



E4.1L

The best combination of stability and low weight

Moving energy made even easier - fast harnessing and time-less design



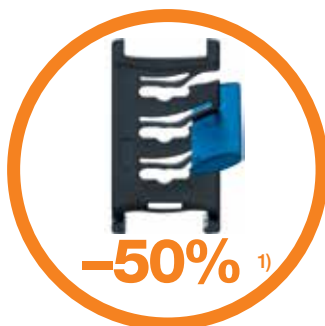
Advantages of the E4.1L system:

- 30% lighter and more cost-effective than the comparable E4.1
- Very cost-efficient: strong and light due to optimized e-chain® link design
- Ideal ratio of internal and external dimensions with thinner outer links and optimized crossbar geometry
- e-chains® and e-tubes openable along the inner and outer radius, from both sides
- Inside completely accessible for easy filling
- Very tightly fitting lids on the e-tubes, virtually no gaps or openings
- Also suitable for side-mounted, standing and hanging applications
- Lower weight, high strength and good dynamics



When to use another e-chain® series:

- For easy, tool-free opening and closing - the next generation of easy-to-assemble e-chains®
 - ▶ E4Q, page 588
- When the e-chain® needs to be extremely quiet (32dB(A)) with very low vibration
 - ▶ E6.1, page 848
- When the e-chain® should have a cleanroom ISO Class 1 classification
 - ▶ E6.1, page 848
- If even higher strength is required
 - ▶ E4.1, page 626



1) Approx. 50% time saving with lean interior separation compared to standard interior separation, tested in the igus® laboratory

2) Approx. 80% time saving with CFU lean strain relief compared to chainfix CFX, tested in the igus® laboratory

3) Approx. 67% less assembly time with E4.48L compared to E4.42, tested in the igus® laboratory

The best combination of strength and low weight - E4.1L

Significantly reduce assembly and harnessing time with the E4.1L(ean). Whether as an e-chain® or a chip-proof energy tube, with its sleek design and matching accessories the E4.1L brings maximum efficiency at a cost-effective price. An easily accessible interior, improved crossbars and separators and the new honeycomb strain relief system result in an 80% faster installation. Easily adaptable to any application due to the modular design, this universal solution makes optimal use of the space, is lighter than the alternatives and yet extremely strong. A cable-friendly interior ensures a long service life for the cables. The E4.1L reduces downtime and the installation and maintenance time whilst saving time and money in operation and acquisition.

Typical industries and applications

● Machine Tools ● General Mechanical Engineering ● If the stability of the E2/000 is not enough for you, but an E4.1 is oversized



Electrically conductive ESD e-chains® upon request



High strength



iF product design award
2014 for series R4.1L

Attachment from any side with KMA mounting brackets

Cost-effective: optimized internal space

Easy filling: openable from both sides

Precise partitions: notch crossbar with visual scale

Fast assembly: e-chains® and e-tubes openable along the inner and outer radius, from both sides

No pretension: NC version by rotating the outer link

Chip protection: very tightly sealed lids

High strength: due to undercut design

Straight run: due to inner/outer link principle

E4.1L | Selection table

Series	Inner height hi		Inner width Bi		Outer width Ba		Outer height ha		Bending radius R		Unsupported length
	in.	(mm)	in.	(mm)	in.	(mm)	in.	(mm)	in.	(mm)	≤ ft. (m)



e-chains® with crossbars every link
the lightweight all-rounder - even for demanding applications

Please observe the guidelines for the e-chains® selection, further information ► From page 116

E4.31L	1.22	(31)	1.57-6.89	(40-175)	2.13-7.44	(54-189)	1.65	(42)	2.17-9.84	(055-250)	6.56 (2.00)
E4.38L	1.50	(38)	1.97-11.81	(50-300)	2.60-12.44	(66-316)	2.13	(54)	2.48-11.81	(063-300)	9.02 (2.75)
E4.48L	1.89	(48)	1.97-11.81	(50-300)	2.76-12.60	(70-320)	2.52	(64)	2.95-13.78	(075-350)	12.30 (3.75)
E4.64L	2.52	(64)	2.95-13.78	(75-350)	3.98-14.80	(101-376)	3.31	(84)	3.94-15.75	(100-400)	13.12 (4.00)



e-tubes
lightweight, fully enclosed, excellent cable protection

Please observe the guidelines for the e-chains® selection, further information ► From page 116

R4.31L	1.22	(31)	1.97-3.94	(50-100)	2.52-4.49	(64-114)	1.65	(42)	2.95-9.84	(075-250)	6.56 (2.00)
R4.38L	1.50	(38)	1.97-9.84	(50-250)	2.60-10.47	(66-266)	2.13	(54)	4.92-11.81	(125-300)	9.02 (2.75)
R4.48L	1.89	(48)	1.97-9.84	(50-250)	2.76-10.63	(70-270)	2.52	(64)	4.92-13.78	(125-350)	12.30 (3.75)



Available from stock. Orders ship as early as today.*

*On average 90% of orders ship the same day..



What does "Lean" mean in the E4.1L system?

Making a system "lean" means that its individual components are ideally matched to each other, making it more optimized. The aim is to avoid waste and increase efficiency. This is achieved in two ways: from the customer's point of view in order to fulfill their requirements, and from the producer's point of view in order to improve productivity and efficiency. igus® implements these lean properties in its energy supply systems in order to make time-saving e-chain® assembly possible, while also enabling quick and easy harnessing with cables.

E4.1L | Features | Accessories



E4.1L e-chains® and R4.1L e-tube crossbars, lids and shelves are openable along the inner and outer radius, from both sides



Lean separators enable extremely fast cable filling in several layers



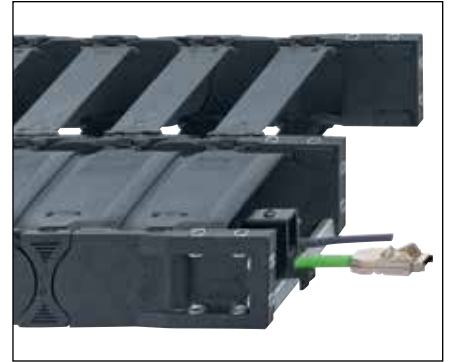
Assembled in seconds - CFU honeycomb strain relief. Simply insert cables and hoses into the honeycomb and close



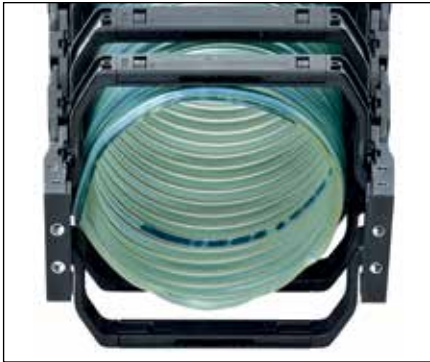
KMA mounting brackets with attachment options from any side



Safe parallel guiding of corrugated tubes with the optional, external TUB guidance



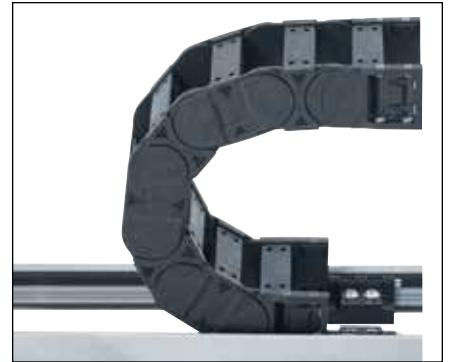
Extension links - for extremely wide e-chains® up to 2.0m with 50% more fill weight



Flexible extender crossbar range - e-chain® extender with crossbars for enlarging the interior



Aluminum "SuperTrough" - the standard igus® guide trough ► **From page 1336**



Aluminum and steel support trays for support of the lower run ► **From page 1394**

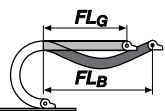
E4.1L | Technical data | Overview

Technical data



Speed gliding¹⁾ / acceleration gliding¹⁾

≤ 16.41 ft/s (5 m/s) / ≤ 82ft/s² (25 m/s²)



Speed FL_G / acceleration FL_G

≤ 64.6 ft/s (20 m/s) / ≤ 656 ft/s² (200 m/s²)

Speed FL_B / acceleration FL_B

≤ 9.84 ft. (3 m/s) / ≤ 19.69 ft/s² (6 m/s²)



Material - permitted temperature °F, igumid G

-40°F (-40°C) / +248°F (+120°C)



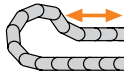
Flammability class, igumid G

VDE 0304 IIC UL94-HB

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

1) Series E4.31L / R4.31L: If a gliding application is required for a long travel, please consult igus®.

Installation types, maximum travels

Series	 Unsupported	 Gliding ¹⁾	 Vertical hanging	 Vertical standing	 Side mounted unsupported
E4.31L/R4.31L	≤ 13.12 ft. (4.0m)	upon request	≤ 131.24 ft. (40m)	≤ 8.20 ft. (2.5m)	≤ 1.97 ft. (0.6m)
E4.38L/R4.38L	≤ 18.05 ft. (5.5m)	≤ 262.48 ft. (80m)	≤ 164.05 ft. (50m)	≤ 9.84 ft. (3.0m)	≤ 3.28 ft. (1.0m)
E4.48L/R4.48L	≤ 24.61 ft. (7.5m)	≤ 328.10 ft. (100m)	≤ 262.48 ft. (80m)	≤ 9.84 ft. (3.0m)	≤ 3.94 ft. (1.2m)
E4.64L	≤ 26.25 ft. (8.0m)	upon request	≤ 262.48 ft. (80m)	≤ 26.25 ft. (8.0m)	≤ 6.56 ft. (2.0m)

1) Series E4.31L / R4.31L: If a gliding application is required for a long travel, please consult igus®.



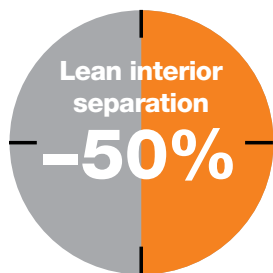
Chip test in the igus® lab - protection demonstrated in this test setup; stop-dogs completely free of chips



The light and fully enclosed R4.1 L e-tubes from igus® are now available in a high-temperature version

E4.1L | Reduce assembly time with the E4.1L(ean)

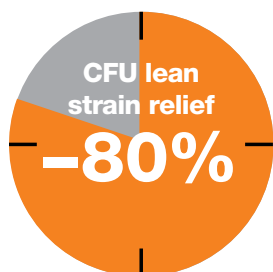
Interior separation



Approx. 50% time saving with lean interior separation compared to standard interior separation*



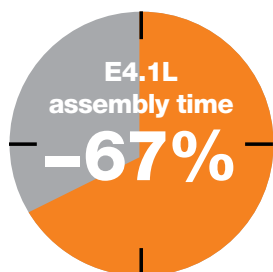
Strain relief



Approx. 80% time saving with CFU strain relief compared to conventional chainfix CFX clamps*



Opening crossbars and lids



Approx. 67% less assembly time with E4.1L compared to E4.1*



E4.1L | The igus® E4.1L(ean)



Lean interior separation vs. standard interior separation - time saving due to easy shelf fitting

Time-saving lean separators

- The design of the igus® lean separators allows extremely fast fitting of shelves in several layers
- Enables extremely fast replacement of individual cables in a very full e-chain®
- Several layers of cables fitted quickly
- Save up to 50%* assembly time

*Lean interior separation vs. standard interior separation. Measured on a 4m long e-chain® fitted with 12 cables in the igus® lab

▶ **approx. 50% time saving***



Lean strain relief CFU vs. chainfix CFX - time-saving due to the innovative honeycomb structure

CFU.V strain relief with innovative honeycomb design for fast assembly and high holding force

- 80%* faster filling, openable from both sides for assembly in seconds
- Flexible honeycomb design for increased holding force
- Tribologically optimized honeycomb design for the best hold
- Different cables with diameters from .08" to .67" (2mm to 17mm) can be strain-relieved without problems
- Cables can be replaced easily
- Easy positioning of cables

*Lean strain relief CFU vs. chainfix CFX. Measured on a 4m long e-chain® fitted with 12 cables in the igus® lab

▶ **approx. 80% time saving***



Series E4.48L vs. E4.42 - time-saving due to easy opening mechanism

E4.1L - fast to harness

- With one of igus® fastest opening systems for simple e-chains® harnessing
- Save up to 67%* assembly time
- Lower weight, cable-friendly interior and improved ratio of inner to outer size
- Easy accessibility of the complete inner space, openable from both sides

*Series E4.48L vs. E4.42. Assembly time tested at the igus® lab

▶ **approx. 67% time saving***

E4.1L | Options and order keys

Options with order keys | Examples based on series E4.38L/R4.38L

 <i>Standard</i>	<i>Simply turn outer side link, no additional rework</i>	<i>Reverse Bend Radius (RBR) for circular movements</i>	<i>Unsupported lengths +25% possible</i>
Part No. Standard	Part No. NC version	Part No. RBR	Part No. XXL material
 E4.38L.100.R.0 e-chains® with crossbars every link	 E4.38L.100.R.0.NCST e-chains® with crossbars every link	 E4.38L.100.R1/R2.0 e-chains® with crossbars every link	 E4.38L.100.R.0.XXL e-tube, closed¹⁾
R4.38L.100.R.0 e-tube, closed	R4.38L.100.R.0.NCST e-tube, closed	<i>RBR for e-tubes - please consult igus®</i>	R4.38L.100.R.0.XXL e-tube, closed¹⁾
 Ready to ship in 24 - 48hrs.*	Ready to ship in 24 - 48hrs.*	Ready to ship in 12 business days*	Ready to ship in 12 business days*

*On average 90% of orders ship the same day.

Order example | Examples based on series E4.38L

 **Order example for complete e-chain® 3.28 ft. (1m), color black, with mounting brackets and interior separation:**

e-chain® 3.28 ft. (1m)	Please indicate e-chain® length or number of links: 3.28ft. (1m) or 18 links	E4.38L.100.150.0
+ Mounting brackets	KMA - 1 set	E4.380.100.1.12.C
Interior separation	with 2 separators assembled every 2 nd link	2 x 38.1.1
Order text:	3.28 ft (1m) E4.38L.100.150.0 + E4.380.100.1.12.C + 2 x 38.1.1	

E4.1L | Options and order keys

*ESD - electrically
conductive
material*

Part No.
igumid ESD³⁾



E4.38L.100.R.0.ESD

e-chains® with crossbars every link

R4.38L.100.R.0.ESD

e-tube, closed

**Ready to ship
in 12 business days***

*On average 90% of orders ship the same day.

Order key and color examples | Examples based on series E4.38L/R.4.38L



Order key

e-chain® with crossbars every link

e-tube fully enclosed

E4.38L.100.150.0

R4.38L.100.150.0

Series / Type

Inner height

Width index (depends on *Bi*)

Bend radius *R*

Color index (standard black)



Order index for color options

Color	Order index	Color	Order index		
 Black	Standard	.0	 Orange	Special color	.2
 Silver-grey	Special color	.31	 Yellow	Special color	.4
 White	Special color	.1	 Light grey	Special color	.14
 Grey-white	Special color	.1S			

Black e-chains® ready to ship in 24 - 48hrs.*

Above special colors upon request.



e-chains® | E4.31L | Crossbars every link (openable along inner and outer radius, from both sides)
e-tubes | R4.31L | Fully enclosed (lids openable along inner and outer radius, from both sides)

Part No.		<i>Bi</i>	<i>Ba</i>	E4.31L	R4.31L
e-chains® / e-tubes		in. (mm)	in. (mm)	lbs/ft (kg/m)	lbs/ft (kg/m)
E4. 31L 040 <i>R.0</i>		1.57 (40)	2.13 (54)	≈ 0.47 (0.70)	–
E4. R4. 31L 050. <i>R.0</i>		1.97 (50)	2.52 (64)	≈ 0.54 (0.74)	≈ 0.58 (0.87)
E4. 31L 062. <i>R.0</i>		2.44 (62)	2.99 (76)	≈ 0.51 (0.76)	–
E4. R4. 31L 075. <i>R.0</i>		2.95 (75)	3.50 (89)	≈ 0.52 (0.78)	≈ 0.68 (1.01)
E4. 31L 087. <i>R.0</i>		3.43 (87)	3.98 (101)	≈ 0.56 (0.83)	–
E4. R4. 31L 100. <i>R.0</i>		3.94 (100)	4.49 (114)	≈ 0.59 (0.88)	≈ 0.74 (1.10)
E4. 31L 112. <i>R.0</i>		4.41 (112)	4.96 (126)	≈ 0.62 (0.93)	–

Part No.		<i>Bi</i>	<i>Ba</i>	E4.31L	R4.31L
e-chains® / e-tubes		in. (mm)	in. (mm)	lbs/ft (kg/m)	lbs/ft (kg/m)
E4. R4. 31L 125. <i>R.0</i>		4.92 (125)	5.47 (139)	≈ 0.64 (0.96)	≈ 0.86 (1.28)
E4. 31L 137. <i>R.0</i>		5.39 (137)	5.94 (151)	≈ 0.65 (0.98)	–
E4. R4. 31L 150. <i>R.0</i>		5.91 (150)	6.46 (164)	≈ 0.67 (1.00)	≈ 0.94 (1.40)
E4. 31L 162. <i>R.0</i>		6.38 (162)	6.93 (176)	≈ 0.70 (1.04)	–
E4. R4. 31L 175. <i>R.0</i>		6.89 (175)	7.44 (189)	≈ 0.75 (1.13)	≈ 1.04 (1.55)
E4. 31L 187. <i>R.0</i>		7.36 (187)	7.91 (201)	≈ 0.79 (1.17)	–
E4. R4. 31L 200. <i>R.0</i>		7.87 (200)	8.43 (214)	≈ 0.79 (1.17)	≈ 1.13 (1.68)

**Width available upon request. Delivery time upon request.

1) Radius not available for e-tubes

Complete Part No. with required radius (*R*). Example: E4.31L.050.075.0 = crossbars every link / R4.31L.050.075.0 = fully enclosed

Available bend radii

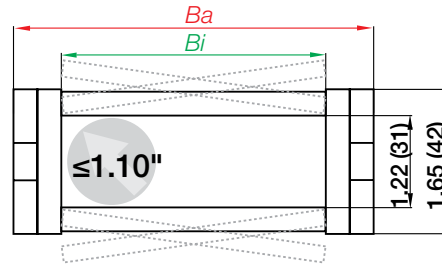
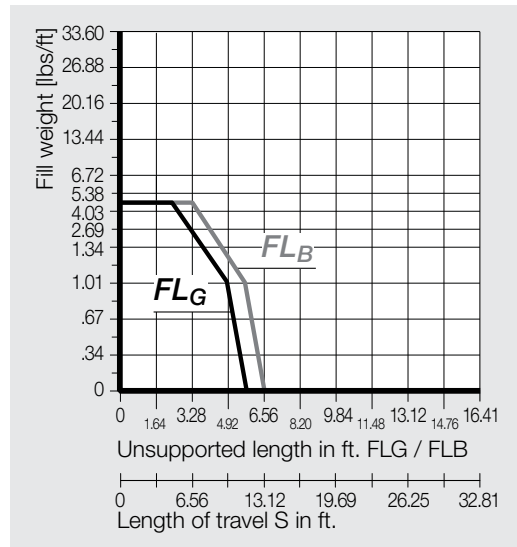
R in. (mm) | 2.17 (055)¹⁾ | 2.48 (063)¹⁾ | 2.95 (075) | 3.94 (100) | 4.92 (125) | 5.91 (150) | 6.89 (175) | 7.87 (200) | 9.84 (250)



