E4.1

The Standard of the E4 program!

igus® e-chains® and e-tubes
for allmost all applications

E4.1 - ONE e-chain® series for allmost all applications

The E4.1 system combines all the advantages of its three predecessors. E4.1 profits from 25 years of igus® experience in 4-piece e-chains® and is the best igus® e-chain® in the product range. The E4.1 series is more stable with the same or smaller dimensions than their predecessors. Almost all accessory components and mounting dimensions are identical. With the E4.1, the service life of your application can be still increased with lower costs.

- Undercut design for ideal lateral stability, high shear force on long travels and for large unsupported lengths
- Well suited for side-mounted applications
- Noise dampening pads
- Outer and inner links for quick assembly, with or without pretension
- Dirt repellant, with smooth, wear-resistant surface and side wear pads

Typical industries and applications

● Crane ● Indoor crane ● Composting plants ● Sewage plants ● Machine tools ● General mechanical engineering ● Materials handling technology ● Refrigeration engineering ● Construction machinery ● Wood working ● Any type of machines ● Robotics and handling systems

Clean-Room — Cleanroom test upon request

41 dB(A) tested at igus® lab, v = 1,8 m/s unsupported, Series E4.21.060.038.0

EX — ESD classification: Electrically conductive ESD/ATEX version upon request

System E4.1 proved with long travels

e-tubes available as special design with HT material for 850°C (1562° F) hot chips

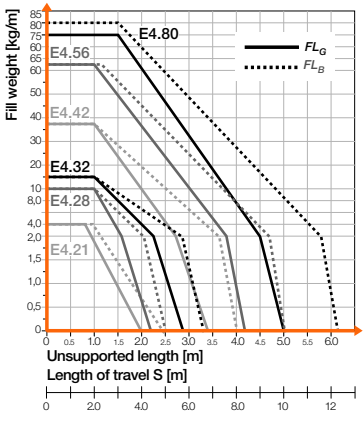
The E4.42 Series in a machine tool, completely assembled with igus® chainflex® cables

Application	Design feature
Large unsupported length	Special stop dogs, undercut
Low-noise, unsupported gliding	Integrated "brake", smooth gliding surfaces - rubber dampers optional
Hanging and standing installation	Torsional stability through undercut, "no camber" option by flipping the outer link
Long travels	High push/pull forces through undercut design and stop dogs, large and smooth gliding surfaces
Side-mounted, unsupported	Undercut increases unsupported length by about 30% mounted on the side
Fast assembly	"Inner link/outer link" design
Rotary motion	Through simple flipping of links or easy modification, gliding surfaces on the side
Increase service life of cable	Smooth, wide solid polymer support for cables, many quick-mounting shelving options
Increase service life of e-chains®	Large pins, optimized material, high stability
ESD, ATEX	Undercut for secure contact surfaces in motion (special version in conductive material)
Operation under dirt, chips, humidity	Undercut design prevents e-chain® breakage, dirt-resistant design

E4.1 e-chains®: You can "do away" with expensive additional components

- Up to 33% more unsupported length*. Save in the purchase cost, as you can now use smaller e-chains®
- Due to the large unsupported lengths or loads, oversized energy supply systems can be optimized with the igus® E4.1 system
- Best of class - Utmost stability** compared to other polymer e-chains®

* Compared to the igus® E4/00 system series
** Test at igus® laboratory: Sag tested with defined weight and length over 96h



Content overview, selection table and assembly instructions ▶ page 7.14

E4.1 | Utilized advantages of the approved E4 Series

The design principle of the undercut combined with the inner/ outer-link solution - Series E4.1 - All applications with one e-chain®

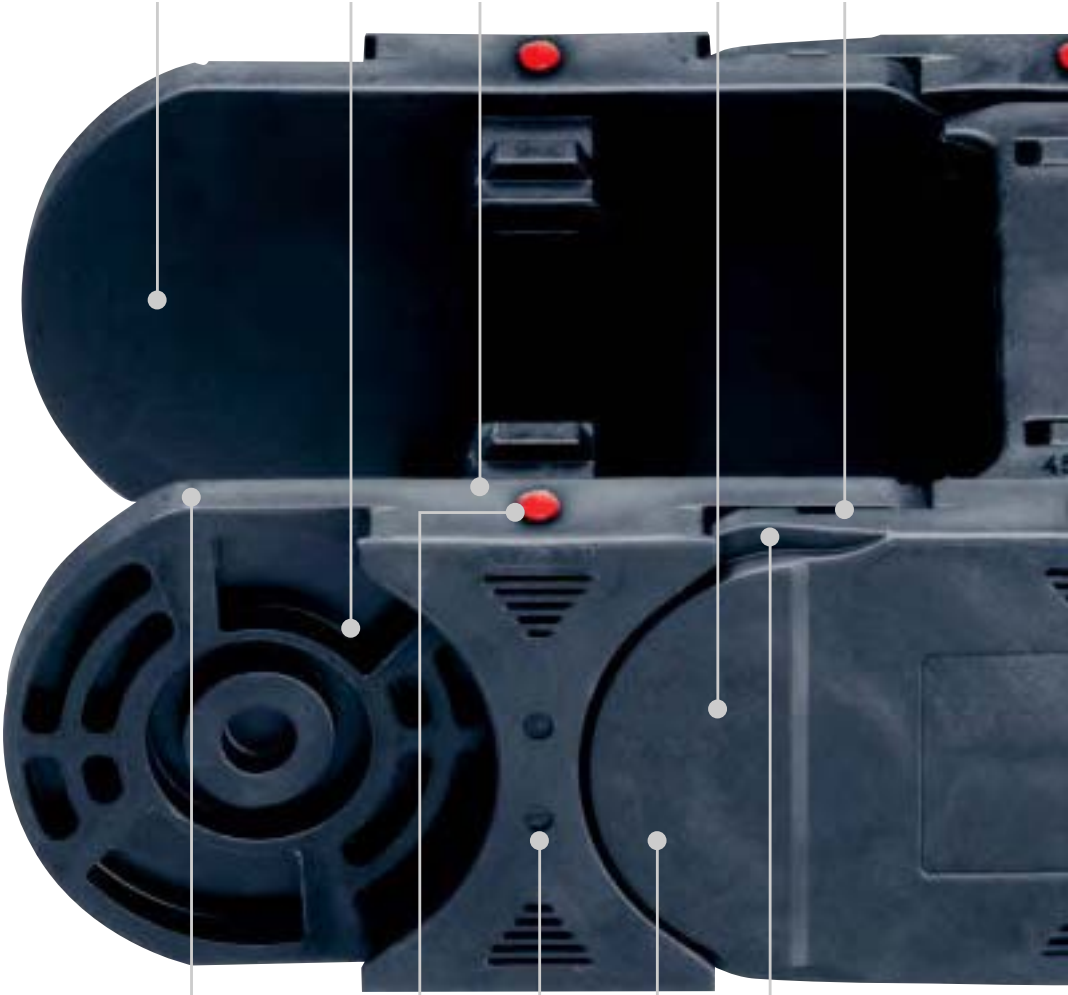
Smooth, cable-friendly inner surfaces

Low noise operation through integrated "brake" on the radial stop dogs

Smooth and wear-resistant gliding surface - no additional gliding shoe

Lateral wear pads for a long service life (also for side-mounted applications)

ESD version ideal through "tongue and groove" contact



Special e-chain® link contour provide for low rolling noise

Additional noise dampening pads

Straight run and fast assembly due to inner- / outer-link design

Very high stiffening and carrying capacity when shear forces appear due to the undercut design

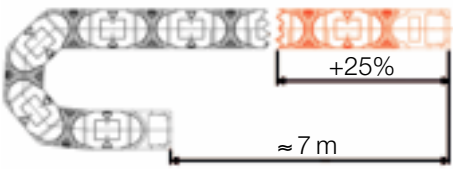
Stable crossbars with double locking

Types "with" or "without pretension" due to flipping outer links

Cable-friendly, rounded crossbar

Vertical stop dog system for larger unsupported lengths

Still more unsupported length with the igus® XXL plastic*

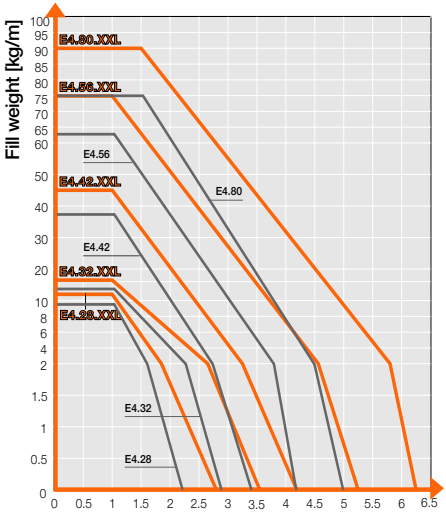


Up to 25% more unsupported length

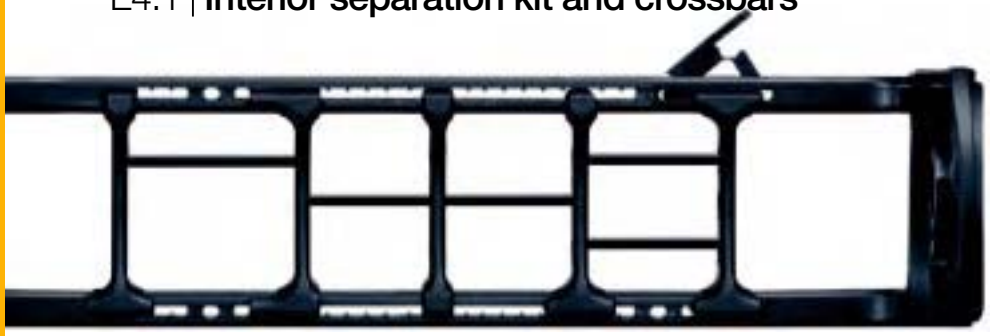
The new igus® XXL material for igus® E4.1 e-chains® offers you the potential to implement 7 m of travel without troughs and supports, or to implement higher fill weights with constant unsupported length.

- Larger unsupported lengths
- Higher fill weights
- Eliminates guide troughs and supports
- Less space requirement

*optional upon request



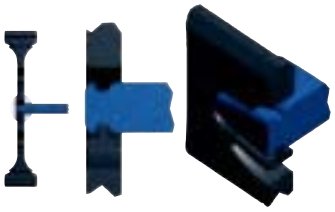
For detailed information:
www.igus.de/en/XXL-Material



Realize a better separation, with fewer, standardized parts

Optimized and extended interior separation range for E4.1. The very cable friendly design increases your cables cycle life even further.

- Same separation for e-chains® and e-tubes
- Safe force closure connection
- Cable friendly plastic crossbars, optimized for low cable wear and long cycle life
- Fast assembly



For horizontal separation: full-width shelves

- Shelf locks safely into separators on both ends due to special locking clip
- Separators can be moved freely over the shelf in horizontal direction
- No side plates necessary
- Multilayer separation continous or in single divisions with only one part possible

Notch crossbars, notch bottoms and lids

New standardized crossbar. Notch teeth in 5 mm gaps on the crossbar ensure safe fit against the notch separators, for side-mount applications. The additional, plane surface scaling makes exact positioning of the separator easy, without increasing cable wear.

- No additional spacers necessary for side-mounted applications
- Approx. 25 kg holding force of separator in raster position
- Clearly visible, plane scaling
- Clearly notches and scaling on crossbars for e-chains® and bottoms and lids of e-tubes

QuickLock Crossbar "Q"

- One-click opening of the QuickLock crossbar: = 25 % faster assembly compared to standard crossbars
- Faster assembly with less effort
- Free access to the top, e-chain® can remain in the guide trough

► **www.igus.de/en/E4quickassembly**

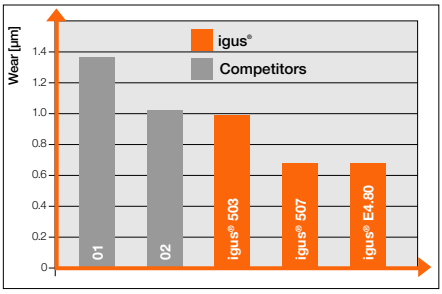
Cables last up to 4 times longer

The new separators can increase cycle life of cables by a factor of 4 - their rounded base ensures a smooth junction to the crossbar and avoids edges, which could increase cable wear. A strong force closure fit for e-chains® and e-tubes. Tests in the igus® lab have shown the lowest cable wear in e-chains® with the new plastic separators.

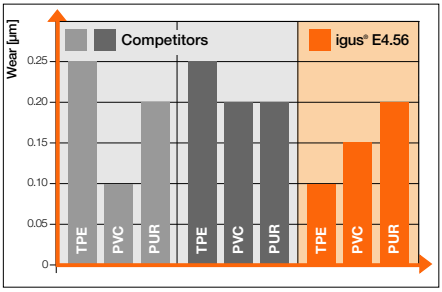
Longer life with Polymer Crossbars

Tests in the igus® lab have shown, that minimized cable wear is achieved in e-chains® with plastic crossbars which are designed cable friendly, with rounded contours. All igus® e-chains®/e-tubes are equipped with plastic crossbars. Where it makes sense, other material can be considered, subject to prior test runs. The locking strength of igus® crossbars is also convincing. Crossbars from different materials underwent a pull-out strength test in the igus® lab. The locking strength is evident. Also, plastic crossbars are elastic yet very torsion resistant and do not plastically deform, like i.e. aluminum crossbars.

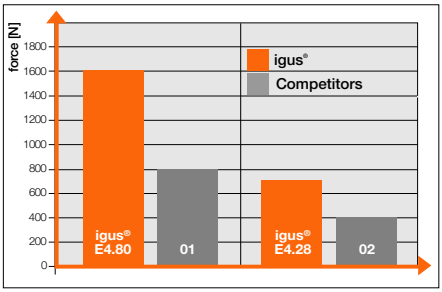
Cable wear tests at igus® lab



Wear on plastic separators:
Wear could be reduced to nearly half with the new separators



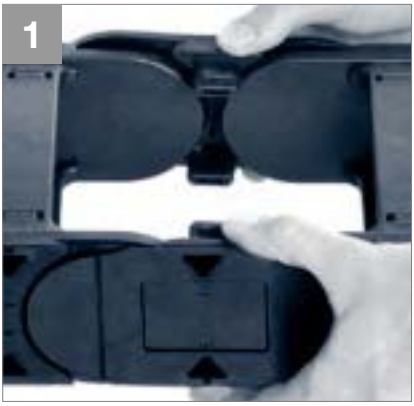
Wear on plastic crossbars:
Longest service life with igus® polymer crossbars



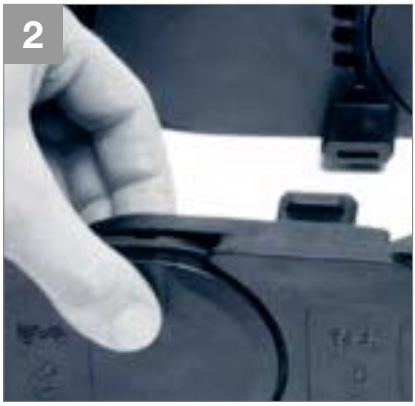
Retention force comparison polymer-/aluminum-crossbars - longest service life!
Maximum holding force of the crossbars

Series	Inner height *hi* [mm]	Inner width *Bi* [mm]	Outer width *Ba* [mm]	Outer height *ha* [mm]	Bending radius *R* [mm]	Unsupported length max. [m]	page
							
Crossbars every link for particulary demanding applications							
E4.21	21	30 - 120	44 - 134	28	38 - 200	2,50	**7.18**
E4.28	28	40 - 300	60 - 320	42	55 - 250	2,50	**7.28**
E4.32	32	50 - 400	73 - 423	54	63 - 300	3,30	**7.42**
E4.42	42	50 - 400	76 - 426	64	75 - 350	4,00	**7.60**
E4.56	56	50 - 600	84 - 634	84	135 - 500	5,00	**7.78**
E4.80	80	50 - 600	100 - 650	108	150 - 1000	6,20	**7.96**
1640	112	50 - 600	84 - 634	140	200 - 600	4,50	**7.114**
800	200	200 - 600	260 - 660	236	325 - 1000	8,00	**7.130**
840	204	100 - 563	160 - 623	236	325 - 1000	8,00	**7.140**
E4.350	350	400 - 800	540 - 940	450	500 - 1000	6,20	**7.150**
							
Crossbars every 2nd link for almost all applications							
H4.32	32	50 - 400	73 - 423	54	63 - 300	3,30	**7.42**
H4.42	42	50 - 400	76 - 426	64	75 - 350	4,00	**7.60**
H4.56	56	50 - 600	84 - 634	84	135 - 500	5,00	**7.78**
H4.80	80	50 - 600	100 - 650	108	150 - 1000	6,20	**7.96**
							
e-tubes fully enclosed, excellent cable protection							
R4.28	28	50 - 300	70 - 320	42	75 - 250	2,50	**7.28**
R4.32	32	50 - 300	73 - 323	54	125 - 300	3,30	**7.42**
R4.42	42	50 - 300	76 - 326	64	125 - 350	4,00	**7.60**
R4.56	56	75 - 462	109 - 497	84	135 - 500	5,00	**7.78**
R4.80	80	150 - 200	250 - 513	108	200 - 1000	6,20	**7.96**
1608	108	200 - 400	234 - 434	140	250 - 600	4,50	**7.114**

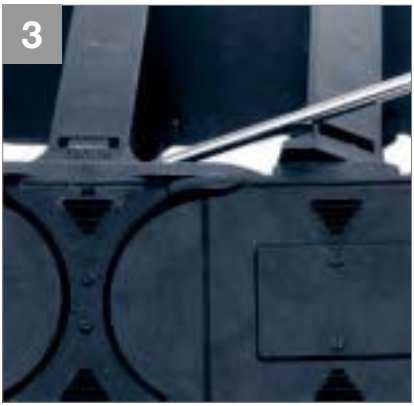
Available from stock. Delivery in 24h or today!*
*Delivery time means time until shipping of goods



Line up two inner side links, side by side...



...attach an outer side link between

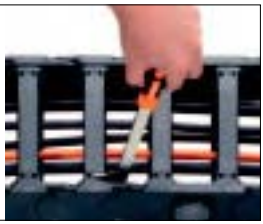


Assemble crossbars - push down and snap in by using a screwdriver

Assemble e-tube lids/bottoms - attach to the connector at an angle - snap in

The NEW E4 e-chain® opener reduces assembly time

e-chain® opener tools for convenient opening and closing of E4 series igus® e-chains® ● Especially for e-chains® with many crossbars the assembly is much easier ● Especially in areas difficult to access mounting is simplified big savings in assembly time. Please call us or ▶**www.igus.eu/E4savetime**

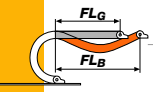


Technical data overview ▶next page

Part No. of e-chain® links as single parts ▶next page

Assembly video available online at ▶ www.igus.de/en/E4_assembly

Technical data - E4.1



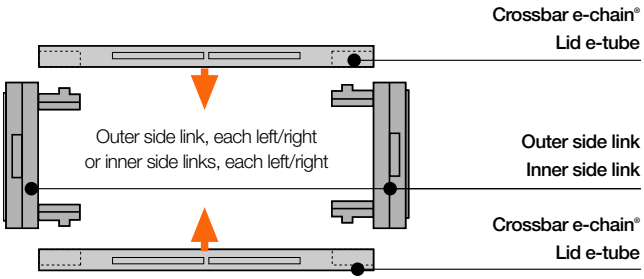
Speed / acceleration FL_G *max.*	max. 20 [m/s] / max. 200 [m/s²]
Speed / acceleration FL_B *max.*	max. 3 [m/s] / max. 6 [m/s²]
Gliding speed / acceleration (maximum)	max. 10 [m/s] / max. 50 [m/s²]
Material - permitted temperature °C	igumid G / -40° up to +120° C
Flammability class, igumid G	VDE 0304 IIC UL94 HB

FL_G = unsupported with straight upper run FL_B = unsupported with permitted sag

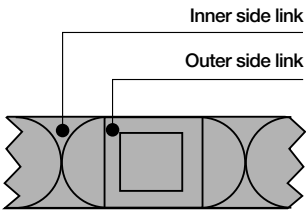
Installation methods overview, maximum travels - E4.1

Series e-chain® / e-tube	Unsupported	Gliding	Vertical hanging	Vertical standing	Side-mounted	Circular	Zig-zag	Unsupported length lower run
E4.21	≤ 2,5 m	≤ 120 m	≤ 40 m	≤ 3,0 m	≤ 1,0 m	with rework	upon request	upon request
E4.28/R4.28	≤ 2,5 m	≤ 200 m	≤ 80 m	≤ 5,0 m	≤ 1,2 m	with rework	upon request	upon request
E4.32/R4.32	≤ 3,3 m	≤ 200 m	≤ 80 m	≤ 5,0 m	≤ 1,5 m	with rework	upon request	upon request
E4.42/R4.42	≤ 4,0 m	≤ 300 m	≤ 100 m	≤ 6,0 m	≤ 2,0 m	with rework	upon request	upon request
E4.56/R4.56	≤ 5,0 m	≤ 400 m	≤ 100 m	≤ 6,0 m	≤ 2,5 m	with rework	upon request	upon request
E4.80/R4.80	≤ 6,2 m	≤ 400 m	≤ 120 m	≤ 6,0 m	≤ 3,0 m	with rework	upon request	upon request
1640/1608	≤ 4,5 m	≤ 400 m	≤ 100 m	≤ 5,0 m	≤ 2,0 m	with rework	upon request	upon request
800	≤ 8,0 m	≤ 450 m	≤ 120 m	≤ 6,0 m	≤ 6,0 m	with rework	upon request	upon request
840	≤ 8,0 m	≤ 450 m	≤ 120 m	≤ 6,0 m	≤ 6,0 m	with rework	upon request	upon request

Part No. 4-piece e-chain® links as single parts - E4.1



Inner-/outer-link design



Series	Crossbar* e-chain®	Lid* e-tube	Bottom* e-tube	Outer side link**	Inner side link***
E4.21	2105.*Bi*	–	–	210.01	210.02.*R*
E4.28/R4.28	225.*Bi*	765.*Bi*	766.*Bi*	E4.28.01	E4.28.02.*R*
E4.32/R4.32	385.*Bi*	775.*Bi*	776.*Bi*	E4.32.01	E4.32.02.*R*
E4.42/R4.42	385.*Bi*	785.*Bi*	786.*Bi*	E4.42.01	E4.42.02.*R*
E4.56/R4.56	450.*Bi*	885.*Bi*	886.*Bi*	E4.56.01	E4.56.02.*R*
E4.80/R4.80	450.*Bi*	E4.805.*Bi*	E4.806.*Bi*	E4.56.01	E4.56.02.*R*
1640/1608	450.*Bi*	16085.*Bi*	16086.*Bi*	1600.01	1600.02.*R*
800	850.*Bi*	–	–	800.01	800.02.*R*
840	450.*Bi*	–	–	800.01	800.02.*R*

* Crossbar / lid / bottom - supplement Part No. with required width index (*Bi*), example: **450.150**

** Outer side link - suitable for all radii

*** Inner side link - supplement Part No. with required width index (*Bi*) and required radius (*R*), example: **E4.56.02.100**

Available from stock. Delivery in 24h or today!*

*Delivery time means time until shipping of goods

Stable due to undercut design, small inner height

When to use Series E4.21:

- If a robust e-chain® with an inner height of 21 mm is required
- If inner widths up to 120 mm are required
- For unsupported lengths up to 2,5 m and fill weights up to 4,0 kg/m
- For long travels up to 120 m
- Also suitable for side-mounted, vertical standing or hanging applications
- If many options and accessories are desired
- If a crossbar with locking function is required

When to use a different igus® Series

- If an extremely **low-noise** and low-vibration e-chain® is required
- ► **Series E3.22, page 8.18**
- If the e-chain® shall be used in **cleanroom applications** (ISO class 1)
- ► **Series E3.22, page 8.18**
- If snap-open capability from one side (e-chains® / e-tubes) is desired for economic reasons
- ► **Series 1400/1450/1480/1500, page 5.142**
- ► **Series R117/R118, page 6.6**

Available from stock. Delivery in 24h or today!*
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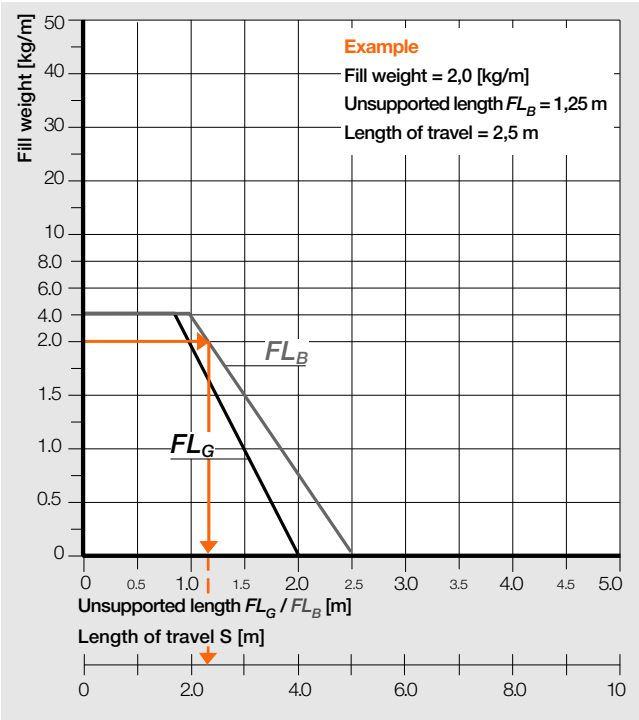
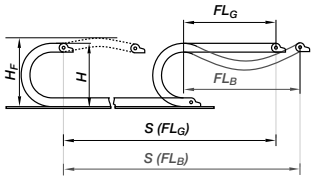
3D-CAD files, configurators, PDF ► www.igus.de/en/E4.21





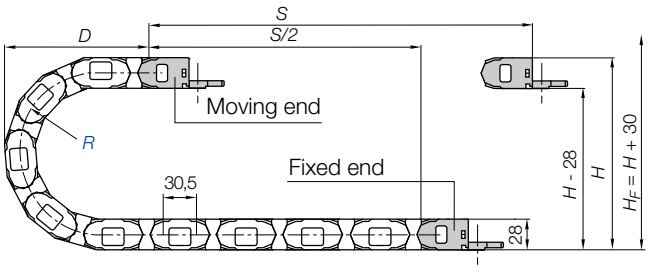
Unsupported applications

Unsupported e-chains® feature positive camber over short travels. This must be accounted for when specifying the clearance height H_F. Please consult igus® if space is particularly restricted. More information ▶ **Design, page 1.8**

Gliding applications

Travels up to 120 m.

More information ▶ **page 7.24**



Technical Data

Speed, material, temperature and flammability class ▶ **page 7.16**

Pitch = 30,5 mm/link
Links/m = 33 (1007 mm)
Chain length = $S/2 + K$

R	**038**	**048**	**063**	**075**	**100**	**150**	**200**
H	104	124	154	178	228	328	428
D	085	095	110	120	145	195	245
K	185	215	260	300	380	535	690

The required clearance height: $H_F = H + 30$ mm (with 1,5 kg/m fill weight)

FL_G = with straight upper run
FL_B = with permitted sag
S = Length of travel
R = Bending radius
H = Nominal clearance height
H_F = Required clearance height
D = Overlength e-chain®, radius in final position
$K = \pi \bullet R +$ "safety"

e-chains® | Series **E4.21** with crossbars every link

Part No. crossbars every link	*Bi* [mm]	*Ba* [mm]	E4.21 [kg/m]
E4.21. 030. *R*.0	30	44	≈ 0,60
E4.21. 040. *R*.0	40	54	≈ 0,64
E4.21. 050. *R*.0	50	64	≈ 0,67
E4.21. 060. *R*.0	60	74	≈ 0,71
E4.21. 070. *R*.0	70	84	≈ 0,74

Part No. crossbars every link	*Bi* [mm]	*Ba* [mm]	E4.21 [kg/m]
E4.21. 080. *R*.0	80	94	≈ 0,78
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

Available bending radii *R* [mm] 038 | 048 | 063 | 075 | 100 | 150 | 200

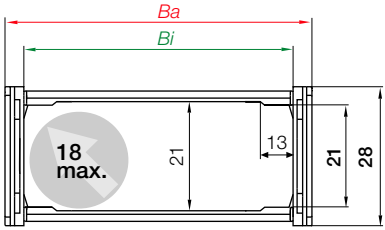
Supplement Part No. with required radius *(R)*. Example: **E4.21.120.100.0**

Order key

E4 .21. 120. 100. 0

- Standard color black
- Bending radius *R*
- Width index (depends on *Bi*)
- Inner height
- Series / Type

Dimensioning



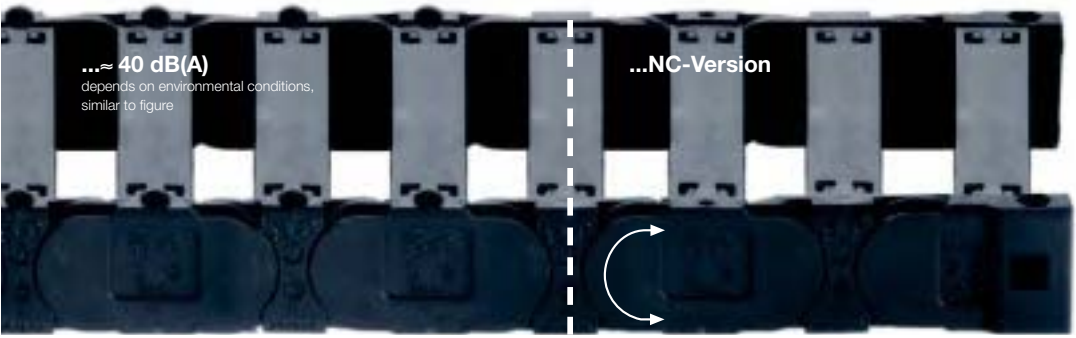
E4.21.120.100.0 = e-chain® with **crossbars every link**, inner width ***Bi*** **120** mm, radius ***R*** **100** mm, color black

More order examples, variations and configurations ▶ page 7.26

Part No. of e-chain® links as single parts ▶ page 7.17

Standard e-chains® incl. accessories from stock. Delivery in 24h or today.*

*Delivery time means time until shipping of goods



Noise dampening | ≈ 40 dB(A)

With pads crossbars every link	*Bi* [mm]	With pads crossbars every link	*Bi* [mm]
ES4.21.030.*R*.0	30	ES4.21.080.*R*.0	80
ES4.21.040.*R*.0	40	ES4.21.090.*R*.0	90
ES4.21.050.*R*.0	50	ES4.21.100.*R*.0	100
ES4.21.060.*R*.0	60	ES4.21.110.*R*.0	110
ES4.21.070.*R*.0	70	ES4.21.120.*R*.0	120

NC-Version | Without pretension

NC-Version crossbars every link	*Bi* [mm]	NC-Version crossbars every link	*Bi* [mm]
E4.21.030.*R*.0.NC	30	E4.21.080.*R*.0.NC	80
E4.21.040.*R*.0.NC	40	E4.21.090.*R*.0.NC	90
E4.21.050.*R*.0.NC	50	E4.21.100.*R*.0.NC	100
E4.21.060.*R*.0.NC	60	E4.21.110.*R*.0.NC	110
E4.21.070.*R*.0.NC	70	E4.21.120.*R*.0.NC	120

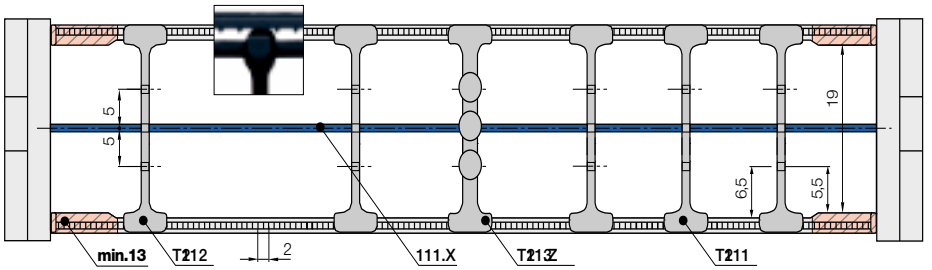
Available bending radii ***R*** [mm] 038 | 048 | 063 | 075 | 100 | 150 | 200

Supplement Part No. with required radius *(R)*. Example: **ES4.21.120.100.0 or E4.21.120.100.0.NC**

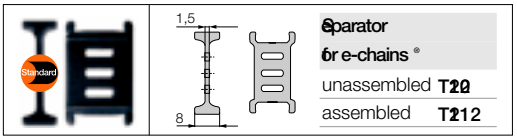
For e-chains® with noise dampening pads supplement Part No. with required index "**S**"
Example: **Part No. ES4.21.120.100.0** = e-chain® (crossbars every link) with noise dampening
For NC-e-chains® without pretension supplement Part No. with required index "**NC**"
Example: **Part No. E4.21.120.100.0.NC** = e-chain® (crossbars every link) without pretension

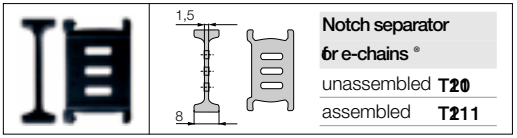
e-chain® with noise dampening pads - Delivery time: 3-5 work days.
NC-Version - Delivery in 24h or today!*
*Delivery time means time until shipping of goods

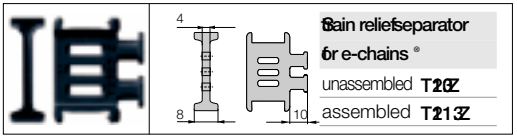
Full and half e-tubes with an inner height of 21 mm:
E2/000 Series 1450/1480 **▶ from page 5.142**

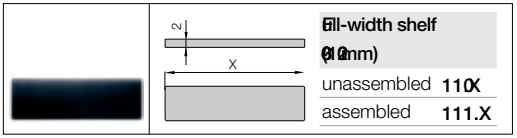


Note e-chain®: Please observe a lateral spacing of **13 mm** to the side links!
In the standard configuration separators are assembled every 2 nd e-chain® link









Standard separator T210

is used when vertical and horizontal separation is required. Due to its slot, it allows basic vertical/horizontal shelving arrangements.

Notch separator T200

can be locked in 2 mm increments due to gaps on the crossbars of e-chains®. The separator cannot slide sideways during the operation.

Strain relief separator T20Z

can be integrated into the mounting bracket and can be placed there at any point of the e-chain®. It combines strain relief and interior separation.

Full-width shelf 110X

this option makes sense in applications with many thin cables with similar diameters. Full-width shelves can be arranged at 3 different heights (in 5 mm increments).

Full-width shelf

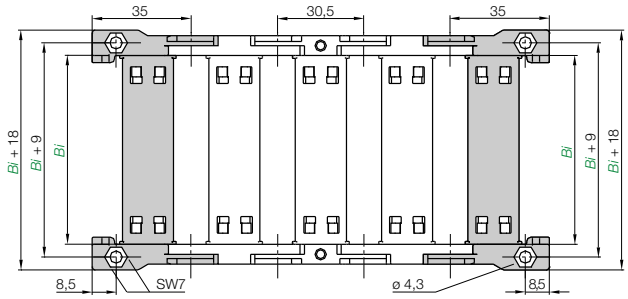
Width X [mm]	unassembled	assembled
030	110.30	111.30
040	110.40	111.40
050	110.50	111.50
060	110.60	111.60
070	110.70	111.70
080	110.80	111.80
090	110.90	111.90
100	110.10	111.10
110	110.110	111.110
120	110.120	111.120

E4.1 | **Series E4.21** | KMA mounting brackets **pivoting**

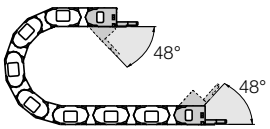
For tight installation conditions, all-sides attachment

Fixed end
E4.210...1.1

Moving end
E4.210...1.2



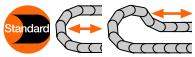
Moving end



Fixed end

KMA pivoting | All-sides attachment. Recommended for unsupported and gliding applications

Width index	Part No. full set pivoting	*Bi* [mm]	Width index	Part No. full set pivoting	*Bi* [mm]
030. ▶	E4.210. 030.1.12	30	080. ▶	E4.210. 080.1.12	80
040. ▶	E4.210. 040.1.12	40	090. ▶	E4.210. 090.1.12	90
050. ▶	E4.210. 050.1.12	50	100. ▶	E4.210. 100.1.12	100
060. ▶	E4.210. 060.1.12	60	110. ▶	E4.210. 110.1.12	110
070. ▶	E4.210. 070.1.12	70	120. ▶	E4.210. 120.1.12	120



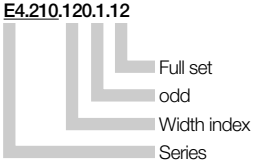
- For tight installation conditions
- Corrosion resistant
- Option: threaded sockets upon request

(KMA = Polymer Metal Mounting Bracket)

Special feature mounting brackets: Series E4.21

- Mounting brackets with attachment points on all sides
  Note: Series E4.21: mounting brackets always need to end with an inner plate (odd number of links)!
- Special design of the counterbore as hexagon - the inlay of the nut (M4) and the counterboring of the hexagon socket head srew (M4), is consequently possible

Part No. structure (pivoting)
E4.210.120.1.12

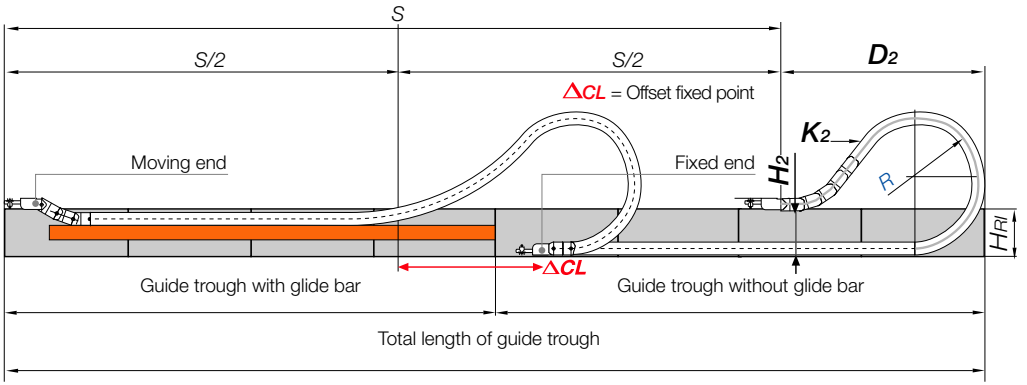


Single-part order:
Mounting bracket **Moving end**
E4.210.120.1.2 (odd number of links)
Mounting bracket **Fixed end**
E4.210.120.1.1 (odd number of links)

Strain relief, e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with order options ▶ from page 10.1

Gliding applications | For long travels from 10 m to max. 120 m

Solution for long travel applications - In this case the e-chain® upper run will be introduced in a guide trough on the lower run. For travels more than 100 m we recommend to realize the engineering of such a plant by our technicians. **In case of travels between 4 and 10 m we recommend a longer unsupported length.** More information ▶ **Design, from page 1.16.**



Pitch = 30,5 mm/link · **Links/m** = 33 (1007 mm) · **Chain length** = $S/2 + K$

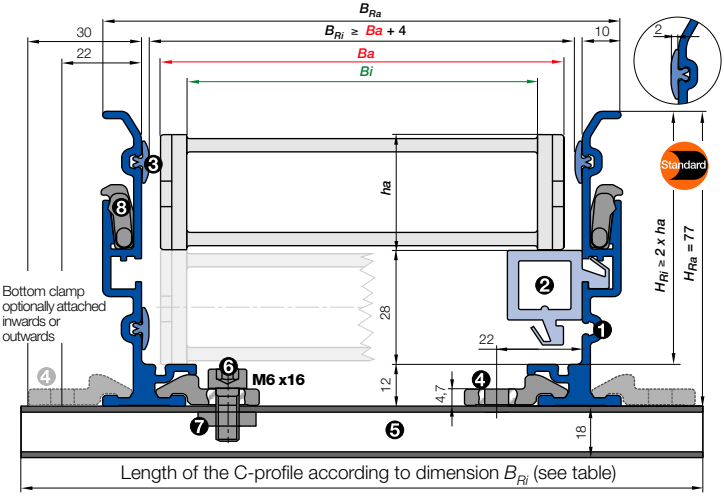
R	038	048	063	075	100	150	200
H_2	76	96	126	152	135	135	135
D_2^{+25}	085	095	110	120	490	530	665
K_2	185	215	260	300	782	920	1104
ΔCL	–	–	–	–	270	370	470

The complete range of special solutions for long travel applications incl. order function ▶ from page 9.76

H_2 = Mounting height (if the moving end is set lower) K_2 = Further add-on (if the moving end is set lower) ΔCL = Offset fixed point **S** = Length of travel
D_2 = Over length - long travels, gliding *R* = Bending radius H_{Ri} = Inner trough height **S/2** = Half length of travel

Part No. 972.30.SL | **972.31.SL** | Trough height: 117 mm

Aluminum "SuperTrough" | Basic Version



Installation set "Basic" with C-Profile

Bottom clamp optionally attached **inwards** or **outwards**

E4.21.**050**.100.0 ▶ Order example

B_{Ri}	[mm]	Part No. attached inwards	Part No. attached outwards
.030	48	–	**960.30.150**
.040	58	**960.30.125**	**960.30.150**
.050	68	**960.30.125**	**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**

● **Components, trough "Basic":** ① Trough side parts, aluminum, 2 m ② Glide bar, plastic, 2 m ③ Glide strips, plastic, 2 m (without glide strips on request) ● **Components, installation set "Basic":** ④ Bottom clamp, aluminum ⑤ C-profile, galvanized steel ▶ table ⑥ Screw M6 x 16 ⑦ Sliding nut M6 ⑧ Interface connector, plastic

Order example: Length of travel 30 m - Center mounted for Series E4.21.050.100.0 with B_{Ri} = 68

Guide trough set without glide bar (set of 2 trough side parts, incl. glide strips)

Order text: 16 m guide trough without glide bar (8 x 2 m sections) **Part No. 970.30.SL**

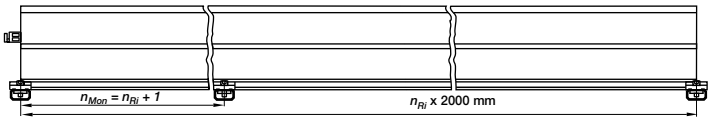
Guide trough set with glide bar (set of 2 trough side parts, incl. glide strips)

Order text: 16 m guide trough with glide bar (8 x 2 m sections) **Part No. 970.32.SL**

Installation set "Basic" complete (guide trough-sets + 1)

Order text: 17 installation sets **Part No. 960.30.30.125**

Module for the fixed end upon request

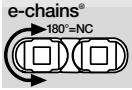


Principle sketch: Number of installation sets to be installed = Number of trough sections + 1

Details about Alu "SuperTrough" and the "Heavy Duty" version for heavy machinery ▶ from page 9.22

● Trough set ● Installation set ● Glide bar
● C-Profile
Ba = Outer width e-chains® *Bi* = Inner width e-chains®
B_{Ri} = Inner trough width B_{Ra} = Outer trough width H_{Ri} = Inner trough height
H_{Ra} = Outer trough height n_{Mon} = Number of installation sets n_{Ri} = Number of trough sets

E4.1 | **Series E4.21** | **Options** and order key

Standard	*Additional noise dampening with pads*	*Simply turn outer side link without additional work*	*Reverse bending radius for circular movements*	*Unsupported lengths +25% possible*
Part No. **Standard** e-chains®	**Part No.** **Low noise (with pads)** e-chains®/e-tubes	**Part No.** **NC-Material** e-chains®	**Part No.** **RBR** e-chains®	**Part No.** **XXL-Material**** e-chains®
				
E4.21.120.*R*.0	ES4.21.120.*R*.0	E4.21.120.*R*.0.NC	E4.21.120.*R1/R2*.0	E4.21.120.*R*.0.XXL
Delivery in 24h or today!*	Delivery time: 3-5 work days	Delivery in 24h or today!*	Delivery time: 10 work days (2-5 work days with express surcharge)	Delivery time: 1-2 weeks **Sidebands made from XXL-Material

Combination possibilities | Examples

	Low-noise option	NC-Version	RBR-Version	XXL-Material	ESD-Material
Low-noise option		ES4.21.120.*R*.0.NC	–	ES4.21.120.*R*.0.XXL	ES4.21.120.*R*.0.ESD
NC-Version	ES4.21.120.*R*.0.NC		–	–	E4.21.120.*R*.0.ESD.NC
RBR-Version	–	–		–	E4.21.120.*R1/R2*.0.ESD
XXL-Material	ES4.21.120.*R*.0.XXL	–	–		–
ESD-Material	ES4.21.120.*R*.0.ESD	E4.21.120.*R*.0.ESD.NC	E4.21.120.*R1/R2*.0.ESD	–	

E4.1 | **Series E4.21** | **Options** and order key

ATEX/ESD classified e-chains® - II 2 GD

Part No.
ESD-Material
e-chains®

E4.21.120.*R*.0.ESD

Delivery time:
5 work days

Order example | Order key and color options

Order example for complete e-chain® (3,0 m, with crossbars every link), color black, mounting brackets and interior separation

e-chain® (3,0 m)	Please indicate e-chain® length or number of links: 3,0 m or 99 links	**E4.21.120.100.0**
+ Mounting brackets	1 set	**E4.210.120.1.12**
+ Interior separation	with 2 separators assembled every 2nd link	**2 x T2112**

Order text: 3,0 m E4.21.120.100.0 + E4.210.120.1.12 + 2 x Part No. T2112

Order key
E4.21.120.100.0

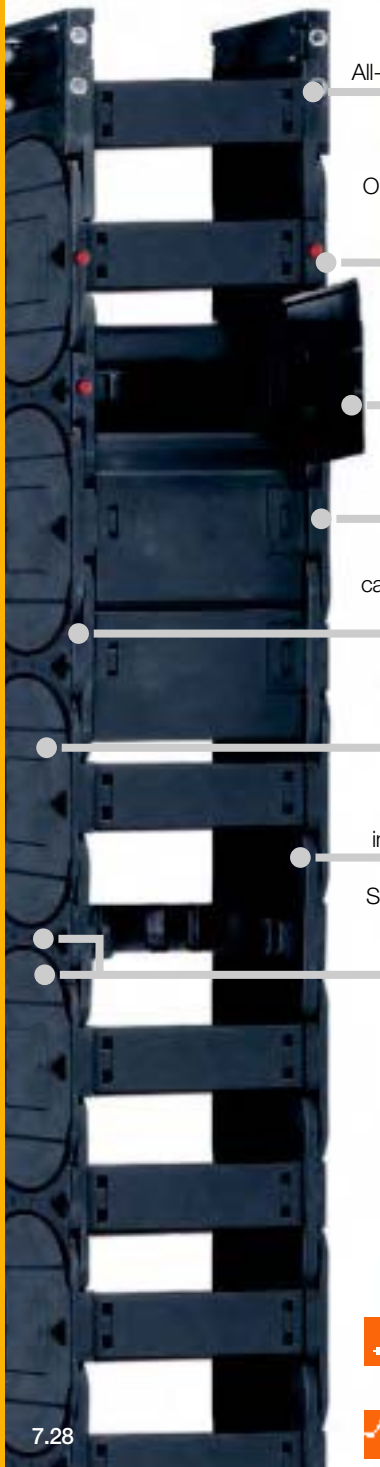
- Standard color
- black
- Bending radius *R*
- Width index
- Inner height
- Series / Type

Color options for e-chains® and e-tubes

Color	Order index	Color	Order index
black	**.0 from stock!**	green*	**.7**
white*	**.1**	grey*	**.3** for e-chains®
violet*	**.5**	dusty grey*	**.3** for e-tubes
yellow*	**.4**	agate grey*	**.11**
orange*	**.2**	light grey*	**.14**
red*	**.6**	black grey*	**.13**
blue*	**.8**	yellow/black*	**.9**

Black e-chains® from stock! *Colored e-chains® delivered in 15 work days
(Delivery in 5 work days at an express surcharge, available upon request!)

Available from stock. Delivery in 24h or today!*
*Delivery time means time until shipping of goods



Stable due to undercut design, small inner height

When to use Series E4.28:

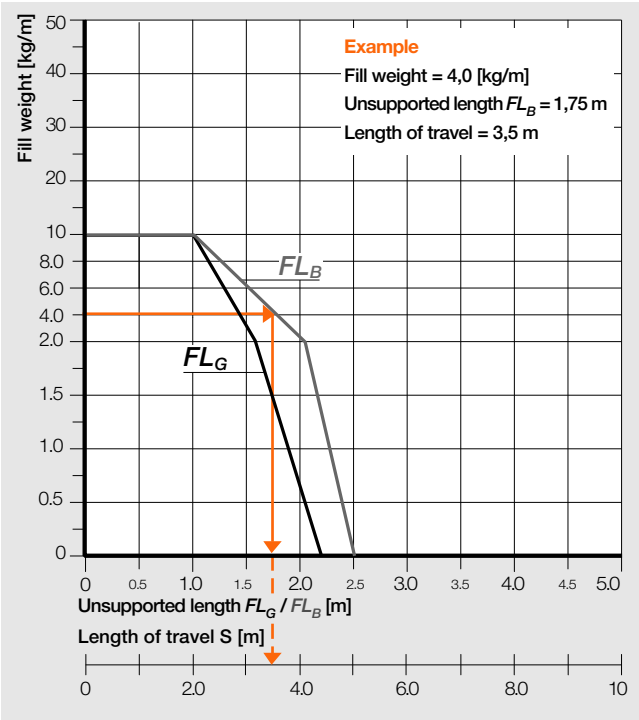
- If a robust e-chain®/e-tube with an inner height of 28 mm is required
- If inner widths up to 300 mm are required
- For unsupported lengths up to 2,5 m and fill weights up to 10 kg/m
- For long travels up to 200 m
- Also suitable for side-mounted, vertical standing or hanging applications
- If many options and accessories are desired

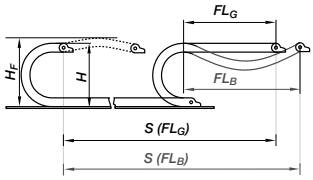
When to use a different igus® Series

- If an extremely **low-noise** and low-vibration e-chain® is required
- ► **Series E6.29, page 8.40**
- ► **Series R6.29, page 8.46**
- If the e-chain® shall be used in **cleanroom applications** (ISO class 1)
- ► **Series E6.29, page 8.40**
- If a less stable e-chain® can be used for economical reasons
- ► **Series 2400/2450/2480/2500, page 5.160**

Available from stock. Delivery in 24h or today!*
*Delivery time means time until shipping of goods

3D-CAD files, configurators, PDF ► www.igus.de/en/E4.28





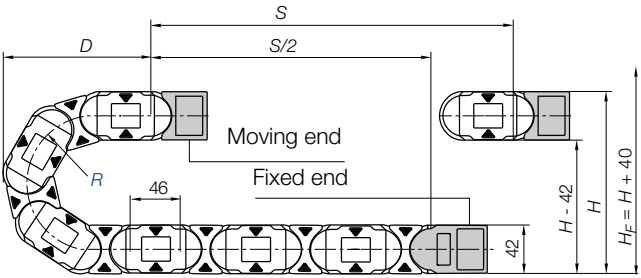
Unsupported applications

Unsupported e-chains® feature positive camber over short travels. This must be accounted for when specifying the clearance height H_F. Please consult igus® if space is particularly restricted. More information ▶ **Design, page 1.8**

Gliding applications

Travels up to 200 m.

