX14.2	**CFX14.2.E**	12 - 14	18	74	**CFX26.2**	**CFX26.2.E**	22 - 26	30	109
CFX16.2	**CFX16.2.E**	14 - 16	20	78	**CFX30.2**	**CFX30.2.E**	26 - 30	34	117
CFX18.2	**CFX18.2.E**	16 - 18	22	82	**CFX34.2**	**CFX34.2.E**	30 - 34	38	125
CFX20.2	**CFX20.2.E**	18 - 20	24	86					

*Stainless steel material: 1.4301/AISI 304



Triple clamp housing, incl. bottom and stacker saddles

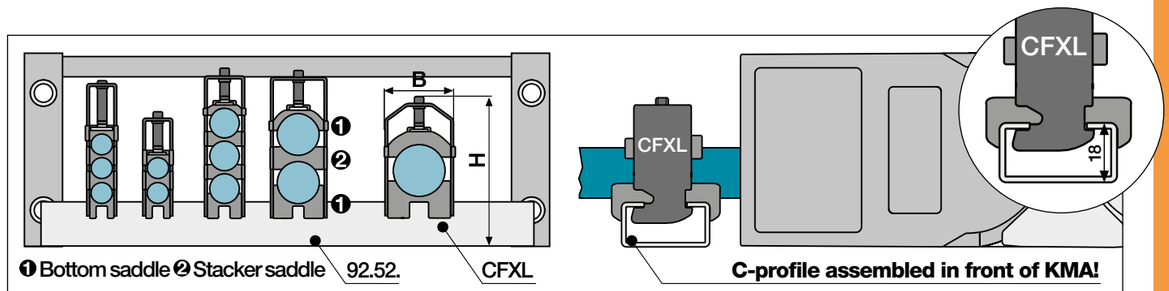
Part No. steel	Part No. stainless steel*	≤ Ø [mm]	B+2 [mm]	H [mm]	Part No. steel	Part No. stainless steel*	≤ Ø [mm]	B+2 [mm]	H [mm]
CFX12.3	**CFX12.3.E**	06 - 12	16	100	**CFX18.3**	**CFX18.3.E**	16 - 18	22	108
CFX14.3	**CFX14.3.E**	12 - 14	18	96	**CFX20.3**	**CFX20.3.E**	18 - 20	24	114
CFX16.3	**CFX16.3.E**	14 - 16	20	102	**CFX22.3**	**CFX22.3.E**	20 - 22	26	120

*Stainless steel material: 1.4301/AISI 304



Suitable C-profile for CFX clamps
Part No. **92.42** ▶ Page 1312

chainfix strain relief | Optional CFXL clamps



The **H** dimension in the tables is based on the maximum cable diameter. Cables with smaller diameters may result in a lower overall clamp housing heights. Tightening torque for CFX clamps 1.5Nm.

CFXL | Clamps with wide base for increased holding force

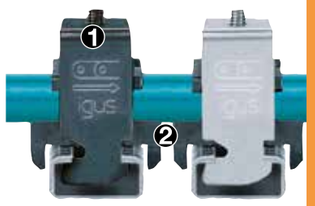
(Suitable for C-profile **92.52.XX**, C-profile always assembled in front of the e-chain®. Cannot be integrated into KMA)

Single clamp housing, incl. bottom saddle

Part No. steel	Part No. stainless steel*	≤ Ø [mm]	B+2 [mm]	H [mm]	Part No. steel	Part No. stainless steel*	≤ Ø [mm]	B+2 [mm]	H [mm]
CFXL12.1	**CFXL12.1.E**	06 - 12	16	60	**CFXL26.1**	**CFXL26.1.E**	22 - 26	30	73
CFXL14.1	**CFXL14.1.E**	12 - 14	18	56	**CFXL30.1**	**CFXL30.1.E**	26 - 30	34	77
CFXL16.1	**CFXL16.1.E**	14 - 16	20	58	**CFXL34.1**	**CFXL34.1.E**	30 - 34	38	81
CFXL18.1	**CFXL18.1.E**	16 - 18	22	60	**CFXL38.1**	**CFXL38.1.E**	34 - 38	42	85
CFXL20.1	**CFXL20.1.E**	18 - 20	24	62	**CFXL42.1**	**CFXL42.1.E**	38 - 42	46	89
CFXL22.1	**CFXL22.1.E**	20 - 22	26	64					

*Stainless steel material: 1.4301/AISI 304

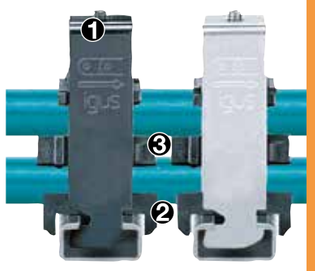
❶ Clamp
❷ Bottom saddle
❸ Stacker saddle



Double clamp housing, incl. bottom and stacker saddles

Part No. steel	Part No. stainless steel*	≤ Ø [mm]	B+2 [mm]	H [mm]	Part No. steel	Part No. stainless steel*	≤ Ø [mm]	B+2 [mm]	H [mm]
CFXL12.2	**CFXL12.2.E**	06 - 12	16	78	**CFXL22.2**	**CFXL22.2.E**	20 - 22	26	86
CFXL14.2	**CFXL14.2.E**	12 - 14	18	80	**CFXL26.2**	**CFXL26.2.E**	22 - 26	30	115
CFXL16.2	**CFXL16.2.E**	14 - 16	20	84	**CFXL30.2**	**CFXL30.2.E**	26 - 30	34	123
CFXL18.2	**CFXL18.2.E**	16 - 18	22	86	**CFXL34.2**	**CFXL34.2.E**	30 - 34	38	131
CFXL20.2	**CFXL20.2.E**	18 - 20	24	92					

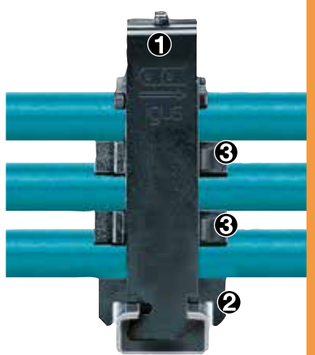
*Stainless steel material: 1.4301/AISI 304



Triple clamp housing, incl. bottom and stacker saddles

Part No. steel	Part No. stainless steel*	≤ Ø [mm]	B+2 [mm]	H [mm]	Part No. steel	Part No. stainless steel*	≤ Ø [mm]	B+2 [mm]	H [mm]
CFXL12.3	–	06 - 12	16	106	**CFXL18.3**	–	16 - 18	22	114
CFXL14.3	–	12 - 14	18	102	**CFXL20.3**	–	18 - 20	24	120
CFXL16.3	–	14 - 16	20	108	**CFXL22.3**	–	20 - 22	26	126