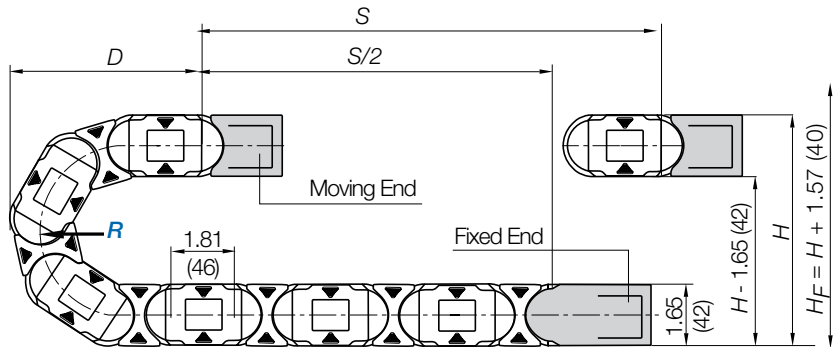
1418



1352



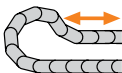
Inner height in. (mm)	1.22 (31)
Pitch per link in. (mm)	1.81 (46)
Links/ft (m)	6.6 (22)
corresponds to (mm)	1,012
e-chain® length	$L_K = \frac{S}{2} + K$



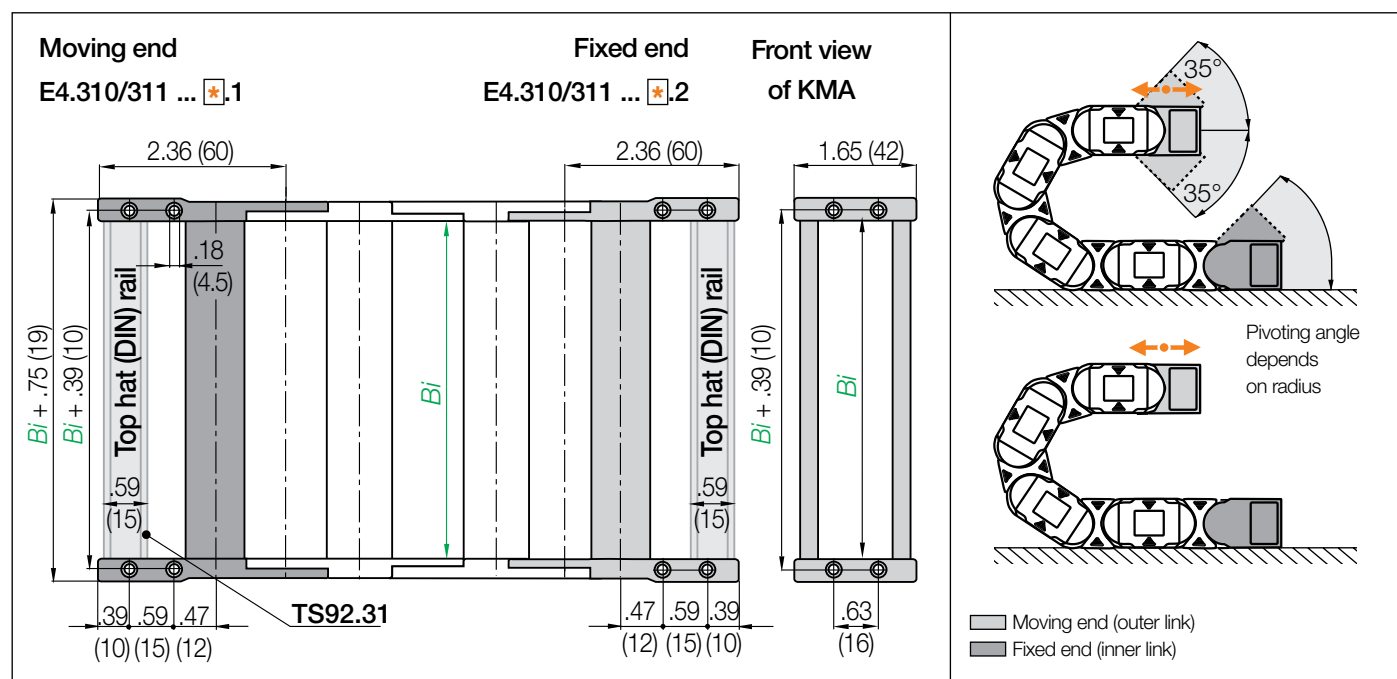
R	2.16 (055 ¹⁾)	2.48 (063 ¹⁾)	2.95 (075)	3.94 (100)	4.92 (125)	5.91 (150)	6.89 (175)	7.87 (200)	9.84 (250)
H	5.98 (152)	6.61 (168)	7.56 (192)	9.52 (242)	11.50 (292)	13.46 (342)	15.43 (392)	17.40 (442)	21.34 (542)
D	5.71 (145)	6.02 (153)	6.50 (165)	7.48 (190)	8.46 (215)	9.45 (240)	10.43 (265)	11.42 (290)	13.39 (340)
K	10.43 (265)	11.42 (290)	12.99 (330)	16.14 (410)	19.09 (485)	22.24 (565)	25.39 (645)	28.54 (725)	34.65 (880)

The required clearance height: $H_F = H + 1.57$ in. (40 mm) with .67 lbs/ft (1.0 kg/m) fill weight.

1) Radius not available for e-tubes



If a gliding application is required for a long travel, please consult igus®.



KMA pivoting
KMA locking

Recommended for unsupported and gliding applications
Recommended for vertical hanging and standing applications

Width index	Part No. full set KMA pivoting	Part No. full set KMA locking	<i>Bi</i> in. (mm)	Width index	Part No. full set KMA pivoting	Part No. full set KMA locking	<i>Bi</i> in. (mm)
040. ▶	E4.310.040.  12.C	E4.311.040.  12.C	1.57 (40)	125. ▶	E4.310.125.  12.C	E4.311.125.  12.C	4.92 (125)
050. ▶	E4.310.050.  12.C	E4.311.050.  12.C	1.97 (50)	137. ▶	E4.310.137.  12.C*	E4.311.137.  12.C*	5.39 (137)
062. ▶	E4.310.062.  12.C	E4.311.062.  12.C	2.44 (62)	150. ▶	E4.310.150.  12.C	E4.311.150.  12.C	5.91 (150)
075. ▶	E4.310.075.  12.C	E4.311.075.  12.C	2.95 (75)	162. ▶	E4.310.162.  12.C	E4.311.162.  12.C	6.38 (162)
087. ▶	E4.310.087.  12.C	E4.311.087.  12.C	3.43 (87)	175. ▶	E4.310.175.  12.C	E4.311.175.  12.C	6.61 (175)
100. ▶	E4.310.100.  12.C	E4.311.100.  12.C	3.94 (100)	187. ▶	E4.310.187.  12.C*	E4.311.187.  12.C*	7.36 (187)
112. ▶	E4.310.112.  12.C	E4.311.112.  12.C	4.41 (112)	200. ▶	E4.310.200.  12.C*	E4.311.200.  12.C*	7.87 (200)

(KMA = polymer metal mounting bracket) For the TS92.31 top-hat (DIN) rail option please add index **.C**

* Width available upon request. **Note:** If a gliding application is required for a long travel, please consult igus®.

Strain relief elements with tiwrap teeth

- Stepped strain relief element outside of the e-chain® cross section
- For e-chains® and e-tubes
- Easy to retrofit
- Simple installation into top-hat (DIN) rail 15 (TS92.31)

Part No. CFV.31.N15 - more information ► From page 1458



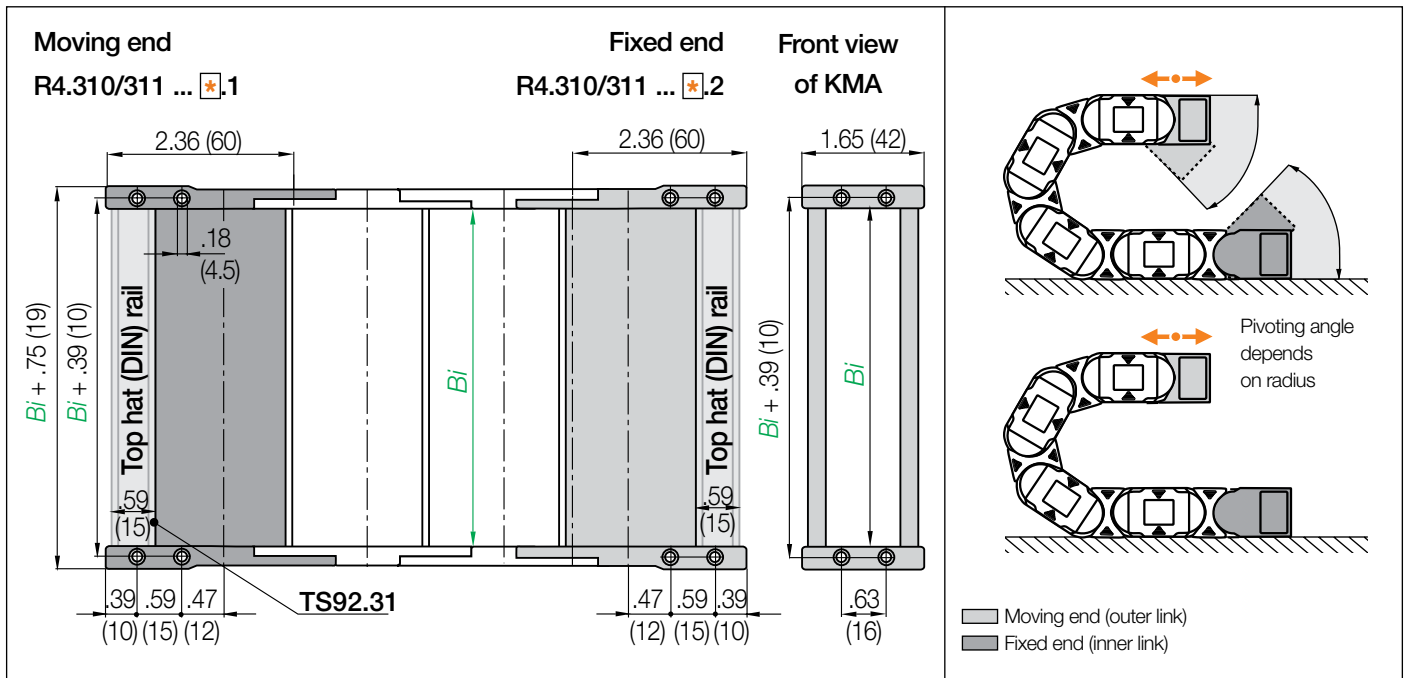
Strain relief tooth 2010.HZ for top-hat (DIN) rail

- Width per strain relief tooth: 10mm
- Four ZE teeth on each side are required for a 40mm inner width
- Easy to retrofit
- Simple installation into top-hat (DIN) rail 15 (TS92.31)

Part No. 2010.ZH - more information ► From page 1448



KMA mounting brackets | Attachment from any side | Pivoting | Locking



KMA pivoting KMA locking

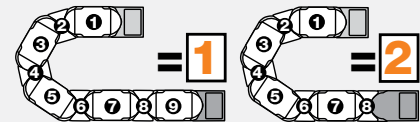
Recommended for unsupported and gliding applications
Recommended for vertical hanging and standing applications

Width index	Part No. full set KMA pivoting	Part No. full set KMA locking	Bi in. (mm)	Width index	Part No. full set KMA pivoting	Part No. full set KMA locking	Bi in. (mm)
050. ▶	R4.310.050.12.C	R4.311.050.12.C	1.97 (50)	150. ▶	R4.310.150.12.C*	R4.311.150.12.C*	5.91 (150)
075. ▶	R4.310.075.12.C	R4.311.075.12.C	2.95 (75)	175. ▶	R4.310.175.12.C*	R4.311.175.12.C*	6.61 (175)
100. ▶	R4.310.100.12.C	R4.311.100.12.C	3.94 (100)	200. ▶	R4.310.200.12.C*	R4.311.200.12.C*	7.87 (200)
125. ▶	R4.310.125.12.C*	R4.311.125.12.C*	4.92 (125)				

(KMA = polymer metal mounting bracket) For the TS92.31 top-hat (DIN) rail option please add index .C

* Width available upon request. **Note:** If a gliding application is required for a long travel, please consult igus®.

Note *: The e-chains® may end with either an inner or an outer side link. An outer side link should always be the first e-chain® link at the moving end. Please specify the index 1 (for odd) or 2 (for even) depending on an even or odd number of links required.



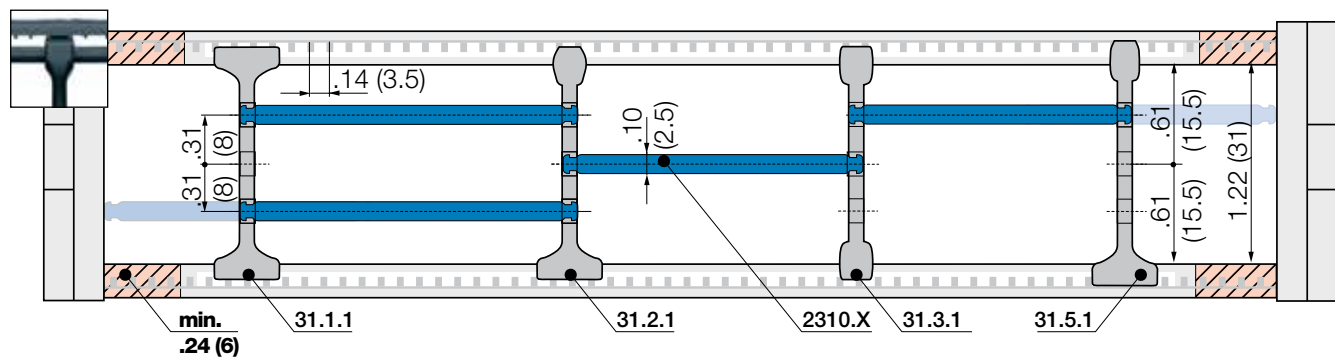
Possible orientations for KMA mounting brackets. For mounting brackets pre-fitted **without C-profile**, please attach index .A. For types pre-fitted **with C-profile** please attach index .A1, .A2, .A3 or .A4.

E4.310.100.2.12.C.A2 Order example
 .A ... to indicate option with brackets pre-fitted
 C-profile option
 Full set
 Even numbers of links
 width index
 Series

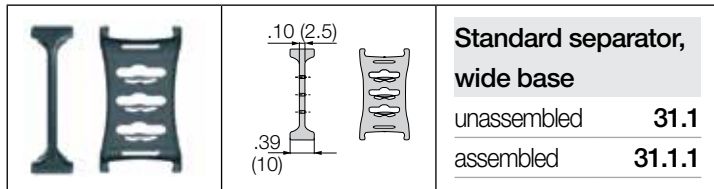


Strain relief e.g. clamps, tie-wrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ▶ From page 1418

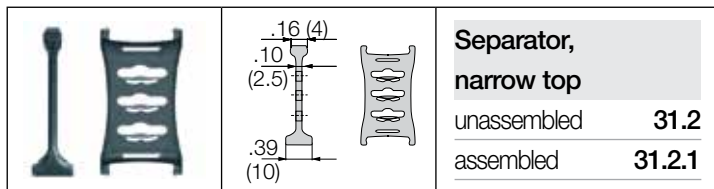
Interior separation | Increase cable service life



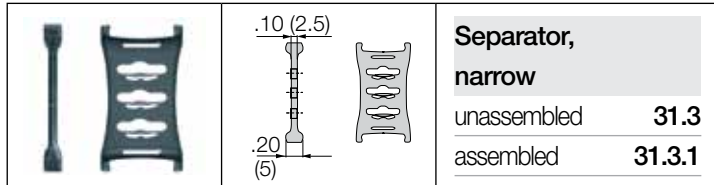
Note: Please be aware of the minimum lateral gap to the side links! **e-tube: 6mm | e-chain®: 6mm**
As standard separators are fitted every 2nd e-chain® link!

**Standard - for any application**

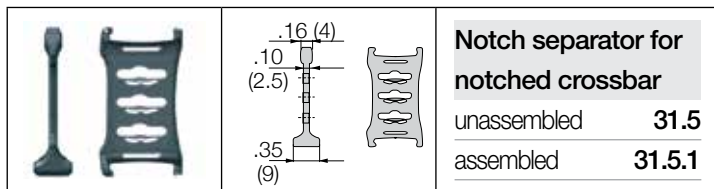
Separator with a wide base for maximum holding force.

**For even faster installation**

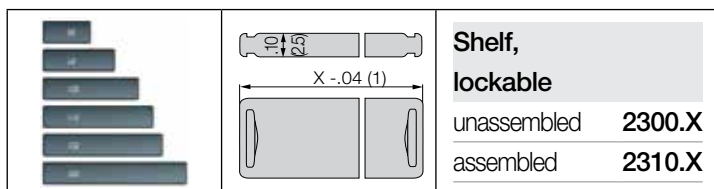
Wide on one side for high holding force, narrow on opposite side for easy cable fitting.

**For a large number of thin cables**

Separator with a narrow base for a large number of thin cables side by side. Saves space.

**Locks securely in preset increments**

Notch separator for exact positioning. Recommended for side-mounted applications.

