

igus[®] E2/000

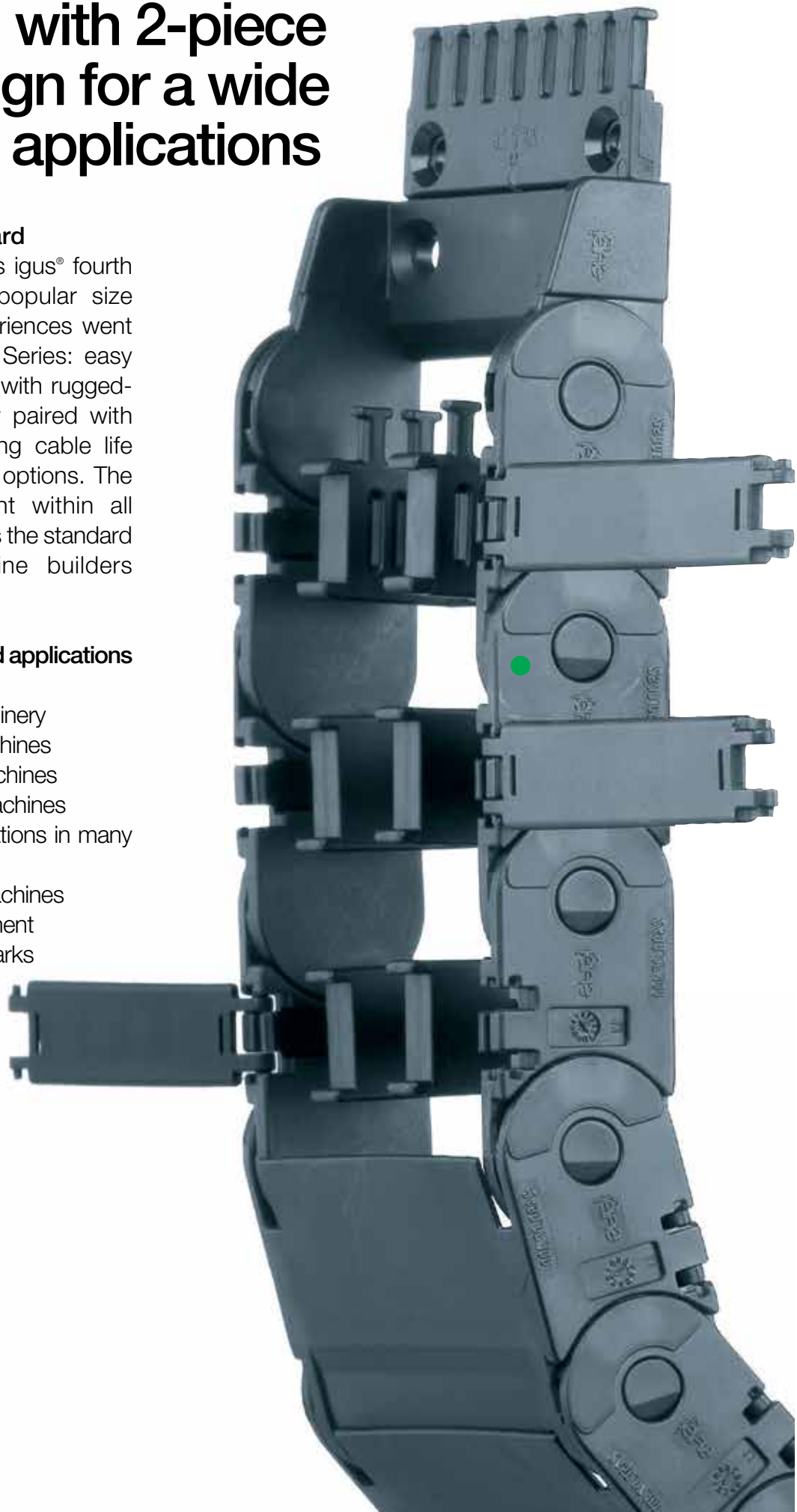
E2/000 - with 2-piece link-design for a wide range of applications

E2/000 - the standard

The E2/000 Series is igus® fourth generation in this popular size range. All past experiences went into this Millennium Series: easy assembly combined with ruggedness - high stability paired with quieter motion - long cable life and many mounting options. The design is consistent within all E2/000 variations. It is the standard product for machine builders around the world.

Typical industries and applications

- Material handling
- Construction machinery
- Woodworking machines
- Glass handling machines
- Plastic handling machines
- Long travel applications in many industries
- Semiconductor machines
- Theatre, entertainment and amusement parks
- Vehicles
- General machinery



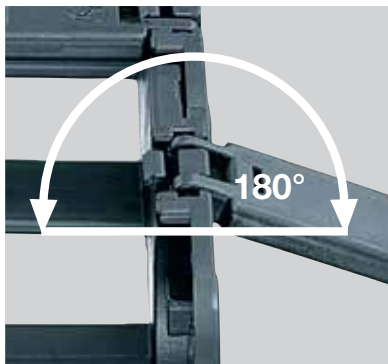


Pre-assembled E2/000 e-chain® - turnkey solution delivered with cables and sheet metal parts attached and ready for installation

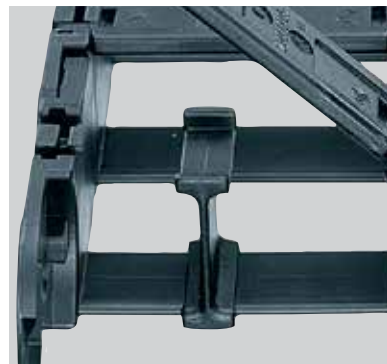
E2/000 features



New snap-open mechanism, choice of snap-open on left or right



Hinged crossbar can be swiveled by more than 180° on both sides



Secure fit of separators and interior separation even when e-chain® is open



Half e-tube - Fully enclosed in outer radius. Choice of swiveling interior radius to the left or right



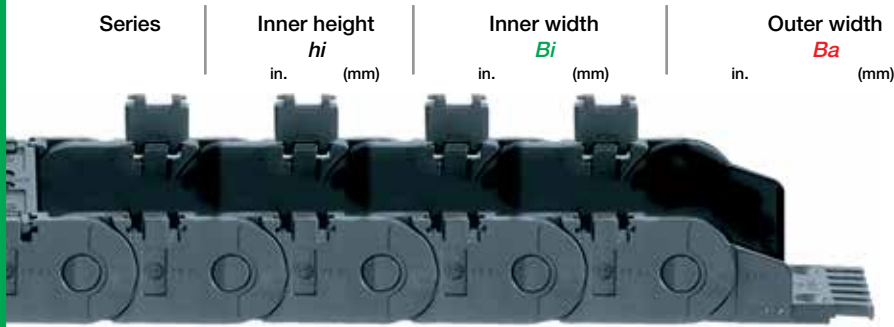
Lightning-fast closing by the touch of a thumb - secure fit without additional locking devices



Opening mechanism accessible from above - rapid opening with a screwdriver or the e-chain® opener

e-chain system® E2/000

Selection Guide



E2/000 e-chains®
Standard for System E2
 snap-open along outer
 radius from both sides

Series	Inner height <i>hi</i>		Inner width <i>Bi</i>		Outer width <i>Ba</i>		Outer height <i>ha</i>		Bending radius <i>R</i>	
	in.	(mm)	in.	(mm)	in.	(mm)	in.	(mm)	in.	(mm)
1500	.83	(21)	.59-4.92	(15 - 125)	1.12-5.45	(28.5 - 138.5)	1.10	(28)	1.38-7.09	(35 - 180)
2500	.98	(25)	.98-4.92	(25 - 125)	1.61-5.55	(41.0 - 141.0)	1.38	(35)	2.44-9.84	(55 - 250)
2700	1.38	(35)	1.97-6.89	(50 - 175)	2.60-7.64	(66.0 - 194.0)	1.97	(50)	2.48-9.84	(63 - 250)
3500	1.77	(45)	1.97-9.84	(50 - 250)	2.76-10.63	(70.0 - 270.0)	2.52	(64)	2.95-11.81	(75 - 300)
255	.94	(24)	1.50-4.06	(38 - 103)	2.13-4.69	(54.0 - 119.0)	1.38	(35)	2.17-9.84	(55 - 250)



E2/000 e-chains®
 snap-open along inner
 radius from both sides

1400	.83	(21)	.59-4.92	(15 - 125)	1.12-5.45	(28.5 - 138.5)	1.10	(28)	1.38-7.09	(35 - 180)
2400	.98	(25)	.98-4.92	(25 - 125)	1.61-5.55	(41.0 - 141.0)	1.38	(35)	2.44-9.84	(55 - 250)
2600	1.38	(35)	1.97-6.89	(50 - 175)	2.60-7.64	(66.0 - 194.0)	1.97	(50)	2.48-9.84	(63 - 250)
3400	1.77	(45)	1.97-9.84	(50 - 250)	2.76-10.63	(70.0 - 270.0)	2.52	(64)	2.95-11.81	(75 - 300)



Half e-tubes
 snap-open along inner
 radius from both sides

1450	.83	(21)	.59-4.92	(15 - 125)	1.12-5.45	(28.5 - 138.5)	1.10	(28)	2.95-7.09	(75 - 180)
2450	.98	(25)	.98-4.92	(25 - 125)	1.61-5.55	(41.0 - 141.0)	1.38	(35)	2.95-9.84	(75 - 250)
2650	1.38	(35)	1.97-6.89	(50 - 175)	2.60-7.64	(66.0 - 194.0)	1.97	(50)	3.94-9.84	(100 - 250)
3450	1.77	(45)	1.97-9.84	(50 - 250)	2.76-10.63	(70.0 - 270.0)	2.52	(64)	4.92-11.81	(125 - 300)



Full e-tubes
 snap-open along inner
 radius from both sides

1480	.83	(21)	.59-4.92	(15 - 125)	1.12-5.45	(28.5 - 138.5)	1.10	(28)	2.95-7.09	(75 - 180)
2480	.98	(25)	.98-4.92	(25 - 125)	1.61-5.55	(41.0 - 141.0)	1.38	(35)	2.95-9.84	(75 - 250)
2680	1.38	(35)	1.97-6.89	(50 - 175)	2.60-7.64	(66.0 - 194.0)	1.97	(50)	3.94-9.84	(100 - 250)
3480	1.77	(45)	1.97-9.84	(50 - 250)	2.76-10.63	(70.0 - 270.0)	2.52	(64)	4.92-11.81	(125 - 300)

e-chain system® E2/000 Assembly Instructions

e-chains® - Opening and Closing E2 Series R1000 e-tubes



1 Open: swivel lids



2 Close: push and snap



3 Insert screwdriver into the slot, using a lever action apply pressure to the screwdriver to release



4 Remove lid

e-chains® - Separating E2 Series R1000 e-tubes



1 Release side link



2 Twist and pull apart



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

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

1400
1500



e-chain system® E2/000 Series 1400/1500



Price Index



Series 1400/1450/1500

Special Features / Options



IPA Qualification Certificate, Air Cleanliness Class ISO Class 3 (at v = 2 m/s) upon request



ESD classification: Electrically conductive ESD/ATEX version upon request



Flammability Class VDE 0304 IIC UL94 HB

Assembly Tips



Snap-open mechanism, choice of snap-open on left or right. Hinged crossbar can be swiveled by more than 180° on both sides. Lightning-fast closing by hand. Secure fit without additional locking devices.

Other Installation Methods

Vertical, hanging ≤ 65.6 ft (20 m)

Vertical, standing ≤ 6.56 ft (2 m)

Side-mounted, un_supp. ≤ 2.30 ft (0.7 m)

Rotary requires further calculation

Usage Guidelines



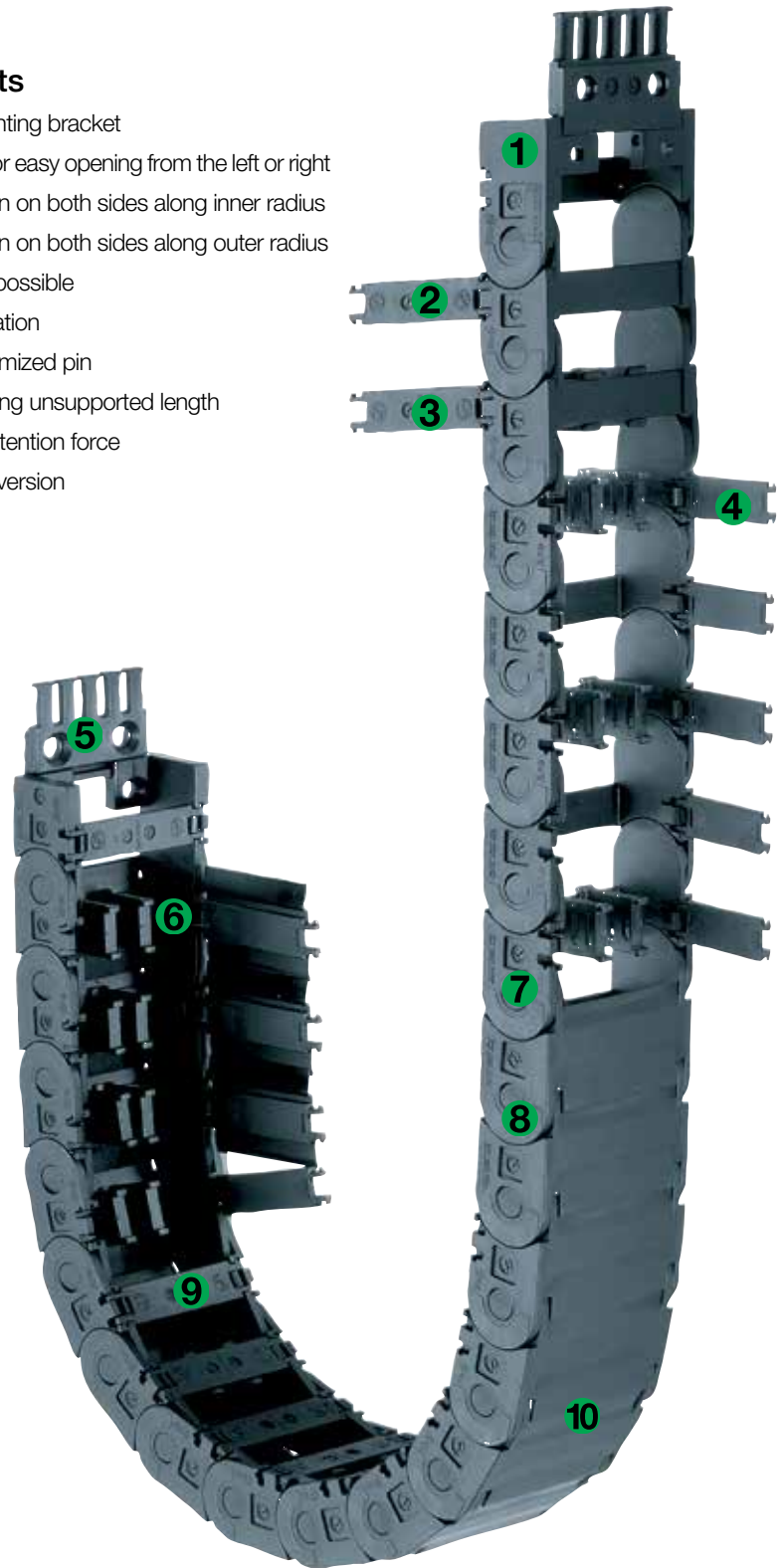
- If snap-open accessibility along the inner or outer radius is required
- If integrated strain relief at the mounting point is required
- If half e-tube is required (Series 1450)
- If long service life is required
- If easy installation is required



- If the application is very simple
➤ **Series E200 E-Z Chain**
- If greater stability is required
➤ **Series E4-21 E4-1 Series**

Features & Benefits

- 1 Tried-and-tested mounting bracket
- 2 Snap-open crossbar for easy opening from the left or right
- 3 Series 1400 snap-open on both sides along inner radius
- 4 Series 1500 snap-open on both sides along outer radius
- 5 Integrated strain relief possible
- 6 Modular interior separation
- 7 Easy assembly by optimized pin
- 8 Double stop dog for long unsupported length
- 9 Crossbars with high retention force
- 10 Also available as ESD version



Order Example: Complete e-chain®

Please indicate chain length or number of links. Example:

9.84 ft (3 m) **1400-038-100-0**



e-chain®

With 2 separators **14011** assembled every 2nd link



Interior Separation

1 Set **15000-038-34PZB**



Mounting Bracket

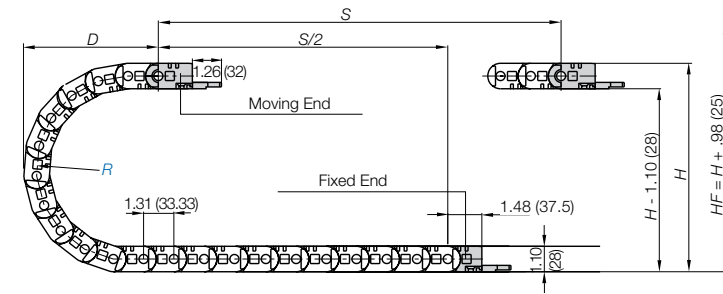
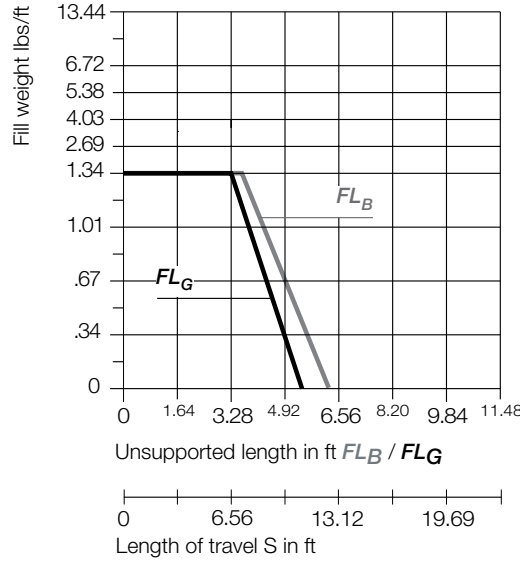
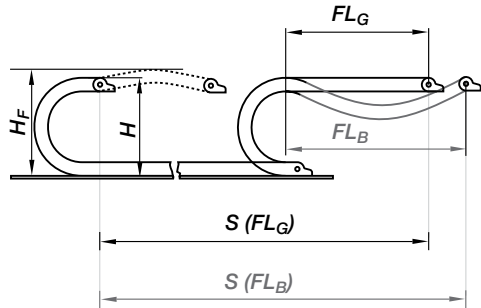
e-chain system® E2/000

Series 1400/1500

Installation Dimensions

Short travel, unsupported length

- FL_B = unsupported with permitted sag
 - FL_G = unsupported with straight upper run
- Further information ► Design, Chapter 1



Pitch per link = 1.31" (33.3 mm)
 Links per ft (m) = 9.16 (30)
 For center mount applications:
 Chain length = $s/2 + K$

The required clearance height: $H_f = H + .98$ in. (25 mm) (with .34 lbs/ft (0.5 kg/m) fill weight).
 Please consult igus® if space is particularly restricted.

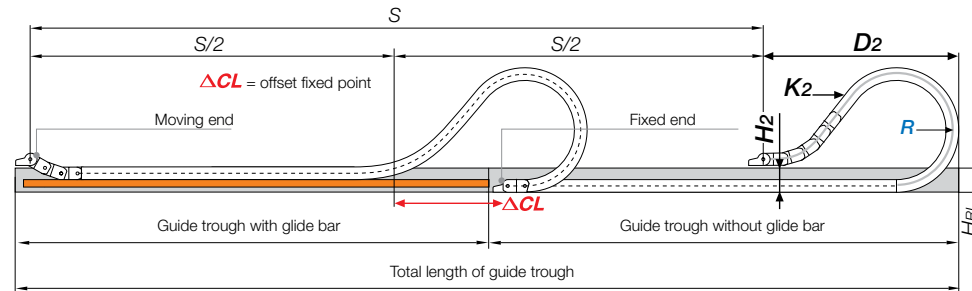
R	1.38 (035)	1.50 (038)	1.89 (048)	2.95 (075)	3.94 (100)	4.92 (125)	5.71 (145)	7.09 (180)
H	3.86 (98)	4.09 (104)	4.88 (124)	7.01 (178)	8.98 (228)	10.94 (278)	12.52 (318)	15.28 (388)
D	3.90 (99)	4.02 (102)	4.41 (112)	5.47 (139)	6.46 (164)	7.44 (189)	8.23 (209)	9.61 (244)
K	7.09 (180)	7.48 (190)	8.66 (220)	12.01 (305)	15.16 (385)	18.11 (460)	20.67 (525)	25.00 (635)

For long travels with lowered mounting height

Long travel lengths from 32.8 ft. (10 m) to max. 246 ft. (75 m)

For center mount applications:

Chain length = $s/2 + K_2$



In case of travels between 13 ft. (4m) and 32.8 ft. (10m) we recommend a longer unsupported length.

R	1.38 (035)	1.50 (038)	1.89 (048)	2.95 (075)	3.94 (100)	4.92 (125)	5.71 (145)	7.09 (180)
H ₂	—	—	—	—	3.94 (100)	3.94 (100)	3.94 (100)	3.94 (100)
D ₂ ²⁵	—	—	—	—	13.39 (340)	19.49 (495)	21.26 (540)	27.17 (690)
K ₂	—	—	—	—	23.62 (600)	31.50 (800)	37.01 (940)	46.06 (1170)
ΔCL	—	—	—	—	7.05 (179)	12.01 (305)	13.39 (340)	17.52 (445)

Speed / acceleration FL_G	max. 65.6 ft/s (20 m/s) / max. 656 ft/s ² (200 m/s ²)
Speed / acceleration FL_B	max. 9.84 ft/s (3 m/s) / max. 19.69 ft/s ² (6 m/s ²)
Gliding speed / acceleration (maximum)	max. 32.81 ft/s (10 m/s) / max. 164 ft/s ² (50 m/s ²)
Material - permitted temperature	igumid G / -40°F (-40°C) up to +248°F (+120°C)
Flammability Class, igumid G	VDE 0304 IIC UL94 HB



1400
1500

Short Travels - Unsupported



Unsupported e-chains® feature positive camber over short travels. This must be accounted for when specifying the clearance height. Please refer to **Installation dimensions** for further details.

Legend

- S = Length of travel
- R = Bending radius
- H = Nominal clearance height
- D = Overlength e-chain® radius in final position
- $K = \pi \cdot R + \text{safety buffer}$
- H_f = Required clearance height
- H_{R1} = Trough inner height
- H₂ = *Mounting height
- D₂ = Overlength - long travels, gliding
- K₂ = *Add-on

*If the mounting bracket location is set lower

Long Travels - Gliding



If the unsupported length is exceeded, the e-chain®/ Tube must glide on itself. This requires a guide trough.