*Stainless steel material: 1.4301/AISI 304



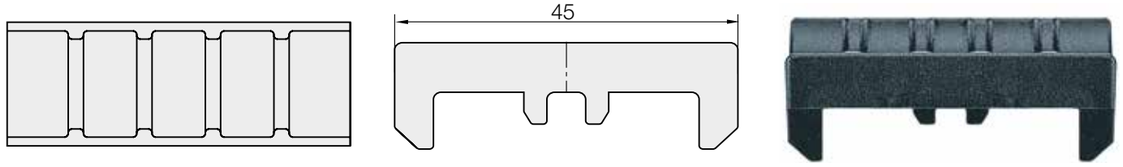
Suitable C-profile for CFXL clamps
Part No. **92.52.** ▶ Page 1312

chainfix strain relief | Clamps | Individual parts

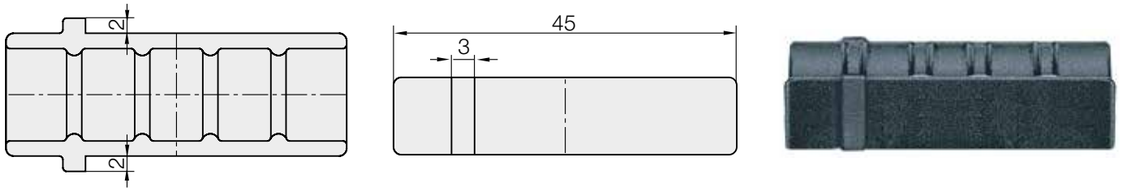
chainfix clamps - stacker elements
- Built-in ribs for secure grip on cables
- Optimised stacker saddle, captive by ❶ locking spring and with ❷ spring groove for a simplified and precise installation
- Conventional stacker saddle
- Long contact surface improves the clamp's stability
- More secure due to high strength
- Suitable for CFX and CFXL clamps



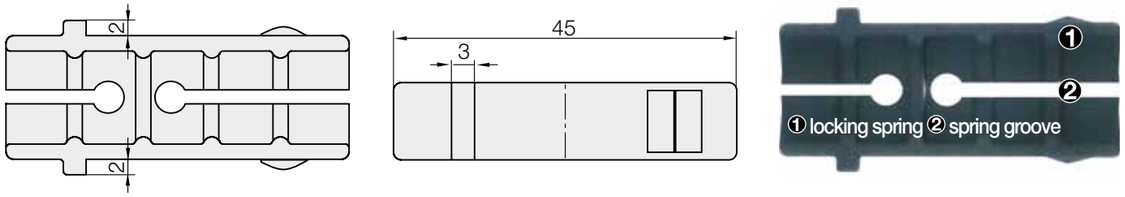
CGXX | Bottom saddle to fit into the clamp housing as an individual part



CDXX | Conventional stacker saddle for all for all double and triple clamps as an individual part



CD.XX.C | Optimised stacker saddle for all double and triple clamps as an individual part



CGXX Bottom saddle	CDXX Stacker saddle	CDXX.C Stacker saddle	For clamp	≤ Ø [mm]
CG12	CD12	CD.12.C	CFX/CFXL12.X	06 - 12
CG14	CD14	CD.14.C	CFX/CFXL14.X	12 - 14
CG16	CD16	CD.16.C	CFX/CFXL16.X	14 - 16
CG18	CD18	CD.18.C	CFX/CFXL18.X	16 - 18
CG20	CD20	CD.20.C	CFX/CFXL20.X	18 - 20
CG22	CD22	CD.22.C	CFX/CFXL22.X	20 - 22

CGXX Bottom saddle	CDXX Stacker saddle	CDXX.C Stacker saddle	For clamp	≤ Ø [mm]
CG26	CD26	CD.26.C	CFX/CFXL26.X	22 - 26
CG30	CD30	CD.30.C	CFX/CFXL30.X	26 - 30
CG34	CD34	CD.34.C	CFX/CFXL34.X	30 - 34
CG38	–	–	CFX/CFXL38.X	34 - 38
CG42	–	–	CFX/CFXL42.X	38 - 42

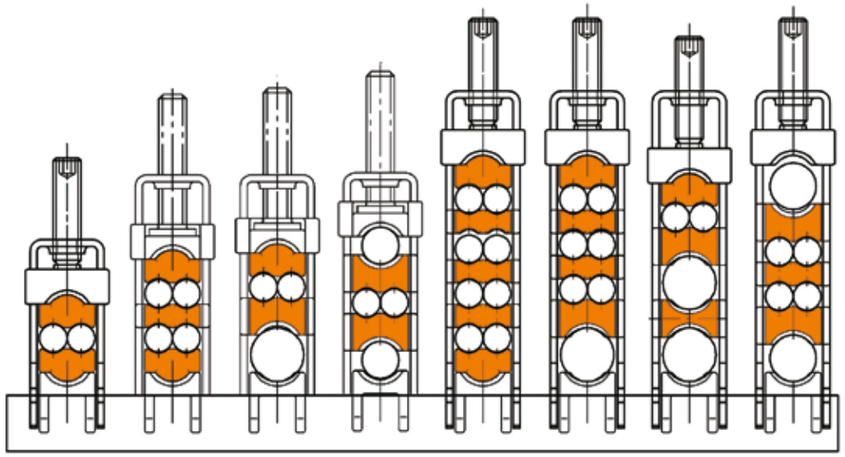
Please note: When using chainfix clamps on C-profile in the mounting bracket for series E4.32/H4.32/R4.32, E4.38L/R4.38L a shortened bottom saddle has to be used. For shortened bottom saddles supplement Part No. with index "**K**". Example: **CFX12.1K**

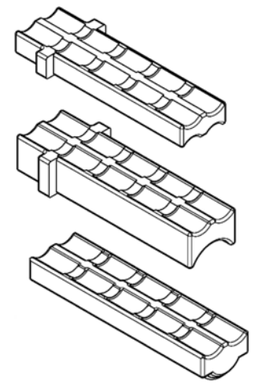
chainfix strain relief | Multi-clamps

chainfix multi-clamps
- More modular options of the proven igus® chainfix strain system
- Universal strain relief - various assembly options
- Save both time and space during installation
- Compact and modular
- For cables with small outer diameters
- Cost-effective