More information ▶ **page 7.38**



Technical Data

Speed, material, temperature and flammability class ▶ **page 7.16**

Pitch = 46 mm/link
Links/m = 22 (1012 mm)
Chain length = $S/2 + K$

R	055	063	075	100	125	150	175	200	250
H	152	168	192	242	292	342	392	442	542
D	122	130	142	167	192	217	242	267	317
K	265	290	330	410	485	565	655	725	880

The required clearance height: $H_F = H + 40$ mm (with 3,0 kg/m fill weight)

FL_G = with straight upper run
FL_B = with permitted sag
S = Length of travel
R = Bending radius
H = Nominal clearance height
H_F = Required clearance height
D = Overlength e-chain®, radius in final position
K = $\pi \bullet R +$ "safety"

e-chains® | Series **E4.28** with crossbars every link

Part No. crossbars every link	*Bi* [mm]	*Ba* [mm]	E4.28 [kg/m]
E4.28. 040. *R*.0	40	60	≈ 1,06
E4.28. 050. *R*.0	50	70	≈ 1,11
E4.28. 062. *R*.0	62	82	≈ 1,17
E4.28. 070. *R*.0	70	90	≈ 1,20
E4.28. 075. *R*.0	75	95	≈ 1,23
E4.28. 087. *R*.0	87	107	≈ 1,28
E4.28. 100. *R*.0	100	120	≈ 1,37
E4.28. 125. *R*.0	125	145	≈1,51

Part No. crossbars every link	*Bi* [mm]	*Ba* [mm]	E4.28 [kg/m]
E4.28. 150. *R*.0	150	170	≈ 1,61
E4.28. 175. *R*.0	175	195	≈ 1,71
E4.28. 200. *R*.0	200	220	≈ 1,84
E4.28. 225. *R*.0	225	245	≈ 1,99
E4.28. 250. *R*.0	250	270	≈ 2,14
E4.28. 275. *R*.0	275	295	≈ 2,27
E4.28. 300. *R*.0	300	320	≈ 2,39

Available bending radii *R* [mm] 055 | 063 | 075 | 100 | 125 | 150 | 175 | 200 | 250

Supplement Part No. with required radius *(R)*. Example: **E4.28.100.100.0**

Part No. of e-chain® links as single parts ► page 7.17

Standard e-chains® incl. accessories from stock. Delivery in 24h or today.*
*Delivery time means time until shipping of goods

e-tubes | Series **R4.28** - fully enclosed

Part No. fully enclosed	*Bi* [mm]	*Ba* [mm]	R4.28 [kg/m]
R4.28. 050. *R*.0	50	70	2,20
R4.28. 075. *R*.0	75	95	2,32
R4.28. 100. *R*.0	100	120	2,54
R4.28. 125. *R*.0	125	145	2,78
R4.28. 150. *R*.0	150	170	3,02

Part No. fully enclosed	*Bi* [mm]	*Ba* [mm]	R4.28 [kg/m]
R4.28. 175. *R*.0	175	195	3,26
R4.28. 200. *R*.0	200	220	3,50
R4.28. 225. *R*.0	225	245	3,82
R4.28. 250. *R*.0	250	270	3,98
R4.28. 300. *R*.0	300	320	4,46

Available bending radii *R* [mm] 075 | 100 | 125 | 150 | 175 | 200 | 250

Supplement Part No. with required radius *(R)*. Example: **R4.28.100.100.0**

When to use fully enclosed e-tubes: ● Excellent cable protection against dirt ● Lids along the entire inner radius are completely removable. Lids along the entire outer radius are single sided snap-open with a hinge on the other side to keep them attached to the e-chain® or completely removable ● HT-Version optional, protection against hot chips up to 850°C (1562° F)

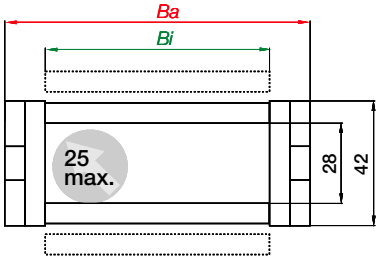
Order key for all types

E4 .28. 100. 100. 0 e-chain® **(crossbars every link)**

R4 .28. 100. 100. 0 e-chain® **(crossbars every 2nd link)**

- Standard color black
- Bending radius *R*
- Width index (depends on *Bi*)
- Inner height
- Series / Type

Dimensioning



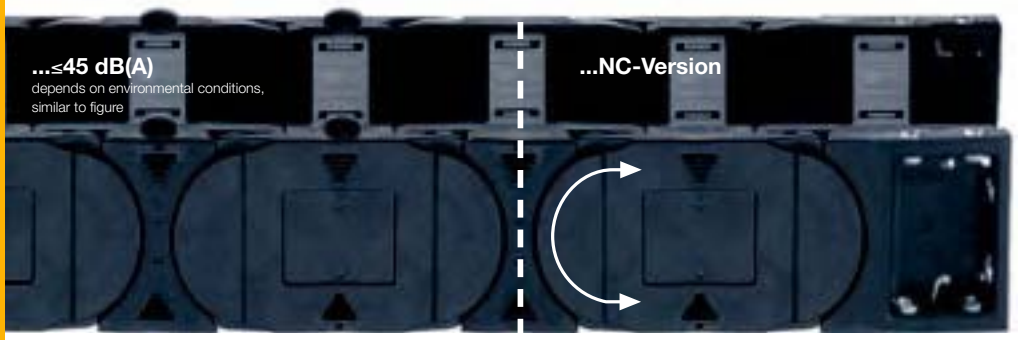
E4.28.100.100.0 = e-chain® with **crossbars every link**, inner width ***Bi*** 100 mm, radius ***R*** 100 mm, color black

R4.28.100.100.0 = **Fully enclosed** e-tube, inner width ***Bi*** 100 mm, radius ***R*** 100 mm, color black

More order examples, variations and configurations ▶ page 7.40

Standard e-tubes incl. accessories from stock. Delivery in 24h or today!*

*Delivery time means time until shipping of goods



Noise dampening | ≤45 dB(A)

With pads Crossb. e-tube every: link	fully enclosed	Bi [mm]
ES4 – .28. 040. R.0		40
ES4 RS4 .28. 050. R.0		50
ES4 – .28. 062. R.0		62
ES4 – .28. 070. R.0		70
ES4 RS4 .28. 075. R.0		75
ES4 – .28. 087. R.0		87
ES4 RS4 .28. 100. R.0		100
ES4 RS4 .28. 125. R.0		125

With pads Crossb. e-tube every: link	fully enclosed	Bi [mm]
ES4 RS4 .28. 150. R.0		150
ES4 RS4 .28. 175. R.0		175
ES4 RS4 .28. 200. R.0		200
ES4 RS4 .28. 225. R.0		225
ES4 RS4 .28. 250. R.0		250
ES4 – .28. 275. R.0		275
ES4 RS4 .28. 300. R.0		300

NC-Version | Without pretension

NC-Version crossb. e-tube every: link	fully enclosed	Bi [mm]
E4 – .28.040. R.0.NC		40
E4 R4 .28.050. R.0.NC		50
E4 – .28.062. R.0.NC		62
E4 – .28.070. R.0.NC		70
E4 R4 .28.075. R.0.NC		75
E4 – .28.087. R.0.NC		87
E4 R4 .28.100. R.0.NC		100
E4 R4 .28.125. R.0.NC		125

NC-Version crossb. e-tube every: link	fully enclosed	Bi [mm]
E4 R4 .28.150. R.0.NC		150
E4 R4 .28.175. R.0.NC		175
E4 R4 .28.200. R.0.NC		200
E4 R4 .28.225. R.0.NC		225
E4 R4 .28.250. R.0.NC		250
E4 – .28.275. R.0.NC		275
E4 R4 .28.300. R.0.NC		300

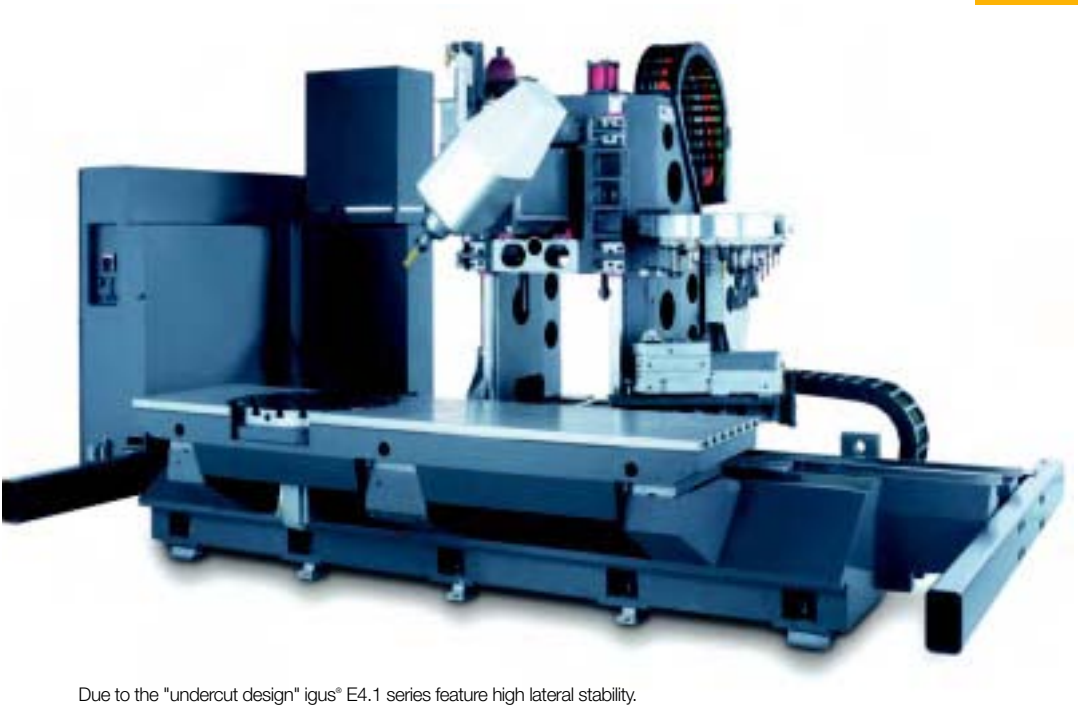
Available bending radii *R* [mm] 055* | 063* | 075 | 100 | 125 | 150 | 175 | 200 | 250

*not available for e-tubes

Supplement Part No. with required radius *(R)*. Example: **ES4.28.100.100.0 or E4.28.100.100.0.NC**

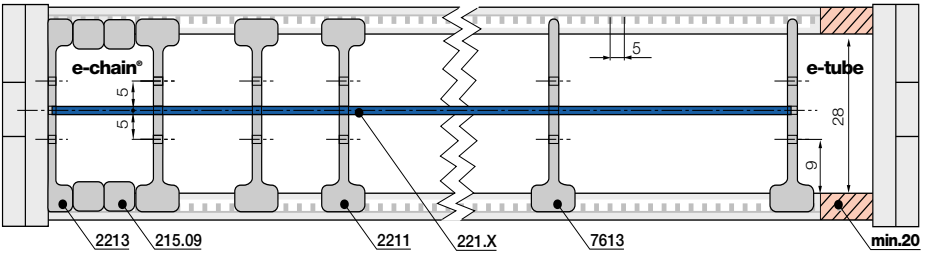
For e-chains® with noise dampening pads supplement Part No. with required index "S"
Example: **Part No. ES4.28.100.100.0** = e-chain® (crossbars every link) with noise dampening
For NC-e-chains® without pretension supplement Part No. with required index "NC"
Example: **Part No. E4.28.100.100.0.NC** = e-chain® (crossbars every link) without pretension

e-chain® with noise dampening pads - Delivery time: 3-5 work days.
NC-Version - Delivery in 24h or today!*
*Delivery time means time until shipping of goods

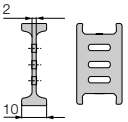


Due to the "undercut design" igus® E4.1 series feature high lateral stability.
High lateral accelerations of up to 8m/s² can be managed on this milling maschine for bicycles

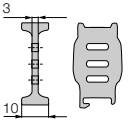
Option 1 | Separators and spacers* (*side-mounted applications)



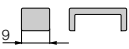
Note e-tube: Please observe a lateral spacing of **20 mm** to the side links!
In the standard configuration separators are assembled every 2nd e-chain® link!



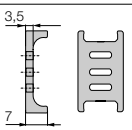
Separator for e-chains®	
unassembled	**2201**
assembled	**2211**



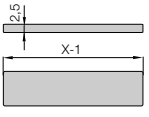
Separator for e-tubes	
unassembled	**7603**
assembled	**7613**



Spacer* for e-chains®	
unassembled	**205.09**
assembled	**215.09**



Side plate for e-chains®	
unassembled	**2203**
assembled	**2213**



Full-width shelf (40-200 mm)	
unassembled	**220.X**
assembled	**221.X**

Separator 2201 (e-chains® only)

is used when vertical and horizontal separation is required. Due to its slot, it allows basic vertical/horizontal shelving arrangements.

Separator 7603 (e-tubes only)

For e-tubes R4.28.

Spacer* 205.09 (e-chains® only)

Separators can be fixed in position by spacers. The available interior height is reduced by 2 mm per spacer (4 mm when spacers are fitted on both sides). To avoid this, the parts can also be installed from the outside on the opening crossbar. (not for long travel applications).

Side plate 2203 (e-chains® only)

Works like separator.
Allows modular shelving close to the side links.

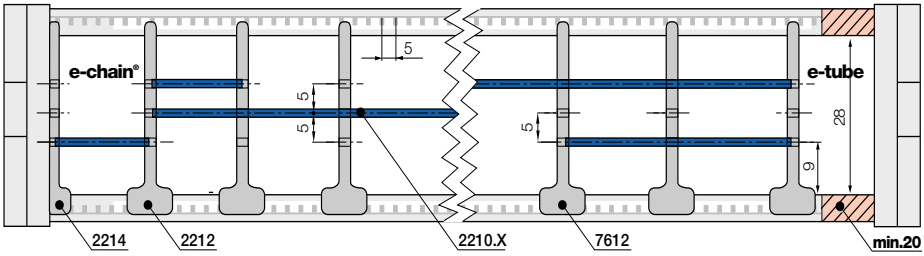
Full-width shelf 220.X

This option makes sense in applications with many thin cables with similar diameters. Full-width shelves can be arranged at 3 different heights (in 5 mm increments).

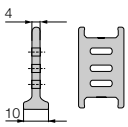
Full-width shelf

Width X [mm]	unassembled	assembled	Width X [mm]	unassembled	assembled	Width 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**			

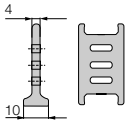
Option 2 | Shelves



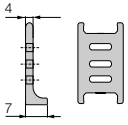
Note e-tube: Please observe a lateral spacing of **20 mm** to the side links!
In the standard configuration separators are assembled every 2nd e-chain® link!

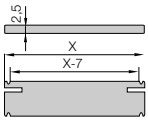
Middle plate for e-chains®	
unassembled	**2202**
assembled	**2212**

Middle plate for e-tubes	
unassembled	**7602**
assembled	**7612**

Side plate for e-chains®	
unassembled	**2204**
assembled	**2214**

Shelf (18-149 mm)	
unassembled	**2220.X**
assembled	**2210.X**

Middle plate 2202 (e-chains® only)

To achieve a modular shelving by shelf 2220.X arranged at 3 different heights (in 5 mm increments).

Middle plate 7602 (e-tubes only)

For e-tubes R4.28.
A side plate is not available for the e-tube.

Side plate 2204 (e-chains® only)

Works like middle plate.
Allows modular shelving close to the side links.

Shelf 2220.X

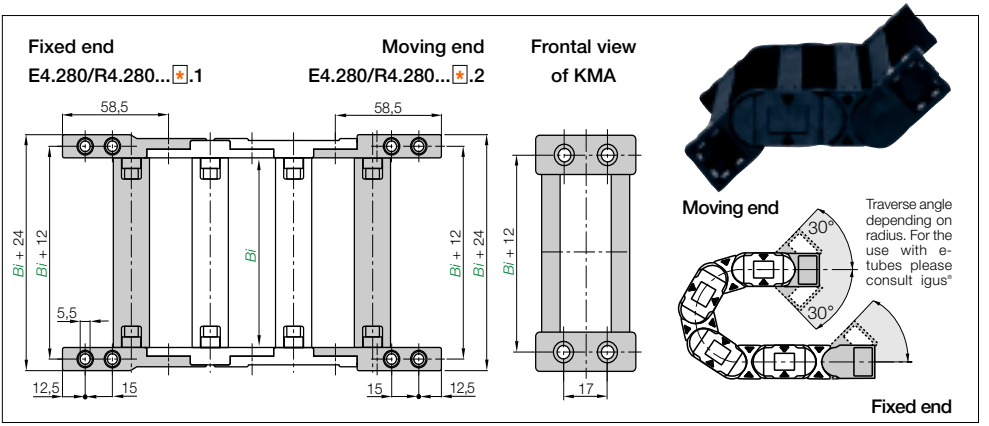
For horizontal separation. Shelves of various widths can be arranged at 3 different heights (in 5 mm increments).

Shelves

Width X [mm]	unassembled	assembled	Width X [mm]	unassembled	assembled	Width 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** | KMA mounting brackets **pivoting**

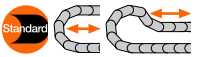
For tight installation conditions, all-sides attachment



KMA pivoting | All-sides attachment. Recommended for unsupported and gliding applications

Width index	Part No. full set pivoting			*Bi* [mm]
040. ▶	E4.280. –	040.*.12		40
050. ▶	E4.280. R4.280.	050.*.12		50
062. ▶	E4.280. –	062.*.12		62
070. ▶	E4.280. –	070.*.12		70
075. ▶	E4.280. R4.280.	075.*.12		75
087. ▶	E4.280. –	087.*.12		87
100. ▶	E4.280. R4.280.	100.*.12		100
125. ▶	E4.280. R4.280.	125.*.12		125

Width index	Part No. full set pivoting			*Bi* [mm]
150. ▶	E4.280. R4.280.	150.*.12		150
175. ▶	E4.280. R4.280.	175.*.12		175
200. ▶	E4.280. R4.280.	200.*.12		200
225. ▶	E4.280. R4.280.	225.*.12		225
250. ▶	E4.280. R4.280.	250.*.12		250
275. ▶	E4.280. –	275.*.12		275
300. ▶	E4.280. R4.280.	300.*.12		300



- Standard
- For tight installation conditions
- Corrosion resistant
- Option: threaded sockets upon request
  (KMA = Polymer Metal Mounting Bracket)

Part No. structure (pivoting)

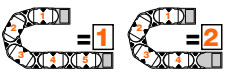
E4.280.100.2.12

- Full set
- even
- Width index
- Series

Single-part order:

Mounting bracket **Moving end**
E4.280.100.2.2 (even number of links)
Mounting bracket **Fixed end**
E4.280.100.2.1 (even number of links)

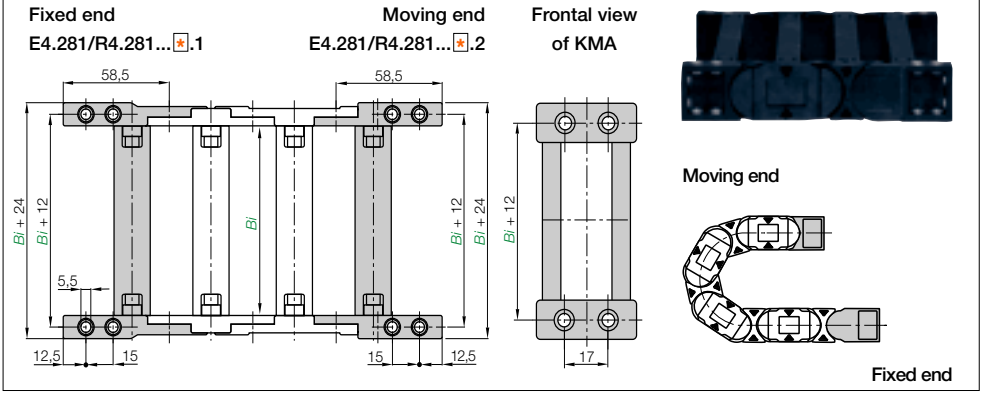
Note*: The E4.1 System may end with either an inner or an outer side link. Keep in mind that an outer side link always forms the first e-chain® link at the moving end.
The Part Nos. depend on an even or odd numbers of links.
Please insert: Index 1 (for odd) or 2 (for even)!



Strain relief, e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with order options ▶ from page 10.1

E4.1 | **Series E4.28** | KMA mounting brackets **locking**

For very high speed and acceleration, all-sides attachment



KMA locking | All-sides attachment. Recommended for vertical hanging and standing applications

Width index	Part No. full set locking	Bi [mm]
040. ▶	E4.281. – 040.*.12	40
050. ▶	E4.281. R4.281. 050.*.12	50
062. ▶	E4.281. – 062.*.12	62
070. ▶	E4.281. – 070.*.12	70
075. ▶	E4.281. R4.281. 075.*.12	75
087. ▶	E4.281. – 087.*.12	87
100. ▶	E4.281. R4.281. 100.*.12	100
125. ▶	E4.281. R4.281. 125.*.12	125

Width index	Part No. full set locking	Bi [mm]
150. ▶	E4.281. R4.281. 150.*.12	150
175. ▶	E4.281. R4.281. 175.*.12	175
200. ▶	E4.281. R4.281. 200.*.12	200
225. ▶	E4.281. R4.281. 225.*.12	225
250. ▶	E4.281. R4.281. 250.*.12	250
275. ▶	E4.281. – 275.*.12	275
300. ▶	E4.281. R4.281. 300.*.12	300

- Locked connections
- At high acceleration
- Universally mountable
- Corrosion resistant
- Option: threaded sockets upon request

(KMA = Polymer Metal Mounting Bracket)

Part No. structure (locking)

E4.281.100.2.12

- Full set
- even
- Width index
- Series

Single-part order:

Mounting bracket **Moving end**

E4.281.100.2.2 (even number of links)

Mounting bracket **Fixed end**

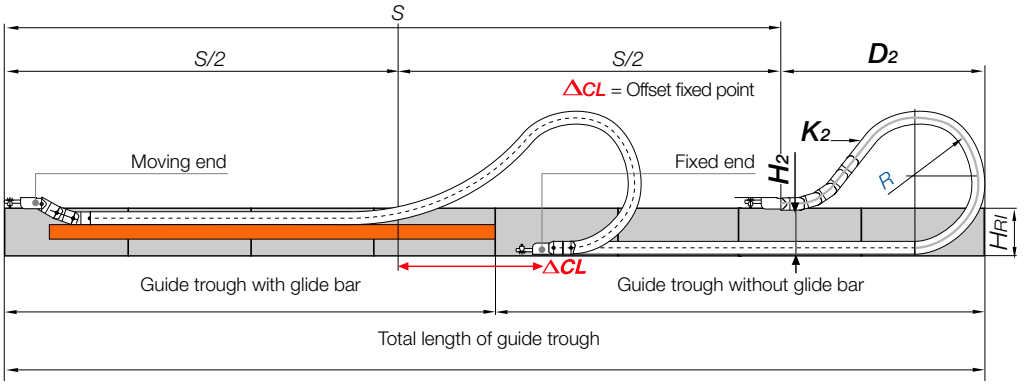
E4.281.100.2.1 (even number of links)

Note*: The E4.1 System may end with either an inner or an outer side link. Keep in mind that an outer side link always forms the first e-chain® link at the moving end.
The Part Nos. depend on an even or odd numbers of links.
Please insert: Index 1 (for odd) or 2 (for even)!

Strain relief, e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with order options ▶ from page 10.1

Gliding applications | For long travels from 10 m to max. 200 m

Solution for long travel applications - In this case the e-chain® upper run will be introduced in a guide trough on the lower run. For travels more than 100 m we recommend to realize the engineering of such a plant by our technicians. **In case of travels between 5 and 10 m we recommend a longer unsupported length.** More information ▶ **Design, from page 1.16.**



Pitch = 46 mm/link · **Links/m** = 22 (1012 mm) · **Chain length** = $^{S}/_{2} + K$

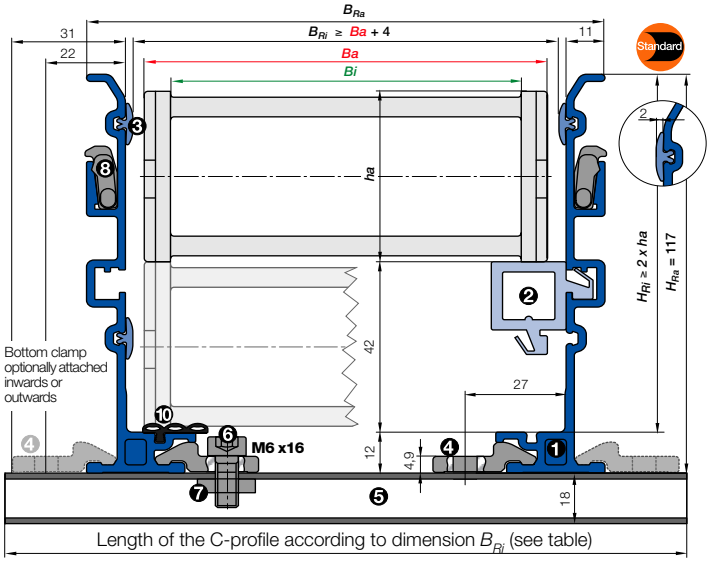
R	055	063	075	100	125	150	175	200	250
H_2	110	126	150	158	158	158	158	158	158
D_2^{+25}	122	130	142	350	490	530	665	730	935
K_2	265	290	330	598	782	920	1104	1242	1610
ΔCL	–	–	–	150	270	300	400	450	600

The complete range of special solutions for long travel applications incl. order function ▶ from page 9.76

H_2 = Mounting height (if the moving end is set lower) K_2 = Further add-on (if the moving end is set lower) ΔCL = Offset fixed point **S** = Length of travel
D_2 = Over length - long travels, gliding *R* = Bending radius H_{Ri} = Inner trough height **S/2** = Half length of travel

Part No. 972.02.30.SL | 972.02.31.SL | Trough height: 117 mm

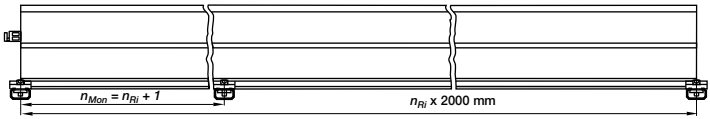
Aluminum "SuperTrough" | Basic Version



● **Components, trough "Basic":** ① Trough side parts, aluminum, 2 m ② Glide bar, plastic, 2 m ③ Glide strips, plastic, 2 m (without glide strips on request) ⑩ Optional: Silencer profile, rubber ● **Components, installation set "Basic":** ④ Bottom clamp, aluminum ⑤ C-profile, galvanized steel ▶ table ⑥ Screw M6 x 16 ⑦ Sliding nut M6 ⑧ Interface connector, plastic

Order example: Length of travel 30 m - Center mounted for Series E4.28.070.250.0 with B_{Ri} = 94

Guide trough set without glide bar (set of 2 trough side parts, incl. glide strips)	
Order text: 16 m guide trough without glide bar (8 x 2 m sections)	**Part No. 972.02.30.SL**
Guide trough set with glide bar (set of 2 trough side parts, incl. glide strips)	
Order text: 16 m guide trough with glide bar (8 x 2 m sections)	**Part No. 972.02.31.SL**
Installation set "Basic" complete (guide trough-sets + 1)	
Order text: 17 installation sets	**Part No. 960.30.150**
Module for the fixed end ▶ page 9.16	
Order text: 1 set	**Part No. 972.82**
Option: For an additional noise dampening	
with silencer profile, please add Index **A** - Example:	**Part No. 972.02.30.SLA**



Principle sketch: Number of installation sets to be installed = Number of trough sections + 1

Details about Alu "SuperTrough" and the "Heavy Duty" version for heavy machinery ▶ from page 9.26

● Trough set ● Installation set ● Glide bar
● C-Profile
Ba = Outer width e-chains® **Bi** = Inner width e-chains®
B_{Ri} = Inner trough width B_{Ra} = Outer trough width H_{Ri} = Inner trough height
H_{Ra} = Outer trough height n_{Mon} = Number of installation sets n_{Ri} = Number of trough sets

Installation set "Basic" with C-Profile

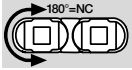
Bottom clamp optionally attached **inwards** or **outwards**

E4.28.**070**.250.0 ▶ Order example

B_{Ri} [mm]		Part No. attached inwards	Part No. attached outwards
.040	64	–	**960.30.175**
.050	74	**960.30.125**	**960.30.175**
.062	86	**960.30.150**	**960.30.200**
.070	94	**960.30.150**	**960.30.200**
.075	99	**960.30.150**	**960.30.200**
.087	111	**960.30.175**	**960.30.225**
.100	124	**960.30.175**	**960.30.225**
.125	149	**960.30.200**	**960.30.250**
.150	174	**960.30.225**	**960.30.275**
.175	199	**960.30.250**	**960.30.300**
.200	224	**960.30.275**	**960.30.325**
.225	249	**960.30.300**	**960.30.350**
.250	274	**960.30.325**	**960.30.375**
.275	299	**960.30.350**	**960.30.400**
.300	324	**960.30.375**	**960.30.425**

Insert for the installation set "Heavy-Duty": **972.50.XXX** instead of **960.30.XXX** on the right column "attached outwards"

E4.1 | **Series E4.28** | **Options** and order key

Standard	*Additional noise dampening with pads*	*Simply turn outer side link without additional work*	*Reverse bending radius for circular movements*	*Unsupported lengths +25% possible*
Part No. **Standard** **e-chains®/e-tubes** 	**Part No.** **Low noise (with pads)** **e-chains®/e-tubes** 	**Part No.** **NC-Material** **e-chains®/e-tubes** 	**Part No.** **RBR** **e-chains®/e-tubes** 	**Part No.** **XXL-Material**** **e-chains®/e-tubes** 
E4.28.100.*R*.0 Crossbar every link	**ES4.28.100.*R*.0** Crossbar every link	**E4.28.100.*R*.0.NC** Crossbar every link	**E4.28.100.*R1/R2*.0** Crossbar every link	**E4.28.100.*R*.0.XXL** Crossbar every link
R4.28.100.*R*.0 e-tube, closed	**RS4.28.100.*R*.0** e-tube, closed	**R4.28.100.*R*.0.NC** e-tube, closed	**R4.28.100.*R1/R2*.0** e-tube, closed	**R4.28.100.*R*.0.XXL** e-tube, closed
Delivery in 24h or today!*	**Delivery time: 3-5 work days**	**Delivery in 24h or today!***	**Delivery time: 10 work days** (2-5 work days with express surcharge)	**Delivery time: 1-2 weeks** **Sidebands made from XXL-Material

Combination possibilities | Examples

	Low-noise option	NC-Version	RBR-Version	XXL-Material	HT-Material*	ESD-Material
Low-noise option		ES4.28.100.*R*.0.NC	–	ES4.28.100.*R*.0.XXL	RS4.28.100.*R*.0.HT	ES4.28.100.*R*.0.ESD
NC-Version	ES4.28.100.*R*.0.NC		–	–	R4.28.100.*R*.0.HT.NC	E4.28.100.*R*.0.ESD.NC
RBR-Version	–	–		–	R4.28.100.*R1/R2*.0.HT	E4.28.100.*R1/R2*.0.ESD
XXL-Material	ES4.28.100.*R*.0.XXL	–	–		–	–
HT-Material*	RS4.28.100.*R*.0.HT	R4.28.100.*R*.0.HT.NC	R4.28.100.*R1/R2*.0.HT	–		–
ESD-Material	ES4.28.100.*R*.0.ESD	E4.28.100.*R*.0.ESD.NC	E4.28.100.*R1/R2*.0.ESD	–	–	

*for gliding applications please consult igus®

E4.1 | **Series E4.28** | **Options** and order key

No burning-in of hot chips up to 850°C (1562° F)

Part No.
HT-Material
only for e-tubes

R4.28.100.*R*.0.HT
Complete e-tube*

R4.28.100HT.*R*.0
Lid and bottom

R4.28.100HTZ.*R*.0
Bottom only

R4.28.100HTE.*R*.0
Lid only

Delivery time:
10 work days

*for gliding applications please consult igus®

ATEX/ESD classified e-chains® - ⬢ II 2 GD

Part No.
ESD-Material
e-chains®/e-tubes

E4.28.100.*R*.0.ESD
Crossbar every link

R4.28.100.*R*.0.ESD
e-tube, closed

Delivery time:
5 work days

Order example | Order key and color options

Order example for complete e-chain® (3,0 m, with crossbars every link), color black, mounting brackets and interior separation

e-chain® (3,0 m)	Please indicate e-chain® length or number of links: 3,0 m or 66 links	**E4.28.100.100.0**
+ Mounting brackets	1 set	**E4.280.100.1.12**
+ Interior separation	with 2 separators assembled every 2nd link	**2 x 2211**

Order text: 3,0 m E4.28.100.100.0 + E4.280.100.1.12 + 2 x Part No. 2211

Order key
E4.28.100.100.0

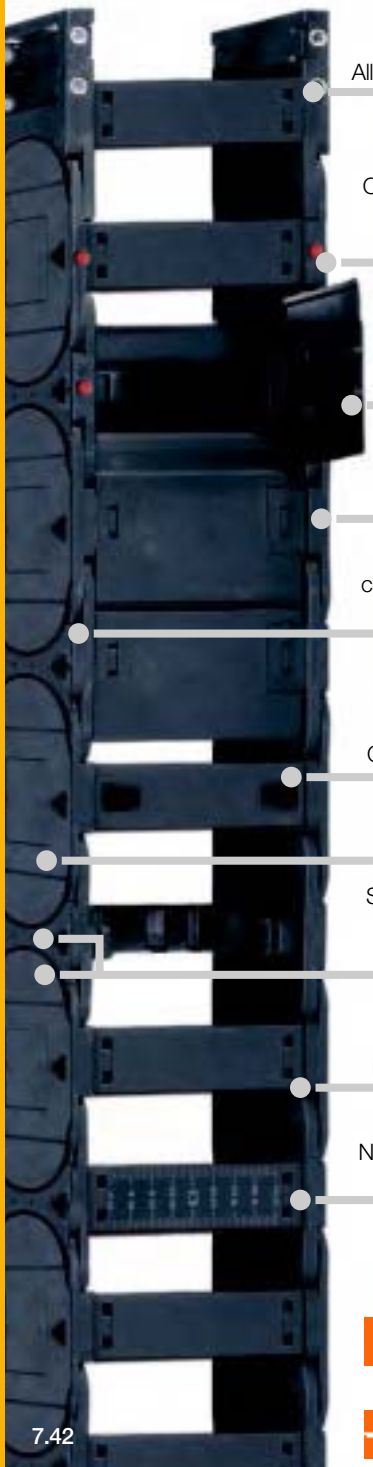
- Standard color
- black
- Bending radius *R*
- Width index
- Inner height
- Series / Type

Color options for e-chains® and e-tubes

Color	Order index	Color	Order index
black	.0 from stock!	green*	.7
white*	.1	grey*	.3 for e-chains®
violet*	.5	dusty grey*	.3 for e-tubes
yellow*	.4	agate grey*	.11
orange*	.2	light grey*	.14
red*	.6	black grey*	.13
blue*	.8	yellow/black*	.9

Black e-chains® from stock! *Colored e-chains® delivered in 15 work days
(Delivery in 5 work days at an express surcharge, available upon request!)

Available from stock. Delivery in 24h or today!*
*Delivery time means time until shipping of goods



Stable due to undercut design, medium inner height

When to use Series E4.32:

- If a robust e-chain®/e-tube with an inner height of 32 mm is required
- If inner widths up to 400 mm are required
- For unsupported lengths up to 3,25 m and fill weights up to 15 kg/m
- For long travels up to 200 m
- Also suitable for side-mounted, vertical standing or hanging applications
- If many options and accessories are desired

When to use a different igus® Series

- If an extremely **low-noise** and low-vibration e-chain® is required (≤46 dB(A))

►**Series E6.35, page 8.50**

- If the e-chain® shall be used in **cleanroom applications** (ISO class 1)

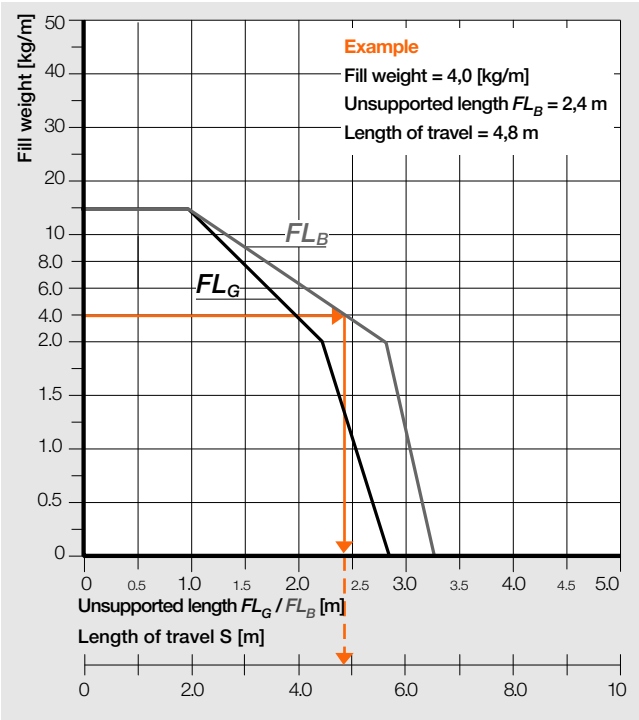
►**Series E6.35, page 8.50**

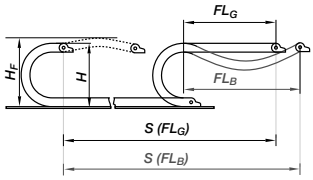
- If a less stable e-chain® can be used for economical reasons

►**Series 2600/2650/2680/2700, page 5.182**

Available from stock. Delivery in 24h or today!*
*Delivery time means time until shipping of goods

3D-CAD files, configurators, PDF ► www.igus.de/en/E4.32



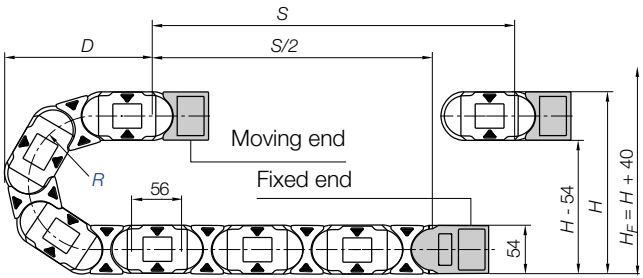


Unsupported applications

Unsupported e-chains® feature positive camber over short travels. This must be accounted for when specifying the clearance height H_F. Please consult igus® if space is particularly restricted. More information ▶ **Design, page 1.8**

Gliding applications

Travels up to 200 m.
More information ▶ **page 7.56**



Technical Data

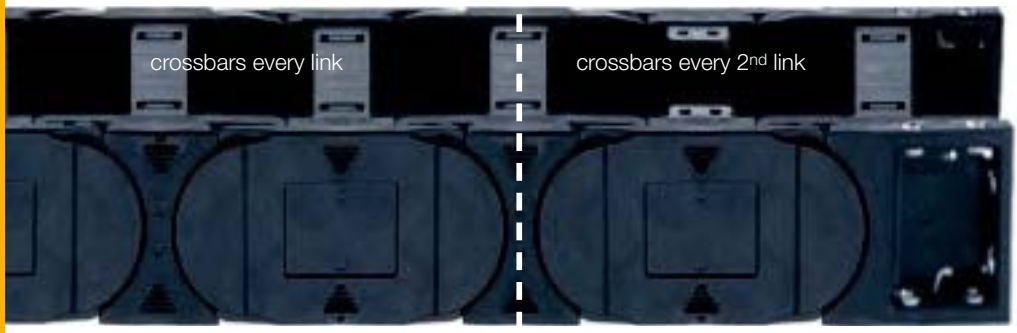
Speed, material, temperature and flammability class ▶ **page 7.16**

Pitch = 56 mm/link
Links/m = 18 (1008 mm)
Chain length = $S/2 + K$

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	146	158	183	208	233	258	283	303	333	383
K	310	350	430	505	585	665	745	805	900	1055

The required clearance height: $H_F = H + 40$ mm (with 2,0 kg/m fill weight)

FL_G = with straight upper run
FL_B = with permitted sag
S = Length of travel
R = Bending radius
H = Nominal clearance height
H_F = Required clearance height
D = Overlength e-chain®, radius in final position
K = $\pi \bullet R +$ "safety"



e-chains® | Series **E4.32** crossbars every link | Series **H4.32** crossbars every 2nd link

Part No. crossbars every link	Part No. crossbars every 2nd link	*Bi* [mm]	*Ba* [mm]	E4.32 [kg/m]	H4.32 [kg/m]
E4.32.	H4.32. 05. *R*.0	50	73	1,567	1,425
E4.32.	H4.32. 06. *R*.0	68	91	1,697	1,49
E4.32.	H4.32. 07. *R*.0	75	98	1,730	1,507
E4.32.	H4.32. 087. *R*.0	87	110	1,803	1,543
E4.32.	H4.32. 09. *R*.0**	97	120	1,867	1,575
E4.32.	H4.32. 10. *R*.0	100	123	1,886	1,584
E4.32.	H4.32. 11. *R*.0	108	131	1,942	1,612
E4.32.	H4.32. 112. *R*.0	112	136	1,956	1,619
E4.32.	H4.32. 12. *R*.0	125	148	2,069	1,676
E4.32.	H4.32. 137. *R*.0	137	161	2,122	1,702
E4.32.	H4.32. 15. *R*.0	150	173	2,212	1,747
E4.32.	H4.32. 162. *R*.0	162	186	2,240	1,762
E4.32.	H4.32. 17. *R*.0	168	191	2,323	1,803
E4.32.	H4.32. 18. *R*.0	175	198	2,345	1,814
E4.32.	H4.32. 187. *R*.0	187	211	2,392	1,837
E4.32.	H4.32. 20. *R*.0	200	223	2,518	1,900

Part No. crossbars every link	Part No. crossbars every 2nd link	*Bi* [mm]	*Ba* [mm]	E4.32 [kg/m]	H4.32 [kg/m]
E4.32.	H4.32. 212. *R*.0	212	236	2,568	1,925
E4.32.	H4.32. 23. *R*.0	225	248	2,669	1,976
E4.32.	H4.32. 237. *R*.0	237	261	2,698	1,990
E4.32.	H4.32. 25. *R*.0	250	273	2,834	2,059
E4.32.	H4.32. 262. *R*.0	262	286	2,917	2,100
E4.32.	H4.32. 28. *R*.0	275	298	2,989	2,136
E4.32.	H4.32. 29. *R*.0	287	311	3,023	2,153
E4.32.	H4.32. 30. *R*.0	300	323	3,151	2,217
E4.32.	H4.32. 312. *R*.0	312	336	3,175	2,229
E4.32.	H4.32. 325. *R*.0	325	348	3,277	2,280
E4.32.	H4.32. 337. *R*.0	337	361	3,338	2,311
E4.32.	H4.32. 350. *R*.0	350	373	3,565	2,424
E4.32.	H4.32. 362. *R*.0	362	386	3,662	2,473
E4.32.	H4.32. 375. *R*.0	375	398	3,735	2,509
E4.32.	H4.32. 387. *R*.0	387	411	3,803	2,543
E4.32.	H4.32. 400. *R*.0	400	423	3,868	2,575

Available bending radii *R* [mm] 063 | 075 | 100 | 125 | 150 | 175 | 200 | 220 | 250 | 300

Supplement Part No. with required radius *(R)*. Example: **E4.32.30.300.0**

****NEW** in this catalog

When to use e-chains® with crossbars every link: ● Lateral acceleration > 0,5m/s² ● High fill weights and rigid hydraulic hoses ● Humidity: > 85%, temperature: > 50°C (122° F)

When to use e-chains® with crossbars every 2nd link: ● Suitable for nearly all applications ● Lower price

Part No. of e-chain® links as single parts ► page 7.17

Standard e-chains® incl. accessories from stock. Delivery in 24h or today.*

*Delivery time means time until shipping of goods

e-tubes | Series **R4.32** - fully enclosed

Part No. fully enclosed	*Bi* [mm]	*Ba* [mm]	R4.32 [kg/m]
R4.32. 05. *R*.0*	50	73	2,450
R4.32. 07. *R*.0	75	98	2,570
R4.32. 10. *R*.0	100	123	2,650
R4.32. 11. *R*.0	108	131	2,760
R4.32. 12. *R*.0	125	148	2,850
R4.32. 15. *R*.0	150	173	3,010

Part No. fully enclosed	*Bi* [mm]	*Ba* [mm]	R4.32 [kg/m]
R4.32. 17. *R*.0	168	191	3,210
R4.32. 20. *R*.0	200	223	3,410
R4.32. 25. *R*.0	250	273	3,860
R4.32. 30. *R*.0	300	323	4,250

*Removable lid only, no hinged option

Available bending radii *R* [mm] 125 | 150 | 175 | 200 | 220 | 250 | 300

Supplement Part No. with required radius *(R)*. Example: **R4.32.30.300.0**

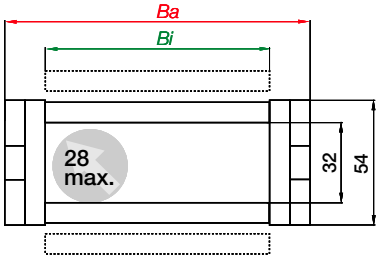
When to use fully enclosed e-tubes: ● Excellent cable protection against dirt ● Lids along the entire inner radius are completely removable. Lids along the entire outer radius are single sided snap-open with a hinge on the other side to keep them attached to the e-chain® or completely removable ● HT-Version optional, protection against hot chips up to 850°C (1562° F)

Order key for all types

E4 .32. 30. 300. 0 e-chain® **(crossbars every link)**
H4 .32. 30. 300. 0 e-chain® **(crossbars every 2nd link)**
R4 .32. 30. 300. 0 **Fully enclosed** e-tube

- Standard color black
- Bending radius *R*
- Width index (depends on *Bi*)
- Inner height
- Series / Type

Dimensioning



E4.32.30.300.0 = e-chain® with **crossbars every link**, inner width *Bi* 300 mm, radius *R* 300 mm, color black
H4.32.30.300.0 = e-chain® with **crossbars every 2nd link**, inner width *Bi* 300 mm, radius *R* 300 mm, color black
R4.32.30.300.0 = **Fully enclosed** e-tube, inner width *Bi* 300 mm, radius *R* 300 mm, color black

More order examples, variations and configurations ▶ page 7.58

Standard e-tubes incl. accessories from stock. Delivery in 24h or today!*
*Delivery time means time until shipping of goods

QuickLock crossbars | Quick opening - up to 25% faster assembly

Part No. crossbars every link	Part No. crossbars every 2nd link	QuickLock crossbar for Inner radius	QuickLock crossbar for Outer radius	QuickLock crossbar for Both radii	*Bi* [mm]
E4.32.	H4.32.	10 QZ.*R*.0	10 QE.*R*.0	10 Q.*R*.0	100
E4.32.	H4.32.	11 QZ.*R*.0	11 QE.*R*.0	11 Q.*R*.0	108
E4.32.	H4.32.	112 QZ.*R*.0	112 QE.*R*.0	112 Q.*R*.0	112
E4.32.	H4.32.	12 QZ.*R*.0	12 QE.*R*.0	12 Q.*R*.0	125
E4.32.	H4.32.	137 QZ.*R*.0	137 QE.*R*.0	137 Q.*R*.0	137
E4.32.	H4.32.	15 QZ.*R*.0	15 QE.*R*.0	15 Q.*R*.0	150
E4.32.	H4.32.	162 QZ.*R*.0	162 QE.*R*.0	162 Q.*R*.0	162
E4.32.	H4.32.	17 QZ.*R*.0	17 QE.*R*.0	17 Q.*R*.0	168
E4.32.	H4.32.	18 QZ.*R*.0	18 QE.*R*.0	18 Q.*R*.0	175
E4.32.	H4.32.	187 QZ.*R*.0	187 QE.*R*.0	187 Q.*R*.0	187
E4.32.	H4.32.	20 QZ.*R*.0	20 QE.*R*.0	20 Q.*R*.0	200
E4.32.	H4.32.	212 QZ.*R*.0	212 QE.*R*.0	212 Q.*R*.0	212
E4.32.	H4.32.	23 QZ.*R*.0	23 QE.*R*.0	23 Q.*R*.0	225
E4.32.	H4.32.	237 QZ.*R*.0	237 QE.*R*.0	237 Q.*R*.0	237
E4.32.	H4.32.	25 QZ.*R*.0	25 QE.*R*.0	25 Q.*R*.0	250
E4.32.	H4.32.	262 QZ.*R*.0	262 QE.*R*.0	262 Q.*R*.0	262
E4.32.	H4.32.	28 QZ.*R*.0	28 QE.*R*.0	28 Q.*R*.0	275
E4.32.	H4.32.	29 QZ.*R*.0	29 QE.*R*.0	29 Q.*R*.0	287
E4.32.	H4.32.	30 QZ.*R*.0	30 QE.*R*.0	30 Q.*R*.0	300
E4.32.	H4.32.	312 QZ.*R*.0	312 QE.*R*.0	312 Q.*R*.0	312
E4.32.	H4.32.	325 QZ.*R*.0	325 QE.*R*.0	325 Q.*R*.0	325
E4.32.	H4.32.	337 QZ.*R*.0	337 QE.*R*.0	337 Q.*R*.0	337
E4.32.	H4.32.	350 QZ.*R*.0	350 QE.*R*.0	350 Q.*R*.0	350
E4.32.	H4.32.	362 QZ.*R*.0	362 QE.*R*.0	362 Q.*R*.0	362
E4.32.	H4.32.	375 QZ.*R*.0	375 QE.*R*.0	375 Q.*R*.0	375
E4.32.	H4.32.	387 QZ.*R*.0	387 QE.*R*.0	387 Q.*R*.0	387
E4.32.	H4.32.	400 QZ.*R*.0	400 QE.*R*.0	400 Q.*R*.0	400

QuickLock crossbars: inner widths from 100 mm possible!

Available bending radii *R* [mm] 063 | 075 | 100 | 125 | 150 | 175 | 200 | 220 | 250 | 300

Supplement Part No. with required radius *(R)*. Example: **E4.32.**30**QZ.**300**.0**

For e-chains® with **QuickLock crossbar** supplement Part No. with required Index **QZ / QE / Q**

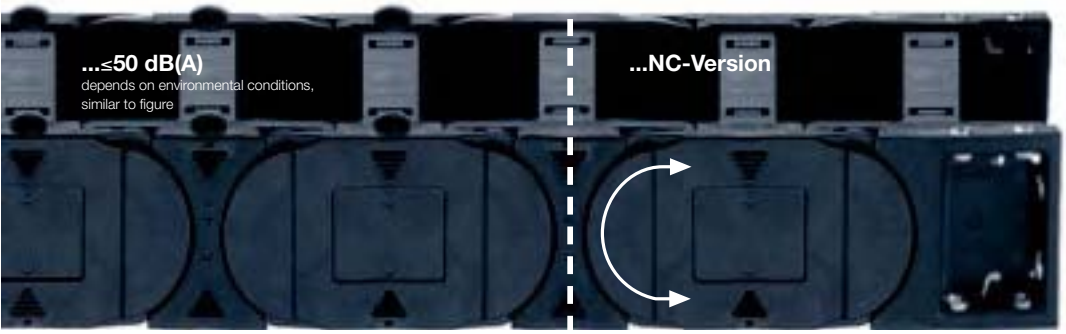
Part No. E4.32.30**QZ.**300**.0** = QuickLock crossbar for inner radius

Part No. E4.32.30**QE.**300**.0** = QuickLock crossbar for outer radius

Part No. E4.32.30**Q .**300**.0** = QuickLock crossbar for both radii

e-chain® with QuickLock crossbars - Delivery time: 3-5 work days.*

*Delivery time means time until shipping of goods



Noise dampening | ≤50 dB(A)

With pads crossbars every: link	2nd	e-tube fully enclosed	Bi [mm]
ES4 HS4 RS4 .32. 05. R.0			50
ES4 HS4 – .32. 06. R.0			68
ES4 HS4 RS4 .32. 07. R.0			75
ES4 HS4 RS4 .32. 087.R.0			87
ES4 HS4 – .32. 09. R.0			97
ES4 HS4 RS4 .32. 10. R.0			100
ES4 HS4 RS4 .32. 11. R.0			108
ES4 HS4 – .32. 112.R.0			112
ES4 HS4 RS4 .32. 12. R.0			125
ES4 HS4 – .32. 137.R.0			137
ES4 HS4 – .32. 15. R.0			150
ES4 HS4 RS4 .32. 162.R.0			162
ES4 HS4 RS4 .32. 17. R.0			168
ES4 HS4 – .32. 18. R.0			175
ES4 HS4 – .32. 187.R.0			187
ES4 HS4 RS4 .32. 20. R.0			200

With pads crossbars every: link	2nd	e-tube fully enclosed	Bi [mm]
ES4 HS4 – .32. 212.R.0			212
ES4 HS4 – .32. 23. R.0			225
ES4 HS4 – .32. 237.R.0			237
ES4 HS4 RS4 .32. 25. R.0			250
ES4 HS4 – .32. 262.R.0			262
ES4 HS4 – .32. 28. R.0			275
ES4 HS4 – .32. 29. R.0			287
ES4 HS4 RS4 .32. 30. R.0			300
ES4 HS4 – .32. 312.R.0			312
ES4 HS4 – .32. 325.R.0			325
ES4 HS4 – .32. 337.R.0			337
ES4 HS4 – .32. 350.R.0			350
ES4 HS4 – .32. 362.R.0			362
ES4 HS4 – .32. 375.R.0			375
ES4 HS4 – .32. 387.R.0			387
ES4 HS4 – .32. 400.R.0			400

NC-Version | Without pretension

NC-Version crossbars every: link	2nd	e-tube fully enclosed	Bi [mm]
E4 H4 R4.32. .05. R.0.NC			50
E4 H4 – .32. 06. R.0.NC			68
E4 H4 R4.32. 07. R.0.NC			75
E4 H4 R4.32. 087.R.0.NC			87
E4 H4 – .32. 09. R.0.NC			97
E4 H4 R4.32. 10. R.0.NC			100
E4 H4 R4.32. 11. R.0.NC			108
E4 H4 – .32. 112.R.0.NC			112
E4 H4 R4.32. 12. R.0.NC			125
E4 H4 – .32. 137.R.0.NC			137
E4 H4 – .32. 15. R.0.NC			150
E4 H4 R4.32. 162.R.0.NC			162
E4 H4 R4.32. 17. R.0.NC			168
E4 H4 – .32. 18. R.0.NC			175
E4 H4 – .32. 187.R.0.NC			187
E4 H4 R4.32. 20. R.0.NC			200

NC-Version crossbars every: link	2nd	e-tube fully enclosed	Bi [mm]
E4 H4 – .32. 212.R.0.NC			212
E4 H4 – .32. 23. R.0.NC			225
E4 H4 – .32. 237.R.0.NC			237
E4 H4 R4.32. 25. R.0.NC			250
E4 H4 – .32. 262.R.0.NC			262
E4 H4 – .32. 28. R.0.NC			275
E4 H4 – .32. 29. R.0.NC			287
E4 H4 R4.32. 30. R.0.NC			300
E4 H4 – .32. 312.R.0.NC			312
E4 H4 – .32. 325.R.0.NC			325
E4 H4 – .32. 337.R.0.NC			337
E4 H4 – .32. 350.R.0.NC			350
E4 H4 – .32. 362.R.0.NC			362
E4 H4 – .32. 375.R.0.NC			375
E4 H4 – .32. 387.R.0.NC			387
E4 H4 – .32. 400.R.0.NC			400

Available bending radii *R* [mm] 063* | 075* | 100* | 125 | 150 | 175 | 200 | 220 | 250 | 300 *not available for e-tubes

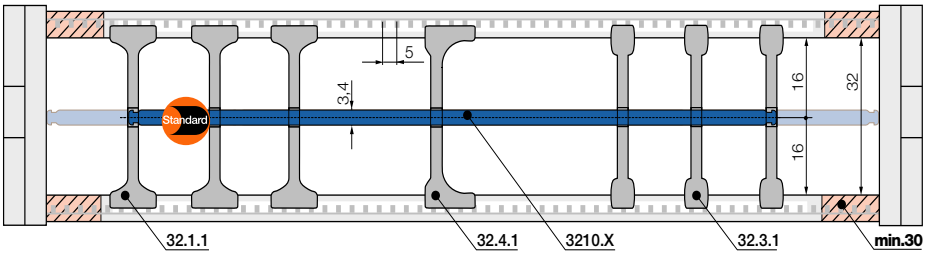
Supplement Part No. with required radius *(R)*. Example: **ES4.32.30.300.0 or E4.32.30.300.0.NC**

For e-chains® with noise dampening pads supplement Part No. with required index "**S**"
Example: **Part No. ES4.32.30.300.0** = e-chain® (crossbars every link) with noise dampening
For NC-e-chains® without pretension supplement Part No. with required index "**NC**"
Example: **Part No. E4.32.30.300.0.NC** = e-chain® (crossbars every link) without pretension

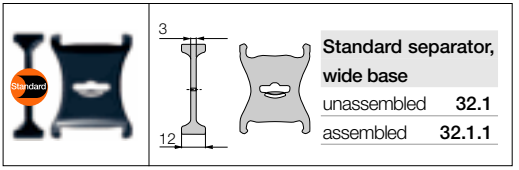
e-chain® with noise dampening pads - Delivery time: 3-5 work days.
NC-Version - Delivery in 24h or today!*
*Delivery time means time until shipping of goods

E4.1 | Series E4.32 | Interior separation | Standard

New generation interior separation



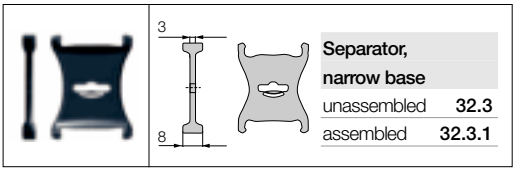
Note e-tube: Please observe a lateral spacing of **30 mm** to the side links!
In the standard configuration separators are assembled every 2nd e-chain® link!