Design, Chapter 1

Technical Data



Details of material properties

► Chapter 1

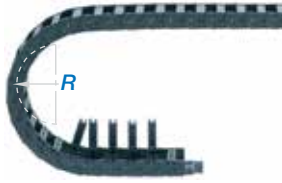
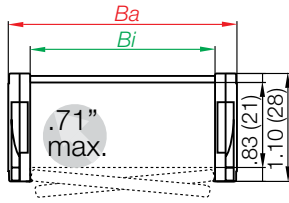


PDF: igus.com/e-chain-pdfs
 Product information: igus.com/e-chains

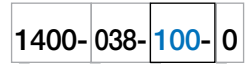


► Chapter 9

Series 1400 - Snap-open along the inner radius

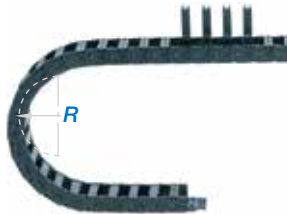
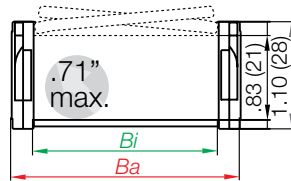


Part Number Structure



Color - Black
Bending radius
Width
Series

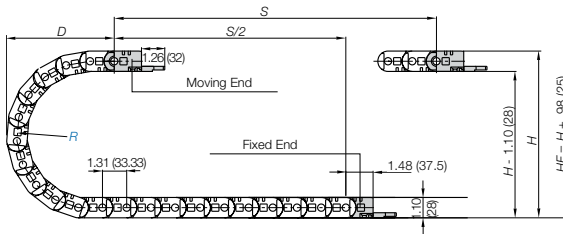
Series 1500 - Snap open along the outer radius



Part Number Structure



Color - Black
Bending radius
Width
Series



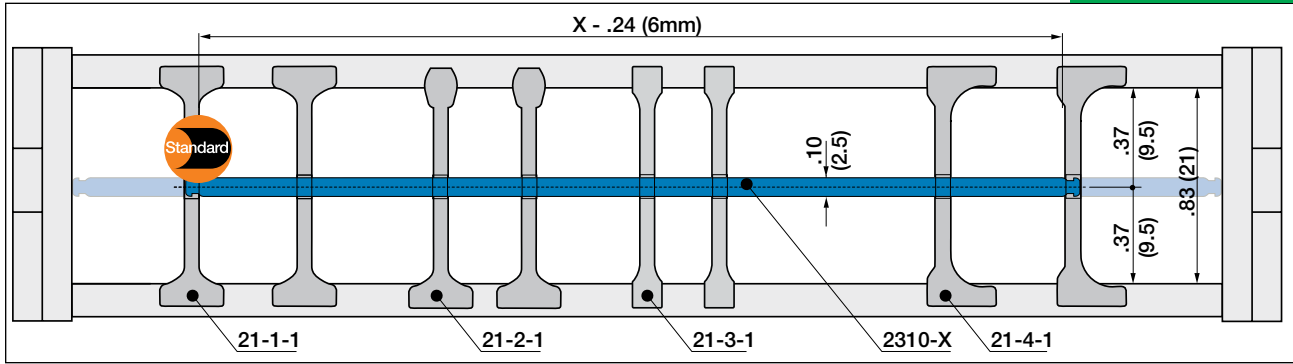
Supplement part number with required radius. Example: 1400-038--0
Pitch: 1.31 in. (33.3 mm) per link links/ft (m) = 9.14 (30)

Part Number						Weight	
Snap-open Inner Radius	Snap-open Outer Radius			<i>Bi</i>	<i>Ba</i>	1400/1500	1450
				in. (mm)	in. (mm)	lbs/ft (kg/m)	lbs/ft (kg/m)
1400-015-	1500-015- <input type="text" value=""/>	-0		.59 (15)	1.12 (28.5)	≈ 0.31 (0.46)	≈ 0.32 (0.48)
1400-020-	1500-020- <input type="text" value=""/>	-0		.79 (20)	1.32 (33.5)	≈ 0.32 (0.47)	-
1400-025-	1500-025- <input type="text" value=""/>	-0		.98 (25)	1.52 (38.5)	≈ 0.33 (0.49)	≈ 0.38 (0.57)
1400-038-	1500-038- <input type="text" value=""/>	-0		1.50 (38)	2.03 (51.5)	≈ 0.36 (0.53)	≈ 0.40 (0.59)
1400-050-	1500-050- <input type="text" value=""/>	-0		1.97 (50)	2.50 (63.5)	≈ 0.38 (0.56)	≈ 0.44 (0.65)
1400-068-	1500-068- <input type="text" value=""/>	-0		2.68 (68)	3.21 (81.5)	≈ 0.42 (0.63)	≈ 0.50 (0.74)
1400-080-	1500-080- <input type="text" value=""/>	-0		3.15 (80)	3.68 (93.5)	≈ 0.45 (0.67)	≈ 0.54 (0.80)
1400-100-	1500-100- <input type="text" value=""/>	-0		3.94 (100)	4.47 (113.5)	≈ 0.50 (0.74)	≈ 0.60 (0.90)
1400-125-	1500-125- <input type="text" value=""/>	-0		4.92 (125)	5.45 (138.5)	≈ 0.56 (0.83)	≈ 0.69 (1.03)

Choose from the radii below for all of the above sizes

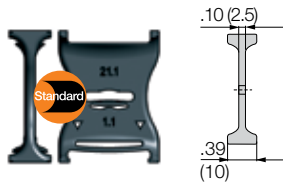
Radius (mm) Example: 1400-038--0

	035	038	048	075	100	125	145	180
R	1.38 (035)	1.50 (038)	1.89 (048)	2.95 (075)	3.94 (100)	4.92 (125)	5.71 (145)	7.09 (180)
H+4	3.86 (98)	4.09 (104)	4.88 (124)	7.01 (178)	8.98 (228)	10.94 (278)	12.52 (318)	15.28 (388)
D	3.90 (99)	4.02 (102)	4.41 (112)	5.47 (139)	6.46 (164)	7.44 (189)	8.23 (209)	9.61 (244)
K	7.09 (180)	7.48 (190)	8.66 (220)	12.01 (305)	15.16 (385)	18.11 (460)	20.67 (525)	25.00 (635)



In the standard configuration separators are assembled every 2nd e-chain® link

Note: Only suitable for e-chain® Series 1400/1500

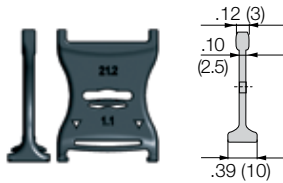


Separator, wide base

Unassembled	Part No. 21.1
Assembled	Part No. 21.1.1

- **Standard separator 21.1 for all applications**

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



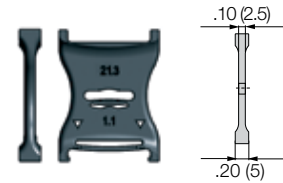
Separator, narrow head

Unassembled	Part No. 21.2
Assembled	Part No. 21.2.1

- **Separator 21.2**

For even faster installation

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



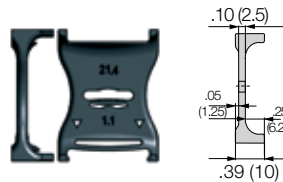
Separator, narrow base

Unassembled	Part No. 21.3
Assembled	Part No. 21.3.1

- **Separator 21.3**

For many thin cables

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



Separator, asymmetrical

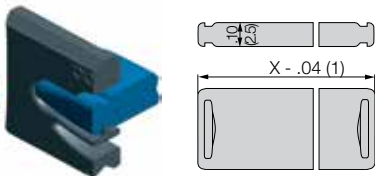
Unassembled	Part No. 21.4
Assembled	Part No. 21.4.1

- **Separator 21.4**

For side mounted applications

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

Lockable full-width shelves - for the standard interior separation



Full width shelf, lockable

Unassembled	Part No. 2300-X
Assembled	Part No. 2310-X

- **Full width shelf, lockable**

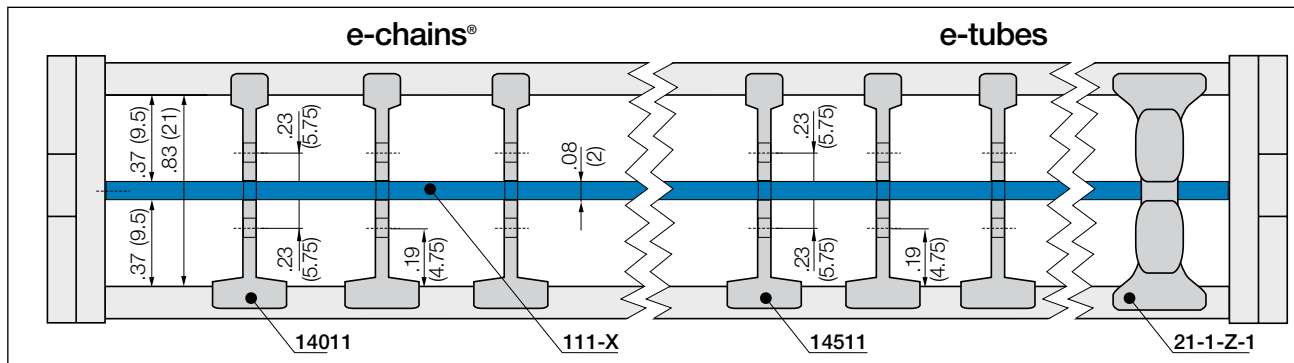
is used when vertical and horizontal separation is required.

Width X in. (mm)	Part No. Unassembled	Part No. Assembled	Width X in. (mm)	Part No. Unassembled	Part No. Assembled	Width X in. (mm)	Part No. Unassembled	Part No. Assembled
015	2300-15	2310-15	060	2300-60	2310-60	087	2300-87	2310-87
025	2300-25	2310-25	062	2300-62	2310-62	090	2300-90	2310-90
030	2300-30	2310-30	065	2300-65	2310-65	100	2300-100	2310-100
038	2300-38	2310-38	070	2300-70	2310-70	103	2300-103	2310-103
040	2300-40	2310-40	075	2300-75	2310-75	110	2300-110	2310-110
050	2300-50	2310-50	077	2300-77	2310-77	120	2300-120	2310-120
057	2300-57	2310-57	080	2300-80	2310-80	125	2300-125	2310-125



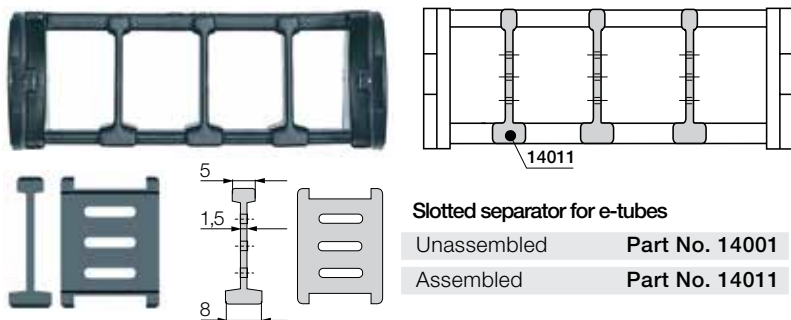
Option 1: Vertical separators

Vertical separators are used if a vertical subdivision of the e-tube interior is required. By standard, vertical separators are assembled every other e-tube link.



Separators, full-width shelves, Strain relief separators

In the standard configuration separators are assembled every 2nd e-chain® link

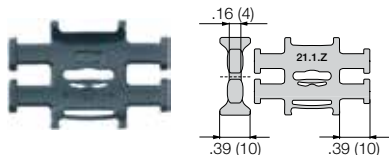


Slotted separator for e-tubes
Unassembled Part No. 14001
Assembled Part No. 14011

- **Slotted separator 14001 (Chains only)** is used when vertical and horizontal separation is required. Due to its slot, it allows basic vertical/horizontal shelving arrangements.

Option 2: Strain relief separator

Can be integrated into the mounting bracket and can be placed there at any position. To be used assembled on either the first or last e-chain® link. Ideal for restricted space conditions.

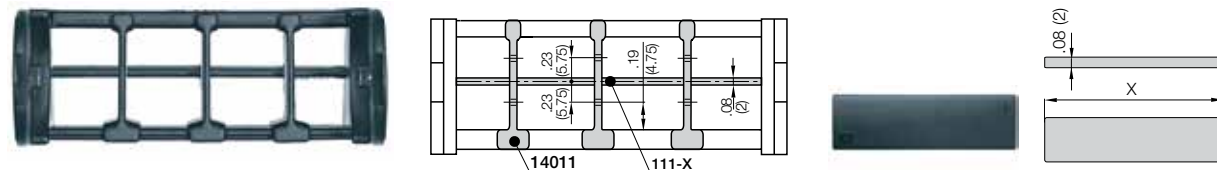


Strain relief separator for e-chains®
Unassembled Part No. 21.1.Z
Assembled Part No. 21.1.Z.1

- **Slotted separator 21.1.Z (Chains only)** It combines strain relief and interior separation.

Option 3: Full-width shelf

It is ideal for use in applications involving many thin cables with similar or identical diameters. This shelf slides into place and spans the entire width of the chain.



Width X in. (mm)	Part No. Unassembled	Part No. Assembled	Width X in. (mm)	Part No. Unassembled	Part No. Assembled
0.59 (15)	110-15	111-15	2.68 (68)	110-68	111-68
0.79 (20)	110-20	111-20	3.15 (80)	110-80	111-80
0.98 (25)	110-25	111-25	3.94 (100)	110-100	111-100
1.50 (38)	110-38	111-38	4.92 (125)	110-125	111-125
1.97 (50)	110-50	111-50			

- **Full-width shelf 110-X (Chains®/Tubes)** this option makes sense in applications with many thin cables with similar diameters. Full-width shelves can be inserted at 3 different heights in .23" (5.75mm) increments

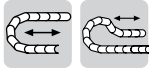
e-chain system® E2/000

Series 1400/1500

Mounting Brackets - Plastic



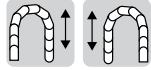
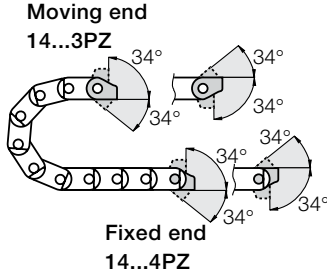
1400
1500



Standard

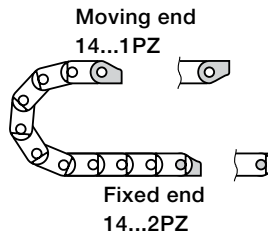
Option 1: pivoting

- Unsupported and gliding applications
- Space-restricted conditions
- Integrated strain relief
- Easy to assemble
- Various mounting positions

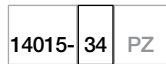


Option 2: locking

- Unsupported applications
- Extreme speed/accelerations
- If space is limited for height (H_F)
- Various mounting positions



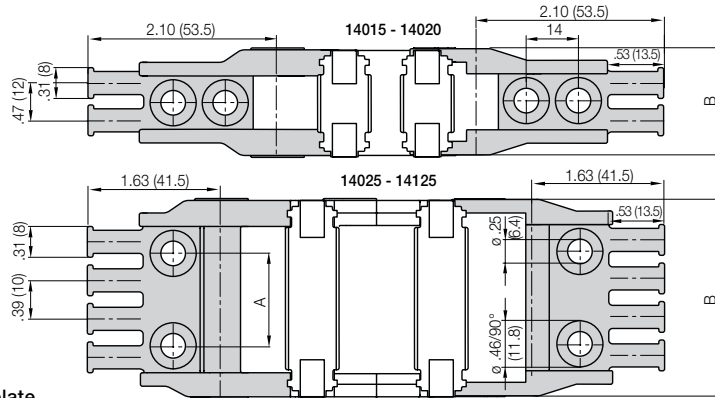
Part Number Structure



With tiewrap plates

Complete Set
34 = Pivoting
12 = Locking

Mounting brackets for selected chain type



Full set, for both ends:

14015-34-PZ Full set, each part with pin/bore + tiewrap plate

Single-part order:

14015-3-PZ Mounting bracket with bore + tiewrap plate

14015-4-PZ Mounting bracket with pin + tiewrap plate

For Chain Type	Part No.	Dimension A		Dimension B		Number
		in.	(mm)	in.	(mm)	
1400/1450/1500-015	14015- <input type="checkbox"/> PZ	-	-	1.12	(28.5)	2
1400/1450/1500-020	14020- <input type="checkbox"/> PZ	-	-	1.32	(33.5)	2
1400/1450/1500-025	14025- <input type="checkbox"/> PZ	.51	(13)	1.52	(38.5)	2
1400/1450/1500-038	14038- <input type="checkbox"/> PZ	.94	(24)	2.03	(51.5)	4
1400/1450/1500-050	14050- <input type="checkbox"/> PZ	1.42	(36)	2.50	(63.5)	6
1400/1450/1500-068	14068- <input type="checkbox"/> PZ	2.13	(54)	3.21	(81.5)	7
1400/1450/1500-080	14080- <input type="checkbox"/> PZ	2.60	(66)	3.68	(93.5)	8
1400/1450/1500-100	14100- <input type="checkbox"/> PZ	3.39	(86)	4.47	(113.5)	10
1400/1450/1500-125	14125- <input type="checkbox"/> PZ	4.37	(111)	5.45	(138.5)	13

34 or 12

For pivoting brackets choose 34
For locking brackets choose 12
Example: 14015- PZB

PDF: igus.com/e-chain-pdfs
Product information: igus.com/e-chains

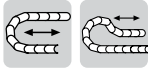


1400
1500



e-chain system® E2/000
Series 1400/1500
Mounting Brackets - Plastic

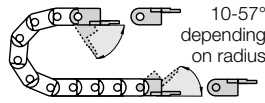
igus®
e-chain system®



Option 3: plastic

- Unsupported applications
- Space-restricted conditions
- Strain relief with detachable tiwrap plates
- Can be attached at either the fixed end or the moving end

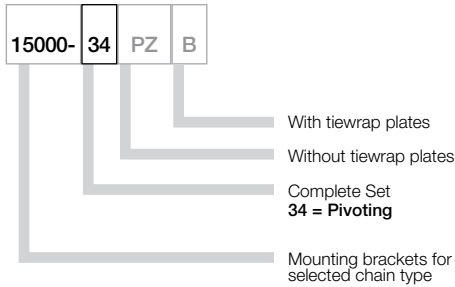
Moving end with bore
15000...3PZ(B)



Fixed end with pin
15000...4PZ(B)



Part Number Structure

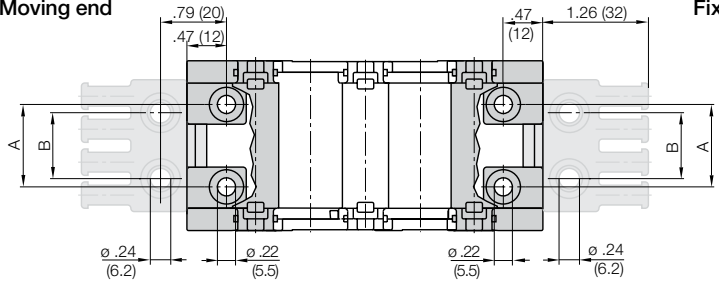


15000...3PZ(B)

Moving end

15000...4PZ(B)

Fixed end



Full set, for both ends:

15000-34-PZB Full set, each part with pin/bore + tiwrap plate

Single-part order:

15000-3-PZB Mounting bracket with bore + tiwrap plate

15000-4-PZB Mounting bracket with pin + tiwrap plate

For Chain Type	Part No. Full Set with Tiwrap Plate	Part No. Full Set without Tiwrap Plate	Part No. Full Set with Tiwrap Plate + 10 cable ties	Dimension A in. (mm)	Dimension B in. (mm)
1400/1500-015	-	-	-	-	-
1400/1500-020	-	-	-	-	-
1400/1500-025	15000-025-34PZB	15000-025-34PZ	15000-025-34PZBK1	.47 (12)	.59 (15)
1400/1500-038	15000-038-34PZB	15000-038-34PZ	15000-038-34PZBK1	.98 (25)	.79 (20)
1400/1500-050	15000-050-34PZB	15000-050-34PZ	15000-050-34PZBK1	1.46 (37)	1.18 (30)
1400/1500-068	15000-068-34PZB	15000-068-34PZ	15000-068-34PZBK1	2.17 (55)	1.57 (40)
1400/1500-080	15000-080-34PZB	15000-080-34PZ	15000-080-34PZBK1	2.64 (67)	2.36 (60)
1400/1500-100	15000-100-34PZB	15000-100-34PZ	15000-100-34PZBK1	3.43 (87)	3.15 (80)
1400/1500-125	15000-125-34PZB	15000-125-34PZ	15000-125-34PZBK1	4.41 (112)	4.13 (105)

Telephone 1-800-521-2747

Internet: igus.com
email: sales@igus.com
QuickSpec: igus.com/quickspec

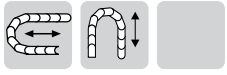
e-chain system® E2/000

Series 1400/1500

Mounting Brackets - Steel

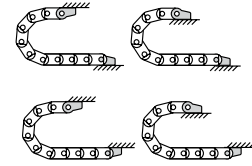
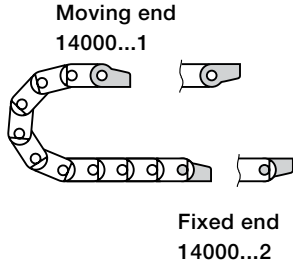


1400
1500

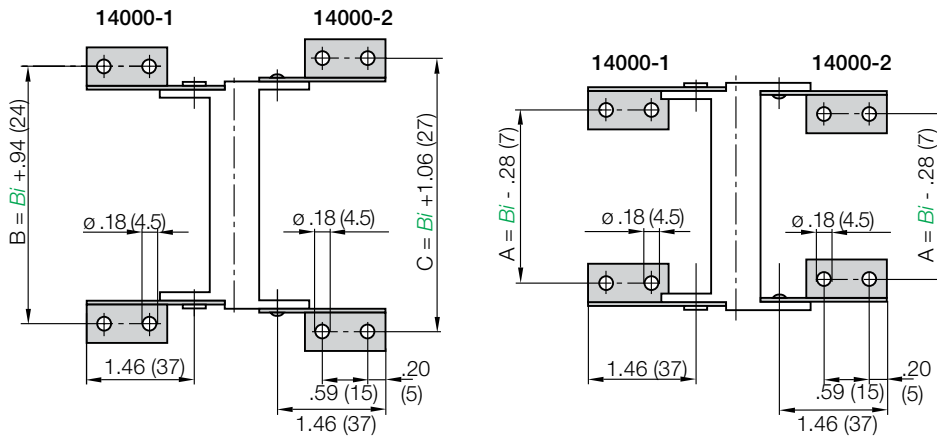


Option 4: Steel

- Locked connections
- One part (two-piece) for all chain widths
- Electrically conductive
- Bolted connection outside of chain cross-section possible



Possible installation configurations -



Chain Type	Part No. Full Set	Dimension A		Dimension B		Dimension C	
		in.	(mm)	in.	(mm)	in.	(mm)
1400/1500-015	14000-12	.31	(8)	1.54	(39)	1.65	(42)
1400/1500-020	14000-12	.51	(13)	1.73	(44)	1.85	(47)
1400/1500-025	14000-12	.71	(18)	1.93	(49)	2.05	(52)
1400/1500-038	14000-12	1.22	(31)	2.44	(62)	2.56	(65)
1400/1500-050	14000-12	1.69	(43)	2.91	(74)	3.03	(77)
1400/1500-068	14000-12	2.40	(61)	3.62	(92)	3.74	(95)
1400/1500-080	14000-12	2.87	(73)	4.09	(104)	4.21	(107)
1400/1500-100	14000-12	3.66	(93)	4.88	(124)	5.00	(127)
1400/1500-125	14000-12	4.65	(118)	5.87	(149)	5.98	(152)

Part No. Mounting Brackets Full Set

4 parts, 2 with pin, 2 with bore
Series 1400/1500:
14000-12

Part No. Mounting Bracket Moving End

2 parts, 1 left & 1 right
Series 1400/1500:
14000-1

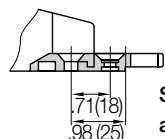
Part No. Mounting Bracket Fixed End

2 parts, 1 left & 1 right
Series 1400/1500:
14000-2

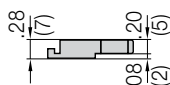
PDF: igus.com/e-chain-pdfs
Product information: igus.com/e-chains



Tiewrap Plates



Shown assembled



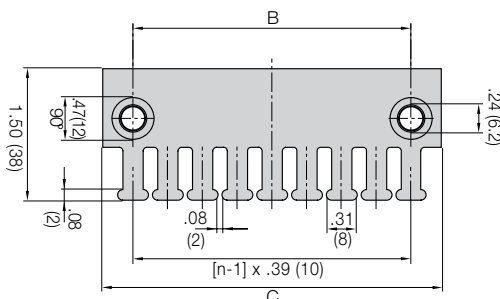
Single tiewrap plate

Option 1:

Tiewrap plates as an individual part

Available as an individual component, can be fixed onto a mounting bracket with the use of a profile rail.