CFX12 | Multi-clamps, universal strain relief





Universal bottom and stacker saddles

Part No. series	Number stacker saddles -individual parts				≤ Ø [mm]
CFX12.1.Z1	2 x	–	–	–	6
CFX12.2.Z1	2 x	1 x	–	–	6
CFX12.2.Z2	1 x	–	1 x	–	6 + 12
CFX12.2.Z3	–	–	2 x	–	6 + 8
CFX12.3.Z1	2 x	3 x	–	–	6
CFX12.3.Z2	1 x	2 x	1 x	–	6 + 12
CFX12.3.Z3	1 x	–	1 x	1 x	6 + 12
CFX12.3.Z4	–	1 x	2 x	–	6 + 10

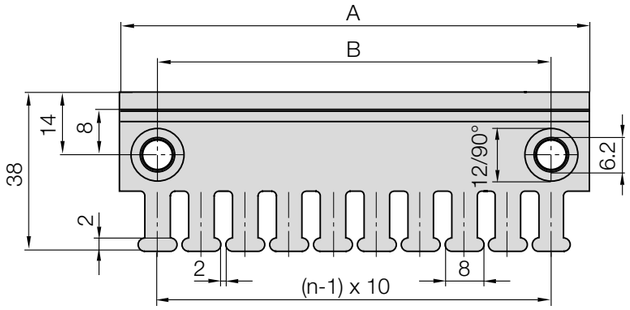
Standard material: galvanised steel. For the stainless steel version (material 1.4301/AISI 304) supplement Part No. with Index "**E**". Example: **CFX.12.3.Z1.E**

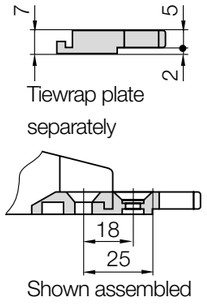
Option 1A: chainfix tiewrap plate series 2000 as an individual part

- Available as an individual component
- Screwed on KMA* with C-profile (*polymer metal mounting bracket)
- Can be clipped onto some mounting brackets
- Can be used as an individual part in switchgear cabinets or in the assembly of machines



Series 2000 | Tiewrap plate as an individual part





Part No. tiewrap plate	Number of teeth [n]	A [mm]	B [mm]	C [mm]	Centre bore – = no / + = yes
2020.ZB	3	30	15	–	–
2030.ZB	4	40	20	–	–
2040.ZB	5	50	30	–	–
2050.ZB	6	60	40	–	–
2070.ZB	8	80	60	–	–
2090.ZB (= 2030.ZB + 2040.ZB)*	9	90	–	–	–
2100.ZB	10	100	80	–	–
2125.ZB (= 2050.ZB + 2050.ZB)*	12	120	–	–	–

*Strain relief consisting of 2 tiewrap plates

For the following igus® series

easy chain®
- E200/Z200

E2.1
- E2.26

E2/000
- 1400/1500/1450/1480
- 2400/2500/2450/2480
- 255

E2 R100
- R117/R118

E2 R
- R48

E4.1
- E4.21

E6.1
- E61.29/EF61.29
- E61.35
- E61.40

E6
- E6.29/R6.29
- E6.35
- E6.40

Cable tiewraps as individual parts

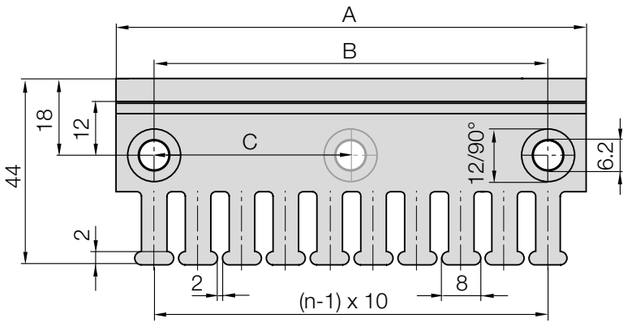
Part No. cable tiewraps 100-piece bag	Width x length [mm]	≤ Ø [mm]	Holding force [N]
CFB.001	4.8 x 150	36	222 N

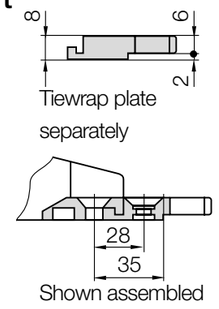
Option 1B: chainfix tiewrap plate series 3000 as an individual part

- Available as an individual component
- Screwed on KMA* with C-profile (*polymer metal mounting bracket)
- Can be clipped onto some mounting brackets
- Can be used as an individual part in switchgear cabinets or in the assembly of machines



Series 3000 | Tiewrap plate as an individual part





Part No. tiewrap plate	Number of teeth [n]	A [mm]	B [mm]	C [mm]	Centre bore – = no / + = yes
3050.ZB	5	50	30	–	–
3075.ZB	7	75	55	–	–
3100.ZB	10	100	80	–	–
3115.ZB	11	115	95	–	–
3125.ZB	12	125	105	–	–
3150.ZB	15	150	130	–	–
3175.ZB	17	175	155	–	–
3200.ZB	20	200	180	90	+
3225.ZB	22	225	205	102.5	+
3250.ZB	25	250	230	115	+

For the following igus® series

easy chain®
- E26/Z26
- E300/Z300

E2.1
E2.38
- E2.48

E2/000
- 2600/2700/2650/2680
- 3400/3500/3450/3480

E4.1L
- E4.38L/R4.38L
- E4.48L/R4.48L
- E4.64L

E4.1
- E4.32/H4.32/R4.32
- E4.42/H4.42/R4.42
- E4.56/H4.56/R4.56
- E4.80/H4.80/R4.80
- E4.112/R4.112
- E4.162
- 800
- 840

E4/light
- 14040/14140/18840
- 14240/14340
- 14550/14650/19050
- 15050/15150/19850
- 15250/15350
- 1640/1608

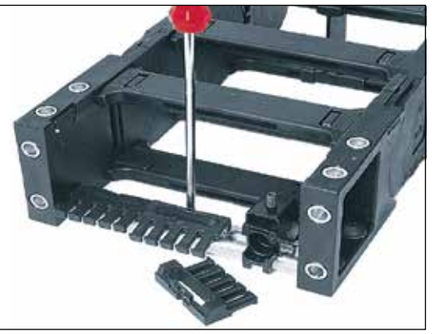
E6.1
- E61.52
- E61.62
- E61.80

E6
- E6.52/R6.52
- E6.62
- E6.80L
- E6.80

Cable tiewraps as individual parts

Part No. cable tiewraps 100-piece bag	Width x length [mm]	≤ Ø [mm]	Holding force [N]
CFB.001	4.8 x 150	36	222 N