**Horizontal separation**

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

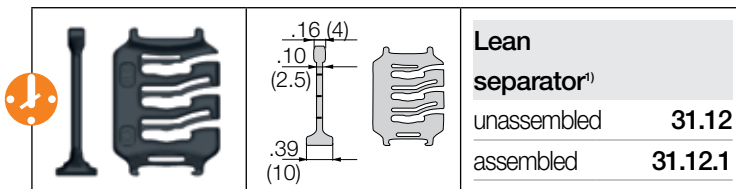
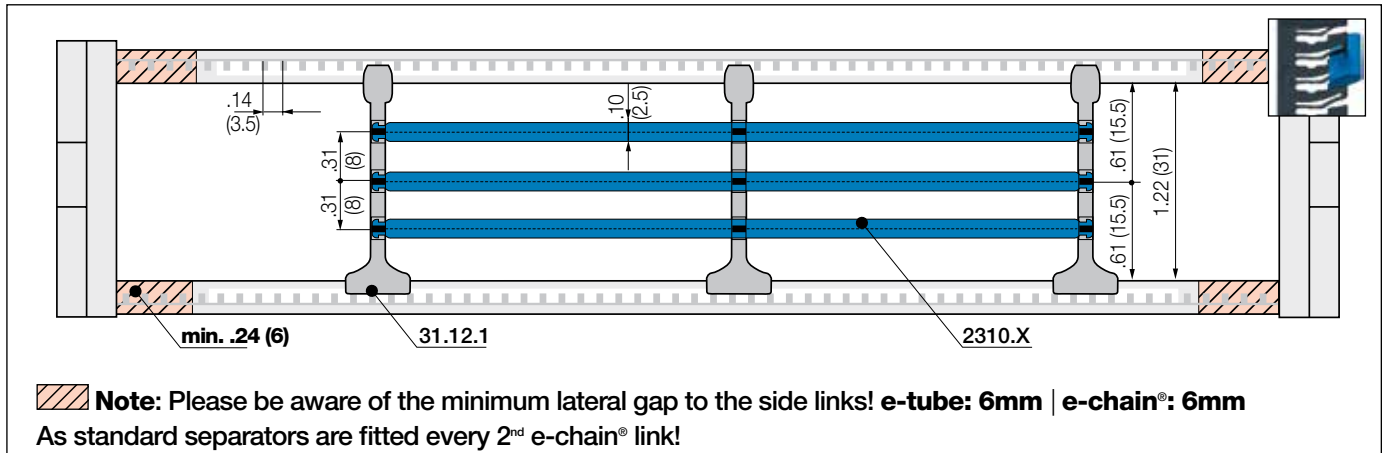
Shelves

Width = X in. (mm)



X in. (mm)	unassembled	assembled	X in. (mm)	unassembled	assembled	X in. (mm)	unassembled	assembled
.59 (015)	2300-015	2310-015	2.36 (060)	2300-060	2310-060	3.43 (087)	2300-087	2310-087
.98 (025)	2300-025	2310-025	2.44 (062)	2300-062	2310-062	3.54 (090)	2300-090	2310-090
1.18 (030)	2300-030	2310-030	2.56 (065)	2300-065	2310-065	3.94 (100)	2300-100	2310-100
1.50 (038)	2300-038	2310-038	2.76 (070)	2300-070	2310-070	4.06 (103)	2300-103	2310-103
1.57 (040)	2300-040	2310-040	2.95 (075)	2300-075	2310-075	4.33 (110)	2300-110	2310-110
1.97 (050)	2300-050	2310-050	3.03 (077)	2300-077	2310-077	47.2 (120)	2300-120	2310-120
2.24 (057)	2300-057	2310-057	3.15 (080)	2300-080	2310-080	4.92 (125)	2300-125	2310-125

Interior separation | To allow faster filling



With the lean separator you can quickly insert several layers of cables into the e-chain® and reduce the installation time by up to 50%².

2) Lean interior separation vs. standard interior separation - measured on a 4m long e-chain® fitted with 12 cables in the igus® lab

Lean separators¹⁾

For quick fitting of shelves in several layers.

1) Note: Please combine maximum 4 lean separators with one shelf. Not suitable for side-mounted e-chains®!



Separator with integrated strain relief teeth

- Can be integrated into the mounting bracket or placed at any point in the e-tube
- Combines strain relief and interior separation, for restricted space conditions
- Strain relief separator is easy to assemble without any screws

Part No. 31.Z - more information ► From page 1457



Aluminium support tray

- Corrosion-resistant and seawater-resistant aluminum rails with adjustable width
- Noise-reducing glide strip integrated as standard
- Easy installation and connection of the e-tube
- Open design - dirt and debris fall through

More information ► From page 1400





e-chains® | **E4.38L** | **Crossbars every link** (openable along inner and outer radius, from both sides)
e-tubes | **R4.38L** | **Fully enclosed** (lids openable along inner and outer radius, from both sides)

Part No.	<i>Bi</i>	<i>Ba</i>	E4.38L	R4.38L
e-chains® / e-tubes	in. (mm)	in. (mm)	lbs/ft (kg/m)	lbs/ft (kg/m)
E4. R4. 38L.050. <i>R</i> .0	1.97 (50)	2.60 (66)	≈ 0.76 (1.13)	≈ 0.81 (1.20)
E4. 38L.062. <i>R</i> .0	2.44 (62)	3.07 (78)	≈ 0.80 (1.19)	-
E4. R4. 38L.075. <i>R</i> .0	2.95 (75)	3.58 (91)	≈ 0.85 (1.26)	≈ 0.93 (1.38)
E4. 38L.087. <i>R</i> .0	3.43 (87)	4.06 (103)	≈ 0.87 (1.30)	-
E4. R4. 38L.100. <i>R</i> .0	3.94 (100)	4.57 (116)	≈ 0.92 (1.37)	≈ 1.08 (1.60)
E4. 38L.105. <i>R</i> .0	4.13 (105)	4.76 (121)	≈ 0.93 (1.39)	-
E4. 38L.112. <i>R</i> .0	4.41 (112)	5.04 (128)	≈ 0.97 (1.44)	-
E4. R4. 38L.125. <i>R</i> .0	4.92 (125)	5.55 (141)	≈ 1.01 (1.50)	≈ 1.18 (1.75)
E4. 38L.137. <i>R</i> .0	5.39 (137)	6.02 (153)	≈ 1.04 (1.55)	-
E4. R4. 38L.150. <i>R</i> .0	5.91 (150)	6.54 (166)	≈ 1.11 (1.65)	≈ 1.29 (1.92)
E4. 38L.162. <i>R</i> .0	6.38 (162)	7.01 (178)	≈ 1.14 (1.69)	-
E4. R4. 38L.175. <i>R</i> .0	6.89 (175)	7.52 (191)	≈ 1.17 (1.74)	≈ 1.41 (2.10)
E4. 38L.187. <i>R</i> .0	7.36 (187)	7.99 (203)	≈ 1.21 (1.80)	-
E4. R4. 38L.200. <i>R</i> .0	7.87 (200)	8.50 (216)	≈ 1.25 (1.86)	≈ 1.54 (2.29)
E4. 38L.212. <i>R</i> .0	8.35 (212)	8.98 (228)	≈ 1.28 (1.90)	-

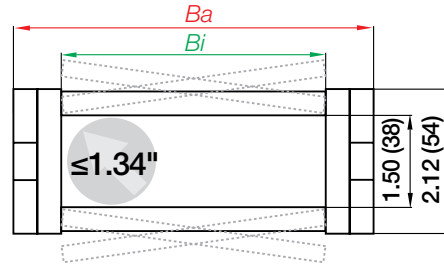
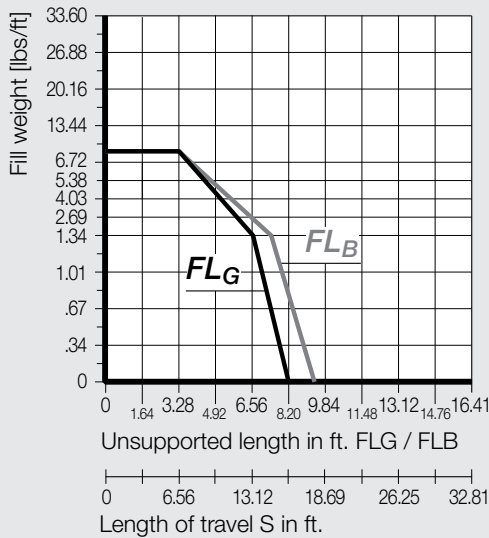
**Width available upon request. Delivery time upon request.

1) Radius not available for e-tubes

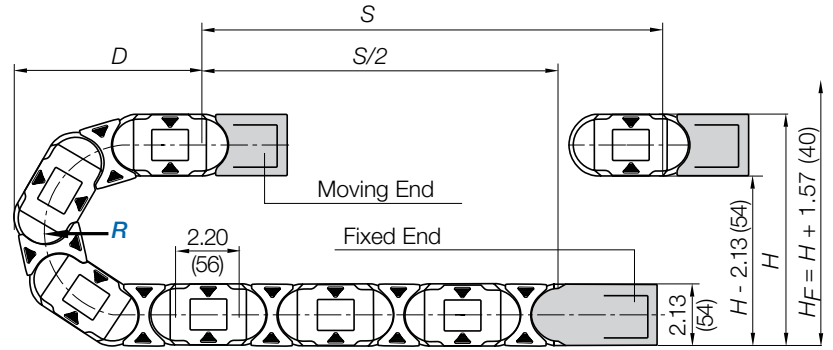
Complete Part No. with required radius (*R*). Example: E4.38L.100.150.0 = crossbars every link / R4.38L.100.150.0 = fully enclosed

Available bend radii

R in. (mm) | 2.48 (063)¹⁾ | 2.95 (075)¹⁾ | 3.94 (100)¹⁾ | 4.92 (125) | 5.91 (150) | 6.89 (175) | 7.87 (200) | 9.84 (250) | 11.81 (300)



Inner height in. (mm)	1.50 (38)
Pitch per link in. (mm)	2.20 (56)
Links/ft (m)	5.45 (18)
corresponds to (mm)	1,008
e-chain® length	$L_K = \frac{S}{2} + K$

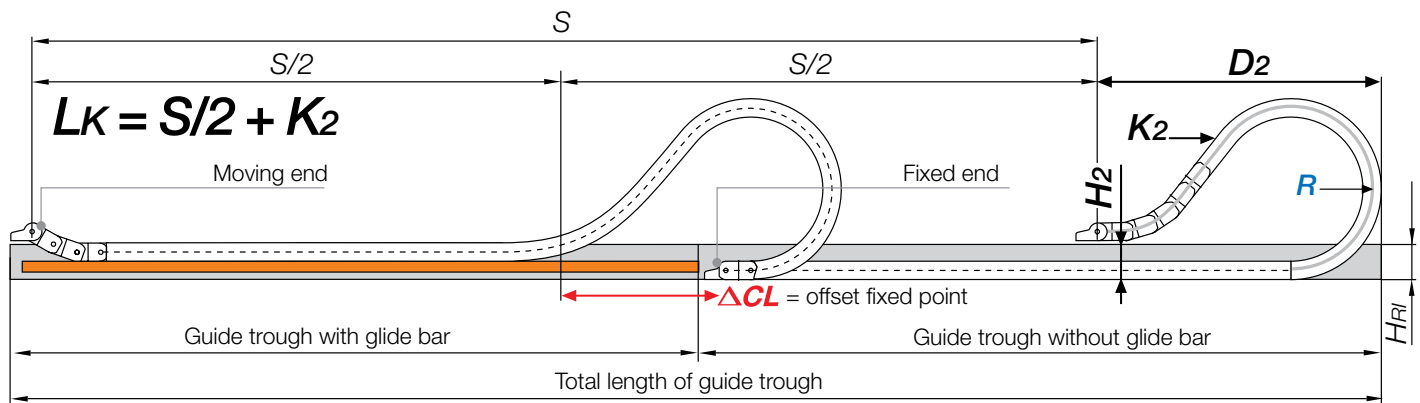


R	2.48 (063')	2.95 (075')	3.94 (100')	4.92 (125)	5.91 (150)	6.89 (175)	7.87 (200)	9.84 (250)	11.81 (300)
H	7.09 (180)	8.03 (204)	10.00 (254)	11.97 (304)	13.94 (354)	15.91 (404)	17.87 (454)	21.81 (554)	25.75 (654)
D	6.85 (174)	7.32 (186)	8.31 (211)	9.29 (236)	10.28 (261)	11.26 (286)	12.24 (311)	14.21 (361)	16.18 (411)
K	12.20 (310)	13.78 (350)	16.93 (430)	19.88 (505)	23.03 (585)	26.18 (665)	29.33 (745)	35.43 (900)	41.54 (1055)

1) Radius not available for e-tubes

The required clearance height: $H_F = H + 1.57$ in. (40 mm) with 1.34 lbs/ft (2.0 kg/m) fill weight.

Gliding applications | For travel lengths from 32.8 ft. (10m) to max. 262 ft. (80m)



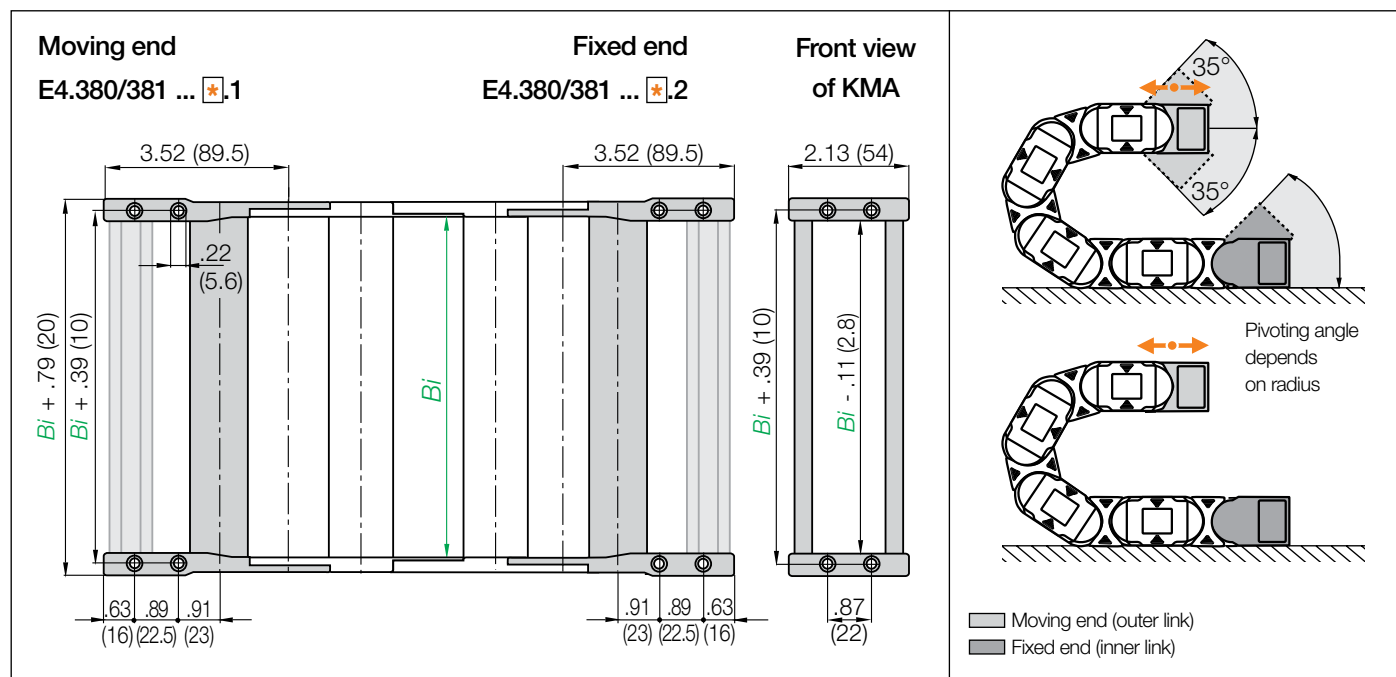
Note: We recommend the project planning of such a system to be carried out by igus®.

In case of travels between 16.41ft. (5m) and 32.8 ft. (10m) we recommend an e-chain® with a longer unsupported length.

R	2.48 (063')	2.95 (075')	3.94 (100')	4.92 (125)	5.91 (150)	6.89 (175)	7.87 (200)	9.84 (250) ¹⁾	11.81 (300) ²⁾
H ₂	7.09 (180)	8.03 (204)	3.78 (96)	3.78 (96)	3.78 (96)	3.78 (96)	3.78 (96)	—	—
D ₂	6.85 (174)	7.32 (186)	14.57 (370)	18.50 (470)	19.69 (500)	25.79 (655)	30.31 (770)	—	—
K ₂	12.20 (310)	13.78 (350)	24.25 (616)	30.87 (784)	35.27 (896)	44.10 (1120)	50.71 (1288)	—	—
ΔCL	—	—	6.30 (160)	8.27 (210)	9.45 (240)	14.57 (370)	18.11 (460)	—	—

1) Radius not available for e-tubes

2) Radius not suitable for long travel applications. Please consult igus®.



KMA pivoting
KMA locking

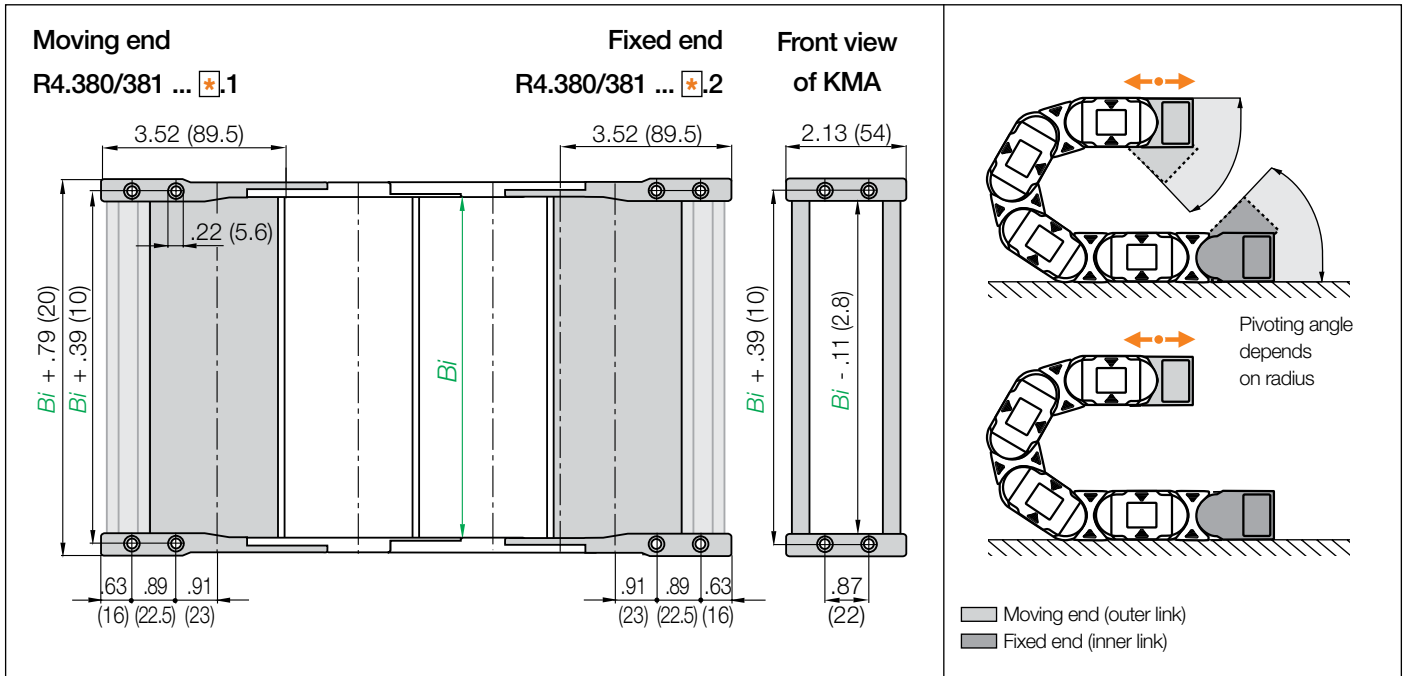
Recommended for unsupported and gliding applications
Recommended for vertical hanging and standing applications

Width index	Part No. full set KMA pivoting	Part No. full set KMA locking	<i>Bi</i> in. (mm)	Width index	Part No. full set KMA pivoting	Part No. full set KMA locking	<i>Bi</i> in. (mm)
050. ▶	E4.380.050. 12.C	E4.381.050. 12.C	1.97 (50)	225. ▶	E4.380.225. 12.C	E4.381.225. 12.C	8.86 (225)
062. ▶	E4.380.062. 12.C	E4.381.062. 12.C	2.44 (62)	237. ▶	E4.380.237. 12.C	E4.381.237. 12.C	9.33 (237)
075. ▶	E4.380.075. 12.C	E4.381.075. 12.C	2.95 (75)	250. ▶	E4.380.250. 12.C	E4.381.250. 12.C	9.84 (250)
087. ▶	E4.380.087. 12.C	E4.381.087. 12.C	3.43 (87)	262. ▶	E4.380.262. 12.C	E4.381.262. 12.C	10.31 (262)
100. ▶	E4.380.100. 12.C	E4.381.100. 12.C	3.94 (100)	275. ▶	E4.380.275. 12.C*	E4.381.275. 12.C*	10.83 (275)
105. ▶	E4.380.105. 12.C	E4.381.105. 12.C	4.13 (105)	287. ▶	E4.380.287. 12.C*	E4.381.287. 12.C*	11.30 (287)
112. ▶	E4.380.112. 12.C	E4.381.112. 12.C	4.41 (112)	300. ▶	E4.380.300. 12.C	E4.381.300. 12.C	11.81 (300)
125. ▶	E4.380.125. 12.C	E4.381.125. 12.C	4.92 (125)	312. ▶	E4.380.312. 12.C*	E4.381.312. 12.C*	12.28 (312)
137. ▶	E4.380.137. 12.C	E4.381.137. 12.C	5.39 (137)	325. ▶	E4.380.325. 12.C*	E4.381.325. 12.C*	12.80 (325)
150. ▶	E4.380.150. 12.C	E4.381.150. 12.C	5.91 (150)	337. ▶	E4.380.337. 12.C*	E4.381.337. 12.C*	13.27 (337)
162. ▶	E4.380.162. 12.C	E4.381.162. 12.C	6.38 (162)	350. ▶	E4.380.350. 12.C*	E4.381.350. 12.C*	13.78 (350)
175. ▶	E4.380.175. 12.C	E4.381.175. 12.C	6.61 (175)	362. ▶	E4.380.362. 12.C*	E4.381.362. 12.C*	14.25 (362)
187. ▶	E4.380.187. 12.C	E4.381.187. 12.C	7.36 (187)	375. ▶	E4.380.375. 12.C*	E4.381.375. 12.C*	14.76 (375)
200. ▶	E4.380.200. 12.C	E4.381.200. 12.C	7.87 (200)	387. ▶	E4.380.387. 12.C*	E4.381.387. 12.C*	15.24 (387)
212. ▶	E4.380.212. 12.C	E4.381.212. 12.C	8.35 (212)	400. ▶	E4.380.400. 12.C*	E4.381.400. 12.C*	15.75 (400)

(KMA = polymer metal mounting bracket) For the C-profile option please add index .C

* Width available upon request. **Note:** If a gliding application is required for a long travel, please consult igus®.