Tiewrap Plates	n Number of Teeth	Dimension C	Dimension B
2020-ZB	3	1.18 (30)	.59 (15)
2030-ZB	4	1.57 (40)	.79 (20)
2040-ZB	5	1.97 (50)	1.18 (30)
2050-ZB	6	2.36 (60)	1.57 (40)
2070-ZB	8	3.15 (80)	2.36 (60)
2090-ZB	9	3.54 (90)	2.76 (70)
2100-ZB	10	3.94 (100)	3.15 (80)
2125-ZB	12	4.72 (120)	3.94 (100)



For more information please refer to strain relief section of Chapter 10



Strain relief for steel mounting brackets

Clip-on connection is not possible with steel mounting brackets. In this case, the tiewrap plates must be bolted directly into separate bore holes in front of the mounting bracket. Alternatively the tiewrap plates 20XX-ZB can be also used here. **Details chapter 10**



Cable tiewraps as individual parts

Cable tiewraps 100 pieces/bag	Width x Length		Maximum Ø		Tensile Strength	
	in.	(mm)	in.	(mm)	lbs	(N)
CFB-001	.19 x 5.91	(4.8 x 150)	1.42	(36)	50	(222)



PDF: igus.com/e-chain-pdfs
Product information: igus.com/e-chains



Price Index



Series R1480

Special Features / Options

IPA Qualification Certificate
Air Cleanliness Class ISO Class 3
(at v = 6.56 ft/s) upon request

ESD classification:
Electrically conductive ESD/
ATEX version upon request

Flammability Class
VDE 0304 IIC UL94 HB

Assembly Tips



Insert screwdriver into the slot, using a lever action apply pressure to the screwdriver to release

Other Installation Methods

Vertical, hanging ≤ 65.6 ft (20 m)

Vertical, standing ≤ 6.56 ft (2 m)

Side-mounted, un_supp. ≤ 2.3 ft (0.7 m)

Rotary requires further calculation

Usage Guidelines



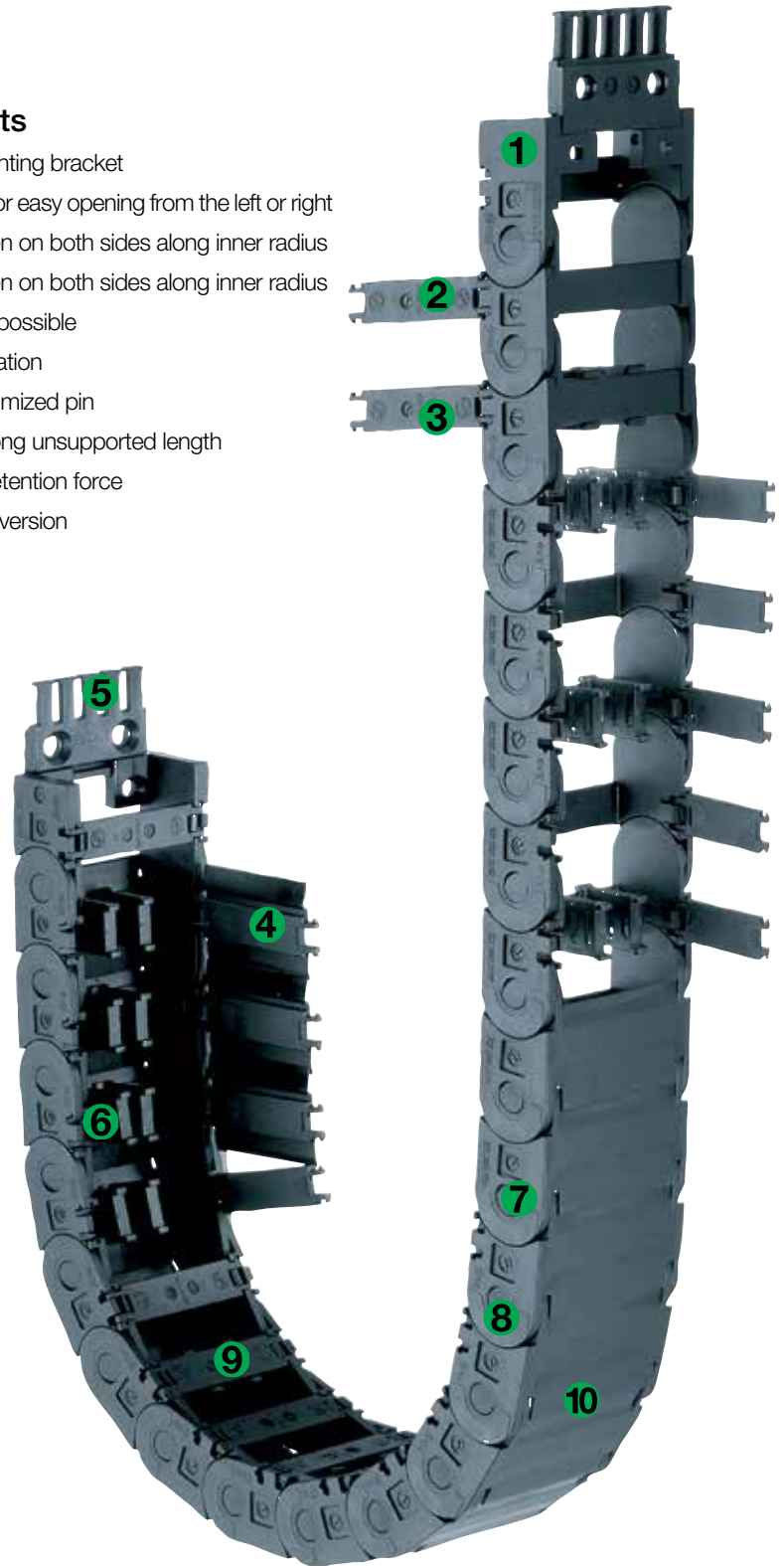
- If hinged, snap-open accessibility along the inner radius is required
- If integrated strain relief is required at the connection point
- If long service life is required
- If chip protection is required
- If easy installation is required



- If the application is very simple
➤ **Series E14 E-Z Chain**
- If greater stability is needed
➤ **Series E4-21 System E4-1**
- If an e-tube with a small bending radius is required
➤ **Series R117 E2 Tubes**

Features & Benefits

- 1 Tried-and-tested mounting bracket
- 2 Snap-open crossbar for easy opening from the left or right
- 3 Series 1450 snap-open on both sides along inner radius
- 4 Series 1480 snap-open on both sides along inner radius
- 5 Integrated strain relief possible
- 6 Modular interior separation
- 7 Easy assembly by optimized pin
- 8 Double stop dog for long unsupported length
- 9 Crossbars with high retention force
- 10 Also available as ESD version



Order Example: Complete e-chain®

Please indicate chain length or number of links. Example:

3.28 ft (1 m) **1480-038-075-0**

e-chain®

With 2 separators **14501** assembled every 2nd link

Interior Separation

1 Set **15000-038-34PZB**

Mounting Bracket

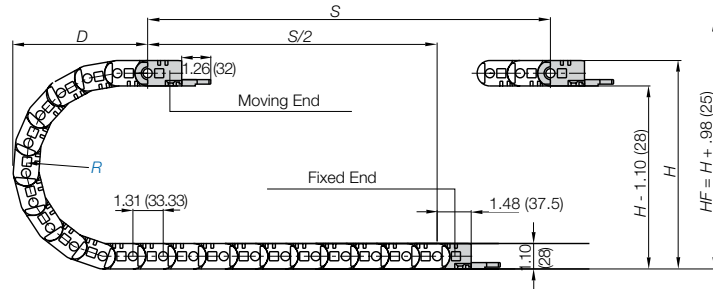
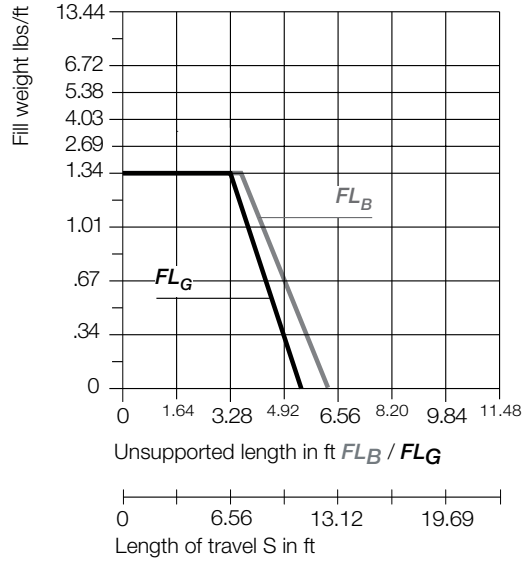
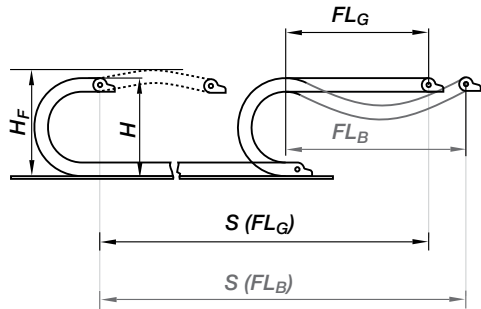
e-chain system® E2/000

Series 1450/1480 Half-Tubes and Full Tubes

Installation Dimensions

Short travel, unsupported length

- FL_B = unsupported with permitted sag
 - FL_G = unsupported with straight upper run
- Further information ► Design, Chapter 1



Pitch per link = 1.31" (33 mm)
 Links per ft (m) = 9.16 (30)
 For center mount applications:
 Chain length = $S/2 + K$

The required clearance height: $H_f = H + .98$ in. (25 mm) (with .34 lbs/ft (0.5 kg/m) fill weight).
 Please consult igus® if space is particularly restricted.

R	2.95 (075)	3.94 (100)	4.92 (125)	5.71 (145)	7.09 (180)
H	7.01 (178)	8.98 (228)	10.94 (278)	12.52 (318)	15.28 (388)
D	5.47 (139)	6.46 (164)	7.44 (189)	8.23 (209)	9.61 (244)
K	12.01 (305)	15.16 (385)	18.11 (460)	20.67 (525)	25.00 (635)



1450
1480

Short Travels - Unsupported



Unsupported e-chains® feature positive camber over short travels. This must be accounted for when specifying the clearance height. Please refer to **Installation dimensions** for further details.

Legend

- S = Length of travel
- R = Bending radius
- H = Nominal clearance height
- D = Overlength e-chain® radius in final position
- $K = \pi \cdot R + \text{safety buffer}$
- H_f = Required clearance height



PDF: igus.com/e-chain-pdfs
 Product information: igus.com/e-chains



Speed / acceleration FL_G	max. 65.6 ft/s (20 m/s) / max. 656 ft/s ² (200 m/s ²)
Speed / acceleration FL_B	max. 9.84 ft/s (3 m/s) / max. 19.69 ft/s ² (6 m/s ²)
Material - permitted temperature	igumid G / -40°F (-40°C) up to +248°F (+120°C)
Flammability Class, igumid G	VDE 0304 IIC UL94 HB

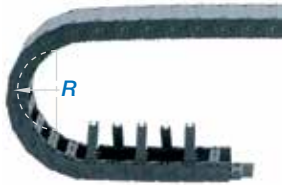
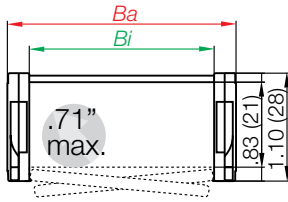
Technical Data



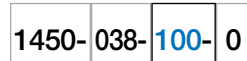
Details of material properties

► Chapter 1

Series 1450 - Half e-tube - Snap-open along the inner radius

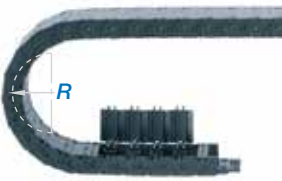
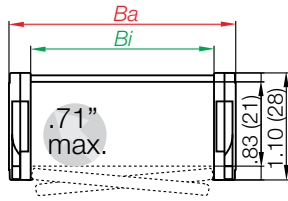


Part Number Structure



Color - Black
Bending radius
Width
Series

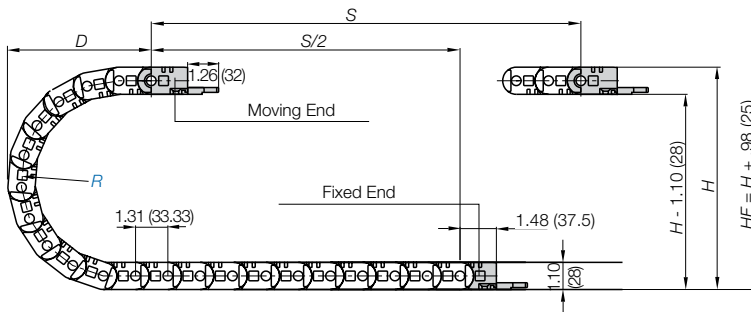
Series 1480 - hinged, snap-open along the inner radius



Part Number Structure



Color - Black
Bending radius
Width
Series



Supplement part number with required radius. Example: 1480-038--0
Pitch: 1.31 in. (33 mm) per link links/ft(m) = 9.41 (30)

Part Number.

Half e-tube Snap-open Inner Radius	Full e-tube Snap-open Inner Radius		<i>Bi</i> in. (mm)	<i>Ba</i> in. (mm)	Weight 1450 lbs/ft (kg/m)	Weight 1480 lbs/ft (kg/m)
1450-015-	1480-015-	<input type="text" value=""/> -0	.79 (15)	1.12 (28.5)	≈ 0.32 (0.48)	≈ 0.34 (0.50)
1450-025-	1480-025-	<input type="text" value=""/> -0	.98 (25)	1.52 (38.5)	≈ 0.36 (0.54)	≈ 0.38 (0.57)
1450-038-	1480-038-	<input type="text" value=""/> -0	1.50 (38)	2.03 (51.5)	≈ 0.40 (0.59)	≈ 0.41 (0.61)
1450-050-	1480-050-	<input type="text" value=""/> -0	1.97 (50)	2.50 (63.5)	≈ 0.44 (0.65)	≈ 0.45 (0.67)
1450-068-	1480-068-	<input type="text" value=""/> -0	2.68 (68)	3.21 (81.5)	≈ 0.50 (0.74)	≈ 0.52 (0.77)
1450-080-	1480-080-	<input type="text" value=""/> -0	3.15 (80)	3.68 (93.5)	≈ 0.54 (0.80)	≈ 0.56 (0.84)
1450-100-	1480-100-	<input type="text" value=""/> -0	3.94 (100)	4.47 (113.5)	≈ 0.60 (0.90)	≈ 0.65 (0.96)
1450-125-	1480-125-	<input type="text" value=""/> -0	4.92 (125)	5.45 (138.5)	≈ 0.69 (1.03)	≈ 0.73 (1.08)

Choose from the radii below for all of the above sizes
Radius (mm) Example: 1480-038--0

	075	100	125	145	180
R	2.95 (075)	3.94 (100)	4.92 (125)	5.71 (145)	7.09 (180)
H	7.01 (178)	8.98 (228)	10.94 (278)	12.52 (318)	15.28 (388)
D	5.47 (139)	6.46 (164)	7.44 (189)	8.23 (209)	9.61 (244)
K	12.01 (305)	15.16 (385)	18.11 (460)	20.67 (525)	25.00 (635)

e-chain system® E2/000

Series 1450/1480 Half-Tubes and Full Tubes

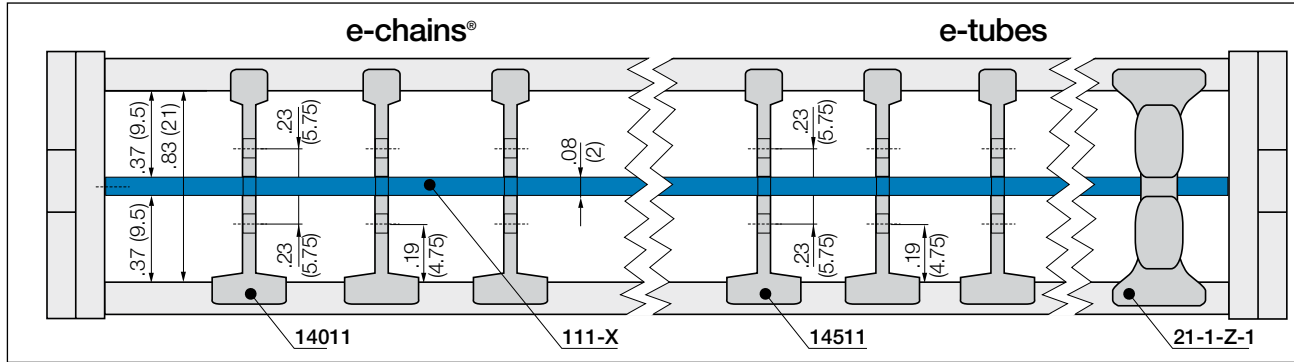
Interior Separation



1450
1480

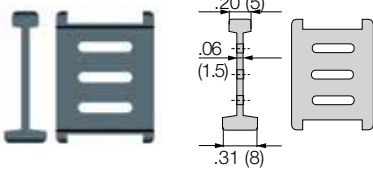
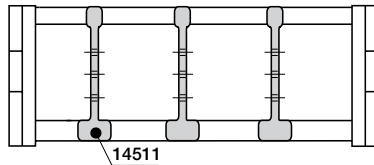
Option 1: Vertical separators

Vertical separators are used if a vertical subdivision of the e-tube interior is required. By standard, vertical separators are assembled every other e-chain® link.



Separators, full-width shelves

In the standard configuration separators are assembled every 2nd e-chain® link



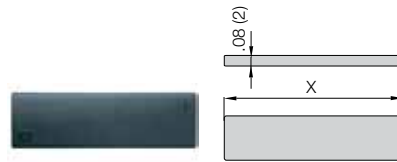
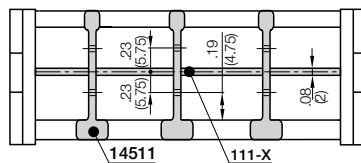
Slotted separator for e-tubes

Unassembled	Part No. 14501
Assembled	Part No. 14511

- **Slotted separator 14501 (Tubes only)** is used when vertical and horizontal separation is required. Due to its slot, it allows basic vertical/horizontal shelving arrangements.

Option 2: Full-width shelf

It is ideal for use in applications involving many thin cables with similar or identical diameters. This shelf slides into place and spans the entire width of the chain.

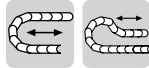


Width X	Part No.	Part No.
in. (mm)	Unassembled	Assembled
0.59 (15)	110-15	111-15
0.79 (20)	110-20	111-20
0.98 (25)	110-25	111-25
1.50 (38)	110-38	111-38
1.97 (50)	110-50	111-50
2.68 (68)	110-68	111-68
3.15 (80)	110-80	111-80
3.94 (100)	110-100	111-100
4.92 (125)	110-125	111-125

- **Full-width shelf 110-X (Chains®/Tubes)** this option makes sense in applications with many thin cables with similar diameters. For a consequent subdivision. Full-width shelves can be inserted at 3 different heights in .23" (5.75mm) increments

PDF: igus.com/e-chain-pdfs
Product information: igus.com/e-chains

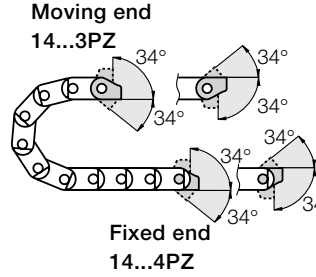




Standard

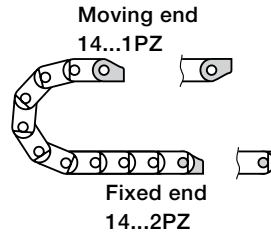
Option 1: pivoting

- Unsupported and gliding applications
- Space-restricted conditions
- Integrated strain relief
- Easy to assemble
- Various mounting positions



Option 2: locking

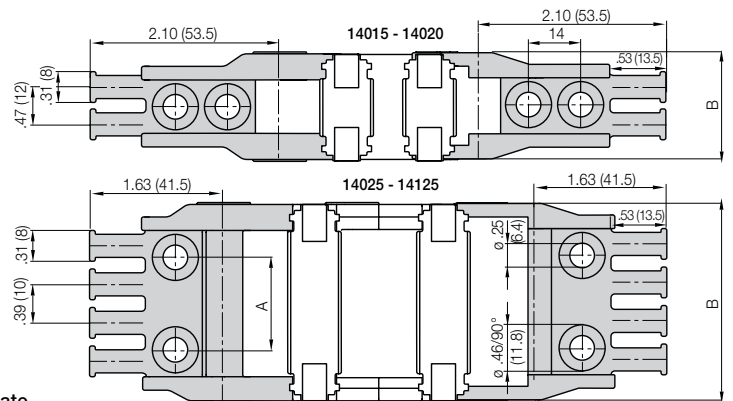
- Unsupported applications
- Extreme speed/accelerations
- If space is limited for height (H_f)
- Various mounting positions



Part Number Structure

14015- 34 PZ

- With tiwrap plates
- Complete Set
34 = Pivoting
12 = Locking
- Mounting brackets for selected chain type



Full set, for both ends:

14015- 34 PZ Full set, each part with pin/bore + tiwrap plate

Single-part order:

14015- 3 PZ Mounting bracket with bore + tiwrap plate

14015- 4 PZ Mounting bracket with pin + tiwrap plate

For Chain Type	Part No. Full Set with Tiwrap Plate	Dimension A		Dimension B		Number
		in.	(mm)	in.	(mm)	
1450/1480-015	14015- <input type="checkbox"/> PZ	-	-	1.12	(28.5)	2
1450/1480-020	14020- <input type="checkbox"/> PZ	-	-	1.32	(33.5)	2
1450/1480-025	14025- <input type="checkbox"/> PZ	.51	(13)	1.52	(38.5)	2
1450/1480-038	14038- <input type="checkbox"/> PZ	.94	(24)	2.03	(51.5)	4
1450/1480-050	14050- <input type="checkbox"/> PZ	1.42	(36)	2.50	(63.5)	6
1450/1480-068	14068- <input type="checkbox"/> PZ	2.13	(54)	3.21	(81.5)	7
1450/1480-080	14080- <input type="checkbox"/> PZ	2.60	(66)	3.68	(93.5)	8
1450/1480-100	14100- <input type="checkbox"/> PZ	3.39	(86)	4.47	(113.5)	10
1450/1480-125	14125- <input type="checkbox"/> PZ	4.37	(111)	5.45	(138.5)	13

34 or 12

For pivoting brackets choose 34

For locking brackets choose 12

Example: 14015- 34 PZB

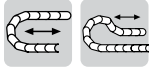
e-chain system® E2/000

Series 1450/1480 Half-Tubes and Full Tubes

Mounting Brackets - Plastic



1450
1480

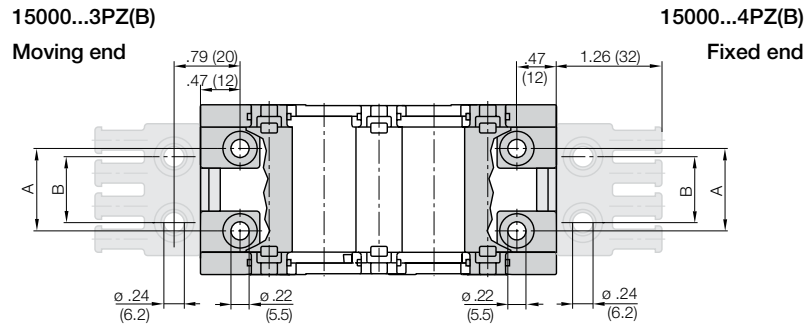
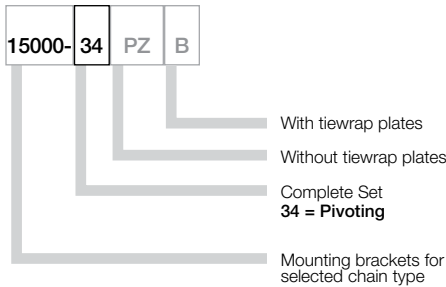


Option 3: plastic

- Unsupported applications
- Space-restricted conditions
- Strain relief with detachable tiewrap plates
- Can be attached at either the fixed end or the moving end



Part Number Structure



Full set, for both ends:

15000-34-PZB Full set, each part with pin/bore + tiewrap plate

Single-part order:

15000-3-PZB Mounting bracket with bore + tiewrap plate

15000-4-PZB Mounting bracket with pin + tiewrap plate

Part No. Mounting Brackets Full Set

4 parts, 2 with pin, 2 with bore

Series 1480:

15000-Width-34

Part No. Mounting bracket with bore

2 parts, 1 left & 1 right

Series 1480:

15000-Width-3

Part No. Mounting bracket with pin

2 parts, 1 left & 1 right

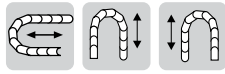
Series 1480:

15000-Width-4

For Chain Type	Part No. Full Set with Tiewrap Plate	Part No. Full Set with Tiewrap Plate + 10 cable ties	Dimension A		Dimension B	
			in.	(mm)	in.	(mm)
1450/1480-025	15000-025-34PZB	15000-025-34PZBK1	.47	(12)	.59	(15)
1450/1480-038	15000-038-34PZB	15000-038-34PZBK1	.98	(25)	.79	(20)
1450/1480-050	15000-050-34PZB	15000-050-34PZBK1	1.46	(37)	1.18	(30)
1450/1480-068	15000-068-34PZB	15000-068-34PZBK1	2.17	(55)	1.57	(40)
1450/1480-080	15000-080-34PZB	15000-080-34PZBK1	2.64	(67)	2.36	(60)
1450/1480-100	15000-100-34PZB	15000-100-34PZBK1	3.43	(87)	3.15	(80)
1450/1480-125	15000-125-34PZB	15000-125-34PZBK1	4.41	(112)	4.13	(105)

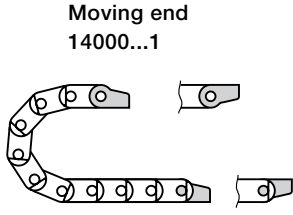
PDF: igus.com/e-chain-pdfs
Product information: igus.com/e-chains



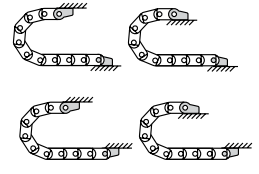


Option 4: steel

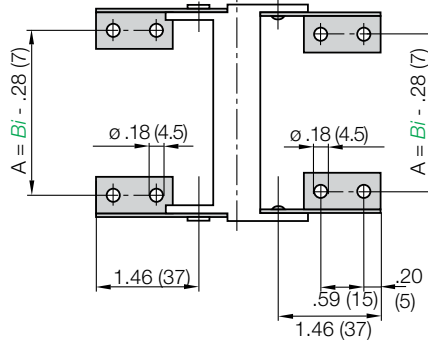
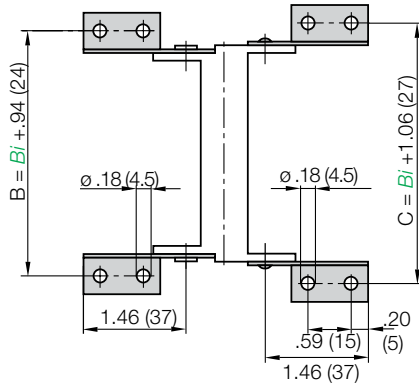
- Locked connections
- One part (two-piece) for all chain widths
- Electrically conductive
- Bolted connection outside of chain cross-section possible



Fixed end
14000...2



Possible installation configurations -



Chain Type	Part No. Full Set	Dimension A		Dimension B		Dimension C	
		in.	(mm)	in.	(mm)	in.	(mm)
1450/1480-015	14000-12	.31	(8)	1.54	(39)	1.65	(42)
1450/1480-020	14000-12	.51	(13)	1.73	(44)	1.85	(47)
1450/1480-025	14000-12	.71	(18)	1.93	(49)	2.05	(52)
1450/1480-038	14000-12	1.22	(31)	2.44	(62)	2.56	(65)
1450/1480-050	14000-12	1.69	(43)	2.91	(74)	3.03	(77)
1450/1480-068	14000-12	2.40	(61)	3.62	(92)	3.74	(95)
1450/1480-080	14000-12	2.87	(73)	4.09	(104)	4.21	(107)
1450/1480-100	14000-12	3.66	(93)	4.88	(124)	5.00	(127)
1450/1480-125	14000-12	4.65	(118)	5.87	(149)	5.98	(152)

Part No. Mounting Brackets Full Set

4 parts, 2 with pin, 2 with bore
Series 1480:
14000-12

Part No. Mounting Bracket Moving End

2 parts, 1 left & 1 right
Series 1480:
14000-1

Part No. Mounting Bracket Fixed End

2 parts, 1 left & 1 right
Series 1480:
14000-2

e-chain system® E2/000

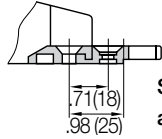
Series 1450/1480 Half-Tubes and Full Tubes

Mounting Bracket - Steel

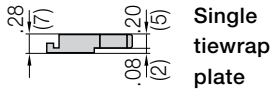


1450
1480

Tiewrap Plates



Shown assembled

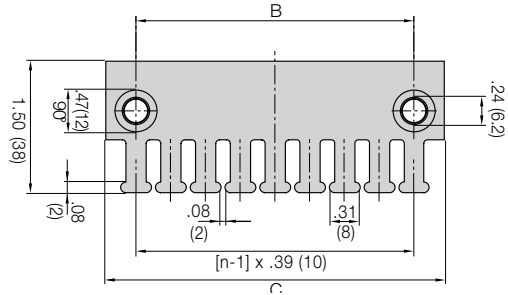


Single tie-wrap plate

Option 1: Tiewrap plates as an individual part

Available as an individual component, can be fixed onto a mounting bracket with the use of a profile rail.