Option 1: chainfix tiewrap plates with clip-on connection for C-profile
- Can be clipped into the KMA C-profile
- Easy to assemble without any screws
- Easy to remove with screwdriver but secure when in use
- Can be used as an individual part in switchgear cabinets or in the assembly of machines



Option 1 | Tiewrap plate for C-profile

Part No. tiewrap plate	Width [mm]	Number of teeth	For series
3050.ZC	50	5	For all mounting brackets with C-profile
3075.ZC	75	7	For all mounting brackets with C-profile

For the following igus® series

C-profile
- For all mounting brackets with C-profile

Option 2: integrated strain relief for R series E2 e-tubes
- Strain relief integrates completely into the e-tube
- Easy to assemble without any screws
- Can be used as an individual part in switchgear cabinets or in the assembly of machines



Option 2 | Tiewrap plate for R series E2 e-tubes

Part No. tiewrap plate	Width [mm]	Number of teeth	For series
3050.Z*	50	5	R68
3075.Z	75	7	R68
5850.Z	46	4	R58

*Only possible from e-chain® width 100mm and larger

For the following igus® series

E2 R
- R58
- R68

Option 3: tiewrap plates for fixed crossbars
- Can be clipped on fixed crossbars
- For use with many harnessed cables
- If the KMA is too small for C-profile
- Easy to assemble without any screws



Option 3 | Tiewrap plate for fixed crossbars

Part No. tiewrap plate	Width [mm]	Number of teeth	For series
2050.Z	60	6	E/Z200, 2400/2500, 2600/2700
3050.Z	50	5	3400/3500
3075.Z	74	7	3400/3500
C.2.522.065.ZS New	63	6	E2.38, E2.48, E4.38L, E4.48L
C.2.522.075.ZS New	72	7	E2.38, E2.48, E4.38L, E4.48L

For the following igus® series

easy chain®
- E200/Z200

E2.1
- E2.38
- E2.48

E2/000
- 2400/2500
- 2600/2700
- 3400/3500

E4.1L
- E4.38L
- E4.48L

Option 4: chainfix tiewrap plates for openable crossbars
- Can be clipped on openable crossbars
- For use with many harnessed cables
- If the KMA is too small for C-profile
- Easy to assemble without any screws



Option 4 | Tiewrap plate for openable crossbars

Part No. tiewrap plate	Width [mm]	Number of teeth	For series
2050.Z	60	6	2600/2700/2650, E4.28, E61.52, E6.52
3035.ZS	35	3	3400/3500/3450
3050.ZS	50	5	3400/3500/3450
3075.ZS	75	7	3400/3500/3450
3850.ZS	48	5	E4/H4/R4.32, E4/H4/R4.42, 14240/14340, 15250/15350, E61.62, E6.62
4550.ZS	48	5	E4/H4/R4.56, E4/H4/R4.80, E4/H4/R4.112, 14040/14140/18840,14550/14650/19050, 15050/15150/19850, E61.80, E6.80L, E6.80, 1640/1608
4575.ZS	74	7	E4/H4/R4.56, E4/H4/R4.80, E4/R4.112, 14040/14140/18840, 14550/14650/19050, 15050/15150/19850, E61.80, E6.80L, E6.80, 1640/1608
C622.100.ZS New	80	8	E4.38L, E4.48L

For the following igus® series

E2/000
- 2600/2700/2650
- 3400/3500/3450

E4.1L
- E4.38L
- E4.48L

E4.1
- E4.28
- E4.32/H4.32/R4.32
- E4.42/H4.42/R4.42
- E4.56/H4.56/R4.56
- E4.80/H4.80/R4.80
- E4.112/R4.112

E4/light
- 14040/14140/18840
- 14240/14340
- 14550/14650/19050
- 15050/15150/19850
- 15250/15350
- 1640/1608

E6
- E6.52 / R6.52
- E6.62
- E6.80L
- E6.80

E6.1
- E61.52
- E61.62
- E61.80

Assembled in seconds - honeycomb strain relief CFU - New
- Up to 80% faster strain relief for different cables in one slot
- Simply insert cables and hoses into the honeycomb and close
- Easy to make changes - add or remove cables/hoses
- Simplified parts
- Can be used in gliding applications



CFU | Honeycomb strain relief design



Strain relief of different cables in one slot, openable on both sides. Black anodised aluminium rails with side recesses for easier assembly



Strain relief can be screwed in from above or below. Compact design is smaller than the mounting bracket of the e-chain® at the fixed end, meaning it can also be used for long travels

For the following igus® series

E2.1
E2.48

E2/000
- 3400/3500/3450/3480

E2 R
- R68

R2.1
- R2.48

E2 R
- R68

E4.1L
- E4.48L/R4.48L

E4.1
- E4.42/H4.42/R4.42

E6.1
- E61.52

E6
- E6.52/R6.52

reddot design award winner 2018

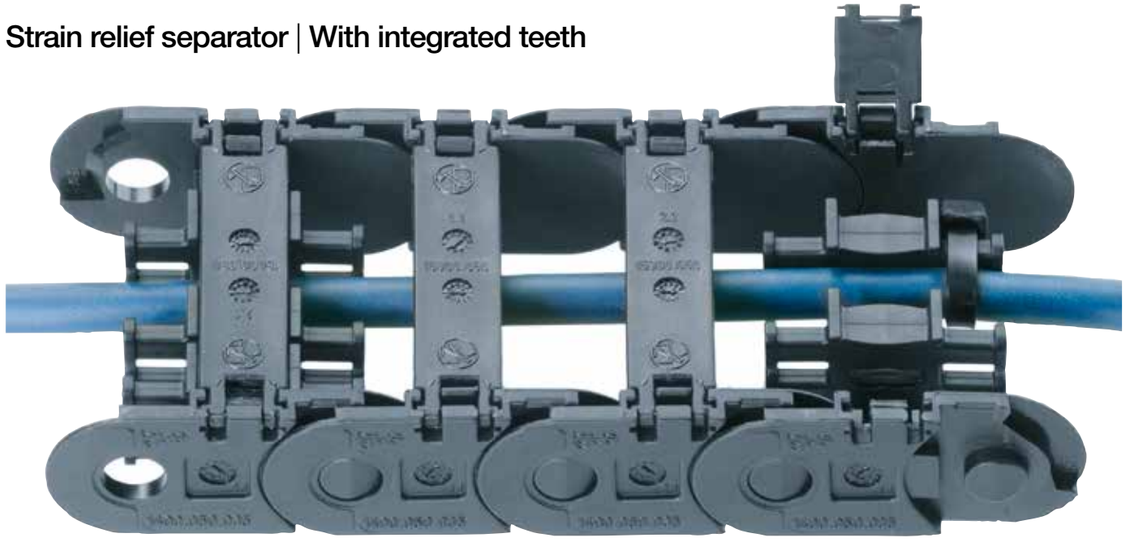
More (technical) information on request or online ▶ www.igus.eu/CFU