KMA mounting brackets | Attachment from any side | Pivoting | Locking



KMA pivoting KMA locking

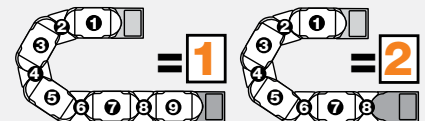
Recommended for unsupported and gliding applications
Recommended for vertical hanging and standing applications

Width index	Part No. full set KMA pivoting	Part No. full set KMA locking	Bi in. (mm)	Width index	Part No. full set KMA pivoting	Part No. full set KMA locking	Bi in. (mm)
050. ▶	R4.380.050 .12.C	R4.381.050 .12.C	1.97 (50)	175. ▶	R4.380.175 .12.C*	R4.381.175 .12.C*	6.61 (175)
075. ▶	R4.380.075 .12.C	R4.381.075 .12.C	2.95 (75)	200. ▶	R4.380.200 .12.C*	R4.381.200 .12.C*	7.87 (200)
100. ▶	R4.380.100 .12.C	R4.381.100 .12.C	3.94 (100)	250. ▶	R4.380.250 .12.C*	R4.381.250 .12.C*	9.84 (250)
125. ▶	R4.380.125 .12.C*	R4.381.125 .12.C*	4.92 (125)	300. ▶	R4.380.300 .12.C*	R4.381.300 .12.C*	11.81 (300)
150. ▶	R4.380.150 .12.C*	R4.381.150 .12.C*	5.91 (150)				

(KMA = polymer metal mounting bracket) For the C-profile option please add index **.C**

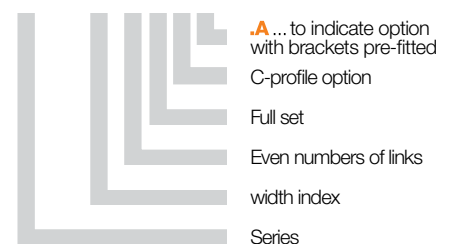
*Width available upon request. Delivery time upon request.

Note **.1**: The e-chains® may end with either an inner or an outer side link. An outer side link should always be the first e-chain® link at the moving end. Please specify the index **1** (for odd) or **2** (for even) depending on an even or odd number of links required.



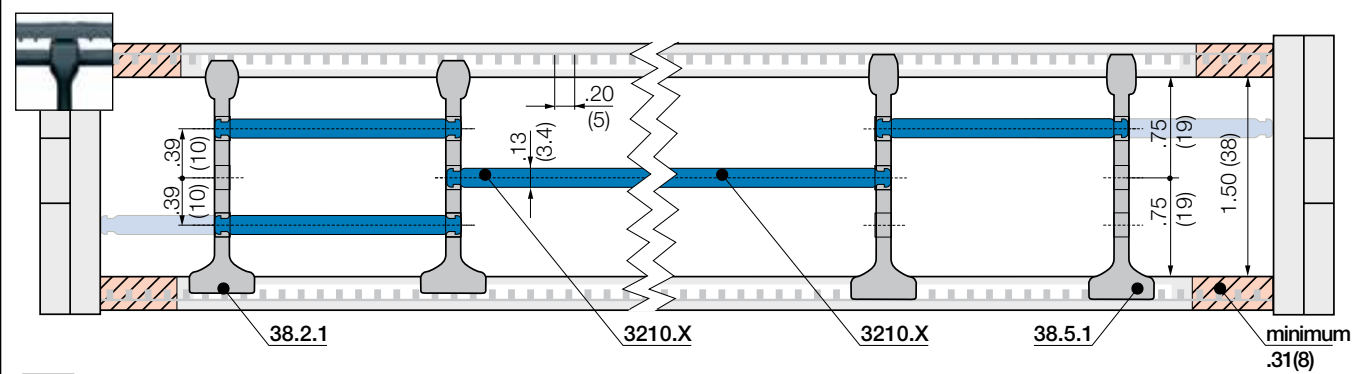
Possible orientations for KMA mounting brackets. For mounting brackets pre-fitted **without C-profile**, please attach index **.A**. For types pre-fitted **with C-profile** please attach index **.A1**, **.A2**, **.A3** or **.A4**.

R4.380.100 **.2.12.C.A2** Order example

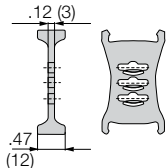
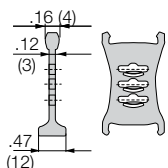
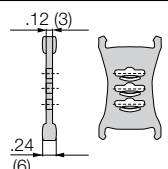
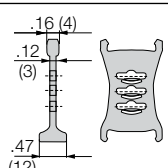
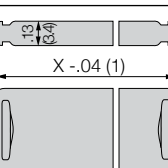


Strain relief e.g. clamps, tie-wrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ▶ From page 1418

Interior separation | Increase cable service life



Note: Please be aware of the minimum lateral gap to the side links! **e-tube: 6mm | e-chain®: 6mm**
As standard separators are fitted every 2nd e-chain® link!

		Standard separator, wide base unassembled 38.1 assembled 38.1.1
		Separator, narrow top unassembled 38.2 assembled 38.2.1
		Separator, narrow unassembled 38.3 assembled 38.3.1
		Notch separator for notched crossbar unassembled 38.5 assembled 38.5.1
		Shelf, lockable unassembled 3200.X assembled 3210.X

Standard - for any application

Separator with a wide base for maximum holding force.

For even faster installation

Wide on one side for high holding force, narrow on opposite side for easy cable fitting.

For a large number of thin cables

Separator with a narrow base for a large number of thin cables side by side. Saves space.

Locks securely in preset increments

Notch separator for exact positioning. Recommended for side-mounted applications.

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

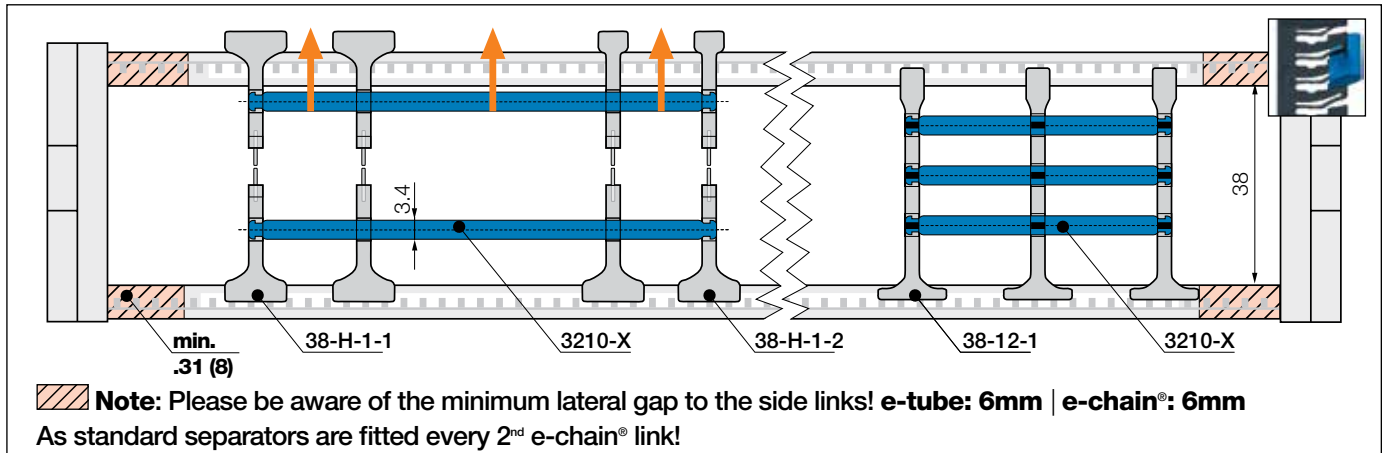
Shelves

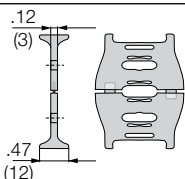
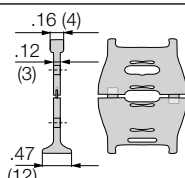
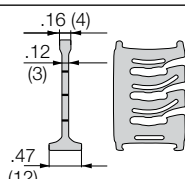
Width = X in. (mm)



X in. (mm)	unassembled	assembled	X in. (mm)	unassembled	assembled	X in. (mm)	unassembled	assembled
1.97 (050)	3200.050	3210.050	4.92 (125)	3200.125	3210.125	8.86 (225)	3200.225	3210.225
2.95 (075)	3200.075	3210.075	5.91 (150)	3200.150	3210.150	9.84 (250)	3200.250	3210.250
3.94 (100)	3200.100	3210.100	6.89 (175)	3200.175	3210.175			
4.53 (115)	3200.115	3210.115	7.87 (200)	3200.200	3210.200			

Interior separation | To allow faster filling



		Split separator, wide base/top unassembled 38.H.1 assembled 38.H.1.1
		Split separator, narrow top unassembled 38.H.2 assembled 38.H.2.1
		Lean separator¹⁾ unassembled 38.12 assembled 38.12.1

Split separators

In order to fill e-chains® more easily and effectively, these separators can be split in the middle. This allows easier access to middle shelf partitions. Fast assembly and easy retrofit. 2 types available: with wide or narrow top.

Lean separators¹⁾

For quick fitting of shelves in several layers.

1) Note: Please combine maximum 4 lean separators with one shelf. Not suitable for side-mounted e-chains®!

With the lean separator you can quickly insert several layers of cables into the e-chain® and reduce the installation time by up to 50%²⁾.

²⁾ Lean interior separation vs. standard interior separation - measured on a 4m long e-chain® fitted with 12 cables in the igus® lab



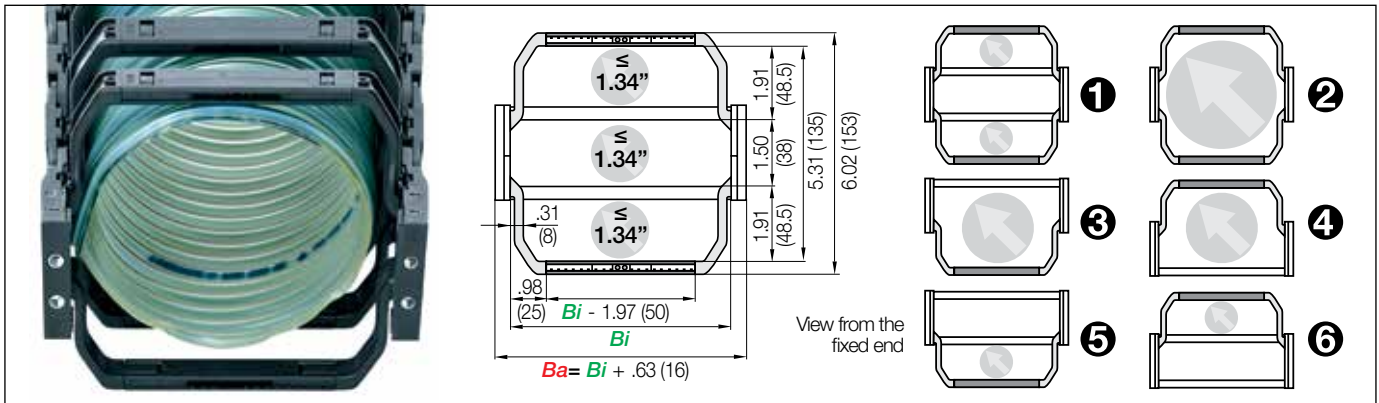
Separator with integrated strain relief teeth

- Can be integrated into the mounting bracket or placed at any point in the e-tube
- Combines strain relief and interior separation, for restricted space conditions
- Strain relief separator is easy to assemble without any screws

Part No. 38.Z - more information ► From page 1457



e-chain® with openable extender crossbars



Extender crossbars with flexible width | Safe guiding for large hoses

- For guiding and protecting large hoses
- With mounting for noise dampers
- Cable-friendly design, high crossbar holding force
- The openable extender crossbars can be fitted in different ways and combinations
- Optionally openable along the inner or outer radius

Versions e-chain® with extender crossbar	Hose Ø ≤ in. (mm)	Part No. e-chain® with extender crossbar
① Extender crossbar and standard crossbar alternating along the inner and outer radius ¹⁾	1.34 (34)	E4.38L.XXXHB48.R.0
② Extender crossbar on both sides along the inner and outer radius ²⁾	4.80 (122)	E4.38L.XXXB48.R.0
③ Extender crossbar along the outer radius ³⁾	3.07 (78)	E4.38L.XXXBE48.R.0
④ Extender crossbar along the inner radius ³⁾	3.07 (78)	E4.38L.XXXBZ48.R.0
⑤ Extender crossbar and standard crossbar alternating along the outer radius ³⁾	1.34 (34)	E4.38L.XXXHBE48.R.0
⑥ Extender crossbar and standard crossbar alternating along inner radius ¹⁾	1.34 (34)	E4.38L.XXXHBZ48.R.0

1) Minimum bend radius: **R 125** 2) Minimum bend radius: **R 150** 3) Minimum bend radius: **R 063** *Width available upon request. Delivery time upon request

Bi in. [mm] Available inner widths

| 3.94 (100) | 4.92 (125) | 5.39 (137) | 5.91 (150) | 6.38 (162) | 6.89 (175) | 7.36 (187) | 7.87 (200) | 8.34 (212) | 8.85 (225) | 9.33 (237) | 9.84 (250) | 10.31 (262) | 11.81 (300)

Complete Part No. with the width index **XXX** of **Bi** and the radius (**R**). Example

E4.38L.100B48.150.0 = **Bi 100** / Extender crossbar on both sides along inner and outer radius / bend radius (**R**) 150



The E4.1L can be fitted with openable extender crossbars, which increase the size of the interior of the e-chain®. Crossbars can be fitted in various ways: from one or both sides, alternating with standard crossbars and or any combination

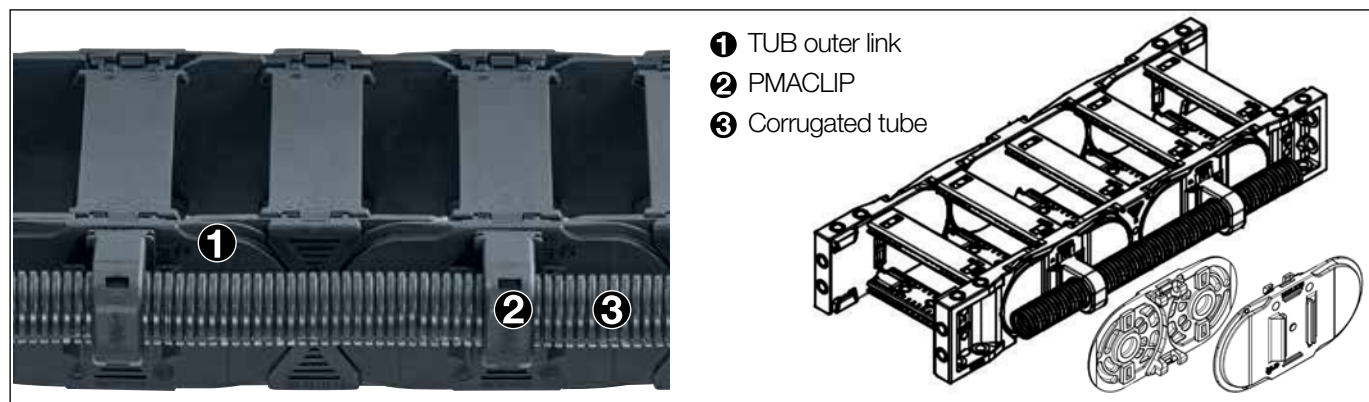
Aluminum support tray

- Corrosion-resistant and seawater-resistant aluminium rails with adjustable width
- Noise-reducing glide strip integrated as standard
- Easy installation and connection of the e-chain®
- Open design - dirt and debris fall through

More information ► From page 1400



TUB

**TUB | Safe guidance for corrugated tubes parallel to the e-chain®**

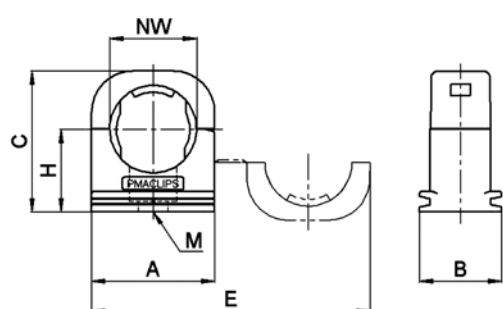
- Additional, simple guidance for corrugated tubes on the outside of the e-chain®
- PMACLIP allows corrugated tubes with nominal widths .28 (07mm), .39 (10mm), .47 (12mm), .67 (17mm) to be easily clipped on
- Easy access to the corrugated tubes, fast replacement of the hoses
- Reduce assembly time and cost - easy to assemble, without any additional screws or tools
- The part number includes the e-chain® with TUB side sections; the PMACLIP support and the hose are ordered separately

Part No. TUB	Part No. TUB	Part No. TUB	For corrugated tube nominal diameter
Outer link right*	Outer link left*	Outer link at both ends*	Ø in. (mm)
E4.38L.XXXTUBR.R.0	E4.38L.XXXTUBL.L.0	E4.38L.XXXTUB.R.0	.28 (07), .39 (10), .47 (12), .67 (17)

*View from the fixed end

Part number appended with width index **XXX** of **Bi** and radius (**R**) e.g.