Tiewrap Plates	n Number of Teeth	Dimension C	Dimension B
2020-ZB	3	1.18 (30)	.59 (15)
2030-ZB	4	1.57 (40)	.79 (20)
2040-ZB	5	1.97 (50)	1.18 (30)
2050-ZB	6	2.36 (60)	1.57 (40)
2070-ZB	8	3.15 (80)	2.36 (60)
2090-ZB	9	3.54 (90)	2.76 (70)
2100-ZB	10	3.94 (100)	3.15 (80)
2125-ZB	12	4.72 (120)	3.94 (100)



For more information please refer to strain relief section of Chapter 10



Cable tiewraps as individual parts

Cable tiewraps 100 pieces/bag	Width x Length		Maximum Ø		Tensile Strength	
	in.	(mm)	in.	(mm)	lbs	(N)
CFB-001	.19 x 5.91	(4.8 x 150)	1.42	(36)	50	(222)



Strain relief for steel mounting brackets

Clip-on connection is not possible with steel mounting brackets. In this case, the tie-wrap plates must be bolted directly into separate bore holes in front of the mounting bracket. Alternatively the tie-wrap plates 20XX-ZB can be also used here. **Details chapter 10**

PDF: igus.com/e-chain-pdfs
Product information: igus.com/e-chains



2400
2500



e-chain system® E2/000 Series 2400/2500



Price Index



Series 2400/2500

Special Features / Options



IPA Qualification Certificate, Air Cleanliness Class ISO Class 3 (at v = 2 m/s) upon request



ESD classification: Electrically conductive ESD/ATEX version upon request



UL94 V2 classifications upon request

Assembly Tips



Snap-open mechanism, choice of snap-open on left or right. Hinged crossbar can be swiveled by more than 180° on both sides. Lightning-fast closing by hand. Secure fit without additional locking devices.

Other Installation Methods

Vertical, hanging ≤ 131.24 ft (40 m)

Vertical, standing ≤ 9.84 ft (3 m)

Side-mounted, un supp. ≤ 3.28 ft (1 m)

Rotary requires further calculation

Usage Guidelines



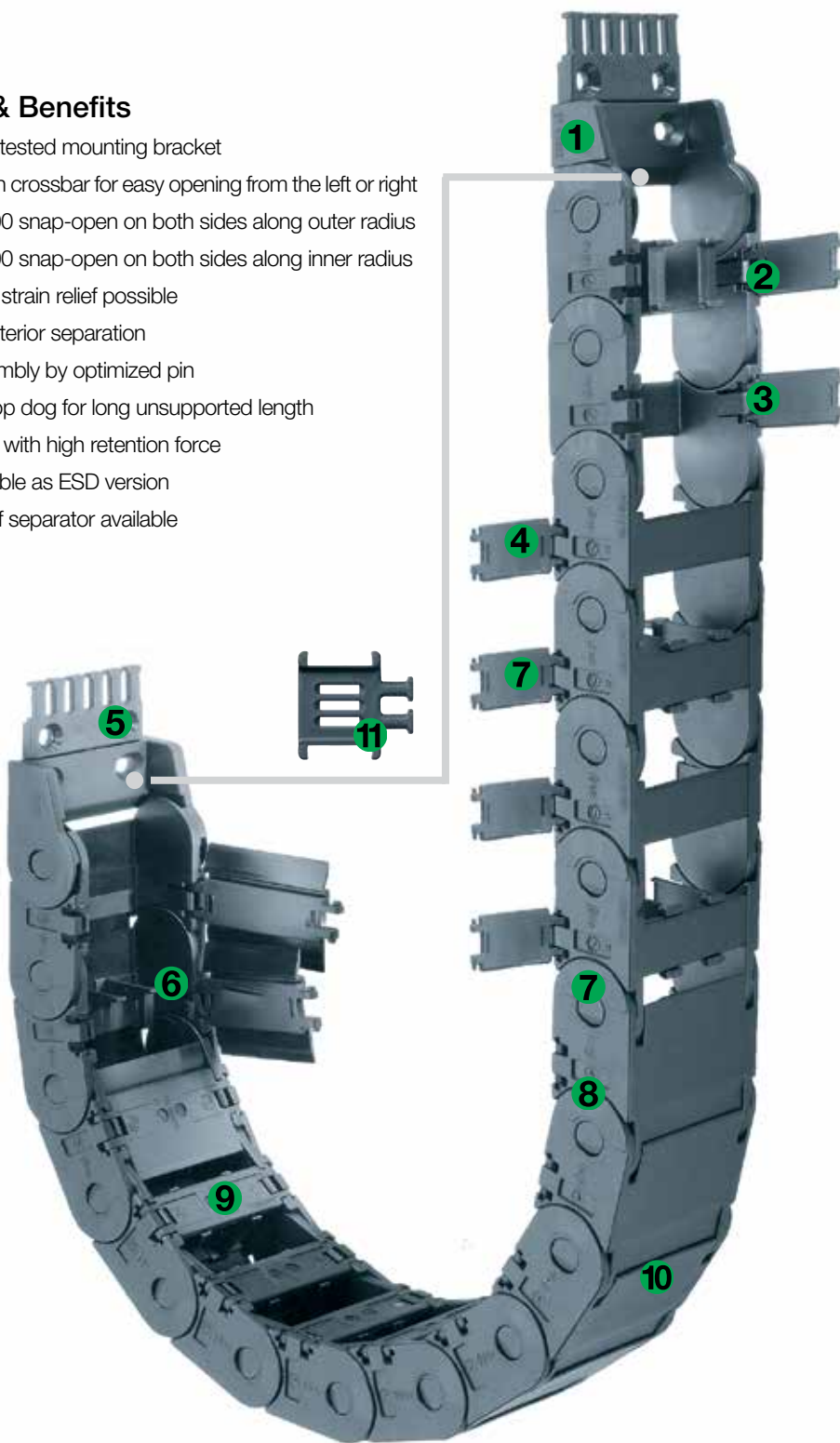
- If snap-open accessibility along the inner or outer radius is required
- If integrated strain relief at the mounting point is required
- If modular interior separation is needed
- If long service life is required
- If easy installation is required



- If the application is very simple
➤ Series E200 E-Z Chain
- If greater stability is required
➤ Series E4-21 E4-1 Series

Features & Benefits

- 1 Tried-and-tested mounting bracket
- 2 Snap-open crossbar for easy opening from the left or right
- 3 Series 2500 snap-open on both sides along outer radius
- 4 Series 2400 snap-open on both sides along inner radius
- 5 Integrated strain relief possible
- 6 Modular interior separation
- 7 Easy assembly by optimized pin
- 8 Double stop dog for long unsupported length
- 9 Crossbars with high retention force
- 10 Also available as ESD version
- 11 Strain relief separator available



Order Example: Complete e-chain®

Please indicate chain length or number of links. Example:

9.84 ft (3 m) 2500-10-100-0



e-chain®

With 2 separators 25.1 assembled every 2nd link



Interior Separation

1 Set 2100-34PZB



Mounting Bracket

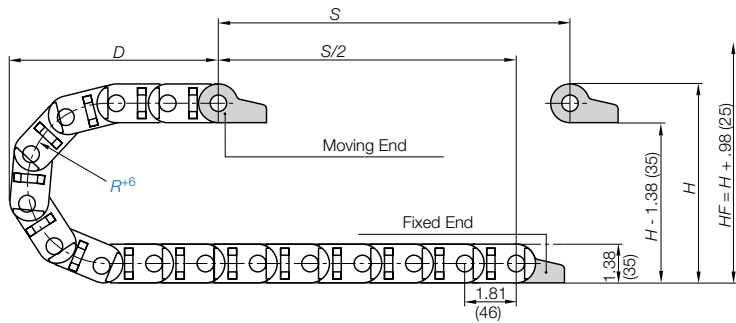
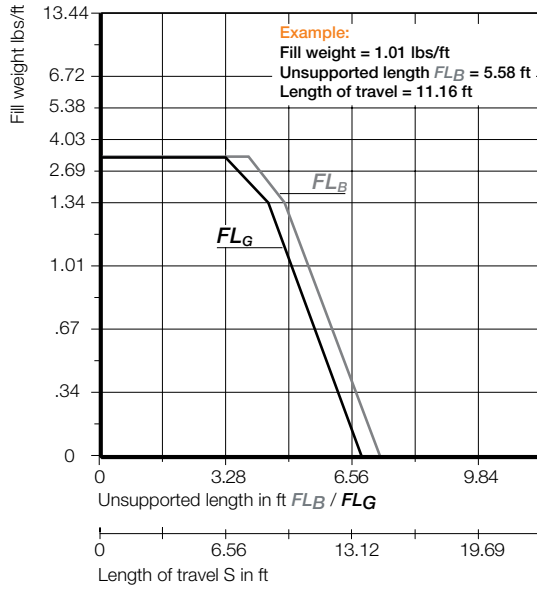
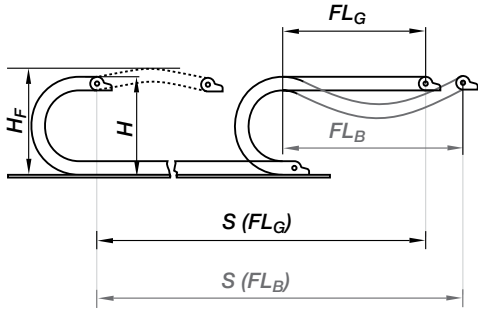
e-chain system® E2/000

Series 2400/2500

Installation Dimensions

Short travel, unsupported length

- FL_B = unsupported with permitted sag
 - FL_G = unsupported with straight upper run
- Further information ► Design, Chapter 1



Pitch per link = 1.81" (46 mm)
Links per ft (m) = 6.71 (22)
For center mount applications:
Chain length = $S/2 + K$

The required clearance height: $H_f = H + .98$ in. (25 mm) (with 1.01 lbs/ft (1.5 kg/m) fill weight).
Please consult igus® if space is particularly restricted.

R	2.16 (055**)	2.95 (075)	3.94 (100)	4.92 (125)	5.91 (150)	6.89 (175)	7.87 (200)	8.86 (225)	9.84 (250)
H	5.71 (145)	7.28 (185)	9.25 (235)	11.22 (285)	13.19 (335)	15.16 (385)	17.13 (435)	19.09 (485)	21.06 (535)
D	5.59 (142)	6.38 (162)	7.36 (187)	8.35 (212)	9.33 (237)	10.31 (262)	11.30 (287)	12.28 (312)	13.27 (337)
K	10.43 (265)	12.99 (330)	16.14 (410)	19.09 (485)	22.24 (565)	25.39 (645)	28.54 (725)	31.50 (800)	34.65 (880)

Legend

- S = Length of travel
- R = Bending radius
- H = Nominal clearance height
- D = Overlength e-chain® radius in final position
- $K = \pi \cdot R + \text{safety buffer}$
- H_f = Required clearance height
- H_{RI} = Trough inner height
- H_2 = *Mounting height
- D_2 = Overlength - long travels, gliding
- K_2 = *Add-on

*If the mounting bracket location is set lower

**upon request

For long travels with lowered mounting height

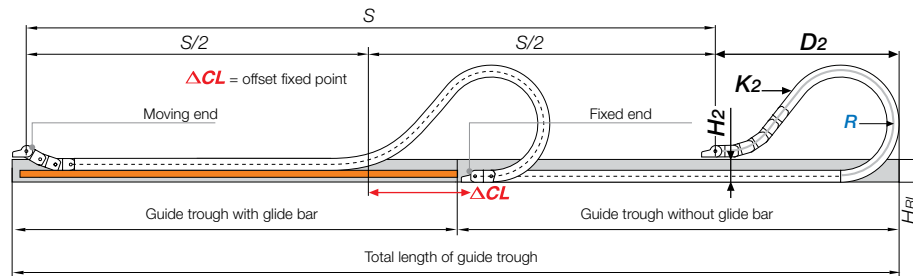
Long travel lengths from 32.8 ft. (10 m) to max. 328 ft. (100 m)

Note: For using Series 2400 for long travels (gliding), please consult with igus® first.

For long travels, igus® specifies Series 2500 that snap open on the outer radius.

For center mount applications:

Chain length = $S/2 + K_2$



R	2.16 (055)	2.95 (075)	3.94 (100)	4.92 (125)	5.91 (150)	6.89 (175)	7.87 (200)	8.86 (225)	9.84 (250)
H_2	4.33 (110)	5.91 (150)	3.94 (100)	3.94 (100)	3.94 (100)	3.94 (100)	3.94 (100)	3.94 (100)	3.94 (100)
D_2^{25}	5.59 (142)	6.38 (162)	14.96 (380)	17.32 (440)	23.23 (590)	29.72 (755)	37.40 (950)	40.94 (1040)	44.49 (1130)
K_2	10.43 (265)	12.99 (330)	25.35 (644)	28.98 (736)	39.84 (1012)	48.90 (1242)	57.95 (1472)	63.39 (1610)	70.63 (1794)
ΔCL	—	—	8.03 (204)	9.61 (244)	14.33 (364)	19.84 (504)	26.54 (674)	29.69 (754)	31.65 (804)

Long Travels - Gliding



If the unsupported length is exceeded, the e-chain®/ Tube must glide on itself. This requires a guide trough.

Design, Chapter 1

Technical Data



Details of material properties

► Chapter 1

Speed / acceleration FL_G	max. 65.6 ft/s (20 m/s) / max. 656 ft/s ² (200 m/s ²)
Speed / acceleration FL_B	max. 9.84 ft/s (3 m/s) / max. 19.69 ft/s ² (6 m/s ²)
Gliding speed / acceleration (maximum)	max. 32.8 ft/s (10 m/s) / max. 164 ft/s ² (50 m/s ²)
Material - permitted temperature	igumid G / -40°F (-40°C) up to +248°F (+120°C)
Flammability Class, igumid G	VDE 0304 IIC UL94 HB

PDF: igus.com/e-chain-pdfs
Product information: igus.com/e-chains



2400
2500



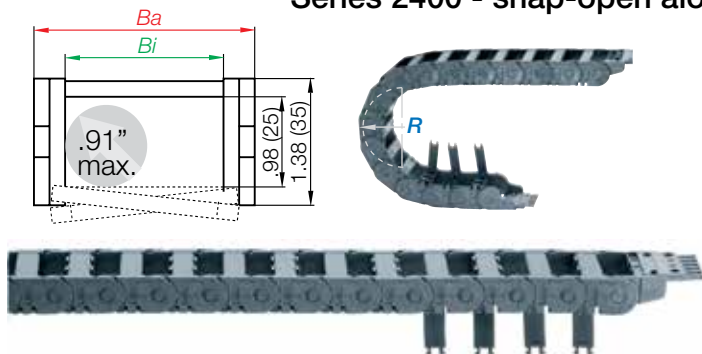
2400
2500



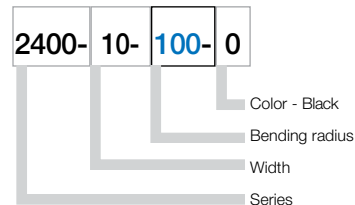
e-chain system® E2/000
Series 2400/2500

igus®
e-chain system®

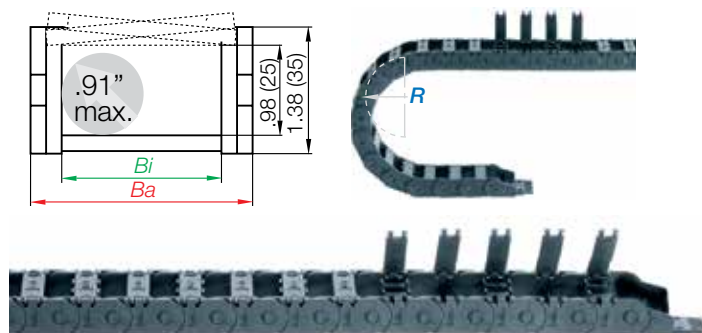
Series 2400 - snap-open along the inner radius



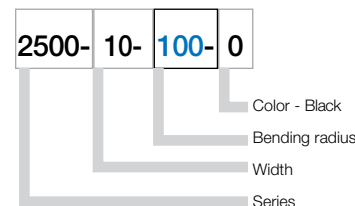
Part Number Structure



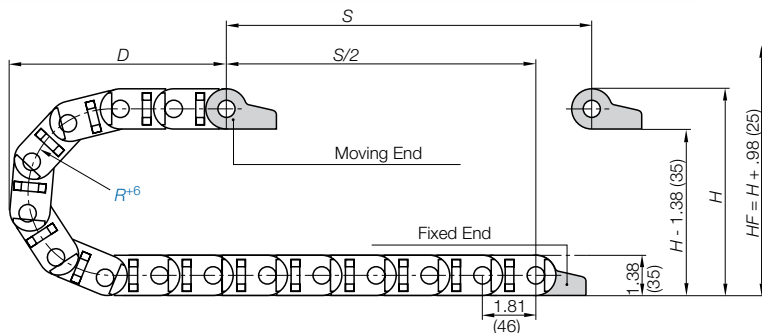
Series 2500 - snap-open along the outer radius



Part Number Structure



Telephone 1-800-521-2747



Supplement part number with required radius. Example: 2400-10--0
Pitch: 1.81 in. (46 mm) per link links/ft(m) = 6.71 (22)

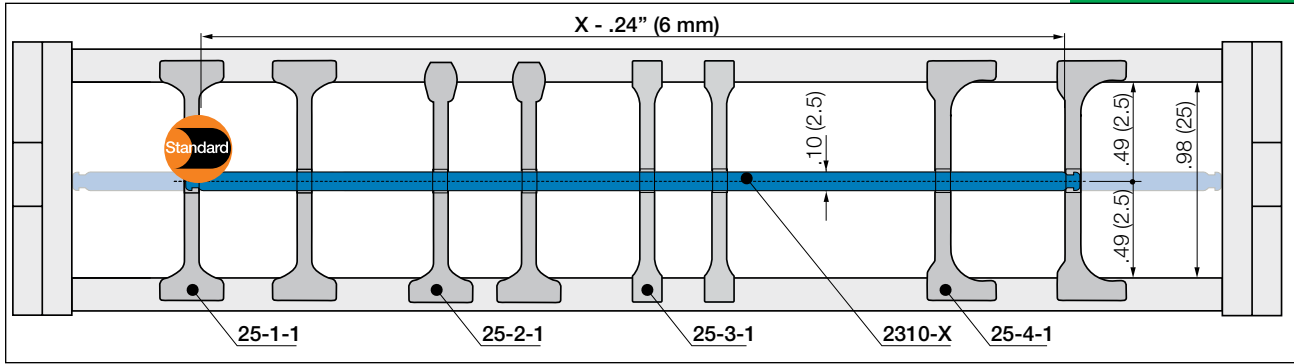
Part Number.

2400-02- <input type="text"/> -0	2500-02- <input type="text"/> -0	Bi in. (mm)	Ba in. (mm)	Weight lbs/ft (kg/m)
2400-03- <input type="text"/> -0	2500-03- <input type="text"/> -0	1.50 (38)	2.13 (54)	≈ 0.56 (0.83)
2400-05- <input type="text"/> -0	2500-05- <input type="text"/> -0	2.24 (57)	2.87 (73)	≈ 0.61 (0.91)
2400-07- <input type="text"/> -0	2500-07- <input type="text"/> -0	3.03 (77)	3.66 (93)	≈ 0.68 (1.01)
2400-09- <input type="text"/> -0	2500-09- <input type="text"/> -0	3.50 (89)	4.13 (105)	≈ 0.73 (1.08)
2400-10- <input type="text"/> -0	2500-10- <input type="text"/> -0	4.06 (103)	4.69 (119)	≈ 0.77 (1.15)
2400-12- <input type="text"/> -0	2500-12- <input type="text"/> -0	4.92 (125)	5.55 (141)	≈ 0.82 (1.22)

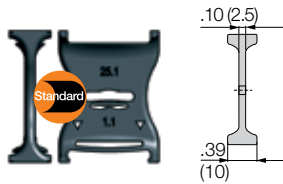
Choose from the radii below for all of the above sizes
Radius (mm) Example: 2400-10--0

	055	075	100	125	150	175	200	225	250
R	2.16 (055)	2.95 (075)	3.94 (100)	4.92 (125)	5.91 (150)	6.89 (175)	7.87 (200)	8.86 (225)	9.84 (250)
H	5.71 (145)	7.28 (185)	9.25 (235)	11.22 (285)	13.19 (335)	15.16 (385)	17.13 (435)	19.09 (485)	21.06 (535)
D	5.59 (142)	6.38 (162)	7.36 (187)	8.35 (212)	9.33 (237)	10.31 (262)	11.30 (287)	12.28 (312)	13.27 (337)
K	10.43 (265)	12.99 (330)	16.14 (410)	19.09 (485)	22.24 (565)	25.39 (645)	28.54 (725)	31.50 (800)	34.65 (880)

Internet: igus.com
email: sales@igus.com
QuickSpec: igus.com/quickspec



In the standard configuration separators are assembled every 2nd e-chain® link

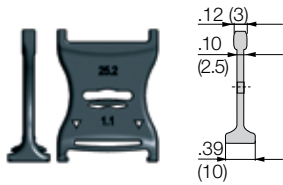


Separator, wide base

Unassembled	Part No. 25.1
Assembled	Part No. 25.1.1

- **Standard separator 25.1 for all applications**

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

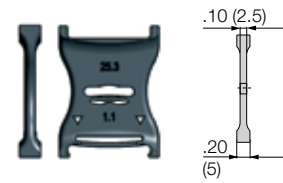


Separator, narrow head

Unassembled	Part No. 25.2
Assembled	Part No. 25.2.1

- **Separator 25.2**

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



Separator, narrow base

Unassembled	Part No. 25.3
Assembled	Part No. 25.3.1

- **Separator 25.3**

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



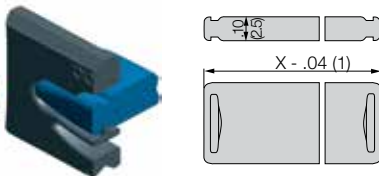
Separator, asymmetrical

Unassembled	Part No. 25.4
Assembled	Part No. 25.4.1

- **Separator 25.4**

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

Lockable full-width shelves - for the standard interior separation



Full width shelf, lockable

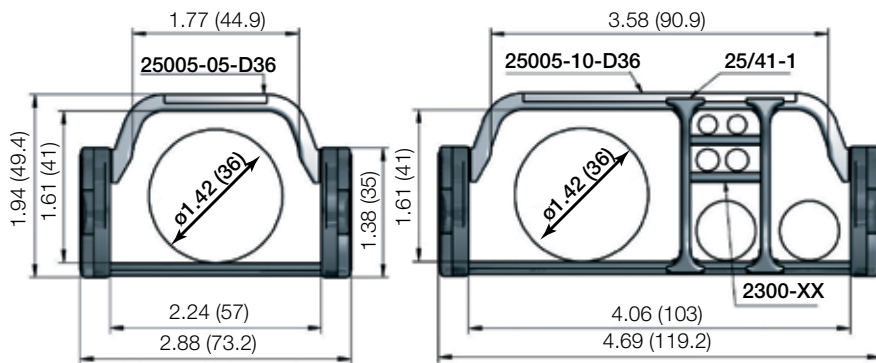
Unassembled	Part No. 2300-X
Assembled	Part No. 2310-X

- **Full width shelf, lockable**

is used when vertical and horizontal separation is required. .

Width X in. (mm)	Part No. Unassembled	Part No. Assembled	Width X in. (mm)	Part No. Unassembled	Part No. Assembled	Width X in. (mm)	Part No. Unassembled	Part No. Assembled
0.59 (015)	2300-15	2310-15	2.36 (060)	2300-60	2310-60	3.43 (087)	2300-87	2310-87
0.98 (025)	2300-25	2310-25	2.44 (062)	2300-62	2310-62	3.54 (090)	2300-90	2310-90
1.18 (030)	2300-30	2310-30	2.56 (065)	2300-65	2310-65	3.94 (100)	2300-100	2310-100
1.50 (038)	2300-38	2310-38	2.76 (070)	2300-70	2310-70	4.06 (103)	2300-103	2310-103
1.57 (040)	2300-40	2310-40	2.95 (075)	2300-75	2310-75	4.33 (110)	2300-110	2310-110
1.97 (050)	2300-50	2310-50	3.03 (077)	2300-77	2310-77	4.72 (120)	2300-120	2310-120
2.24 (057)	2300-57	2310-57	3.15 (080)	2300-80	2310-80	4.92 (125)	2300-125	2310-125





Part Number.

Extender crossbars
for e-chains®
that snap-open
along inner radius

Extender crossbars
for e-chains®
that snap-open
along outer radius

Bi

Ba

in. (mm)

in. (mm)

2400-05D36- [] -0

2500-05D36- [] -0

2.24 (57)

2.87 (73)

2400-10D36- [] -0

2500-10D36- [] -0

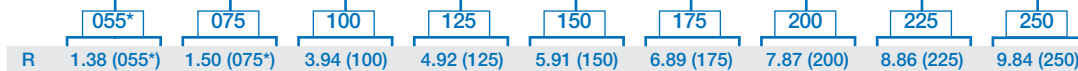
4.06 (103)

4.69 (119)

Choose from the radii below for all of the above sizes

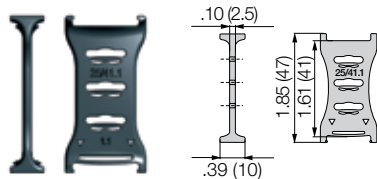
Radius (mm)

Example: 2400-10D36- [100]-0



*Radius 055 only possible with Series 2500 e-chains®

Interior separation for extender crossbars



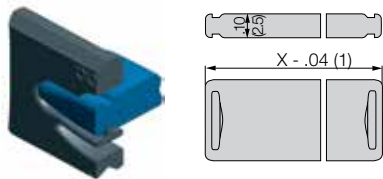
Separator, wide base

Unassembled **Part No. 25/41.1**

Assembled **Part No. 25/41.1.1**

- **Standard separator 25/41-1, wide base**
For maximum locking strength and base standing. In standard configuration separators are assembled every 2nd e-chain® link.