Strain relief separators - separator with integrated strain relief teeth

- To be fitted at the first and last e-chain® link
- For restricted space conditions
- Easy to assemble without any screws
- The number "***n***" depends on the selection of the cables (diameter, type) and the available space

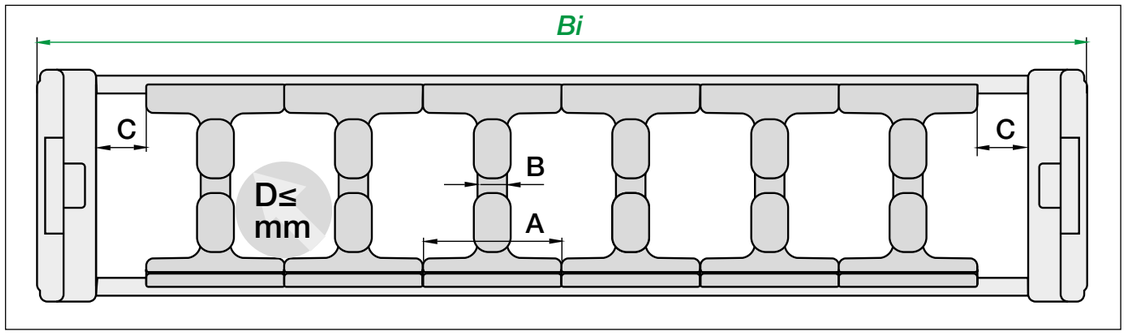


Strain relief separator | With integrated teeth



Strain relief separators are assembled either at the first or last e-chain® link. Alternatively they can be fitted within the e-chain® as an intermediate strain relief

Product range | Installation dimensions



Strain relief separator | Product range | Installation dimensions

Part No.	For series	Number of teeth	A [mm]	B [mm]	C [mm]	D [mm]
26.Z*	**E2.26**	6	12	3	–	7
21.1.Z	**1400/1500**	4	10	4	–	6
2020.Z	**2400/2500**	2	10	4	–	6
2020.ZR	**2450/2480**	4	10	4	–	6
262.Z	**2600/2700**	3	10	4	–	6
301.Z	**3400/3500**	3	18	4	–	14
34501.Z	**3450/3480**	6	14	4	–	10
1585.01.Z	**R157/R158**	6	22	4	–	18
1685.01.Z	**R167/R168**	8	22	4	–	18
481.ZR	**R48**	4	10	3.5	10	6.5
R2.26.Z	**R2.26/R2.26i**	4	10	3	–	6
R2.40.Z	**R2.40/R2i.40**	8	12	3	–	7
31.Z	**E4.31L/R4.31L**	4	9	4	6	6
48.Z	**E4.48L/R4.48L**	4	14	4.5	8	20
48.ZS	**E4.48L/R4.48L**	4	14	4.5	8	20
T2103.Z	**E4.21**	2	8	4	1	4
28.Z	**E4.28**	4	10	4	–	6
28.ZT	**R4.28**	4	10	4	15	6
E6.29.02.Z	**T3.29**	2	8	4	1	4
E6.29.02.Z	**E6.29/E61.29**	2	8	4	1	4
R6.29.02.Z	**R6.29**	2	10	4	10	4
E6.35.02.Z	**E6.35/E61.35**	3	8	4	1	4
E6.40.02.Z	**E6.40/E61.40**	3	13	4	–	8

*For KMA mounting bracket only

For the following igus® series

E2.1
- E2.26

E2/000
- 1400/1500
- 2400/2500
- 2450/2480
- 2600/2700
- 3400/3500
- 3450/3480

E2 R100
- R157/R158
- R167/R168

E2 R
- R48

R2.1
- R2.26/R2i.26
- R2i.40/R2i.40

E4.1L
- E4.31L/R4.31L
- E4.48L/R4.48L

E4.1
- E4.21
- E4.28/R4.28

T3
- T3.29

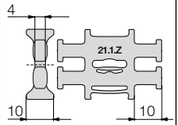
E6.1
- E61.29/EF61.29
- E61.35
- E61.40

E6
- E6.29
- R6.29
- E6.35
- E6.40

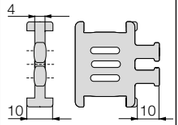
chainfix strain relief | Clip-on solutions

Strain relief separator | Overview

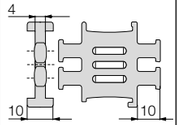
For series E2/000

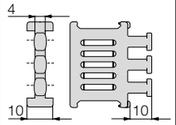
1400/1500 e-chains®
unassembled 21.1.Z
assembled 21.1.Z.1

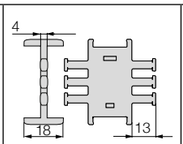
2400/2500 e-chains®
unassembled 2020.Z
assembled 2120.Z

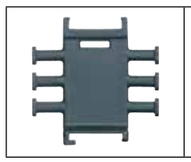
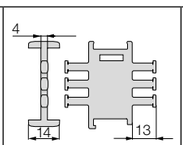
2450/2480 e-tubes
unassembled 2020.ZR
assembled 2120.ZR

2600/2700 e-chains®
unassembled 262.Z
assembled 263.Z

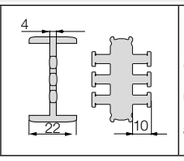



3400/3500 e-chains®
unassembled 301.Z
assembled 311.Z

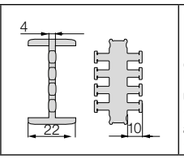



3450/3480 e-tubes
unassembled 34501.Z
assembled 34511.Z

For series R100 E2 e-tubes

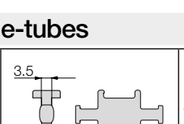



R157/R158 e-tubes
unassembled 1585.01.Z
assembled 1586.01.Z

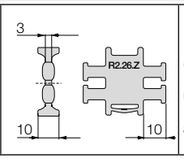
R167/R168 e-tubes
unassembled 1685.01.Z
assembled 1686.01.Z