E4.38L.100TUBR.150.0 = with TUB outer sections every 2nd right hand link

Product range | PMACLIP | Support, one-piece, with safety clip

PMACLIP support - one-piece construction with safety clip, suitable for corrugated tubes

Part number	NW	A	B	C	H	E	M
PMACLIP	Ø in. (mm)	in. (mm)	in. (mm)	in. (mm)	in. (mm)	in. (mm)	in. (mm)
I-BFH-07-0	.28 (07)	.67 (17.0)	.79 (20.0)	.85 (21.5)	.53 (13.5)	1.59 (40.5)	M4
I-BFH-10-0	.39 (10)	.81 (20.5)	.79 (20.0)	.96 (24.5)	.61 (15.5)	1.87 (47.5)	M5
I-BFH-12-0	.47 (12)	.94 (24.0)	.79 (20.0)	1.06 (27.0)	.65 (16.5)	2.15 (54.5)	M5
I-BFH-17-0	.67 (17)	1.18 (30.0)	.79 (20.0)	1.34 (34.0)	.79 (20.0)	2.68 (68.0)	M6



e-chains® | **E4.48L** | **Crossbars every link** (openable along inner and outer radius, from both sides)
e-tubes | **R4.48L** | **Fully enclosed** (lids openable along inner and outer radius, from both sides)

Part No.	<i>Bi</i>	<i>Ba</i>	E4.48L	R4.48L
e-chains® / e-tubes	in. (mm)	in. (mm)	lbs/ft (kg/m)	lbs/ft (kg/m)
E4.* R4. 48L.050. <i>R.0</i>	1.97 (50)	2.76 (70)	≈ 1.02 (1.53)	≈ 1.10 (1.64)
E4. 48L.062. <i>R.0</i>	2.44 (62)	3.23 (82)	≈ 1.06 (1.58)	≈ 1.14 (1.69)
E4. R4. 48L.075. <i>R.0</i>	2.95 (75)	3.74 (95)	≈ 1.10 (1.64)	≈ 1.22 (1.82)
E4. R4. 48L.087. <i>R.0**</i>	3.43 (87)	4.21 (107)	≈ 1.20 (1.67)	≈ 1.28 (1.91)
E4. R4. 48L.100. <i>R.0</i>	3.94 (100)	4.72 (120)	≈ 1.16 (1.73)	≈ 1.35 (2.01)
E4. 48L.105. <i>R.0</i>	4.13 (105)	4.92 (125)	≈ 1.17 (1.74)	–
E4. 48L.112. <i>R.0</i>	4.41 (112)	5.20 (132)	≈ 1.20 (1.79)	≈ 1.44 (2.15)
E4. R4. 48L.125. <i>R.0</i>	4.92 (125)	5.71 (145)	≈ 1.24 (1.84)	≈ 1.46 (2.18)
E4. 48L.137. <i>R.0</i>	5.39 (137)	6.18 (157)	≈ 1.26 (1.88)	–
E4. R4. 48L.150. <i>R.0</i>	5.91 (150)	6.69 (170)	≈ 1.32 (1.97)	≈ 1.59 (2.36)
E4. 48L.162. <i>R.0</i>	6.38 (162)	7.17 (182)	≈ 1.34 (2.00)	–
E4. R4. 48L.175. <i>R.0</i>	6.89 (175)	7.68 (195)	≈ 1.37 (2.04)	≈ 1.73 (2.58)
E4. 48L.187. <i>R.0</i>	7.36 (187)	8.15 (207)	≈ 1.40 (2.09)	–
E4. R4. 48L.200. <i>R.0</i>	7.87 (200)	8.66 (220)	≈ 1.44 (2.14)	≈ 1.81 (2.70)
E4. 48L.212. <i>R.0</i>	8.35 (212)	9.13 (232)	≈ 1.46 (2.18)	–

**Width available upon request. Delivery time upon request.

1) Radius not available for e-tubes

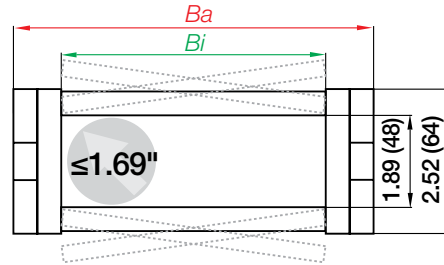
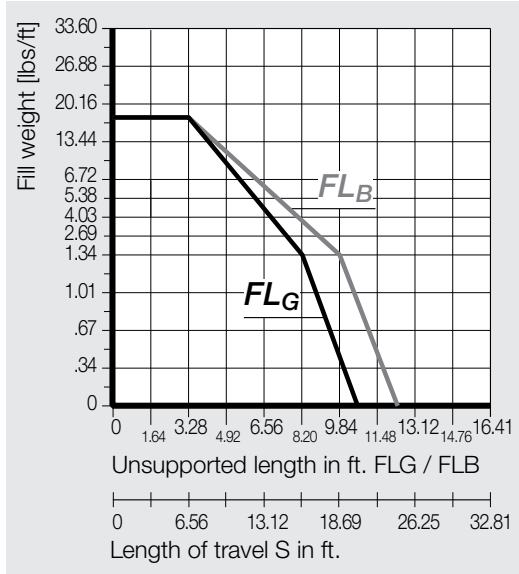
Complete Part No. with required radius (*R*). Example: E4.48L.175.150.0 = crossbars every link / R4.48L.175.150.0 = fully enclosed

Available bend radii

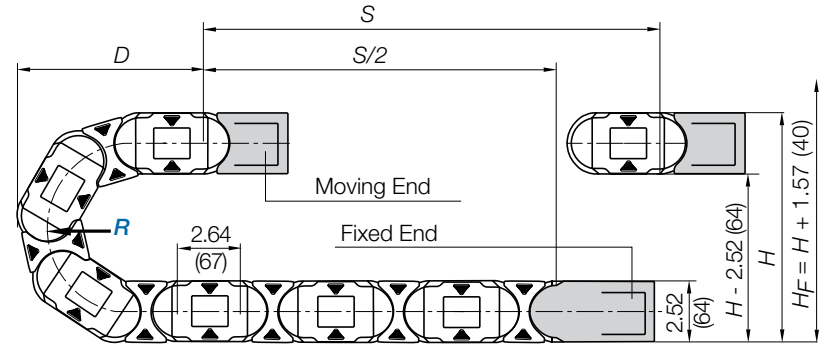
R in. (mm) | 2.95 (075)¹⁾ | 3.94 (100)¹⁾ | 4.92 (125) | 5.91 (150) | 6.89 (175) | 7.87 (200) | 9.84 (250) | 11.81 (300) | 13.78 (350)



Unsupported applications | Short travels



Inner height in. (mm)	1.89 (48)
Pitch per link in. (mm)	2.64 (67)
Links/ft (m)	4.55 (15)
corresponds to (mm)	1,005
e-chain® length	$L_K = \frac{S}{2} + K$

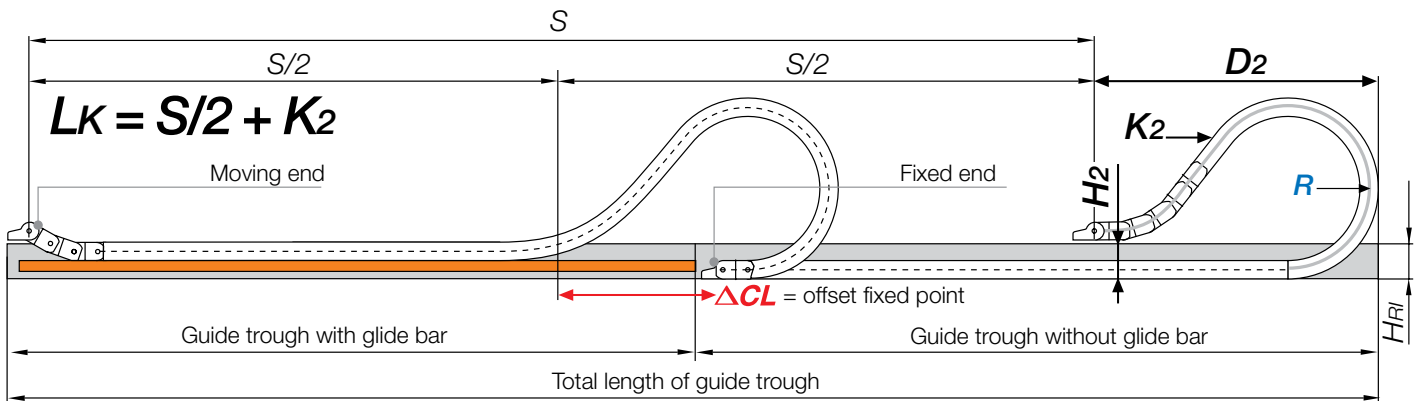


R	2.95 (075*)	3.94 (100*)	4.92 (125)	5.91 (150)	6.69 (175)	7.87 (200)	9.84 (250)	11.81 (300)	13.78 (350)
H	8.43 (214)	10.39 (264)	12.36 (314)	14.33 (364)	16.30 (414)	18.27 (464)	22.20 (564)	26.14 (664)	30.08 (764)
D	8.19 (208)	9.17 (233)	10.16 (258)	11.14 (283)	12.13 (308)	13.11 (333)	15.08 (383)	17.05 (433)	19.02 (483)
K	14.57 (370)	17.72 (450)	20.87 (530)	24.02 (610)	26.97 (685)	30.12 (765)	36.22 (920)	42.52 (1080)	48.62 (1235)

* Radius not available for e-tubes

The required clearance height: $H_f = H + 1.57$ in. (40 mm) with 1.68 lbs/ft (2.5 kg/m) fill weight.

Gliding applications | For travel lengths from 32.8 ft. (10m) to max. 328 ft. (100m)



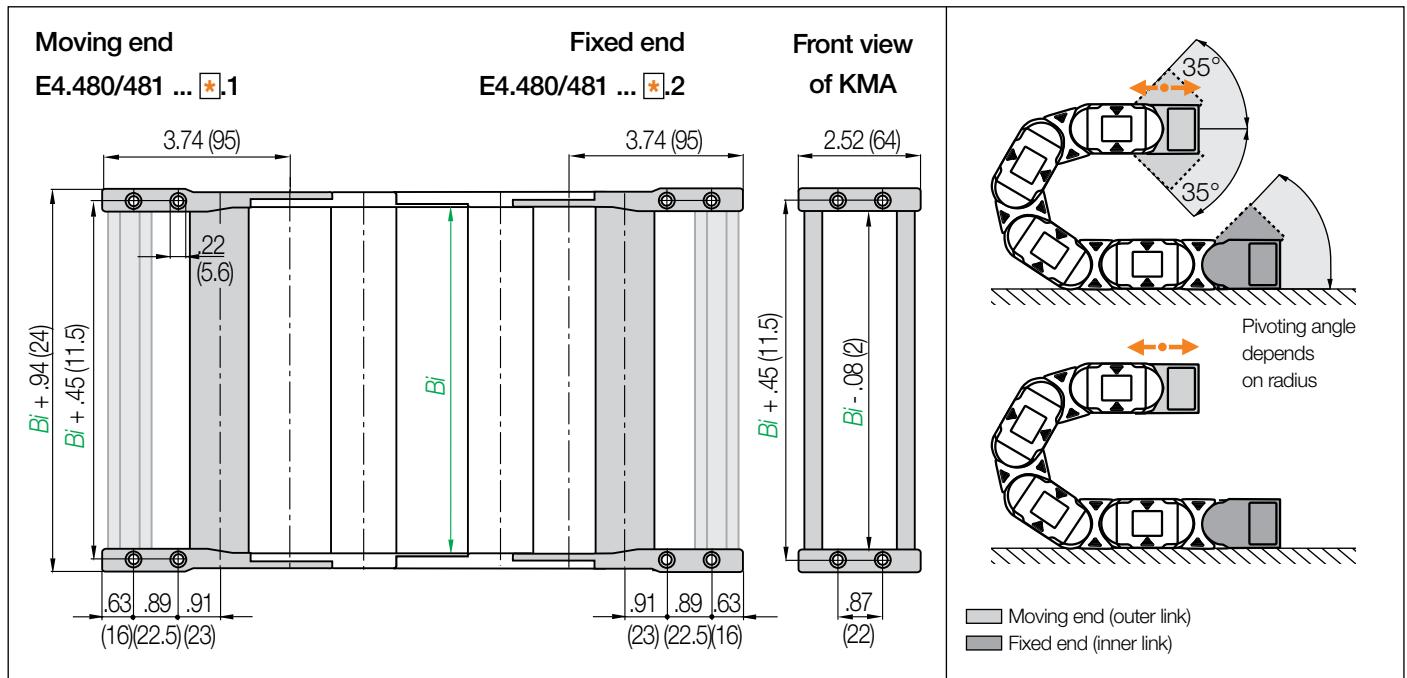
Note: We recommend the project planning of such a system to be carried out by igus®.

In case of travels between 16.41ft. (5m) and 32.8 ft. (10m) we recommend an e-chain® with a longer unsupported length.

R	2.95 (075**)	3.94 (100**)	4.92 (125)	5.91 (150)	6.69 (175)	7.87 (200)	9.84 (250)	11.81 (300)²	13.78 (350)²
H₂	8.43 (214)	10.39 (264)	4.17 (106)	4.17 (106)	4.17 (106)	4.17 (106)	4.17 (106)	—	—
D₂	8.19 (208)	9.17 (233)	18.70 (475)	22.44 (570)	26.38 (670)	30.71 (780)	40.55 (1030)	—	—
K₂	14.57 (370)	17.72 (450)	31.65 (804)	36.93 (938)	44.84 (1139)	52.76 (1340)	65.94 (1675)	—	—
ΔCL	—	—	9.06 (230)	11.81 (300)	14.96 (380)	18.11 (460)	25.98 (660)	—	—

* Radius not available for e-tubes

2) Radius not suitable for long travel applications. Please consult igus®.



KMA pivoting
KMA locking

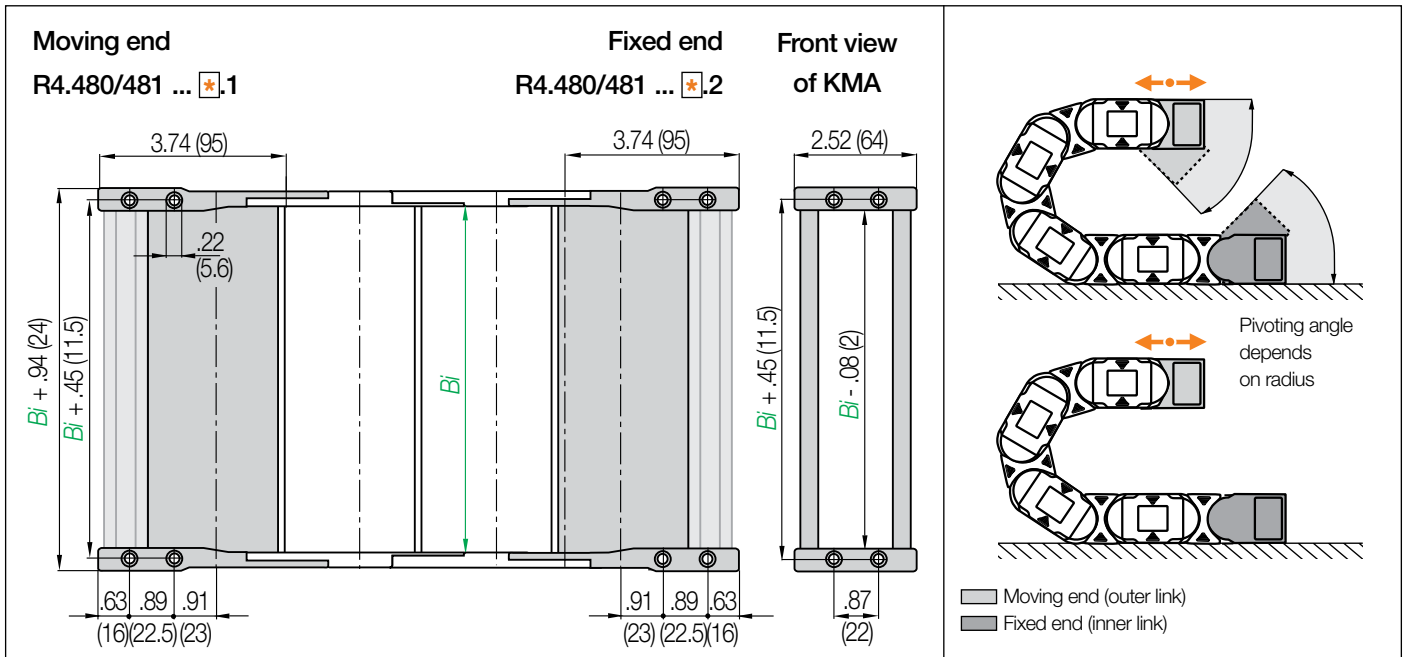
Recommended for unsupported and gliding applications
Recommended for vertical hanging and standing applications

Width index	Part No. full set KMA pivoting	Part No. full set KMA locking	Bi in. (mm)	Width index	Part No. full set KMA pivoting	Part No. full set KMA locking	Bi in. (mm)
050. ▶	E4.480.050. 12.C	E4.481.050. 12.C	1.97 (50)	225. ▶	E4.480.225. 12.C	E4.481.225. 12.C	8.86 (225)
062. ▶	E4.480.062. 12.C	E4.481.062. 12.C	2.44 (62)	237. ▶	E4.480.237. 12.C	E4.481.237. 12.C	9.33 (237)
075. ▶	E4.480.075. 12.C	E4.481.075. 12.C	2.95 (75)	250. ▶	E4.480.250. 12.C	E4.481.250. 12.C	9.84 (250)
087. ▶	E4.480.087. 12.C	E4.481.087. 12.C	3.43 (87)	262. ▶	E4.480.262. 12.C	E4.481.262. 12.C	10.31 (262)
100. ▶	E4.480.100. 12.C	E4.481.100. 12.C	3.94 (100)	275. ▶	E4.480.275. 12.C*	E4.481.275. 12.C*	10.83 (275)
105. ▶	E4.480.105. 12.C	E4.481.105. 12.C	4.13 (105)	287. ▶	E4.480.287. 12.C*	E4.481.287. 12.C*	11.30 (287)
112. ▶	E4.480.112. 12.C	E4.481.112. 12.C	4.41 (112)	300. ▶	E4.480.300. 12.C	E4.481.300. 12.C	11.81 (300)
125. ▶	E4.480.125. 12.C	E4.481.125. 12.C	4.92 (125)	312. ▶	E4.480.312. 12.C*	E4.481.312. 12.C*	12.28 (312)
137. ▶	E4.480.137. 12.C	E4.481.137. 12.C	5.39 (137)	325. ▶	E4.480.325. 12.C*	E4.481.325. 12.C*	12.80 (325)
150. ▶	E4.480.150. 12.C	E4.481.150. 12.C	5.91 (150)	337. ▶	E4.480.337. 12.C*	E4.481.337. 12.C*	13.27 (337)
162. ▶	E4.480.162. 12.C	E4.481.162. 12.C	6.38 (162)	350. ▶	E4.480.350. 12.C*	E4.481.350. 12.C*	13.78 (350)
175. ▶	E4.480.175. 12.C	E4.481.175. 12.C	6.61 (175)	362. ▶	E4.480.362. 12.C*	E4.481.362. 12.C*	14.25 (362)
187. ▶	E4.480.187. 12.C	E4.481.187. 12.C	7.36 (187)	375. ▶	E4.480.375. 12.C*	E4.481.375. 12.C*	14.76 (375)
200. ▶	E4.480.200. 12.C	E4.481.200. 12.C	7.87 (200)	387. ▶	E4.480.387. 12.C*	E4.481.387. 12.C*	15.24 (387)
212. ▶	E4.480.212. 12.C	E4.481.212. 12.C	8.35 (212)	400. ▶	E4.480.400. 12.C*	E4.481.400. 12.C*	15.75 (400)

(KMA = polymer metal mounting bracket) For the C-profile option please add index .C

*Width available upon request. Delivery time upon request.