Lockable full-width shelves - for the standard interior separation



Full width shelf, lockable

Unassembled **Part No. 2300-X**

Assembled **Part No. 2310-X**

- **Full width shelf, lockable**
is used when vertical and horizontal separation is required. Due to its slot, it allows basic vertical/horizontal shelving arrangements.

Width X in. (mm)	Part No. Unassembled	Part No. Assembled	Width X in. (mm)	Part No. Unassembled	Part No. Assembled	Width X in. (mm)	Part No. Unassembled	Part No. Assembled
0.59 (015)	2300-15	2310-15	2.36 (060)	2300-60	2310-60	3.43 (087)	2300-87	2310-87
0.98 (025)	2300-25	2310-25	2.44 (062)	2300-62	2310-62	3.54 (090)	2300-90	2310-90
1.18 (030)	2300-30	2310-30	2.56 (065)	2300-65	2310-65	3.94 (100)	2300-100	2310-100
1.50 (038)	2300-38	2310-38	2.76 (070)	2300-70	2310-70	4.06 (103)	2300-103	2310-103
1.57 (040)	2300-40	2310-40	2.95 (075)	2300-75	2310-75	4.33 (110)	2300-110	2310-110
1.97 (050)	2300-50	2310-50	3.03 (077)	2300-77	2310-77	4.72 (120)	2300-120	2310-120
2.24 (057)	2300-57	2310-57	3.15 (080)	2300-80	2310-80	4.92 (125)	2300-125	2310-125

Separator with integrated strain relief

Strain relief separator Part No. 2020-Z 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, it can be installed on the first or last e-chain® link and is easy to assemble without any screws.

For more information ► Chapter 10, Strain Relief



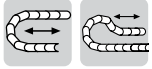
e-chain system® E2/000

Series 2400/2500

Mounting Bracket - Plastic

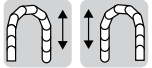
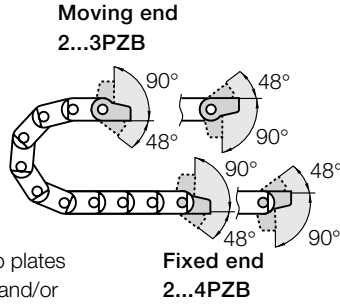


2400
2500



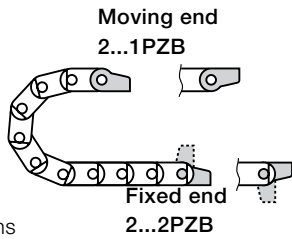
Option 1: pivoting

- For unsupported and gliding applications
- Well suited for tight installation conditions
- Detachable strain relief tiwrap plates
- Can be mounted on the fixed and/or moving end



Option 2: locking

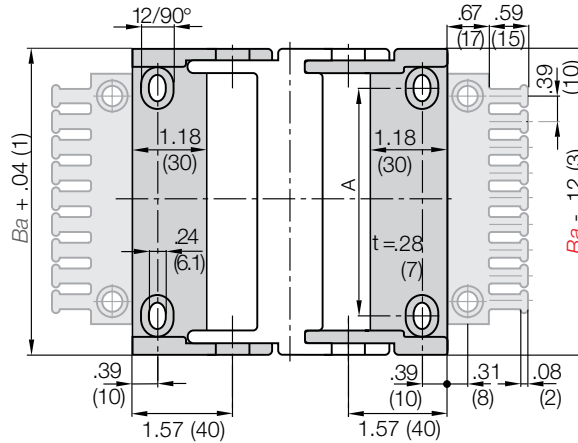
- For unsupported and gliding applications
- Extreme speed and/or accelerations
- For height restricted applications
- Can be mounted on the fixed and/or moving end



Part Number Structure

2020- 34 PZB K1

- With 10 cable tiwraps
- With tiwrap plates
- Complete Set
34 = Pivoting
12 = Locking
- Mounting brackets for selected chain type



Full set, for both ends:

2020- 34 PZB Full set, each part with pin/bore + tiwrap plate

Single-part order:

- 2020- 3 PZB Mounting bracket with bore + tiwrap plate
- 2020- 4 PZB Mounting bracket with pin + tiwrap plate

Part No. Full Set (pivoting)

With Tiwrap Plates
Series 2400/2500:
2020-34PZB

Part No. Full Set (locking)

With Tiwrap Plates
+ 10 cable ties
Series 2400/2500:
2020-34PZBK1

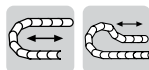
For Chain Type	Part No. Full set without Tiwrap Plate	Part No. Full Set with Tiwrap Plate	Part No. Full Set with Tiwrap Plate + 10 cable ties	Dimension A in. (mm)	Number of teeth
2400/2500-02	2020- <input type="checkbox"/> PZ	2020- <input type="checkbox"/> PZB	2020- <input type="checkbox"/> PZBK1	.47 (12)	3
2400/2500-03	2030- <input type="checkbox"/> PZ	2030- <input type="checkbox"/> PZB	2030- <input type="checkbox"/> PZBK1	.98 (25)	4
2400/2500-05	2050- <input type="checkbox"/> PZ	2050- <input type="checkbox"/> PZB	2050- <input type="checkbox"/> PZBK1	1.73 (44)	6
2400/2500-07	2070- <input type="checkbox"/> PZ	2070- <input type="checkbox"/> PZB	2070- <input type="checkbox"/> PZBK1	2.52 (64)	8
2400/2500-09	2090- <input type="checkbox"/> PZ	2090- <input type="checkbox"/> PZB	2090- <input type="checkbox"/> PZBK1	3.03 (77)	9
2400/2500-10	2100- <input type="checkbox"/> PZ	2100- <input type="checkbox"/> PZB	2100- <input type="checkbox"/> PZBK1	3.54 (90)	10
2400/2500-12	2125- <input type="checkbox"/> PZ	2125- <input type="checkbox"/> PZB	2125- <input type="checkbox"/> PZBK1	4.41 (112)	12

34 or 12

For pivoting brackets choose 34
For locking brackets choose 12
Example: 2020- 34 PZB

PDF: igus.com/e-chain-pdfs
Product information: igus.com/e-chains

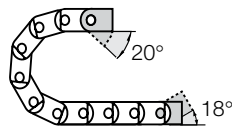




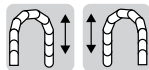
Option 1: pivoting

- For unsupported applications
- Bolted connection outside of chain cross section
- Confined installation conditions
- Attachment points on all sides
- Stackable

Moving end
24001...1



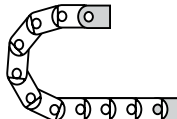
Fixed end
24001...2



Option 2: locking

- For vertical hanging/standing applications
- Bolted connection outside of chain cross section
- For very high speeds and accelerations
- Attachment points on all sides
- Stackable

Moving end
24101...1



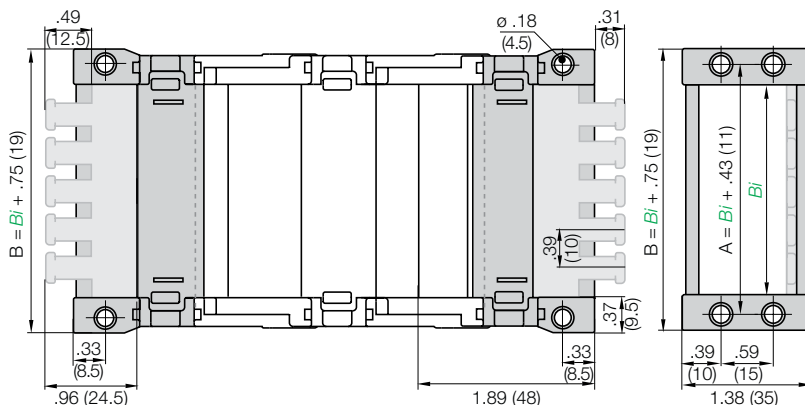
Fixed end
24101...2



Part Number Structure

24001-02-12ZB

- With tiwrap plates
- Complete Set
- Width
- Mounting brackets for selected chain type
24001 = Pivoting
24101 = Locking



Full set, for both ends:

24001-12ZB Full set, each part with pin/bore + tiwrap plate

Single-part order:

24001-1ZB Mounting bracket with bore + tiwrap plate

24001-2ZB Mounting bracket with pin + tiwrap plate

Part No. Full Set (pivoting)

With Tiwrap Plates

Series 2480:

24001-Width-12ZB

Part No. Full Set (pivoting)

Without Tiwrap Plates

Series 2480:

24001-Width-12

For Chain Type	Part No. Full set with Tiwrap Plate	Part No. Full Set without Tiwrap Plate	Dimension A in.	Dimension A (mm)	Number of Teeth
2400/2500-02	24001-02-12ZB	24001-02-12	1.42	(36)	2
2400/2500-03	24001-03-12ZB	24001-03-12	1.93	(49)	4
2400/2500-05	24001-05-12ZB	24001-05-12	2.68	(68)	6
2400/2500-07	24001-07-12ZB	24001-07-12	3.46	(88)	7
2400/2500-09	24001-09-12ZB	24001-09-12	3.94	(100)	9
2400/2500-10	24001-10-12ZB	24001-10-12	4.49	(114)	10
2400/2500-12	24001-12-12ZB	24001-12-12	5.35	(136)	12

24001 or 24101

For pivoting brackets choose 24001

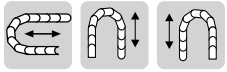
For locking brackets choose 24101

Example: 24001-02-12ZB

e-chain system® E2/000
Series 2400/2500
Mounting Bracket - Steel

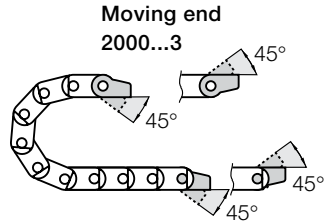


2400
2500

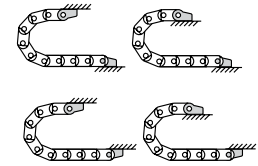
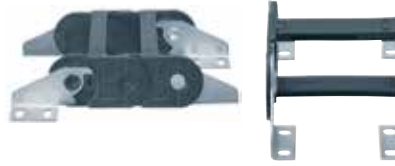


Option 1: Steel

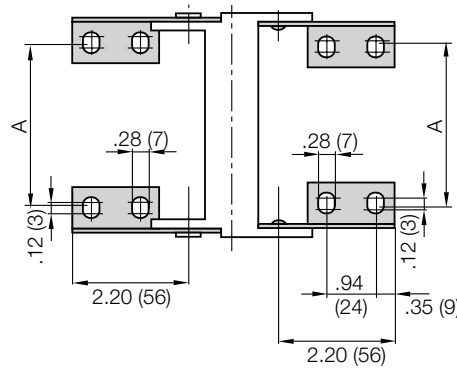
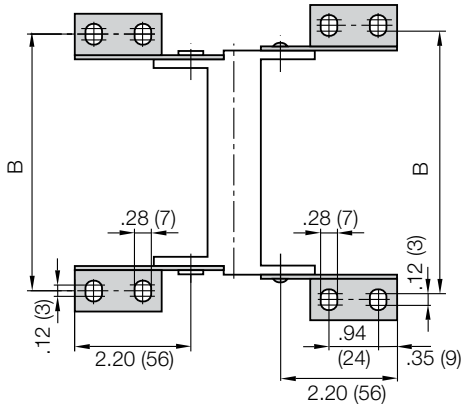
- Pivoting connections
- One part (two-piece) for all chain widths
- Electrically conductive
- Bolted connection outside of chain cross-section possible



Fixed end
2000...2



Possible installation configurations -



Chain Type	Part No. Full Set	Dimension A		Dimension B	
		in.	(mm)	in.	(mm)
2400/2500-02	2000-32	—	—	2.36	(60)
2400/2500-03	2000-32	.98	(25)	2.87	(73)
2400/2500-05	2000-32	1.73	(44)	3.62	(92)
2400/2500-07	2000-32	2.52	(64)	4.41	(112)
2400/2500-09	2000-32	2.99	(76)	4.88	(124)
2400/2500-10	2000-32	3.54	(90)	5.43	(138)
2400/2500-12	2000-32	4.41	(112)	6.30	(160)

Part No. Mounting Brackets Full Set
4 parts, 2 with pin, 2 with bore
Series 2400/2500:
2000-32

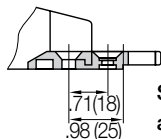
Part No. Mounting Bracket Moving End
2 parts, 1 left & 1 right
Series 2400/2500:
2000-3

Part No. Mounting Bracket Fixed End
2 parts, 1 left & 1 right
Series 2400/2500:
2000-2

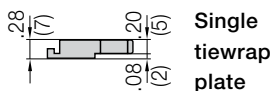
PDF: igus.com/e-chain-pdfs
Product information: igus.com/e-chains



Tiewrap Plates



Shown assembled



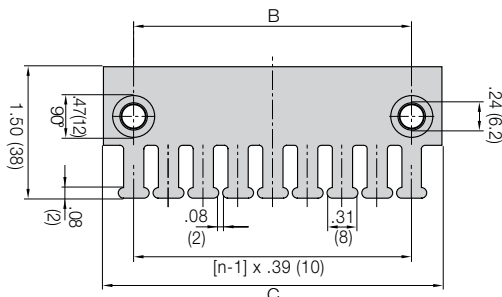
Single tiewrap plate

Option 1:

Tiewrap plates as an individual part

Available as an individual component, can be fixed onto a mounting bracket with the use of a profile rail.

Tiewrap Plates	n Number of Teeth	Dimension C	Dimension B
2020-ZB	3	1.18 (30)	.59 (15)
2030-ZB	4	1.57 (40)	.79 (20)
2040-ZB	5	1.97 (50)	1.18 (30)
2050-ZB	6	2.36 (60)	1.57 (40)
2070-ZB	8	3.15 (80)	2.36 (60)
2090-ZB	9	3.54 (90)	2.76 (70)
2100-ZB	10	3.94 (100)	3.15 (80)
2125-ZB	12	4.72 (120)	3.94 (100)



For more information please refer to strain relief section of Chapter 10



Cable tiewraps as individual parts

Cable tiewraps 100 pieces/bag	Width x Length		Maximum Ø		Tensile Strength	
	in.	(mm)	in.	(mm)	lbs	(N)
CFB-001	.19 x 5.91	(4.8 x 150)	1.42	(36)	50	(222)

Strain relief for steel mounting brackets

Clip-on connection is not possible with steel mounting brackets. In this case, the tiewrap plates must be bolted directly into separate bore holes in front of the mounting bracket. Alternatively the tiewrap plates **20XX-ZB** can be also used here. **Details chapter 10**

e-chain[®] E2/000

Series 2400/2500

Guide Trough



2400
2500

Guide troughs are used with applications where the upper run of the e-chain[®] glides on the lower run. If using igus[®] steel guide troughs, the following components are required:

- Full travel length of guide trough
Part Number 92-30
- 1/2 travel length of glide bars
Part Number 92-01
- Installation sets as end connectors
Part Number 92-50-XX

-XX indicates the length of the profile rail on which the guide trough is mounted. The values and part numbers are specified in the table on the left. The standard length of the trough components and glide bars is 6.56 ft (2 m.) The required overall length of the guide trough directly correlates to the length of travel.

- Example:**
Length of travel 164 ft (50 m)
Center mounted
Required guide troughs:
164 ft (50 m) guide trough
82 ft (25 m) glide bar
= 25 sections of 6.56 ft
(2 m) guide trough
Part No. 92-30
= 13 sections of 6.56 ft (2 m) glide bar
Part No. 92-01

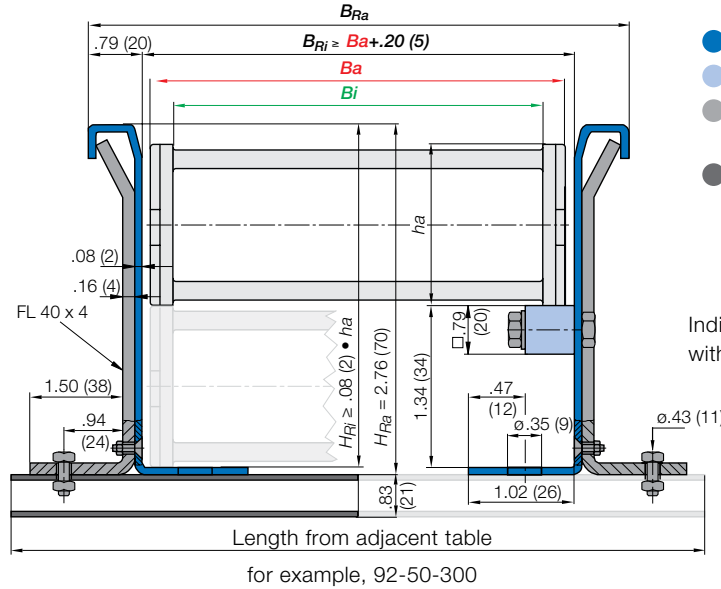


- Required number of installation sets:**
= Number of guide trough components + 1
= 25 + 1 = 26
Part number of the installation sets

Example: 92-50-400 for 15.75" (400 mm) long profile rail.

Width of Crossbar
2500-05-200-0

	B_{Ri}	Installation Part No.
-02*	1.81 (46)	—
-03	2.32 (59)	92-50-175
-05	3.07 (78)	92-50-200
-07	3.86 (98)	92-50-225
-09	4.37 (111)	92-50-225
-10	4.88 (124)	92-50-250
-12	5.75 (146)	92-50-275



- Guide trough
- Glide bars
- Installation set "Basic"
- Profile rail

Individual attachment without profile rail

* Specialized guide trough available upon request

PDF: igus.com/e-chain-pdfs
Product information: igus.com/e-chains



Price Index



Series 2450/2480

Special Features / Options

IPA Qualification Certificate, Air Cleanliness Class ISO Class 3 (at v = 2 m/s) upon request

ESD classification: Electrically conductive ESD/ATEX version upon request

UL94 V2 classifications upon request

Assembly Tips



Insert screwdriver into the slot, using a lever action apply pressure to the screwdriver to release

Other Installation Methods

Vertical, hanging ≤ 131 ft (40 m)

Vertical, standing ≤ 9.84 ft (3 m)

Side-mounted, un supp. ≤ 3.28 ft (1 m)

Rotary requires further calculation

Usage Guidelines



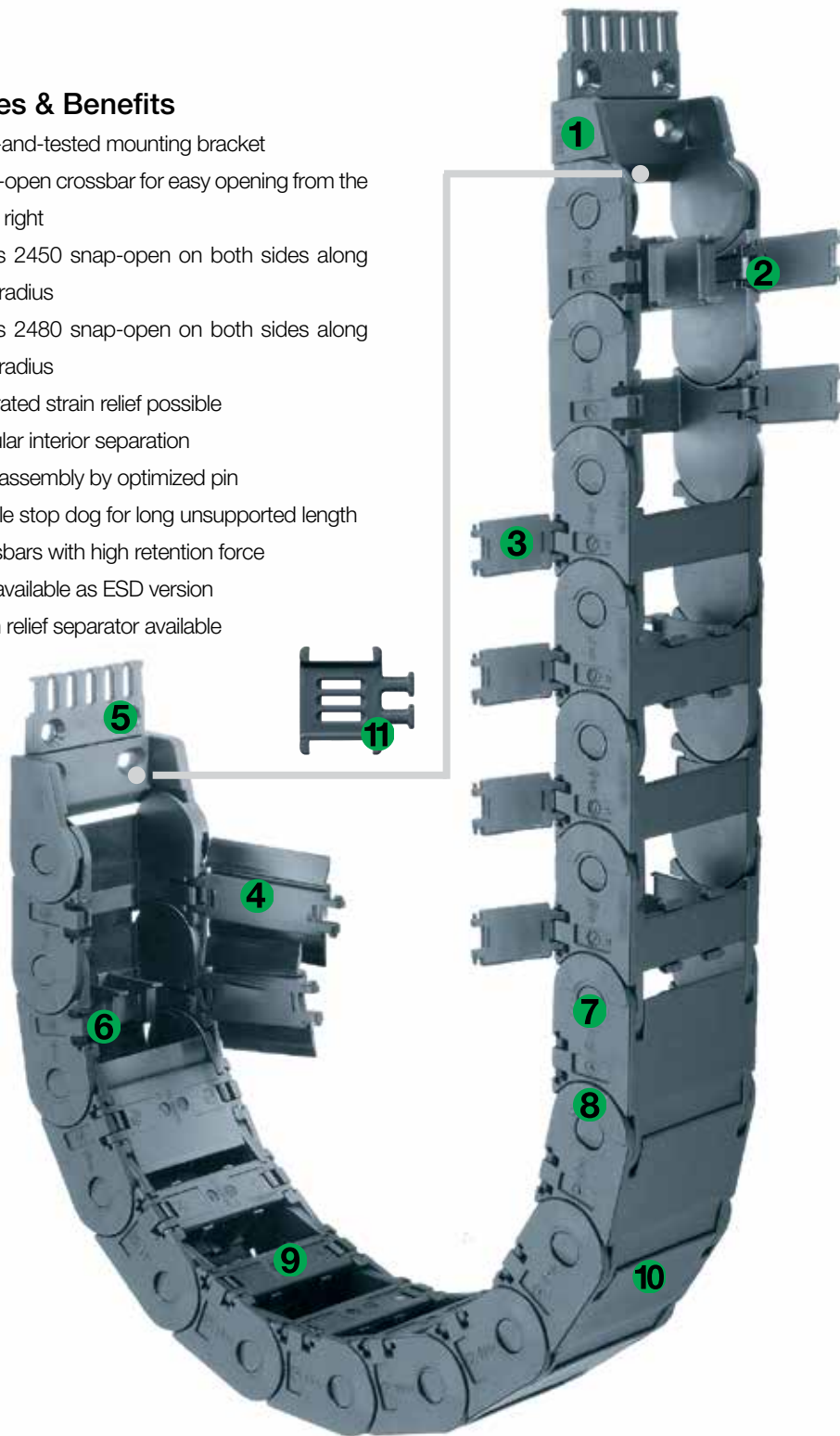
- If snap-open accessibility along the inner or outer radius is required
- If integrated strain relief at the mounting point is required
- If modular interior separation is needed
- If long service life is required
- If easy installation is required



- If the application is very simple
➤ Series E200 E-Z Chain
- If greater stability is required
➤ Series E4-21 E4-1 Series

Features & Benefits

- 1 Tried-and-tested mounting bracket
- 2 Snap-open crossbar for easy opening from the left or right
- 3 Series 2450 snap-open on both sides along inner radius
- 4 Series 2480 snap-open on both sides along inner radius
- 5 Integrated strain relief possible
- 6 Modular interior separation
- 7 Easy assembly by optimized pin
- 8 Double stop dog for long unsupported length
- 9 Crossbars with high retention force
- 10 Also available as ESD version
- 11 Strain relief separator available



Order Example: Complete e-chain®

Please indicate chain length or number of links. Example:

9.84 ft (3 m) 2450-10-100-0



e-chain®

With 2 separators 24501 assembled every 2nd link



Interior Separation

1 Set 2100-34PZB



Mounting Bracket

e-chain system® E2/000

Series 2450/2480 Half-Tubes and Full Tubes

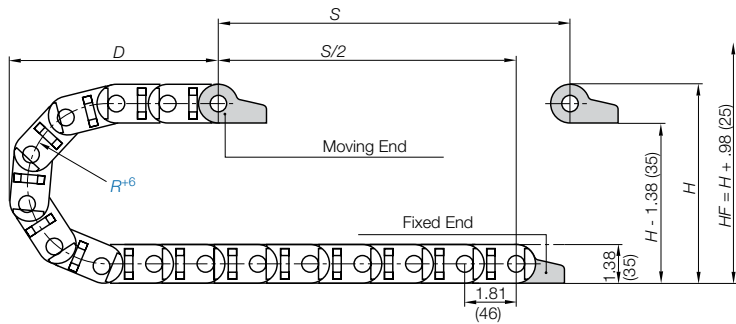
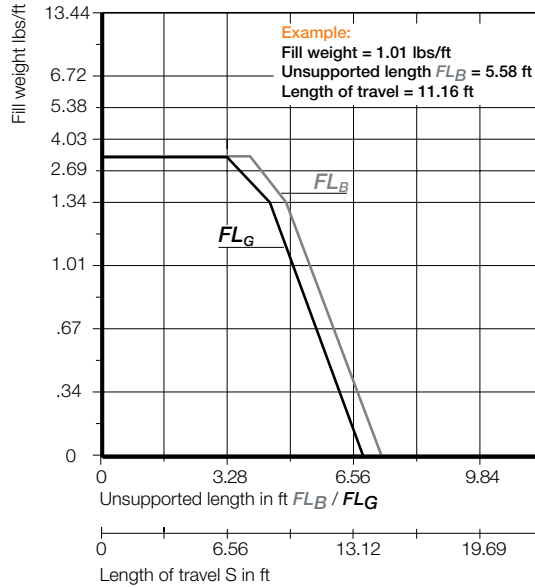
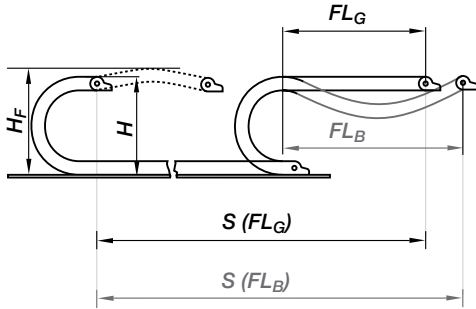
Installation Dimensions



2450
2480

Short travel, unsupported length

- FL_B = unsupported with permitted sag
 - FL_G = unsupported with straight upper run
- Further information ► Design, Chapter 1



Pitch per link = 1.81" (46 mm)
Links per ft (m) = 6.71 (22)
For center mount applications:
Chain length = $S/2 + K$

The required clearance height: $H_f = H + .98$ in. (25 mm) (with 1.01 lbs/ft (1.5 kg/m) fill weight).
Please consult igus® if space is particularly restricted.