For series R E2 e-tubes

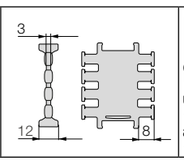



R48 e-tubes
unassembled 481.ZR
assembled 482.ZR

For series R2.1 e-tubes

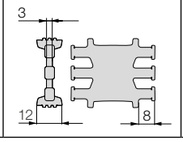



R2.26·R2i.26 e-tubes
unassembled R2.26.Z
assembled R2.26.Z.1

R2.40·R2i.40 e-tubes
unassembled R2.40.Z
assembled R2.40.Z.1

New: For series E2.1 e-chains®

E2.26·E2i.26* e-chains®
unassembled 26.Z
assembled 26.Z.1

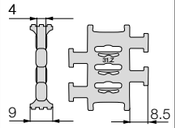
*For KMA mounting bracket only

chainfix

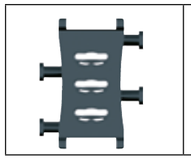
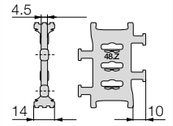
chainfix strain relief | Clip-on solutions

Strain relief separator | Overview

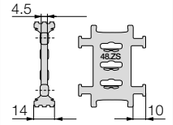
New: For series E4.1L

E4.31L/R4.31L e-chains®/e-tubes
unassembled 31.Z
assembled 31.Z.1

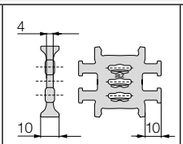



E4.48L/R4.48L e-chains®/e-tubes
unassembled 48.Z
assembled 48.Z.1

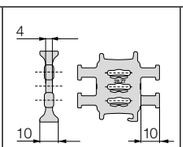



E4.48L/R4.48L e-chains®/e-tubes
unassembled 48.ZS
assembled 48.ZS.1

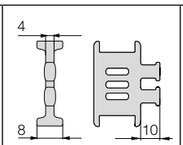
For series E4.1

E4.28 e-chains®
unassembled 28.Z
assembled 28.Z.1

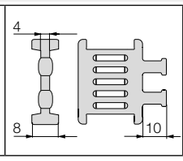



R4.28 e-tubes
unassembled 28.ZT
assembled 28.ZT.1

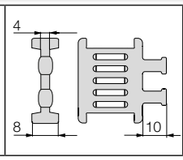
E4.21 e-chains®
unassembled T2103.Z
assembled T2113.Z

For series T3

T3.29 e-chains®
unassembled E6.29.02.Z
assembled E6.29.12.Z

For series E6.1 / E6 / R6

E6.29/E61.29 e-chains®
unassembled E6.29.02.Z
assembled E6.29.12.Z

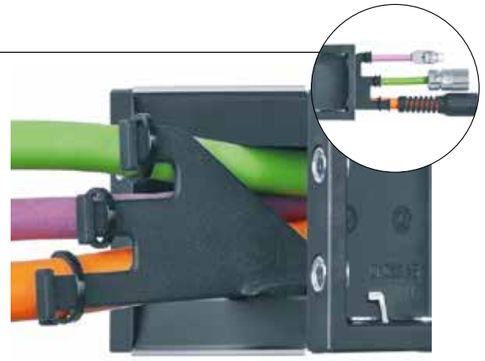
R6.29 e-tubes
unassembled R6.29.02.Z
assembled R6.29.12.Z

E6.35/E61.35 e-chains®
unassembled E6.35.02.Z
assembled E6.35.12.Z

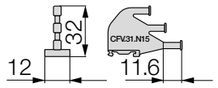
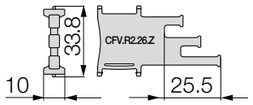
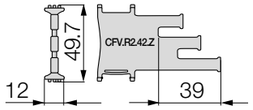
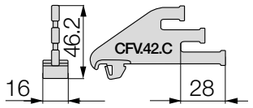
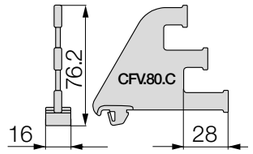
E6.40/E61.40 e-chains®
unassembled E6.40.02.Z
assembled E6.40.12.Z

CFV strain relief element - for a stepped strain relief for use outside of the e-chain® section

- Easy strain relief for cables, even in fully enclosed tubes and with different connectors
- For e-chains® and e-tubes
- Easy to retrofit
- Simple installation into KMA mounting bracket or top-hat (DIN) rail 15 (TS92.31)



CFV | Strain relief elements with tiewrap teeth

Part No.	For series	Inner height *hi* [mm]	For use in
CFV.31.N15 New	**E4.31L/R4.31L**	31	Top-hat (DIN) rail 15 (TS92.31)
			
CFV.R2.26.Z New	**R2.26**	26	KMA*
			
CFV.R2.40.Z	**R2.40**	40	KMA*
			
CFV.42.C	**2600/2700/2650/2680**	35	KMA*
	3400/3500/3450/3480	45	KMA*
	**E4.32/H4.32/R4.32**	32	KMA*
	E4.42/H4.42/R4.42	42	KMA*
	E4.38L/R4.38L	38	KMA*
	E4.48L/R4.48L	48	KMA*
CFV.80.C	**R2.75**	75	KMA*
	**E4.64L**	64	KMA*
	E4.56/H4.56/R4.56	56	KMA*
	E4.80/H4.80/R4.80	80	KMA*

*KMA = plastic metal mounting bracket

For the following igus® series

E2/000
- 2600/2700
- 2650/2680
- 3400/3500
- 3450/3480

R2.1
- R2.26
- R2.40

E4.1
- E4.32/H4.32/R4.32
- E4.42/H4.42/R4.42
- E4.56/H4.56/R4.56
- E4.80/H4.80/R4.80

E4.1L
- E4.31L/R4.31L
- E4.38L/R4.38L
- E4.48L/R4.48L
- E4.64L

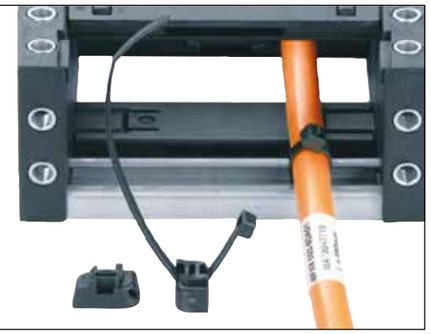




CFV stepped strain relief element easily clipped in from above

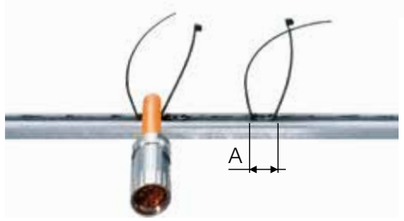
Option 1: CFN nuggets for C-profile
Option 2: CFN nuggets for top-hat (DIN) rail 35

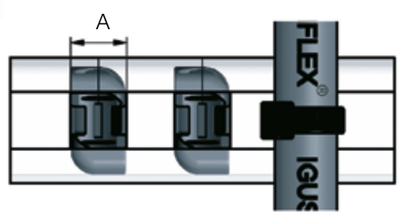
- Universal cable fixation in C-profile or clip onto a standard top-hat (DIN) rail 35
- Simple strain relief with cable tiewraps
- Very small space required
- Easy to assemble without any screws and tools
- Adjustable to every e-chain® filling