Standard separator, wide base	
unassembled	**32.1**
assembled	**32.1.1**

Standard - for all applications

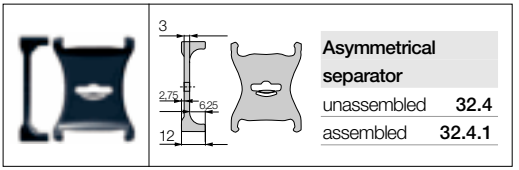
Separator with a wide base for maximum locking strength and safe standing in e-chains® and e-tubes.



Separator, narrow base	
unassembled	**32.3**
assembled	**32.3.1**

For many thin cables

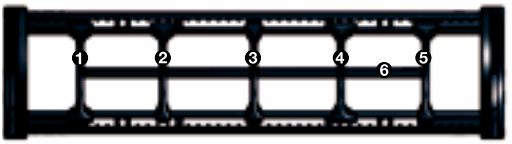
Separator with a narrow base for a large number of thin cables side by side. Saves space in e-chains® and e-tubes. Also available for QuickLock crossbars.

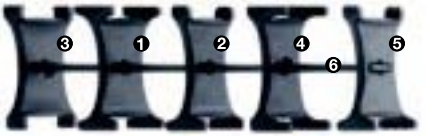


Asymmetrical separator	
unassembled	**32.4**
assembled	**32.4.1**

For side-mounted applications

Asymmetrical separator, for defined distance. No additional spacers necessary for e-chains® and e-tubes.



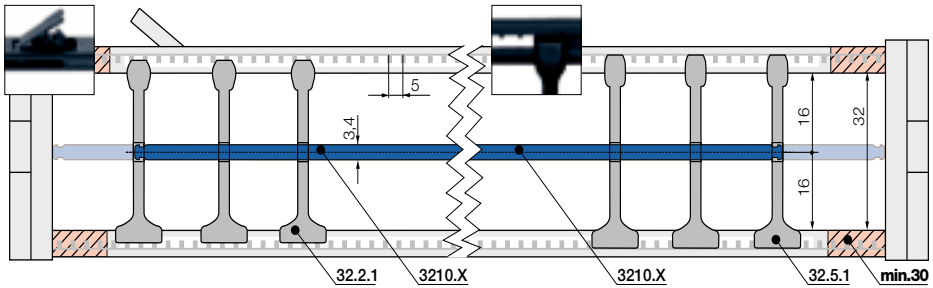


① Standard separator, wide base - Part No. 32.1 ③ Separator, narrow base - Part No. 32.3 ⑤ Notch separator - Part No. 32.5
② Separator for QuickLock crossbar - Part No. 32.2 ④ Separator, asymmetrical - Part No. 32.4 ⑥ Full-width self, lockable - Part No. 3200.XX

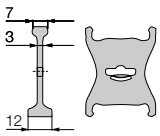
Interior separation single-part order - Delivery in 24h or today!*
*Delivery time means time until shipping of goods

E4.1 | **Series E4.32** | Interior separation | **Standard**

New generation interior separation



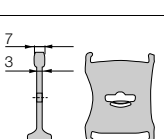
Note e-tube: Please observe a lateral spacing of **30 mm** to the side links!
In the standard configuration separators are assembled every 2nd e-chain® link!



Separator for QuickLock crossbar	
unassembled	**32.2**
assembled	**32.2.1**

For even faster installation

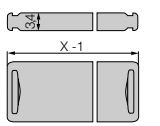
Separator for igus® QuickLock crossbar 385.X.Q. Firm hold to one side with a wide base, narrow on opposed side for easy cable assembly (slight grip). For e-tubes also.



Notch separator for notch crossbar	
unassembled	**32.5**
assembled	**32.5.1**

Locks safely onto in 5 mm increments

Notch separator for the new notch crossbar, With scaling on the notch crossbars. For exact positioning in e-chains® and e-tubes. Recommended for side-mounted applications.



Full-width shelf, lockable	
unassembled	**3200.X**
assembled	**3210.X**

Horizontal separation

Shelf locks safely into separators on both ends, fixed width possible. Separators can be moved freely over the shelf in horizontal direction. Usable in 1 level.

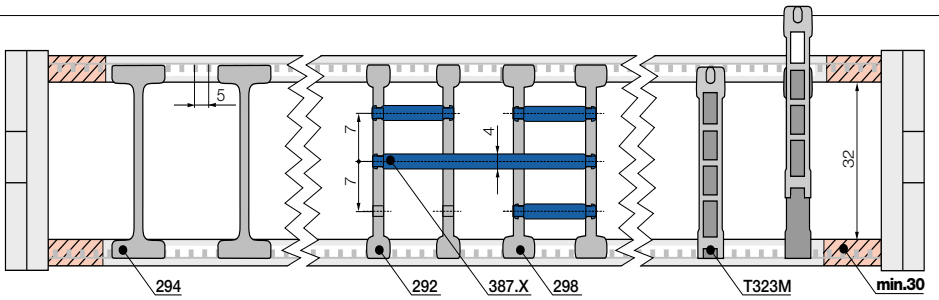
Lockable full-width shelves - for the standard interior separation

Width X [mm]	unassembled	assembled	Width X [mm]	unassembled	assembled	Width 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**			

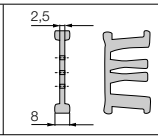
E4.1 | Series E4.32 | Interior separation | Options

Previous interior separation

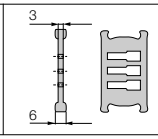
All elements can still be ordered ► www.igus.de/en/E4.32



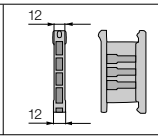
Note e-tube: Please observe a lateral spacing of **30 mm** to the side links!
In the standard configuration separators are assembled every 2nd e-chain® link!

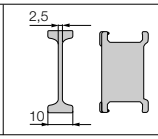
Open slotted separator for e-chains®/e-tubes	
unassembled	297
assembled	298

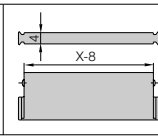
Slotted separator for e-chains®/e-tubes	
unassembled	291
assembled	292

Split separator for e-chains®	
unassembled	T323
assembled	T323M

Locking separator for e-chains®	
unassembled	293
assembled	294

Shelf	
unassembled	386.X
assembled	387.X

Open, slotted separator 297 (unilateral open)

Fast assembly - can be retrofitted into an existing interior separation system without a need for dismantling the interior separators. During an installation of open slotted separators, the top and bottom notches cannot be occupied by shelves.

Slotted separator 291

For very fine subdivisions. However, they cannot be retrofitted into an existing separation system without dismantling the interior separators first.

Split separator T323 (e-chains® only)

Ideal for subsequent shelving or for the initial assembly of the e-chain® without a need for dismantling the interior separators.

Locking separator 293 (e-chains® only)

For applications exposed to very high humidity (> 85%). Locks with extra retention force. Tip: one locking separator per e-chain® link for better mounting.

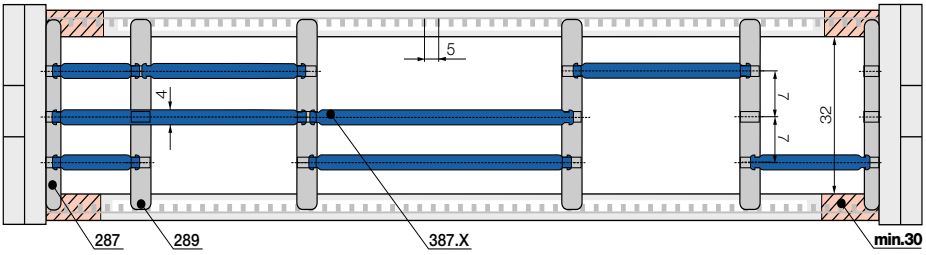
Shelf 386.X

For horizontal separation. Shelves of various widths can be arranged at 3 different heights (in 7 mm increments). (not in combination with 3804, 383).

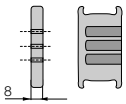
E4.1 | **Series E4.32** | Interior separation | **Options**

Previous interior separation

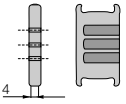
All elements can still be ordered ▶ www.igus.de/en/E4.32



Note e-tube: Please observe a lateral spacing of **30 mm** to the side links!
In the standard configuration separators are assembled every 2nd e-chain® link!



Middle plate for e-chains® / e-tubes	
unassembled	**288**
assembled	**289**



Side plate for e-chains® / e-tubes	
unassembled	**286**
assembled	**287**

Middle plate 288

Middle plates form the basic pattern of a shelf system. Shelves 386.X (table below) can be arranged at 3 different heights (in 7 mm increments).

Side plate 286

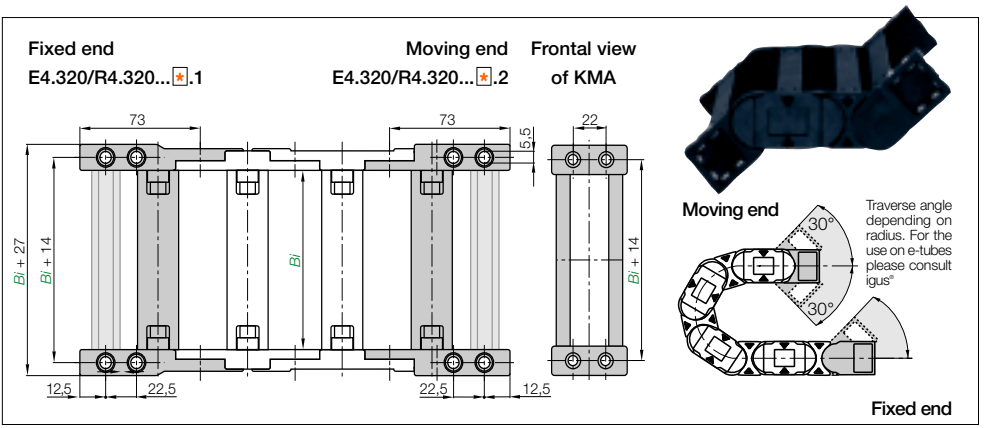
Works like middle plate.
Allows modular shelving close to the side links.

Shelves - interior separation options

Width X [mm]	unassembled	assembled	Width X [mm]	unassembled	assembled	Width X [mm]	unassembled	assembled
018	**386.18**	**387.18**	054	**386.54**	**387.54**	150	**386.150**	**387.150**
023	**386.23**	**387.23**	062	**386.62**	**387.62**	175	**386.175**	**387.175**
025	**386.25**	**387.25**	075	**386.75**	**387.75**	200	**386.200**	**387.200**
028	**386.28**	**387.28**	087	**386.87**	**387.87**	208	**386.208**	**387.208**
033	**386.33**	**387.33**	100	**386.100**	**387.100**	225	**386.225**	**387.225**
043	**386.43**	**387.43**	108	**386.108**	**387.108**			
050	**386.50**	**387.50**	125	**386.125**	**387.125**			

E4.1 | **Series E4.32** | KMA mounting brackets **pivoting**

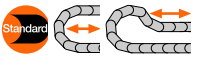
For tight installation conditions, all-sides attachment



KMA pivoting | All-sides attachment. Recommended for unsupported and gliding applications

Width index	Part No. full set pivoting (+ C-profile option)	Bi [mm]
05. ▶	E4.320. R4.320.05 .*.12.C	50
06. ▶	E4.320. – 06 .*.12.C	68
07. ▶	E4.320. R4.320.07 .*.12.C	75
087. ▶	E4.320. – 09 .*.12.C	87
09. ▶	E4.320. – 087.*.12.C	97
10. ▶	E4.320. R4.320.10 .*.12.C	100
11. ▶	E4.320. R4.320.11 .*.12.C	108
112. ▶	E4.320. – 112.*.12.C	112
12. ▶	E4.320. R4.320.12 .*.12.C	125
137. ▶	E4.320. – 137.*.12.C	137
15. ▶	E4.320. R4.320.15 .*.12.C	150
162. ▶	E4.320. – 162.*.12.C	162
17. ▶	E4.320. R4.320.17 .*.12.C	168
18. ▶	E4.320. – 18 .*.12.C	175
187. ▶	E4.320. – 187.*.12.C	187
20. ▶	E4.320. R4.320.20 .*.12.C	200

Width index	Part No. full set pivoting (+ C-profile option)	Bi [mm]
212. ▶	E4.320. – 212.*.12.C	212
23. ▶	E4.320. – 23 .*.12.C	225
237. ▶	E4.320. – 237.*.12.C	237
25. ▶	E4.320. R4.320.25 .*.12.C	250
262. ▶	E4.320. – 262.*.12.C	262
28. ▶	E4.320. – 28 .*.12.C	275
29. ▶	E4.320. – 29 .*.12.C	287
30. ▶	E4.320. R4.320.30 .*.12.C	300
312. ▶	E4.320. – 312.*.12.C	312
325. ▶	E4.320. – 325.*.12.C	325
337. ▶	E4.320. – 337.*.12.C	337
350. ▶	E4.320. – 350.*.12.C	350
362. ▶	E4.320. – 362.*.12.C	362
375. ▶	E4.320. – 375.*.12.C	375
387. ▶	E4.320. – 387.*.12.C	387
400. ▶	E4.320. – 400.*.12.C	400



- Standard
- For tight installation conditions
- Option: integrated chainfix strain relief with C-profile
- Corrosion resistant
- Option: threaded sockets upon request

(KMA = Polymer Metal Mounting Bracket)

Part No. structure (pivoting)

E4.320.30.2.12.C

- C-profile option
- Full set
- even
- Width index
- Series

Note*: The E4.1 System may end with either an inner or an outer side link. Keep in mind that an outer side link always forms the first e-chain® link at the moving end.
The Part Nos. depend on an even or odd numbers of links.
Please insert: Index 1 (for odd) or 2 (for even)!

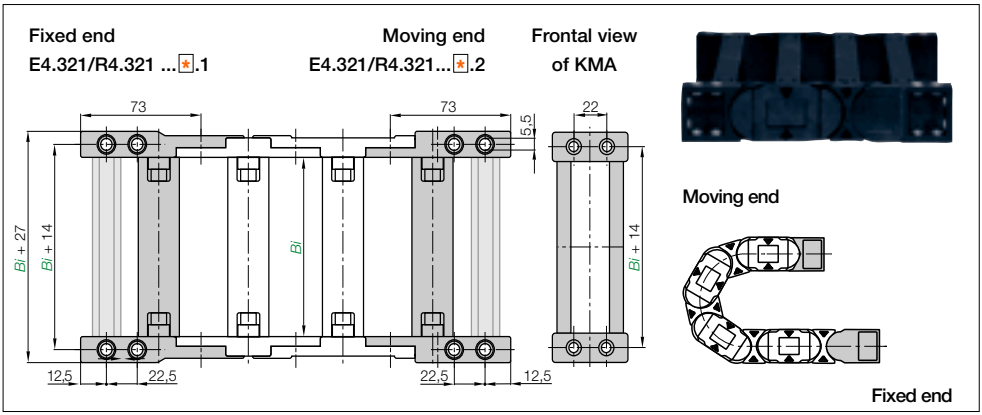
Single-part order:

Mounting bracket **Moving end**
E4.320.30.2.2.C (even number of links)
Mounting bracket **Fixed end**
E4.320.30.2.1.C (even number of links)

Strain relief, e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with order options ▶ from page 10.1

E4.1 | **Series E4.32** | KMA mounting brackets **locking**

For very high speed and acceleration, all-sides attachment



KMA locking | All-sides attachment. Recommended for vertical hanging and standing applications

Width index	Part No. full set **locking** (+ C-profile option)	*Bi* [mm]
05. ▶	E4.321. R4.321.05 .*.12.C	50
06. ▶	E4.321. – 06 .*.12.C	68
07. ▶	E4.321. R4.321.07 .*.12.C	75
087. ▶	E4.321. – 09 .*.12.C	87
09. ▶	E4.321. – 087.*.12.C	97
10. ▶	E4.321. R4.321.10 .*.12.C	100
11. ▶	E4.321. R4.321.11 .*.12.C	108
112. ▶	E4.321. – 112.*.12.C	112
12. ▶	E4.321. R4.321.12 .*.12.C	125
137. ▶	E4.321. – 137.*.12.C	137
15. ▶	E4.321. R4.321.15 .*.12.C	150
162. ▶	E4.321. – 162.*.12.C	162
17. ▶	E4.321. R4.321.17 .*.12.C	168
18. ▶	E4.321. – 18 .*.12.C	175
187. ▶	E4.321. – 187.*.12.C	187
20. ▶	E4.321. R4.321.20 .*.12.C	200

Width index	Part No. full set **locking** (+ C-profile option)	*Bi* [mm]
212. ▶	E4.321. – 212.*.12.C	212
23. ▶	E4.321. – 23 .*.12.C	225
237. ▶	E4.321. – 237.*.12.C	237
25. ▶	E4.321. R4.321.25 .*.12.C	250
262. ▶	E4.321. – 262.*.12.C	262
28. ▶	E4.321. – 28 .*.12.C	275
29. ▶	E4.321. – 29 .*.12.C	287
30. ▶	E4.321. R4.321.30 .*.12.C	300
312. ▶	E4.321. – 312.*.12.C	312
325. ▶	E4.321. – 325.*.12.C	325
337. ▶	E4.321. – 337.*.12.C	337
350. ▶	E4.321. – 350.*.12.C	350
362. ▶	E4.321. – 362.*.12.C	362
375. ▶	E4.321. – 375.*.12.C	375
387. ▶	E4.321. – 387.*.12.C	387
400. ▶	E4.321. – 400.*.12.C	400

- Locked connections
- At high acceleration
- Universally mountable
- C-profile option
- Corrosion resistant
- Option: threaded sockets upon request

(KMA = Polymer Metal Mounting Bracket)

Part No. structure (locking)

E4.321.30.2.12.C

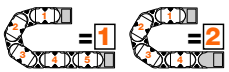
- C-profile option
- Full set
- even
- Width index
- Series

Single-part order:

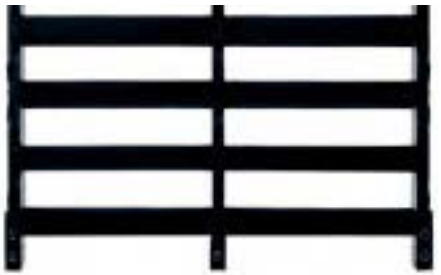
Mounting bracket **Moving end**
E4.321.30.2.2.C (even number of links)

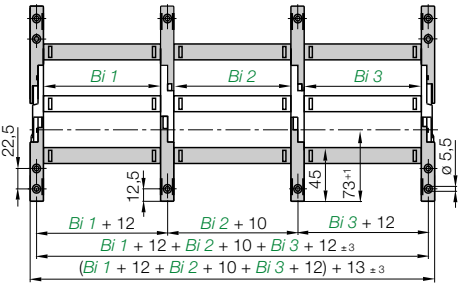
Mounting bracket **Fixed end**
E4.321.30.2.1.C (even number of links)

Note*: The E4.1 System may end with either an inner or an outer side link. Keep in mind that an outer side link always forms the first e-chain® link at the moving end.
The Part Nos. depend on an even or odd numbers of links.
Please insert: Index 1 (for odd) or 2 (for even)!



Strain relief, e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with order options ▶ from page 10.1



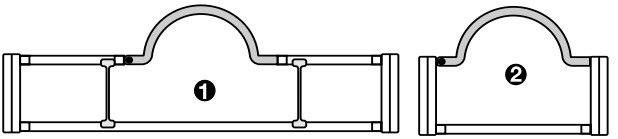


Extension links | for extremely wide e-chains® up to 3,0 m

- The extension link design allows virtually limitless side-by-side attachment
- High fill weights necessitate extremely wide e-chains® (up to 3000 mm)
- The unsupported length FL_G max. can be increased when additional loads are required
- Suitable for unsupported and gliding applications in a guide trough
- Attachement with KMA or steel mounting brackets

Order example - 3 chambers
E4.32.*Bi1* / *Bi2* / *Bi3*.*R*.0 =
E4.32.10 / 20 / 10.200.0
Extension link - single-part order
284.*R*. (please indicate radius)

Round extender crossbar ① combined with snap-open crossbars or ② attached directly on the side link (View from the fixed point)



Extender crossbars | careful guide of hosed applications

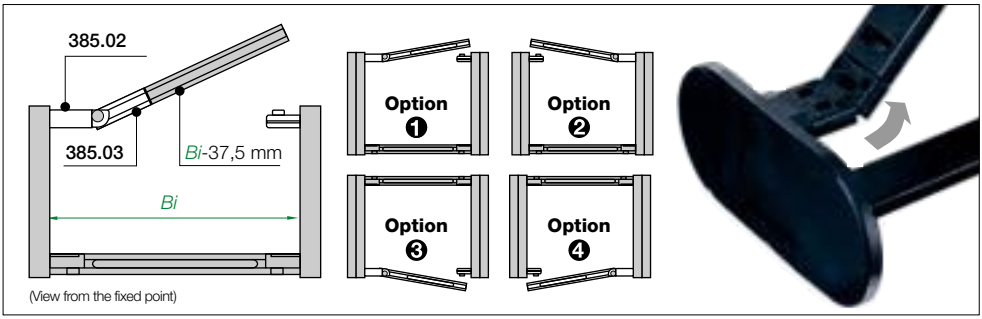
- Suitable for hoses with a maximum outer diameter of 105 mm
- Gliding with crossbars assembled along outer radius and a special guide trough
- Extender crossbar ① for snap-open crossbars or ② attached directly on the side link

Part No. single part	Max Ø [mm] hose	Form	② Installation on side link	① Combination with snap-open crossbars
385.15.RHD115	105	O round	no	yes
385.18.RD115	105	O round	yes	no

Order examples - extender crossbar
① Combination with snap-open crossbars
RHD115 for outer radius "E" incl. e-chain®:
E4.32.10/15RHDE115/10.*R*.0
RHD115 for inner radius "Z" incl. e-chain®:
E4.32.10/15RHDZ115/10.*R*.0

② Installation on side link
RD115 for outer radius "E" incl. e-chain®:
E4.32.18RDE115.*R*.0
RD115 for inner radius "Z" incl. e-chain®:
E4.32.18RDZ115.*R*.0

E4.1 | **Series E4.32** | More options



Hinged crossbars

- Typically e-chain® crossbars are completely removable. For cases where the snap-open crossbars have to remain at the open link of the e-chain®, a hinged design has been developed
- Please consult igus® for design assistance
- **Hinged crossbar: Part No. 385.02**
  Snap-open crossbar (shortened): *Bi*-37,5 mm Part No. 385.03
  (smallest inner width *Bi* = 87,5)

Order example (here: inner width *Bi* 150)
E4.32.15.Z.*R*.0 =
E4.32.15.01.*R*.0
Supplement Index "**Z**" with required option number ①, ②, ③ or ④

E4.1 | **Series E4.32** | e-chain® accessories

Strain relief system

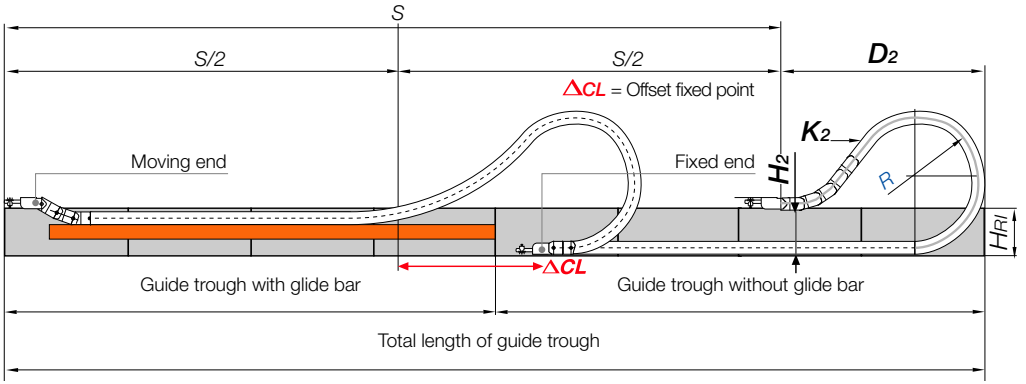
Clamps, tiewrap plates, nuggets and plug-in clips. The complete chainfix range with many order options ▶ **from page 10.1**

Support tray tool kit

For support of the lower run. Simple one-piece support trays according to your requirements and specification ▶ **from page 9.70**

Gliding applications | For long travels from 10 m to max. 200 m

Solution for long travel applications - In this case the e-chain® upper run will be introduced in a guide trough on the lower run. For travels more than 100 m we recommend to realize the engineering of such a plant by our technicians. **In case of travels between 7 and 10 m we recommend a longer unsupported length.** More information ▶ **Design, from page 1.16.**



Pitch = 56 mm/link · **Links/m** = 18 (1008 mm) · **Chain length** = $S/2 + K$

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	1100
K_2	310	350	616	784	896	1120	1288	1456	1568	1904
ΔCL	–	–	160	210	240	370	460	540	570	690

More solutions | for long travels

System P4.32 - Profile rol e-chain®, low-noise — **Travels up to 600 m** — v_{max} **10 m/s**

Safe, maintenance-free for outdoor cranes or conveyor systems. Low-noise operation, high service life ▶ page 9.82

rol e-chain® 2828R - Rolling instead of gliding — **Travels up to 400 m** — v_{max} **6,0 m/s**

Major reduction in drive power to less than 25 % for moving the e-chain® ▶ page 9.88

autoglide E4.32.*Bi*.*R*.0.AG - Self-guiding, no guide troughs — **Travels ≤ 50 m** — v_{max} **1,5 m/s**

Self-guiding e-chainsystems® - No guide troughs required! ▶ page 9.92

Specialty:

guidelok horizontal - Upper run guide, unsupported — **Travels ≤ 50 m**

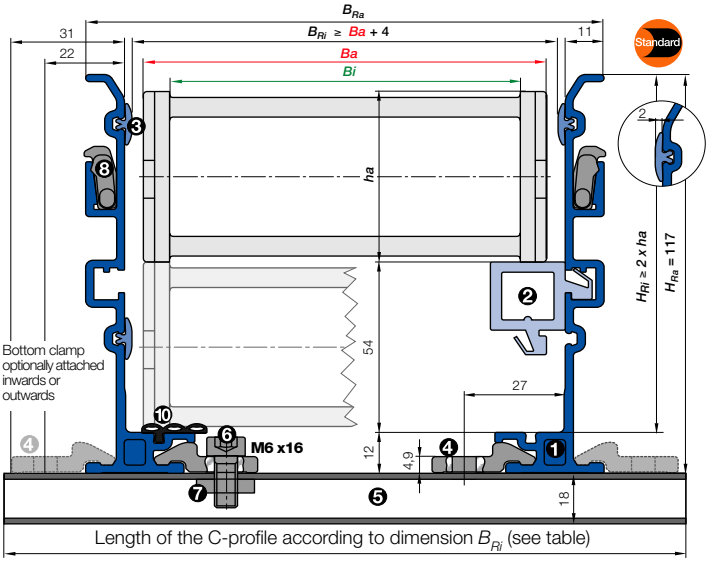
Chips cannot get stuck between upper and lower run - enormous increase of "self supporting" length of e-chains® ▶ page 9.97

The complete range of special solutions for long travel applications incl. order function ▶ from page 9.76

H_2 = Mounting height (if the moving end is set lower) · K_2 = Further add-on (if the moving end is set lower) · ΔCL = Offset fixed point · *S* = Length of travel
D_2 = Over length - long travels, gliding · *R* = Bending radius · H_{Ri} = Inner trough height · *S*/2 = Half length of travel

Part No. 972.30.SL | **972.31.SL** | Trough height: 117 mm

Aluminum "SuperTrough" | Basic Version



● **Components, trough "Basic":** ① Trough side parts, aluminum, 2 m ② Glide bar, plastic, 2 m ③ Glide strips, plastic, 2 m (without glide strips on request) ⑩ Optional: Silencer profile, rubber ● **Components, installation set "Basic":** ④ Bottom clamp, aluminum ⑤ C-profile, galvanized steel ▶ table ⑥ Screw M6 x 16 ⑦ Sliding nut M6 ⑧ Interface connector, plastic

Order example: Length of travel 30 m - Center mounted for Series E4.32.30.300.0 with B_{Ri} = 327

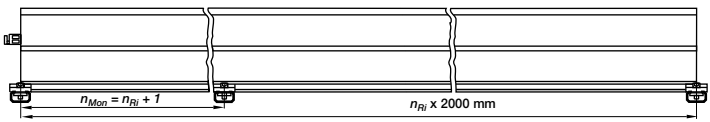
Guide trough set without glide bar (set of 2 trough side parts, incl. glide strips)
Order text: **16 m guide trough without glide bar** (8 x 2 m sections) **Part No. 972.30.SL**

Guide trough set with glide bar (set of 2 trough side parts, incl. glide strips)
Order text: **16 m guide trough with glide bar** (8 x 2 m sections) **Part No. 972.31.SL**

Installation set "Basic" complete (guide trough-sets + 1)
Order text: **17 installation sets** **Part No. 960.30.375**

Module for the fixed end ▶ page 9.16
Order text: **1 set** **Part No. 972.80**

Option: For an additional noise dampening
with silencer profile, please add Index **A** - Example: **Part No. 972.30.SLA**



Principle sketch: Number of installation sets to be installed = Number of trough sections + 1

Details about Alu "SuperTrough" and the "Heavy Duty" version for heavy machinery ▶ from page 9.29

● Trough set ● Installation set ● Glide bar
● C-Profile
Ba = Outer width e-chains® *Bi* = Inner width e-chains®
B_{Ri} = Inner trough width B_{Ra} = Outer trough width H_{Ri} = Inner trough height
H_{Ra} = Outer trough height n_{Mon} = Number of installation sets n_{Ri} = Number of trough sets

Installation set "Basic" with C-Profile

Bottom clamp optionally attached **inwards** or **outwards**
E4.32.**30**.300.0 ▶ Order example

B_{Ri} [mm]		Part No. attached inwards	Part No. attached outwards
.05	77	960.30.125	960.30.175
.06	95	960.30.150	960.30.200
.07	102	960.30.150	960.30.200
.087	114	960.30.175	960.30.225
.10	127	960.30.175	960.30.225
.11	135	960.30.200	960.30.250
.112	140	960.30.200	960.30.250
.12	152	960.30.200	960.30.250
.137	165	960.30.225	960.30.275
.15	177	960.30.225	960.30.275
.162	190	960.30.250	960.30.300
.17	195	960.30.250	960.30.300
.18	202	960.30.250	960.30.300
.187	215	960.30.275	960.30.325
.20	227	960.30.275	960.30.325
.212	240	960.30.300	960.30.350
.23	252	960.30.300	960.30.350
.237	265	960.30.325	960.30.375
.25	277	960.30.325	960.30.375
.262	290	960.30.350	960.30.400
.28	302	960.30.350	960.30.400
.29	315	960.30.375	960.30.425
.30	327	960.30.375	960.30.425
.312	340	960.30.400	960.30.450
.325	352	960.30.400	960.30.450
.337	365	960.30.425	960.30.475
.350	377	960.30.425	960.30.475
.362	390	960.30.450	960.30.500
.375	402	960.30.450	960.30.500
.387	415	960.30.475	960.30.525
.400	427	960.30.475	960.30.525

Insert for the installation set "Heavy-Duty": **972.50.XXX** instead of **960.30.XXX** on the right column "attached outwards"

E4.1 | **Series E4.32** | **Options** and order key

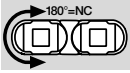
	Standard	*Additional noise dampening with pads*	*QuickLock crossbar - reduce assembly time up to 25%*		
	Part No. **Standard** **e-chains®/e-tubes**	**Part No.** **Low noise (with pads)** **e-chains®/e-tubes**	**Part No.** **QuickLock crossbar** **for inner radius**	**Part No.** **QuickLock crossbar** **for outer radius**	**Part No.** **QuickLock crossbar** **for both radii**
			QuickLock crossbars: inner widths from *Bi* 10 (100 mm)!		
	E4.32.30.*R*.0 Crossbar every link	**ES4.32.30.*R*.0** Crossbar every link	**E4.32.30QZ.*R*.0** Crossbar every link	**E4.32.30QE.*R*.0** Crossbar every link	**E4.32.30Q.*R*.0** Crossbar every link
	H4.32.30.*R*.0 Crossbar every 2nd link	**HS4.32.30.*R*.0** Crossbar every 2nd link	**H4.32.30QZ.*R*.0** Crossbar every 2nd link	**H4.32.30QE.*R*.0** Crossbar every 2nd link	**H4.32.30Q.*R*.0** Crossbar every 2nd link
	R4.32.30.*R*.0 e-tube, closed	**RS4.32.30.*R*.0** e-tube, closed			
	Delivery in 24h or today!*	**Delivery time: 3-5 work days**	**Delivery time: 3-5 work days**	**Delivery time: 3-5 work days**	**Delivery time: 3-5 work days**

Combination possibilities | Examples

	Low-noise option	QuickLock crossbar	NC-Version	RBR-Version	XXL-Material	HT-Material*	ESD-Material
Low-noise option		ES4.32.30Q.*R*.0	ES4.32.30.*R*.0.NC	–	ES4.32.30.*R*.0.XXL	RS4.32.30.*R*.0.HT	ES4.32.30.*R*.0.ESD
QuickLock crossbar	ES4.32.30Q.*R*.0		E4.32.30Q.*R*.0.NC	E4.32.30Q.*R1/R2*.0	E4.32.30Q.*R*.0.XXL	–	E4.32.30Q.*R*.0.ESD
NC-Version	ES4.32.30.*R*.0.NC	E4.32.30Q.*R*.0.NC		–	–	R4.32.30.*R*.0.HT.NC	E4.32.30.*R*.0.ESD.NC
RBR-Version	–	E4.32.30Q.*R1/R2*.0	–		–	R4.32.30.*R1/R2*.0.HT	E4.32.30.*R1/R2*.0.ESD
XXL-Material	ES4.32.30.*R*.0.XXL	E4.32.30Q.*R*.0.XXL	–	–		–	–
HT-Material*	RS4.32.30.*R*.0.HT	–	R4.32.30.*R*.0.HT.NC	R4.32.30.*R1/R2*.0.HT	–		–
ESD-	ES4.32.30.*R*.0.ESD	E4.32.30Q.*R*.0.ESD	E4.32.30.*R*.0.ESD.NC	E4.32.30.*R1/R2*.0.ESD	–	–	

*for gliding applications please consult igus®

E4.1 | **Series E4.32** | **Options** and order key

Simply turn outer side link without additional work	*Reverse bending radius for circular movements*	*Unsupported lengths +25% possible*	*No burning-in of hot chips up to 850°C (1562° F)*	*ATEX/ESD classified e-chains® - II 2 GD*
Part No. **NC-Material** **e-chains®/e-tubes** 	**Part No.** **RBR** **e-chains®/e-tubes** 	**Part No.** **XXL-Material**** **e-chains®/e-tubes** 	**Part No.** **HT-Material** **only for e-tubes** 	**Part No.** **ESD-Material** **e-chains®/e-tubes** 
E4.32.30.*R*.0.NC Crossbar every link	**E4.32.30.*R1/R2*.0** Crossbar every link	**E4.32.30.*R*.0.XXL** Crossbar every link	**R4.32.30.*R*.0.HT** Complete e-tube*	**E4.32.30.*R*.0.ESD** Crossbar every link
H4.32.30.*R*.0.NC Crossbar every 2nd link	**H4.32.30.*R1/R2*.0** Crossbar every 2nd link	**H4.32.30.*R*.0.XXL** Crossbar every 2nd link	**R4.32.30HT.*R*.0** Lid and bottom	**H4.32.30.*R*.0.ESD** Crossbar every 2nd link
R4.32.30.*R*.0.NC e-tube, closed	**R4.32.30.*R1/R2*.0** e-tube, closed	**R4.32.30.*R*.0.XXL** e-tube, closed	**R4.32.30HTZ.*R*.0** Bottom only **R4.32.30HTE.*R*.0** Lid only	**R4.32.30.*R*.0.ESD** e-tube, closed
Delivery in 24h or today!*	**Delivery time: 10 work days** (2-5 work days with express surcharge)	**Delivery time: 1-2 weeks** **Sidebands made from XXL-Material	**Delivery time: 10 work days** *for gliding applications please consult igus®	**Delivery time: 5 work days**

Order example | Order key and color options

Order example for complete e-chain® (3,0 m, with crossbars every link), color black, mounting brackets with C-profiles and interior separation:

e-chain® (3,0 m)	Please indicate e-chain® length or number of links: 3,0 m or 54 links	**E4.32.30.300.0**
+ Mounting brackets	1 set (with odd number of links and integrated C-profiles)	**E4.320.30.1.12.C**
+ Interior separation	with 2 separators assembled every 2nd link	**2 x 32.1.1**

Order text: 3,0 m E4.32.30.300.0 + E4.320.30.1.12.C + 2 x Part No. 32.1.1

Order key
E4.32.30.300.0

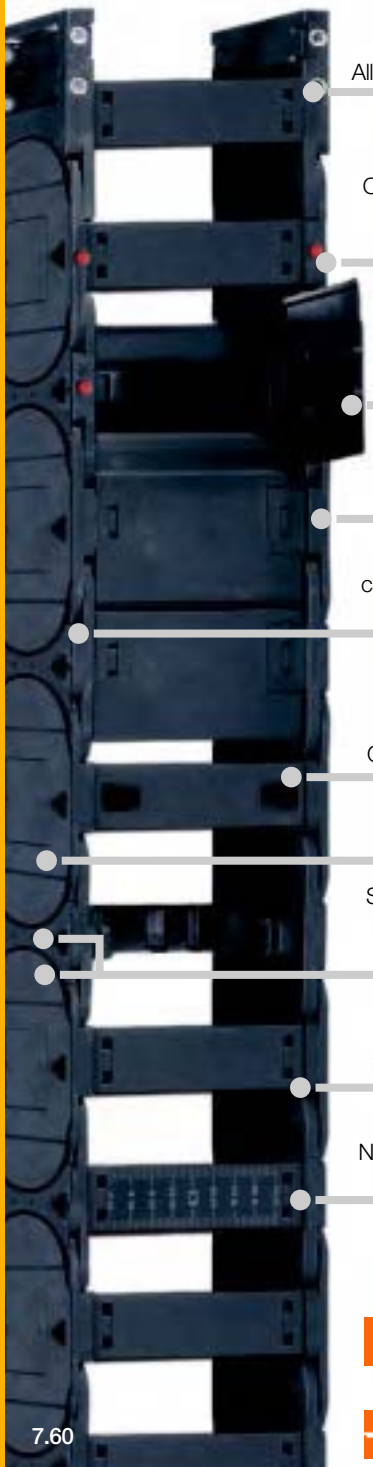
- Standard color: black
- Bending radius *R*
- Width index
- Inner height
- Series / Type

Color options for e-chains® and e-tubes

Color	Order index	Color	Order index
black	.0 from stock!	green*	.7
white*	.1	grey*	.3 for e-chains®
violet*	.5	dusty grey*	.3 for e-tubes
yellow*	.4	agate grey*	.11
orange*	.2	light grey*	.14
red*	.6	black grey*	.13
blue*	.8	yellow/black*	.9

Black e-chains® from stock! *Colored e-chains® can delivered in 15 work days (5 work days at an express surcharge).

Available from stock. Delivery in 24h or today!*
*Delivery time means time until shipping of goods



Stable due to undercut design, medium inner height

When to use Series E4.42:

- If a robust e-chain®/e-tube with an inner height of 42 mm is required
- If inner widths up to 400 mm are required
- For unsupported lengths up to 4,0 m and fill weights up to 37 kg/m
- For long travels up to 300 m
- Also suitable for side-mounted, vertical standing or hanging applications
- If many options and accessories are desired

When to use a different igus® Series

- If an extremely **low-noise** and low-vibration e-chain® is required (≤46 dB(A))

►**Series E6.40, page 8.56**

- If the e-chain® shall be used in **cleanroom applications** (ISO class 1)

►**Series E6.40, page 8.56**

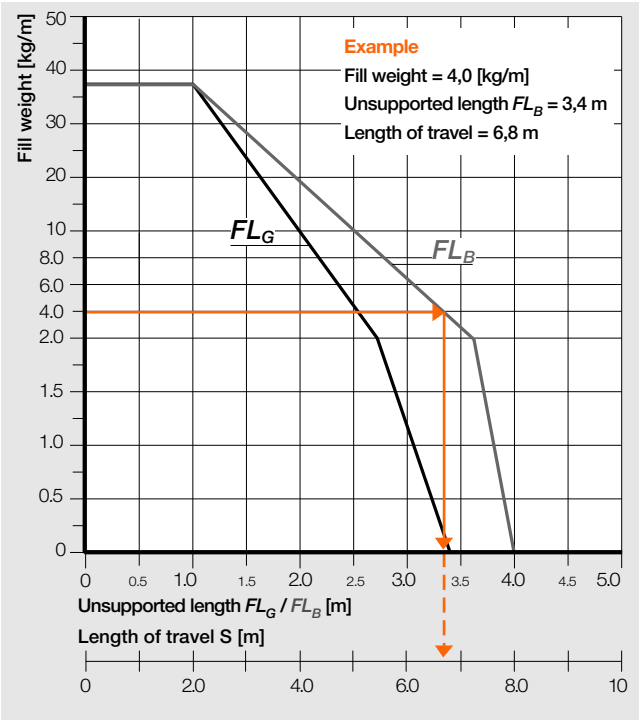
- If a less stable e-chain® can be used for economical reasons

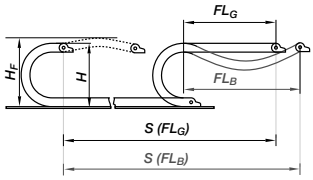
►**Series 3400/3450/3500/3480, page 5.204**

Available from stock. Delivery in 24h or today!*
*Delivery time means time until shipping of goods

3D-CAD files, configurators, PDF ► www.igus.de/en/E4.42

E4.1 | **Series E4.42** | Dimensions | **Unsupported**



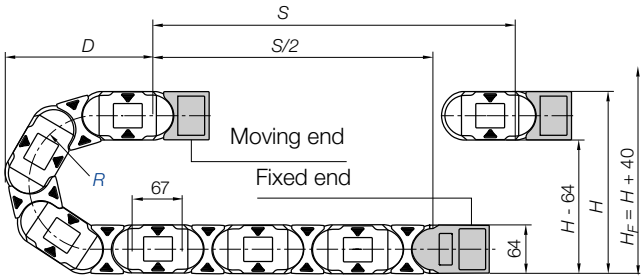


Unsupported applications

Unsupported e-chains® feature positive camber over short travels. This must be accounted for when specifying the clearance height H_F. Please consult igus® if space is particularly restricted. More information ▶ **Design, page 1.8**

Gliding applications

Travels up to 300 m.
More information ▶ **page 7.74**



Technical Data

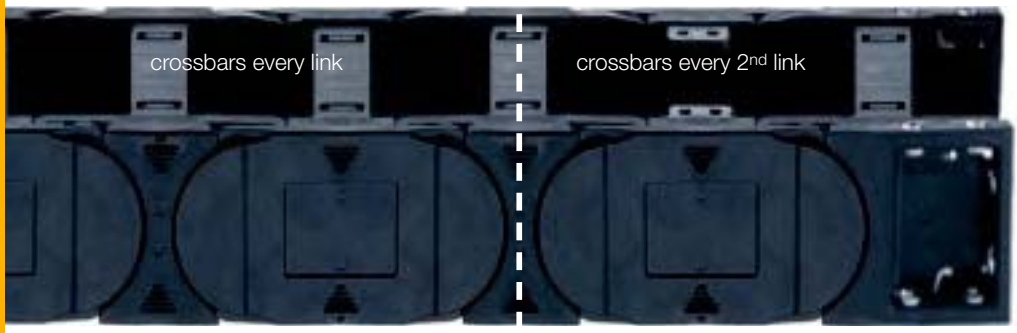
Speed, material, temperature and flammability class ▶ **page 7.16**

Pitch = 67 mm/link
Links/m = 15 (1005 mm)
Chain length = $S/2 + K$

R	075	100	115	125	150	160	175	200	250	300	350
$H\ ^{-0}_{+25}$	214	264	294	314	364	389	414	464	564	664	764
D	174	199	214	224	249	261,5	274	299	349	399	449
K	370	450	500	530	610	645	685	765	920	1080	1235

The required clearance height: $H_F = H + 40$ mm (with 3,0 kg/m fill weight)

FL_G = with straight upper run
FL_B = with permitted sag
S = Length of travel
R = Bending radius
H = Nominal clearance height
H_F = Required clearance height
D = Overlength e-chain®, radius in final position
K = $\pi \bullet R +$ "safety"



e-chains® | Series **E4.42** crossbars every link | Series **H4.42** crossbars every 2nd link

Part No. crossbars every link	Part No. crossbars every 2nd link	*Bi* [mm]	*Ba* [mm]	E4.42 [kg/m]	H4.42 [kg/m]
E4.42.	H4.42. 05. *R*.0	50	76	1,923	1,804
E4.42.	H4.42. 06. *R*.0	68	94	2,031	1,858
E4.42.	H4.42. 07. *R*.0	75	101	2,059	1,872
E4.42.	H4.42. 087. *R*.0	87	114	2,119	1,903
E4.42.	H4.42. 09. *R*.0	97	120	2,135	1,919
E4.42.	H4.42. 10. *R*.0	100	126	2,188	1,973
E4.42.	H4.42. 11. *R*.0	108	134	2,235	1,960
E4.42.	H4.42. 112. *R*.0	112	139	2,247	1,966
E4.42.	H4.42. 12. *R*.0	125	151	2,341	2,014
E4.42.	H4.42. 137. *R*.0	137	164	2,385	2,035
E4.42.	H4.42. 15. *R*.0	150	176	2,460	2,073
E4.42.	H4.42. 162. *R*.0	162	189	2,484	2,085
E4.42.	H4.42. 17. *R*.0	168	194	2,553	2,119
E4.42.	H4.42. 18. *R*.0	175	201	2,571	2,128
E4.42.	H4.42. 187. *R*.0	187	214	2,610	2,148
E4.42..	H4.42. 20. *R*.0	200	226	2,715	2,200

Part No. crossbars every link	Part No. crossbars every 2nd link	*Bi* [mm]	*Ba* [mm]	E4.42 [kg/m]	H4.42 [kg/m]
E4.42.	H4.42. 212. *R*.0	212	239	2,757	2,221
E4.42.	H4.42. 23. *R*.0	225	251	2,841	2,263
E4.42.	H4.42. 237. *R*.0	237	264	2,865	2,275
E4.42.	H4.42. 25. *R*.0	250	276	2,979	2,332
E4.42.	H4.42. 262. *R*.0	262	289	3,048	2,367
E4.42.	H4.42. 28. *R*.0	275	301	3,108	2,397
E4.42.	H4.42. 29. *R*.0	287	314	3,136	2,411
E4.42.	H4.42. 30. *R*.0	300	326	3,243	2,464
E4.42.	H4.42. 312. *R*.0	312	339	3,262	2,474
E4.42.	H4.42. 325. *R*.0	325	351	3,348	2,517
E4.42.	H4.42. 337. *R*.0	337	364	3,399	2,542
E4.42.	H4.42. 350. *R*.0	350	376	3,588	2,637
E4.42.	H4.42. 362. *R*.0	362	389	3,669	2,677
E4.42.	H4.42. 375. *R*.0	375	402	3,730	2,708
E4.42.	H4.42. 387. *R*.0	387	414	3,786	2,736
E4.42.	H4.42. 400. *R*.0	400	426	3,840	2,763

Available bending radii *R* [mm] 075 | 100 | 115 | 125 | 150 | 160 | 175 | 200 | 250 | 300 | 350

Supplement Part No. with required radius *(R)*. Example: **E4.42.30.300.0**

**NEW in this catalog

When to use e-chains® with crossbars every link: ● Lateral acceleration > 0,5m/s² ● High fill weights and rigid hydraulic hoses ● Humidity: > 85%, temperature: > 50°C (122° F)

When to use e-chains® with crossbars every 2nd link: ● Suitable for nearly all applications ● Lower price

Part No. of e-chain® links as single parts ► page 7.17

Standard e-chains® incl. accessories from stock. Delivery in 24h or today.*

*Delivery time means time until shipping of goods

e-tubes | Series **R4.42** - fully enclosed

Part No. fully enclosed	*Bi* [mm]	*Ba* [mm]	R4.42 [kg/m]
R4.42. 05. *R*.0*	50	76	2,150
R4.42. 07. *R*.0	75	101	2,280
R4.42. 087. *R*.0	87	114	2,410
R4.42. 10. *R*.0	100	126	2,520
R4.42. 11. *R*.0	108	134	2,570
R4.42. 12. *R*.0	125	151	2,730

Part No. fully enclosed	*Bi* [mm]	*Ba* [mm]	R4.42 [kg/m]
R4.42. 15. *R*.0	150	176	2,980
R4.42. 17. *R*.0	168	194	3,150
R4.42. 20. *R*.0	200	226	3,450
R4.42. 25. *R*.0	250	276	4,250
R4.42. 30. *R*.0	300	326	4,890

*Removable lid only, no hinged option

Available bending radii *R* [mm] 125 | 150 | 160 | 175 | 200 | 250 | 300 | 350

Supplement Part No. with required radius *(R)*. Example: **R4.42.30.300.0**

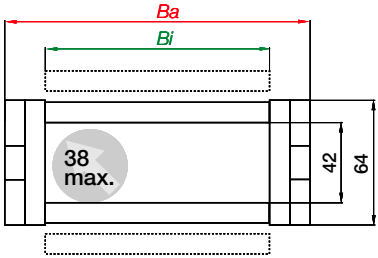
When to use fully enclosed e-tubes: ● Excellent cable protection against dirt ● Lids along the entire inner radius are completely removable. Lids along the entire outer radius are single sided snap-open with a hinge on the other side to keep them attached to the e-chain® or completely removable ● HT-Version optional, protection against hot chips up to 850°C (1562° F)

Order key for all types

E4 .42. 30. 300. 0 e-chain® **(crossbars every link)**
H4 .42. 30. 300. 0 e-chain® **(crossbars every 2nd link)**
R4 .42. 30. 300. 0 **Fully enclosed** e-tube

- Standard color black
- Bending radius *R*
- Width index (depends on *Bi*)
- Inner height
- Series / Type

Dimensioning



E4.42.30.300.0 = e-chain® with **crossbars every link**, inner width ***Bi*** 300 mm, radius ***R*** 300 mm, color black
H4.42.30.300.0 = e-chain® with **crossbars every 2nd link**, inner width ***Bi*** 300 mm, radius ***R*** 300 mm, color black
R4.42.30.300.0 = **Fully enclosed** e-tube, inner width ***Bi*** 300 mm, radius ***R*** 300 mm, color black

More order examples, variations and configurations ▶ page 7.76

Standard e-tubes incl. accessories from stock. Delivery in 24h or today!*
*Delivery time means time until shipping of goods

QuickLock crossbars | Quick opening - up to 25% faster assembly

Part No. crossbars every link	Part No. crossbars every 2nd link	QuickLock crossbar for Inner radius	QuickLock crossbar for Outer radius	QuickLock crossbar for Both radii	*Bi* [mm]
E4.42.	H4.42.	10 QZ.*R*.0	10 QE.*R*.0	10 Q.*R*.0	100
E4.42.	H4.42.	11 QZ.*R*.0	11 QE.*R*.0	11 Q.*R*.0	108
E4.42.	H4.42.	112 QZ.*R*.0	112 QE.*R*.0	112 Q.*R*.0	112
E4.42.	H4.42.	12 QZ.*R*.0	12 QE.*R*.0	12 Q.*R*.0	125
E4.42.	H4.42.	137 QZ.*R*.0	137 QE.*R*.0	137 Q.*R*.0	137
E4.42.	H4.42.	15 QZ.*R*.0	15 QE.*R*.0	15 Q.*R*.0	150
E4.42.	H4.42.	162 QZ.*R*.0	162 QE.*R*.0	162 Q.*R*.0	162
E4.42.	H4.42.	17 QZ.*R*.0	17 QE.*R*.0	17 Q.*R*.0	168
E4.42.	H4.42.	18 QZ.*R*.0	18 QE.*R*.0	18 Q.*R*.0	175
E4.42.	H4.42.	187 QZ.*R*.0	187 QE.*R*.0	187 Q.*R*.0	187
E4.42.	H4.42.	20 QZ.*R*.0	20 QE.*R*.0	20 Q.*R*.0	200
E4.42.	H4.42.	212 QZ.*R*.0	212 QE.*R*.0	212 Q.*R*.0	212
E4.42.	H4.42.	23 QZ.*R*.0	23 QE.*R*.0	23 Q.*R*.0	225
E4.42.	H4.42.	237 QZ.*R*.0	237 QE.*R*.0	237 Q.*R*.0	237
E4.42.	H4.42.	25 QZ.*R*.0	25 QE.*R*.0	25 Q.*R*.0	250
E4.42.	H4.42.	262 QZ.*R*.0	262 QE.*R*.0	262 Q.*R*.0	262

Part No. crossbars every link	Part No. crossbars every 2nd link	QuickLock crossbar for Inner radius	QuickLock crossbar for Outer radius	QuickLock crossbar for Both radii	*Bi* [mm]
E4.42.	H4.42.	28 QZ.*R*.0	28 QE.*R*.0	28 Q.*R*.0	275
E4.42.	H4.42.	29 QZ.*R*.0	29 QE.*R*.0	29 Q.*R*.0	287
E4.42.	H4.42.	30 QZ.*R*.0	30 QE.*R*.0	30 Q.*R*.0	300
E4.42.	H4.42.	312 QZ.*R*.0	312 QE.*R*.0	312 Q.*R*.0	312
E4.42.	H4.42.	325 QZ.*R*.0	325 QE.*R*.0	325 Q.*R*.0	325
E4.42.	H4.42.	337 QZ.*R*.0	337 QE.*R*.0	337 Q.*R*.0	337
E4.42.	H4.42.	350 QZ.*R*.0	350 QE.*R*.0	350 Q.*R*.0	350
E4.42.	H4.42.	362 QZ.*R*.0	362 QE.*R*.0	362 Q.*R*.0	362
E4.42.	H4.42.	375 QZ.*R*.0	375 QE.*R*.0	375 Q.*R*.0	375
E4.42.	H4.42.	387 QZ.*R*.0	387 QE.*R*.0	387 Q.*R*.0	387
E4.42.	H4.42.	400 QZ.*R*.0	400 QE.*R*.0	400 Q.*R*.0	400

QuickLock crossbars: inner widths from 100 mm possible!