R	2.16 (055*)	2.95 (075*)	3.94 (100)	4.92 (125)	5.91 (150)	6.89 (175)	7.87 (200)	8.86 (225)	9.84 (250)
H	5.71 (145)	7.28 (185)	9.25 (235)	11.22 (285)	13.19 (335)	15.16 (385)	17.13 (435)	19.09 (485)	21.06 (535)
D	5.59 (142)	6.38 (162)	7.36 (187)	8.35 (212)	9.33 (237)	10.31 (262)	11.30 (287)	12.28 (312)	13.27 (337)
K	10.43 (265)	12.99 (330)	16.14 (410)	19.09 (485)	22.24 (565)	25.39 (645)	28.54 (725)	31.50 (800)	34.65 (880)

Short Travels - Unsupported

Unsupported e-chains® feature positive camber over short travels. This must be accounted for when specifying the clearance height. Please refer to **Installation dimensions** for further details.

Legend

- S = Length of travel
- R = Bending radius
- H = Nominal clearance height
- D = Overlength e-chain® radius in final position
- $K = \pi \cdot R + \text{safety buffer}$
- H_f = Required clearance height



PDF: igus.com/e-chain-pdfs
Product information: igus.com/e-chains

*upon request
Radii 055: the e-tube is not completely enclosed.
Please consult igus®

Speed / acceleration FL_G	max. 65.6 ft/s (20 m/s) / max. 656 ft/s ² (200 m/s ²)
Speed / acceleration FL_B	max. 9.84 ft/s (3 m/s) / max. 19.69 ft/s ² (6 m/s ²)
Gliding speed / acceleration (maximum)	max. 32.8 ft/s (10 m/s) / max. 164 ft/s ² (50 m/s ²)
Material - permitted temperature	igumid G / -40°F (-40°C) up to +248°F (+120° C)
Flammability Class, igumid G	VDE 0304 IIC UL94 HB

Technical Data

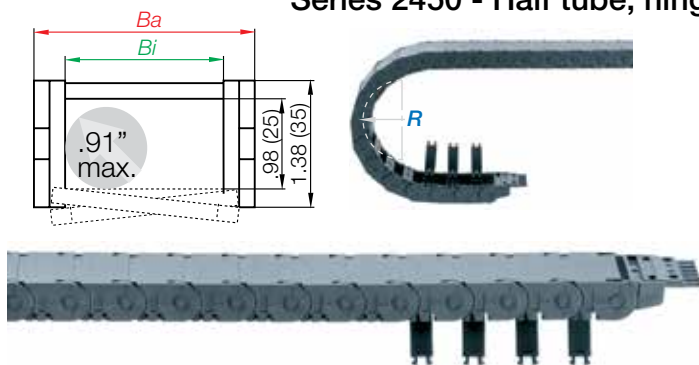


Details of material properties

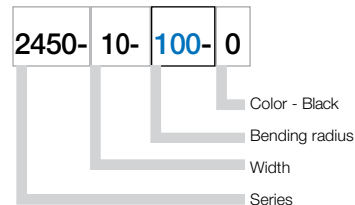
► Chapter 1



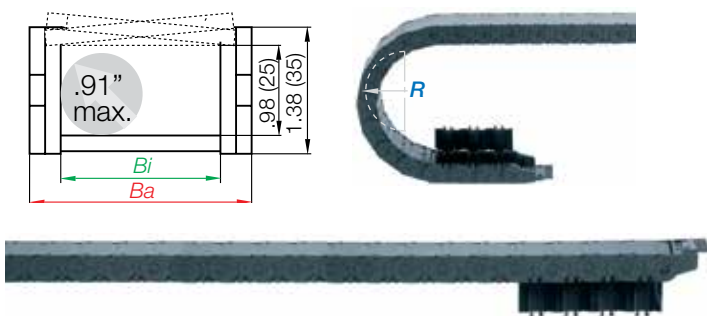
Series 2450 - Half tube, hinged, snap-open along the inner radius



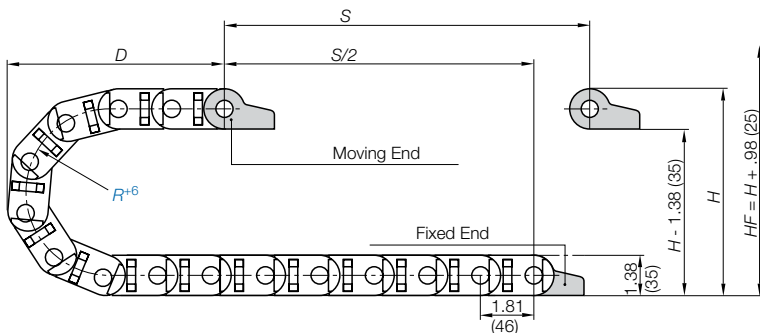
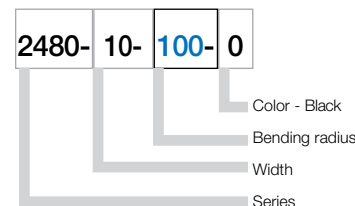
Part Number Structure



Series 2480 - Full tube, hinged, snap-open along the inner radius



Part Number Structure



Supplement part number with required radius. Example: 2480-10--0
Pitch: 1.81 in. (46 mm) per link links/ft(m) = 6.71 (22)

Part Number	Series 2450 Weight	Series 2480 Weight
Snap-open inner radius	lbs/ft (kg/m)	lbs/ft (kg/m)
2450-02- <input type="text"/> -0	≈ 0.54 (0.80)	≈ 0.55 (0.82)
2450-03- <input type="text"/> -0	≈ 0.59 (0.88)	≈ 0.62 (0.92)
2450-05- <input type="text"/> -0	≈ 0.66 (0.99)	≈ 0.69 (1.03)
2450-07- <input type="text"/> -0	≈ 0.75 (1.12)	≈ 0.79 (1.17)
2450-09- <input type="text"/> -0	≈ 0.81 (1.20)	≈ 0.85 (1.26)
2450-10- <input type="text"/> -0	≈ 0.85 (1.27)	≈ 0.90 (1.34)
2450-12- <input type="text"/> -0	≈ 0.91 (1.35)	≈ 0.96 (1.43)

Choose from the radii below for all of the above sizes

Radius (mm) Example: 2400-10--0

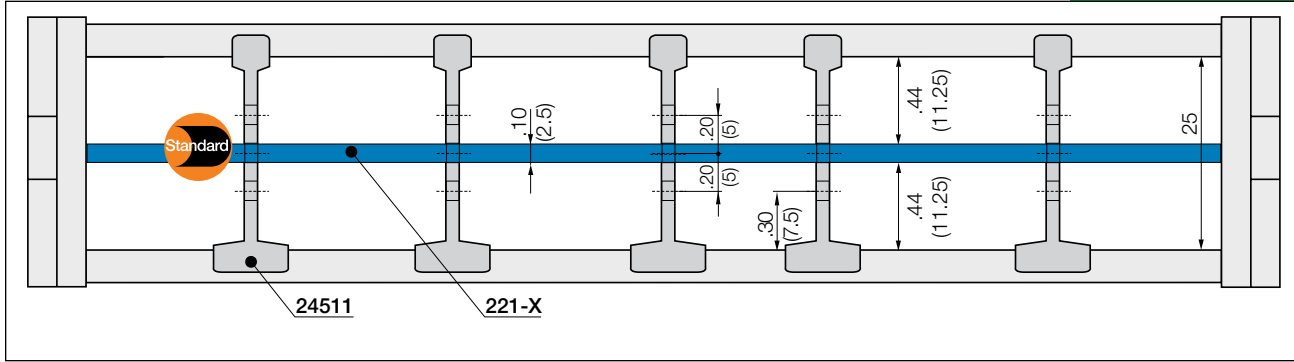
	055*	075*	100	125	150	175	200	225	250
R	2.16 (055)	2.95 (075)	3.94 (100)	4.92 (125)	5.91 (150)	6.89 (175)	7.87 (200)	8.86 (225)	9.84 (250)
H	5.71 (145)	7.28 (185)	9.25 (235)	11.22 (285)	13.19 (335)	15.16 (385)	17.13 (435)	19.09 (485)	21.06 (535)
D	5.59 (142)	6.38 (162)	7.36 (187)	8.35 (212)	9.33 (237)	10.31 (262)	11.30 (287)	12.28 (312)	13.27 (337)
K	10.43 (265)	12.99 (330)	16.14 (410)	19.09 (485)	22.24 (565)	25.39 (645)	28.54 (725)	31.50 (800)	34.65 (880)

*upon request
Radii 055: the e-tube is not completely enclosed. Please consult igus®

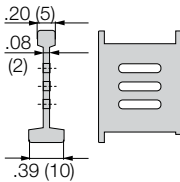
e-chain system® E2/000
 Series 2450/2480 Half-Tubes and Full Tubes
 Interior Separation



2450
 2480



In the standard configuration separators are assembled every 2nd e-chain® link



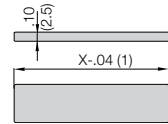
Separator, wide base

Unassembled	Part No. 24501
Assembled	Part No. 24511

● **Slotted separator 24501**

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

Full-width shelves - for the standard interior separation



Separator, narrow head

Unassembled	Part No. 220-X
Assembled	Part No. 221-X

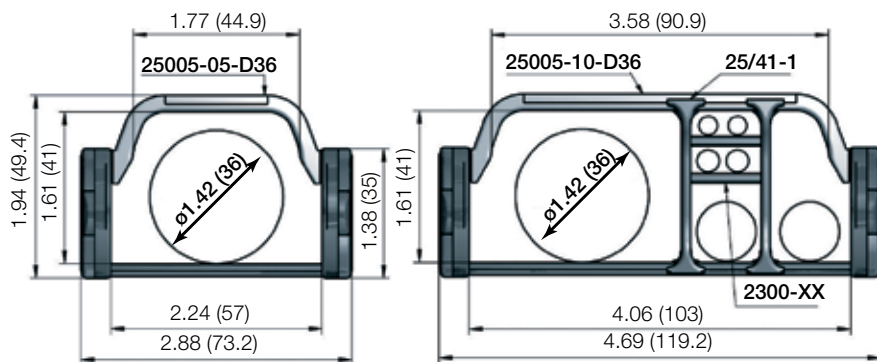
● **Full-width shelf 220-X**

this option makes sense in applications with many thin cables with similar diameters. For a consequent subdivision. Full-width shelves can be inserted at 3 different heights in .20" (5 mm) increments

Width X in. (mm)	Part No. Unassembled	Part No. Assembled	Width X in. (mm)	Part No. Unassembled	Part No. Assembled
.98 (25)	220-25	221-25	3.54 (90)	220-90	221-90
1.50 (38)	220-38	221-38	4.06 (103)	220-103	221-103
2.24 (57)	220-57	221-57	4.92 (125)	220-125	221-125
3.03 (77)	220-77	221-77			

PDF: igus.com/e-chain-pdfs
 Product information: igus.com/e-chains





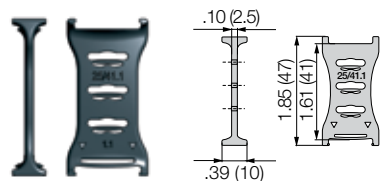
Part Number.
Extender crossbars
for e-chains®
that snap-open
along inner radius

		<i>Bi</i>	<i>Ba</i>
		in. (mm)	in. (mm)
2450-05D36-	<input type="checkbox"/> -0	2.24 (57)	2.87 (73)
2450-10D36-	<input type="checkbox"/> -0	4.06 (103)	4.69 (119)

Choose from the radii below for all of the above sizes

Radius (mm)	Example: 2400-10D36-
<input type="checkbox"/> 075	<input checked="" type="checkbox"/> 100
<input type="checkbox"/> 100	<input type="checkbox"/> 125
<input type="checkbox"/> 125	<input type="checkbox"/> 150
<input type="checkbox"/> 150	<input type="checkbox"/> 175
<input type="checkbox"/> 175	<input type="checkbox"/> 200
<input type="checkbox"/> 200	<input type="checkbox"/> 225
<input type="checkbox"/> 225	<input type="checkbox"/> 250
<input type="checkbox"/> 250	

Interior separation for extender crossbars

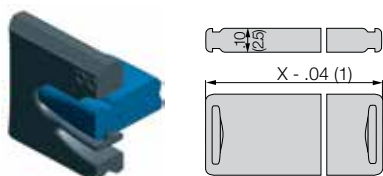


Separator, wide base

Unassembled	Part No. 25/41.1
Assembled	Part No. 25/41.1.1

- **Standard separator 25/41-1, wide base**
For maximum locking strength and safe standing. In standard configuration separators are assembled every 2nd e-chain® link.

Lockable full-width shelves - for the standard interior separation



Full width shelf, lockable

Unassembled	Part No. 2300-X
Assembled	Part No. 2310-X

- **Full width shelf, lockable**
is used when vertical and horizontal separation is required.

Width X	Part No.	Part No.	Width X	Part No.	Part No.	Width X	Part No.	Part No.
in. (mm)	Unassembled	Assembled	in. (mm)	Unassembled	Assembled	in. (mm)	Unassembled	Assembled
0.59 (015)	2300-15	2310-15	2.36 (060)	2300-60	2310-60	3.43 (087)	2300-87	2310-87
0.98 (025)	2300-25	2310-25	2.44 (062)	2300-62	2310-62	3.54 (090)	2300-90	2310-90
1.18 (030)	2300-30	2310-30	2.56 (065)	2300-65	2310-65	3.94 (100)	2300-100	2310-100
1.50 (038)	2300-38	2310-38	2.76 (070)	2300-70	2310-70	4.06 (103)	2300-103	2310-103
1.57 (040)	2300-40	2310-40	2.95 (075)	2300-75	2310-75	4.33 (110)	2300-110	2310-110
1.97 (050)	2300-50	2310-50	3.03 (077)	2300-77	2310-77	4.72 (120)	2300-120	2310-120
2.24 (057)	2300-57	2310-57	3.15 (080)	2300-80	2310-80	4.92 (125)	2300-125	2310-125

Separator with integrated strain relief

Strain relief separator Part No. 2020-ZR 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, it can be installed on the first or last e-chain® link and is easy to assemble without any screws.



For more information ► Chapter 10, Strain Relief

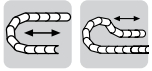
e-chain system® E2/000

Series 2450/2480 Half-Tubes and Full Tubes

Mounting Bracket - Plastic

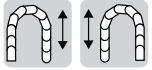
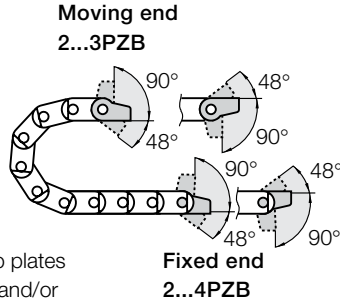


2450
2480



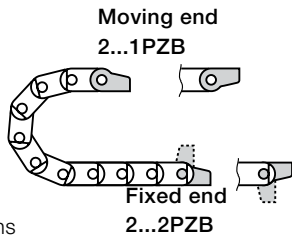
Option 1: pivoting

- For unsupported and gliding applications
- Well suited for tight installation conditions
- Detachable strain relief tiwrap plates
- Can be mounted on the fixed and/or moving end



Option 2: locking

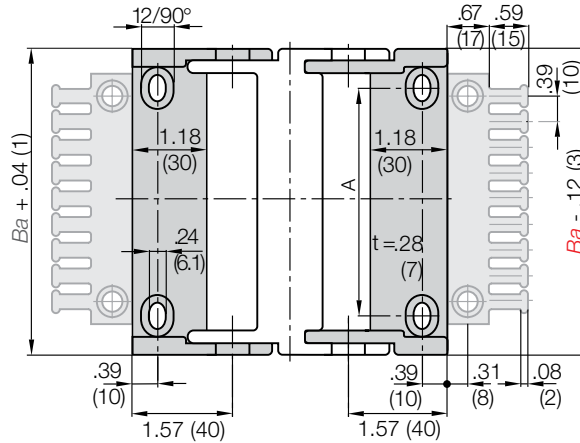
- For unsupported and gliding applications
- Extreme speed and/or accelerations
- For height restricted applications
- Can be mounted on the fixed and/or moving end



Part Number Structure

2020- 34 PZB K1

- With 10 cable tiwraps
- With tiwrap plates
- Complete Set
34 = Pivoting
12 = Locking
- Mounting brackets for selected chain type



Full set, for both ends:

2020- 34 PZB Full set, each part with pin/bore + tiwrap plate

Single-part order:

- 2020- 3 PZB Mounting bracket with bore + tiwrap plate
- 2020- 4 PZB Mounting bracket with pin + tiwrap plate

Part No. Full Set (pivoting)

With Tiwrap Plates
Series 2400/2500:
2020-34PZB

Part No. Full Set (locking)

With Tiwrap Plates
+ 10 cable ties
Series 2400/2500:
2020-34PZBK1

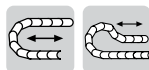
For Chain Type	Part No. Full set without Tiwrap Plate	Part No. Full Set with Tiwrap Plate	Part No. Full Set with Tiwrap Plate + 10 cable ties	Dimension A	
				in.	(mm)
2450/2480-02	2020- <input type="checkbox"/> PZ	2020- <input type="checkbox"/> PZB	2020- <input type="checkbox"/> PZBK1	.47	(12)
2450/2480-03	2030- <input type="checkbox"/> PZ	2030- <input type="checkbox"/> PZB	2030- <input type="checkbox"/> PZBK1	.98	(25)
2450/2480-05	2050- <input type="checkbox"/> PZ	2050- <input type="checkbox"/> PZB	2050- <input type="checkbox"/> PZBK1	1.73	(44)
2450/2480-07	2070- <input type="checkbox"/> PZ	2070- <input type="checkbox"/> PZB	2070- <input type="checkbox"/> PZBK1	2.52	(64)
2450/2480-09	2090- <input type="checkbox"/> PZ	2090- <input type="checkbox"/> PZB	2090- <input type="checkbox"/> PZBK1	3.03	(77)
2450/2480-10	2100- <input type="checkbox"/> PZ	2100- <input type="checkbox"/> PZB	2100- <input type="checkbox"/> PZBK1	3.54	(90)
2450/2480-12	2125- <input type="checkbox"/> PZ	2125- <input type="checkbox"/> PZB	2125- <input type="checkbox"/> PZBK1	4.41	(112)

34 or 12

For pivoting brackets choose 34
For locking brackets choose 12
Example: 2020- 34 PZB

PDF: igus.com/e-chain-pdfs
Product information: igus.com/e-chains

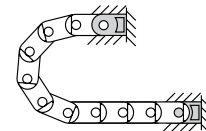
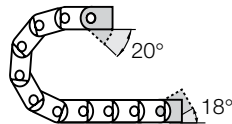




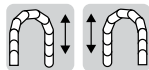
Option 1: pivoting

- For unsupported applications
- Bolted connection outside of chain cross section
- Confined installation conditions
- Attachment points on all sides
- Stackable

Moving end
2450 = 24501...1
2480 = 24801...1



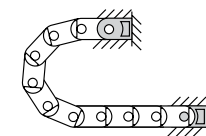
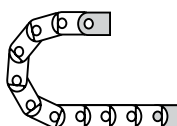
Fixed end
2450 = 24501...2
2480 = 24801...2



Option 2: locking

- For vertical hanging/standing applications
- Bolted connection outside of chain cross section
- For very high speeds and accelerations
- Attachment points on all sides
- Stackable

Moving end
2450 = 24511...1
2480 = 24811...1

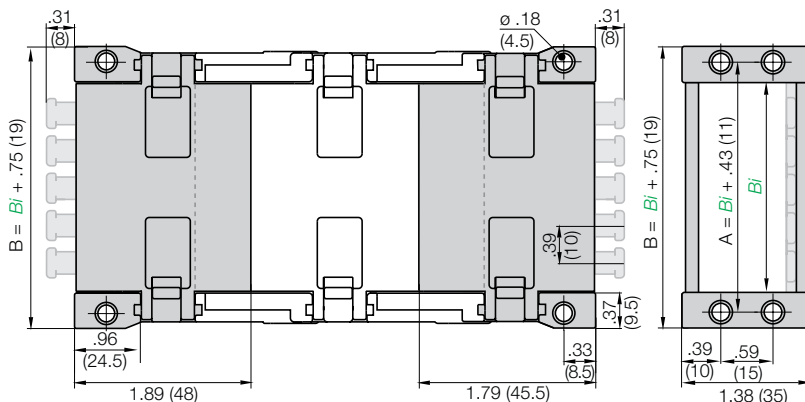


Fixed end
2450 = 24511...2
2480 = 24811...2

Part Number Structure

24501-02-12ZB

- With tiwrap plates
- Complete Set
- Width
- Mounting brackets for selected chain type
24501 = Pivoting
24801 = Locking



Full set, for both ends:

24501-12ZB Full set, each part with pin/bore + tiwrap plate

Single-part order:

24501-1ZB Mounting bracket with bore + tiwrap plate

24501-2ZB Mounting bracket with pin + tiwrap plate

Part No. Full Set (pivoting)

With Tiwrap Plates

Series 2450:

24501-Width-12ZB

Part No. Full Set (pivoting)

Without Tiwrap Plates

Series 2450:

24501-Width-12

For Chain Type	Part No. Full set with Tiwrap Plate	Part No. Full Set without Tiwrap Plate	Dimension A in.	Dimension A (mm)	Number of Teeth
2450/2480-02	24501-02-12ZB	24501-02-12	1.42	(36)	2
2450/2480-03	24501-03-12ZB	24501-03-12	1.93	(49)	4
2450/2480-05	24501-05-12ZB	24501-05-12	2.68	(68)	6
2450/2480-07	24501-07-12ZB	24501-07-12	3.46	(88)	7
2450/2480-09	24501-09-12ZB	24501-09-12	3.94	(100)	9
2450/2480-10	24501-10-12ZB	24501-10-12	4.49	(114)	10
2450/2480-12	24501-12-12ZB	24501-12-12	5.35	(136)	12

24501 or 24511
24801 or 24811

For pivoting brackets choose 24501 or 24801

For locking brackets choose 24511 or 24811

Example: 24501-02-12ZB

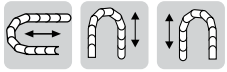
e-chain system® E2/000

Series 2450/2480 e-chain® Half-Tubes and Full Tubes

Mounting Bracket - Steel

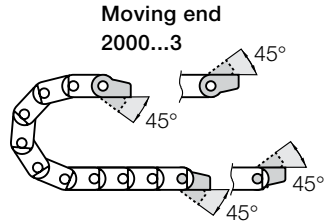


2450
2480

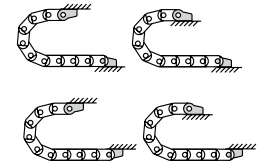
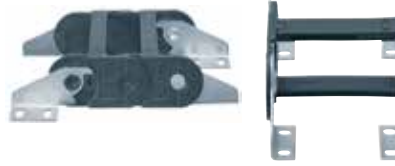


Option 1: Steel

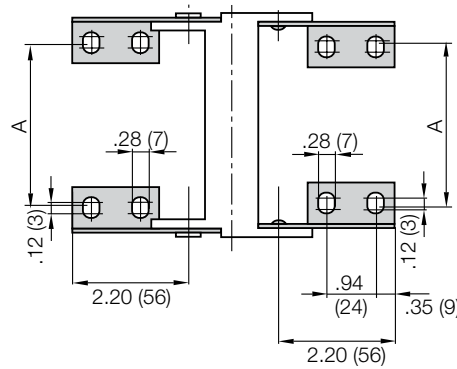
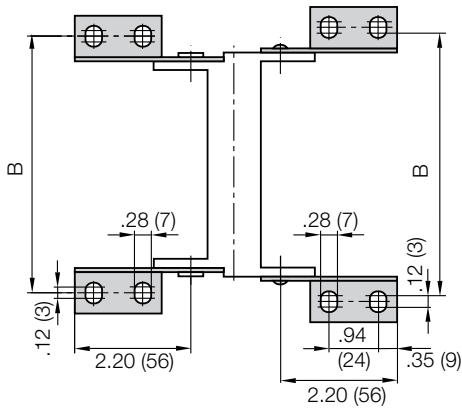
- Pivoting connections
- One part (two-piece) for all chain widths
- Electrically conductive
- Bolted connection outside of chain cross-section possible



Fixed end
2000...2



Possible installation configurations -



Chain Type	Part No. Full Set	Dimension A		Dimension B	
		in.	(mm)	in.	(mm)
2450/2480-02	2000-32			2.36	(60)
2450/2480-03	2000-32	.98	(25)	2.87	(73)
2450/2480-05	2000-32	1.73	(44)	3.62	(92)
2450/2480-07	2000-32	2.52	(64)	4.41	(112)
2450/2480-09	2000-32	2.99	(76)	4.88	(124)
2450/2480-10	2000-32	3.54	(90)	5.43	(138)
2450/2480-12	2000-32	4.41	(112)	6.30	(160)

Part No. Mounting Brackets Full Set
4 parts, 2 with pin, 2 with bore
Series 2450/2480:
2000-32

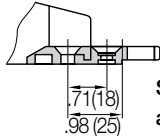
Part No. Mounting Bracket Moving End
2 parts, 1 left & 1 right
Series 2450/2480:
2000-3

Part No. Mounting Bracket Fixed End
2 parts, 1 left & 1 right
Series 2450/2480:
2000-2

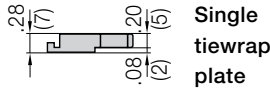
PDF: igus.com/e-chain-pdfs
Product information: igus.com/e-chains



Tiewrap Plates



Shown assembled



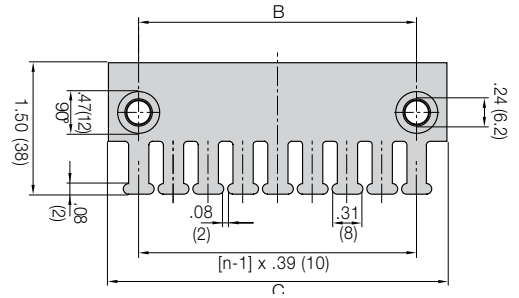
Single tie-wrap plate

Option 1:

Tiewrap plates as an individual part

Available as an individual component, can be fixed onto a mounting bracket with the use of a profile rail.