Option 1 | CFN nuggets for C-profile

Part No. Nugget	For C-profile	≤ Ø [mm]	A [mm]
CFN.20	**92.42 ... /92.42 ... E**	20	10.8
CFN.30.52	**92.52 ... /92.52 ... E**	30	16.4



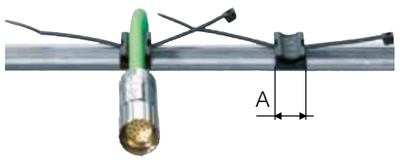


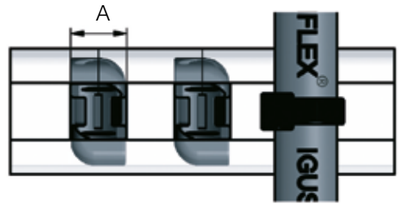
For the following igus® series

C-profile
- For all mounting brackets with C-profile

Option 2 | CFN nuggets for top-hat (DIN) rail

Part No. Nugget	For top-hat (DIN) rail	≤ Ø [mm]	A [mm]
CFN.20.N35	**Top-hat (DIN) rail 35**	20	20





For the following igus® series

Top-hat (DIN) rail
- Top-hat (DIN) rail 35

CFB strain relief connector system - polymer, modular, can be mounted into the C-profile

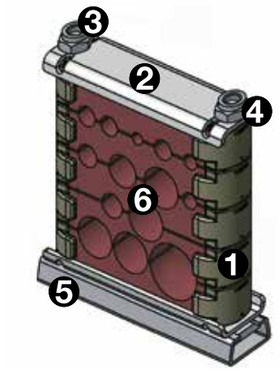
- Customised strain relief solutions can be offered
- 2 options available, cost-effective and strong
- Fast assembly with bolted connection
- Can be mounted in the mounting bracket or in front of the e-chain®
- Customised production from 1 piece



CFB strain relief connector system | Series 907.881

Please consult igus® when designing this product

Parts list Description	Part No.	Quantity
❶ Outer fixing block	**CFB20.1**	N x 2
❷ Clamping bar	**907.881.1.XXX**	2
❸ Threaded bolt with plate	**907.825.2.LLL**	2
❹ Hexagon nut M8	**MAT 0040012**	2
❺ C-profile (part of KMA)	**92.42.XXX**	1
❻ Strain relief block	Customer-specific	1



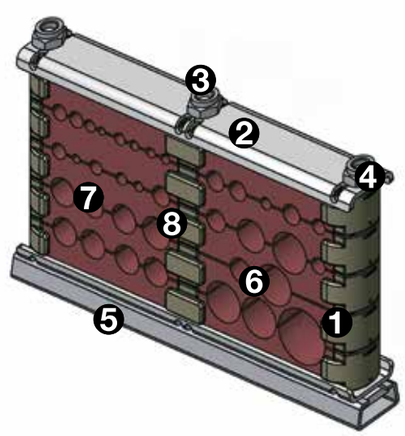
Order key
907.881.XXX.N

N = Number of layers of fixing blocks
XXX= *Bi* - 3mm (mounting bracket)
Part No. with version 881

CFB strain relief connector system | Series 907.825

Please consult igus® when designing this product

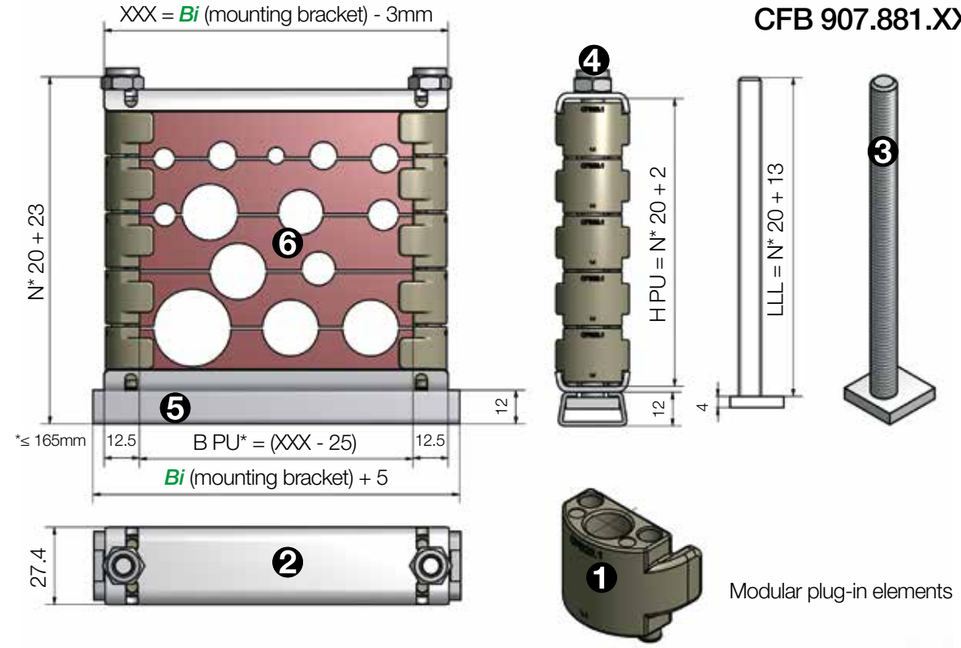
Parts list Description	Part No.	Quantity
❶ Outer fixing block	**CFB20.1**	N x 2
❷ Clamping bar	**907.825.1.XXX**	2
❸ Threaded bolt with plate	**907.825.2.LLL**	3
❹ Hexagon nut M8	**MAT 0040012**	3
❺ C-profile (part of KMA)	**92.42.XXX**	1
❻ Strain relief block	Customer-specific	1
❼ Strain relief block	Customer-specific	1
❽ Inner fixing block	**CFB20.2**	N