KMA mounting brackets | Attachment from any side | Pivoting | Locking



KMA pivoting KMA locking

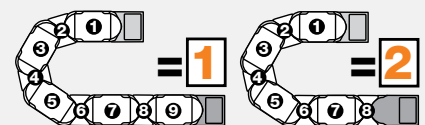
Recommended for unsupported and gliding applications
Recommended for vertical hanging and standing applications

Width index	Part No. full set KMA pivoting	Part No. full set KMA locking	Bi in. (mm)	Width index	Part No. full set KMA pivoting	Part No. full set KMA locking	Bi in. (mm)
050. ▶	R4.480.050.12.C	R4.481.050.12.C	1.97 (050)	150. ▶	R4.480.150.12.C	R4.481.150.12.C	5.91 (150)
062. ▶	R4.480.062.12.C	R4.481.062.12.C	2.44 (062)	175. ▶	R4.480.175.12.C	R4.481.175.12.C	6.61 (175)
075. ▶	R4.480.075.12.C	R4.481.075.12.C	2.95 (075)	200. ▶	R4.480.200.12.C	R4.481.200.12.C	7.87 (200)
087. ▶	R4.480.087.12.C*	R4.481.087.12.C*	3.43 (087)	225. ▶	R4.480.225.12.C*	R4.481.225.12.C*	4.92 (225)
100. ▶	R4.480.100.12.C	R4.481.100.12.C	3.94 (100)	250. ▶	R4.480.250.12.C	R4.481.250.12.C	9.84 (250)
112. ▶	R4.480.112.12.C*	R4.481.112.12.C*	4.41 (112)	300. ▶	R4.480.300.12.C*	R4.481.300.12.C*	11.81 (300)
125. ▶	R4.480.125.12.C*	R4.481.125.12.C*	4.92 (125)				

(KMA = polymer metal mounting bracket) For the C-profile option please add index .C

*Width available upon request. Delivery time upon request.

Note 1: The e-chains® may end with either an inner or an outer side link. An outer side link should always be the first e-chain® link at the moving end. Please specify the index 1 (for odd) or 2 (for even) depending on an even or odd number of links required.



Possible orientations for KMA mounting brackets. For mounting brackets pre-fitted **without C-profile**, please attach index **.A**. For types pre-fitted **with C-profile** please attach index **.A1**, **.A2**, **.A3** or **.A4**.

R4.480.100.2.12.C.A2 **Order example**

.A ... to indicate option with brackets pre-fitted C-profile option

Full set

Even numbers of links

width index

Series

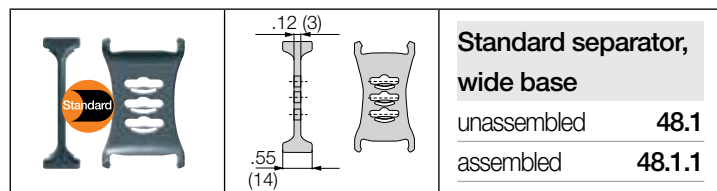
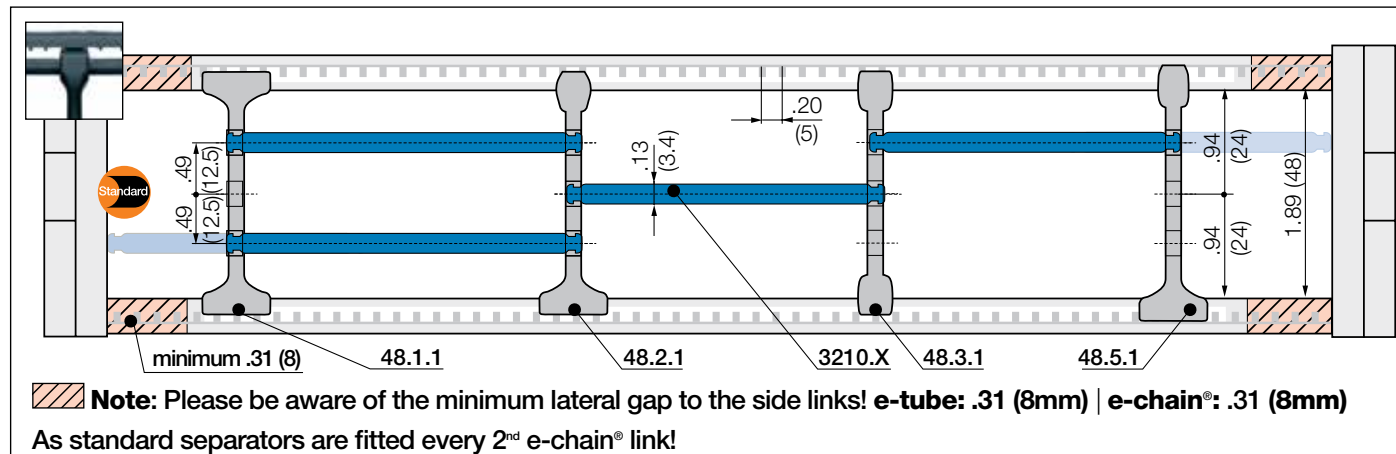


Strain relief e.g. clamps, tiewrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ▶ From page 1418

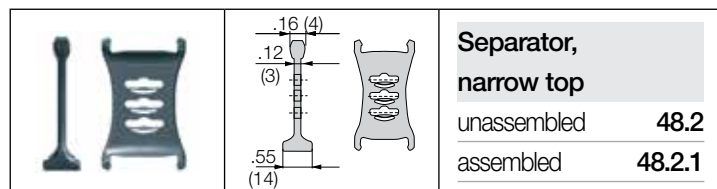


3D CAD, configurators, service life calculation and more ▶ www.igus.com/E4.1L

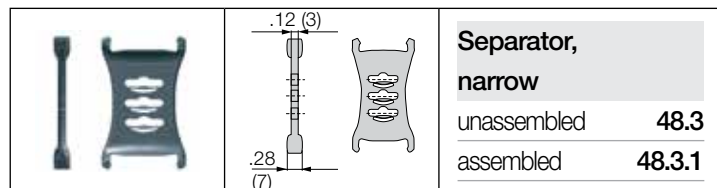
Interior separation | Increase cable service life

**Standard - for any application**

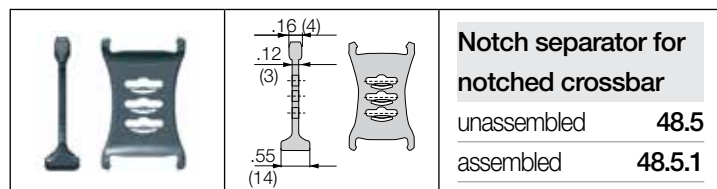
Separator with a wide base for maximum holding force.

**For even faster installation**

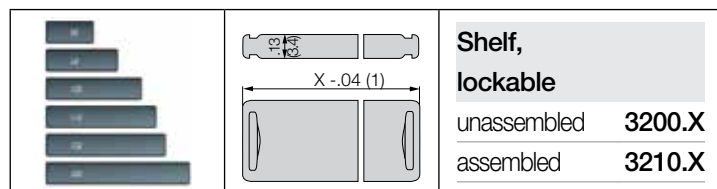
Wide on one side for high holding force, narrow on opposite side for easy cable fitting.

**For a large number of thin cables**

Separator with a narrow base for a large number of thin cables side by side. Saves space.

**Locks securely in preset increments**

Notch separator for exact positioning. Recommended for side-mounted applications.

**Horizontal separation**

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

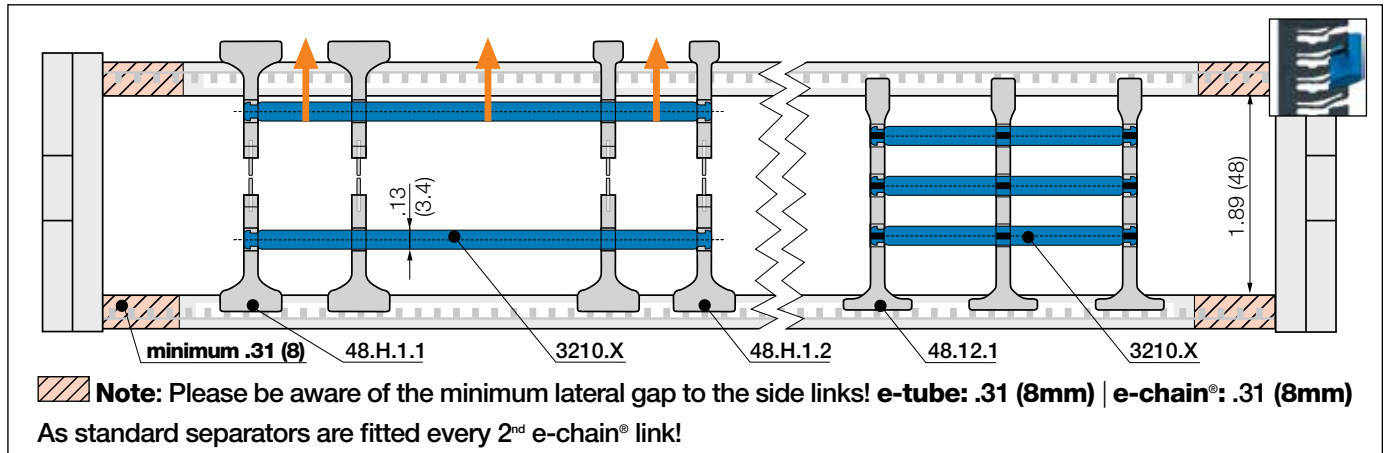
Shelves

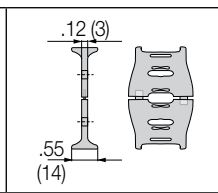
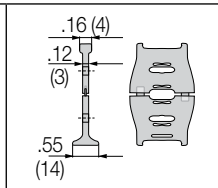
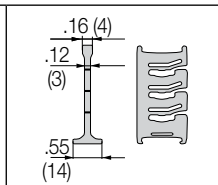
Width = X in. (mm)



X in. (mm)	unassembled	assembled	X in. (mm)	unassembled	assembled	X in. (mm)	unassembled	assembled
1.97 (050)	3200.050	3210.050	4.92 (125)	3200.125	3210.125	8.86 (225)	3200.225	3210.225
2.95 (075)	3200.075	3210.075	5.91 (150)	3200.150	3210.150	9.84 (250)	3200.250	3210.250
3.94 (100)	3200.100	3210.100	6.89 (175)	3200.175	3210.175			
4.53 (115)	3200.115	3210.115	7.87 (200)	3200.200	3210.200			

Interior separation | To allow faster filling



		Split separator, wide base/top unassembled 48.H.1 assembled 48.H.1.1
		Split separator, narrow top unassembled 48.H.2 assembled 48.H.2.1
		Lean separator¹⁾ unassembled 48.12 assembled 48.12.1

Split separators

In order to fill e-chains® more easily and effectively, these separators can be split in the middle. This allows easier access to middle shelf partitions. Fast assembly and easy retrofit. 2 types available: with wide or narrow top.

Lean separators¹⁾

For quick fitting of shelves in several layers.

1) Note: Please combine maximum 4 lean separators with one shelf. Not suitable for side-mounted e-chains®!

With the lean separator you can quickly insert several layers of cables into the e-chain® and reduce the installation time by up to 50%²⁾.

²⁾ Lean interior separation vs. standard interior separation - measured on a 4m long e-chain® fitted with 12 cables in the igus® lab

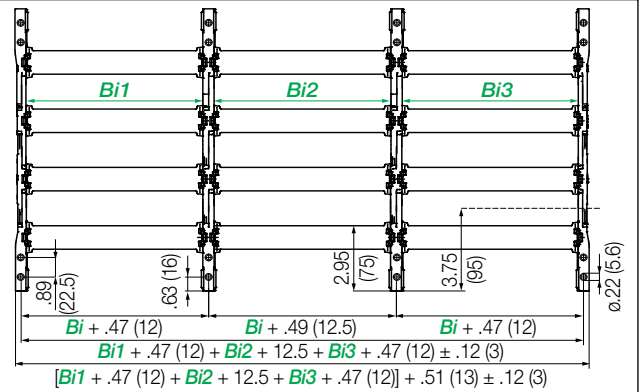


Separator with integrated strain relief teeth

- Can be integrated into the mounting bracket or placed at any point in the e-tube
 - Combines strain relief and interior separation, for restricted space conditions
 - Strain relief separator is easy to assemble without any screws
- Part No. 48.Z - more information ► From page 1457



Extension links



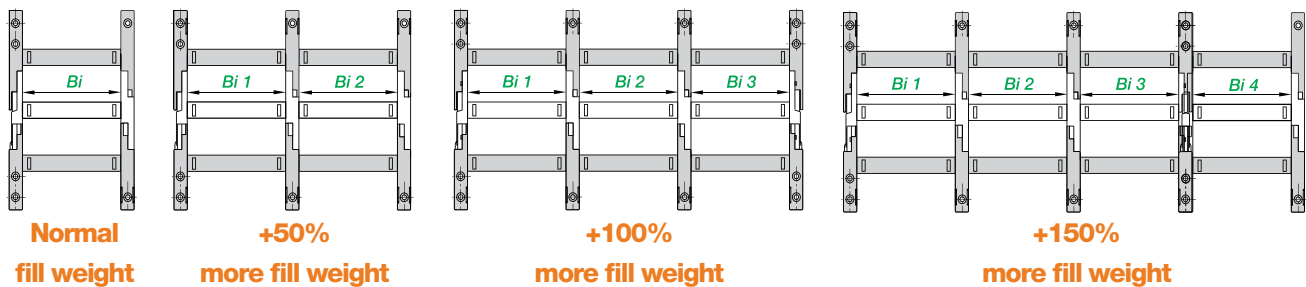
Extension links | For extremely wide e-chains® up to 6.56 ft. (2.0m) with 50% more fill weight

- Extension link e-chains® for 50% higher fill weight extension link up to widths of 6.56 ft. (2.0m) and more
- For heavy fill weights or e-chains® with many heavy cables next to each other
- e-chains® and e-tubes can be combined

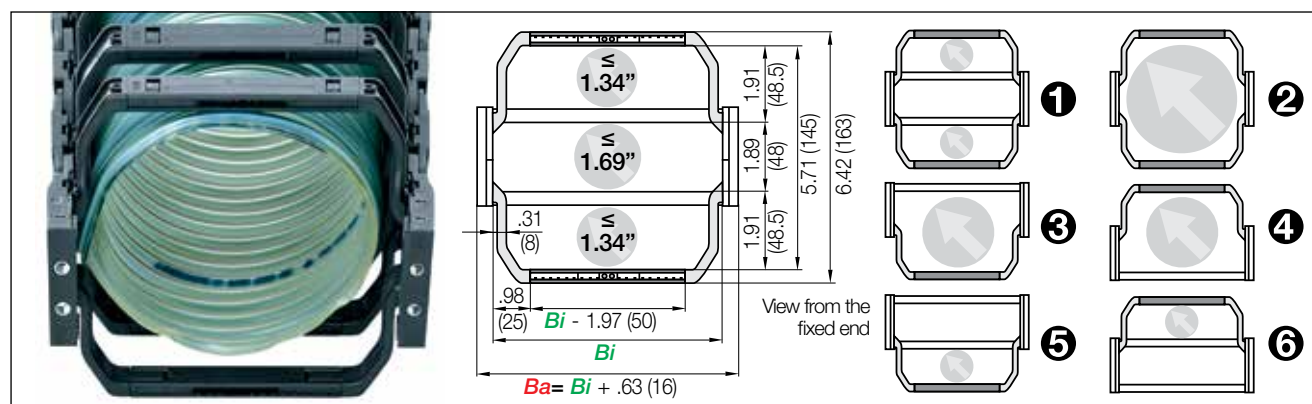
Part No.	Part No.	Part No.
Extension link e-chain®	Extension link e-tube	Extension link as an individual part
E4.48L. <i>Bi1/Bi2/Bi3.R.0</i>	R4.48L. <i>Bi1/Bi2/Bi3.R.0</i>	E4.48ML. <i>R.</i>

Complete Part No. with the width index *Bi1/Bi2/Bi3/etc.* and the radius (*R*). Example: E4.48L.175/175/175.150.0

Increase of the fill weight per extension link



e-chain® with openable extender crossbars



Extender crossbars with flexible width | Safe guiding for large hoses

- For guiding and protecting large hoses
- With mounting for noise dampers
- Cable-friendly design, high crossbar holding force
- The openable extender crossbars can be fitted in different ways and combinations
- Optionally openable along the inner or outer radius

Versions e-chain® with extender crossbar	Hose Ø ≤ in. (mm)	Part No. e-chain® with extender crossbar
① Extender crossbar and standard crossbar alternating along the inner and outer radius ¹⁾	1.34 (34)	E4.48L.XXXHB48.R.0
② Extender crossbar on both sides along the inner and outer radius ²⁾	5.12 (130)	E4.48L.XXXB48.R.0
③ Extender crossbar along the outer radius ³⁾	3.35 (85)	E4.48L.XXXBE48.R.0
④ Extender crossbar along the inner radius ³⁾	3.35 (85)	E4.48L.XXXBZ48.R.0
⑤ Extender crossbar and standard crossbar alternating along the outer radius ³⁾	1.34 (34)	E4.48L.XXXHBE48.R.0
⑥ Extender crossbar and standard crossbar alternating along inner radius ¹⁾	1.34 (34)	E4.48L.XXXHBZ48.R.0

1) Minimum bend radius: R 100 2) Minimum bend radius: R 150 3) Minimum bend radius: R 075