Tiewrap Plates	n Number of Teeth	Dimension C	Dimension B
2020-ZB	3	1.18 (30)	.59 (15)
2030-ZB	4	1.57 (40)	.79 (20)
2040-ZB	5	1.97 (50)	1.18 (30)
2050-ZB	6	2.36 (60)	1.57 (40)
2070-ZB	8	3.15 (80)	2.36 (60)
2090-ZB	9	3.54 (90)	2.76 (70)
2100-ZB	10	3.94 (100)	3.15 (80)
2125-ZB	12	4.72 (120)	3.94 (100)



For more information please refer to strain relief section of Chapter 10



Cable tiewraps as individual parts

Cable tiewraps 100 pieces/bag	Width x Length		Maximum Ø		Tensile Strength	
	in.	(mm)	in.	(mm)	lbs	(N)
CFB-001	.19 x 5.91	(4.8 x 150)	1.42	(36)	50	(222)



Strain relief for steel mounting brackets

Clip-on connection is not possible with steel mounting brackets. In this case, the tie-wrap plates must be bolted directly into separate bore holes in front of the mounting bracket. Alternatively the tie-wrap plates 20XX-ZB can be also used here. Details chapter 10



PDF: igus.com/e-chain-pdfs
Product information: igus.com/e-chains



2600
2700



e-chain system® E2/000 Series 2600/2700



Price Index



Series 2600/2700

Special Features / Options



IPA Qualification Certificate, Air Cleanliness Class ISO Class 3 (at v = 2 m/s) upon request



ESD classification: Electrically conductive ESD/ATEX version upon request



UL94 V2 classifications upon request

Assembly Tips



Snap-open mechanism, choice of snap-open on left or right. Hinged crossbar can be swiveled by more than 180° on both sides. Lightning-fast closing by hand. Secure fit without additional locking devices.

Other Installation Methods

Vertical, hanging ≤ 164 ft (50 m)

Vertical, standing ≤ 9.84 ft (3 m)

Side-mounted, un_supp. ≤ 3.28 ft (1 m)

Rotary requires further calculation

Usage Guidelines



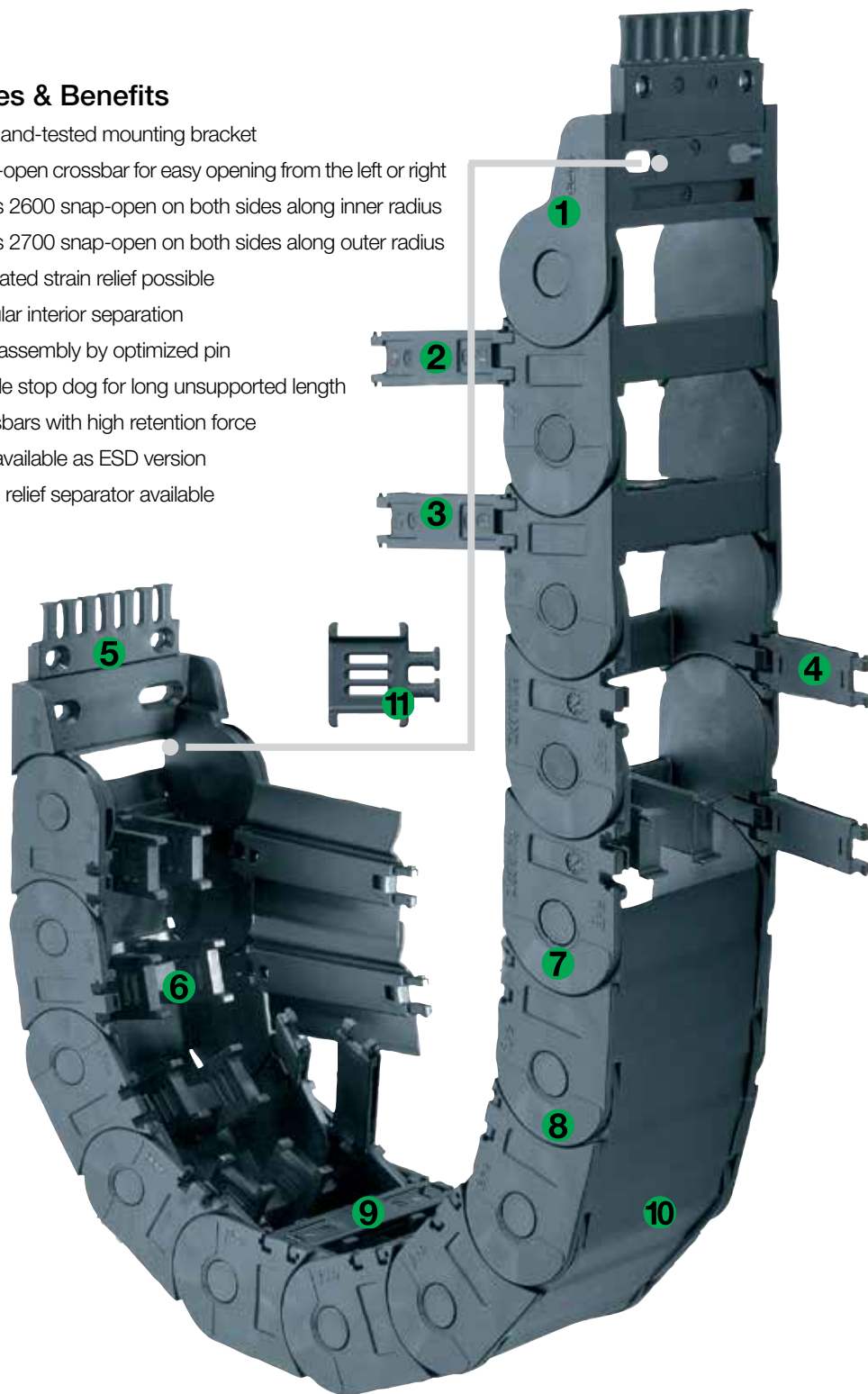
- If snap-open accessibility along the inner or outer radius is required
- If integrated strain relief at the mounting point is required
- If modular interior separation is needed
- If long service life is required
- If easy installation is required



- If the application is very simple
➤ Series E26 E-Z Chain
- If greater stability is required
➤ Series E4-32 E4-1 Series

Features & Benefits

- 1 Tried-and-tested mounting bracket
- 2 Snap-open crossbar for easy opening from the left or right
- 3 Series 2600 snap-open on both sides along inner radius
- 4 Series 2700 snap-open on both sides along outer radius
- 5 Integrated strain relief possible
- 6 Modular interior separation
- 7 Easy assembly by optimized pin
- 8 Double stop dog for long unsupported length
- 9 Crossbars with high retention force
- 10 Also available as ESD version
- 11 Strain relief separator available



Order Example: Complete e-chain®

Please indicate chain length or number of links. Example:

9.84 ft (3 m) 2700-10-100-0



e-chain®

With 2 separators 35.1 assembled every 2nd link



Interior Separation

1 Set 2610-34PZB



Mounting Bracket

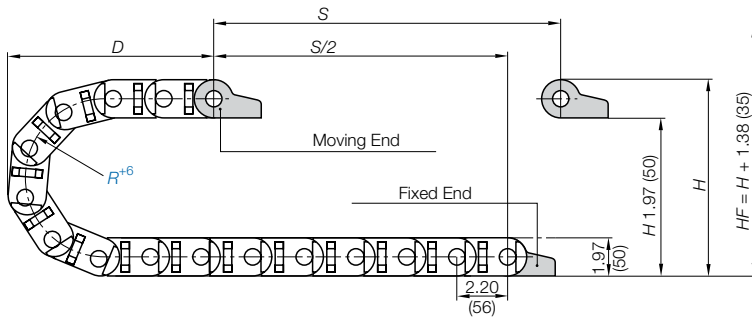
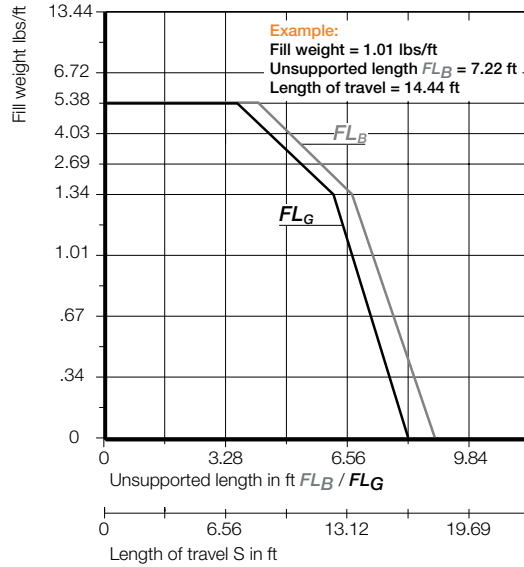
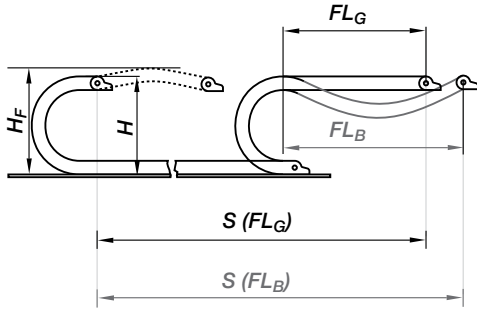
e-chain system® E2/000

Series 2600/2700

Installation Dimensions

Short travel, unsupported length

- FL_B = unsupported with permitted sag
 - FL_G = unsupported with straight upper run
- Further information ► Design, Chapter 1



Pitch per link: = 2.20" (56 mm)
 Links per ft (m): = 5.49 (18)
 For center mount applications:
 Chain length = $S/2 + K$

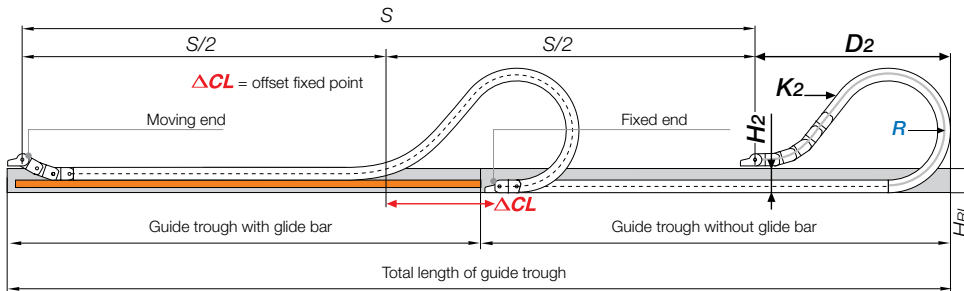
The required clearance height: $H_F = H + 1.38$ in. (35 mm) (with 1.34 lbs/ft (2.0 kg/m) fill weight).
 Please consult igus® if space is particularly restricted.

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)
H	6.93 (176)	7.87 (200)	9.84 (250)	11.81 (300)	13.78 (350)	15.75 (400)	17.72 (450)	21.65 (550)
D	6.77 (172)	7.24 (184)	8.23 (209)	9.21 (234)	10.20 (259)	11.18 (284)	12.17 (309)	14.13 (359)
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)

For long travels with lowered mounting height

Long travel lengths from 32.8 ft. (10 m) to max. 394 ft. (120 m)
 For long travels, igus® specifies Series 2700 that snap open on the outer radius.

For center mount applications:
 Chain length: = $S/2 + K_2$



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)
H_2	5.12 (130)	5.91 (150)	6.54 (166)	6.54 (166)	6.54 (166)	6.54 (166)	6.54 (166)	6.54 (166)
D_2^{25}	5.51 (140)	5.91 (150)	13.78 (350)	18.70 (475)	19.69 (500)	25.79 (655)	30.31 (770)	37.40 (950)
K_2	13.19 (335)	14.76 (375)	24.25 (616)	30.87 (784)	35.28 (896)	44.09 (1120)	50.71 (1288)	63.94 (1624)
ΔCL	—	—	5.67 (144)	9.61 (244)	9.61 (244)	14.72 (374)	18.27 (464)	23.39 (594)

Speed / acceleration FL_G	max. 65.6 ft/s (20 m/s) / max. 656 ft/s ² (200 m/s ²)
Speed / acceleration FL_B	max. 9.84 ft/s (3 m/s) / max. 19.69 ft/s ² (6 m/s ²)
Gliding speed / acceleration (maximum)	max. 32.8 ft/s (10 m/s) / max. 164 ft/s ² (50 m/s ²)
Material - permitted temperature	igumid G / -40°F (-40°C) up to +248°F (+120° C)
Flammability Class, igumid G	VDE 0304 IIC UL94 HB



2600
2700

Short Travels - Unsupported



Unsupported e-chains® feature positive camber over short travels. This must be accounted for when specifying the clearance height. Please refer to **Installation dimensions** for further details.

Legend

- S = Length of travel
- R = Bending radius
- H = Nominal clearance height
- D = Overlength e-chain® radius in final position
- $K = \pi \cdot R + \text{safety buffer}$
- H_F = Required clearance height
- H_{R1} = Trough inner height
- H_2 = *Mounting height
- D_2 = Overlength - long travels, gliding
- K_2 = *Add-on

*If the mounting bracket location is set lower



1.38

PDF: igus.com/e-chain-pdfs
 Product information: igus.com/e-chains

Long Travels - Gliding



If the unsupported length is exceeded, the e-chain® must glide on itself. This requires a guide trough. **Design, Chapter 1**

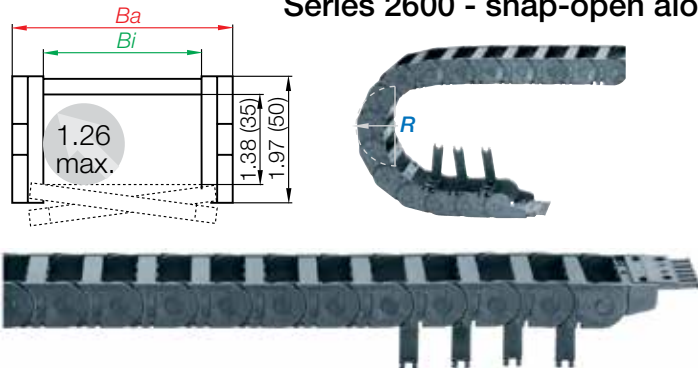
Technical Data



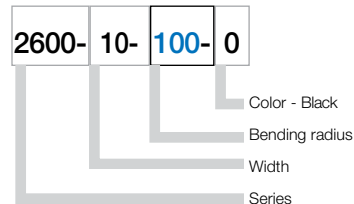
Details of material properties

► Chapter 1

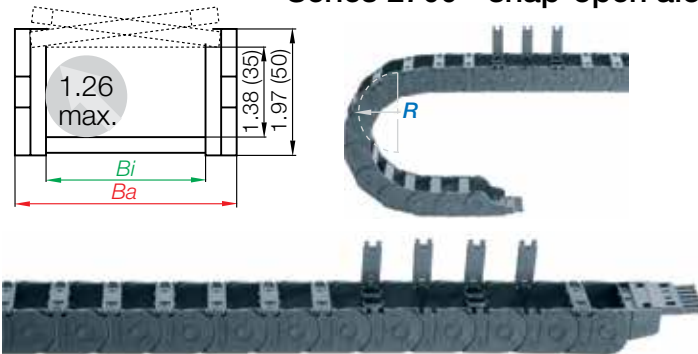
Series 2600 - snap-open along the inner radius



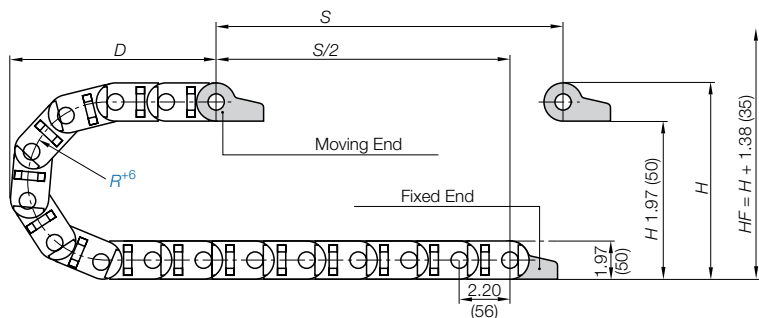
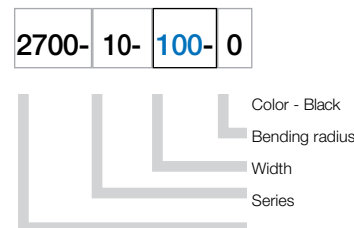
Part Number Structure



Series 2700 - snap-open along the outer radius



Part Number Structure



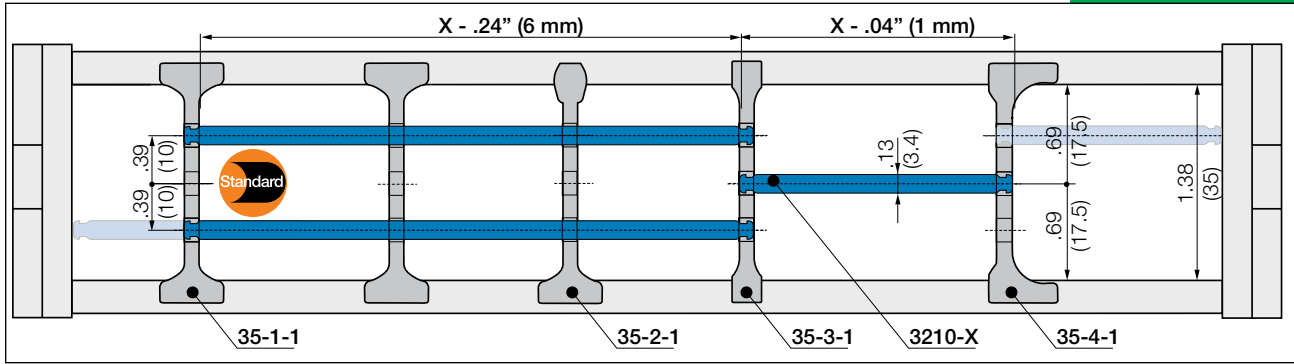
Supplement part number with required radius. Example: 2600-10-**100**-0
Pitch: 2.20 in. (56 mm) per link links/ft(m) = 5.49 (18)

Part Number.

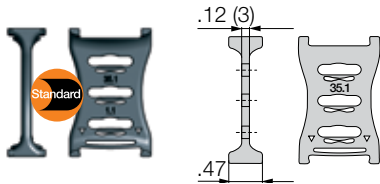
Snap-open inner radius	Snap-open outer radius	Bi in. (mm)	Ba in. (mm)	Weight lbs/ft (kg/m)
2600-05- <input type="text"/> -0	2700-05- <input type="text"/> -0	1.97 (50)	2.60 (66)	≈ 0.79 (1.17)
2600-06- <input type="text"/> -0	2700-06- <input type="text"/> -0	2.56 (65)	3.19 (81)	≈ 0.83 (1.24)
2600-07- <input type="text"/> -0	2700-07- <input type="text"/> -0	2.95 (75)	3.58 (91)	≈ 0.87 (1.30)
2600-09- <input type="text"/> -0	2700-09- <input type="text"/> -0	3.54 (90)	4.17 (106)	≈ 0.92 (1.37)
2600-10- <input type="text"/> -0	2700-10- <input type="text"/> -0	3.94 (100)	4.57 (116)	≈ 0.93 (1.39)
2600-12- <input type="text"/> -0	2700-12- <input type="text"/> -0	4.92 (125)	5.55 (141)	≈ 0.99 (1.48)
2600-15- <input type="text"/> -0	2700-15- <input type="text"/> -0	5.91 (150)	6.53 (166)	≈ 1.09 (1.62)
2600-17- <input type="text"/> -0	2700-17- <input type="text"/> -0	6.89 (175)	7.64 (194)	≈ 1.24 (1.85)

Choose from the radii below for all of the above sizes

	Radius (mm)							Example: 2400-10- 100 -0
	063	075	100	125	150	175	200	250
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)
H	6.93 (176)	7.87 (200)	9.84 (250)	11.81 (300)	13.78 (350)	15.75 (400)	17.72 (450)	21.65 (550)
D	6.77 (172)	7.24 (184)	8.23 (209)	9.21 (234)	10.20 (259)	11.18 (284)	12.17 (309)	14.13 (359)
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)



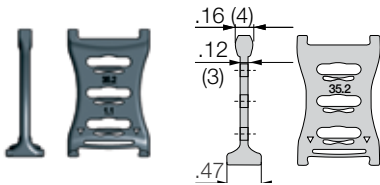
In the standard configuration separators are assembled every 2nd e-chain® link



Separator, wide base

Unassembled	Part No. 35.1
Assembled	Part No. 35.1.1

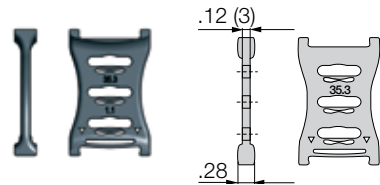
- **Standard separator 35.1 for all applications**
 Separator with wide base for maximum locking strength and safe standing in e-chains®.



Separator, narrow head

Unassembled	Part No. 35.2
Assembled	Part No. 35.2.1

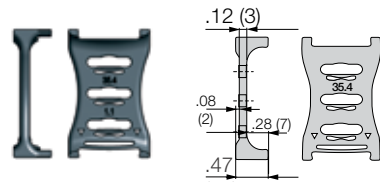
- **Separator 35.2 For even faster installation**
 is used when vertical and horizontal separation is required. Due to its slot, it allows basic vertical/horizontal shelving arrangements.



Separator, narrow base

Unassembled	Part No. 35.3
Assembled	Part No. 35.3.1

- **Separator 35.3 For many thin cables**
 is used when vertical and horizontal separation is required. Due to its slot, it allows basic vertical/horizontal shelving arrangements.

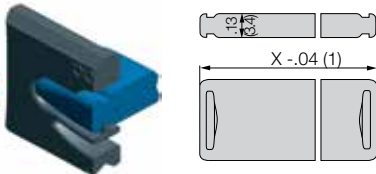


Separator, asymmetrical

Unassembled	Part No. 35.4
Assembled	Part No. 35.4.1

- **Separator 35.4 For side mounted applications**
 is used when vertical and horizontal separation is required. Due to its slot, it allows basic vertical/horizontal shelving arrangements.

Lockable full-width shelves - for the standard interior separation



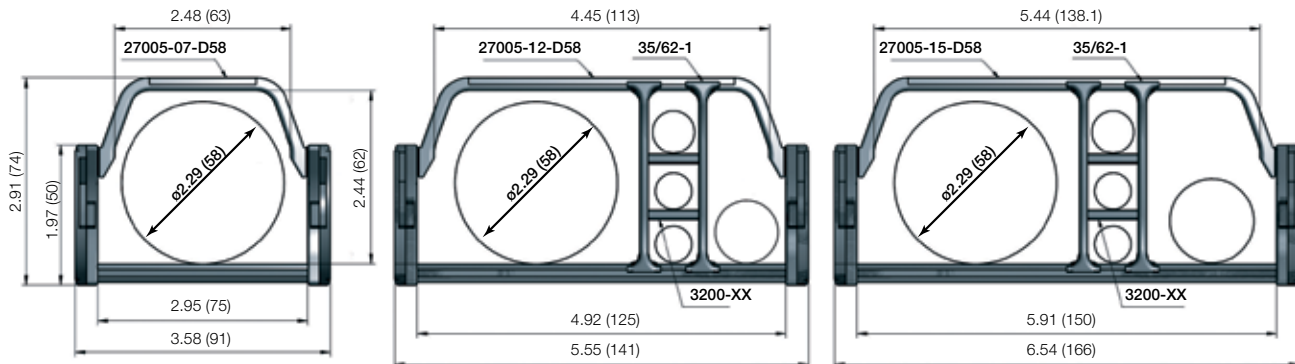
Full width shelf, lockable

Unassembled	Part No. 3200-X
Assembled	Part No. 3210-X

- **Full width shelf, lockable**
 is used when vertical and horizontal separation is required. .

Width X in. (mm)	Part No. Unassembled	Part No. Assembled	Width X in. (mm)	Part No. Unassembled	Part No. Assembled
1.97 (050)	3200-50	3210-50	5.91 (150)	3200-150	3210-150
2.95 (075)	3200-75	3210-75	6.89 (175)	3200-175	3210-175
3.94 (100)	3200-100	3210-100	7.87 (200)	3200-200	3210-200
4.53 (115)	3200-115	3210-115	8.86 (225)	3200-225	3210-225
4.92 (125)	3200-125	3210-125	9.84 (250)	3200-250	3210-250





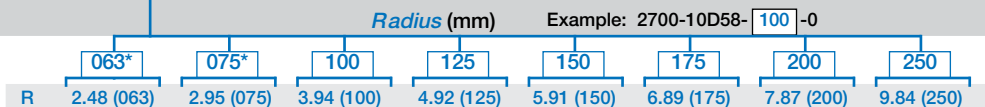
Part Number.