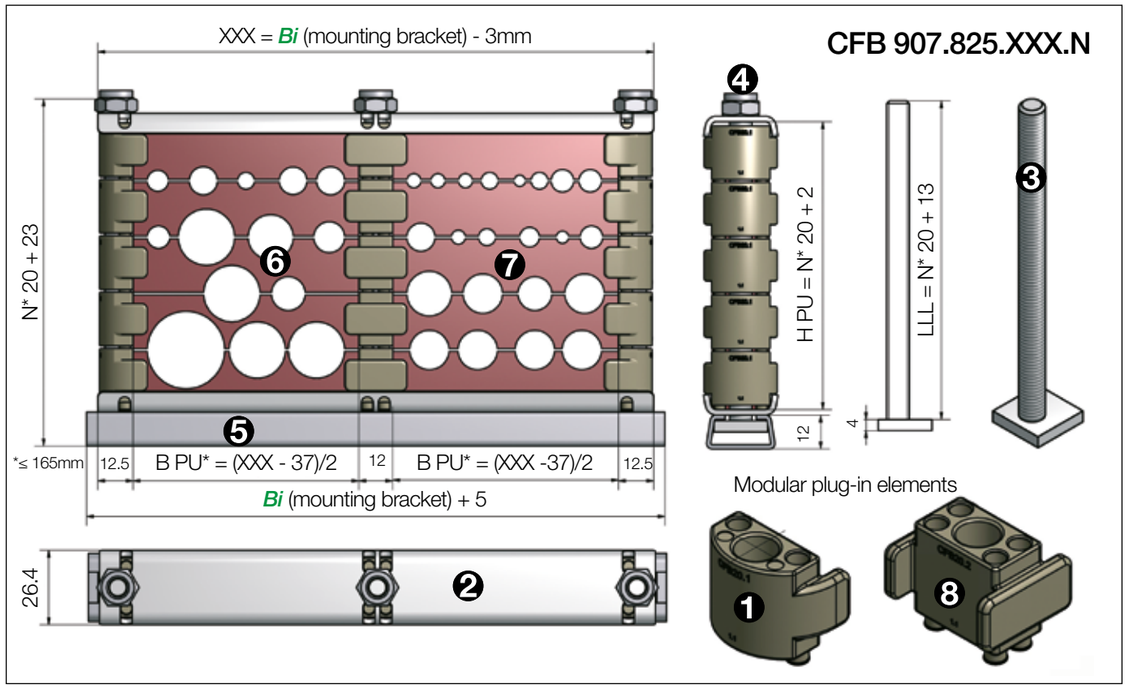
Order key
907.825.XXX.N

N = Number of layers of fixing blocks
XXX= *Bi* - 3mm (mounting bracket)
Part No. with version 825

CFB 907.881.XXX.N



CFB 907.825.XXX.N



Delivery time upon request, due to customer-specific fabrication!

chainfix strain relief | My sketches

chainfix

chainfix strain relief | My sketches

chainfix

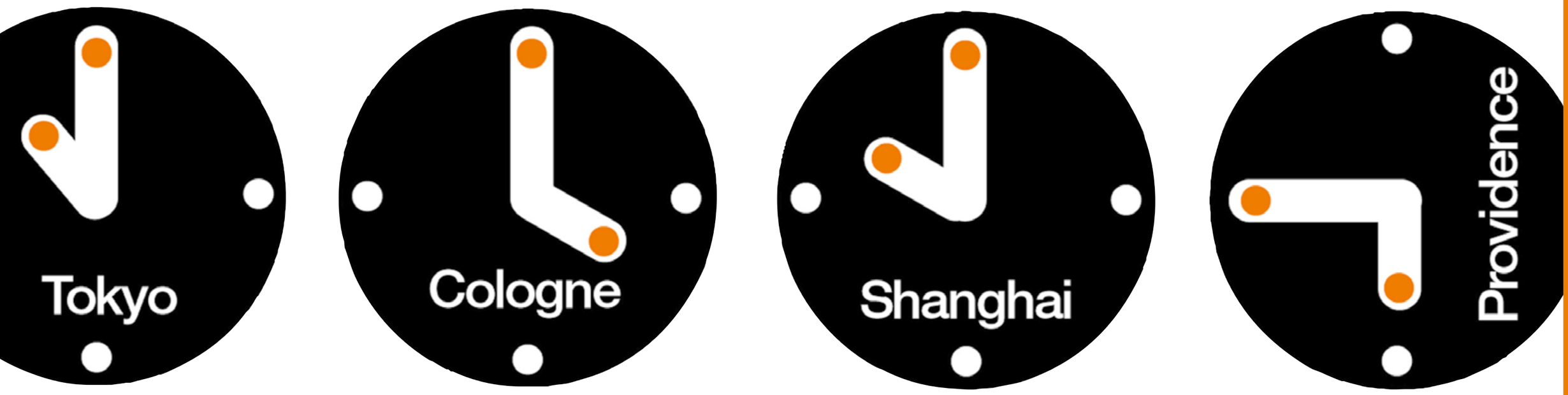
chainfix strain relief | My sketches

chainfix

chainfix strain relief | My sketches

chainfix

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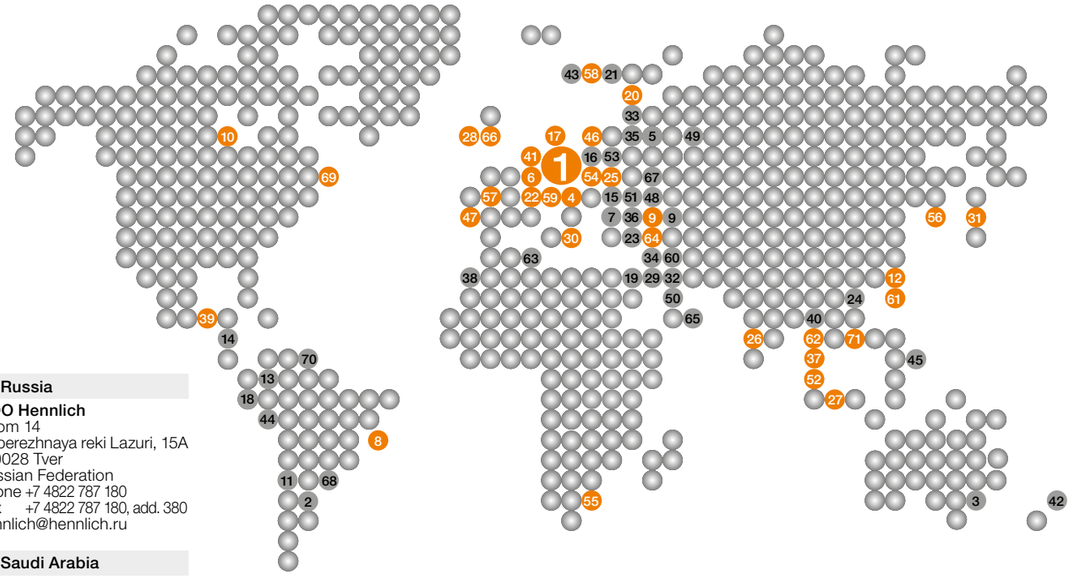
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