Available bending radii *R* [mm] 075 | 100 | 115 | 125 | 150 | 160 | 175 | 200 | 250 | 300 | 350

Supplement Part No. with required radius *(R)*. Example: **E4.42.30QZ.300.0**

For e-chains® with **QuickLock crossbar** supplement Part No. with required Index **QZ / QE / Q**

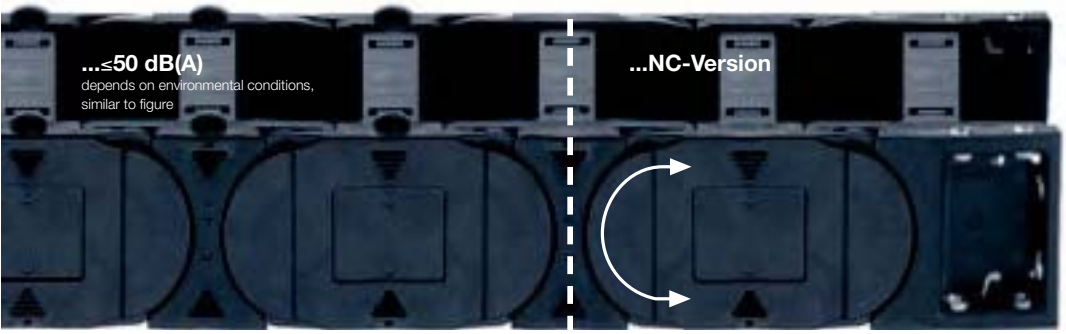
Part No. E4.42.30QZ.300.0 = QuickLock crossbar for inner radius

Part No. E4.42.30QE.300.0 = QuickLock crossbar for outer radius

Part No. E4.42.30Q .300.0 = QuickLock crossbar for both radii

e-chain® with QuickLock crossbars - Delivery time: 3-5 work days.*

*Delivery time means time until shipping of goods



Noise dampening | ≤50 dB(A)

With pads crossbars every: link	2nd	e-tube fully enclosed	Bi [mm]
ES4 HS4 RS4 .42.05. R.0			50
ES4 HS4 – .42.06. R.0			68
ES4 HS4 RS4 .42.07. R.0			75
ES4 HS4 RS4 .42.087.R.0			87
ES4 HS4 – .42.09. R.0			97
ES4 HS4 RS4 .42.10. R.0			100
ES4 HS4 RS4 .42.11. R.0			108
ES4 HS4 – .42.112.R.0			112
ES4 HS4 RS4 .42.12. R.0			125
ES4 HS4 – .42.137.R.0			137
ES4 HS4 RS4 .42.15. R.0			150
ES4 HS4 – .42.162.R.0			162
ES4 HS4 RS4 .42.17. R.0			168
ES4 HS4 – .42.18. R.0			175
ES4 HS4 – .42.187.R.0			187
ES4 HS4 RS4 .42.20. R.0			200

With pads crossbars every: link	2nd	e-tube fully enclosed	Bi [mm]
ES4 HS4 – .42.212.R.0			212
ES4 HS4 – .42.23. R.0			225
ES4 HS4 – .42.237.R.0			237
ES4 HS4 RS4 .42.25. R.0			250
ES4 HS4 – .42.262.R.0			262
ES4 HS4 – .42.28. R.0			275
ES4 HS4 – .42.29. R.0			287
ES4 HS4 RS4 .42.30. R.0			300
ES4 HS4 – .42.312.R.0			312
ES4 HS4 – .42.325.R.0			325
ES4 HS4 – .42.337.R.0			337
ES4 HS4 – .42.350.R.0			350
ES4 HS4 – .42.362.R.0			362
ES4 HS4 – .42.375.R.0			375
ES4 HS4 – .42.387.R.0			387
ES4 HS4 – .42..400.R.0			400

NC-Version | Without pretension

NC-Version crossbars every: link	2nd	e-tube fully enclosed	Bi [mm]
E4 H4 R4.42.05. R.0.NC			50
E4 H4 – .42.06. R.0.NC			68
E4 H4 R4.42.07. R.0.NC			75
E4 H4 R4.42.087.R.0.NC			87
E4 H4 – .42.09. R.0.NC			97
E4 H4 R4.42.10. R.0.NC			100
E4 H4 R4.42.11. R.0.NC			108
E4 H4 – .42.112.R.0.NC			112
E4 H4 R4.42.12. R.0.NC			125
E4 H4 – .42.137.R.0.NC			137
E4 H4 R4.42.15. R.0.NC			150
E4 H4 – .42.162.R.0.NC			162
E4 H4 R4.42.17. R.0.NC			168
E4 H4 – .42.18. R.0.NC			175
E4 H4 – .42.187.R.0.NC			187
E4 H4 R4.42.20. R.0.NC			200

NC-Version crossbars every: link	2nd	e-tube fully enclosed	Bi [mm]
E4 H4 – .42.212.R.0.NC			212
E4 H4 – .42.23. R.0.NC			225
E4 H4 – .42.237.R.0.NC			237
E4 H4 R4.42.25. R.0.NC			250
E4 H4 – .42.262.R.0.NC			262
E4 H4 – .42.28. R.0.NC			275
E4 H4 – .42.29. R.0.NC			287
E4 H4 R4.42.30. R.0.NC			300
E4 H4 – .42.312.R.0.NC			312
E4 H4 – .42.325.R.0.NC			325
E4 H4 – .42.337.R.0.NC			337
E4 H4 – .42.350.R.0.NC			350
E4 H4 – .42.362.R.0.NC			362
E4 H4 – .42.375.R.0.NC			375
E4 H4 – .42.387.R.0.NC			387
E4 H4 – .42.400.R.0.NC			400

Available bending radii *R* [mm] 075* | 100* | 115* | 125 | 150 | 160 | 175 | 200 | 250 | 300 | 350 *not available for e-tubes

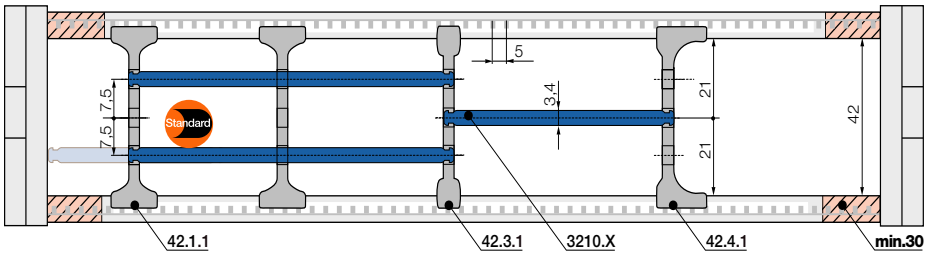
Supplement Part No. with required radius *(R)*. Example: **ES4.42.30.300.0 or E4.42.30.300.0.NC**

For e-chains® with noise dampening pads supplement Part No. with required index "**S**"
Example: **Part No. ES4.42.30.300.0** = e-chain® (crossbars every link) with noise dampening
For NC-e-chains® without pretension supplement Part No. with required index "**NC**"
Example: **Part No. E4.42.30.300.0.NC** = e-chain® (crossbars every link) without pretension

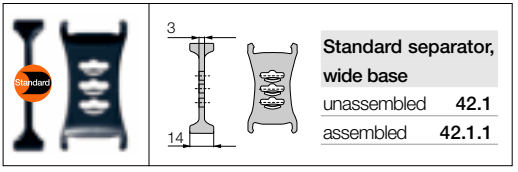
e-chain® with noise dampening pads - Delivery time: 3-5 work days.
NC-Version - Delivery in 24h or today!*
*Delivery time means time until shipping of goods

E4.1 | **Series E4.42** | Interior separation | **Standard**

New generation interior separation



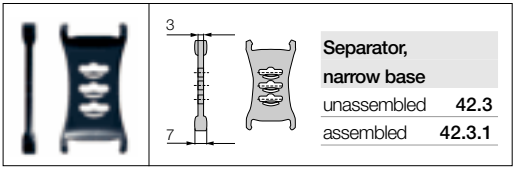
Note e-tube: Please observe a lateral spacing of **30 mm** to the side links!
In the standard configuration separators are assembled every 2nd e-chain® link!



Standard separator, wide base	
unassembled	**42.1**
assembled	**42.1.1**

Standard - for all applications

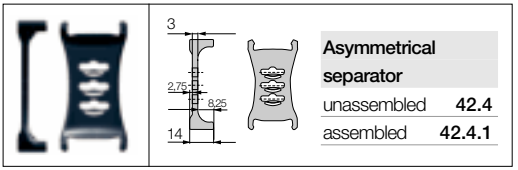
Separator with a wide base for maximum locking strength and safe standing in e-chains® and e-tubes.



Separator, narrow base	
unassembled	**42.3**
assembled	**42.3.1**

For many thin cables

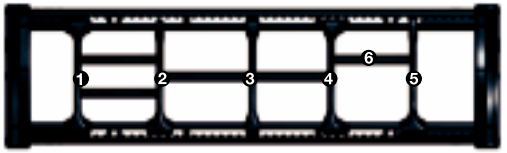
Separator with a narrow base for a large number of thin cables side by side. Saves space in e-chains® and e-tubes. Also available for QuickLock crossbars.



Asymmetrical separator	
unassembled	**42.4**
assembled	**42.4.1**

For side-mounted applications

Asymmetrical separator, for defined distance. No additional spacers necessary for e-chains® and e-tubes.

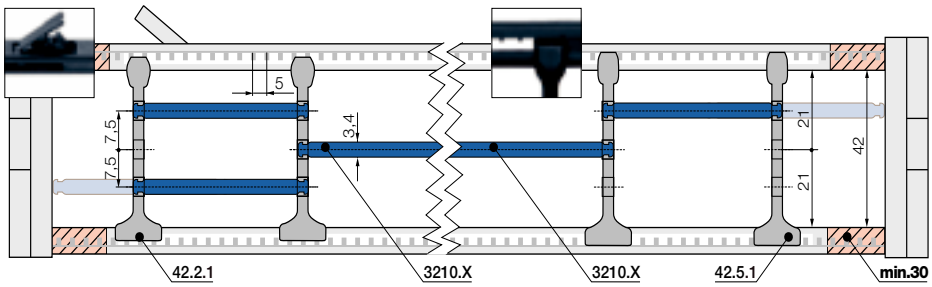


① Standard separator, wide base - Part No. 42.1 ③ Separator, narrow base - Part No. 42.3 ⑤ Notch separator - Part No. 42.5
② Separator for QuickLock crossbar - Part No. 42.2 ④ Separator, asymmetrical - Part No. 42.4 ⑥ Full-width self, lockable - Part No. 3200.XX

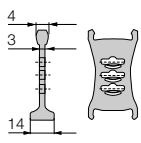
Interior separation single-part order - Delivery in 24h or today!*
*Delivery time means time until shipping of goods

E4.1 | **Series E4.42** | Interior separation | **Standard**

New generation interior separation



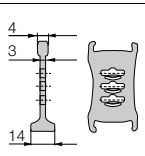
Note e-tube: Please observe a lateral spacing of **30 mm** to the side links!
In the standard configuration separators are assembled every 2nd e-chain® link!



Separator for QuickLock crossbar	
unassembled	**42.2**
assembled	**42.2.1**

For even faster installation

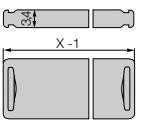
Separator for igus® QuickLock crossbar 385.X.Q. Firm hold to one side with a wide base, narrow on opposed side for easy cable assembly (slight grip). For e-tubes also.



Notch separator for notch crossbar	
unassembled	**42.5**
assembled	**42.5.1**

Locks safely onto in 5 mm increments

Notch separator for the new notch crossbar, with scaling on the notch crossbars. For exact positioning in e-chains® and e-tubes. Recommended for side-mounted applications.



Full-width shelf, lockable	
unassembled	**3200.X**
assembled	**3210.X**

Horizontal separation

Shelf locks safely into separators on both ends, fixed width possible. Separators can be moved freely over the shelf in horizontal direction. Usable in 3 levels.

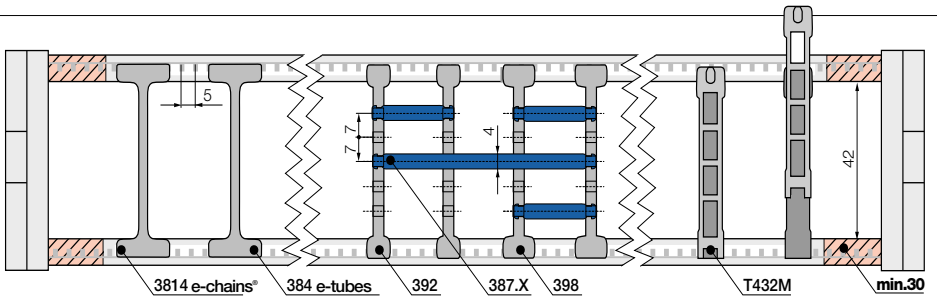
Lockable full-width shelves - for the standard interior separation

Width X [mm]	unassembled	assembled	Width X [mm]	unassembled	assembled	Width 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**			

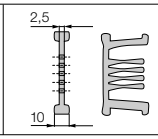
E4.1 | Series E4.42 | Interior separation | Options

Previous interior separation

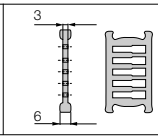
All elements can still be ordered ▶ www.igus.de/en/E4.42



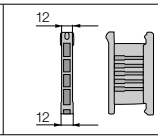
Note e-tube: Please observe a lateral spacing of **30 mm** to the side links!
In the standard configuration separators are assembled every 2nd e-chain® link!

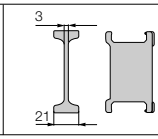
Open slotted separator for e-chains®/e-tubes	
unassembled	397
assembled	398

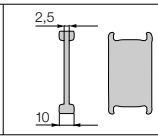
Slotted separator for e-chains®/e-tubes	
unassembled	391
assembled	392

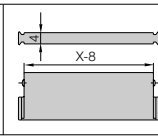
Split separator for e-chains®	
unassembled	T423
assembled	T423M

Locking separator for e-chains®	
unassembled	3804
assembled	3814

Locking separator for e-tubes	
unassembled	383
assembled	384

Shelf	
unassembled	386.X
assembled	387.X

Open, slotted separator 397 (unilateral open)

Fast assembly - can be retrofitted into an existing interior separation system without a need for dismantling the interior separators. During an installation of open slotted separators, the top and bottom notches cannot be occupied by shelves.

Slotted separator 391

For very fine subdivisions. However, they cannot be retrofitted into an existing separation system without dismantling the interior separators first.

Split separator T423 (e-chains® only)

Ideal for subsequent shelving or for the initial assembly of the e-chain® without a need for dismantling the interior separators.

Locking separator 3804 (e-chains® only)

For applications exposed to very high humidity (> 85%). Locks with extra retention force. Tip: one locking separator per e-chain® link for better mounting.

Locking separator 383 (e-tubes only)

For e-tubes **R4.42.**

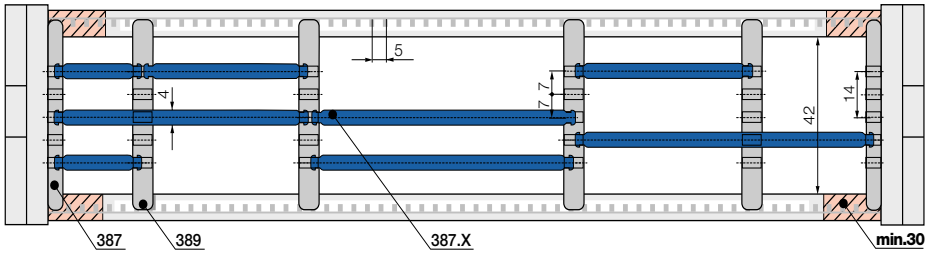
Shelf 386.X

For horizontal separation. Shelves of various widths can be arranged at 5 different heights (in 7 mm increments). - see table beneath (not in combination with 3804, 383).

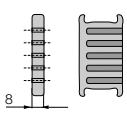
E4.1 | **Series E4.42** | Interior separation | **Options**

Previous interior separation

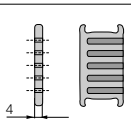
All elements can still be ordered ▶ www.igus.de/en/E4.42



Note e-tube: Please observe a lateral spacing of **30 mm** to the side links!
In the standard configuration separators are assembled every 2nd e-chain® link!



Middle plate for e-chains® / e-tubes	
unassembled	**388**
assembled	**389**



Side plate for e-chains® / e-tubes	
unassembled	**386**
assembled	**387**

Middle plate 388

Middle plates form the basic pattern of a shelf system. Shelves 386.X (table below) can be arranged at 5 different heights (in 7 mm increments).

Side plate 386

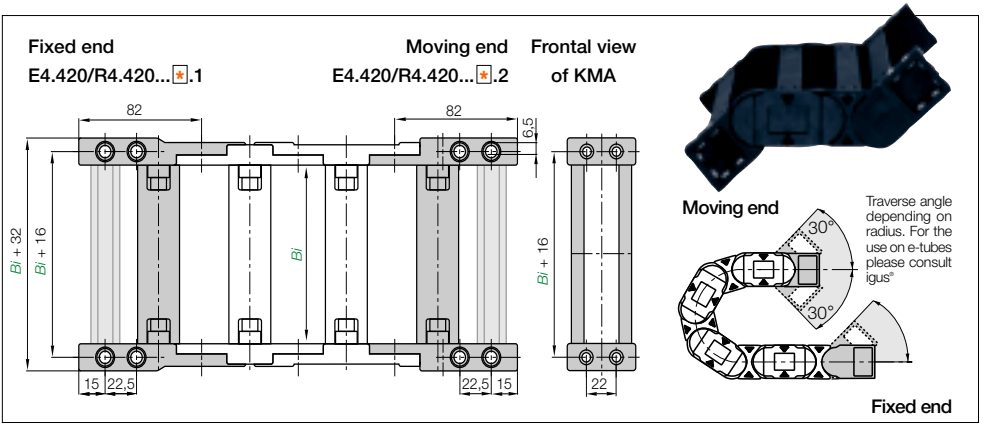
Works like middle plate.
Allows modular shelving close to the side links.

Shelves - interior separation options

Width X [mm]	unassembled	assembled	Width X [mm]	unassembled	assembled	Width X [mm]	unassembled	assembled
018	**386.18**	**387.18**	050	**386.50**	**387.50**	108	**386.108**	**387.108**
023	**386.23**	**387.23**	054	**386.54**	**387.54**	125	**386.125**	**387.125**
025	**386.25**	**387.25**	062	**386.62**	**387.62**	150	**386.150**	**387.150**
028	**386.28**	**387.28**	075	**386.75**	**387.75**	175	**386.175**	**387.175**
033	**386.33**	**387.33**	087	**386.87**	**387.87**	200	**386.200**	**387.200**
043	**386.43**	**387.43**	100	**386.100**	**387.100**	208	**386.208**	**387.208**

E4.1 | **Series E4.42** | KMA mounting brackets **pivoting**

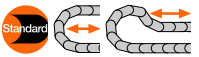
For tight installation conditions, all-sides attachment



KMA pivoting | All-sides attachment. Recommended for unsupported and gliding applications

Width index	Part No. full set pivoting (+ C-profile option)	Bi [mm]
05. ▶	E4.420. R4.420.05 .*.12.C	50
06. ▶	E4.420. – 06 .*.12.C	68
07. ▶	E4.420. R4.420.07 .*.12.C	75
087. ▶	E4.420. R4.420.087.*.12.C	87
09. ▶	E4.420. – 097.*.12.C	97
10. ▶	E4.420. R4.420.10 .*.12.C	100
11. ▶	E4.420. R4.420.11 .*.12.C	108
112. ▶	E4.420. – 112.*.12.C	112
12. ▶	E4.420. R4.420.12 .*.12.C	125
137. ▶	E4.420. – 137.*.12.C	137
15. ▶	E4.420. R4.420.15 .*.12.C	150
162. ▶	E4.420. – 162.*.12.C	162
17. ▶	E4.420. R4.420.17 .*.12.C	168
18. ▶	E4.420. – 18 .*.12.C	175
187. ▶	E4.420. – 187.*.12.C	187
20. ▶	E4.420. R4.420.20 .*.12.C	200

Width index	Part No. full set pivoting (+ C-profile option)	Bi [mm]
212. ▶	E4.420. – 212.*.12.C	212
23. ▶	E4.420. – 23 .*.12.C	225
237. ▶	E4.420. – 237.*.12.C	237
25. ▶	E4.420. R4.420.25 .*.12.C	250
262. ▶	E4.420. – 262.*.12.C	262
28. ▶	E4.420. – 28 .*.12.C	275
29. ▶	E4.420. – 29 .*.12.C	287
30. ▶	E4.420. R4.420.30 .*.12.C	300
312. ▶	E4.420. – 312.*.12.C	312
325. ▶	E4.420. – 325.*.12.C	325
337. ▶	E4.420. – 337.*.12.C	337
350. ▶	E4.420. – 350.*.12.C	350
362. ▶	E4.420. – 362.*.12.C	362
375. ▶	E4.420. – 375.*.12.C	375
387. ▶	E4.420. – 387.*.12.C	387
400. ▶	E4.420. – 400.*.12.C	400



- Standard
- For tight installation conditions
- Option: integrated chainfix strain relief with C-profile
- Corrosion resistant
- Option: threaded sockets upon request
  (KMA = Polymer Metal Mounting Bracket)

Part No. structure (pivoting)

E4.420.30.2.12.C

- C-profile option
- Full set
- even
- Width index
- Series

Single-part order:

Mounting bracket **Moving end**
E4.420.30.2.2.C (even number of links)

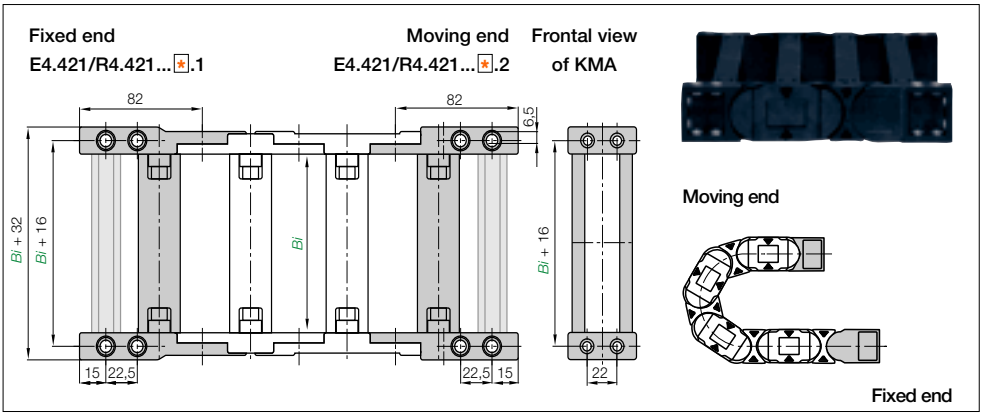
Mounting bracket **Fixed end**
E4.420.30.2.1.C (even number of links)

Note*: The E4.1 System may end with either an inner or an outer side link. Keep in mind that an outer side link always forms the first e-chain® link at the moving end.
The Part Nos. depend on an even or odd numbers of links.
Please insert: Index 1 (for odd) or 2 (for even)!

Strain relief, e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with order options ▶ from page 10.1

E4.1 | **Series E4.42** | KMA mounting brackets **locking**

For very high speed and acceleration, all-sides attachment



KMA locking | All-sides attachment. Recommended for vertical hanging and standing applications

Width index	Part No. full set **locking** (+ C-profile option)	*Bi* [mm]
05. ▶	E4.421. R4.421.05 .*.12.C	50
06. ▶	E4.421. – 06 .*.12.C	68
07. ▶	E4.421. R4.421.07 .*.12.C	75
087. ▶	E4.421. R4.421.087.*.12.C	87
09. ▶	E4.421. – 097.*.12.C	97
10. ▶	E4.421. R4.421.10 .*.12.C	100
11. ▶	E4.421. R4.421.11 .*.12.C	108
112. ▶	E4.421. – 112.*.12.C	112
12. ▶	E4.421. R4.421.12 .*.12.C	125
137. ▶	E4.421. – 137.*.12.C	137
15. ▶	E4.421. R4.421.15 .*.12.C	150
162. ▶	E4.421. – 162.*.12.C	162
17. ▶	E4.421. R4.421.17 .*.12.C	168
18. ▶	E4.421. – 18 .*.12.C	175
187. ▶	E4.421. – 187.*.12.C	187
20. ▶	E4.421. R4.421.20 .*.12.C	200

Width index	Part No. full set **locking** (+ C-profile option)	*Bi* [mm]
212. ▶	E4.421. – 212.*.12.C	212
23. ▶	E4.421. – 23 .*.12.C	225
237. ▶	E4.421. – 237.*.12.C	237
25. ▶	E4.421. R4.421.25 .*.12.C	250
262. ▶	E4.421. – 262.*.12.C	262
28. ▶	E4.421. – 28 .*.12.C	275
29. ▶	E4.421. – 29 .*.12.C	287
30. ▶	E4.421. R4.421.30 .*.12.C	300
312. ▶	E4.421. – 312.*.12.C	312
325. ▶	E4.421. – 325.*.12.C	325
337. ▶	E4.421. – 337.*.12.C	337
350. ▶	E4.421. – 350.*.12.C	350
362. ▶	E4.421. – 362.*.12.C	362
375. ▶	E4.421. – 375.*.12.C	375
387. ▶	E4.421. – 387.*.12.C	387
400. ▶	E4.421. – 400.*.12.C	400

- Locked connections
- At high acceleration
- Universally mountable
- C-profile option
- Corrosion resistant
- Option: threaded sockets upon request

(KMA = Polymer Metal Mounting Bracket)

Part No. structure (locking)

E4.421.30.2.12.C

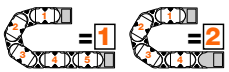
- C-profile option
- Full set
- even
- Width index
- Series

Single-part order:

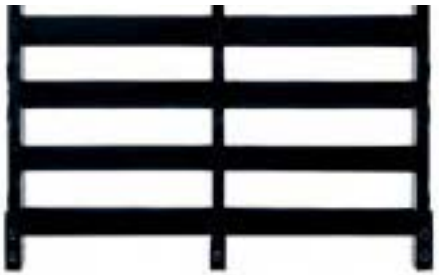
Mounting bracket **Moving end**
E4.421.30.2.2.C (even number of links)

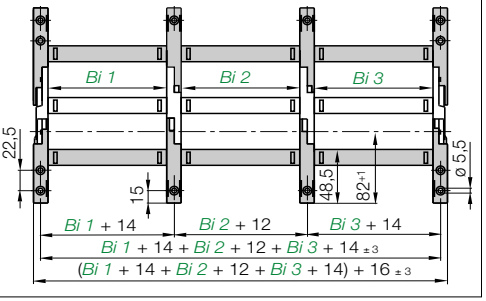
Mounting bracket **Fixed end**
E4.421.30.2.1.C (even number of links)

Note*: The E4.1 System may end with either an inner or an outer side link. Keep in mind that an outer side link always forms the first e-chain® link at the moving end.
The Part Nos. depend on an even or odd numbers of links.
Please insert: Index 1 (for odd) or 2 (for even)!



Strain relief, e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with order options ▶from page 10.1



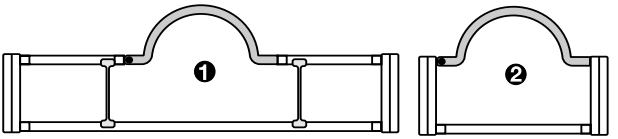


Extension links | for extremely wide e-chains® up to 3,0 m

- The extension link design allows virtually limitless side-by-side attachment
- High fill weights necessitate extremely wide e-chains® (up to 3000 mm)
- The unsupported length FL_G max. can be increased when additional loads are required
- Suitable for unsupported and gliding applications in a guide trough
- Attachement with KMA or steel mounting brackets

Order example - 3 chambers
E4.42.*Bi1* / *Bi2* / *Bi3*.*R*.0 =
E4.42.10 / 20 / 10.200.0
Extension link - single-part order
384.*R*. (please indicate radius)

Round extender crossbar ① combined with snap-open crossbars or ② attached directly on the side link (View from the fixed point)



Extender crossbars | careful guide of hosed applications

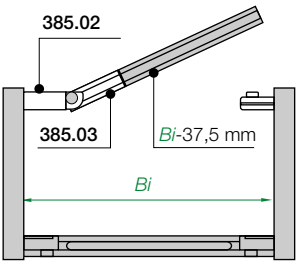
- Suitable for hoses with a maximum outer diameter of 115 mm
- Gliding with crossbars assembled along outer radius and a special guide trough
- Extender crossbar ① for snap-open crossbars or ② attached directly on the side link

Part No. single part	Max Ø [mm] hose	Form	② Installation on side link	① Combination with snap-open crossbars
385.15.RHD115	115	O round	no	yes
385.18.RD115	115	O round	yes	no

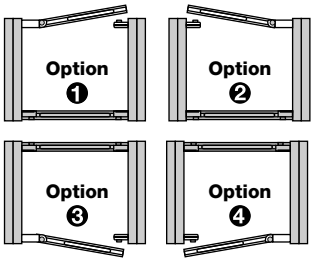
Order examples - extender crossbar
① Combination with snap-open crossbars
RHD115 for outer radius "E" incl. e-chain®:
E4.42.10/15RHDE115/10.*R*.0
RHD115 for inner radius "Z" incl. e-chain®:
E4.42.10/15RHDZ115/10.*R*.0

② Installation on side link
RD115 for outer radius "E" incl. e-chain®:
E4.42.18RDE115.*R*.0
RD115 for inner radius "Z" incl. e-chain®:
E4.42.18RDZ115.*R*.0

E4.1 | **Series E4.42** | More options



(View from the fixed point)



Hinged crossbars

- Typically e-chain® crossbars are completely removable. For cases where the snap-open crossbars have to remain at the open link of the e-chain®, a hinged design has been developed
- Please consult igus® for design assistance
- **Hinged crossbar: Part No. 385.02**
  Snap-open crossbar (shortened): *Bi*-37,5 mm Part No. 385.03
  (smallest inner width *Bi* = 87,5)

Order example (here: inner width *Bi* 150)
E4.32.15.Z.*R*.0 =
E4.32.15.01.*R*.0
Supplement Index "**Z**" with required option number ①, ②, ③ or ④

E4.1 | **Series E4.42** | e-chain® accessories

Strain relief system

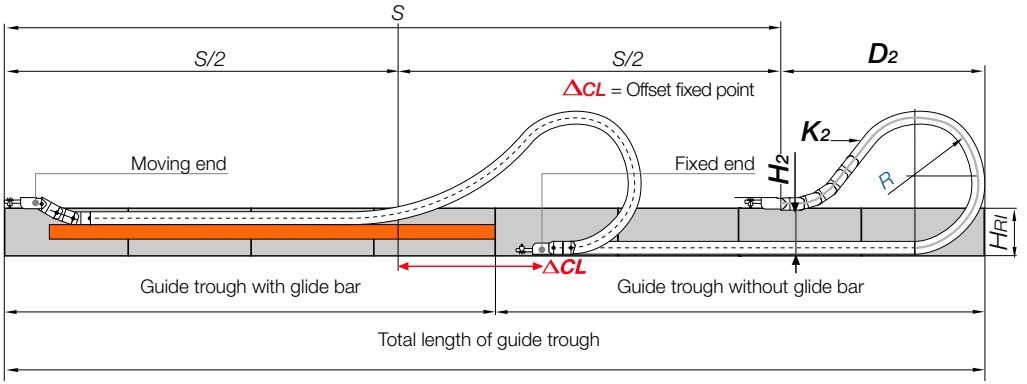
Clamps, tiewrap plates, nuggets and plug-in clips. The complete chainfix range with many order options ▶ **from page 10.1**

Support tray tool kit

For support of the lower run. Simple one-piece support trays according to your requirements and specification ▶ **from page 9.70**

Gliding applications | For long travels from 12 m to max. 300 m

Solution for long travel applications - In this case the e-chain® upper run will be introduced in a guide trough on the lower run. For travels more than 100 m we recommend to realize the engineering of such a plant by our technicians. **In case of travels between 8 and 12 m we recommend a longer unsupported length.** More information ▶ **Design, from page 1.16.**



Pitch = 67 mm/link · **Links/m** = 15 (1005 mm) · **Chain length** = $^{S}/_{2} + K$

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	upon request	475	570	623	670	780	1030	1150	1500
K_2	370	450	upon request	804	938	1072	1139	1340	1675	1943	2412
ΔCL	–	–	–	230	300	380	380	460	660	730	1030

More solutions | for long travels

System P4.42 - Profile rol e-chain®, low-noise — **Travels up to 800 m** — v_{max} **10 m/s**

Safe, maintenance-free for outdoor cranes or conveyor systems. Low-noise operation, high service life ▶ page 9.83

rol e-chain® 3838R - Rolling instead of gliding — **Travels up to 600 m** — v_{max} **6,0 m/s**

Major reduction in drive power to less than 25 % for moving the e-chain® ▶ page 9.88

autoglide E4.42.*Bi*.*R*.0.AG - Self-guiding, no guide troughs — **Travels ≤ 50 m** — v_{max} **1,5 m/s**

Self-guiding e-chainsystems® - No guide troughs required! ▶ page 9.92

Specialty:

guidelok horizontal - Upper run guide, unsupported — **Travels ≤ 50 m**

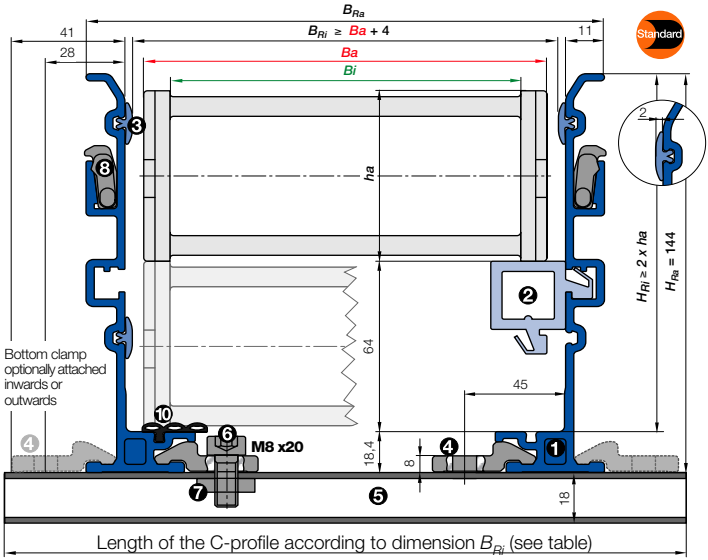
Chips cannot get stuck between upper and lower run - enormous increase of "self supporting" length of e-chains® ▶ page 9.97

The complete range of special solutions for long travel applications incl. order function ▶ from page 9.76

H_2 = Mounting height (if the moving end is set lower) · K_2 = Further add-on (if the moving end is set lower) · ΔCL = Offset fixed point · *S* = Length of travel
D_2 = Over length - long travels, gliding · *R* = Bending radius · H_{Ri} = Inner trough height · *S*/2 = Half length of travel

Part No. 973.30.SL | **973.31.SL** | Trough height: 144 mm

Aluminum "SuperTrough" | Basic Version



● **Components, trough "Basic":** ① Trough side parts, aluminum, 2 m ② Glide bar, plastic, 2 m ③ Glide strips, plastic, 2 m (without glide strips on request) ⑩ Optional: Silencer profile, rubber ● **Components, installation set "Basic":** ④ Bottom clamp, aluminum ⑤ C-profile, galvanized steel ▶ table ⑥ Screw M8 x 20 ⑦ Sliding nut M8 ⑧ Interface connector, plastic

Order example: Length of travel 30 m - Center mounted for Series E4.42.20.300.0 with B_{Ri} = 230

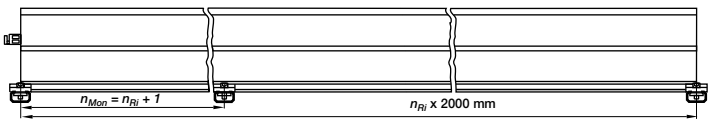
Guide trough set without glide bar (set of 2 trough side parts, incl. glide strips)
Order text: 16 m guide trough without glide bar (8 x 2 m sections) **Part No. 973.30.SL**

Guide trough set with glide bar (set of 2 trough side parts, incl. glide strips)
Order text: 16 m guide trough with glide bar (8 x 2 m sections) **Part No. 973.31.SL**

Installation set "Basic" complete (guide trough-sets + 1)
Order text: 17 installation sets **Part No.960.40.300**

Module for the fixed end ▶ page 9.16
Order text: 1 set **Part No. 973.81**

Option: For an additional noise dampening
with silencer profile, please add Index **A** - Example: **Part No. 973.30.SLA**



Principle sketch: Number of installation sets to be installed = Number of trough sections + 1

Details about Alu "SuperTrough" and the "Heavy Duty" version for heavy machinery ▶ from page 9.33

● Trough set ● Installation set ● Glide bar
● C-Profile
Ba = Outer width e-chains® Bi = Inner width e-chains®
B_{Ri} = Inner trough width B_{Ra} = Outer trough width H_{Ri} = Inner trough height
H_{Ra} = Outer trough height n_{Mon} = Number of installation sets n_{Ri} = Number of trough sets

Installation set "Basic" with C-Profile

Bottom clamp optionally attached **inwards** or **outwards**
E4.42.**20**.300.0 ▶ Order example

B_{Ri} [mm]		Part No. attached inwards	Part No. attached outwards
.05	80	–	**960.40.200**
.06	98	–	**960.40.225**
.07	105	–	**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**

Insert for the installation set "Heavy-Duty": **973.50.XXX** instead of **960.40.XXX** on the right column "attached outwards"

E4.1 | **Series E4.42** | **Options** and order key

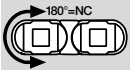
	Standard	*Additional noise dampening with pads*	*QuickLock crossbar - reduce assembly time up to 25%*		
	Part No. **Standard** **e-chains®/e-tubes**	**Part No.** **Low noise (with pads)** **e-chains®/e-tubes**	**Part No.** **QuickLock crossbar for inner radius**	**Part No.** **QuickLock crossbar for outer radius**	**Part No.** **QuickLock crossbar for both radii**
			QuickLock crossbars: inner widths from *Bi* 10 (100 mm)!		
	E4.42.30.*R*.0 Crossbar every link	**ES4.42.30.*R*.0** Crossbar every link	**E4.42.30QZ.*R*.0** Crossbar every link	**E4.42.30QE.*R*.0** Crossbar every link	**E4.42.30Q.*R*.0** Crossbar every link
	H4.42.30.*R*.0 Crossbar every 2nd link	**HS4.42.30.*R*.0** Crossbar every 2nd link	**H4.42.30QZ.*R*.0** Crossbar every 2nd link	**H4.42.30QE.*R*.0** Crossbar every 2nd link	**H4.42.30Q.*R*.0** Crossbar every 2nd link
	R4.42.30.*R*.0 e-tube, closed	**RS4.42.30.*R*.0** e-tube, closed			
	Delivery in 24h or today!*	**Delivery time: 3-5 work days**	**Delivery time: 3-5 work days**	**Delivery time: 3-5 work days**	**Delivery time: 3-5 work days**

Combination possibilities | Examples

	Low-noise option	QuickLock crossbar	NC-Version	RBR-Version	XXL-Material	HT-Material*	ESD-Material
Low-noise option		ES4.42.30Q.*R*.0	ES4.42.30.*R*.0.NC	–	ES4.42.30.*R*.0.XXL	RS4.42.30.*R*.0.HT	ES4.42.30.*R*.0.ESD
QuickLock crossbar	ES4.42.30Q.*R*.0		E4.42.30Q.*R*.0.NC	E4.42.30Q.*R1/R2*.0	E4.42.30Q.*R*.0.XXL	–	E4.42.30Q.*R*.0.ESD
NC-Version	ES4.42.30.*R*.0.NC	E4.42.30Q.*R*.0.NC		–	–	R4.42.30.*R*.0.HT.NC	E4.42.30.*R*.0.ESD.NC
RBR-Version	–	E4.42.30Q.*R1/R2*.0	–		–	R4.42.30.*R1/R2*.0.HT	E4.42.30.*R1/R2*.0.ESD
XXL-Material	ES4.42.30.*R*.0.XXL	E4.42.30Q.*R*.0.XXL	–	–		–	–
HT-Material*	RS4.42.30.*R*.0.HT	–	R4.42.30.*R*.0.HT.NC	R4.42.30.*R1/R2*.0.HT	–		–
ESD-	ES4.42.30.*R*.0.ESD	E4.42.30Q.*R*.0.ESD	E4.42.30.*R*.0.ESD.NC	E4.42.30.*R1/R2*.0.ESD	–	–	

*for gliding applications please consult igus®

E4.1 | **Series E4.42** | **Options** and order key

Simply turn outer side link without additional work	*Reverse bending radius for circular movements*	*Unsupported lengths +25% possible*	*No burning-in of hot chips up to 850°C (1562° F)*	*ATEX/ESD classified e-chains® - II 2 GD*
Part No. **NC-Material** **e-chains®/e-tubes** 	**Part No.** **RBR** **e-chains®/e-tubes** 	**Part No.** **XXL-Material**** **e-chains®/e-tubes** 	**Part No.** **HT-Material** **only for e-tubes** 	**Part No.** **ESD-Material** **e-chains®/e-tubes** 
E4.42.30.*R*.0.NC Crossbar every link	**E4.42.30.*R1/R2*.0** Crossbar every link	**E4.42.30.*R*.0.XXL** Crossbar every link	**R4.42.30.*R*.0.HT** Complete e-tube*	**E4.42.30.*R*.0.ESD** Crossbar every link
H4.42.30.*R*.0.NC Crossbar every 2nd link	**H4.42.30.*R1/R2*.0** Crossbar every 2nd link	**H4.42.30.*R*.0.XXL** Crossbar every 2nd link	**R4.42.30HT.*R*.0** Lid and bottom	**H4.42.30.*R*.0.ESD** Crossbar every 2nd link
R4.42.30.*R*.0.NC e-tube, closed	**R4.42.30.*R1/R2*.0** e-tube, closed	**R4.42.30.*R*.0.XXL** e-tube, closed	**R4.42.30HTZ.*R*.0** Bottom only **R4.42.30HTE.*R*.0** Lid only	**R4.42.30.*R*.0.ESD** e-tube, closed
Delivery in 24h or today!*	**Delivery time: 10 work days** (2-5 work days with express surcharge)	**Delivery time: 1-2 weeks** **Sidebands made from XXL-Material	**Delivery time: 10 work days** *for gliding applications please consult igus®	**Delivery time: 5 work days**

Order example | Order key and color options

Order example for complete e-chain® (3,0 m, with crossbars every link), color black, mounting brackets with C-profiles and interior separation:

e-chain® (3,0 m)	Please indicate e-chain® length or number of links: 3,0 m or 45 links	**E4.42.30.300.0**
+ Mounting brackets	1 set (with odd number of links and integrated C-profiles)	**E4.420.30.1.12.C**
+ Interior separation	with 2 separators assembled every 2nd link	**2 x 42.1.1**

Order text: 3,0 m E4.42.30.300.0 + E4.420.30.1.12.C + 2 x Part No. 42.1.1

Order key
E4.42.30.300.0

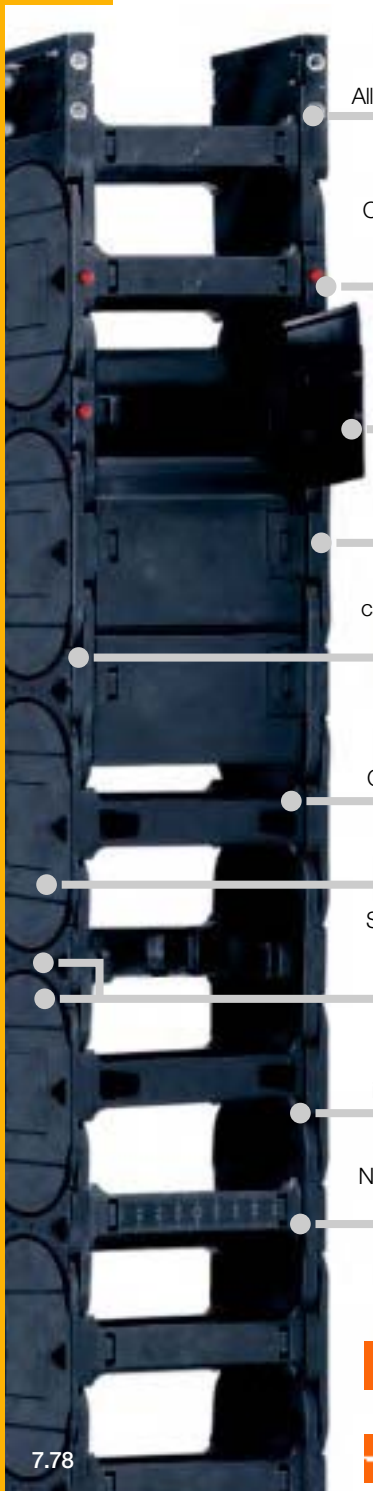
- Standard color: black
- Bending radius *R*
- Width index
- Inner height
- Series / Type

Color options for e-chains® and e-tubes

Color	Order index	Color	Order index
black	**.0 from stock!**	green*	.7
white*	.1	grey*	.3 for e-chains®
violet*	.5	dusty grey*	.3 for e-tubes
yellow*	.4	agate grey*	.11
orange*	.2	light grey*	.14
red*	.6	black grey*	.13
blue*	.8	yellow/black*	.9

Black e-chains® from stock! *Colored e-chains® can be delivered in 15 work days (5 work days at an express surcharge).