Bi [mm] Available inner widths

| 3.94 (100) | 4.92 (125) | 5.39 (137) | 5.91 (150) | 6.38 (162) | 6.89 (175) | 7.36 (187) | 7.87 (200) | 8.34 (212) | 8.85 (225) | 9.33 (237) | 9.84 (250) | 10.31 (262) | 11.81 (300)

Complete Part No. with the width index XXX of Bi and the radius (R). Example

E4.48L.100B48.150.0 = extender crossbar on both sides along inner and outer radius

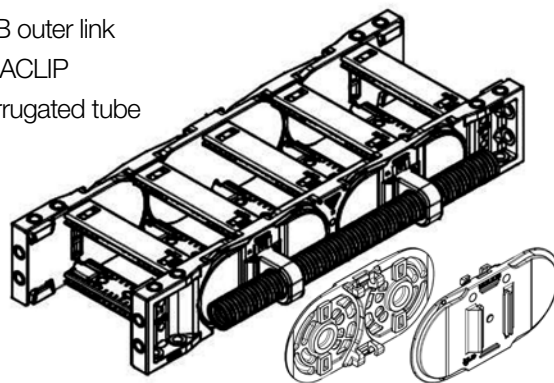


The E4.1L can be fitted with openable extender crossbars, which increase the size of the interior of the e-chain®. Crossbars can be fitted in various ways: from one or both sides, alternating with standard crossbars and or any combination

TUB



- ❶ TUB outer link
- ❷ PMAclip
- ❸ Corrugated tube



TUB | Safe guidance for corrugated tubes parallel to the e-chain®

- Additional, simple guidance for corrugated tubes on the outside of the e-chain®
- PMAclip allows corrugated tubes with nominal widths .28 (07mm), .39 (10mm), .47 (12mm), .67 (17mm), .91 (23mm), 1.14 (29mm), 1.42 (36mm) to be easily clipped on
- Easy access to the corrugated tubes, fast replacement of the hoses
- Reduce assembly time and cost - easy to assemble, without any additional screws or tools
- The part number includes the e-chain® with TUB side sections; the PMAclip support and the hose are ordered separately

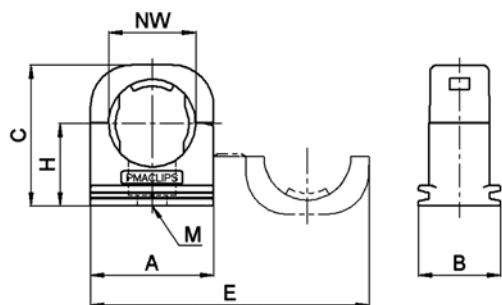
Part No. TUB	Part No. TUB	Part No. TUB	For corrugated tube nominal diameter
Outer link right*	Outer link left*	Outer link at both ends*	Ø [mm]
E4.48L.XXXTUBR.R.0	E4.48L.XXXTUBL.R.0	E4.48L.XXXTUB.R.0	.28 (07), .39 (10), .47 (12), .67 (17), .91 (23), 1.14 (29), 1.42 (36)

*View from the fixed end

Complete Part No. with the width index **XXX** of **Bi** and the minimum bend radius (**R**).

E4.48L.100TUBR.150.0 = with TUB outer sections every 2nd right hand link

Product range | PMAclip | Support, one-piece, with safety clip



PMAclip support - one-piece construction with safety clip, suitable for corrugated tubes

Part number	NW	A	B	C	H	E	M
PMAclip	Ø [mm]	mm	mm	mm	mm	mm	mm
I-BFH-07-0	.28 (07)	.67 (17.0)	.79 (20.0)	.85 (21.5)	.53 (13.5)	1.59 (40.5)	M4
I-BFH-10-0	.39 (10)	.81 (20.5)	.79 (20.0)	.96 (24.5)	.61 (15.5)	1.87 (47.5)	M5
I-BFH-12-0	.47 (12)	.94 (24.0)	.79 (20.0)	1.06 (27.0)	.65 (16.5)	2.15 (54.5)	M5
I-BFH-17-0	.67 (17)	1.18 (30.0)	.79 (20.0)	1.34 (34.0)	.79 (20.0)	2.68 (68.0)	M6
I-BFH-23-0	.91 (23)	1.52 (38.5)	.79 (20.0)	1.65 (42.0)	.94 (24.0)	3.35 (85.0)	M6
I-BFH-29-0	1.14 (29)	1.79 (45.5)	.79 (20.0)	1.89 (48.0)	1.06 (27.0)	3.90 (99.0)	M6
I-BFH-36-0	1.42 (36)	2.19 (55.5)	.79 (20.0)	2.20 (56.0)	1.22 (31.0)	4.69 (119.0)	M6

Steel support tray for support of the lower run

- Simple one-piece support trays for the lower run
- To your requirements and specification
- 4 options available

More information ► From page 1394



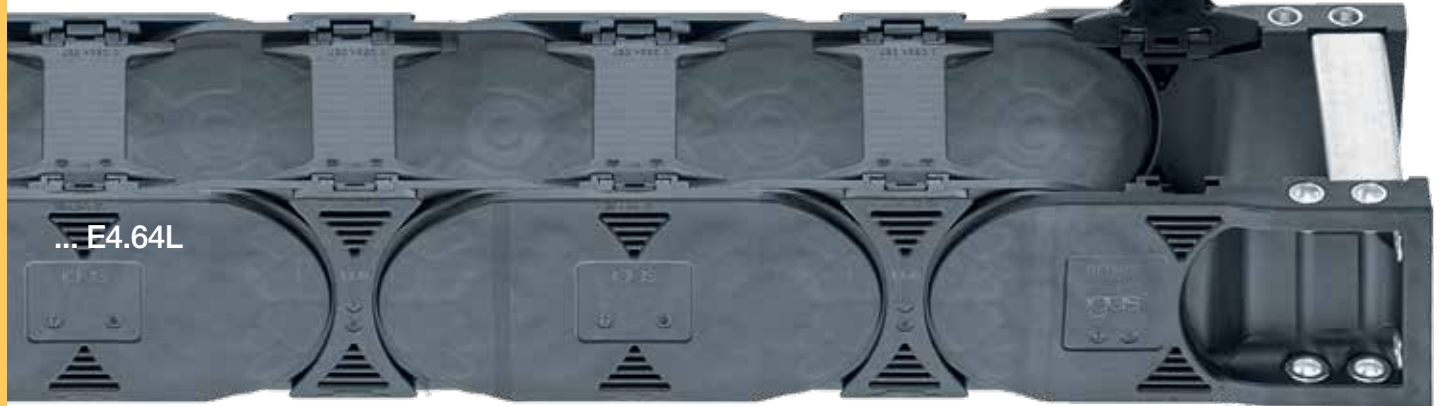
CFU strain relief with innovative honeycomb design

- Fast filling, openable from both sides for assembly in seconds
- Flexible honeycomb design for increased holding force
- Tribologically optimized honeycomb design for the best hold
- Universal use, compact, space-saving design

More information ► Page 1452



Due to the modular design, the E4.1L system can be adapted to almost any application. As an open version for cable guidance, with extender crossbars for large hoses, or enclosed chip-resistant tube complete with guide trough – just three of many options



e-chains® | E4.64L | Crossbars every link (openable along inner and outer radius, from both sides)

Part No.	<i>Bi</i>	<i>Ba</i>	E4.64L
e-chains®	in. (mm)	in. (mm)	lbs/ft (kg/m)
E4. 64L.050. <i>R</i> .0**	1.97 (50)	2.99 (76)	≈ 1.59 (2.37)
E4. 64L.062. <i>R</i> .0**	2.44 (62)	3.46 (88)	≈ 1.62 (2.41)
E4. 64L.075. <i>R</i> .0**	2.95 (75)	3.98 (101)	≈ 1.66 (2.47)
E4. 64L.087. <i>R</i> .0	3.43 (87)	4.45 (113)	≈ 1.71 (2.54)
E4. 64L.100. <i>R</i> .0	3.94 (100)	4.96 (126)	≈ 1.73 (2.57)
E4. 64L.112. <i>R</i> .0**	4.41 (112)	5.43 (138)	≈ 1.77 (2.63)
E4. 64L.125. <i>R</i> .0**	4.92 (125)	5.94 (151)	≈ 1.79 (2.67)
E4. 64L.137. <i>R</i> .0**	5.39 (137)	6.42 (163)	≈ 1.83 (2.72)
E4. 64L.150. <i>R</i> .0	5.91 (150)	6.93 (176)	≈ 1.86 (2.77)
E4. 64L.162. <i>R</i> .0**	6.38 (162)	7.40 (188)	≈ 1.90 (2.83)
E4. 64L.175. <i>R</i> .0	6.89 (175)	7.91 (201)	≈ 1.93 (2.87)
E4. 64L.187. <i>R</i> .0**	7.36 (187)	8.39 (213)	≈ 1.97 (2.93)
E4. 64L.200. <i>R</i> .0	7.87 (200)	8.90 (226)	≈ 2.00 (2.97)
E4. 64L.212. <i>R</i> .0**	8.35 (212)	9.37 (238)	≈ 2.04 (3.03)
E4. 64L.225. <i>R</i> .0**	8.86 (225)	9.88 (251)	≈ 2.07 (3.08)

**Width available upon request. Delivery time upon request.

1) Radius not available for e-tubes

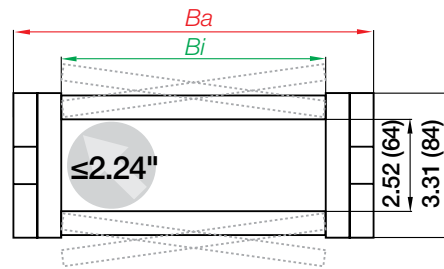
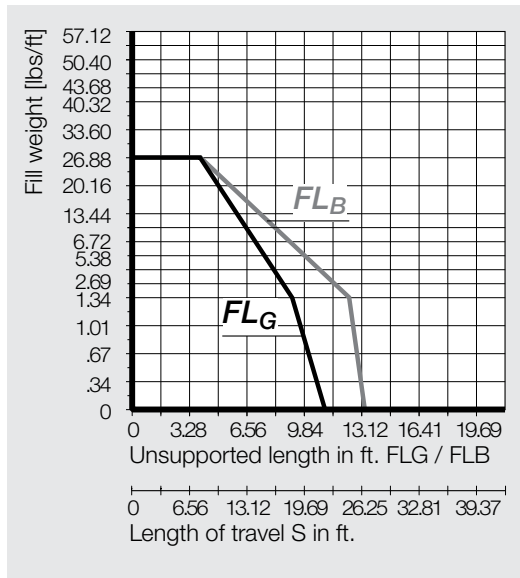
Complete Part No. with required radius (*R*). Example: E4.64L.150.150.0 = crossbars every link

Available bend radii

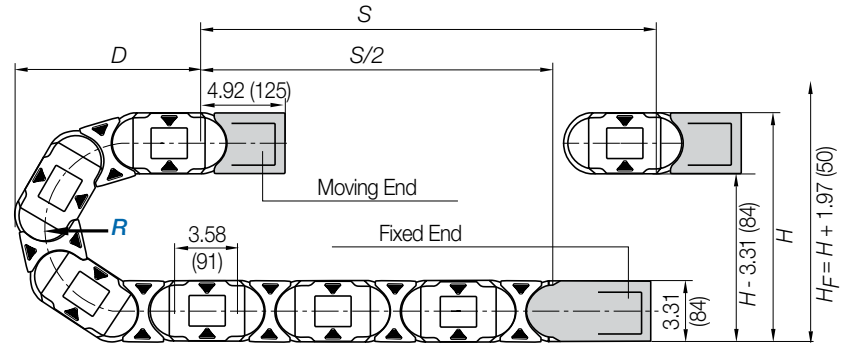
R in. (mm) | 3.94 (100) | 4.92 (125) | 5.91 (150) | 6.89 (175) | 7.87 (200) | 9.84 (250) | 11.81 (300) | 13.78 (350) | 15.75 (400)

Part No.	<i>Bi</i>	<i>Ba</i>	E4.64L
e-chains®	in. (mm)	in. (mm)	lbs/ft (kg/m)
E4. 64L.237. <i>R</i> .0**	9.33 (237)	10.35 (263)	≈ 2.10 (3.12)
E4. 64L.250. <i>R</i> .0**	9.84 (250)	10.87 (276)	≈ 2.14 (3.18)
E4. 64L.262. <i>R</i> .0**	10.31 (262)	11.34 (288)	≈ 2.16 (3.22)
E4. 64L.275. <i>R</i> .0**	10.82 (275)	11.85 (301)	≈ 2.20 (3.28)
E4. 64L.287. <i>R</i> .0**	11.30 (287)	12.32 (313)	≈ 2.24 (3.33)
E4. 64L.300. <i>R</i> .0**	11.81 (300)	12.83 (326)	≈ 2.27 (3.38)
E4. 64L.312. <i>R</i> .0**	12.28 (312)	13.31 (338)	≈ 2.30 (3.43)
E4. 64L.325. <i>R</i> .0**	12.80 (325)	13.82 (351)	≈ 2.34 (3.48)
E4. 64L.337. <i>R</i> .0**	13.27 (337)	14.29 (363)	≈ 2.38 (3.54)
E4. 64L.350. <i>R</i> .0**	13.78 (350)	14.80 (376)	≈ 2.41 (3.58)
E4. 64L.362. <i>R</i> .0**	14.25 (362)	15.28 (388)	≈ 2.44 (3.63)
E4. 64L.375. <i>R</i> .0**	14.76 (375)	15.79 (401)	≈ 2.47 (3.68)
E4. 64L.387. <i>R</i> .0**	15.24 (387)	16.26 (413)	≈ 2.51 (3.73)
E4. 64L.400. <i>R</i> .0**	15.75 (400)	16.77 (426)	≈ 2.54 (3.78)

Unsupported applications | Short travels



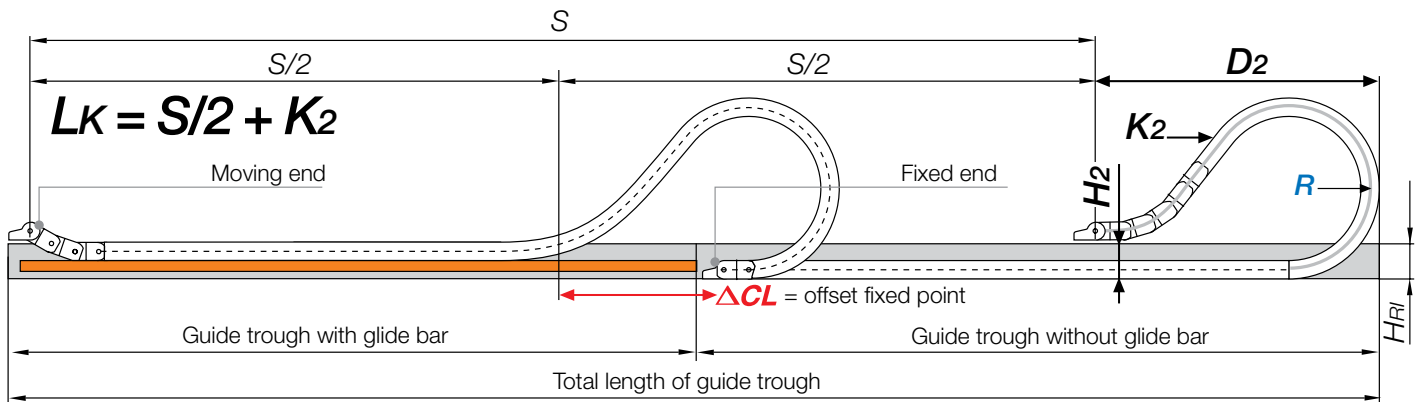
Inner height in. (mm)	2.52 (64)
Pitch per link in. (mm)	3.58 (91)
Links/ft (m)	4.35 (11)
corresponds to (mm)	1,001
e-chain® length	$L_K = \frac{S}{2} + K$



R	3.94 (100)	4.92 (125)	5.91 (150)	6.69 (175)	7.87 (200)	9.84 (250)	11.81 (300)	13.78 (350)	15.75 (400)
H	11.18 (284)	13.15 (334)	15.12 (384)	17.09 (434)	19.06 (484)	22.99 (584)	26.93 (684)	30.87 (784)	34.80 (884)
D	10.98 (279)	11.97 (304)	12.95 (329)	13.94 (354)	14.92 (379)	16.89 (429)	18.86 (479)	20.83 (529)	22.80 (579)
K	19.69 (500)	22.64 (575)	25.79 (655)	28.94 (735)	32.09 (815)	38.19 (970)	44.29 (1125)	50.59 (1285)	56.69 (1440)

The required clearance height: $H_r = H + 1.97$ in. (50 mm) with 1.34 lbs/ft (2.0 kg/m) fill weight.

Gliding applications | For long travels, upon request

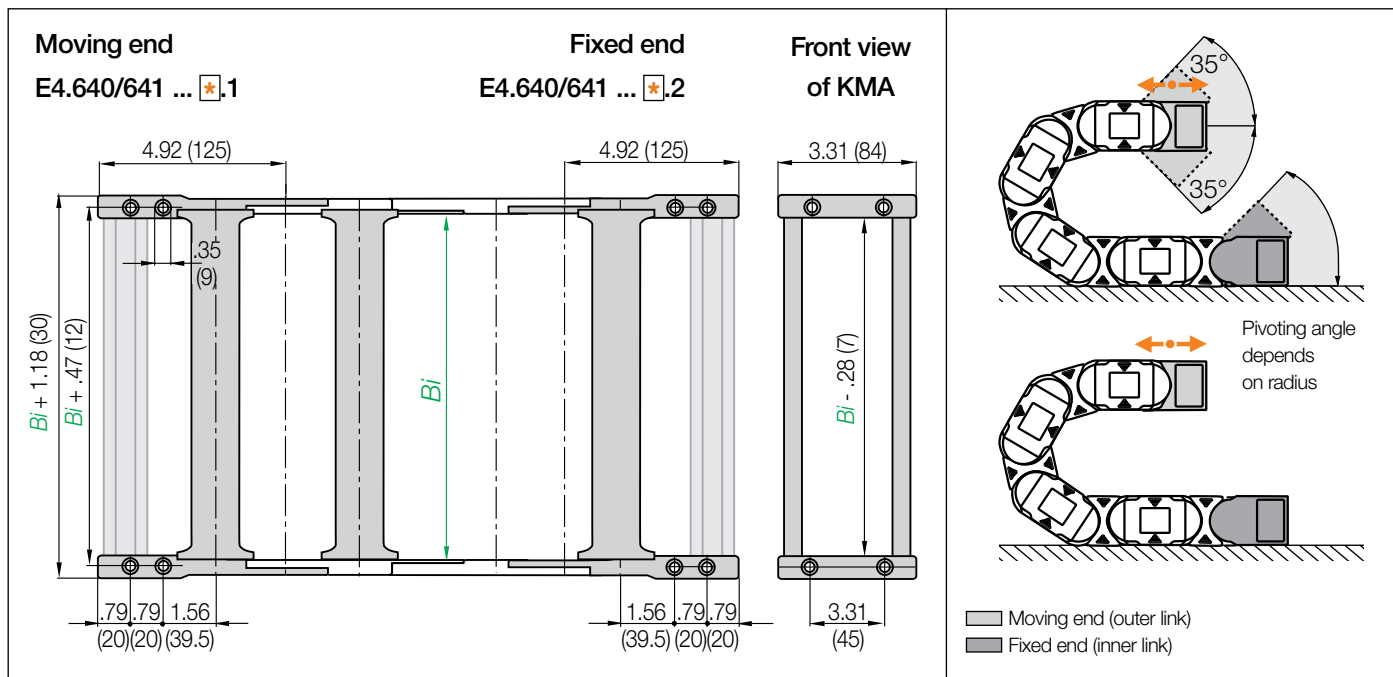


Note: We recommend the project planning of such a system to be carried out by igus®.