Available from stock. Delivery in 24h or today!*
*Delivery time means time until shipping of goods



Stable due to undercut design, large inner height

When to use Series E4.56:

- If a robust e-chain®/e-tube with an inner height of 56 mm is required
- If inner widths up to 600 mm are required
- For unsupported lengths up to 5,0 m and fill weights up to 62 kg/m
- For long travels up to 400 m
- Also suitable for side-mounted, vertical standing or hanging applications
- If many options and accessories are desired

When to use a different igus® Series

- If an extremely **low-noise** and low-vibration e-chain® is required (≤46 dB(A))

►**Series E6.52, page 8.66**

- If the e-chain® shall be used in **cleanroom applications** (ISO class 1)

►**Series E6.52, page 8.66**

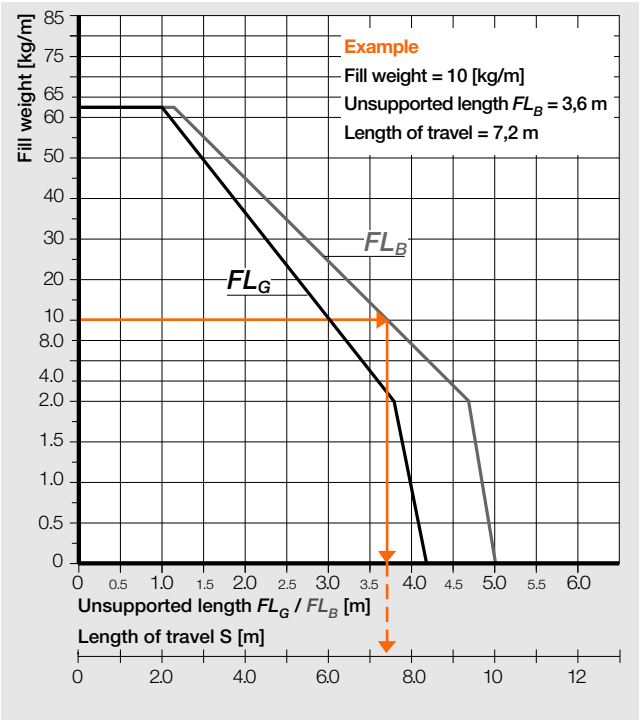
- If a less stable e-chain® can be used for economical reasons

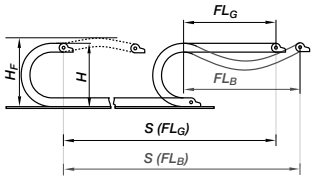
►**Series 14040/14140/R18840, page 7.164**

The new igus® E4 e-chain® opener reduces assembly time ► page 7.15

Available from stock. Delivery in 24h or today!*
*Delivery time means time until shipping of goods

3D-CAD files, configurators, PDF ► www.igus.de/en/E4.56



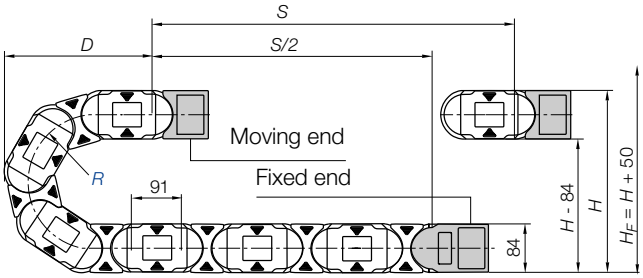


Unsupported applications

Unsupported e-chains® feature positive camber over short travels. This must be accounted for when specifying the clearance height H_F. Please consult igus® if space is particularly restricted. More information ▶ **Design, page 1.8**

Gliding applications

Travels up to 400 m.
More information ▶ **page 7.92**



Technical Data

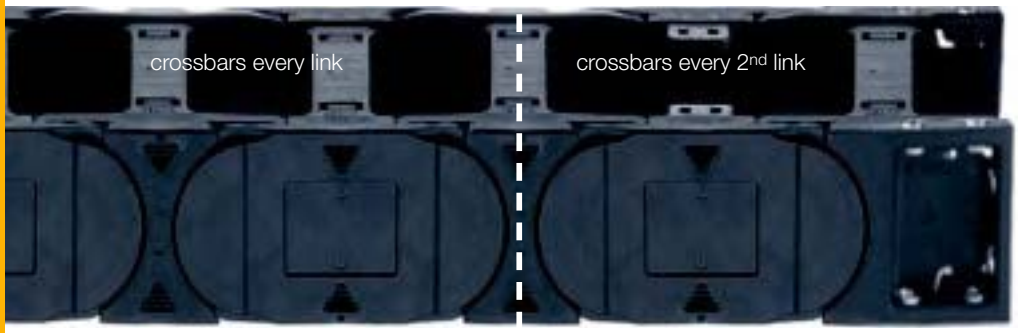
Speed, material, temperature and flammability class ▶ **page 7.16**

Pitch = 91 mm/link
Links/m = 11 (1001 mm)
Chain length = $S/2 + K$

R	135	150	175	200	240	250	300	350	400	450	500
H_{+25}^{-0}	354	384	434	484	564	584	684	784	884	984	1084
D	268	283	308	333	373	383	433	483	533	583	633
K	610	655	735	815	940	970	1125	1285	1440	1600	1755

The required clearance height: $H_F = H + 50$ mm (with 3,0 kg/m fill weight)

FL_G = with straight upper run
FL_B = with permitted sag
S = Length of travel
R = Bending radius
H = Nominal clearance height
H_F = Required clearance height
D = Overlength e-chain®, radius in final position
K = $\pi \bullet R +$ "safety"



Standard **e-chains®** | Series **E4.56** crossbars every link | Series **H4.56** crossbars every 2nd link

Part No. crossbars every link	Part No. crossbars every 2nd link	*Bi* [mm]	*Ba* [mm]	E4.56 [kg/m]	H4.56 [kg/m]
E4.56.	H4.56. 05. *R*.0	50	84	3,301	3,158
E4.56.	H4.56. 06. *R*.0	65	99	3,390	3,202
E4.56.	H4.56. 07. *R*.0	75	109	3,458	3,236
E4.56.	H4.56. 08. *R*.0	87	121	3,538	3,276
E4.56.	H4.56. 10. *R*.0	100	134	3,633	3,323
E4.56.	H4.56. 11. *R*.0	112	147	3,749	3,382
E4.56.	H4.56. 12. *R*.0	125	159	3,827	3,420
E4.56.	H4.56. 13. *R*.0	137	172	3,963	3,488
E4.56.	H4.56. 15. *R*.0	150	184	4,000	3,507
E4.56.	H4.56. 16. *R*.0	162	197	4,113	3,563
E4.56.	H4.56. 17 . *R*.0	175	209	4,245	3,630
E4.56.	H4.56. 18. *R*.0	187	222	4,357	3,685
E4.56.	H4.56. 20. *R*.0	200	234	4,413	3,713
E4.56.	H4.56. 21. *R*.0	212	247	4,484	3,749
E4.56.	H4.56. 22. *R*.0	225	259	4,553	3,784
E4.56.	H4.56. 23. *R*.0	237	272	4,663	3,838
E4.56.	H4.56. 25. *R*.0	250	284	4,774	3,894
E4.56.	H4.56. 26. *R*.0	262	297	4,865	3,939
E4.56.	H4.56. 27. *R*.0	275	309	4,967	3,990
E4.56.	H4.56. 28. *R*.0	287	322	5,025	4,019
E4.56.	H4.56. 30. *R*.0	300	334	5,177	4,095
E4.56.	H4.56. 31. *R*.0	312	347	5,214	4,114
E4.56.	H4.56. 32. *R*.0	325	359	5,317	4,166
E4.56.	H4.56. 33. *R*.0	337	372	5,437	4,225
E4.56.	H4.56. 35. *R*.0	350	384	5,639	4,326
E4.56.	H4.56. 36. *R*.0	362	397	5,549	4,282
E4.56.	H4.56. 37. *R*.0	375	409	5,646	4,330
E4.56.	H4.56. 38. *R*.0	387	422	5,762	4,388
E4.56.	H4.56. 40. *R*.0	400	434	6,031	4,523
E4.56.	H4.56. 41. *R*.0	412	447	5,955	4,484
E4.56.	H4.56. 42. *R*.0	425	459	6,247	4,630
E4.56.	H4.56. 43. *R*.0	437	472	6,090	4,552
E4.56.	H4.56. 45. *R*.0	450	484	6,420	4,717
E4.56.	H4.56. 46. *R*.0	462	497	6,372	4,693
E4.56.	H4.56. 47. *R*.0	475	509	6,412	4,713
E4.56.	H4.56. 48. *R*.0	487	522	6,658	4,836
E4.56.	H4.56. 50. *R*.0	500	534	6,755	4,885
E4.56.	H4.56. 51. *R*.0	512	547	6,668	4,841
E4.56.	H4.56. 52. *R*.0	525	559	6,842	4,928
E4.56.	H4.56. 53. *R*.0	537	572	6,934	4,974
E4.56.	H4.56. 55. *R*.0	550	584	7,355	5,184
E4.56.	H4.56. 60. *R*.0	600	634	7,584	5,299

Available bending radii *R* [mm] 135 | 150 | 175 | 200 | 240 | 250 | 300 | 350 | 400 | 450 | 500

Supplement Part No. with required radius *(R)*. Example: **E4.56.30.300.0**

When to use e-chains® with crossbars every link: ● Lateral acceleration > 0,5m/s² ● High fill weights and rigid hydraulic hoses ● Humidity: > 85%, temperature: > 50°C (122° F)
When to use e-chains® with crossbars every 2nd link: ● Suitable for nearly all applications ● Lower price

Part No. of e-chain® links as single parts ► page 7.17

Standard e-chains® incl. accessories from stock. Delivery in 24h or today.*
*Delivery time means time until shipping of goods

e-tubes | Series **R4.56** - fully enclosed

Part No. fully enclosed	*Bi* [mm]	*Ba* [mm]	R4.56 [kg/m]
R4.56. 07. *R*.0*	75	109	3,910
R4.56. 10. *R*.0	100	134	4,200
R4.56. 12. *R*.0	125	159	4,560
R4.56. 15. *R*.0	150	184	4,940
R4.56. 17. *R*.0	175	209	5,250
R4.56. 20. *R*.0	200	234	5,560

Part No. fully enclosed	*Bi* [mm]	*Ba* [mm]	R4.56 [kg/m]
R4.56. 25. *R*.0	250	284	6,290
R4.56. 27. *R*.0	275	309	6,650
R4.56. 30. *R*.0	300	334	6,950
R4.56. 35. *R*.0	350	384	7,650
R4.56. 40. *R*.0	400	434	8,650
R4.56. 46. *R*.0	462	497	9,118

Available bending radii *R* [mm] 150 | 175 | 200 | 240 | 250 | 300 | 350 | 400 | 450 | 500

*Removable lid only, no hinged option

Supplement Part No. with required radius *(R)*. Example: **R4.56.30.300.0**

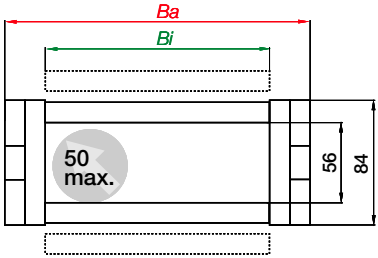
When to use fully enclosed e-tubes: ● Excellent cable protection against dirt ● Lids along the entire inner radius are completely removable. Lids along the entire outer radius are single sided snap-open with a hinge on the other side to keep them attached to the e-chain® or completely removable ● HT-Version optional, protection against hot chips up to 850°C (1562° F)

Order key for all types

E4 .56. 30. 300. 0 e-chain® **(crossbars every link)**
H4 .56. 30. 300. 0 e-chain® **(crossbars every 2nd link)**
R4 .56. 30. 300. 0 **Fully enclosed** e-tube

- Standard color black
- Bending radius *R*
- Width index (depends on *Bi*)
- Inner height
- Series / Type

Dimensioning



E4.56.30.300.0 = e-chain® with **crossbars every link**, inner width ***Bi*** 300 mm, radius ***R*** 300 mm, color black
H4.56.30.300.0 = e-chain® with **crossbars every 2nd link**, inner width ***Bi*** 300 mm, radius ***R*** 300 mm, color black
R4.56.30.300.0 = **Fully enclosed** e-tube, inner width ***Bi*** 300 mm, radius ***R*** 300 mm, color black

More order examples, variations and configurations ▶ page 7.94

Standard e-tubes incl. accessories from stock. Delivery in 24h or today!*
*Delivery time means time until shipping of goods

QuickLock crossbars | Quick opening - up to 25% faster assembly

Part No. crossbars every link	Part No. crossbars every 2nd link	QuickLock crossbar for Inner radius	QuickLock crossbar for Outer radius	QuickLock crossbar for Both radii	Bi [mm]
E4.56.	H4.56.	15QZ.R.0	15QE.R.0	15Q.R.0	150
E4.56.	H4.56.	16QZ.R.0	16QE.R.0	16Q.R.0	162
E4.56.	H4.56.	17QZ.R.0	17QE.R.0	17Q.R.0	175
E4.56.	H4.56.	18QZ.R.0	18QE.R.0	18Q.R.0	187
E4.56.	H4.56.	20QZ.R.0	20QE.R.0	20Q.R.0	200
E4.56.	H4.56.	21QZ.R.0	21QE.R.0	21Q.R.0	212
E4.56.	H4.56.	22QZ.R.0	22QE.R.0	22Q.R.0	225
E4.56.	H4.56.	23QZ.R.0	23QE.R.0	23Q.R.0	237
E4.56.	H4.56.	25QZ.R.0	25QE.R.0	25Q.R.0	250
E4.56.	H4.56.	26QZ.R.0	26QE.R.0	26Q.R.0	262
E4.56.	H4.56.	27QZ.R.0	27QE.R.0	27Q.R.0	275
E4.56.	H4.56.	28QZ.R.0	28QE.R.0	28Q.R.0	287
E4.56.	H4.56.	30QZ.R.0	30QE.R.0	30Q.R.0	300
E4.56.	H4.56.	31QZ.R.0	31QE.R.0	31Q.R.0	312
E4.56.	H4.56.	32QZ.R.0	32QE.R.0	32Q.R.0	325
E4.56.	H4.56.	33QZ.R.0	33QE.R.0	33Q.R.0	337
E4.56.	H4.56.	35QZ.R.0	35QE.R.0	35Q.R.0	350
E4.56.	H4.56.	36QZ.R.0	36QE.R.0	36Q.R.0	362
E4.56.	H4.56.	37QZ.R.0	37QE.R.0	37Q.R.0	375
E4.56.	H4.56.	38QZ.R.0	38QE.R.0	38Q.R.0	387
E4.56.	H4.56.	40QZ.R.0	40QE.R.0	40Q.R.0	400
E4.56.	H4.56.	41QZ.R.0	41QE.R.0	41Q.R.0	412
E4.56.	H4.56.	42QZ.R.0	42QE.R.0	42Q.R.0	425
E4.56.	H4.56.	43QZ.R.0	43QE.R.0	43Q.R.0	437
E4.56.	H4.56.	45QZ.R.0	45QE.R.0	45Q.R.0	450
E4.56.	H4.56.	46QZ.R.0	46QE.R.0	46Q.R.0	462
E4.56.	H4.56.	47QZ.R.0	47QE.R.0	47Q.R.0	475
E4.56.	H4.56.	48QZ.R.0	48QE.R.0	48Q.R.0	487
E4.56.	H4.56.	50QZ.R.0	50QE.R.0	50Q.R.0	500
E4.56.	H4.56.	51QZ.R.0	51QE.R.0	51Q.R.0	512
E4.56.	H4.56.	52QZ.R.0	52QE.R.0	52Q.R.0	525
E4.56.	H4.56.	53QZ.R.0	53QE.R.0	53Q.R.0	537
E4.56.	H4.56.	55QZ.R.0	55QE.R.0	55Q.R.0	550
E4.56.	H4.56.	60QZ.R.0	60QE.R.0	60Q.R.0	600

QuickLock crossbars: inner widths from 150 mm possible!

Available bending radii *R* [mm] 135 | 150 | 175 | 200 | 240 | 250 | 300 | 350 | 400 | 450 | 500

Supplement Part No. with required radius *(R)*. Example: **E4.56.30QZ.300.0**

For e-chains® with **QuickLock crossbar** supplement Part No. with required Index **QZ / QE / Q**

Part No. E4.56.30QZ.300.0 = QuickLock crossbar for inner radius

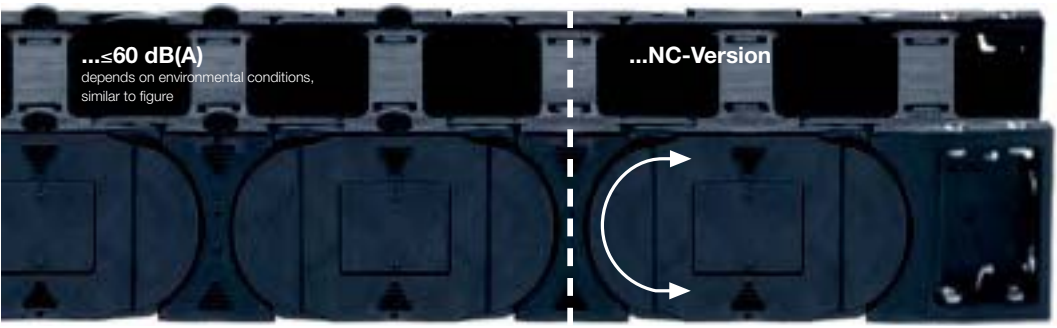
Part No. E4.56.30QE.300.0 = QuickLock crossbar for outer radius

Part No. E4.56.30Q .300.0 = QuickLock crossbar for both radii

e-chain® with QuickLock crossbars - Delivery time: 3-5 work days.*

*Delivery time means time until shipping of goods

E4.1 | **Series E4.56** | Product range | **Options**



Noise dampening | ≤60 dB(A)

With pads crossbars every: link	With pads crossbars every: 2nd	e-tube fully enclosed	Bi [mm]
ES4 HS4 – .56.05.R.0	ES4 HS4 – .56.31.R.0	E4 H4 – .56.05.R.0.NC	E4 H4 – .56.31.R.0.NC
ES4 HS4 – .56.06.R.0	ES4 HS4 – .56.32.R.0	E4 H4 – .56.06.R.0.NC	E4 H4 – .56.32.R.0.NC
ES4 HS4 RS4 .56.07.R.0	ES4 HS4 – .56.33.R.0	E4 H4 R4 .56.07.R.0.NC	E4 H4 – .56.33.R.0.NC
ES4 HS4 – .56.08.R.0	ES4 HS4 RS4 .56.35.R.0	E4 H4 – .56.08.R.0.NC	E4 H4 R4 .56.35.R.0.NC
ES4 HS4 RS4 .56.10.R.0	ES4 HS4 – .56.36.R.0	E4 H4 R4 .56.10.R.0.NC	E4 H4 – .56.36.R.0.NC
ES4 HS4 – .56.11.R.0	ES4 HS4 – .56.37.R.0	E4 H4 – .56.11.R.0.NC	E4 H4 – .56.37.R.0.NC
ES4 HS4 RS4 .56.12.R.0	ES4 HS4 – .56.38.R.0	E4 H4 R4 .56.12.R.0.NC	E4 H4 – .56.38.R.0.NC
ES4 HS4 – .56.13.R.0	ES4 HS4 RS4 .56.40.R.0	E4 H4 – .56.13.R.0.NC	E4 H4 R4 .56.40.R.0.NC
ES4 HS4 RS4 .56.15.R.0	ES4 HS4 – .56.41.R.0	E4 H4 R4 .56.15.R.0.NC	E4 H4 – .56.41.R.0.NC
ES4 HS4 – .56.16.R.0	ES4 HS4 – .56.42.R.0	E4 H4 – .56.16.R.0.NC	E4 H4 – .56.42.R.0.NC
ES4 HS4 RS4 .56.17.R.0	ES4 HS4 – .56.43.R.0	E4 H4 R4 .56.17.R.0.NC	E4 H4 – .56.43.R.0.NC
ES4 HS4 – .56.18.R.0	ES4 HS4 – .56.45.R.0	E4 H4 – .56.18.R.0.NC	E4 H4 – .56.45.R.0.NC
ES4 HS4 RS4 .56.20.R.0	ES4 HS4 RS4 .56.46.R.0	E4 H4 R4 .56.20.R.0.NC	E4 H4 R4 .56.46.R.0.NC
ES4 HS4 – .56.21.R.0	ES4 HS4 – .56.47.R.0	E4 H4 – .56.21.R.0.NC	E4 H4 – .56.47.R.0.NC
ES4 HS4 – .56.22.R.0	ES4 HS4 – .56.48.R.0	E4 H4 – .56.22.R.0.NC	E4 H4 – .56.48.R.0.NC
ES4 HS4 – .56.23.R.0	ES4 HS4 – .56.50.R.0	E4 H4 – .56.23.R.0.NC	E4 H4 – .56.50.R.0.NC
ES4 HS4 RS4 .56.25.R.0	ES4 HS4 – .56.51.R.0	E4 H4 R4 .56.25.R.0.NC	E4 H4 – .56.51.R.0.NC
ES4 HS4 – .56.26.R.0	ES4 HS4 – .56.52.R.0	E4 H4 – .56.26.R.0.NC	E4 H4 – .56.52.R.0.NC
ES4 HS4 RS4 .56.27.R.0	ES4 HS4 – .56.53.R.0	E4 H4 R4 .56.27.R.0.NC	E4 H4 – .56.53.R.0.NC
ES4 HS4 – .56.28.R.0	ES4 HS4 – .56.55.R.0	E4 H4 – .56.28.R.0.NC	E4 H4 – .56.55.R.0.NC
ES4 HS4 RS4 .56.30.R.0	ES4 HS4 – .56.60.R.0	E4 H4 R4 .56.30.R.0.NC	E4 H4 – .56.60.R.0.NC

Bi [mm]
50
65
75
87
100
112
125
137
150
162
175
187
200
212
225
237
250
262
275
287
300
312
325
337
350
362
375
387
400
412
425
437
450
462
475
487
500
512
525
537
550
600

NC-Version | Without pretension

Available bending radii *R* [mm] 135* | 150 | 175 | 200 | 240 | 250 | 300 | 350 | 400 | 450 | 500 *not available for e-tubes

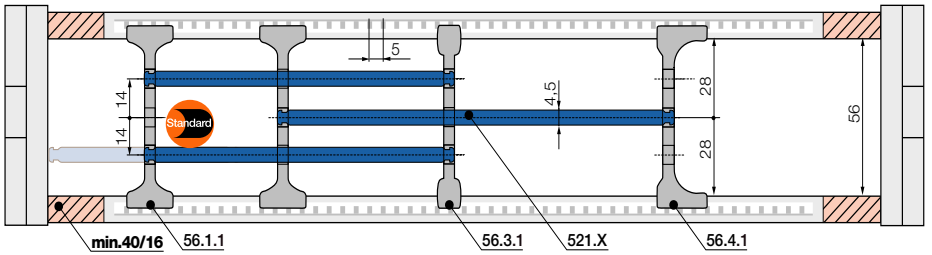
Supplement Part No. with required radius *(R)*. Example: **ES4.56.30.300.0 or E4.56.30.300.0.NC**

For e-chains® with noise dampening pads supplement Part No. with required index "**S**"
Example: **Part No. ES4.56.30.300.0** = e-chain® (crossbars every link) with noise dampening
For NC-e-chains® without pretension supplement Part No. with required index "**NC**"
Example: **Part No. E4.56.30.300.0.NC** = e-chain® (crossbars every link) without pretension

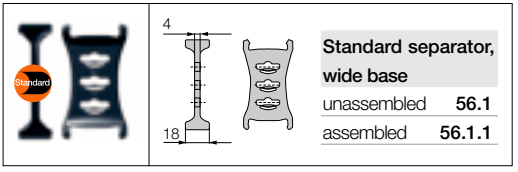
e-chain® with noise dampening pads - Delivery time: 3-5 work days.
NC-Version - Delivery in 24h or today!*
*Delivery time means time until shipping of goods

E4.1 | **Series E4.56** | Interior separation | **Standard**

New generation interior separation



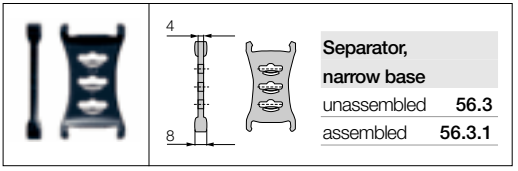
Note: Please observe a lateral spacing to the side links! **e-tube: 40 mm** | **e-chain®: 16 mm**
In the standard configuration separators are assembled every 2nd e-chain® link!



Standard separator, wide base	
unassembled	**56.1**
assembled	**56.1.1**

Standard - for all applications

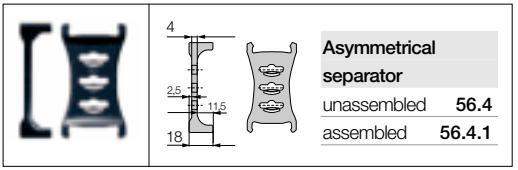
Separator with a wide base for maximum locking strength and safe standing in e-chains® and e-tubes.



Separator, narrow base	
unassembled	**56.3**
assembled	**56.3.1**

For many thin cables

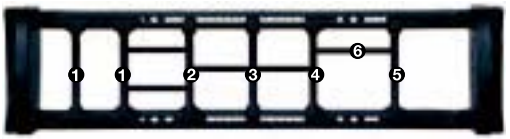
Separator with a narrow base for a large number of thin cables side by side. Saves space in e-chains® and e-tubes. Also available for QuickLock crossbars.



Asymmetrical separator	
unassembled	**56.4**
assembled	**56.4.1**

For side-mounted applications

Asymmetrical separator, for defined distance. No additional spacers necessary for e-chains® and e-tubes.

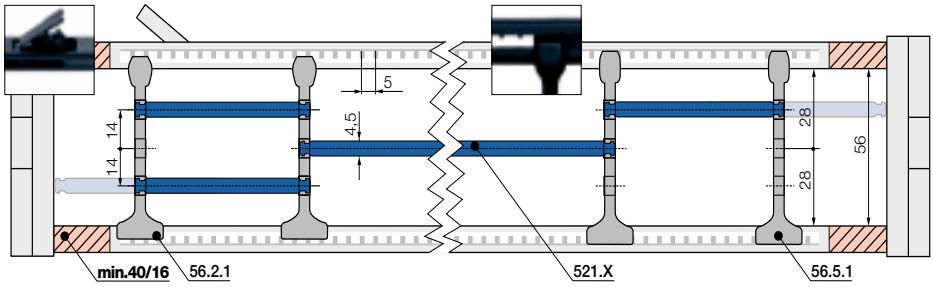


① Standard separator, wide base - Part No. 56.1 ③ Separator, narrow base - Part No. 56.3 ⑤ Notch separator - Part No. 56.5
② Separator for QuickLock crossbar - Part No. 56.2 ④ Separator, asymmetrical - Part No. 56.4 ⑥ Full-width self, lockable - Part No. 520.XX

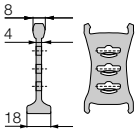
Interior separation single-part order - Delivery in 24h or today!*
*Delivery time means time until shipping of goods

E4.1 | **Series E4.56** | Interior separation | **Standard**

New generation interior separation



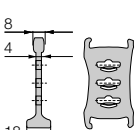
Note: Please observe a lateral spacing to the side links! **e-tube: 40 mm** | **e-chain®: 16 mm**
In the standard configuration separators are assembled every 2nd e-chain® link!



Separator for QuickLock crossbar	
unassembled	**56.2**
assembled	**56.2.1**

For even faster installation

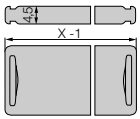
Separator for igus® QuickLock crossbar 450.X.Q. Firm hold to one side with a wide base, narrow on opposed side for easy cable assembly (slight grip). For e-tubes also.



Notch separator for notch crossbar	
unassembled	**56.5**
assembled	**56.5.1**

Locks safely onto in 5 mm increments

Notch separator for the new notch crossbar, with scaling on the notch crossbars. For exact positioning in e-chains® and e-tubes. Recommended for side-mounted applications.



Full-width shelf, lockable	
unassembled	**520.X**
assembled	**521.X**

Horizontal separation

Shelf locks safely into separators on both ends, fixed width possible. Separators can be moved freely over the shelf in horizontal direction. Usable in 3 levels.

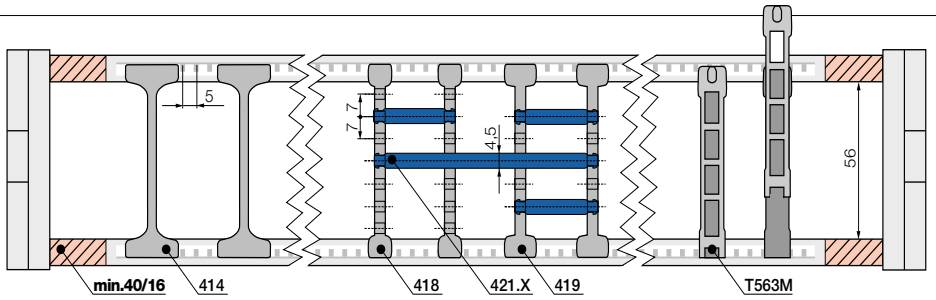
Lockable full-width shelves - for the standard interior separation

Width X [mm]	unassembled	assembled	Width X [mm]	unassembled	assembled	Width X [mm]	unassembled	assembled
050	**520.050**	**521.050**	125	**520.125**	**521.125**	225	**520.225**	**521.225**
065	**520.065**	**521.065**	150	**520.150**	**521.150**	250	**520.250**	**521.250**
075	**520.075**	**521.075**	175	**520.175**	**521.175**	300	**520.300**	**521.300**
100	**520.100**	**521.100**	200	**520.200**	**521.200**	450	**520.450**	**521.450**

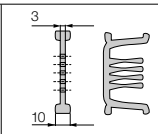
E4.1 | Series E4.56 | Interior separation | Options

Previous interior separation

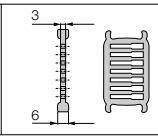
All elements can still be ordered ▶ www.igus.de/en/E4.56



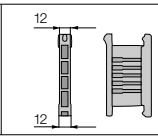
Note: Please observe a lateral spacing to the side links! **e-tube: 40 mm** | **e-chain®: 16 mm**
In the standard configuration separators are assembled every 2nd e-chain® link!

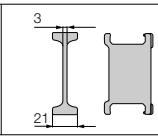
Open slotted separator for e-chains®/e-tubes	
unassembled	**409**
assembled	**419**

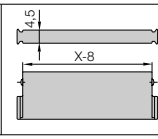
Slotted separator for e-chains®/e-tubes	
unassembled	**408**
assembled	**418**

Split separator for e-chains®	
unassembled	**T563**
assembled	**T563M**

Locking separator for e-chains®	
unassembled	**404**
assembled	**414**

Shelf	
unassembled	**420.X**
assembled	**421.X**

Open, slotted separator 409 (unilateral open)

Fast assembly - can be retrofitted into an existing interior separation system without a need for dismantling the interior separators. During an installation of open slotted separators, the top and bottom notches cannot be occupied by shelves.

Slotted separator 408

For very fine subdivisions. However, they cannot be retrofitted into an existing separation system without dismantling the interior separators first.

Split separator T563 (e-chains® only)

Ideal for subsequent shelving or for the initial assembly of the e-chain® without a need for dismantling the interior separators.

Locking separator 404 (e-chains® only)

For applications exposed to very high humidity (> 85%). Locks with extra retention force. Tip: one locking separator per e-chain® link for better mounting.

Shelf 420.X

For horizontal separation. Shelves of various widths can be arranged at 7 different heights (in 7 mm increments). (not in combination with 404).

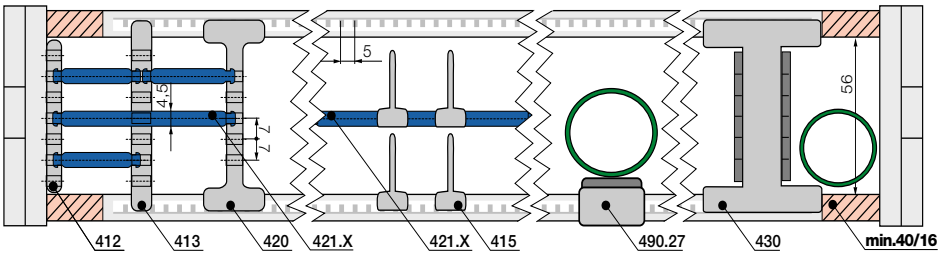
Shelves - interior separation options

Width X [mm]	unassembled	assembled	Width X [mm]	unassembled	assembled	Width X [mm]	unassembled	assembled
018	**420.18**	**421.18**	050	**420.50**	**421.50**	150	**420.150**	**421.150**
023	**420.23**	**421.23**	062	**420.62**	**421.62**	175	**420.175**	**421.175**
025	**420.25**	**421.25**	075	**420.75**	**421.75**	187	**420.187**	**421.187**
028	**420.28**	**421.28**	088	**420.88**	**421.88**	200	**420.200**	**421.200**
033	**420.33**	**421.33**	100	**420.100**	**421.100**			
043	**420.43**	**421.43**	125	**420.125**	**421.125**			

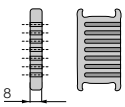
E4.1 | **Series E4.56** | Interior separation | **Options**

Previous interior separation

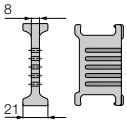
All elements can still be ordered ► www.igus.de/en/E4.56



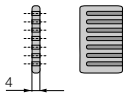
Note: Please observe a lateral spacing to the side links! **e-tube: 40 mm** | **e-chain®: 16 mm**
In the standard configuration separators are assembled every 2nd e-chain® link!

Middle plate for e-chains® / e-tubes	
unassembled	**403**
assembled	**413**

Locking vertical separator for e-chains®	
unassembled	**410**
assembled	**420**

Side plate for e-chains® / e-tubes	
unassembled	**402**
assembled	**412**

Middle plate 403

Middle plates form the basic pattern of a shelf system. Shelves 420.X (table left page) can be arranged at 7 different heights (in 7 mm increments).

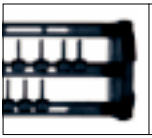
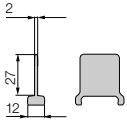
Locking vertical separator 410 (e-chains® only)

Works like middle plate, for applications exposed to very high humidity (> 85%).

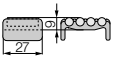
Side plate 402

Works like middle plate.
Allows modular shelving close to the side links.

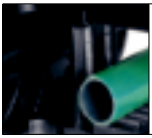
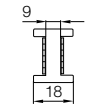
Additional elements for interior separation

Center crossbar for e-chains®	
unassembled	**405**
assembled	**415**

Rollclip for e-chains®	
unassembled	**489.27**
assembled	**490.27**

Roller separator for e-chains®	
unassembled	**429**
assembled	**430**

Center crossbar

For applications with a large number of thin cables. The center crossbar offers the option of subdividing the e-chain® independently into upper and lower halves.

Rollclip

Minimizes abrasion of particularly sensitive hoses - simply clamped onto the opening crossbar. The movable rollers compensate for relative movement between the e-chain® and hose.

Roller separator

Performs a similar function to the Rollclip, but doubles as a separator. For rigid cables and hoses.

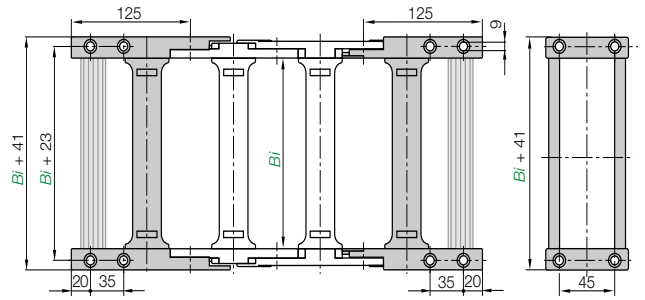
E4.1 | **Series E4.56** | KMA mounting brackets **pivoting**

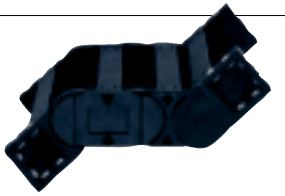
For tight installation conditions, all-sides attachment

Fixed end
E4.560/R4.560...[*].1

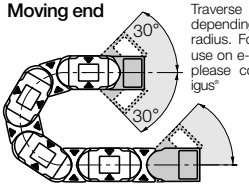
Moving end
E4.560/R4.560...[*].2

Frontal view of KMA





Moving end

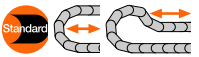


Traverse angle depending on radius. For the use on e-tubes please consult igus®

Fixed end

KMA pivoting | All-sides attachment. Recommended for unsupported and gliding applications

Width index	Part No. full set pivoting (+ C-profile option)	Bi [mm]
05. ▶	E4.560. – 05 .[*].12.C	50
06. ▶	E4.560. – 06 .[*].12.C	65
07. ▶	E4.560. R4.560. 07 .[*].12.C	75
08. ▶	E4.560. – 08 .[*].12.C	87
10. ▶	E4.560. R4.560. 10 .[*].12.C	100
11. ▶	E4.560. – 11 .[*].12.C	112
12. ▶	E4.560. R4.560. 12 .[*].12.C	125
13. ▶	E4.560. – 13 .[*].12.C	137
15. ▶	E4.560. R4.560. 15 .[*].12.C	150
16. ▶	E4.560. – 16 .[*].12.C	162
17. ▶	E4.560. R4.560. 17 .[*].12.C	175
18. ▶	E4.560. – 18 .[*].12.C	187
20. ▶	E4.560. R4.560. 20 .[*].12.C	200
21. ▶	E4.560. – 21 .[*].12.C	212
22. ▶	E4.560. – 22 .[*].12.C	225
23. ▶	E4.560. – 23 .[*].12.C	237
25. ▶	E4.560. R4.560. 25 .[*].12.C	250
26. ▶	E4.560. – 26 .[*].12.C	262
27. ▶	E4.560. R4.560. 27 .[*].12.C	275
28. ▶	E4.560. – 28 .[*].12.C	287
30. ▶	E4.560. R4.560. 30 .[*].12.C	300
31. ▶	E4.560. – 31 .[*].12.C	312
32. ▶	E4.560. – 32 .[*].12.C	325
33. ▶	E4.560. – 33 .[*].12.C	337
35. ▶	E4.560. R4.560. 35 .[*].12.C	350
36. ▶	E4.560. – 36 .[*].12.C	362
37. ▶	E4.560. – 37 .[*].12.C	375
38. ▶	E4.560. – 38 .[*].12.C	387
40. ▶	E4.560. R4.560. 40 .[*].12.C	400
41. ▶	E4.560. – 41 .[*].12.C	412
42. ▶	E4.560. – 42 .[*].12.C	425
43. ▶	E4.560. – 43 .[*].12.C	437
45. ▶	E4.560. – 45 .[*].12.C	450
46. ▶	E4.560. R4.560. 46 .[*].12.C	462
47. ▶	E4.560. – 47 .[*].12.C	475
48. ▶	E4.560. – 48 .[*].12.C	487
50. ▶	E4.560. – 50 .[*].12.C	500
51. ▶	E4.560. – 51 .[*].12.C	512
52. ▶	E4.560. – 52 .[*].12.C	525
53. ▶	E4.560. – 53 .[*].12.C	537
55. ▶	E4.560. – 55 .[*].12.C	550
60. ▶	E4.560. – 60 .[*].12.C	600



- Standard
- For tight installation conditions
- Option: integrated chainfix strain relief with C-profile
- Corrosion resistant
- Option: threaded sockets upon request

(KMA = Polymer Metal Mounting Bracket)

Part No. structure (pivoting)

E4.560.30.[2].12.C

- C-profile option
- Full set
- even
- Width index
- Series

Single-part order:

Mounting bracket **Moving end**
E4.560.30.[2].2.C (even number of links)

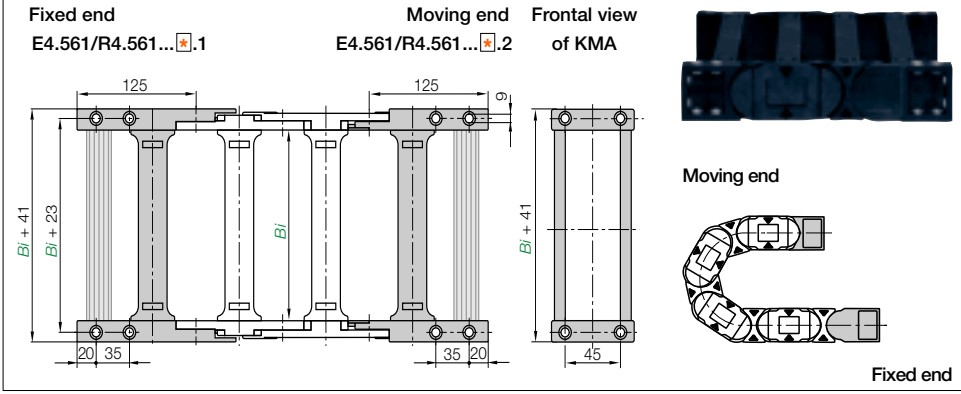
Mounting bracket **Fixed end**
E4.560.30.[2].1.C (even number of links)

Note*: The E4.1 System may end with either an inner or an outer side link. Keep in mind that an outer side link always forms the first e-chain® link at the moving end. The Part Nos. depend on an even or odd numbers of links. Please insert: Index [1] (for odd) or [2] (for even)!

Strain relief, e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with order options ▶ from page 10.1

E4.1 | **Series E4.56** | KMA mounting brackets **locking**

For very high speed and acceleration, all-sides attachment



KMA locking | All-sides attachment. Recommended for vertical hanging and standing applications

Width index	Part No. full set **locking** (+ C-profile option)	*Bi* [mm]
05. ▶	E4.561. – 05 .*.12.C	50
06. ▶	E4.561. – 06 .*.12.C	65
07. ▶	E4.561. R4.561. 07 .*.12.C	75
08. ▶	E4.561. – 08 .*.12.C	87
10. ▶	E4.561. R4.561. 10 .*.12.C	100
11. ▶	E4.561. – 11 .*.12.C	112
12. ▶	E4.561. R4.561. 12 .*.12.C	125
13. ▶	E4.561. – 13 .*.12.C	137
15. ▶	E4.561. R4.561. 15 .*.12.C	150
16. ▶	E4.561. – 16 .*.12.C	162
17. ▶	E4.561. R4.560. 17 .*.12.C	175
18. ▶	E4.561. – 18 .*.12.C	187
20. ▶	E4.561. R4.561. 20 .*.12.C	200
21. ▶	E4.561. – 21 .*.12.C	212
22. ▶	E4.561. – 22 .*.12.C	225
23. ▶	E4.561. – 23 .*.12.C	237
25. ▶	E4.561. R4.561. 25 .*.12.C	250
26. ▶	E4.561. – 26 .*.12.C	262
27. ▶	E4.561. R4.561. 27 .*.12.C	275
28. ▶	E4.561. – 28 .*.12.C	287
30. ▶	E4.561. R4.561. 30 .*.12.C	300
31. ▶	E4.561. – 31 .*.12.C	312
32. ▶	E4.561. – 32 .*.12.C	325
33. ▶	E4.561. – 33 .*.12.C	337
35. ▶	E4.561. R4.561. 35 .*.12.C	350
36. ▶	E4.561. – 36 .*.12.C	362
37. ▶	E4.561. – 37 .*.12.C	375
38. ▶	E4.561. – 38 .*.12.C	387
40. ▶	E4.561. R4.561. 40 .*.12.C	400
41. ▶	E4.561. – 41 .*.12.C	412
42. ▶	E4.561. – 42 .*.12.C	425
43. ▶	E4.561. – 43 .*.12.C	437
45. ▶	E4.561. – 45 .*.12.C	450
46. ▶	E4.561. R4.561. 46 .*.12.C	462
47. ▶	E4.561. – 47 .*.12.C	475
48. ▶	E4.561. – 48 .*.12.C	487
50. ▶	E4.561. – 50 .*.12.C	500
51. ▶	E4.561. – 51 .*.12.C	512
52. ▶	E4.561. – 52 .*.12.C	525
53. ▶	E4.561. – 53 .*.12.C	537
55. ▶	E4.561. – 55 .*.12.C	550
60. ▶	E4.561. – 60 .*.12.C	600

- Locked connections
- At high acceleration
- Universally mountable
- C-profile option
- Corrosion resistant
- Option: threaded sockets upon request

(KMA = Polymer Metal Mounting Bracket)

Part No. structure (locking)

E4.561.30.2.12.C

- C-profile option
- Full set
- even
- Width index
- Series

Single-part order:

Mounting bracket **Moving end**

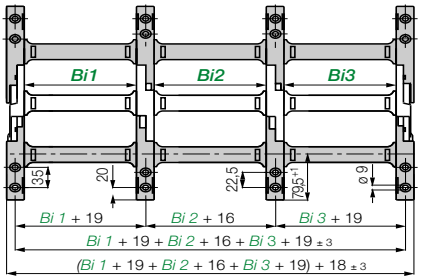
E4.561.30.2.2.C (even number of links)

Mounting bracket **Fixed end**

E4.561.30.2.1.C (even number of links)

Note*: The E4.1 System may end with either an inner or an outer side link. Keep in mind that an outer side link always forms the first e-chain® link at the moving end. The Part Nos. depend on an even or odd numbers of links. Please insert: Index 1 (for odd) or 2 (for even)!

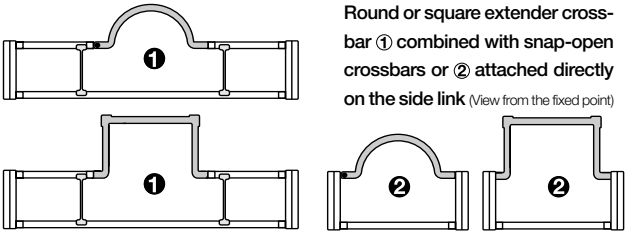
Strain relief, e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with order options ▶ from page 10.1



Extension links | for extremely wide e-chains® up to 3,0 m

- The extension link design allows virtually limitless side-by-side attachment
- High fill weights necessitate extremely wide e-chains® (up to 3000 mm)
- The unsupported length FL_G max. can be increased when additional loads are required
- Suitable for unsupported and gliding applications in a guide trough
- Attachement with KMA or steel mounting brackets

Order example - 3 chambers
E4.56.*Bi1* / *Bi2* / *Bi3*.*R*.0 =
E4.56.10 / 20 / 10.200.0
Extension link - single-part order
422.*R*. (please indicate radius)



Round or square extender crossbar ① combined with snap-open crossbars or ② attached directly on the side link (View from the fixed point)

Extender crossbars | careful guide of hosed applications

- Suitable for hoses with a maximum outer diameter of 245 mm
- Gliding with crossbars assembled along outer radius and a special guide trough
- Extender crossbar ① for snap-open crossbars or ② attached directly on the side link

Part No. single part	Max Ø [mm] hose	Form	② Installation on side link	① Combination with snap-open crossbars
450.15.RHD115	115	○ round	no	yes
450.17.RD115	115	○ round	yes	no
450.25.D150	150	□ square	yes	no
450.30.D200	180	□ square	yes	no
450.35.D250	195	□ square	yes	no
450.40.D300	245	□ square	yes	no
450.20.HD150	150	□ square	no	yes
450.25.HD200	180	□ square	no	yes
450.30.HD250	195	□ square	no	yes

Order examples - extender crossbar
① Combination with snap-open crossbars
RHD115 for outer radius "E" incl. e-chain®:
E4.56.10/15RHDE115/10.*R*.0
RHD115 for inner radius "Z" incl. e-chain®:
E4.56.10/15RHDZ115/10.*R*.0

② Installation on side link
RD115 for outer radius "E" incl. e-chain®:
E4.56.17RDE115.*R*.0
RD115 for inner radius "Z" incl. e-chain®:
E4.56.17RDZ115.*R*.0

E4.1 | **Series E4.56** | More options

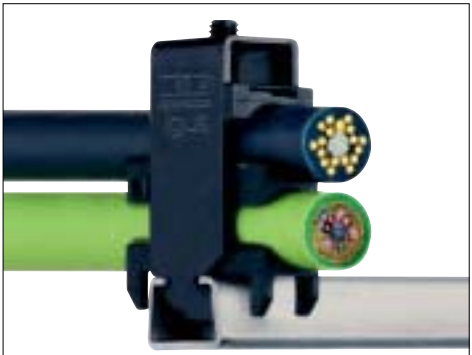
E4 snapclip | clip-on cable binder

- For side-mounted applications
- Serves as a clip-on, lateral guide for hoses and cables on e-chains®
- The loops can be adjusted as required
- Compatible with many E4 e-chains® ● Stylish and economical
- One clip and one locking band are needed for each e-chain® link

Part No.	Form
450.B12	Locking clip, comprising a locking element
450.B12.200	Locking band, comprising a locking element and band; 12 x 1,5 x 200 mm

Order example (here: inner width *Bi* 150)
Locking clip, to open along inner radius "Z":
E4.56.15.B12.200Z.*R*.0
Locking clip, to open along outer radius "E":
E4.56.15.B12.200E.*R*.0

E4.1 | **Series E4.56** | e-chain® accessories

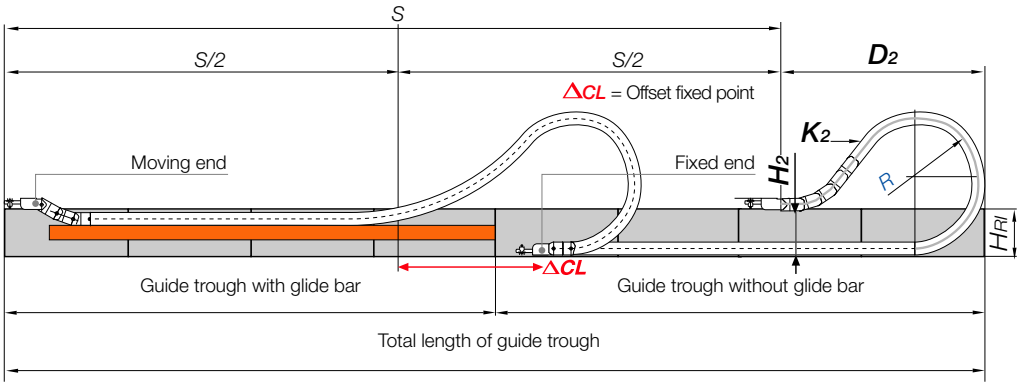


Strain relief system
Clamps, tiewrap plates, nuggets and plug-in clips. The complete chainfix range with many order options ▶ **from page 10.1**

Support tray tool kit
For support of the lower run. Simple one-piece support trays according to your requirements and specification ▶ **from page 9.70**

Gliding applications | For long travels from 12 m to max. 400 m

Solution for long travel applications - In this case the e-chain® upper run will be introduced in a guide trough on the lower run. For travels more than 100 m we recommend to realize the engineering of such a plant by our technicians. **In case of travels between 10 and 12 m we recommend a longer unsupported length.** More information ▶ **Design, from page 1.16.**



Pitch = 91 mm/link · **Links/m** = 11 (1001 mm) · **Chain length** = $S/2 + K$

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	1180	1440	1530	1700	1850
K_2	610	819	1092	1274	1547	1638	2002	2275	2548	2912	3276
ΔCL	–	159	259	359	509	559	709	909	959	1059	1159

More solutions | for long travels

System P4.56 - Profile rol e-chain®, low-noise — **Travels up to 800 m** — **v_{max} 10 m/s**

Safe, maintenance-free for outdoor cranes or conveyor systems. Low-noise operation, high service life ▶ page 9.84

rol e-chain® 4040R - Rolling instead of gliding — **Travels up to 800 m** — **v_{max} 6,0 m/s**

Major reduction in drive power to less than 25 % for moving the e-chain® ▶ page 9.88

autoglide E4.56.*Bi*.*R*.0.AG - Self-guiding, no guide troughs — **Travels ≤ 50 m** — **v_{max} 1,5 m/s**

Self-guiding e-chainsystems® - No guide troughs required! ▶ page 9.92

Specialty:

guidelok horizontal - Upper run guide, unsupported — **Travels ≤ 50 m**

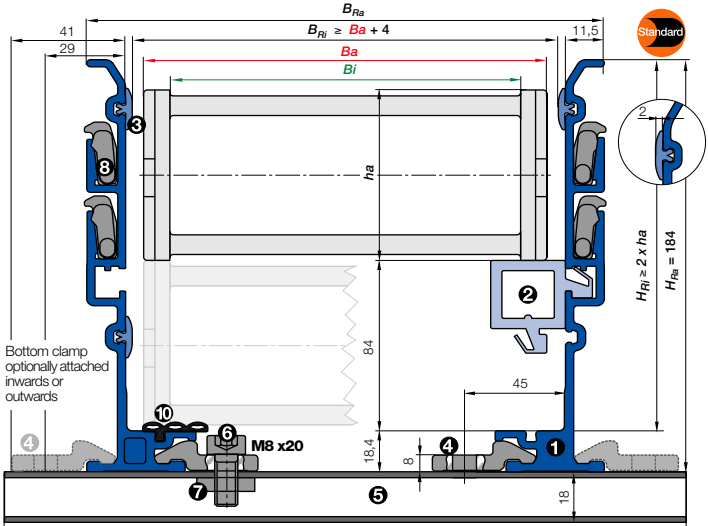
Chips cannot get stuck between upper and lower run - enormous increase of "self supporting" length of e-chains® ▶ page 9.97

The complete range of special solutions for long travel applications incl. order function ▶ from page 9.76

H_2 = Mounting height (if the moving end is set lower) · K_2 = Further add-on (if the moving end is set lower) · ΔCL = Offset fixed point · *S* = Length of travel
D_2 = Over length - long travels, gliding · *R* = Bending radius · H_{Ri} = Inner trough height · *S/2* = Half length of travel

Part No. 974.30.SL | **974.31.SL** | Trough height: 184 mm

Aluminum "SuperTrough" | Basic Version



Length of the C-profile according to dimension B_{Ri} (see table)

● **Components, trough "Basic":** ① Trough side parts, aluminum, 2 m ② Glide bar, plastic, 2 m ③ Glide strips, plastic, 2 m (without glide strips on request) ⑩ Optional: Silencer profile, rubber ● **Components, installation set "Basic":** ④ Bottom clamp, aluminum ⑤ C-profile, galvanized steel ▶ table ⑥ Screw M8 x 20 ⑦ Sliding nut M8 ⑧ Interface connector, plastic

Order example: Length of travel 30 m - Center mounted for Series E4.56.10.200.0 with B_{Ri} = 138

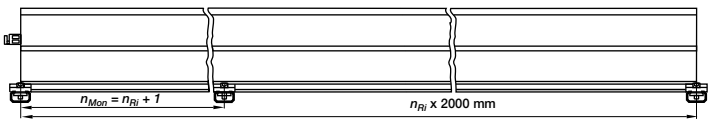
Guide trough set without glide bar (set of 2 trough side parts, incl. glide strips)
Order text: 16 m guide trough without glide bar (8 x 2 m sections) **Part No. 974.30.SL**

Guide trough set with glide bar (set of 2 trough side parts, incl. glide strips)
Order text: 16 m guide trough with glide bar (8 x 2 m sections) **Part No. 974.31.SL**

Installation set "Basic" complete (guide trough-sets + 1)
Order text: 17 installation sets **Part No. 960.50. 200**

Module for the fixed end ▶ page 9.16
Order text: 1 set **Part No. 974.80**

Option: For an additional noise dampening **with silencer profile**, please add Index **A** - Example: **Part No. 974.30.SLA**



Principle sketch: Number of installation sets to be installed = Number of trough sections + 1

Details about Alu "SuperTrough" and the "Heavy Duty" version for heavy machinery ▶ from page 9.35

● Trough set
● Installation set
● Glide bar
● C-Profile
Ba = Outer width e-chains®
Bi = Inner width e-chains®
B_{Ri} = Inner trough width
B_{Ra} = Outer trough width
H_{Ri} = Inner trough height
H_{Ra} = Outer trough height
n_{Mon} = Number of installation sets
n_{Ri} = Number of trough sets

Installation set "Basic" with C-Profile

Bottom clamp optionally attached **inwards** or **outwards**

E4.56.**10**.200.0 ▶ Order example

B_{Ri} [mm]	Part No. attached inwards	Part No. attached outwards
.05	88	–	960.50.225
.06	103	–	960.50.225
.07	113	–	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

Insert for the installation set "Heavy-Duty": **974.50.XXX** instead of **960.50.XXX** on the right column "attached outwards"

E4.1 | **Series E4.56** | **Options** and order key

	Standard	*Additional noise dampening with pads*	*QuickLock crossbar - reduce assembly time up to 25%*		
	Part No. Standard e-chains®/e-tubes	**Part No. Low noise (with pads) e-chains®/e-tubes**	**Part No. QuickLock crossbar for inner radius**	**Part No. QuickLock crossbar for outer radius**	**Part No. QuickLock crossbar for both radii**
			QuickLock crossbars: inner widths from Bi 15 (150 mm)!		
	E4.56.30.*R*.0 Crossbar every link	**ES4.56.30.*R*.0** Crossbar every link	**E4.56.30QZ.*R*.0** Crossbar every link	**E4.56.30QE.*R*.0** Crossbar every link	**E4.56.30Q.*R*.0** Crossbar every link
	H4.56.30.*R*.0 Crossbar every 2nd link	**HS4.56.30.*R*.0** Crossbar every 2nd link	**H4.56.30QZ.*R*.0** Crossbar every 2nd link	**H4.56.30QE.*R*.0** Crossbar every 2nd link	**H4.56.30Q.*R*.0** Crossbar every 2nd link
	R4.56.30.*R*.0 e-tube, closed	**RS4.56.30.*R*.0** e-tube, closed			
	Delivery in 24h or today!*	**Delivery time: 3-5 work days**	**Delivery time: 3-5 work days**	**Delivery time: 3-5 work days**	**Delivery time: 3-5 work days**

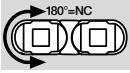
Combination possibilities | Examples

	Low-noise option	QuickLock crossbar	NC-Version	RBR-Version	XXL-Material	HT-Material*	ESD-Material
Low-noise option		ES4.56.30Q.*R*.0	ES4.56.30.*R*.0.NC	–	ES4.56.30.*R*.0.XXL	RS4.56.30.*R*.0.HT	ES4.56.30.*R*.0.ESD
QuickLock crossbar	ES4.56.30Q.*R*.0		E4.56.30Q.*R*.0.NC	E4.56.30Q.*R1/R2*.0	E4.56.30Q.*R*.0.XXL	–	E4.56.30Q.*R*.0.ESD
NC-Version	ES4.56.30.*R*.0.NC	E4.56.30Q.*R*.0.NC		–	–	R4.56.30.*R*.0.HT.NC	E4.56.30.*R*.0.ESD.NC
RBR-Version	–	E4.56.30Q.*R1/R2*.0	–		–	R4.56.30.*R1/R2*.0.HT	E4.56.30.*R1/R2*.0.ESD
XXL-Material	ES4.56.30.*R*.0.XXL	E4.56.30Q.*R*.0.XXL	–	–		–	–
HT-Material*	RS4.56.30.*R*.0.HT	–	R4.56.30.*R*.0.HT.NC	R4.56.30.*R1/R2*.0.HT	–		–
ESD-	ES4.56.30.*R*.0.ESD	E4.56.30Q.*R*.0.ESD	E4.56.30.*R*.0.ESD.NC	E4.56.30.*R1/R2*.0.ESD	–	–	

*for gliding applications please consult igus®

Extreme glider with up to 70% larger gliding surfaces. For high additional loads and high surface speeds. Gliding applications without additional elements as well as 150% more wear allowance and enhancement of service life by factor 4! Order example: E4.56.35G.250.0 / E4.56.45G.250.0

E4.1 | **Series E4.56** | **Options** and order key

Simply turn outer side link without additional work	*Reverse bending radius for circular movements*	*Unsupported lengths +25% possible*	*No burning-in of hot chips up to 850°C (1562° F)*	*ATEX/ESD classified e-chains® - II 2 GD*
Part No. **NC-Material** **e-chains®/e-tubes** 	**Part No.** **RBR** **e-chains®/e-tubes** 	**Part No.** **XXL-Material**** **e-chains®/e-tubes** 	**Part No.** **HT-Material** **only for e-tubes** 	**Part No.** **ESD-Material** **e-chains®/e-tubes** 
E4.56.30.*R*.0.NC Crossbar every link	**E4.56.30.*R1/R2*.0** Crossbar every link	**E4.56.30.*R*.0.XXL** Crossbar every link	**R4.56.30.*R*.0.HT** Complete e-tube*	**E4.56.30.*R*.0.ESD** Crossbar every link
H4.56.30.*R*.0.NC Crossbar every 2nd link	**H4.56.30.*R1/R2*.0** Crossbar every 2nd link	**H4.56.30.*R*.0.XXL** Crossbar every 2nd link	**R4.56.30HT.*R*.0** Lid and bottom	**H4.56.30.*R*.0.ESD** Crossbar every 2nd link
R4.56.30.*R*.0.NC e-tube, closed	**R4.56.30.*R1/R2*.0** e-tube, closed	**R4.56.30.*R*.0.XXL** e-tube, closed	**R4.56.30HTZ.*R*.0** Bottom only **R4.56.30HTE.*R*.0** Lid only	**R4.56.30.*R*.0.ESD** e-tube, closed
Delivery in 24h or today!*	**Delivery time: 10 work days** (2-5 work days with express surcharge)	**Delivery time: 1-2 weeks** **Sidebands made from XXL-Material	**Delivery time: 10 work days** *for gliding applications please consult igus®	**Delivery time: 5 work days**

Order example | Order key and color options

Order example for complete e-chain® (3,0 m, with crossbars every link), color black, mounting brackets and interior separation

e-chain® (3,0 m)	Please indicate e-chain® length or number of links: 3,0 m 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: 3,0 m E4.56.30.300.0 + E4.560.30.1.12.C + 2 x Part No. 56.1.1

Order key
E4.56.30.300.0

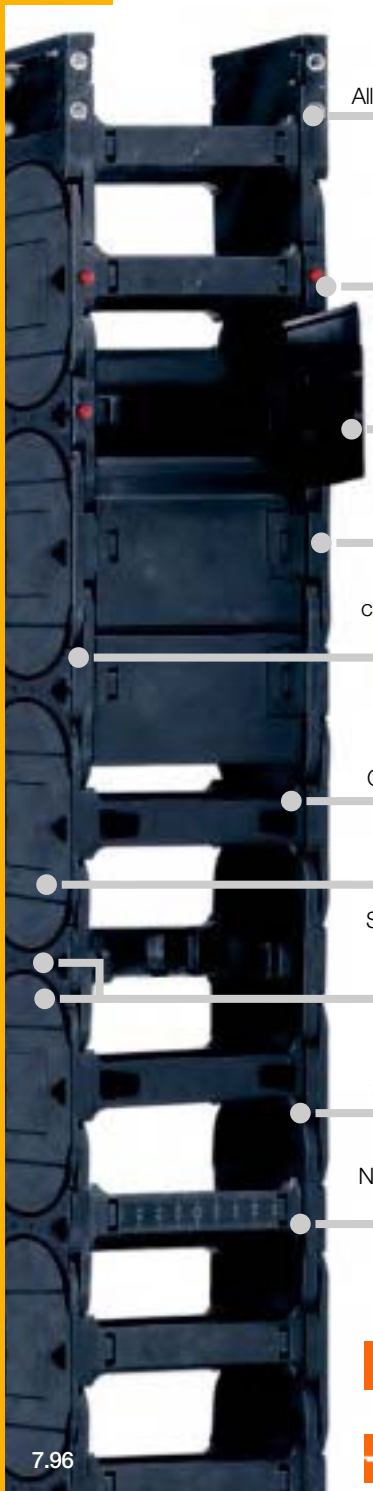
- Standard color: black
- Bending radius *R*
- Width index
- Inner height
- Series / Type

Color options for e-chains® and e-tubes

Color	Order index	Color	Order index
black	.0 from stock!	green*	.7
white*	.1	grey*	.3 for e-chains®
violet*	.5	dusty grey*	.3 for e-tubes
yellow*	.4	agate grey*	.11
orange*	.2	light grey*	.14
red*	.6	black grey*	.13
blue*	.8	yellow/black*	.9

Black e-chains® from stock! *Colored can be delivered in 15 work days (5 work days at an express surcharge).

Available from stock. Delivery in 24h or today!*
*Delivery time means time until shipping of goods



Stable due to undercut design, very large inner height

When to use Series E4.80:

- If a robust e-chain®/e-tube with an inner height of 80 mm is required
- If inner widths up to 600 mm are required
- For unsupported lengths up to 6,0 m and fill weights up to 80 kg/m
- For long travels up to 400 m
- Also suitable for side-mounted, vertical standing or hanging applications
- If many options and accessories are desired

When to use a different igus® Series

- If an extremely **low-noise** and low-vibration e-chain® is required (≤50 dB(A))

►**Series E6.80, page 8.88**

- If the e-chain® shall be used in **cleanroom applications** (ISO class 1)

►**Series E6.80, page 8.88**

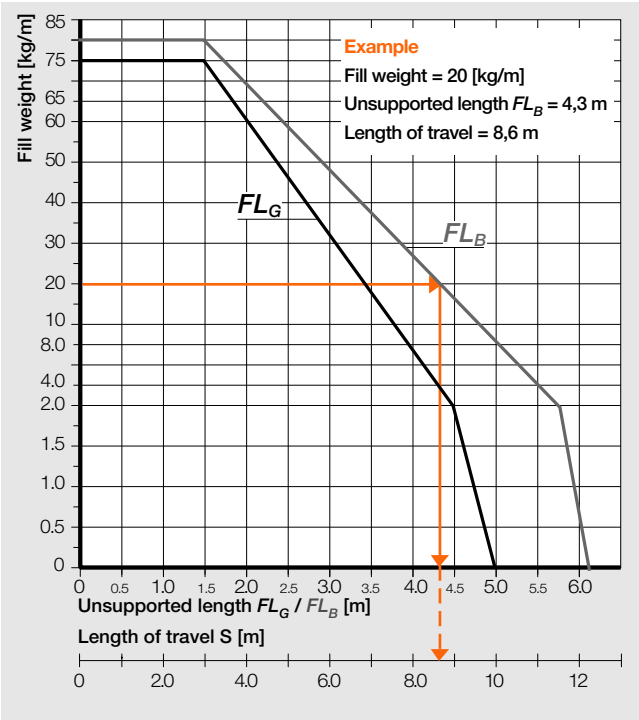
- If a less stable e-chain® can be used for economical reasons

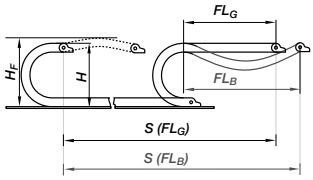
►**Series 15050/15150/R19850, page 7.216**

The new igus® E4 e-chain® opener reduces assembly time ► **page 7.15**

Available from stock. Delivery in 24h or today!*
*Delivery time means time until shipping of goods

3D-CAD files, configurators, PDF ► www.igus.de/en/E4.80





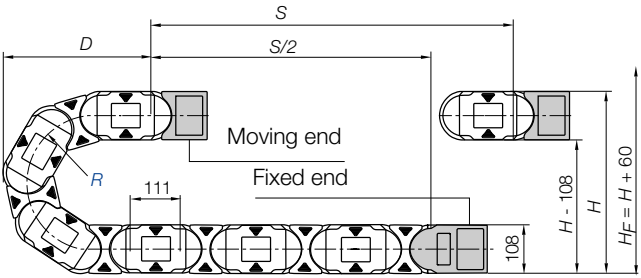
Unsupported applications

Unsupported e-chains® feature positive camber over short travels. This must be accounted for when specifying the clearance height H_F. Please consult igus® if space is particularly restricted. More information ▶ **Design, page 1.8**

Gliding applications

Travels up to 400 m.

More information ▶ **page 7.110**



Technical Data

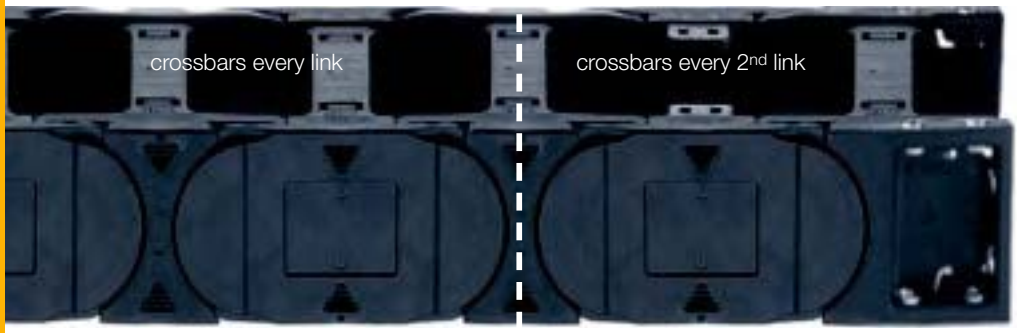
Speed, material, temperature and flammability class ▶ **page 7.16**

Pitch = 111 mm/link
Links/m = 9 (999 mm)
Chain length = $S/2 + K$

R	150	200	250	300	350	400	500	550	600	1000
$H\ ^{-0}_{+25}$	408	508	608	708	808	908	1108	1208	1308	2108
D	315	365	415	465	515	565	665	715	765	1165
K	695	855	1010	1165	1325	1480	1795	1950	2110	3365

The required clearance height: $H_F = H + 60$ mm (with 3,0 kg/m fill weight)

FL_G = with straight upper run
FL_B = with permitted sag
S = Length of travel
R = Bending radius
H = Nominal clearance height
H_F = Required clearance height
D = Overlength e-chain®, radius in final position
K = $\pi \bullet R$ + "safety"



Standard e-chains® | Series **E4.80** crossbars every link | Series **H4.80** crossbars every 2nd link

Part No. crossbars every link	Part No. crossbars every 2nd link	*Bi* [mm]	*Ba* [mm]	E4.80 [kg/m]	H4.80 [kg/m]
E4.80.	H4.80. 05. *R*.0	50	100	5,339	5,221
E4.80.	H4.80. 06. *R*.0	65	115	5,411	5,257
E4.80.	H4.80. 07. *R*.0	75	125	5,467	5,285
E4.80.	H4.80. 08. *R*.0	87	137	5,563	5,319
E4.80.	H4.80. 10. *R*.0	100	150	5,610	5,357
E4.80.	H4.80. 11. *R*.0	112	163	5,705	5,404
E4.80.	H4.80. 12. *R*.0	125	175	5,769	5,436
E4.80.	H4.80. 13. *R*.0	137	188	5,880	5,492
E4.80.	H4.80. 15. *R*.0	150	200	5,911	5,507
E4.80.	H4.80. 16. *R*.0	162	213	6,003	5,553
E4.80.	H4.80. 17. *R*.0	175	225	6,111	5,607
E4.80.	H4.80. 18. *R*.0	187	238	6,202	5,653
E4.80.	H4.80. 20. *R*.0	200	250	6,248	5,676
E4.80.	H4.80. 21. *R*.0	212	263	6,306	5,705
E4.80.	H4.80. 22. *R*.0	225	275	6,363	5,733
E4.80.	H4.80. 23. *R*.0	237	288	6,453	5,778
E4.80.	H4.80. 25. *R*.0	250	300	6,543	5,824
E4.80.	H4.80. 26. *R*.0	262	313	6,618	5,861
E4.80.	H4.80. 27. *R*.0	275	325	6,701	5,902
E4.80.	H4.80. 28. *R*.0	287	338	6,749	5,926
E4.80.	H4.80. 30. *R*.0	300	350	6,873	5,988
E4.80.	H4.80. 31. *R*.0	312	363	6,904	6,004
E4.80.	H4.80. 32. *R*.0	325	375	6,988	6,046
E4.80.	H4.80. 33. *R*.0	337	388	7,086	6,095
E4.80.	H4.80. 35. *R*.0	350	400	7,251	6,177
E4.80.	H4.80. 36. *R*.0	362	413	7,178	6,141
E4.80.	H4.80. 37. *R*.0	375	425	7,257	6,180
E4.80.	H4.80. 38. *R*.0	387	438	7,352	6,228
E4.80.	H4.80. 40. *R*.0	400	450	7,572	6,338
E4.80.	H4.80. 41. *R*.0	412	463	7,510	6,307
E4.80.	H4.80. 42. *R*.0	425	475	7,749	6,426
E4.80.	H4.80. 43. *R*.0	437	488	7,621	6,362
E4.80.	H4.80. 45. *R*.0	450	500	7,890	6,497
E4.80.	H4.80. 46. *R*.0	462	513	7,851	6,477
E4.80.	H4.80. 47. *R*.0	475	525	7,884	6,494
E4.80.	H4.80. 48. *R*.0	487	538	8,086	6,595
E4.80.	H4.80. 50. *R*.0	500	550	8,093	6,598
E4.80.	H4.80. 51. *R*.0	512	563	8,165	6,634
E4.80.	H4.80. 52. *R*.0	525	575	8,235	6,670
E4.80.	H4.80. 53. *R*.0	537	588	8,311	6,707
E4.80.	H4.80. 55. *R*.0	550	600	8,655	6,879
E4.80.	H4.80. 60. *R*.0	600	650	8,843	6,973

Available bending radii *R* [mm] 150 | 200 | 250 | 300 | 350 | 400 | 500 | 550 | 600 | 1000

Supplement Part No. with required radius *(R)*. Example: **E4.80.30.300.0**

When to use e-chains® with crossbars every link: ● Lateral acceleration > 0,5m/s² ● High fill weights and rigid hydraulic hoses ● Humidity: > 85%, temperature: > 50°C (122° F)
When to use e-chains® with crossbars every 2nd link: ● Suitable for nearly all applications ● Lower price

Part No. of e-chain® links as single parts ► page 7.17

Standard e-chains® incl. accessories from stock. Delivery in 24h or today.*
*Delivery time means time until shipping of goods

e-tubes | Series **R4.80** - fully enclosed

Part No. fully enclosed	*Bi* [mm]	*Ba* [mm]	R4.80 [kg/m]
R4.80. 15. *R*.0**	150	200	6,720
R4.80. 20. *R*.0	200	250	7,230
R4.80. 25. *R*.0	250	300	8,060
R4.80. 30. *R*.0	300	350	8,730
R4.80. 35. *R*.0	350	400	9,470
R4.80. 40. *R*.0	400	450	10,210
R4.80. 46 *R*.0**	462	513	10,960

More e-tube widths upon request.

Delivery Time: approx. 8-10 weeks after receipt of order

**NEW in this catalog

Available bending radii ***R*** [mm] 200 | 250 | 300 | 350 | 400 | 500 | 550 | 600 | 1000

Supplement Part No. with required radius *(R)*. Example: **R4.80.30.300.0**

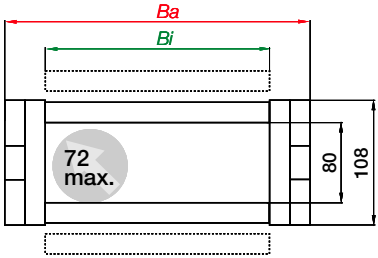
When to use fully enclosed e-tubes: ● Excellent cable protection against dirt ● Lids along the entire inner radius are completely removable. Lids along the entire outer radius are single sided snap-open with a hinge on the other side to keep them attached to the e-chain® or completely removable ● HT-Version optional, protection against hot chips up to 850°C (1562° F)

Order key for all types

E4 .80. 30. 300. 0 e-chain® **(crossbars every link)**
H4 .80. 30. 300. 0 e-chain® **(crossbars every 2nd link)**
R4 .80. 30. 300. 0 **Fully enclosed** e-tube

- Standard color black
- Bending radius *R*
- Width index (depends on *Bi*)
- Inner height
- Series / Type

Dimensioning



E4.80.30.300.0 = e-chain® with **crossbars every link**, inner width ***Bi*** 300 mm, radius ***R*** 300 mm, color black
H4.80.30.300.0 = e-chain® with **crossbars every 2nd link**, inner width ***Bi*** 300 mm, radius ***R*** 300 mm, color black
R4.80.30.300.0 = **Fully enclosed** e-tube, inner width ***Bi*** 300 mm, radius ***R*** 300 mm, color black

More order examples, variations and configurations ▶ page 7.112

Standard e-tubes incl. accessories from stock. Delivery in 24h or today!*
*Delivery time means time until shipping of goods

QuickLock crossbars | Quick opening - up to 25% faster assembly

Part No. crossbars every link	Part No. crossbars every 2nd link	QuickLock crossbar for Inner radius	Outer radius	Both radii	Bi [mm]
E4.80.	H4.80.	15QZ.R.0	15QE.R.0	15Q.R.0	150
E4.80.	H4.80.	16QZ.R.0	16QE.R.0	16Q.R.0	162
E4.80.	H4.80.	17QZ.R.0	17QE.R.0	17Q.R.0	175
E4.80.	H4.80.	18QZ.R.0	18QE.R.0	18Q.R.0	187
E4.80.	H4.80.	20QZ.R.0	20QE.R.0	20Q.R.0	200
E4.80.	H4.80.	21QZ.R.0	21QE.R.0	21Q.R.0	212
E4.80.	H4.80.	22QZ.R.0	22QE.R.0	22Q.R.0	225
E4.80.	H4.80.	23QZ.R.0	23QE.R.0	23Q.R.0	237
E4.80.	H4.80.	25QZ.R.0	25QE.R.0	25Q.R.0	250
E4.80.	H4.80.	26QZ.R.0	26QE.R.0	26Q.R.0	262
E4.80.	H4.80.	27QZ.R.0	27QE.R.0	27Q.R.0	275
E4.80.	H4.80.	28QZ.R.0	28QE.R.0	28Q.R.0	287
E4.80.	H4.80.	30QZ.R.0	30QE.R.0	30Q.R.0	300
E4.80.	H4.80.	31QZ.R.0	31QE.R.0	31Q.R.0	312
E4.80.	H4.80.	32QZ.R.0	32QE.R.0	32Q.R.0	325
E4.80.	H4.80.	33QZ.R.0	33QE.R.0	33Q.R.0	337
E4.80.	H4.80.	35QZ.R.0	35QE.R.0	35Q.R.0	350
E4.80.	H4.80.	36QZ.R.0	36QE.R.0	36Q.R.0	362
E4.80.	H4.80.	37QZ.R.0	37QE.R.0	37Q.R.0	375
E4.80.	H4.80.	38QZ.R.0	38QE.R.0	38Q.R.0	387
E4.80.	H4.80.	40QZ.R.0	40QE.R.0	40Q.R.0	400
E4.80.	H4.80.	41QZ.R.0	41QE.R.0	41Q.R.0	412
E4.80.	H4.80.	42QZ.R.0	42QE.R.0	42Q.R.0	425
E4.80.	H4.80.	43QZ.R.0	43QE.R.0	43Q.R.0	437
E4.80.	H4.80.	45QZ.R.0	45QE.R.0	45Q.R.0	450
E4.80.	H4.80.	46QZ.R.0	46QE.R.0	46Q.R.0	462
E4.80.	H4.80.	47QZ.R.0	47QE.R.0	47Q.R.0	475
E4.80.	H4.80.	48QZ.R.0	48QE.R.0	48Q.R.0	487
E4.80.	H4.80.	50QZ.R.0	50QE.R.0	50Q.R.0	500
E4.80.	H4.80.	51QZ.R.0	51QE.R.0	51Q.R.0	512
E4.80.	H4.80.	52QZ.R.0	52QE.R.0	52Q.R.0	525
E4.80.	H4.80.	53QZ.R.0	53QE.R.0	53Q.R.0	537
E4.80.	H4.80.	55QZ.R.0	55QE.R.0	55Q.R.0	550
E4.80.	H4.80.	60QZ.R.0	60QE.R.0	60Q.R.0	600

QuickLock crossbars: inner widths from 150 mm possible!

Available bending radii *R* [mm] 150 | 200 | 250 | 300 | 350 | 400 | 500 | 550 | 600 | 1000

Supplement Part No. with required radius *(R)*. Example: **E4.80.30QZ.300.0**

For e-chains® with **QuickLock crossbar** supplement Part No. with required Index **QZ / QE / Q**

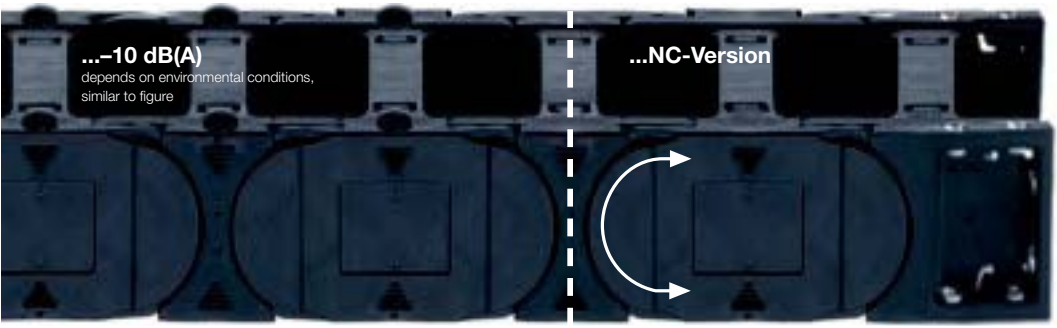
Part No. E4.80.30QZ.300.0 = QuickLock crossbar for inner radius

Part No. E4.80.30QE.300.0 = QuickLock crossbar for outer radius

Part No. E4.80.30Q .300.0 = QuickLock crossbar for both radii

e-chain® with QuickLock crossbars - Delivery time: 3-5 work days.*

*Delivery time means time until shipping of goods



Noise dampening | - ≈10 dB(A)

With pads crossbars every: link	1	2nd	e-tube fully enclosed		Bi [mm]
ES4	H	S4	–	.80.05.R.0	50
ES4	H	S4	–	.80.06.R.0	65
ES4	H	S4	–	.80.07.R.0	75
ES4	H	S4	–	.80.08.R.0	87
ES4	H	S4	–	.80.10.R.0	100
ES4	H	S4	–	.80.11.R.0	112
ES4	H	S4	–	.80.12.R.0	125
ES4	H	S4	–	.80.13.R.0	137
ES4	H	S4	RS4	.80.15.R.0	150
ES4	H	S4	–	.80.16.R.0	162
ES4	H	S4	–	.80.17.R.0	175
ES4	H	S4	–	.80.18.R.0	187
ES4	H	S4	RS4	.80.20.R.0	200
ES4	H	S4	–	.80.21.R.0	212
ES4	H	S4	–	.80.22.R.0	225
ES4	H	S4	–	.80.23.R.0	237
ES4	H	S4	RS4	.80.25.R.0	250
ES4	H	S4	–	.80.26.R.0	262
ES4	H	S4	–	.80.27.R.0	275
ES4	H	S4	–	.80.28.R.0	287
ES4	H	S4	RS4	.80.30.R.0	300

With pads crossbars every: link	1	2nd	e-tube fully enclosed		Bi [mm]
ES4	H	S4	–	.80.31.R.0	312
ES4	H	S4	–	.80.32.R.0	325
ES4	H	S4	–	.80.33.R.0	337
ES4	H	S4	RS4	.80.35.R.0	350
ES4	H	S4	–	.80.36.R.0	362
ES4	H	S4	–	.80.37.R.0	375
ES4	H	S4	–	.80.38.R.0	387
ES4	H	S4	RS4	.80.40.R.0	400
ES4	H	S4	–	.80.41.R.0	412
ES4	H	S4	–	.80.42.R.0	425
ES4	H	S4	–	.80.43.R.0	437
ES4	H	S4	–	.80.45.R.0	450
ES4	H	S4	RS4	.80.46.R.0	462
ES4	H	S4	–	.80.47.R.0	475
ES4	H	S4	–	.80.48.R.0	487
ES4	H	S4	–	.80.50.R.0	500
ES4	H	S4	–	.80.51.R.0	512
ES4	H	S4	–	.80.52.R.0	525
ES4	H	S4	–	.80.53.R.0	537
ES4	H	S4	–	.80.55.R.0	550
ES4	H	S4	–	.80.60.R.0	600

NC-Version | Without pretension

NC-Version crossbars every: link	1	2nd	e-tube fully enclosed		Bi [mm]
E4	H	4	–	.80.05.R.0.NC	50
E4	H	4	–	.80.06.R.0.NC	65
E4	H	4	–	.80.07.R.0.NC	75
E4	H	4	–	.80.08.R.0.NC	87
E4	H	4	–	.80.10.R.0.NC	100
E4	H	4	–	.80.11.R.0.NC	112
E4	H	4	–	.80.12.R.0.NC	125
E4	H	4	–	.80.13.R.0.NC	137
E4	H	4	R4	.80.15.R.0.NC	150
E4	H	4	–	.80.16.R.0.NC	162
E4	H	4	–	.80.17.R.0.NC	175
E4	H	4	–	.80.18.R.0.NC	187
E4	H	4	R4	.80.20.R.0.NC	200
E4	H	4	–	.80.21.R.0.NC	212
E4	H	4	–	.80.22.R.0.NC	225
E4	H	4	–	.80.23.R.0.NC	237
E4	H	4	R4	.80.25.R.0.NC	250
E4	H	4	–	.80.26.R.0.NC	262
E4	H	4	–	.80.27.R.0.NC	275
E4	H	4	–	.80.28.R.0.NC	287
E4	H	4	R4	.80.30.R.0.NC	300

NC-Version crossbars every: link	1	2nd	e-tube fully enclosed		Bi [mm]
E4	H	4	–	.80.31.R.0.NC	312
E4	H	4	–	.80.32.R.0.NC	325
E4	H	4	–	.80.33.R.0.NC	337
E4	H	4	R4	.80.35.R.0.NC	350
E4	H	4	–	.80.36.R.0.NC	362
E4	H	4	–	.80.37.R.0.NC	375
E4	H	4	–	.80.38.R.0.NC	387
E4	H	4	R4	.80.40.R.0.NC	400
E4	H	4	–	.80.41.R.0.NC	412
E4	H	4	–	.80.42.R.0.NC	425
E4	H	4	–	.80.43.R.0.NC	437
E4	H	4	–	.80.45.R.0.NC	450
E4	H	4	R4	.80.46.R.0.NC	462
E4	H	4	–	.80.47.R.0.NC	475
E4	H	4	–	.80.48.R.0.NC	487
E4	H	4	–	.80.50.R.0.NC	500
E4	H	4	–	.80.51.R.0.NC	512
E4	H	4	–	.80.52.R.0.NC	525
E4	H	4	–	.80.53.R.0.NC	537
E4	H	4	–	.80.55.R.0.NC	550
E4	H	4	–	.80.60.R.0.NC	600

Available bending radii *R* [mm] 150* | 200 | 250 | 300 | 350 | 400 | 500 | 550 | 600 | 1000 *not available for e-tubes

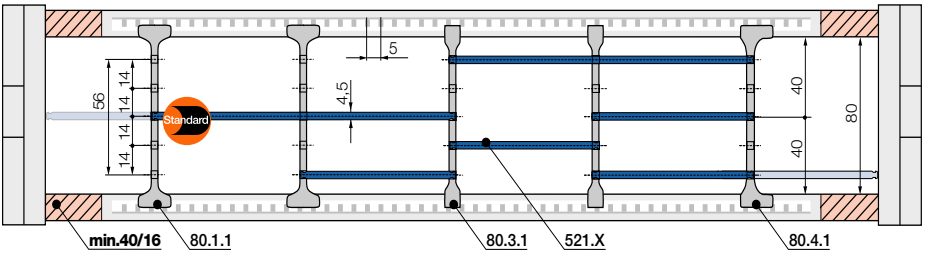
Supplement Part No. with required radius *(R)*. Example: **ES4.80.30.300.0 or E4.80.30.300.0.NC**

For e-chains® with noise dampening pads supplement Part No. with required index "**S**"
Example: **Part No. ES4.80.30.300.0** = e-chain® (crossbars every link) with noise dampening
For NC-e-chains® without pretension supplement Part No. with required index "**NC**"
Example: **Part No. E4.80.30.300.0.NC** = e-chain® (crossbars every link) without pretension

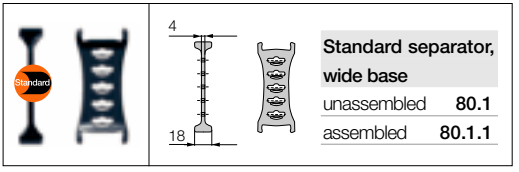
e-chain® with noise dampening pads - Delivery time: 3-5 work days.
NC-Version - Delivery in 24h or today!*
*Delivery time means time until shipping of goods

E4.1 | **Series E4.80** | Interior separation | **Standard**

New generation interior separation



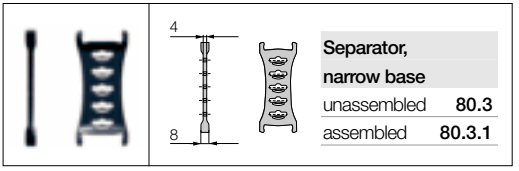
Note: Please observe a lateral spacing to the side links! **e-tube: 40 mm** | **e-chain®: 16 mm**
In the standard configuration separators are assembled every 2nd e-chain® link!



Standard separator, wide base	
unassembled	**80.1**
assembled	**80.1.1**

Standard - for all applications

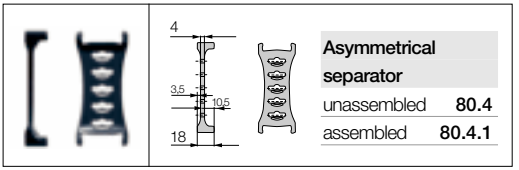
Separator with a wide base for maximum locking strength and safe standing in e-chains® and e-tubes.



Separator, narrow base	
unassembled	**80.3**
assembled	**80.3.1**

For many thin cables

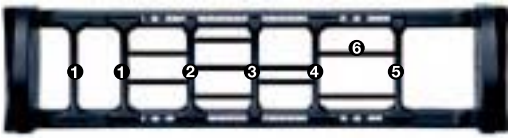
Separator with a narrow base for a large number of thin cables side by side. Saves space in e-chains® and e-tubes. Also available for QuickLock crossbars.

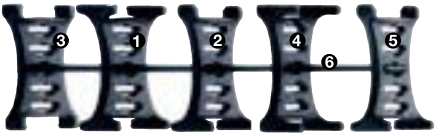


Asymmetrical separator	
unassembled	**80.4**
assembled	**80.4.1**

For side-mounted applications

Asymmetrical separator, for defined distance. No additional spacers necessary for e-chains® and e-tubes.



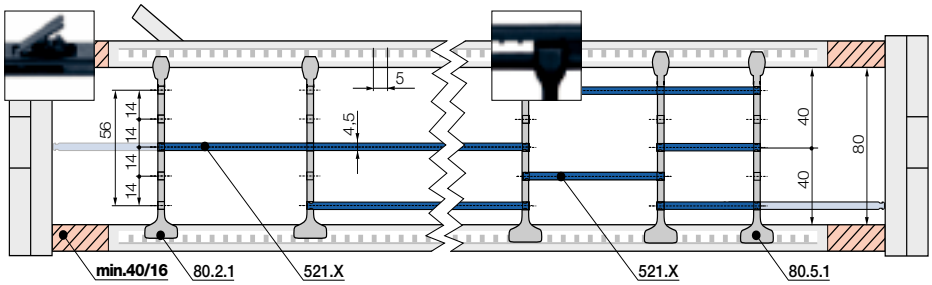


① Standard separator, wide base - Part No. 80.1 ③ Separator, narrow base - Part No. 80.3 ⑤ Notch separator - Part No. 80.5
② Separator for QuickLock crossbar - Part No. 80.2 ④ Separator, asymmetrical - Part No. 80.4 ⑥ Full-width self, lockable - Part No. 520.XX

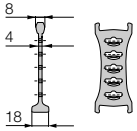
Interior separation single-part order - Delivery in 24h or today!*
*Delivery time means time until shipping of goods

E4.1 | **Series E4.80** | Interior separation | **Standard**

New generation interior separation



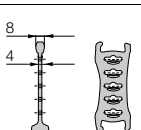
Note: Please observe a lateral spacing to the side links! **e-tube: 40 mm** | **e-chain®: 16 mm**
In the standard configuration separators are assembled every 2nd e-chain® link!



Separator for QuickLock crossbar	
unassembled	**80.2**
assembled	**80.2.1**

For even faster installation

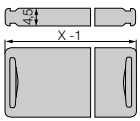
Separator for igus® QuickLock crossbar 450.X.Q. Firm hold to one side with a wide base, narrow on opposed side for easy cable assembly (slight grip). For e-tubes also.



Notch separator for notch crossbar	
unassembled	**80.5**
assembled	**80.5.1**

Locks safely onto in 5 mm increments

Notch separator for the new notch crossbar, with scaling on the notch crossbars. For exact positioning in e-chains® and e-tubes. Recommended for side-mounted applications.



Full-width shelf, lockable	
unassembled	**520.X**
assembled	**521.X**

Horizontal separation

Shelf locks safely into separators on both ends, fixed width possible. Separators can be moved freely over the shelf in horizontal direction. Usable in 5 levels.

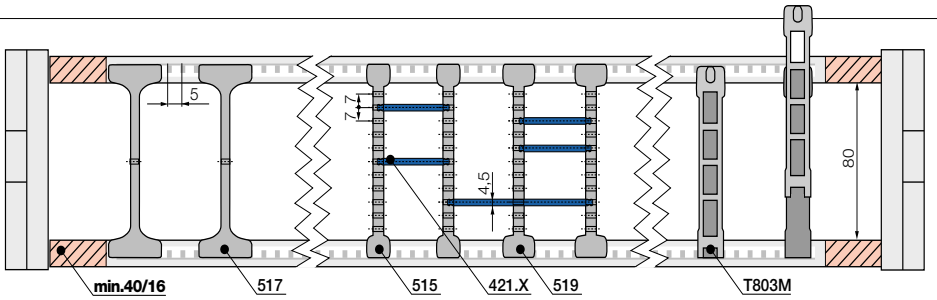
Lockable full-width shelves - for the standard interior separation

Width X [mm]	unassembled	assembled	Width X [mm]	unassembled	assembled	Width X [mm]	unassembled	assembled
050	**520.050**	**521.050**	125	**520.125**	**521.125**	225	**520.225**	**521.225**
065	**520.065**	**521.065**	150	**520.150**	**521.150**	250	**520.250**	**521.250**
075	**520.075**	**521.075**	175	**520.175**	**521.175**	300	**520.300**	**521.300**
100	**520.100**	**521.100**	200	**520.200**	**521.200**	450	**520.450**	**521.450**

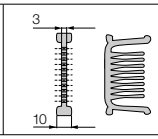
E4.1 | Series E4.80 | Interior separation | Options

Previous interior separation

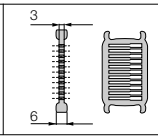
All elements can still be ordered ► www.igus.de/en/E4.80



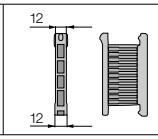
Note: Please observe a lateral spacing to the side links! **e-tube: 40 mm** | **e-chain®: 16 mm**
In the standard configuration separators are assembled every 2nd e-chain® link!

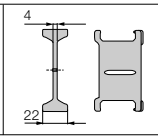
Open slotted separator for e-chains®/e-tubes	
unassembled	**509**
assembled	**519**

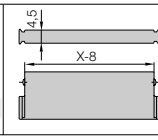
Slotted separator for e-chains®/e-tubes	
unassembled	**505**
assembled	**515**

Split separator for e-chains®	
unassembled	**T803**
assembled	**T803M**

Locking separator for e-chains®	
unassembled	**507**
assembled	**517**

Shelf	
unassembled	**420.X**
assembled	**421.X**

Open, slotted separator 509 (unilateral open)

Fast assembly - can be retrofitted into an existing interior separation system without a need for dismantling the interior separators. During an installation of open slotted separators, the top and bottom notches cannot be occupied by shelves.

Slotted separator 505

For very fine subdivisions. However, they cannot be retrofitted into an existing separation system without dismantling the interior separators first.

Split separator T803 (e-chains® only)

Ideal for subsequent shelving or for the initial assembly of the e-chain® without a need for dismantling the interior separators.

Locking separator 507

For applications exposed to very high humidity (> 85%). **Extra retention force** by asymmetric claws. Ensure proper alignment. Tip: one locking vertical separator per e-chain® link for better mounting.

Shelf 420.X

For horizontal separation. Shelves of various widths can be arranged at 11 different heights (in 7 mm increments). (not in combination with 504, 508).

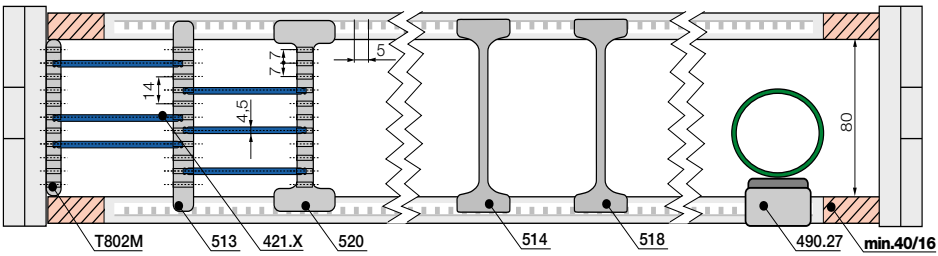
Shelves - interior separation options

Width X [mm]	unassembled	assembled	Width X [mm]	unassembled	assembled	Width X [mm]	unassembled	assembled
018	**420.18**	**421.18**	050	**420.50**	**421.50**	150	**420.150**	**421.150**
023	**420.23**	**421.23**	062	**420.62**	**421.62**	175	**420.175**	**421.175**
025	**420.25**	**421.25**	075	**420.75**	**421.75**	187	**420.187**	**421.187**
028	**420.28**	**421.28**	088	**420.88**	**421.88**	200	**420.200**	**421.200**
033	**420.33**	**421.33**	100	**420.100**	**421.100**			
043	**420.43**	**421.43**	125	**420.125**	**421.125**			

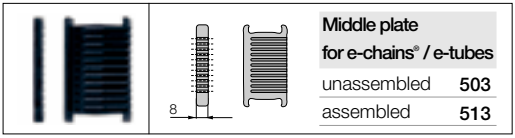
E4.1 | **Series E4.80** | Interior separation | **Options**

Previous interior separation

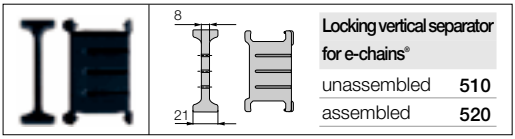
All elements can still be ordered ▶ www.igus.de/en/E4.80



Note: Please observe a lateral spacing to the side links! **e-tube: 40 mm** | **e-chain®: 16 mm**
In the standard configuration separators are assembled every 2nd e-chain® link!

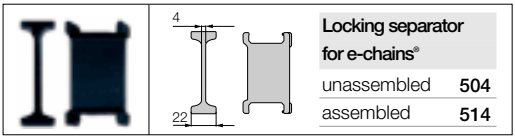


Middle plate for e-chains® / e-tubes	
unassembled	**503**
assembled	**513**

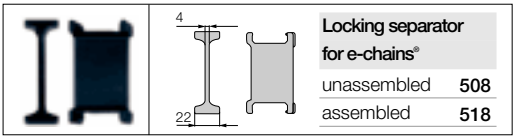


Locking vertical separator for e-chains®	
unassembled	**510**
assembled	**520**

Side plate for e-chains® / e-tubes	
unassembled	**T802**
assembled	**T802M**



Locking separator for e-chains®	
unassembled	**504**
assembled	**514**



Locking separator for e-chains®	
unassembled	**508**
assembled	**518**

Middle plate 503 (e-chains® only)

Middle plates form the basic pattern of a shelf system. Shelves 420.X (table left page) can be arranged at 11 different heights (in 7 mm increments).

Locking vertical separator 510 (e-chains® only)

Works like middle plate, for applications exposed to very high humidity (> 85%).

Side plate T802

Works like middle plate.
Allows modular shelving close to the side links.

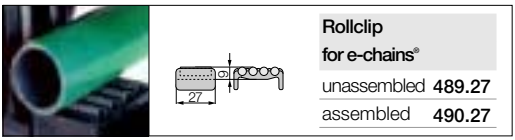
Locking separator 504

For applications exposed to very high humidity (> 85%). Locks with extra retention force. Tip: one locking separator per e-chain® link for better mounting.

Locking separator 508

For applications exposed to very high humidity (> 85%). **Extra retention force** by asymmetric claws. Ensure proper alignment. Tip: one locking vertical separator per e-chain® link for better mounting.

Additional elements for interior separation



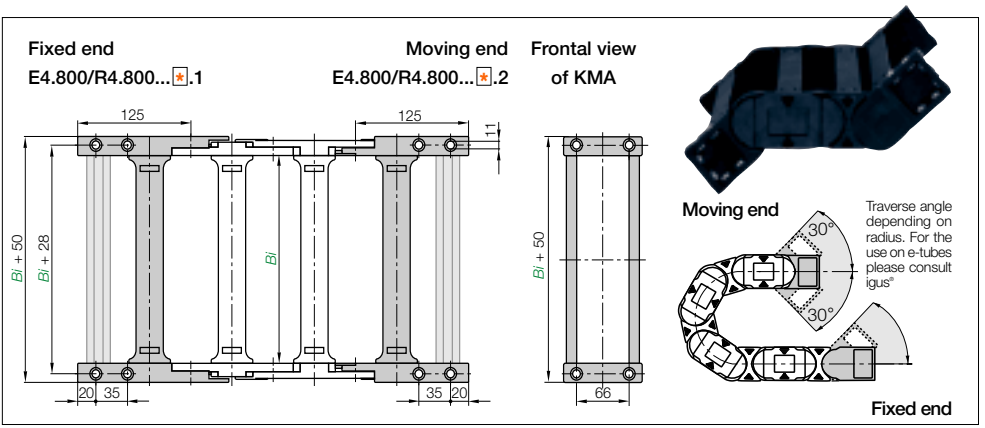
Rollclip for e-chains®	
unassembled	**489.27**
assembled	**490.27**

Rollclip

Minimizes abrasion of particularly sensitive hoses - simply clamped onto the opening crossbar. The movable rollers compensate for relative movement between the e-chain® and hose.

E4.1 | **Series E4.80** | KMA mounting brackets **pivoting**

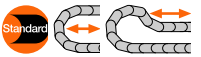
For tight installation conditions, all-sides attachment



KMA pivoting | All-sides attachment. Recommended for unsupported and gliding applications

Width index	Part No. full set pivoting (+ C-profile option)	Bi [mm]
05. ▶	E4.800. – 05 .*.12.C	50
06. ▶	E4.800. – 06 .*.12.C	65
07. ▶	E4.800. – 07 .*.12.C	75
08. ▶	E4.800. – 08 .*.12.C	87
10. ▶	E4.800. – 10 .*.12.C	100
11. ▶	E4.800. – 11 .*.12.C	112
12. ▶	E4.800. – 12 .*.12.C	125
13. ▶	E4.800. – 13 .*.12.C	137
15. ▶	E4.800. – 15 .*.12.C	150
16. ▶	E4.800. – 16 .*.12.C	162
17. ▶	E4.800. – 17 .*.12.C	175
18. ▶	E4.800. – 18 .*.12.C	187
20. ▶	E4.800. R4.800. 20 .*.12.C	200
21. ▶	E4.800. – 21 .*.12.C	212
22. ▶	E4.800. – 22 .*.12.C	225
23. ▶	E4.800. – 23 .*.12.C	237
25. ▶	E4.800. R4.800. 25 .*.12.C	250
26. ▶	E4.800. – 26 .*.12.C	262
27. ▶	E4.800. – 27 .*.12.C	275
28. ▶	E4.800. – 28 .*.12.C	287
30. ▶	E4.800. R4.800. 30 .*.12.C	300

Width index	Part No. full set pivoting (+ C-profile option)	Bi [mm]
31. ▶	E4.800. – 31 .*.12.C	312
32. ▶	E4.800. – 32 .*.12.C	325
33. ▶	E4.800. – 33 .*.12.C	337
35. ▶	E4.800. R4.800. 35 .*.12.C	350
36. ▶	E4.800. – 36 .*.12.C	362
37. ▶	E4.800. – 37 .*.12.C	375
38. ▶	E4.800. – 38 .*.12.C	387
40. ▶	E4.800. R4.800. 40 .*.12.C	400
41. ▶	E4.800. – 41 .*.12.C	412
42. ▶	E4.800. – 42 .*.12.C	425
43. ▶	E4.800. – 43 .*.12.C	437
45. ▶	E4.800. – 45 .*.12.C	450
46. ▶	E4.800. R4.800. 46 .*.12.C	462
47. ▶	E4.800. – 47 .*.12.C	475
48. ▶	E4.800. – 48 .*.12.C	487
50. ▶	E4.800. – 50 .*.12.C	500
51. ▶	E4.800. – 51 .*.12.C	512
52. ▶	E4.800. – 52 .*.12.C	525
53. ▶	E4.800. – 53 .*.12.C	537
55. ▶	E4.800. – 55 .*.12.C	550
60. ▶	E4.800. – 60 .*.12.C	600



- Standard
- For tight installation conditions
- Option: integrated chainfix strain relief with C-profile
- Corrosion resistant
- Option: threaded sockets upon request
  (KMA = Polymer Metal Mounting Bracket)

Part No. structure (pivoting)

E4.800.30.2.12.C

- C-profile option
- Full set
- even
- Width index
- Series

Single-part order:

Mounting bracket **Moving end**
E4.800.30.2.2.C (even number of links)

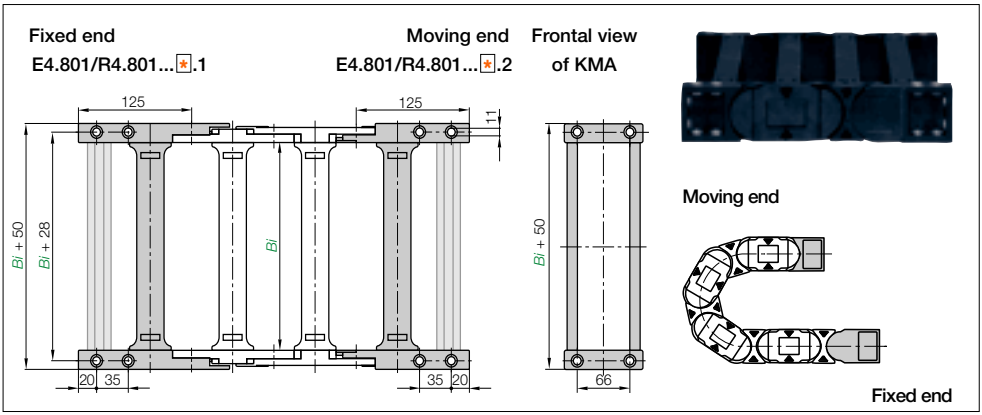
Mounting bracket **Fixed end**
E4.800.30.2.1.C (even number of links)

Note*: The E4.1 System may end with either an inner or an outer side link. Keep in mind that an outer side link always forms the first e-chain® link at the moving end. The Part Nos. depend on an even or odd numbers of links. Please insert: Index 1 (for odd) or 2 (for even)!

Strain relief, e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with order options ▶ from page 10.1

E4.1 | **Series E4.80** | KMA mounting brackets **locking**

For very high speed and acceleration, all-sides attachment



KMA locking | All-sides attachment. Recommended for vertical hanging and standing applications

Width index	Part No. full set locking (+ C-profile option)	Bi [mm]
05. ▶	E4.801. – 05 .*.12.C	50
06. ▶	E4.801. – 06 .*.12.C	65
07. ▶	E4.801. – 07 .*.12.C	75
08. ▶	E4.801. – 08 .*.12.C	87
10. ▶	E4.801. – 10 .*.12.C	100
11. ▶	E4.801. – 11 .*.12.C	112
12. ▶	E4.801. – 12 .*.12.C	125
13. ▶	E4.801. – 13 .*.12.C	137
15. ▶	E4.801. – 15 .*.12.C	150
16. ▶	E4.801. – 16 .*.12.C	162
17. ▶	E4.801. – 17 .*.12.C	175
18. ▶	E4.801. – 18 .*.12.C	187
20. ▶	E4.801. R4.801. 20 .*.12.C	200
21. ▶	E4.801. – 21 .*.12.C	212
22. ▶	E4.801. – 22 .*.12.C	225
23. ▶	E4.801. – 23 .*.12.C	237
25. ▶	E4.801. R4.801. 25 .*.12.C	250
26. ▶	E4.801. – 26 .*.12.C	262
27. ▶	E4.801. – 27 .*.12.C	275
28. ▶	E4.801. – 28 .*.12.C	287
30. ▶	E4.801. R4.801. 30 .*.12.C	300

Width index	Part No. full set locking (+ C-profile option)	Bi [mm]
31. ▶	E4.801. – 31 .*.12.C	312
32. ▶	E4.801. – 32 .*.12.C	325
33. ▶	E4.801. – 33 .*.12.C	337
35. ▶	E4.801. R4.801. 35 .*.12.C	350
36. ▶	E4.801. – 36 .*.12.C	362
37. ▶	E4.801. – 37 .*.12.C	375
38. ▶	E4.801. – 38 .*.12.C	387
40. ▶	E4.801. R4.801. 40 .*.12.C	400
41. ▶	E4.801. – 41 .*.12.C	412
42. ▶	E4.801. – 42 .*.12.C	425
43. ▶	E4.801. – 43 .*.12.C	437
45. ▶	E4.801. – 45 .*.12.C	450
46. ▶	E4.801. R4.801. 46 .*.12.C	462
47. ▶	E4.801. – 47 .*.12.C	475
48. ▶	E4.801. – 48 .*.12.C	487
50. ▶	E4.801. – 50 .*.12.C	500
51. ▶	E4.801. – 51 .*.12.C	512
52. ▶	E4.801. – 52 .*.12.C	525
53. ▶	E4.801. – 53 .*.12.C	537
55. ▶	E4.801. – 55 .*.12.C	550
60. ▶	E4.801. – 60 .*.12.C	600

- Locked connections
- At high acceleration
- Universally mountable
- C-profile option
- Corrosion resistant
- Option: threaded sockets upon request

(KMA = Polymer Metal Mounting Bracket)

Part No. structure (locking)

E4.801.30.2.12.C

- C-profile option
- Full set
- even
- Width index
- Series

Single-part order:

Mounting bracket **Moving end**

E4.801.30.2.2.C (even number of links)

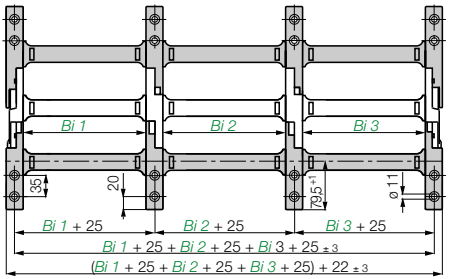
Mounting bracket **Fixed end**

E4.801.30.2.1.C (even number of links)

Note*: The E4.1 System may end with either an inner or an outer side link. Keep in mind that an outer side link always forms the first e-chain® link at the moving end. The Part Nos. depend on an even or odd numbers of links. Please insert: Index 1 (for odd) or 2 (for even)!