In case of travels between 16.41ft. (5m) and 32.8 ft. (10m) we recommend an e-chain® with a longer unsupported length.

R	3.94 (100)	4.92 (125)	5.91 (150)	6.89 (175)	7.87 (200)	9.84 (250)	11.81 (300)	13.78 (350)	15.75 (400)
H_2	**	7.09 (180)	7.09 (180)	7.09 (180)	7.09 (180)	7.09 (180)	—	—	—
D_2	**	19.88 (505)	22.83 (580)	27.76 (705)	32.68 (830)	42.52 (1080)	—	—	—
K_2	**	32.24 (819)	35.83 (910)	46.57 (1183)	53.74 (1365)	68.07 (1729)	—	—	—
ΔCL	**	8.22 (209)	10.20 (259)	14.13 (359)	18.07 (459)	22.44 (570)	—	—	—

**Values upon request



KMA pivoting
KMA locking

Recommended for unsupported and gliding applications
Recommended for vertical hanging and standing applications

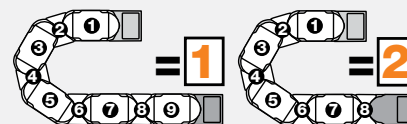
Width index	Part No. full set KMA pivoting	Part No. full set KMA locking	Bi in. (mm)
050. ▶	E4.640.050. 1 .12.C*	E4.641.050. 2 .12.C*	1.97 (50)
062. ▶	E4.640.062. 1 .12.C*	E4.641.062. 2 .12.C*	2.44 (62)
075. ▶	E4.640.075. 1 .12.C*	E4.641.075. 2 .12.C*	2.95 (75)
087. ▶	E4.640.087. 1 .12.C	E4.641.087. 2 .12.C	3.43 (87)
100. ▶	E4.640.100. 1 .12.C	E4.641.100. 2 .12.C	3.94 (100)
112. ▶	E4.640.112. 1 .12.C*	E4.641.112. 2 .12.C*	4.41 (112)
125. ▶	E4.640.125. 1 .12.C*	E4.641.125. 2 .12.C*	4.92 (125)
137. ▶	E4.640.137. 1 .12.C*	E4.641.137. 2 .12.C*	5.39 (137)
150. ▶	E4.640.150. 1 .12.C	E4.641.150. 2 .12.C	5.91 (150)
162. ▶	E4.640.162. 1 .12.C*	E4.641.162. 2 .12.C*	6.38 (162)
175. ▶	E4.640.175. 1 .12.C	E4.641.175. 2 .12.C	6.61 (175)
187. ▶	E4.640.187. 1 .12.C*	E4.641.187. 2 .12.C*	7.36 (187)
200. ▶	E4.640.200. 1 .12.C	E4.641.200. 2 .12.C	7.87 (200)
212. ▶	E4.640.212. 1 .12.C*	E4.641.212. 2 .12.C*	8.35 (212)
225. ▶	E4.640.225. 1 .12.C*	E4.641.225. 2 .12.C*	8.86 (225)

Width index	Part No. full set KMA pivoting	Part No. full set KMA locking	Bi in. (mm)
237. ▶	E4.640.237. 1 .12.C*	E4.641.237. 2 .12.C*	9.33 (237)
250. ▶	E4.640.250. 1 .12.C*	E4.641.250. 2 .12.C*	9.84 (250)
262. ▶	E4.640.262. 1 .12.C*	E4.641.262. 2 .12.C*	10.31 (262)
275. ▶	E4.640.275. 1 .12.C*	E4.641.275. 2 .12.C*	10.83 (275)
287. ▶	E4.640.287. 1 .12.C*	E4.641.287. 2 .12.C*	11.30 (287)
300. ▶	E4.640.300. 1 .12.C*	E4.641.300. 2 .12.C*	11.81 (300)
312. ▶	E4.640.312. 1 .12.C*	E4.641.312. 2 .12.C*	12.28 (312)
325. ▶	E4.640.325. 1 .12.C*	E4.641.325. 2 .12.C*	12.80 (325)
337. ▶	E4.640.337. 1 .12.C*	E4.641.337. 2 .12.C*	13.27 (337)
350. ▶	E4.640.350. 1 .12.C*	E4.641.350. 2 .12.C*	13.78 (350)
362. ▶	E4.640.362. 1 .12.C*	E4.641.362. 2 .12.C*	14.25 (362)
375. ▶	E4.640.375. 1 .12.C*	E4.641.375. 2 .12.C*	14.76 (375)
387. ▶	E4.640.387. 1 .12.C*	E4.641.387. 2 .12.C*	15.24 (387)
400. ▶	E4.640.400. 1 .12.C*	E4.641.400. 2 .12.C*	15.75 (400)

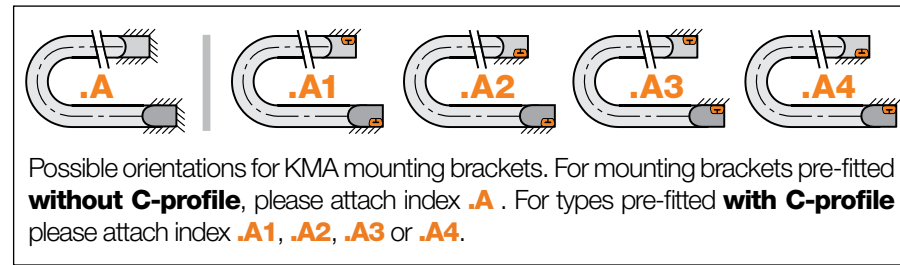
(KMA = polymer metal mounting bracket) For the C-profile option please add index **.C**

*Width available upon request. Delivery time upon request.

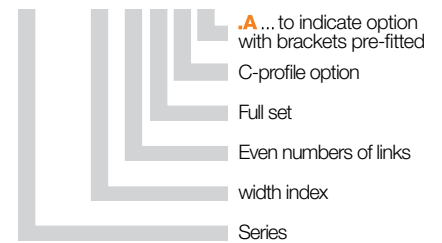
Note **1**: The e-chains® may end with either an inner or an outer side link. An outer side link should always be the first e-chain® link at the moving end. Please specify the index **1** (for odd) or **2** (for even) depending on an even or odd number of links required.



KMA mounting brackets | Attachment from any side



E4.640.150.2.12.C.A2 Order example



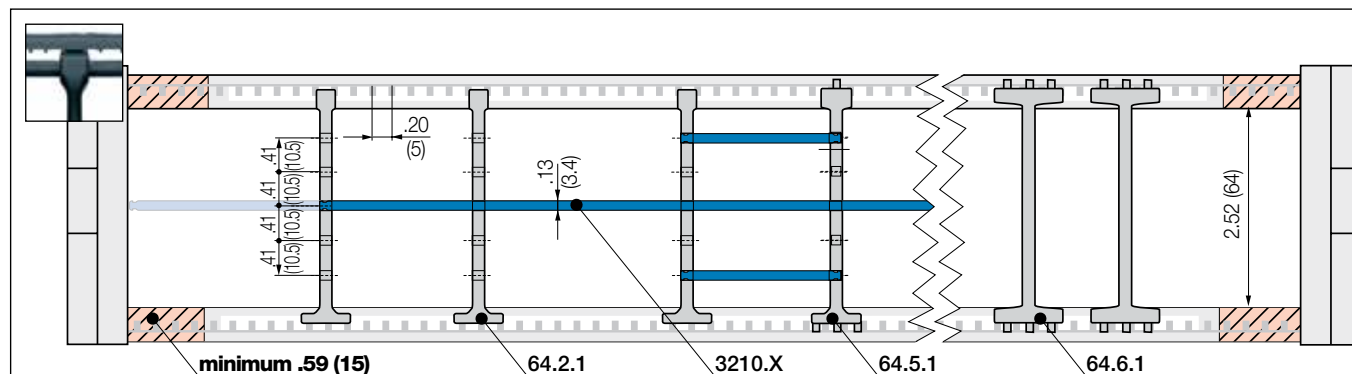
Strain relief e.g. clamps, tiewrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ► From page 1418



R4.1L e-tubes to guide motor, encoder and sensor cables on a bending machine

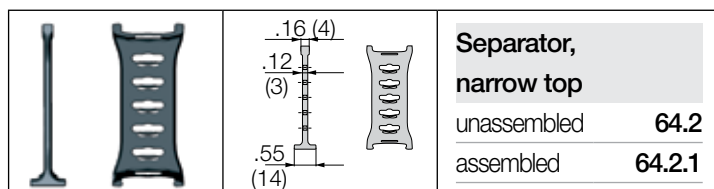


Interior separation | Increase cable service life



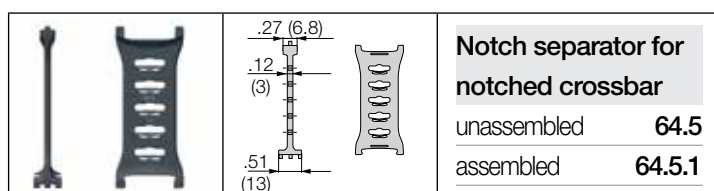
Note: Please be aware of the minimum lateral gap to the side links! **e-chain®: .59 (15mm)**

As standard separators are fitted every 2nd e-chain® link!



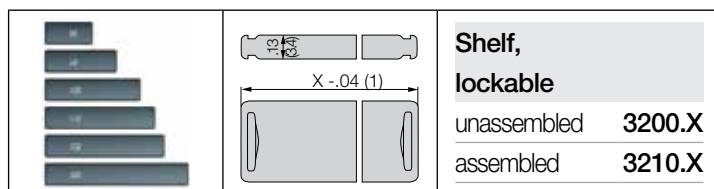
For even faster installation

Wide on one side for high holding force, narrow on opposite side for easy cable fitting.



Locks securely in preset increments

Notch separator for exact positioning. Recommended for side-mounted applications.



Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

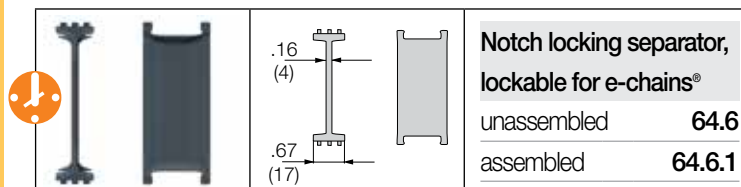
Shelves

Width = X in. (mm)



X in. (mm)	unassembled	assembled	X in. (mm)	unassembled	assembled	X in. (mm)	unassembled	assembled
1.97 (050)	3200.050	3210.050	4.92 (125)	3200.125	3210.125	8.86 (225)	3200.225	3210.225
2.95 (075)	3200.075	3210.075	5.91 (150)	3200.150	3210.150	9.84 (250)	3200.250	3210.250
3.94 (100)	3200.100	3210.100	6.89 (175)	3200.175	3210.175			
4.53 (115)	3200.115	3210.115	7.87 (200)	3200.200	3210.200			

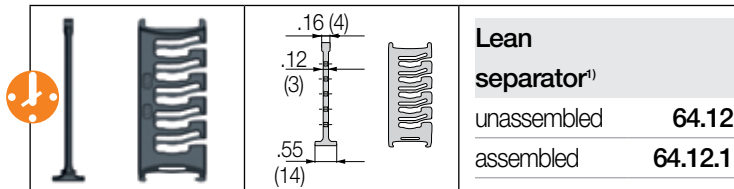
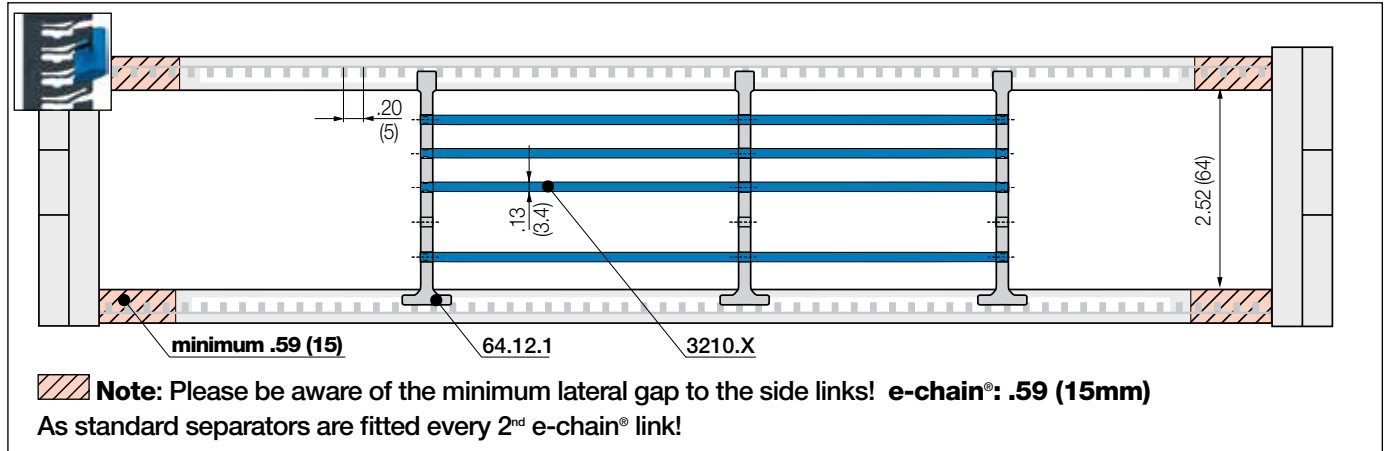
More interior separation options



Notch locking separator for increased holding force

Notch locking separators offer higher crossbar opening forces for high humidity and/or large hydraulic hoses. They can be positioned precisely and then locked in position.

Interior separation | To allow faster filling



Lean separators¹⁾

For quick fitting of shelves in several layers.

1) Note: Please combine maximum 4 lean separators with one shelf. Not suitable for side-mounted e-chains²⁾!

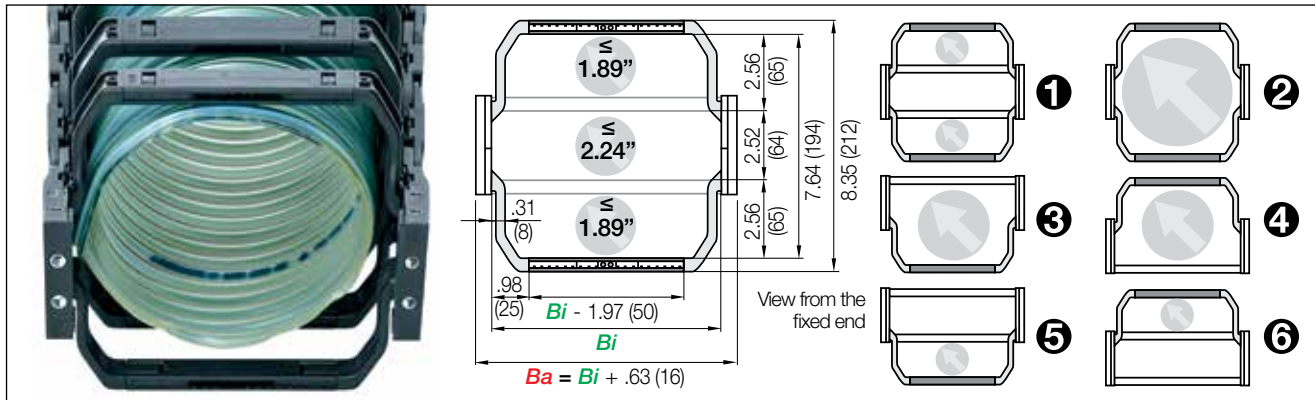
With the lean separator you can quickly insert several layers of cables into the e-chain® and reduce the installation time by up to 50%²⁾.

2) Lean interior separation vs. standard interior separation - measured on a 4m long e-chain® fitted with 12 cables in the igus® lab



Low weight combined with high strength for long unsupported lengths: E4.1L

Extension links



Extender crossbars with flexible width | Safe guiding for large hoses

- For guiding and protecting large hoses
- With mounting for noise dampers
- Cable-friendly design, high crossbar holding force
- The openable extender crossbars can be fitted in different ways and combinations
- Optionally openable along the inner or outer radius

Versions e-chain® with extender crossbar	Hose Ø ≤ in. (mm)	Part No. e-chain® with extender crossbar
1) Extender crossbar and standard crossbar alternating along the inner and outer radius ¹⁾	1.89 (48)	E4.64L.XXXHB65.R.0
2) Extender crossbar on both sides along the inner and outer radius ²⁾	6.69 (170)	E4.64L.XXXB65.R.0
3) Extender crossbar along the outer radius ³⁾	.45 (115)	E4.64L.XXXBE65.R.0
4) Extender crossbar along the inner radius ³⁾	.45 (115)	E4.64L.XXXBZ65.R.0
5) Extender crossbar and standard crossbar alternating along the outer radius ³⁾	1.89 (48)	E4.64L.XXXHBE65.R.0
6) Extender crossbar and standard crossbar alternating along inner radius ¹⁾	1.89 (48)	E4.64L.XXXHBZ65.R.0

1) Minimum bend radius: **R 125** 2) Minimum bend radius: **R 150** 3) Minimum bend radius: **R 100**

Bi [mm] Available inner widths

| 3.94 (100) | 4.41 (112) | 4.92 (125) | 5.91 (150) | 6.89 (175) | 7.36 (187) | 7.87 (200) | 8.34 (212) | 8.85 (225) | 11.81 (300) | 12.80 (325) | 13.78 (350) |

Complete Part No. with the width index **XXX** of **Bi** and the radius (**R**). Example

E4.64L.100B65.150.0 = **Bi 100** / Extender crossbar on both sides along inner and outer radius / bend radius (**R**) 150



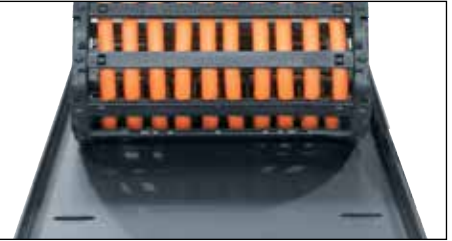
The E4.1L can be fitted with openable extender crossbars, which increase the size of the interior of the e-chain®. Crossbars can be fitted in various ways: from one or both sides, alternating with standard crossbars and or any combination

e-chain® with openable extender crossbars

Steel support tray for support of the lower run

- Simple one-piece support trays for the lower run
- To your requirements and specification
- 4 options available

More information ► From page 1394



The sharp S with the centrally arranged guided link system - in order to be able to implement the telescoping arm projecting from both sides, two igus® E4.1L series e-chains® were combined together offset by 180 degrees