Strain relief, e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with order options ▶ from page 10.1

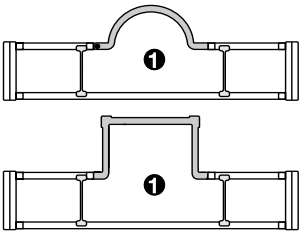
E4.1 | **Series E4.80** | More options



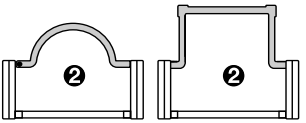
Extension links | for extremely wide e-chains® up to 3,0 m

- The extension link design allows virtually limitless side-by-side attachment
- High fill weights necessitate extremely wide e-chains® (up to 3000 mm)
- The unsupported length FL_G max. can be increased when additional loads are required
- Suitable for unsupported and gliding applications in a guide trough
- Attachement with KMA or steel mounting brackets

Order example - 3 chambers
E4.80.*Bi1* / *Bi2* / *Bi3*.*R*.0 =
E4.80.10 / 20 / 10.200.0
Extension links: single-part order:
E4.80M.01 (outer link)
E4.80M.02.*R*. (inner link)
(please indicate radius)



Round or square extender crossbar ① combined with snap-open crossbars or ② attached directly on the side link (View from the fixed point)



Extender crossbars | careful guide of hosed applications

- Suitable for hoses with a maximum outer diameter of 270 mm
- Gliding with crossbars assembled along outer radius and a special guide trough
- Extender crossbar ① for snap-open crossbars or ② attached directly on the side link

Part No. single part	Max Ø [mm] hose	Form	② Installation on side link	① Combination with snap-open crossbars
450.15.RHD115	115	○ round	no	yes
450.17.RD115	115	○ round	yes	no
450.25.D150	150	□ square	yes	no
450.30.D200	200	□ square	yes	no
450.35.D250	220	□ square	yes	no
450.40.D300	270	□ square	yes	no
450.20.HD150	150	□ square	no	yes
450.25.HD200	200	□ square	no	yes
450.30.HD250	220	□ square	no	yes

Order examples - extender crossbar
① Combination with snap-open crossbars
RHD115 for outer radius "E" incl. e-chain®:
E4.80.10/15RHDE115/10.*R*.0
RHD115 for inner radius "Z" incl. e-chain®:
E4.80.10/15RHDZ115/10.*R*.0

② Installation on side link
RD115 for outer radius "E" incl. e-chain®:
E4.80.17RDE115.*R*.0
RD115 for inner radius "Z" incl. e-chain®:
E4.80.17RDZ115.*R*.0

E4.1 | **Series E4.80** | More options

E4 snapclip | clip-on cable binder

- For side-mounted applications
- Serves as a clip-on, lateral guide for hoses and cables on e-chains®
- The loops can be adjusted as required
- Compatible with many E4 e-chains® ● Stylish and economical
- One clip and one locking band are needed for each e-chain® link

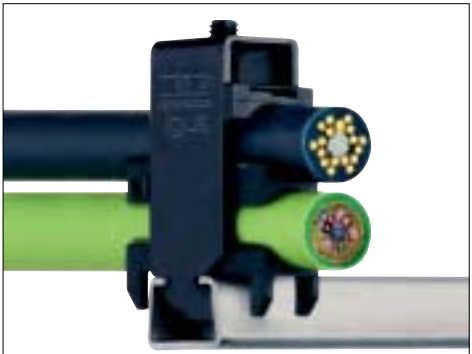
Part No.	Form
450.B12	Locking clip, comprising a locking element
450.B12.200	Locking band, comprising a locking element and band; 12 x 1,5 x 200 mm

Order example (here: inner width *Bi* 150)

Locking clip, to open along inner radius "Z":
E4.80.15.B12.200Z.*R*.0

Locking clip, to open along outer radius "E":
E4.80.15.B12.200E.*R*.0

E4.1 | **Series E4.80** | e-chain® accessories

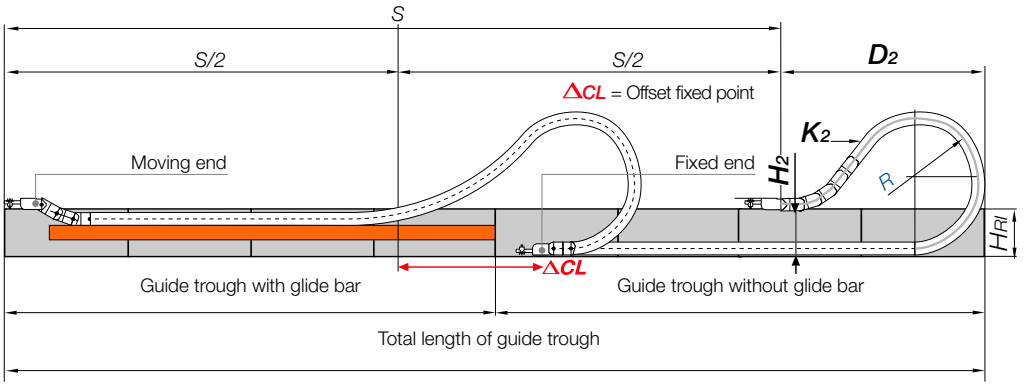


Strain relief system
Clamps, tiewrap plates, nuggets and plug-in clips. The complete chainfix range with many order options ▶ **from page 10.1**

Support tray tool kit
For support of the lower run. Simple one-piece support trays according to your requirements and specification ▶ **from page 9.70**

Gliding applications | For long travels from 12 m to max. 400 m

Solution for long travel applications - In this case the e-chain® upper run will be introduced in a guide trough on the lower run. For travels more than 100 m we recommend to realize the engineering of such a plant by our technicians. **In case of travels between 10 and 12 m we recommend a longer unsupported length.** More information ▶ **Design, from page 1.16.**



Pitch = 111 mm/link · **Links/m** = 9 (999 mm) · **Chain length** = $^{S}/_{2} + K$

R	150	200	250	300	350	400	500	550	600	1000
H_2	242	242	242	242	242	242	242	–	–	–
D_2+25	550	800	1000	1200	1450	1600	2100	–	–	–
K_2	890	1330	1665	2000	2330	2660	3440	–	–	–
ΔCL	189	389	539	689	889	989	1389			

More solutions | for long travels

System P4.80 - Profile rol e-chain®, low-noise — **Travels up to 800 m** — v_{max} **10 m/s**

Safe, maintenance-free for outdoor cranes or conveyor systems. Low-noise operation, high service life ▶ page 9.85

rol e-chain® 5050R - Rolling instead of gliding — **Travels up to 800 m** — v_{max} **6,0 m/s**

Major reduction in drive power to less than 25 % for moving the e-chain® ▶ page 9.88

autoglide E4.80.*Bi*.*R*.0.AG - Self-guiding, no guide troughs — **Travels ≤ 50 m** — v_{max} **1,5 m/s**

Self-guiding e-chainsystems® - No guide troughs required! ▶ page 9.92

Specialty:

guidelok horizontal - Upper run guide, unsupported — **Travels ≤ 50 m**

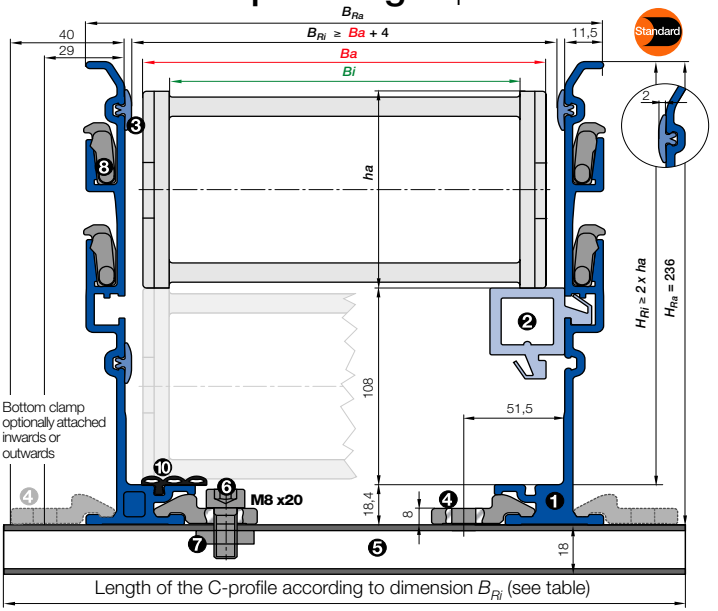
Chips cannot get stuck between upper and lower run - enormous increase of "self supporting" length of e-chains® ▶ page 9.97

The complete range of special solutions for long travel applications incl. order function ▶ from page 9.76

H_2 = Mounting height (if the moving end is set lower) · K_2 = Further add-on (if the moving end is set lower) · ΔCL = Offset fixed point · *S* = Length of travel
D_2 = Over length - long travels, gliding · *R* = Bending radius · H_{Ri} = Inner trough height · *S*/2 = Half length of travel

Part No. 975.30.SL | **975.31.SL** | Trough height: 236 mm

Aluminum "SuperTrough" | Basic Version



● **Components, trough "Basic":** ① Trough side parts, aluminum, 2 m ② Glide bar, plastic, 2 m ③ Glide strips, plastic, 2 m (without glide strips on request) ⑩ Optional: Silencer profile, rubber ● **Components, installation set "Basic":** ④ Bottom clamp, aluminum ⑤ C-profile, galvanized steel ▶ table ⑥ Screw M8 x 20 ⑦ Sliding nut M8 ⑧ Interface connector, plastic

Order example: Length of travel 30 m - Center mounted for Series E4.80.30.300.0 with B_{Ri} = 354

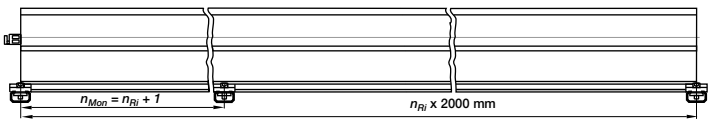
Guide trough set without glide bar (set of 2 trough side parts, incl. glide strips)
Order text: 16 m guide trough without glide bar (8 x 2 m sections) **Part No. 975.30.SL**

Guide trough set with glide bar (set of 2 trough side parts, incl. glide strips)
Order text: 16 m guide trough with glide bar (8 x 2 m sections) **Part No. 975.31.SL**

Installation set "Basic" complete (guide trough-sets + 1)
Order text: 17 installation sets **Part No. 960.50.425**

Module for the fixed end ▶ page 9.16
Order text: 1 set **Part No. 975.80**

Option: For an additional noise dampening **with silencer profile**, please add Index **A** - Example: **Part No. 975.30.SLA**



Principle sketch: Number of installation sets to be installed = Number of trough sections + 1

Details about Alu "SuperTrough" and the "Heavy Duty" version for heavy machinery ▶ from page 9.39

● Trough set ● Installation set ● Glide bar
● C-Profile
Ba = Outer width e-chains® *Bi* = Inner width e-chains®
B_{Ri} = Inner trough width B_{Ra} = Outer trough width H_{Ri} = Inner trough height
H_{Ra} = Outer trough height n_{Mon} = Number of installation sets n_{Ri} = Number of trough sets

Installation set "Basic" with C-Profile

Bottom clamp optionally attached **inwards** or **outwards**

E4.80.**30**.300.0 ▶ Order example

B_{Ri}	[mm]	Part No. attached inwards	Part No. attached outwards
.05	104	–	960.50.225
.06	119	–	960.50.250
.07	129	–	960.50.250
.08	141	960.50.200	960.50.275
.10	154	960.50.225	960.50.275
.11	167	960.50.225	960.50.300
.12	179	960.50.250	960.50.300
.13	192	960.50.250	960.50.325
.15	204	960.50.275	960.50.325
.16	217	960.50.275	960.50.350
.17	229	960.50.300	960.50.350
.18	242	960.50.300	960.50.375
.20	254	960.50.325	960.50.375
.21	267	960.50.325	960.50.400
.22	279	960.50.350	960.50.400
.23	292	960.50.350	960.50.425
.25	304	960.50.375	960.50.425
.26	317	960.50.375	960.50.450
.27	329	960.50.400	960.50.450
.28	342	960.50.400	960.50.475
.30	354	960.50.425	960.50.475
.31	367	960.50.425	960.50.500
.32	379	960.50.450	960.50.500
.33	392	960.50.450	960.50.525
.35	404	960.50.475	960.50.525
.36	417	960.50.475	960.50.550
.37	429	960.50.500	960.50.550
.38	442	960.50.500	960.50.575
.40	454	960.50.525	960.50.575
.41	467	960.50.525	960.50.600
.42	479	960.50.550	960.50.600
.43	492	960.50.550	960.50.625
.45	504	960.50.575	960.50.625
.46	517	960.50.575	960.50.650
.47	529	960.50.600	960.50.650
.48	542	960.50.600	960.50.675
.50	554	960.50.625	960.50.675
.51	567	960.50.625	960.50.700
.52	579	960.50.650	960.50.700
.53	592	960.50.650	960.50.725
.55	604	960.50.675	960.50.725
.60	654	960.50.725	960.50.775

Insert for the installation set "Heavy-Duty": **975.50.XXX** instead of **960.50.XXX** on the right column "attached outwards"

E4.1 | **Series E4.80** | **Options** and order key

	Standard	*Additional noise dampening with pads*	*QuickLock crossbar - reduce assembly time up to 25%*		
	Part No. Standard e-chains®/e-tubes	**Part No. Low noise (with pads) e-chains®/e-tubes**	**Part No. QuickLock crossbar for inner radius**	**Part No. QuickLock crossbar for outer radius**	**Part No. QuickLock crossbar for both radii**
			QuickLock crossbars: inner widths from *Bi* 15 (150 mm)!		
	E4.80.30.*R*.0 Crossbar every link	**ES4.80.30.*R*.0** Crossbar every link	**E4.80.30QZ.*R*.0** Crossbar every link	**E4.80.30QE.*R*.0** Crossbar every link	**E4.80.30Q.*R*.0** Crossbar every link
	H4.80.30.*R*.0 Crossbar every 2nd link	**HS4.80.30.*R*.0** Crossbar every 2nd link	**H4.80.30QZ.*R*.0** Crossbar every 2nd link	**H4.80.30QE.*R*.0** Crossbar every 2nd link	**H4.80.30Q.*R*.0** Crossbar every 2nd link
	R4.80.30.*R*.0 e-tube, closed	**RS4.80.30.*R*.0** e-tube, closed			
	Delivery in 24h or today!*	**Delivery time: 3-5 work days**	**Delivery time: 3-5 work days**	**Delivery time: 3-5 work days**	**Delivery time: 3-5 work days**

Combination possibilities | Examples

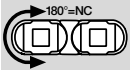
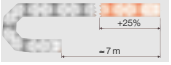
	Low-noise option	QuickLock crossbar	NC-Version	RBR-Version	XXL-Material	HT-Material*	ESD-Material
Low-noise option		ES4.80.30Q.*R*.0	ES4.80.30.*R*.0.NC	–	ES4.80.30.*R*.0.XXL	RS4.80.30.*R*.0.HT	ES4.80.30.*R*.0.ESD
QuickLock crossbar	ES4.80.30Q.*R*.0		E4.80.30Q.*R*.0.NC	E4.80.30Q.*R1/R2*.0	E4.80.30Q.*R*.0.XXL	–	E4.80.30Q.*R*.0.ESD
NC-Version	ES4.80.30.*R*.0.NC	E4.80.30Q.*R*.0.NC		–	–	R4.80.30.*R*.0.HT.NC	E4.80.30.*R*.0.ESD.NC
RBR-Version	–	E4.80.30Q.*R1/R2*.0	–		–	R4.80.30.*R1/R2*.0.HT	E4.80.30.*R1/R2*.0.ESD
XXL-Material	ES4.80.30.*R*.0.XXL	E4.80.30Q.*R*.0.XXL	–	–		–	–
HT-Material*	RS4.80.30.*R*.0.HT	–	R4.80.30.*R*.0.HT.NC	R4.80.30.*R1/R2*.0.HT	–		–
ESD-	ES4.80.30.*R*.0.ESD	E4.80.30Q.*R*.0.ESD	E4.80.30.*R*.0.ESD.NC	E4.80.30.*R1/R2*.0.ESD	–	–	

*for gliding applications please consult igus®

Extreme glider with up to 70% larger gliding surfaces. For high additional loads and high surface speeds. Gliding applications without additional elements as well as 150% more wear allowance and enhancement of service life by factor 4! Order example: E4.80.35G.250.0 / E4.80.45G.250.0

7.112 3D-CAD files, configurators, PDF, applications ► www.igus.de/en/E4.80

E4.1 | **Series E4.80** | **Options** and order key

Simply turn outer side link without additional work	*Reverse bending radius for circular movements*	*Unsupported lengths +25% possible*	*No burning-in of hot chips up to 850°C (1562° F)*	*ATEX/ESD classified e-chains® - II 2 GD*
Part No. **NC-Material** **e-chains®/e-tubes** 	**Part No.** **RBR** **e-chains®/e-tubes** 	**Part No.** **XXL-Material**** **e-chains®/e-tubes** 	**Part No.** **HT-Material** **only for e-tubes** 	**Part No.** **ESD-Material** **e-chains®/e-tubes** 
E4.80.30.*R*.0.NC Crossbar every link	**E4.80.30.*R1/R2*.0** Crossbar every link	**E4.80.30.*R*.0.XXL** Crossbar every link	**R4.80.30.*R*.0.HT** Complete e-tube*	**E4.80.30.*R*.0.ESD** Crossbar every link
H4.80.30.*R*.0.NC Crossbar every 2nd link	**H4.80.30.*R1/R2*.0** Crossbar every 2nd link	**H4.80.30.*R*.0.XXL** Crossbar every 2nd link	**R4.80.30HT.*R*.0** Lid and bottom	**H4.80.30.*R*.0.ESD** Crossbar every 2nd link
R4.80.30.*R*.0.NC e-tube, closed	**R4.80.30.*R1/R2*.0** e-tube, closed	**R4.80.30.*R*.0.XXL** e-tube, closed	**R4.80.30HTZ.*R*.0** Bottom only **R4.80.30HTE.*R*.0** Lid only	**R4.80.30.*R*.0.ESD** e-tube, closed
Delivery in 24h or today!*	**Delivery time: 10 work days** (2-5 work days with express surcharge)	**Delivery time: 1-2 weeks** **Sidebands made from XXL-Material	**Delivery time: 10 work days** *for gliding applications please consult igus®	**Delivery time: 5 work days**

Order example | Order key and color options

Order example for complete e-chain® (3,0 m, with crossbars every link), color black, mounting brackets with C-profiles and interior separation:

e-chain® (3,0 m)	Please indicate e-chain® length or number of links: 3,0 m or 27 links	**E4.80.30.300.0**
+ Mounting brackets	1 set (with odd number of links and integrated C-profiles)	**E4.800.30.1.12.C**
+ Interior separation	with 2 separators assembled every 2nd link	**2 x 80.1.1**

Order text: 3,0 m E4.80.30.300.0 + E4.800.30.1.12.C + 2 x Part No. 80.1.1

Order key
E4.80.30.300.0

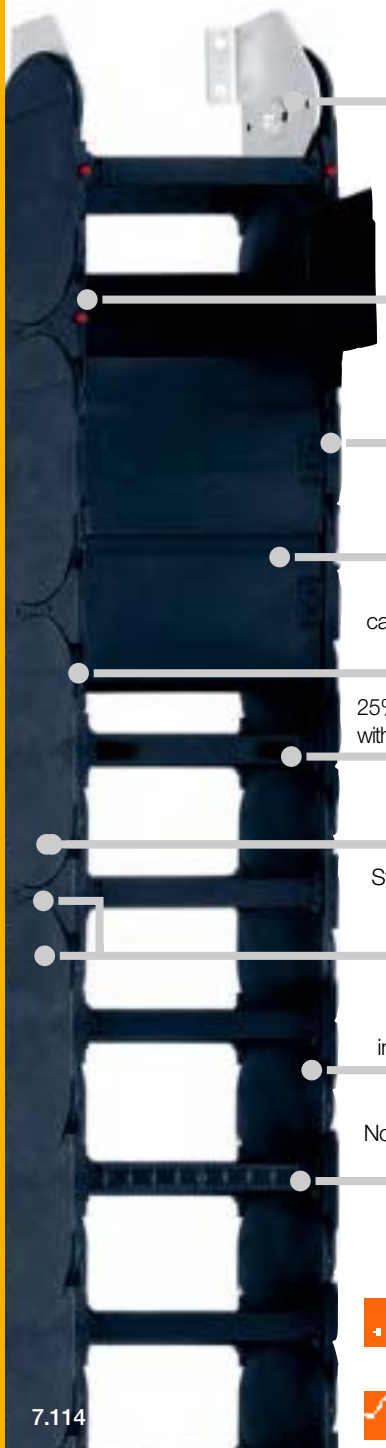
- Standard color: black
- Bending radius *R*
- Width index
- Inner height
- Series / Type

Color options for e-chains® and e-tubes

Color	Order index	Color	Order index
black	**.0 from stock!**	green*	.7
white*	.1	grey*	.3 for e-chains®
violet*	.5	dusty grey*	.3 for e-tubes
yellow*	.4	agate grey*	.11
orange*	.2	light grey*	.14
red*	.6	black grey*	.13
blue*	.8	yellow/black*	.9

Black e-chains® from stock! *Colored can be delivered in 15 work days (5 work days at an express surcharge).

Available from stock. Delivery in 24h or today!*
*Delivery time means time until shipping of goods



Stable due to undercut design, very large inner height

When to use Series 1640·1608:

- If a robust e-chain® with an inner height of 112 mm is required (108 mm on e-tube)
- If inner widths up to 600 mm are required
- For unsupported lengths up to 4,5 m and fill weights up to 50 kg/m
- For long travels up to 400 m
- Also suitable for side-mounted, vertical standing or hanging applications
- If many options and accessories are desired
- Optimized ratio of interior/exterior dimension

When to use a different igus® Series

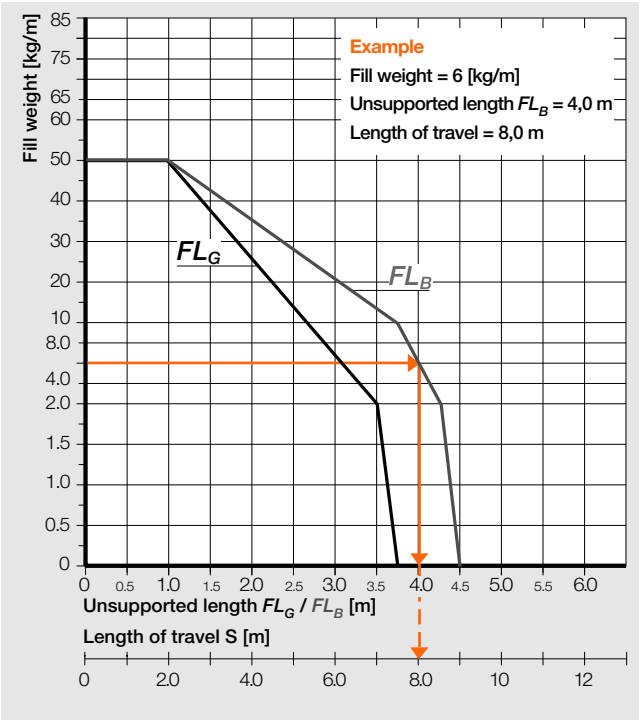
- If maximum stability is required

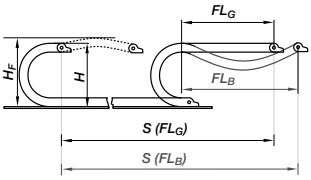
►**Series 600/R608, page 7.294**

The new igus® E4 e-chain® opener reduces assembly time ► page 7.15

Available from stock. Delivery in 24h or today!*
*Delivery time means time until shipping of goods

3D-CAD files, configurators, PDF ► www.igus.de/en/1640





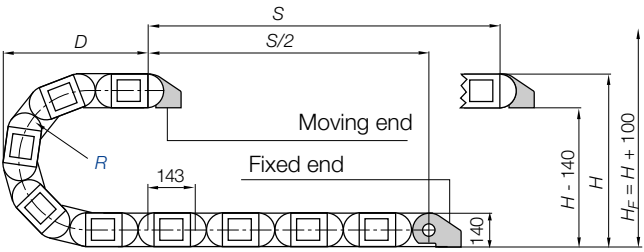
Unsupported applications

Unsupported e-chains® feature positive camber over short travels. This must be accounted for when specifying the clearance height H_F. Please consult igus® if space is particularly restricted. More information ▶ **Design, page 1.8**

Gliding applications

Travels up to 400 m.

More information ▶ **page 7.126**



Technical Data

Speed, material, temperature and flammability class ▶ **page 7.16**

Pitch = 143 mm/link
Links/m = 7 (1001 mm)
Chain length = $S/2 + K$

R	200	250	300	350	400	450	500	550	600
H	545	645	747	845	945	1045	1145	1245	1345
D	415	465	515	565	615	665	715	765	815
K	920	1080	1240	1400	1560	1720	1870	2020	2175

The required clearance height: H_F = ***H*** + **100 mm** (with 5,0 kg/m fill weight)

FL_G = with straight upper run
FL_B = with permitted sag
S = Length of travel
R = Bending radius
H = Nominal clearance height
H_F = Required clearance height
D = Overlength e-chain®, radius in final position
K = $\pi \bullet R$ + "safety"

e-chains® | Series **1640** with crossbars every link

Part No. crossbars every link	*Bi* [mm]	*Ba* [mm]	1640 [kg/m]
1640. 05. *R*.0	50	84	≈ 5,10
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. 17. *R*.0	175	209	≈ 5,81
1640. 18. *R*.0	187	221	≈ 5,88
1640. 20. *R*.0	200	234	≈ 5,89
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. 25. *R*.0	250	284	≈ 6,15
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. 30. *R*.0	300	334	≈ 6,34

Part No. crossbars every link	*Bi* [mm]	*Ba* [mm]	1640 [kg/m]
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. 35. *R*.0	350	384	≈ 6,61
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. 40. *R*.0	400	434	≈ 6,89
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. 50. *R*.0	500	534	≈ 7,35
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

Available bending radii *R* [mm] 200 | 250 | 300 | 350 | 400 | 450 | 500 | 550 | 600

Supplement Part No. with required radius *(R)*. Example: **1640.30.300.0**

Part No. of e-chain® links as single parts ► page 7.17

Standard e-chains® incl. accessories from stock. Delivery in 24h or today.*

*Delivery time means time until shipping of goods

e-tubes | Series **1608** - fully enclosed

Part No. fully enclosed	*Bi* [mm]	*Ba* [mm]	1608 [kg/m]
1608. 20. *R*.0	200	234	7,690
1608. 25. *R*.0	250	284	8,390
1608. 30. *R*.0	300	334	9,090

Part No. fully enclosed	*Bi* [mm]	*Ba* [mm]	1608 [kg/m]
1608. 35. *R*.0	350	384	9,790
1608. 40. *R*.0	400	434	10,490

Available bending radii *R* [mm] 250 | 300 | 350 | 400 | 450 | 500 | 550 | 600

Supplement Part No. with required radius *(R)*. Example: **1608.30.300.0**

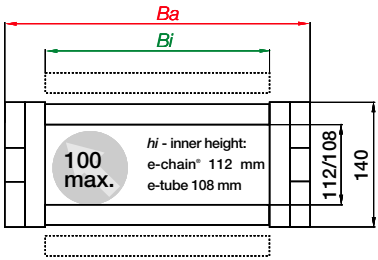
When to use fully enclosed e-tubes: ● Excellent cable protection against dirt ● Lids along the entire inner radius are completely removable. Lids along the entire outer radius are single sided snap-open with a hinge on the other side to keep them attached to the e-chain® or completely removable ● HT-Version optional, protection against hot chips up to 850°C (1562° F)

Order key for all types

1640. 30. 300. 0 e-chain® **(crossbars every link)**
1608. 30. 300. 0 **Fully enclosed** e-tube

- Standard color black
- Bending radius *R*
- Width index (depends on *Bi*)
- Series / Type

Dimensioning



1640.30.300.0 = e-chain® with **crossbars every link**, inner width *Bi* 300 mm, radius *R* 300 mm, color black
1608.30.300.0 = **Fully enclosed** e-tube, inner width *Bi* 300 mm, radius *R* 300 mm, color black

More order examples, variations and configurations ► page 7.128

Standard e-tubes incl. accessories from stock. Delivery in 24h or today!*
*Delivery time means time until shipping of goods

QuickLock crossbars | Quick opening - up to 25% faster assembly

Part No. crossbars every link	crossbars every 2nd link	QuickLock crossbar for Inner radius	Outer radius	Both radii	Bi [mm]
1640.	15 QZ.R.0	15 QE.R.0	15 Q.R.0		150
1640.	16 QZ.R.0	16 QE.R.0	16 Q.R.0		162
1640.	17 QZ.R.0	17 QE.R.0	17 Q.R.0		175
1640.	18 QZ.R.0	18 QE.R.0	18 Q.R.0		187
1640.	20 QZ.R.0	20 QE.R.0	20 Q.R.0		200
1640.	21 QZ.R.0	21 QE.R.0	21 Q.R.0		212
1640.	22 QZ.R.0	22 QE.R.0	22 Q.R.0		225
1640.	23 QZ.R.0	23 QE.R.0	23 Q.R.0		237
1640.	25 QZ.R.0	25 QE.R.0	25 Q.R.0		250
1640.	26 QZ.R.0	26 QE.R.0	26 Q.R.0		262
1640.	27 QZ.R.0	27 QE.R.0	27 Q.R.0		275
1640.	28 QZ.R.0	28 QE.R.0	28 Q.R.0		287
1640.	30 QZ.R.0	30 QE.R.0	30 Q.R.0		300
1640.	31 QZ.R.0	31 QE.R.0	31 Q.R.0		312
1640.	32 QZ.R.0	32 QE.R.0	32 Q.R.0		325
1640.	33 QZ.R.0	33 QE.R.0	33 Q.R.0		337
1640.	35 QZ.R.0	35 QE.R.0	35 Q.R.0		350
1640.	36 QZ.R.0	36 QE.R.0	36 Q.R.0		362
1640.	37 QZ.R.0	37 QE.R.0	37 Q.R.0		375
1640.	38 QZ.R.0	38 QE.R.0	38 Q.R.0		387
1640.	40 QZ.R.0	40 QE.R.0	40 Q.R.0		400
1640.	41 QZ.R.0	41 QE.R.0	41 Q.R.0		412
1640.	42 QZ.R.0	42 QE.R.0	42 Q.R.0		425
1640.	43 QZ.R.0	43 QE.R.0	43 Q.R.0		437
1640.	45 QZ.R.0	45 QE.R.0	45 Q.R.0		450
1640.	46 QZ.R.0	46 QE.R.0	46 Q.R.0		462
1640.	47 QZ.R.0	47 QE.R.0	47 Q.R.0		475
1640.	48 QZ.R.0	48 QE.R.0	48 Q.R.0		487
1640.	50 QZ.R.0	50 QE.R.0	50 Q.R.0		500
1640.	51 QZ.R.0	51 QE.R.0	51 Q.R.0		512
1640.	52 QZ.R.0	52 QE.R.0	52 Q.R.0		525
1640.	53 QZ.R.0	53 QE.R.0	53 Q.R.0		537
1640.	55 QZ.R.0	55 QE.R.0	55 Q.R.0		550
1640.	60 QZ.R.0	60 QE.R.0	60 Q.R.0		600

QuickLock crossbars: inner widths from 150 mm possible!

Available bending radii *R* [mm] 200 | 250 | 300 | 350 | 400 | 450 | 500 | 550 | 600

Supplement Part No. with required radius *(R)*. Example: **1640.30QZ.300.0**

For e-chains® with **QuickLock crossbar** supplement Part No. with required Index **QZ / QE / Q**

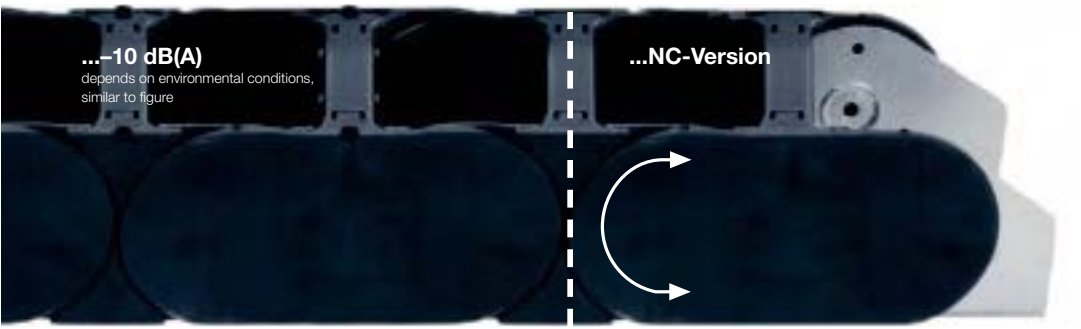
Part No. 1640.30QZ.300.0 = QuickLock crossbar for inner radius

Part No. 1640.30QE.300.0 = QuickLock crossbar for outer radius

Part No. 1640.30Q .300.0 = QuickLock crossbar for both radii

e-chain® with QuickLock crossbars - Delivery time: 3-5 work days.*

*Delivery time means time until shipping of goods



Noise dampening | ≈ –10 dB(A)

With pads crossb. every link	e-tube fully enclosed		Bi [mm]
S1640	–	.05. R.0	50
S1640	–	.06. R.0	65
S1640	–	.07. R.0	75
S1640	–	.08. R.0	87
S1640	–	.10. R.0	100
S1640	–	.11. R.0	112
S1640	–	.12. R.0	125
S1640	–	.13. R.0	137
S1640	–	.15. R.0	150
S1640	–	.16. R.0	162
S1640	–	.17. R.0	175
S1640	–	.18. R.0	187
S1640	S1608	.20. R.0	200
S1640	–	.21. R.0	212
S1640	–	.22. R.0	225
S1640	–	.23. R.0	237
S1640	S1608	.25. R.0	250
S1640	–	.26. R.0	262
S1640	–	.27. R.0	275
S1640	–	.28. R.0	287
S1640	S1608	.30. R.0	300

With pads crossb. every link	e-tube fully enclosed		Bi [mm]
S1640	–	.31. R.0	312
S1640	–	.32. R.0	325
S1640	–	.33. R.0	337
S1640	S1608	.35. R.0	350
S1640	–	.36. R.0	362
S1640	–	.37. R.0	375
S1640	–	.38. R.0	387
S1640	S1608	.40. R.0	400
S1640	–	.41. R.0	412
S1640	–	.42. R.0	425
S1640	–	.43. R.0	437
S1640	–	.45. R.0	450
S1640	–	.46. R.0	462
S1640	–	.47. R.0	475
S1640	–	.48. R.0	487
S1640	–	.50. R.0	500
S1640	–	.51. R.0	512
S1640	–	.52. R.0	525
S1640	–	.53. R.0	537
S1640	–	.55. R.0	550
S1640	–	.60. R.0	600

NC-Version | Without pretension

NC-Version crossb. every link	e-tube fully enclosed		Bi [mm]
1640	–	.05. R.0.NC	50
1640	–	.06. R.0.NC	65
1640	–	.07. R.0.NC	75
1640	–	.08. R.0.NC	87
1640	–	.10. R.0.NC	100
1640	–	.11. R.0.NC	112
1640	–	.12. R.0.NC	125
1640	–	.13. R.0.NC	137
1640	–	.15. R.0.NC	150
1640	–	.16. R.0.NC	162
1640	–	.17. R.0.NC	175
1640	–	.18. R.0.NC	187
1640	1608	.20. R.0.NC	200
1640	–	.21. R.0.NC	212
1640	–	.22. R.0.NC	225
1640	–	.23. R.0.NC	237
1640	–	.25. R.0.NC	250
1640	–	.26. R.0.NC	262
1640	–	.27. R.0.NC	275
1640	–	.28. R.0.NC	287
1640	1608	.30. R.0.NC	300

NC-Version crossb. every link	e-tube fully enclosed		Bi [mm]
1640	–	.31. R.0.NC	312
1640	–	.32. R.0.NC	325
1640	–	.33. R.0.NC	337
1640	1608	.35. R.0.NC	350
1640	–	.36. R.0.NC	362
1640	–	.37. R.0.NC	375
1640	–	.38. R.0.NC	387
1640	1608	.40. R.0.NC	400
1640	–	.41. R.0.NC	412
1640	–	.42. R.0.NC	425
1640	–	.43. R.0.NC	437
1640	–	.45. R.0.NC	450
1640	–	.46. R.0.NC	462
1640	–	.47. R.0.NC	475
1640	–	.48. R.0.NC	487
1640	–	.50. R.0.NC	500
1640	–	.51. R.0.NC	512
1640	–	.52. R.0.NC	525
1640	–	.53. R.0.NC	537
1640	–	.55. R.0.NC	550
1640	–	.60. R.0.NC	600

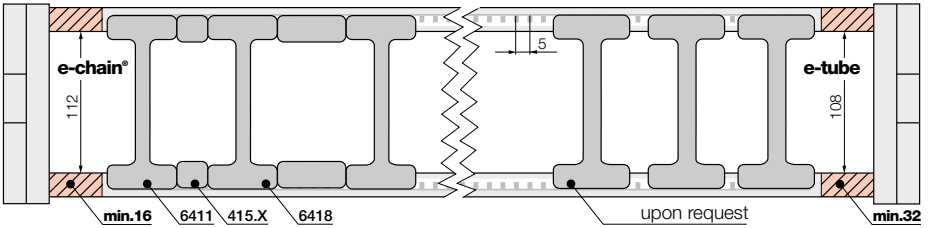
Available bending radii *R* [mm] 200* | 250 | 300 | 350 | 400 | 450 | 500 | 550 | 600 *not available for e-tubes

Supplement Part No. with required radius *(R)*. Example: **S1640.30.300.0 or 1640.30.300.0.NC**

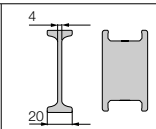
For e-chains® with noise dampening pads supplement Part No. with required index "**S**"
Example: **Part No. S1640.30.300.0** = e-chain® (crossbars every link) with noise dampening
For NC-e-chains® without pretension supplement Part No. with required index "**NC**"
Example: **Part No. 1640.30.300.0.NC** = e-chain® (crossbars every link) without pretension

e-chain® with noise dampening pads - Delivery time: 3-5 work days.
NC-Version - Delivery in 24h or today!*
*Delivery time means time until shipping of goods

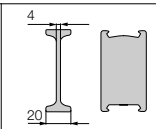
Option 1 | Separators and spacers* (*side-mounted applications)



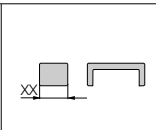
Note: Please observe a lateral spacing to the side links! **e-tube: 32 mm** | **e-chain®: 16 mm**
In the standard configuration separators are assembled every 2nd e-chain® link!



Separator for e-chains®	
unassembled	**6401**
assembled	**6411**



Locking separator for e-chains®	
unassembled	**6408**
assembled	**6418**



Spacer* for e-chains®	
unassembled	**405.XX**
assembled	**415.XX**

Separator 6401 (e-chains® only)

For a vertical subdividing. Offers safe stability due to its wide base design, also when used with thick cables or hoses (Separator for e-tubes 1608 upon request).

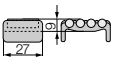
Locking separator 6408 (e-chains® only)

For applications exposed to very high humidity (> 85%). Locks with extra retention force. Tip: one locking separator per e-chain® link for better mounting.

Spacer* 405.XX (e-chains® only)

Separators can be fixed in position by spacers. The available interior height is reduced by 2 mm per spacer (4 mm when spacers are fitted on both sides). To avoid this, the parts can also be installed from the outside on the opening crossbar. (not for long travel applications). **XX = width of the spacer** (please choose between 10, 15, 20, 30, 40 mm).

Additional elements for interior separation

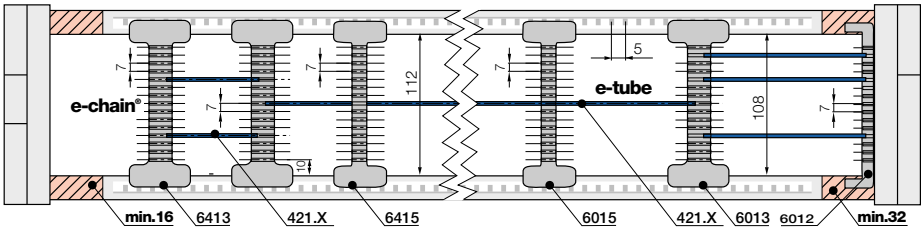


Rollclip for e-chains®	
unassembled	**489.27**
assembled	**490.27**

Rollclip

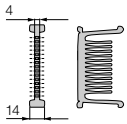
Minimizes abrasion of particularly sensitive hoses - simply clamped onto the opening crossbar. The movable rollers compensate for relative movement between the e-chain® and hose.

Option 2 | Shelves

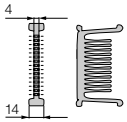


Note: Please observe a lateral spacing to the side links! **e-tube: 32 mm** | **e-chain®: 16 mm**

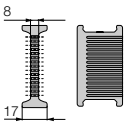
In the standard configuration separators are assembled every 2nd e-chain® link!

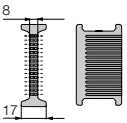
Open slotted separator for e-chains®	
unassembled	**6405**
assembled	**6415**

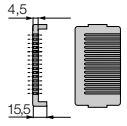
Open slotted separator for e-tubes	
unassembled	**6005**
assembled	**6005**

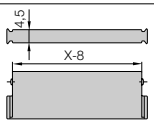
Middle plate for e-chains®	
unassembled	**6403**
assembled	**6413**

Middle plate for e-tubes	
unassembled	**6003**
assembled	**6013**

Side plate for e-chains®/e-tubes	
unassembled	**6002**
assembled	**6012**

Shelf	
unassembled	**420.X**
assembled	**421.X**

Open, slotted separator 6405 (unilateral open)

Fast assembly - can be retrofitted into an existing interior separation system without a need for dismantling the interior separators. During an installation of open slotted separators, the top and bottom notches cannot be occupied by shelves. e-chains® only!

Open, slotted separator 6005

(e-tubes only, unilateral open)

Works like open, slotted separator 6405 on e-tube 1608

Middle plate 6403 (e-chains® only)

To achieve a modular shelving shelf 420.X can be arranged at 15 different heights (in 7 mm increments).

Middle plate 6003 (e-tubes only)

Works like middle plate 6403 on e-tube 1608

Side plate 6002 (e-chains®/e-tubes)

Works like middle plate.
Allows modular shelving close to the side links.

Shelf 420.X

For horizontal separation. Shelves of various widths can be arranged at 15 different heights (in 7 mm increments). - see table below.

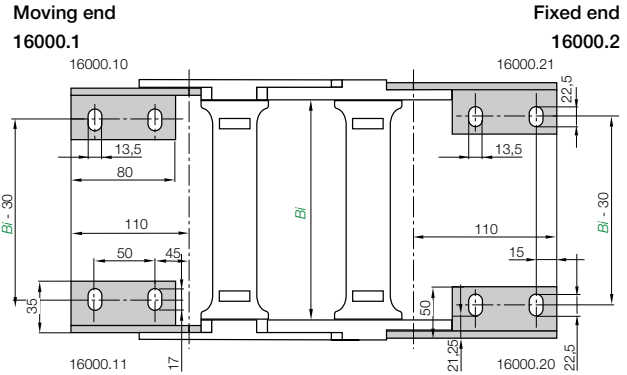
Width X [mm]	unassembled	assembled
018	**420.18**	**421.18**
023	**420.23**	**421.23**
025	**420.25**	**421.25**
028	**420.28**	**421.28**

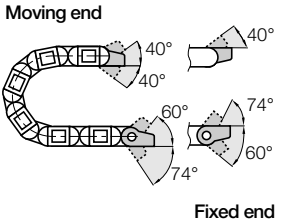
Width X [mm]	unassembled	assembled
033	**420.33**	**421.33**
043	**420.43**	**421.43**
050	**420.50**	**421.50**
062	**420.62**	**421.62**

Width X [mm]	unassembled	assembled
075	**420.75**	**421.75**
088	**420.88**	**421.88**
100	**420.100**	**421.100**
125	**420.125**	**421.125**

Width X [mm]	unassembled	assembled
150	**420.150**	**421.150**
175	**420.175**	**421.175**
187	**420.187**	**421.187**
200	**420.200**	**421.200**

E4.1 | Series 1640·1608 | Steel mounting brackets pivoting

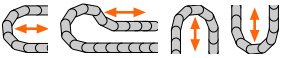




Steel pivoting | Recommended for unsupported, gliding, vertical hanging and standing applications

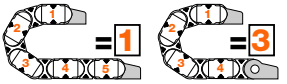
Part No.	Mounting bracket
16000.1.12.E	Full attachment set (both sides) for e-chain®, ending with outer side link
16000.3.12.E	Full attachment set (both sides) for e-chain®, beginning with outer side link (moving end), ending with inner side link (fixed end)
16000.1	Mounting bracket set **moving end** (one side) for outer side link
16000.2	Mounting bracket set **fixed end** (one side) for inner side link

Note: By ordering steel mounting brackets in combination with an e-chain® / e-tube, they will be delivered assembled!



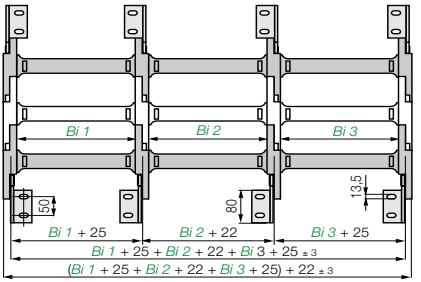
- For pivoting connections
- Secure connection
- One part (two-piece) for all e-chain® widths
- Electrically conductive
- Stainless steel version available - please add index **.E**
  (Material: stainless steel 1.4301)

Note: Depending on the e-chain® length, the carrier will end with 1 outer or 3 inner side links. For the best appearance, make sure the e-chain® ends with 1 outer side link 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 order options ► from page 10.1

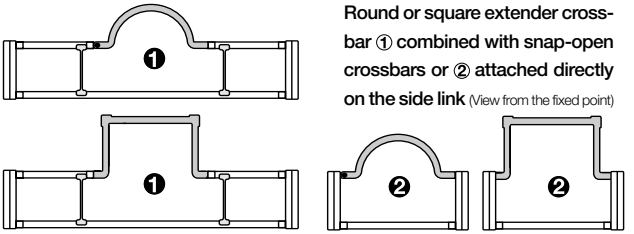
Unsupported, harnessed Series 1640 in a stone machining application



Extension links | for extremely wide e-chains® up to 3,0 m

- The extension link design allows virtually limitless side-by-side attachment
- High fill weights necessitate extremely wide e-chains® (up to 3000 mm)
- The unsupported length FL_G max. can be increased when additional loads are required
- Suitable for unsupported and gliding applications in a guide trough
- Attachement with KMA or steel mounting brackets

Order example - 3 chambers
1640.*Bi1* / *Bi2* / *Bi3*.*R*.0 =
1640.10 / 20 / 10.200.0
Extension link - single-part order
6022.*R*. (please indicate radius)



Round or square extender crossbar ① combined with snap-open crossbars or ② attached directly on the side link (View from the fixed point)

Extender crossbars | careful guide of hosed applications

- Suitable for hoses with a maximum outer diameter of 300 mm
- Gliding with crossbars assembled along outer radius and a special guide trough
- Extender crossbar ① for snap-open crossbars or ② attached directly on the side link

Part No. single part	Max Ø [mm] hose	Form	② Installation on side link	① Combination with snap-open crossbars
450.15.RHD115	115	○ round	no	yes
450.17.RD115	115	○ round	yes	no
450.25.D150	150	□ square	yes	no
450.30.D200	200	□ square	yes	no
450.35.D250	250	□ square	yes	no
450.40.D300	300	□ square	yes	no
450.20.HD150	150	□ square	no	yes
450.25.HD200	200	□ square	no	yes
450.30.HD250	250	□ square	no	yes

Order examples - extender crossbar
① Combination with snap-open crossbars
RHD115 for outer radius "E" incl. e-chain®:
1640.10/15RHDE115/10.*R*.0
RHD115 for inner radius "Z" incl. e-chain®:
1640.10/15RHDZ115/10.*R*.0

② Installation on side link
RD115 for outer radius "E" incl. e-chain®:
1640.17RDE115.*R*.0
RD115 for inner radius "Z" incl. e-chain®:
1640.17RDZ115.*R*.0

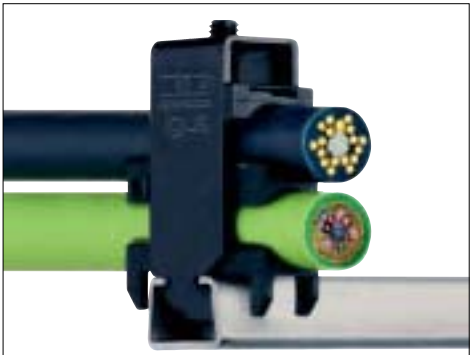
E4 snapclip | clip-on cable binder

- For side-mounted applications
- Serves as a clip-on, lateral guide for hoses and cables on e-chains®
- The loops can be adjusted as required
- Compatible with many E4 e-chains® ● Stylish and economical
- One clip and one locking band are needed for each e-chain® link

Part No.	Form
450.B12	Locking clip, comprising a locking element
450.B12.200	Locking band, comprising a locking element and band; 12 x 1,5 x 200 mm

Order example (here: inner width *Bi* 150)
Locking clip, to open along inner radius "Z":
1640.15.B12.200Z.*R*.0
Locking clip, to open along outer radius "E":
1640.15.B12.200E.*R*.0

E4.1 | **Series 1640·1608** | e-chain® accessories

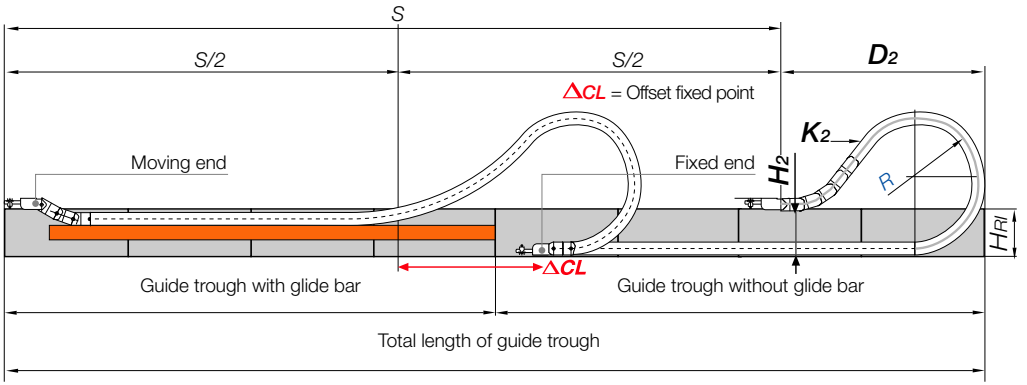


Strain relief system
Clamps, tiewrap plates, nuggets and plug-in clips. The complete chainfix range with many order options ▶ **from page 10.1**

Support tray tool kit
For support of the lower run. Simple one-piece support trays according to your requirements and specification ▶ **from page 9.70**

Gliding applications | For long travels from 14 m to max. 400 m

Solution for long travel applications - In this case the e-chain® upper run will be introduced in a guide trough on the lower run. For travels more than 100 m we recommend to realize the engineering of such a plant by our technicians. **In case of travels between 9 and 14 m we recommend a longer unsupported length.** More information ▶ **Design, from page 1.16.**



Pitch = 143 mm/link · **Links/m** = 7 (1001 mm) · **Chain length** = $^{S}/_{2} + K$

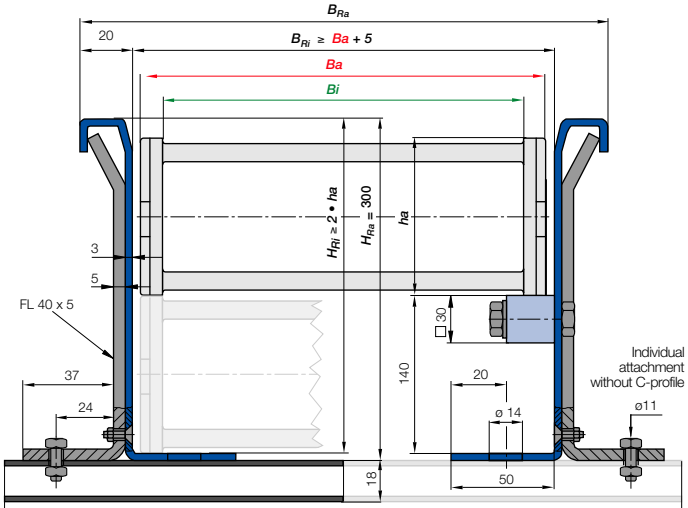
R	200	250	300	350	400	450	500	550	600
H_2	325	325	325	325	325	325	325	325	325
D_2^{+25}	900	1000	1100	1250	1450	1600	1700	1900	2050
K_2	1573	1716	1859	2288	2574	2860	3146	3432	3861
ΔCL	450	500	550	650	800	900	950	1100	1200

The complete range of special solutions for long travel applications incl. order function ▶ from page 9.76

H_2 = Mounting height (if the moving end is set lower) K_2 = Further add-on (if the moving end is set lower) ΔCL = Offset fixed point **S** = Length of travel
D_2 = Over length - long travels, gliding **R** = Bending radius H_{Ri} = Inner trough height **S/2** = Half length of travel

Part No. 98.30 | **98.31** | Trough height: 300 mm

Steel Guide Troughs



Length of the C-profile according to dimension B_{Ri} (see table)

- **Guide trough without glide bars** — **Part No. 98.30**
- **Guide trough with glide bars** — **Part No. 98.31**
- **Installation sets as end connectors** — **Part No. 98.50.XX**

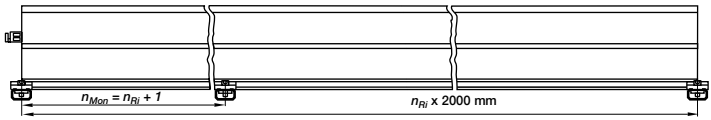
.XX indicates the length of the C-profile on which the guide trough is mounted. (see table). The values and part numbers are specified in the table on the left. Standard length of the trough components and glide bars is 2 m.The required overall length of the guide trough directly correlates to the length of travel. Special dimensions are available for confined spaces.

Order example: Length of travel 30 m - Center mounted for Series 1640.12.300.0 with B_{Ri} = 164

Guide trough set without glide bar (set of 2 trough side parts, incl. glide strips)
Order text: 16 m guide trough without glide bar (8 x 2 m sections) **Part No. 98.30**

Guide trough set with glide bar (set of 2 trough side parts, incl. glide strips)
Order text: 16 m guide trough with glide bar (8 x 2 m sections) **Part No. 98.31**

Installation set "Basic" complete (guide trough-sets + 1)
Order text: 17 installation sets **Part No. 98.50.300**



Principle sketch: Number of installation sets to be installed = Number of trough sections + 1

Details on steel guide troughs ▶ from page 9.58

- Trough set
- Installation set
- Glide bar
- C-Profile
- *Ba* = Outer width e-chains®
- *Bi* = Inner width e-chains®
- B_{Ri} = Inner trough width
- B_{Ra} = Outer trough width
- H_{Ri} = Inner trough height
- H_{Ra} = Outer trough height
- n_{Mon} = Number of installation sets
- n_{Ri} = Number of trough sets

Installation set with C-profile for e-chains®

1640.**12**.300.0 ▶ Order example

	B_{Ri} [mm]	Part No. Installation set
.05	89	–
.06	104	**98.50.225**
.07	114	**98.50.250**
.08	125	**98.50.250**
.10	139	**98.50.275**
.11	151	**98.50.275**
.12	164	**98.50.300**
.13	176	**98.50.300**
.15	189	**98.50.325**
.16	201	**98.50.325**
.17	214	**98.50.350**
.18	226	**98.50.350**
.20	239	**98.50.375**
.21	251	**98.50.375**
.22	264	**98.50.400**
.23	276	**98.50.400**
.25	289	**98.50.425**
.26	301	**98.50.425**
.27	314	**98.50.450**
.28	326	**98.50.450**
.30	339	**98.50.475**
.31	351	**98.50.475**
.32	364	**98.50.500**
.33	376	**98.50.500**
.35	389	**98.50.525**
.36	401	**98.50.525**
.37	414	**98.50.550**
.38	426	**98.50.550**
.40	439	**98.50.575**
.41	451	**98.50.575**
.42	464	**98.50.600**
.43	476	**98.50.600**
.45	489	**98.50.625**
.46	501	**98.50.625**
.47	514	**98.50.650**
.48	526	**98.50.650**
.50	539	**98.50.675**
.51	551	**98.50.675**
.52	564	**98.50.700**
.53	576	**98.50.700**
.55	589	**98.50.725**
.60	639	**98.50.775**

E4.1 | Series 1640·1608 | Options and order key

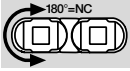
	Standard	*Additional noise dampening with pads*	*QuickLock crossbar - reduce assembly time up to 25%*		
	Part No. Standard e-chains®/e-tubes	**Part No. Low noise (with pads) e-chains®/e-tubes**	**Part No. QuickLock crossbar for inner radius**	**Part No. QuickLock crossbar for outer radius**	**Part No. QuickLock crossbar for both radii**
			QuickLock crossbars: inner widths from *Bi* 150 mm!		
	1640.30.*R*.0 Crossbar every link	**S1640.30.*R*.0** Crossbar every link	**1640.30QZ.*R*.0** Crossbar every link	**1640.30QE.*R*.0** Crossbar every link	**1640.30Q.*R*.0** Crossbar every link
	1608.30.*R*.0 e-tube, closed	**S1608.30.*R*.0** e-tube, closed			
	Delivery in 24h or today!*	**Delivery time: 3-5 work days**	**Delivery time: 3-5 work days**	**Delivery time: 3-5 work days**	**Delivery time: 3-5 work days**

Combination possibilities | Examples

	Low-noise option	QuickLock crossbar	NC-Version	RBR-Version	XXL-Material	HT-Material*	ESD-Material
Low-noise option		S1640.30Q.*R*.0	S1640.30.*R*.0.NC	–	S1640..30.*R*.0.XXL	RS4.1640.30.*R*.0.HT	S1640..30.*R*.0.ESD
QuickLock crossbar	S1640..30Q.*R*.0		1640.30Q.*R*.0.NC	1640.30Q.*R1/R2*.0	1640.30Q.*R*.0.XXL	–	1640.30Q.*R*.0.ESD
NC-Version	S1640..30.*R*.0.NC	1640.30Q.*R*.0.NC		–	–	1608.30.*R*.0.HT.NC	1640.30.*R*.0.ESD.NC
RBR-Version	–	1640.30Q.*R1/R2*.0	–		–	1608.30.*R1/R2*.0.HT	1640.30.*R1/R2*.0.ESD
XXL-Material	S1640.30.*R*.0.XXL	1640.30Q.*R*.0.XXL	–	–		–	–
HT-Material*	RS4.1640.30.*R*.0.HT	–	1608.30.*R*.0.HT.NC	1608.30.*R1/R2*.0.HT	–		–
ESD-	S1640.30.*R*.0.ESD	1640.30Q.*R*.0.ESD	1640.30.*R*.0.ESD.NC	1640.30.*R1/R2*.0.ESD	–	–	

*for gliding applications please consult igus®

E4.1 | Series 1640·1608 | Options and order key

Simply turn outer side link without additional work	*Reverse bending radius for circular movements*	*Unsupported lengths +25% possible*	*No burning-in of hot chips up to 850°C (1562° F)*	*ATEX/ESD classified e-chains® - II 2 GD*
Part No. **NC-Material** **e-chains®/e-tubes** 	**Part No.** **RBR** **e-chains®/e-tubes** 	**Part No.** **XXL-Material**** **e-chains®/e-tubes** 	**Part No.** **HT-Material** **only for e-tubes** 	**Part No.** **ESD-Material** **e-chains®/e-tubes** 
1640.30.*R*.0.NC Crossbar every link	**1640.30.*R1/R2*.0** Crossbar every link	**1640.30.*R*.0.XXL** Crossbar every link	**1608.30.*R*.0.HT** Complete e-tube*	**1640.30.*R*.0.ESD** Crossbar every link
1608.30.*R*.0.NC e-tube, closed	**1608.30.*R1/R2*.0** e-tube, closed	**1608.30.*R*.0.XXL** e-tube, closed	**1608.30HT.*R*.0** Lid and bottom	**1608.30.*R*.0.ESD** e-tube, closed
			1608.30HTZ.*R*.0 Bottom only	
			1608.30HTE.*R*.0 Lid only	
Delivery in 24h or today!*	**Delivery time: 10 work days** (2-5 work days with express surcharge)	**Delivery time: 1-2 weeks** **Sidebands made from XXL-Material	**Delivery time: 10 work days** *for gliding applications please consult igus®	**Delivery time: 5 work days**

Order example | Order key and color options

Order example for complete e-chain® (3,0 m, with crossbars every link), color black, mounting brackets and interior separation

e-chain® (3,0 m)	Please indicate e-chain® length or number of links: 3,0 m or 21 links	**1640.30.300.0**
+ Mounting brackets	Full attachment set (both sides), ending with outer side link	**16000.1.12**
+ Interior separation	with 2 separators assembled every 2nd link	**2 x 6411**

Order text: 3,0 m 1640.30.300.0 + 16000.1.12 + 2 x Part No. 6411

Order key
1640.30.300.0

- Standard color: black
- Bending radius *R*
- Width index
- Series / Type

Color options for e-chains® and e-tubes

Color	Order index	Color	Order index
black	**.0 from stock!**	green*	.7
white*	.1	grey*	.3 for e-chains®
violet*	.5	dusty grey*	.3 for e-tubes
yellow*	.4	agate grey*	.11
orange*	.2	light grey*	.14
red*	.6	black grey*	.13
blue*	.8	yellow/black*	.9

Black e-chains® from stock! *Colored e-chains® can be delivered in 15 work days (5 work days at an express surcharge).

Available from stock. Delivery in 24h or today!*
*Delivery time means time until shipping of goods

For rough conditions, very large inner height

When to use Series 800:

- If a robust e-chain® with an inner height of 200 mm is required
- If inner widths up to 600 mm are required
- For unsupported lengths up to 8,0 m and fill weights up to 90 kg/m
- For long travels up to 450 m
- For rough environmental conditions or rigid hoses

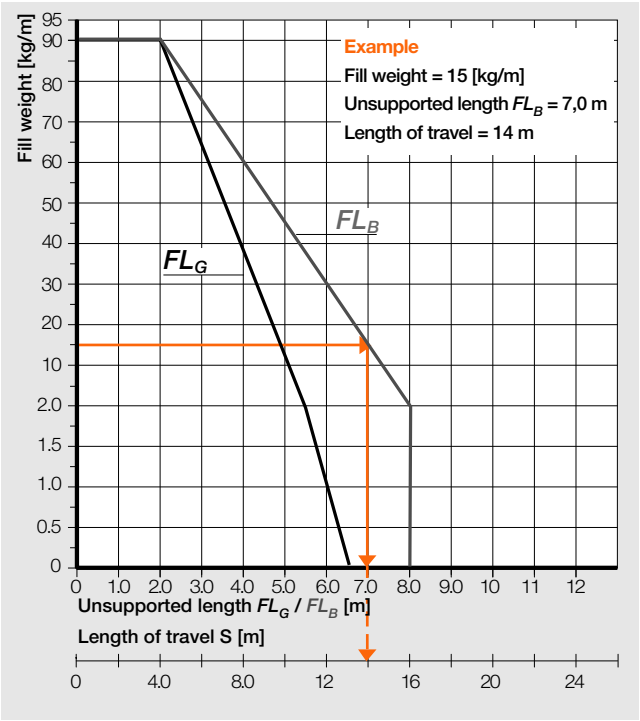
When to use a different igus® Series

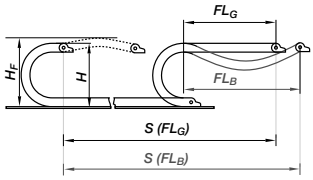
- If a light weighted, less stable e-chain® with identical inner height is required

►**Series 840, page 7.140**

Available from stock. Delivery in 24h or today!*
*Delivery time means time until shipping of goods

3D-CAD files, configurators, PDF ► www.igus.de/en/800





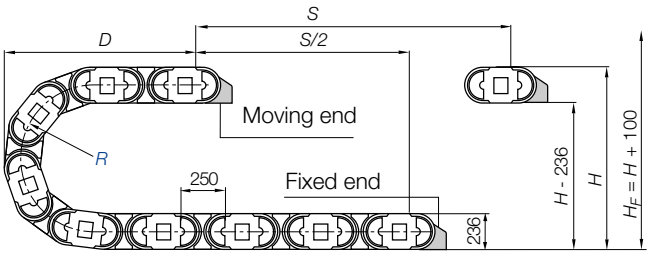
Unsupported applications

Unsupported e-chains® feature positive camber over short travels. This must be accounted for when specifying the clearance height H_F. Please consult igus® if space is particularly restricted. More information ▶ **Design, page 1.8**

Gliding applications

Travels up to 450 m.

More information ▶ **page 7.136**



Technical Data

Speed, material, temperature and flammability class ▶ **page 7.16**

Pitch = 250 mm/link
Links/m = 4 (1000 mm)
Chain length = $S/2 + K$

R	325	350	400	450	500	600	750	1000
H	886	936	1036	1136	1236	1436	1736	2236
D	725	750	800	850	900	1000	1150	1400
K	1525	1600	1760	1915	2075	2385	2860	3645

The required clearance height: $H_F = H + 100$ mm (with 5,0 kg/m fill weight)

FL_G = with straight upper run
FL_B = with permitted sag
S = Length of travel
R = Bending radius
H = Nominal clearance height
H_F = Required clearance height
D = Overlength e-chain®, radius in final position
K = $\pi \bullet R +$ "safety"

e-chains® | Series 800 with crossbars every link

Part No. crossbars every link			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. crossbars every link			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 bending radii *R* [mm] 325 | 350 | 400 | 450 | 500 | 600 | 750 | 1000

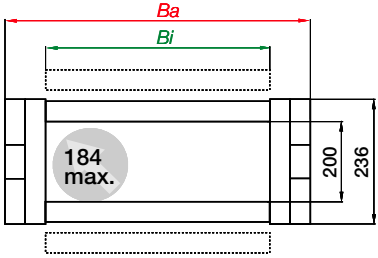
Supplement Part No. with required radius *(R)*. Example: **800.40.400.0**

Order key

800. 40. 400. 0

- Standard color black
- Bending radius *R*
- Width index (depends on *Bi*)
- Series / Type

Dimensioning



800.40.400.0 = e-chain® with **crossbars every link**, inner width ***Bi*** 400 mm, radius ***R*** 400 mm, color black

More order examples, variations and configurations ▶ page 7.138

Part No. of e-chain® links as single parts ▶ page 7.17

Standard e-chains® incl. accessories from stock. Delivery in 24h or today.*

*Delivery time means time until shipping of goods

NC-Version | Without pretension

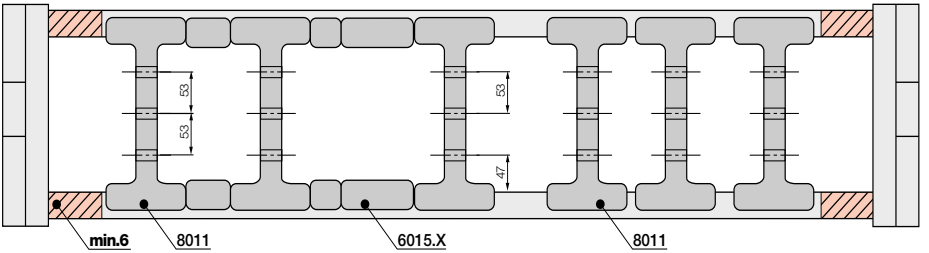
Part No. crossbars every link			*Bi* [mm]	Part No. crossbars every link			*Bi* [mm]
800.	20.	*R*.0.NC	200	800.	40.	*R*.0.NC	400
800.	25.	*R*.0.NC	250	800.	45.	*R*.0.NC	450
800.	30.	*R*.0.NC	300	800.	50.	*R*.0.NC	500
800.	32.	*R*.0.NC	325	800.	55.	*R*.0.NC	550
800.	35.	*R*.0.NC	350	800.	60.	*R*.0.NC	600

Available bending radii ***R*** [mm] 325 | 350 | 400 | 450 | 500 | 600 | 750 | 1000

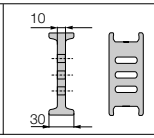
Supplement Part No. with required radius *(R)*. Example: **800.40.400.0.NC**

For NC-e-chains® without pretension supplement Part No. with required index "**NC**"
Example: **Part No. 800.40.400.0.NC** = e-chain® (crossbars every link) without pretension

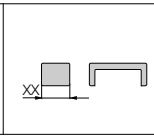
NC-Version - Delivery in 24h or today!*
*Delivery time means time until shipping of goods



Note e-chain®: Please observe a lateral spacing of **6 mm** to the side links!
In the standard configuration separators are assembled every 2nd e-chain® link!



Separator for e-chains®	
unassembled	**8001**
assembled	**8011**



Spacer* for e-chains®	
unassembled	**6005.XX**
assembled	**6015.XX**

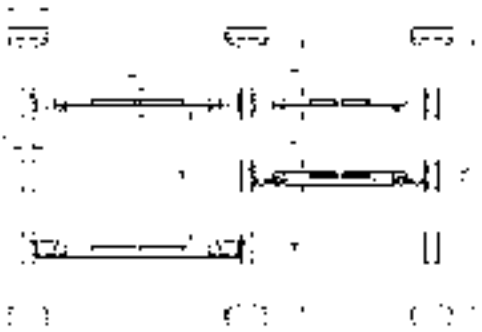
Separator 8001

For a vertical subdividing. Offers safe stability due to its wide base design, also when used with thick cables or hoses.

Spacer* 6005.XX

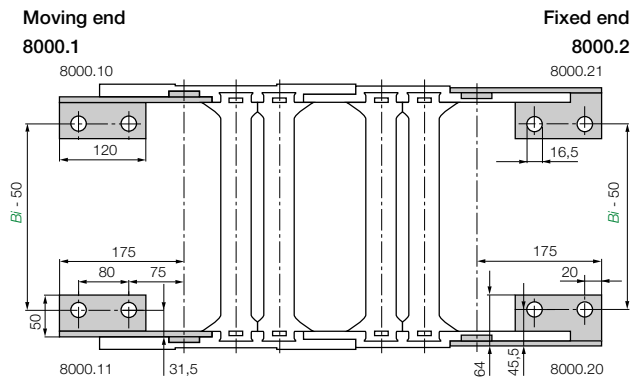
Separators can be fixed in position by spacers. The available interior height is reduced by 2 mm per spacer (4 mm when spacers are fitted on both sides). To avoid this, the parts can also be installed from the outside on the opening crossbar. (not for long travel applications). **XX = width of the spacer** (please choose between 10, 15, 20 mm).

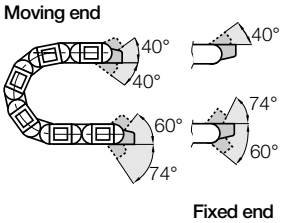
Modular E4 shelving system for Series 800



- Secure guide even for large cables
- Easy assembly
- Robust, also for large cable diameters
- Modular
- Widths from 50 - 600 mm

Part No. unassembled	Part No. assembled	Snap in tab	Part No. separator	Part No. crossbar	Width [mm]
8001H1	8011H1	single-sided	8001	450.XX	50-600
8001H2	8011H2	double-sided	8001	450.XX	50-600

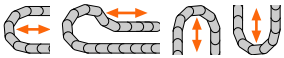




Steel pivoting | Recommended for unsupported, gliding, vertical hanging and standing applications

Part No.	Mounting bracket
8000.1.12.E	Full attachment set (both sides) for e-chain®, ending with outer side link
8000.3.12.E	Full attachment set (both sides) for e-chain®, beginning with outer side link (moving end), ending with inner side link (fixed end)
8000.1.E	Mounting bracket set **moving end** (one side) for outer side link
8000.2.E	Mounting bracket set **fixed end** (one side) for inner side link

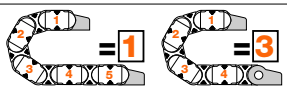
Note: By ordering steel mounting brackets in combination with an e-chain® / e-tube, they will be delivered assembled!



- For pivoting connections
- Secure connection
- One part (two-piece) for all e-chain® widths
- Electrically conductive
- Stainless steel version available - please add index **.E**

(Material: stainless steel 1.4301)

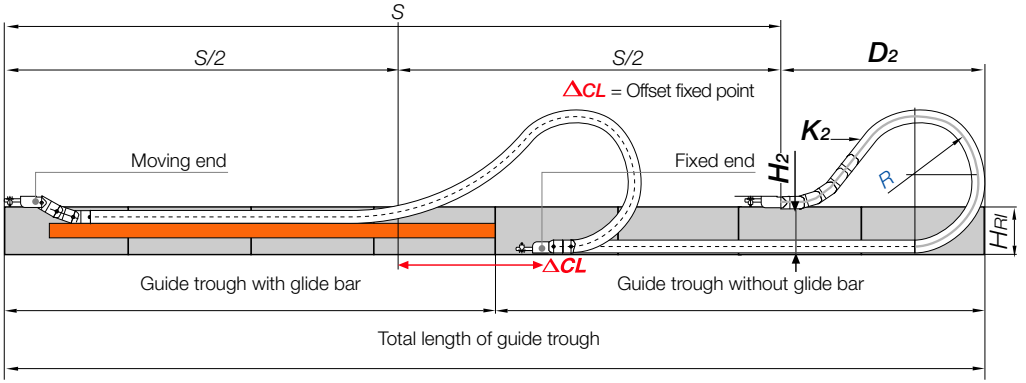
Note: Depending on the e-chain® length, the carrier will end with 1 outer or 3 inner side links. For the best appearance, make sure the e-chain® ends with 1 outer side link whenever possible. (with odd number of links)



Strain relief, e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with order options ▶ from page 10.1

Gliding applications | For long travels from 15 m to max. 450 m

Solution for long travel applications - In this case the e-chain® upper run will be introduced in a guide trough on the lower run. For travels more than 100 m we recommend to realize the engineering of such a plant by our technicians. **In case of travels between 12 and 15 m we recommend a longer unsupported length.** More information ▶ **Design, from page 1.16.**



Pitch = 250 mm/link · **Links/m** = 4 (1000 mm) · **Chain length** = $S/2 + K$

R	325	350	400	450	500	600	750	1000
H_2	580	580	580	580	580	580	580	580
D_2^{+25}	1030	1080	1380	1610	2000	2480	*	*
K_2	2000	2000	2500	3000	3250	4000	*	*
ΔCL	250	300	550	750	1050	1400	*	*

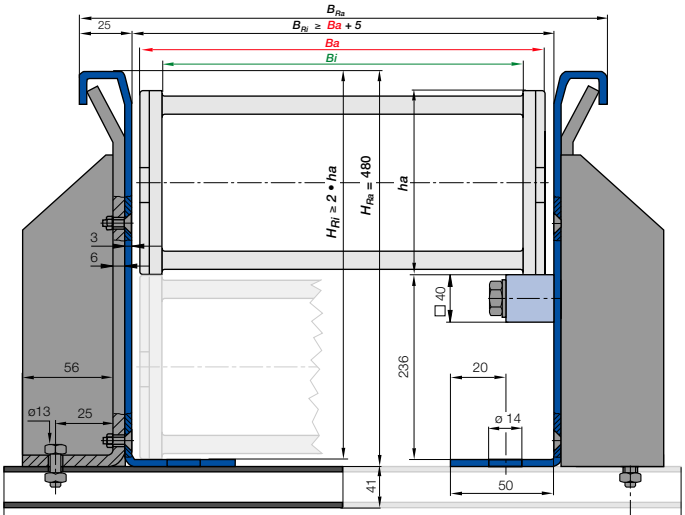
*upon request!

The complete range of special solutions for long travel applications incl. order function ▶ from page 9.76

H_2 = Mounting height (if the moving end is set lower) · K_2 = Further add-on (if the moving end is set lower) · ΔCL = Offset fixed point · *S* = Length of travel
D_2 = Over length - long travels, gliding · *R* = Bending radius · H_{Ri} = Inner trough height · *S/2* = Half length of travel

Part No. 90.30 | **90.31** | Trough height: 480 mm

Steel Guide Troughs



Length of the C-profile according to dimension B_{Ri} (see table)

Installation set with C-profile for e-chains®

800.20.325.0 ▶ Order example

	B_{Ri} [mm]	Part No. Installation set
.20	265	**90.50.450**
.25	315	**90.50.500**
.30	365	**90.50.550**
.32	390	**90.50.575**
.35	415	**90.50.600**
.40	465	**90.50.650**
.45	515	**90.50.700**
.50	565	**90.50.750**
.55	615	**90.50.800**
.60	665	**90.50.850**

- **Guide trough without glide bars** — **Part No. 90.30**
- **Guide trough with glide bars** — **Part No. 90.31**
- **Installation sets as end connectors** — **Part No. 90.50.XX**

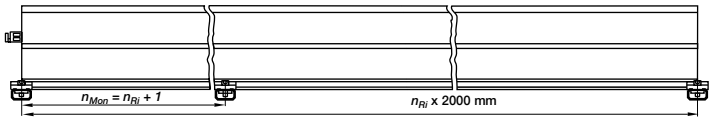
.XX indicates the length of the C-profile on which the guide trough is mounted. (see table). The values and part numbers are specified in the table on the left. Standard length of the trough components and glide bars is 2 m.The required overall length of the guide trough directly correlates to the length of travel. Special dimensions are available for confined spaces.

Order example: Length of travel 30 m - Center mounted for Series 800.20.325.0 with B_{Ri} = 256

Guide trough set without glide bar (set of 2 trough side parts, incl. glide strips)
Order text: 16 m guide trough without glide bar (8 x 2 m sections) **Part No. 90.30**

Guide trough set with glide bar (set of 2 trough side parts, incl. glide strips)
Order text: 16 m guide trough with glide bar (8 x 2 m sections) **Part No. 90.31**

Installation set "Basic" complete (guide trough-sets + 1)
Order text: 17 installation sets **Part No. 90.50.450**



Principle sketch: Number of installation sets to be installed = Number of trough sections + 1

Details on steel guide troughs ▶ from page 9.60

- Trough set
- Installation set
- Glide bar
- C-Profile
- *Ba* = Outer width e-chains®
- *Bi* = Inner width e-chains®

B_{Ri} = Inner trough width
B_{Ra} = Outer trough width
H_{Ri} = Inner trough height
H_{Ra} = Outer trough height
n_{Mon} = Number of installation sets
n_{Ri} = Number of trough sets

E4.1 | **Series 800** | **Options** and order key

	Standard	*Simply turn outer side link without additional work*	*Reverse bending radius for circular movements*	*Unsupported lengths +25% possible*	*ATEX/ESD classified e-chains® - II 2 GD*
	Part No. **Standard** **e-chains**	**Part No.** **NC-Material** **e-chains**	**Part No.** **RBR** **e-chains®**	**Part No.** **XXL-Material**** **e-chains®**	**Part No.** **ESD-Material** **e-chains®**
	800.30.*R*.0 Crossbar every link	800.30.*R*.0.**NC** Crossbar every link	800.30.*R1/R2*.0 Crossbar every link	800.30.*R*.0.**XXL** Crossbar every link	800.30.*R*.0.**ESD** Crossbar every link
	Delivery in 24h or today!*	**Delivery in 24h or today!***	**Delivery time: 10 work days** (2-5 work days with express surcharge)	**Delivery time: 1-2 weeks** **Sidebands made from XXL-Material	**Delivery time: 5 work days**

Combination possibilities | Examples

	NC-Version	RBR-Version	XXL-Material	ESD-Material
NC-Version		–	–	800.30.*R*.0.ESD.NC
RBR-Version	–		–	800.30.*R1/R2*.0.ESD
XXL-Material	–	–		–
ESD - Material*	800.30.*R*.0.ESD.NC	800.30.*R1/R2*.0.ESD	–	

*for gliding applications please consult igus®

E4.1 | **Series 800** | **Options** and order key

Assembling of an e-chain® Series 800 in an igus® steel guide trough

Order example | Order key and color options

Order example for complete e-chain® (3,0 m, with crossbars every link), color black, mounting brackets and interior separation

e-chain® (3,0 m)	Please indicate e-chain® length or number of links: 3,0 m or 12 links	**800.30.300.0**
+ Mounting brackets	Full attachment set (both sides), ending with outer side link	**8000.1.12**
+ Interior separation	with 2 separators assembled every 2nd link	**2 x 8011**

Order text: 3,0 m 800.30.300.0 + 8000.1.12 + 2 x Part No. 8011

Order key
800.30.300.0

- Standard color black
- Bending radius *R*
- Width index
- Series / Type

Color options for e-chains® and e-tubes

Color	Order index	Color	Order index
black	**.0 from stock!**	green*	**.7**
white*	**.1**	grey*	**.3** for e-chains®
violet*	**.5**	dusty grey*	**.3** for e-tubes
yellow*	**.4**	agate grey*	**.11**
orange*	**.2**	light grey*	**.14**
red*	**.6**	black grey*	**.13**
blue*	**.8**	yellow/black*	**.9**

Black e-chains® from stock! *Colored e-chains® can be delivered in 15 work days (5 work days at an express surcharge).

Available from stock. Delivery in 24h or today!*
*Delivery time means time until shipping of goods

For rough conditions, very large inner height

When to use Series 840:

- If a robust e-chain® with an inner height of 204 mm is required
- If inner widths up to 563 mm are required
- For unsupported lengths up to 8,0 m and fill weights up to 90 kg/m
- For long travels up to 450 m
- Optimized ratio of interior and exterior dimension
- If many options and accessories are desired

When to use a different igus® Series

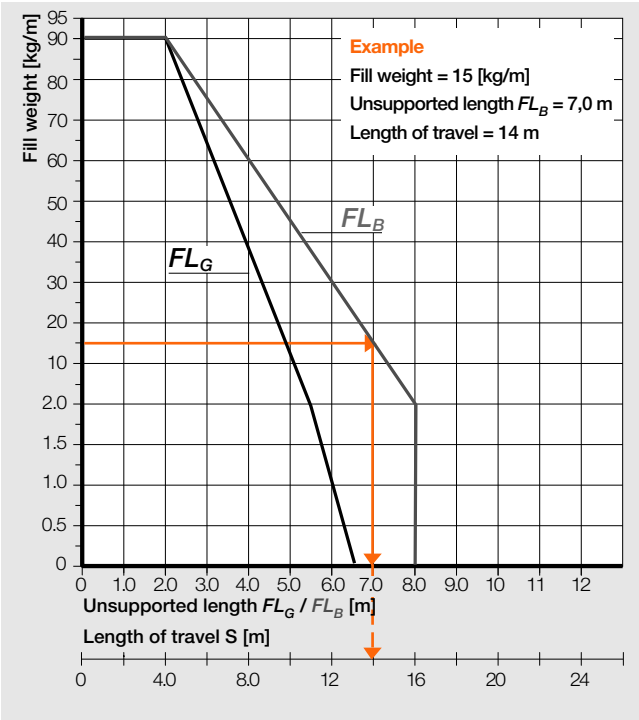
- If an even more stable e-chain® with identical inner height is required

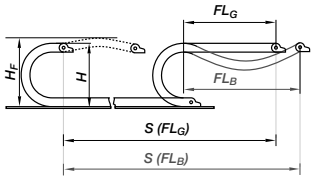
►**Series 800, page 7.130**

The new igus® E4 e-chain® opener reduces assembly time ► page 7.15

Available from stock. Delivery in 24h or today!*
*Delivery time means time until shipping of goods

3D-CAD files, configurators, PDF ► www.igus.de/en/840





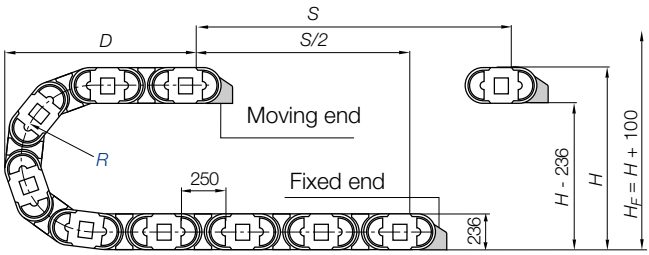
Unsupported applications

Unsupported e-chains® feature positive camber over short travels. This must be accounted for when specifying the clearance height H_F. Please consult igus® if space is particularly restricted. More information ▶ **Design, page 1.8**

Gliding applications

Travels up to 450 m.

More information ▶ **page 7.146**



Technical Data

Speed, material, temperature and flammability class ▶ **page 7.16**

Pitch = 250 mm/link
Links/m = 4 (1000 mm)
Chain length = $S/2 + K$

R	325	350	400	450	500	600	750	1000
H	886	936	1036	1136	1236	1436	1736	2236
D	725	750	800	850	900	1000	1150	1400
K	1525	1600	1760	1915	2075	2385	2860	3645

The required clearance height: H_F = *H* + 100 mm (with 5,0 kg/m fill weight)

FL_G = with straight upper run
FL_B = with permitted sag
S = Length of travel
R = Bending radius
H = Nominal clearance height
H_F = Required clearance height
D = Overlength e-chain®, radius in final position
K = $\pi \bullet R$ + "safety"

e-chains® | Series **840** with crossbars every link

Part No. crossbars every link	*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

Part No. crossbars every link	*Bi* [mm]	*Ba* [mm]	840 [kg/m]
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
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

Part No. crossbars every link	*Bi* [mm]	*Ba* [mm]	840 [kg/m]
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 bending radii *R* [mm] 325 | 350 | 400 | 450 | 500 | 600 | 750 | 1000

Supplement Part No. with required radius *(R)*. Example: **840.40.400.0**

840.40.400.0 = e-chain® with **crossbars every link**, inner width ***Bi*** 363 mm, radius ***R*** 400 mm, color black

More order examples, variations and configurations ► page 7.148

Standard e-chains® incl. accessories from stock. Delivery in 24h or today.*

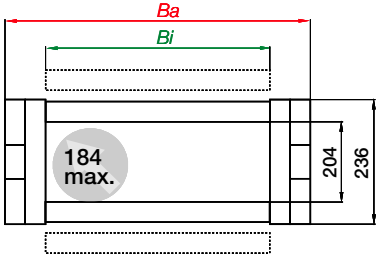
*Delivery time means time until shipping of goods

Order key

840. 40. 400. 0

- Standard color black
- Bending radius *R*
- Width index (depends on *Bi*)
- Series / Type

Dimensioning



NC-Version | Without pretension

Part No. crossbars every link	*Bi* [mm]	Part No. crossbars every link	*Bi* [mm]	Part No. crossbars every link	*Bi* [mm]
840. 13. *R*.0.NC	100	840. 28. *R*.0.NC	250	840. 43. *R*.0.NC	400
840. 15. *R*.0.NC	113	840. 30. *R*.0.NC	263	840. 45. *R*.0.NC	413
840. 16. *R*.0.NC	125	840. 31. *R*.0.NC	275	840. 46. *R*.0.NC	425
840. 17. *R*.0.NC	138	840. 32. *R*.0.NC	288	840. 47. *R*.0.NC	438
840. 18. *R*.0.NC	150	840. 33. *R*.0.NC	300	840. 48. *R*.0.NC	450
840. 20. *R*.0.NC	163	840. 35. *R*.0.NC	313	840. 50. *R*.0.NC	463
840. 21. *R*.0.NC	175	840. 36. *R*.0.NC	325	840. 51. *R*.0.NC	475
840. 22. *R*.0.NC	188	840. 37. *R*.0.NC	338	840. 52. *R*.0.NC	488
840. 23. *R*.0.NC	200	840. 38. *R*.0.NC	350	840. 53. *R*.0.NC	500
840. 25. *R*.0.NC	213	840. 40. *R*.0.NC	363	840. 55. *R*.0.NC	513
840. 26. *R*.0.NC	225	840. 41. *R*.0.NC	375	840. 60. *R*.0.NC	563
840. 27. *R*.0.NC	238	840. 42. *R*.0.NC	388		

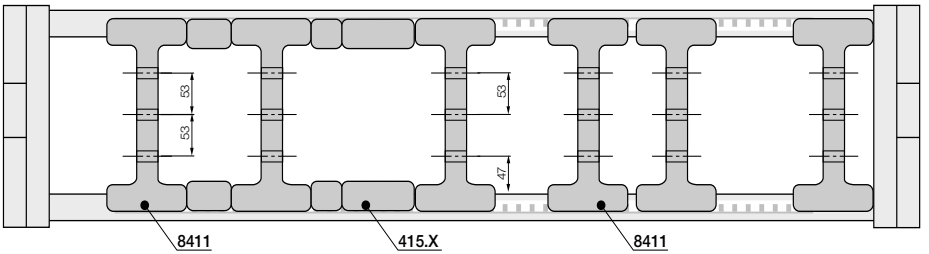
Available bending radii ***R*** [mm] 325 | 350 | 400 | 450 | 500 | 600 | 750 | 1000

Supplement Part No. with required radius *(R)*. Example: **840.40.400.0.NC**

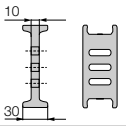
For NC-e-chains® without pretension supplement Part No. with required index "**NC**"
Example: **Part No. 840.40.400.0.NC** = e-chain® (crossbars every link) without pretension

NC-Version - Delivery in 24h or today!*
*Delivery time means time until shipping of goods

Part No. of e-chain® links as single parts ▶page 7.17



Note: No lateral spacing to side links necessary!
In the standard configuration separators are assembled every 2nd e-chain® link!



Separator for e-chains®	
unassembled	**6401**
assembled	**6411**

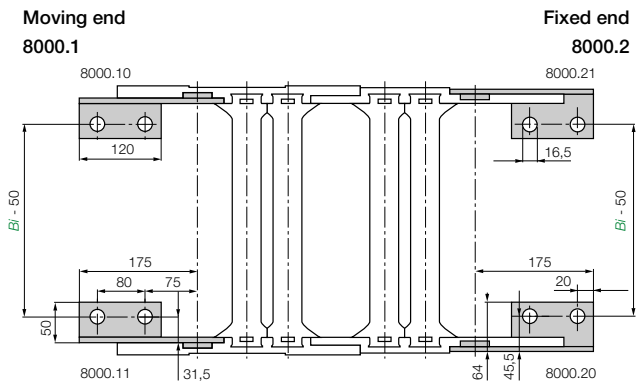
Spacer* for e-chains®	
unassembled	**405.XX**
assembled	**415.XX**

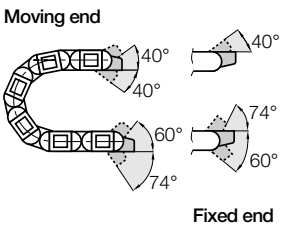
Separator 8401

For a vertical subdividing. Offers safe stability due to its wide base design, also when used with thick cables or hoses.

Spacer* 405.XX

Separators can be fixed in position by spacers. The available interior height is reduced by 2 mm per spacer (4 mm when spacers are fitted on both sides). To avoid this, the parts can also be installed from the outside on the opening crossbar. (not for long travel applications). **XX = width of the spacer** (please choose between 10, 15, 20, 30, 40 mm).

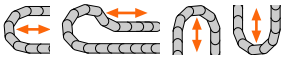




Steel pivoting | Recommended for unsupported, gliding, vertical hanging and standing applications

Part No.	Mounting bracket
8000.1.12.E	Full attachment set (both sides) for e-chain®, ending with outer side link
8000.3.12.E	Full attachment set (both sides) for e-chain®, beginning with outer side link (moving end), ending with inner side link (fixed end)
8000.1.E	Mounting bracket set **moving end** (one side) for outer side link
8000.2.E	Mounting bracket set **fixed end** (one side) for inner side link

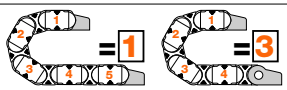
Note: By ordering steel mounting brackets in combination with an e-chain® / e-tube, they will be delivered assembled!



- For pivoting connections
- Secure connection
- One part (two-piece) for all e-chain® widths
- Electrically conductive
- Stainless steel version available - please add index **.E**

(Material: stainless steel 1.4301)

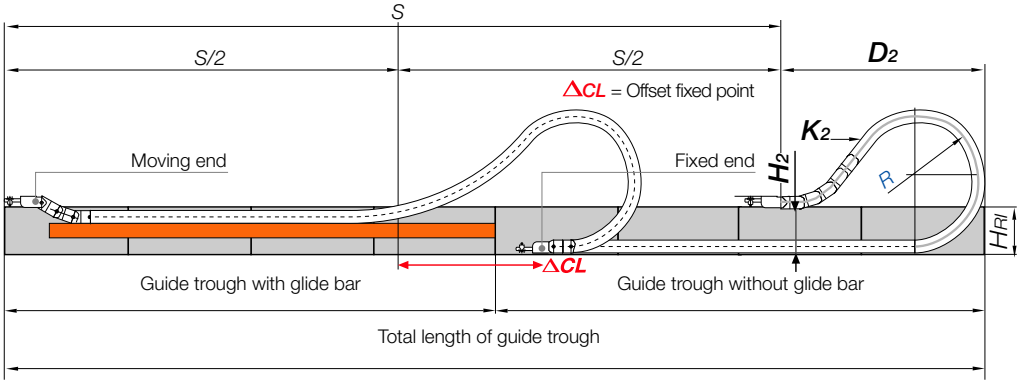
Note: Depending on the e-chain® length, the carrier will end with 1 outer or 3 inner side links. For the best appearance, make sure the e-chain® ends with 1 outer side link whenever possible. (with odd number of links)



Strain relief, e.g. clamps, tiewrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with order options ► from page 10.1

Gliding applications | For long travels from 15 m to max. 450 m

Solution for long travel applications - In this case the e-chain® upper run will be introduced in a guide trough on the lower run. For travels more than 100 m we recommend to realize the engineering of such a plant by our technicians. **In case of travels between 12 and 15 m we recommend a longer unsupported length.** More information ▶ **Design, from page 1.16.**



Pitch = 250 mm/link · **Links/m** = 4 (1000 mm) · **Chain length** = $S/2 + K$

R	325	350	400	450	500	600	750	1000
H_2	580	580	580	580	580	580	580	580
D_2^{+25}	1030	1080	1380	1610	2000	2480	*	*
K_2	2000	2000	2500	3000	3250	4000	*	*
ΔCL	250	300	550	750	1050	1400	*	*

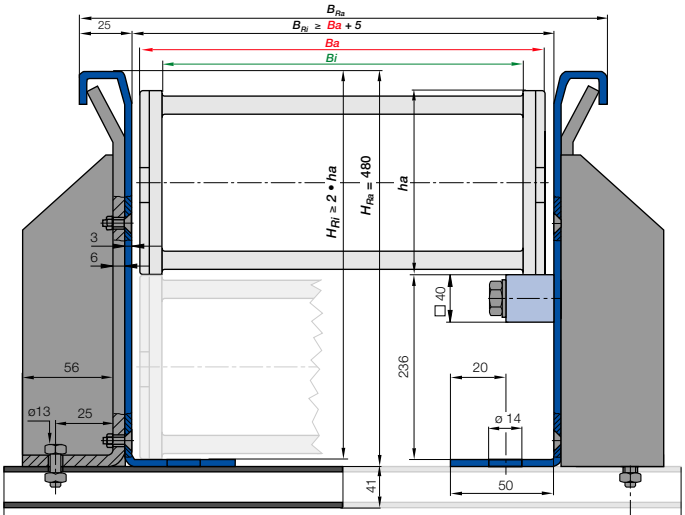
*upon request!

The complete range of special solutions for long travel applications incl. order function ▶ from page 9.76

H_2 = Mounting height (if the moving end is set lower) · K_2 = Further add-on (if the moving end is set lower) · ΔCL = Offset fixed point · *S* = Length of travel
D_2 = Over length - long travels, gliding · *R* = Bending radius · H_{Ri} = Inner trough height · *S*/2 = Half length of travel

Part No. 90.30 | **90.31** | Trough height: 480 mm

Steel Guide Troughs



Length of the C-profile according to dimension B_{Ri} (see table)

- **Guide trough without glide bars** — **Part No. 90.30**
- **Guide trough with glide bars** — **Part No. 90.31**
- **Installation sets as end connectors** — **Part No. 90.50.XX**

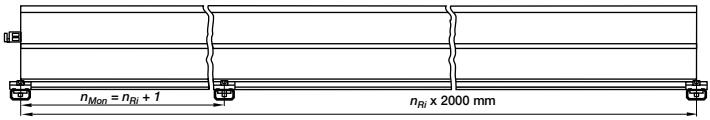
.XX indicates the length of the C-profile on which the guide trough is mounted. (see table). The values and part numbers are specified in the table on the left. Standard length of the trough components and glide bars is 2 m.The required overall length of the guide trough directly correlates to the length of travel. Special dimensions are available for confined spaces.

Order example: Length of travel 30 m - Center mounted for Series 840.13.325.0 with B_{Ri} = 165

Guide trough set without glide bar (set of 2 trough side parts, incl. glide strips)
Order text: 16 m guide trough without glide bar (8 x 2 m sections) **Part No. 90.30**

Guide trough set with glide bar (set of 2 trough side parts, incl. glide strips)
Order text: 16 m guide trough with glide bar (8 x 2 m sections) **Part No. 90.31**

Installation set "Basic" complete (guide trough-sets + 1)
Order text: 17 installation sets **Part No. 90.50.350**



Principle sketch: Number of installation sets to be installed = Number of trough sections + 1

Details on steel guide troughs ▶ from page 9.60

● Trough set ● Installation set ● Glide bar
● C-Profile
Ba = Outer width e-chains®
Bi = Inner width e-chains®
B_{Ri} = Inner trough width
B_{Ra} = Outer trough width
H_{Ri} = Inner trough height
H_{Ra} = Outer trough height
n_{Mon} = Number of installation sets
n_{Ri} = Number of trough sets

Installation set with C-profile for e-chains®

840.**13**.325.0 ▶ Order example

	B_{Ri} [mm]	Part No. Installation set
.13	165	**90.50.350**
.15	178	**90.50.350**
.16	190	**90.50.375**
.17	203	**90.50.375**
.18	215	**90.50.400**
.20	228	**90.50.400**
.21	240	**90.50.425**
.22	253	**90.50.425**
.23	265	**90.50.450**
.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**

E4.1 | **Series 840** | **Options** and order key

	Standard	*Simply turn outer side link without additional work*	*Reverse bending radius for circular movements*	*Unsupported lengths +25% possible*	*ATEX/ESD classified e-chains® - II 2 GD*
	Part No. **Standard** **e-chains**	**Part No.** **NC-Material** **e-chains**	**Part No.** **RBR** **e-chains®**	**Part No.** **XXL-Material**** **e-chains®**	**Part No.** **ESD-Material** **e-chains®**
	840.40.*R*.0 Crossbar every link	840.40.*R*.0.**NC** Crossbar every link	840.40.*R1/R2*.0 Crossbar every link	840.40.*R*.0.**XXL**	840.40.*R*.0.**ESD** Crossbar every link
	Delivery in 24h or today!*	**Delivery in 24h or today!***	**Delivery time: 10 work days** (2-5 work days with express surcharge)	**Delivery time: 1-2 weeks** **Sidebands made from XXL-Material	**Delivery time: 5 work days**

Combination possibilities | Examples

	NC-Version	RBR-Version	XXL-Material	ESD-Material
NC-Version		–	–	840.30.*R*.0.ESD.NC
RBR-Version	–		–	840.30.*R1/R2*.0.ESD
XXL-Material	–	–		–
ESD - Material*	840.30.*R*.0.ESD.NC	840.30.*R1/R2*.0.ESD	–	

*for gliding applications please consult igus®

E4.1 | **Series 840** | **Options** and order key

Order example | Order key and color options

Order example for complete e-chain® (3,0 m, with crossbars every link), color black, mounting brackets and interior separation

e-chain® (3,0 m)	Please indicate e-chain® length or number of links: 3,0 m or 12 links	**840.40.400.0**
+ Mounting brackets	Full attachment set (both sides), ending with outer side link	**8000.1.12**
+ Interior separation	with 2 separators assembled every 2nd link	**2 x 8411**

Order text: 3,0 m 840.40.400.0 + 8000.1.12 + 2 x Part No. 8411

Order key
840.40.400.0

- Standard color: black
- Bending radius *R*
- Width index
- Series / Type

Color options for e-chains® and e-tubes

Color	Order index	Color	Order index
black	**.0** from stock!	green*	.7
white*	.1	grey*	.3 for e-chains®
violet*	.5	dusty grey*	.3 for e-tubes
yellow*	.4	agate grey*	.11
orange*	.2	light grey*	.14
red*	.6	black grey*	.13
blue*	.8	yellow/black*	.9

Black e-chains® from stock! *Colored e-chains® can be delivered in 15 work days (5 work days at an express surcharge).

Available from stock. Delivery in 24h or today!*
*Delivery time means time until shipping of goods

Largest all-plastic e-chain®, extreme inner height 350 mm

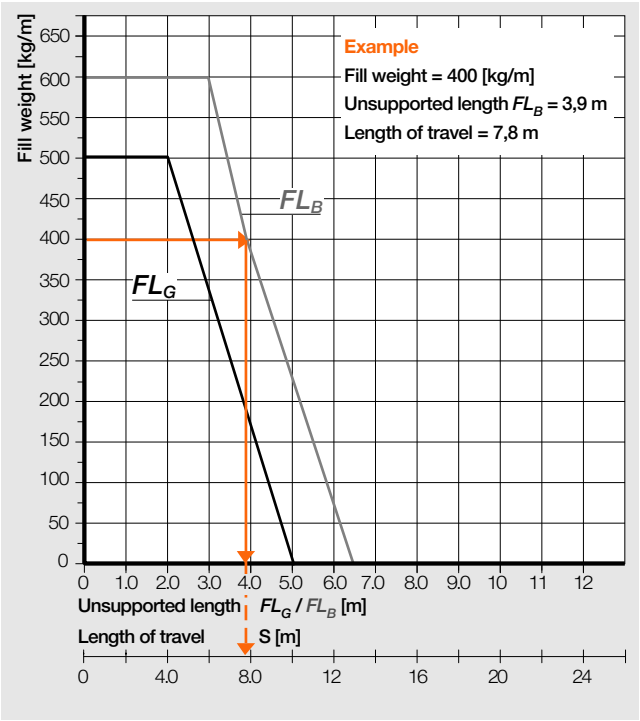
When to use Series E4.350:

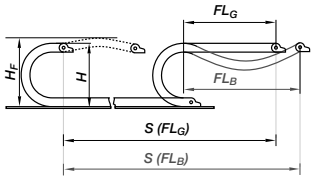
- If the world's largest all-plastic e-chain® (issue 04/2010) with an inner height of 350 mm is required
- For a very huge interior up to a diagonal of 42"and an inner width up to 1000 mm
- For unsupported lengths up to 6,5 m und fill weights >100 kg/m
- For large, heavy and stiff cables
- Ideal for rough use on oil platforms, in steel plants, or in heavy duty machinery
- Maintenance-free - no grease or oil needed to lubricate the joints
- Less abrasion due to rollers

Please aks for additional support for this series. An optimal dimensioning is done by the igus® project team!

Available from stock. Delivery in 24h or today!*
*Delivery time means time until shipping of goods

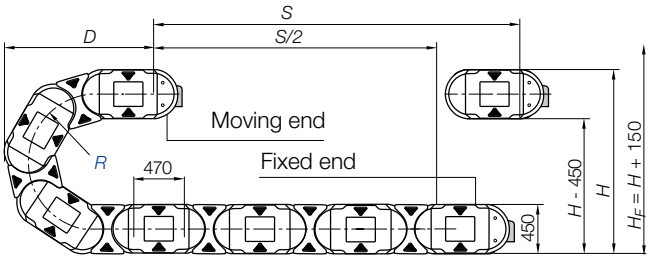
3D-CAD files, configurators, PDF ► www.igus.de/en/E4.350





Unsupported applications

Unsupported e-chains® feature positive camber over short travels. This must be accounted for when specifying the clearance height H_F. Please consult igus® if space is particularly restricted. More information ▶ **Design, page 1.8**



Technical Data

Speed, material, temperature and flammability class ▶ **page 7.16**

Pitch = 470 mm/link
Links/m = 2 (940 mm)
Chain length = $S/2 + K$

R	**500**	**750**	**1000**
$H\ ^{-0}_{+25}$	1450	1950	2450
D	1195	1445	1695
K	2515	3300	4085

The required clearance height: $H_F = H + 150$ mm

FL_G = with straight upper run
FL_B = with permitted sag
S = Length of travel
R = Bending radius
H = Nominal clearance height
H_F = Required clearance height
D = Overlength e-chain®, radius in final position
K = $\pi \bullet R +$ "safety"

e-chains® | Series **E4.350** with crossbars every link

Part No. crossbars every link	*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

Part No. crossbars every link	*Bi* [mm]	*Ba* [mm]	E4.350 [kg/m]
E4.350. 700. *R*.0	700	840	73,4
E4.350. 800. *R*.0	800	940	77,2

Available bending radii *R* [mm] **500** | **750** | **1000**

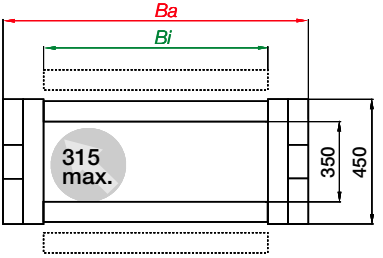
Supplement Part No. with required radius (*R*). Example: **E4.350.500.500.0**

Order key

E4.350. 500. 500. 0

- Standard color black
- Bending radius ***R***
- Width index (depends on *Bi*)
- Inner height
- Series / Type

Dimensioning

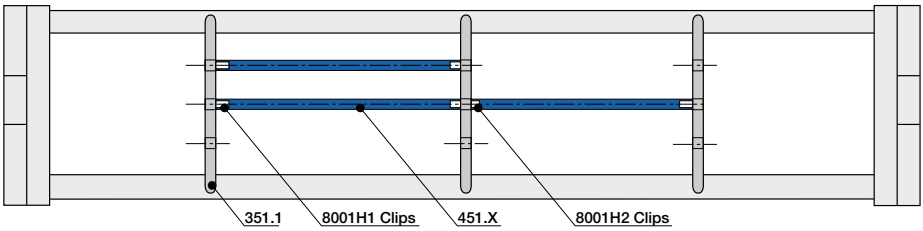


E4.350.500.500.0 = e-chain® with **crossbars every link**, inner width ***Bi* 500** mm, radius ***R* 500** mm, color black

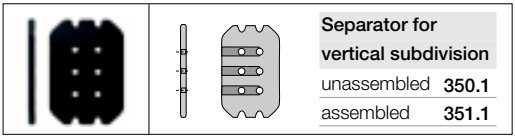
More order examples, variations and configurations ► page 7.155

Standard e-chains® incl. accessories from stock. Delivery in 24h or today.*

*Delivery time means time until shipping of goods



In the standard configuration separators are assembled every 2nd e-chain® link
Note: No lateral spacing to side links necessary!



Separator for vertical subdivision	
unassembled	**350.1**
assembled	**351.1**

Shelf for horizontal subdivision	
unassembled	**450.X**
assembled	**451.X**

Separator for vertical subdivision 350.1

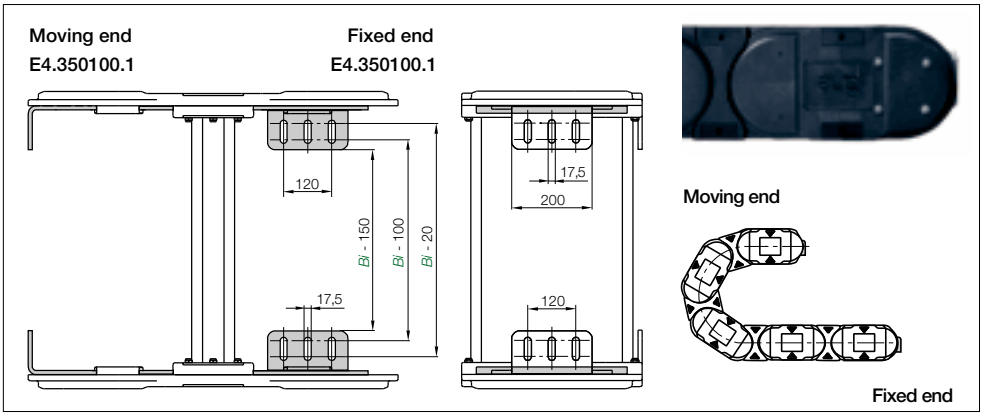
For a vertical subdivision subdivision 450.X in 3 levels.

Shelf for horizontal subdivision 450.X

For horizontal separation with clips separators for vertical subdivision. Horizontal shelves of various widths can be arranged at 3 different levels.

Horizontal shelves

Width X [mm]	unassembled	assembled	Width X [mm]	unassembled	assembled	Width X [mm]	unassembled	assembled
50	**450.50**	**451.50**	225	**450.225**	**451.225**	400	**450.400**	**451.400**
65	**450.65**	**451.65**	237	**450.237**	**451.237**	412	**450.412**	**451.412**
75	**450.75**	**451.75**	250	**450.250**	**451.250**	425	**450.425**	**451.425**
87	**450.87**	**451.87**	262	**450.262**	**451.262**	437	**450.437**	**451.437**
100	**450.100**	**451.100**	275	**450.275**	**451.275**	450	**450.450**	**451.450**
112	**450.112**	**451.112**	287	**450.287**	**451.287**	462	**450.462**	**451.462**
125	**450.125**	**451.125**	300	**450.300**	**451.300**	475	**450.475**	**451.475**
137	**450.137**	**451.137**	312	**450.312**	**451.312**	487	**450.487**	**451.487**
150	**450.150**	**451.150**	325	**450.325**	**451.325**	500	**450.500**	**451.500**
162	**450.162**	**451.162**	337	**450.337**	**451.337**	512	**450.512**	**451.512**
175	**450.175**	**451.175**	350	**450.350**	**451.350**	525	**450.525**	**451.525**
187	**450.187**	**451.187**	362	**450.362**	**451.362**	537	**450.537**	**451.537**
200	**450.200**	**451.200**	375	**450.375**	**451.375**	550	**450.550**	**451.550**
212	**450.212**	**451.212**	387	**450.387**	**451.387**	600	**450.600**	**451.600**



Steel mounting brackets

Part No.	Mounting bracket
E4.350100.1.12.E	Full attachment set (both sides) for e-chain®, ending with outer side link
E4.350100.1.E	Mounting bracket set (one side) for outer side link

Note: By ordering steel mounting brackets in combination with an e-chain® / e-tube, they will be delivered assembled!

- For pivoting connections
- Secure connection
- One part (two-piece) for all e-chain® widths
- Electrically conductive
- Stainless steel version available - please add index **.E**
  (Material: stainless steel 1.4301)

Robust steel mounting bracket for secure fixation and connection

Order example | Order key and color options

Order example for complete e-chain® (3,0 m, with crossbars every link), color black, mounting brackets and interior separation

e-chain® (3,0 m)	Please indicate e-chain® length or number of links: 3,0 m or 6 links	**E4.350.500.500.0**
+ Mounting brackets	Full attachment set (both sides), ending with outer side link	**E4.350100.1.12**
+ Interior separation	with 2 separators assembled every 2nd link	**2 x 350.1**

Order text: 3,0 m E4.350.500.500.0 + E4.350100.1.12 + 2 x Part No. 350.1

Order key
E4.350.500.500.0

- Standard color
- Bending radius *R*
- Width index
- Inner height
- Series / Type

Color options for e-chains® and e-tubes

Color	Order index	Color	Order index
black	**.0** from stock!	green*	.7
white*	.1	grey*	.3 for e-chains®
violet*	.5	dusty grey*	.3 for e-tubes
yellow*	.4	agate grey*	.11
orange*	.2	light grey*	.14
red*	.6	black grey*	.13
blue*	.8	yellow/black*	.9

Black e-chains® from stock! *Colored e-chains® can be delivered in 15 work days (5 work days at an express surcharge).

Available from stock. Delivery in 24h or today!*
*Delivery time means time until shipping of goods