Extender crossbars
for e-chains®
that snap-open
along **inner** radius

Extender crossbars
for e-chains®
that snap-open
along **outer** radius

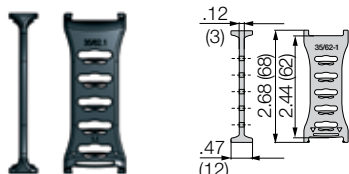
				<i>Bi</i>	<i>Ba</i>
				in. (mm)	in. (mm)
2600-07D58-	<input type="checkbox"/>	-0	2700-07D58-	<input type="checkbox"/>	-0
2600-12D58-	<input type="checkbox"/>	-0	2700-12D58-	<input type="checkbox"/>	-0
2600-15D58-	<input type="checkbox"/>	-0	2700-15D58-	<input type="checkbox"/>	-0

Choose from the radii below for all of the above sizes



*Radius 063 and 075 only available for 2700 series

Interior separation for extender crossbars

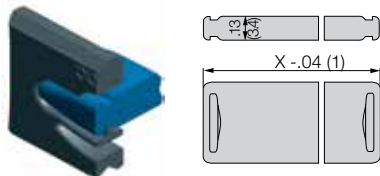


Separator, wide base

Unassembled	Part No. 35/62-1
Assembled	Part No. 35/62-1-1

- **Standard separator 35/62-1, wide base**
For maximum locking strength and safe standing. In standard configuration separators are assembled every 2nd e-chain® link.

Lockable full-width shelves - for the standard interior separation



Full width shelf, lockable

Unassembled	Part No. 3200-X
Assembled	Part No. 3210-X

- **Full width shelf, lockable**
is used when vertical and horizontal separation is required. Due to its slot, it allows basic vertical/horizontal shelving arrangements.

Width X	Part No.	Part No.	Width X	Part No.	Part No.
in. (mm)	Unassembled	Assembled	in. (mm)	Unassembled	Assembled
1.97 (050)	3200-50	3210-50	5.91 (150)	3200-150	3210-150
2.95 (075)	3200-75	3210-75	6.89 (175)	3200-175	3210-175
3.94 (100)	3200-100	3210-100	7.87 (200)	3200-200	3210-200
4.53 (115)	3200-115	3210-115	8.86 (225)	3200-225	3210-225
4.92 (125)	3200-125	3210-125	9.84 (250)	3200-250	3210-250

Separator with integrated strain relief

Strain relief separator Part No. 262-Z 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, it can be installed on the first or last e-chain® link and is easy to assemble without any screws.



For more information ► **Chapter 10, Strain Relief**

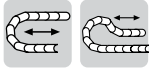
e-chain system® E2/000

Series 2600/2700

Mounting Bracket - Plastic

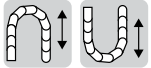
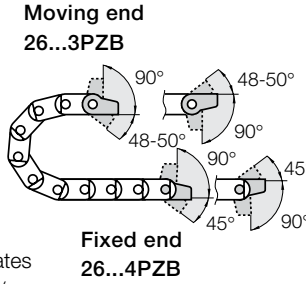


2600
2700



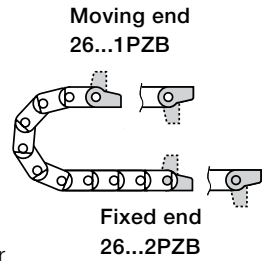
Option 1: pivoting

- For unsupported and gliding applications
- Well suited for tight installation conditions
- Detachable strain relief tiwrap plates
- Can be mounted on the fixed and/or moving end



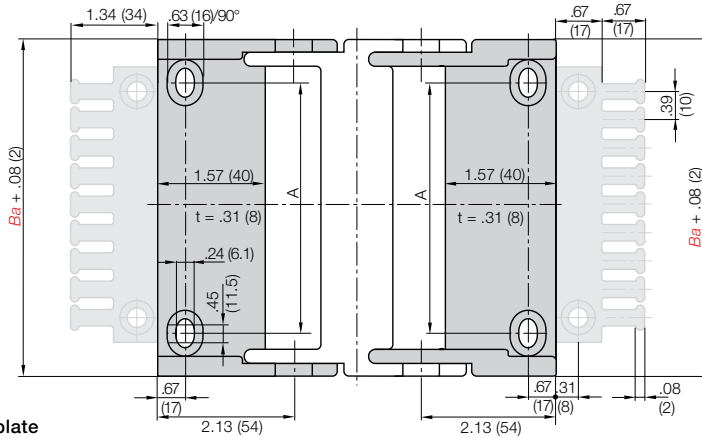
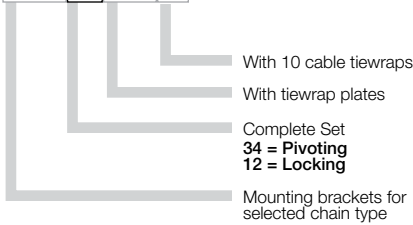
Option 2: locking

- For unsupported and gliding applications
- Extreme speed and/or accelerations
- For height restricted applications
- Can be mounted on the fixed and/or moving end



Part Number Structure

2605- 34 PZB K1



Full set, for both ends:

2605- [34] [PZB] Full set, each part with pin/bore + tiwrap plate

Single-part order:

2605- [3] [PZB] Mounting bracket with bore + tiwrap plate

2605- [4] [PZB] Mounting bracket with pin + tiwrap plate

Part No. Full Set (pivoting)

With Tiwrap Plates

Series 2600:

2605-34PZB

Part No. Full Set (locking)

With Tiwrap Plates + 10 cable ties

Series 2600:

2605-34PZBK1

For Chain Type	Part No. Full Set without Tiwrap Plate	Part No. Full Set with Tiwrap Plate	Part No. Full Set with Tiwrap Plate + 10 cable ties	Dimension A in. (mm)	Number of Teeth
2600/2700-05	2605- [] PZ	2605- [] PZB	2605- [] PZBK1	1.18 (30)	5
2600/2700-06	2606- [] PZ	2606- [] PZB	2606- [] PZBK1	1.77 (45)	5
2600/2700-07	2607- [] PZ	2607- [] PZB	2607- [] PZBK1	2.17 (55)	7
2600/2700-09	2609- [] PZ	2609- [] PZB	2609- [] PZBK1	2.76 (70)	9
2600/2700-10	2610- [] PZ	2610- [] PZB	2610- [] PZBK1	3.15 (80)	10
2600/2700-12	2612- [] PZ	2612- [] PZB	2612- [] PZBK1	4.13 (105)	12
2600/2700-15	2615- [] PZ	2615- [] PZB	2615- [] PZBK1	5.12 (130)	15
2600/2700-17	2617- [] PZ	2617- [] PZB	2617- [] PZBK1	6.10 (155)	17

34 or 12

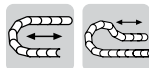
For pivoting brackets choose 34

For locking brackets choose 12

Example: 2605- [34] PZB

PDF: igus.com/e-chain-pdfs
Product information: igus.com/e-chains

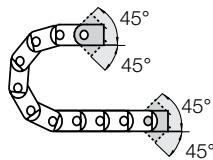




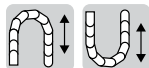
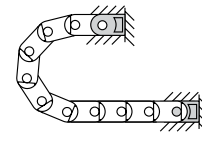
Option 1: pivoting

- For unsupported applications
- Bolted connection outside of chain cross section
- Confined installation conditions
- Attachment points on all sides
- Stackable

Moving end
26001...1



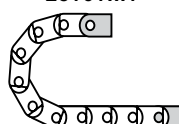
Fixed end
26001...2



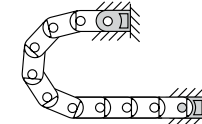
Option 2: locking

- For vertical hanging/standing applications
- Bolted connection outside of chain cross section
- For very high speeds and accelerations
- Attachment points on all sides
- Stackable

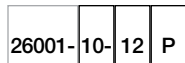
Moving end
26101...1



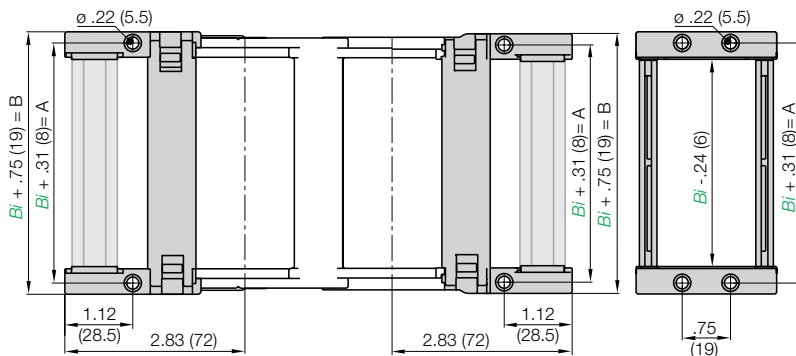
Fixed end
26101...2



Part Number Structure



- With profile rail
- Complete Set
- Width
- Mounting brackets for selected chain type
26001 = Pivoting
26101 = Locking



Full set, for both ends:

26001-12 P Full set, each part with pin/bore + profile rail

Single-part order:

26001-1 P Mounting bracket with bore + profile rail

26001-2 P Mounting bracket with pin + profile rail

Part No. Full Set (pivoting)

With Profile Rail

Series 2600/2700:

26001-Width-12P

Part No. Full Set (pivoting)

Without Profile Rail

Series 2600/2700:

26001-Width-12

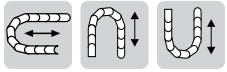
For Chain Type	Part No. Full set with Profile Rail	Part No. Full Set without Profile Rail	Dimension A in. (mm)	Dimension B in. (mm)
2600/2700-05	-05-12P	-05-12	2.28 (58)	2.72 (69)
2600/2700-06	-06-12P	-06-12	2.87 (73)	3.31 (84)
2600/2700-07	-07-12P	-07-12	3.27 (83)	3.70 (94)
2600/2700-09	-09-12P	-09-12	3.86 (98)	4.29 (109)
2600/2700-10	-10-12P	-10-12	4.25 (108)	4.69 (119)
2600/2700-12	-12-12P	-12-12	5.24 (133)	5.67 (144)
2600/2700-15	-15-12P	-15-12	6.22 (158)	6.65 (169)
2600/2700-17	-17-12P	-17-12	7.20 (183)	7.64 (194)

For pivoting brackets choose **26001**
For locking brackets choose **26101**
Example: **26001**-10-12P

e-chain system® E2/000
Series 2600/2700
Mounting Bracket - Steel

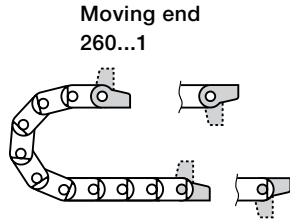


2600
2700

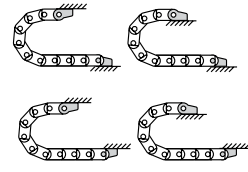


Option 1: Steel

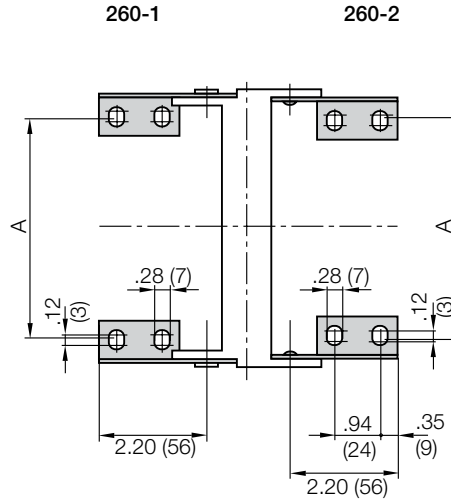
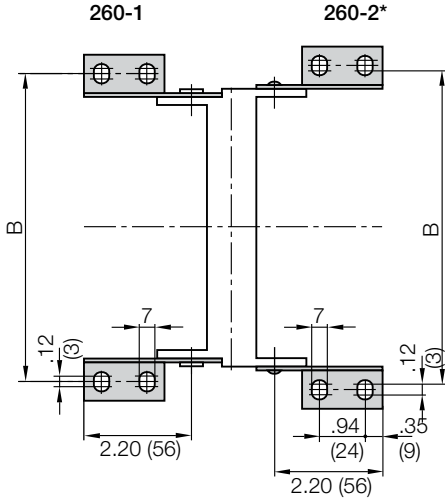
- One part (two-piece) for all chain widths
- Electrically conductive
- Bolted connection outside of chain cross-section possible



Fixed end
260...2



Possible installation configurations -



*pivoting with no stop, (360°)

Chain Type	Part No. Full Set	Dimension A		Dimension B	
		in.	(mm)	in.	(mm)
2600/2700-05	260-12	1.46	(37)	3.27	(83)
2600/2700-07	260-12	2.44	(62)	4.25	(108)
2600/2700-10	260-12	3.43	(87)	5.24	(133)
2600/2700-12	260-12	4.41	(112)	6.22	(158)

Part No. Mounting Brackets Full Set
4 parts, 2 with pin, 2 with bore
Series 2680:
260-12

Part No. Mounting Bracket Moving End
2 parts, 1 left & 1 right
Series 2680:
260-1

Part No. Mounting Bracket Fixed End
2 parts, 1 left & 1 right
Series 2680:
260-2

PDF: igus.com/e-chain-pdfs
Product information: igus.com/e-chains



Chainfix clamps for the profile rail



igus® Chainfix strain relief elements are available in either steel or stainless steel. They can be adjusted with a hexagon socket and are available in single, double and triple configurations.

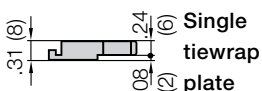
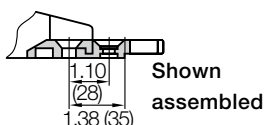
Part No. Single Clamp		Part No. Double Clamp		Part No. Triple Clamp		Cable ø	
Steel	Stainless	Steel	Stainless	Steel	Stainless	in.	(mm)
CFX12-1	CFX12-1E	CFX12-2	CFX12-2E	CFX12-3	-	.24 - .47	(06 - 12)
CFX14-1	CFX14-1E	CFX14-2	CFX14-2E	CFX14-3	-	.47 - .55	(12 - 14)
CFX16-1	CFX16-1E	CFX16-2	CFX16-2E	CFX16-3	-	.55 - .63	(14 - 16)
CFX18-1	CFX18-1E	CFX18-2	CFX18-2E	CFX18-3	-	.63 - .71	(16 - 18)
CFX20-1	CFX20-1E	CFX20-2	CFX20-2E	CFX20-3	-	.71 - .79	(18 - 20)
CFX22-1	CFX22-1E	CFX22-2	CFX22-2E	CFX22-3	-	.79 - .87	(20 - 22)
CFX26-1	CFX26-1E	CFX26-2	CFX26-2E	-	-	.87 - 1.02	(22 - 26)
CFX30-1	CFX30-1E	CFX30-2	CFX30-2E	-	-	1.02 - 1.18	(26 - 30)
CFX34-1	CFX34-1E	CFX34-2	CFX34-2E	-	-	1.18 - 1.34	(30 - 34)
CFX38-1	CFX38-1E	-	-	-	-	1.34 - 1.50	(34 - 38)
CFX42-1	CFX42-1E	-	-	-	-	1.50 - 1.65	(38 - 42)

For more information please refer to strain relief section of Chapter 10

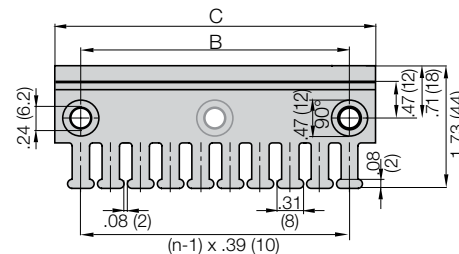
Tiewrap Plates

**Option 1:
Tiewrap plates as an individual part**

Available as an individual component, can be fixed onto a mounting bracket with the use of a profile rail.



Tiewrap Plate	n Number of Teeth	C Overall Width in. (mm)	B Bore Width in. (mm)	Center Bore
3050-ZB	5	1.97 (50)	1.18 (30)	no
3075-ZB	7	2.95 (75)	2.16 (55)	no
3100-ZB	10	3.94 (100)	3.15 (80)	no
3115-ZB	11	4.53 (115)	3.74 (95)	no
3125-ZB	12	4.92 (125)	4.13 (105)	no
3150-ZB	15	5.91 (150)	5.12 (130)	no
3175-ZB	17	6.89 (175)	6.10 (155)	no
3200-ZB	20	7.87 (200)	7.09 (180)	yes
3225-ZB	22	8.86 (225)	8.07 (205)	yes
3250-ZB	25	9.84 (250)	9.06 (230)	yes



For more information please refer to strain relief section of Chapter 10



**Option 2:
Clip-on Tiewrap plates**

Available as a clip-on tiewrap plate without the use of bolts. They are inserted and removed with a screwdriver used as a lever. Clip-on tiewrap plates are also available as an attachment to the opening crossbars.

Part No.	Number of Teeth	Width of Strain Relief in. (mm)
3050-ZC	5	1.97 (50)
3075-ZC	7	2.95 (75)

For more information please refer to strain relief section of Chapter 10

Strain relief for steel mounting brackets

Clip-on connection is not possible with steel mounting brackets. In this case, the tiewrap plates must be bolted directly into separate bore holes in front of the mounting bracket. Alternatively the tiewrap plates 30XX-Z and ZS can be also used here. Details chapter 10

e-chain system® E2/000

Series 2600/2700

Strain Relief



2600
2700

Guide troughs are used with applications where the upper run of the e-chain® glides on the lower run. If using igus® steel guide troughs, the following components are required:

- Full travel length of guide trough
Part Number 95-30
- 1/2 travel length of glide bars
Part number 92-01
- Installation sets as end connectors
Part Number 95-50-XX

-XX indicates the length of the profile rail on which the guide trough is mounted. The values and part numbers are specified in the table on the left. The standard length of the trough components and glide bars is 6.56 ft (2 m.) The required overall length of the guide trough directly correlates to the length of travel.

Example:

Length of travel 164 ft (50 m)
Center mounted

Required guide troughs:

164 ft (50 m) guide trough
82 ft (25 m) glide bar
= 25 sections of 6.56 ft (2 m) guide trough

Part No. 95-30

= 13 sections of 6.56 ft (2 m) glide bar

Part No. 92-01

Required number of installation sets:

= Number of guide trough components + 1
= 25 + 1 = 26

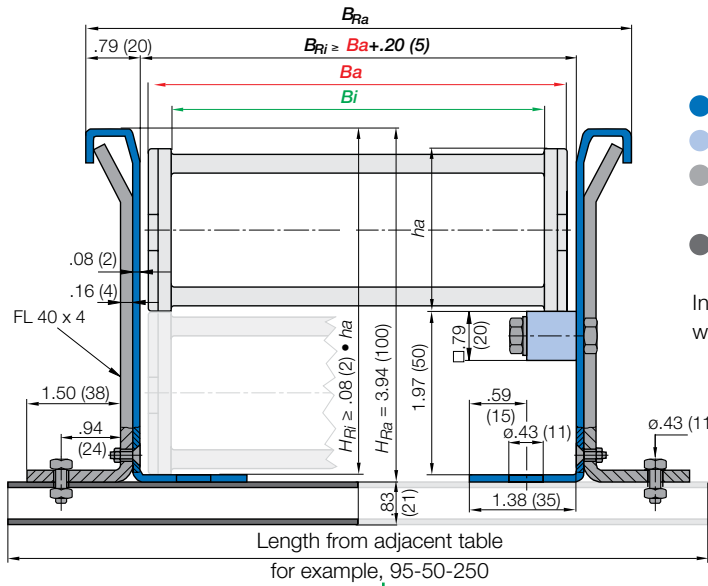
Part number of the installation sets

Example: 95-50-400 for 15.75" (400 mm) long profile rail.



Width of Crossbar
2700-05-200-0

	B_{Ri}	Installation Part No.
-05	2.80 (71)	95-50-200
-06	3.38 (86)	95-50-200
-07	3.78 (96)	95-50-225
-09	4.37 (111)	95-50-225
-10	4.76 (121)	95-50-250
-12	5.75 (146)	95-50-275
-15	6.73 (171)	95-50-300
-17	7.83 (199)	95-50-325



- Guide trough
- Glide bars
- Installation set "Basic"
- Profile rail

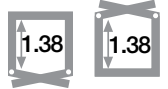
Individual attachment without profile rail

Standard length profile rail

* Specialized guide trough available upon request

PDF: igus.com/e-chain-pdfs
Product information: igus.com/e-chains





Price Index



Series 2650/2680

Special Features / Options



IPA Qualification Certificate, Air Cleanliness Class ISO Class 3 (at v = 2 m/s) upon request



ESD classification: Electrically conductive ESD/ATEX version upon request



UL94 V2 classifications upon request

Assembly Tips



Insert screwdriver into the slot, using a lever action apply pressure to the screwdriver to release

Other Installation Methods

Vertical, hanging ≤ 164 ft (50 m)

Vertical, standing ≤ 9.84 ft (3 m)

Side-mounted, un_supp. ≤ 3.28 ft (1 m)

Rotary requires further calculation

Usage Guidelines



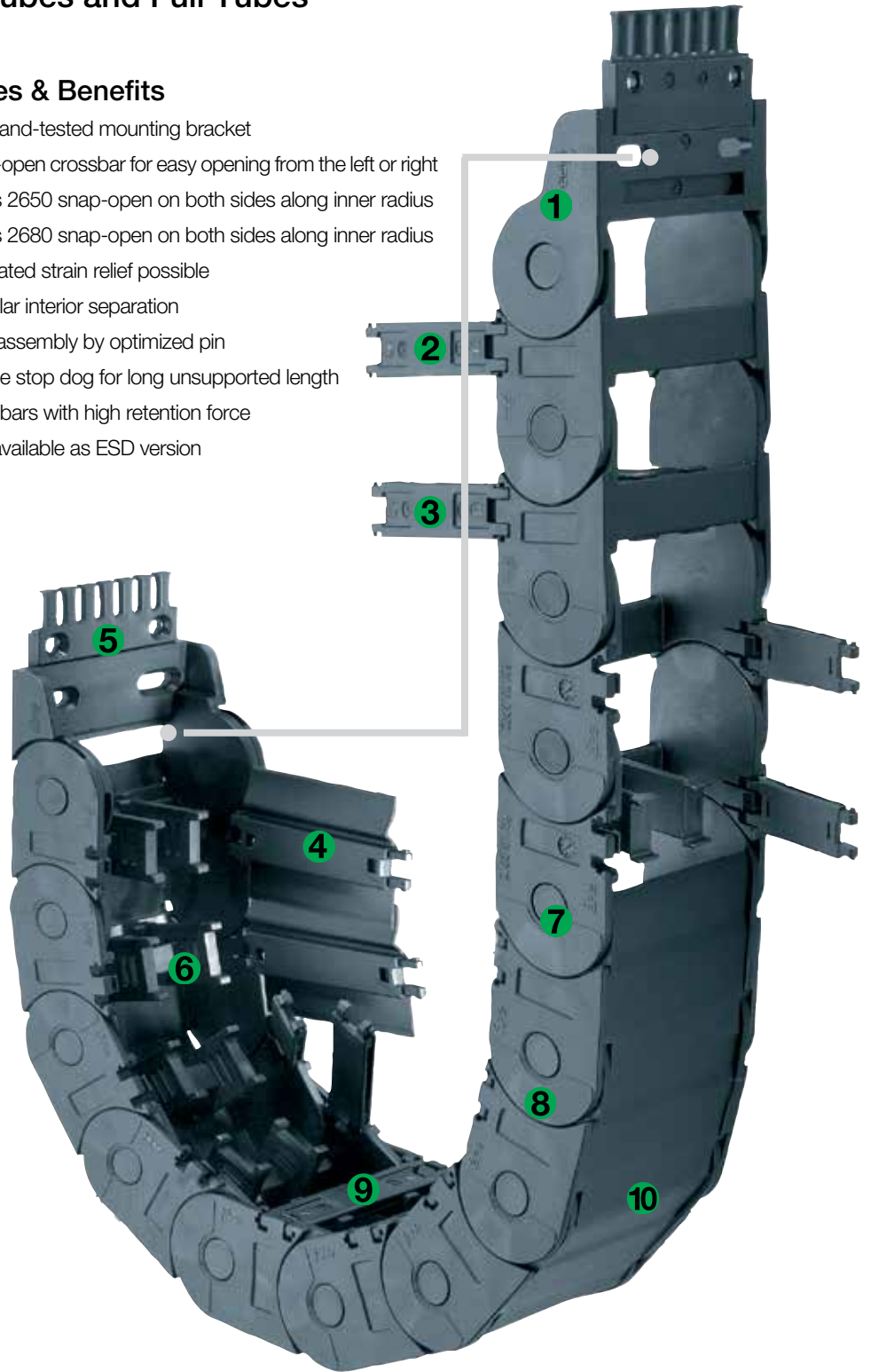
- If snap-open accessibility along the inner or outer radius is required
- If integrated strain relief at the mounting point is required
- If modular interior separation is needed
- If long service life is required
- If easy installation is required
- If a half-Tube is required Series 2650
- If a fully enclosed e-tube is required Series 2680



- If the application is very simple
➤ **Series E26 E-Z Chain**
- If greater stability is required
➤ **Series E4-32 E4-1 Series**
- If e-tubes with small bending radii are needed
➤ **Series R58 E2 Tubes**

Features & Benefits

- 1 Tried-and-tested mounting bracket
- 2 Snap-open crossbar for easy opening from the left or right
- 3 Series 2650 snap-open on both sides along inner radius
- 4 Series 2680 snap-open on both sides along inner radius
- 5 Integrated strain relief possible
- 6 Modular interior separation
- 7 Easy assembly by optimized pin
- 8 Double stop dog for long unsupported length
- 9 Crossbars with high retention force
- 10 Also available as ESD version



Order Example: Complete e-chain®

Please indicate chain length or number of links. Example:

9.84 ft (3 m) 2680-10-100-0		e-chain®
With 2 separators 26501 assembled every 2nd link		Interior Separation
1 Set 26500-10-12PZB		Mounting Bracket

e-chain system® E2/000

Series 2650/2680 e-chain® Half-Tubes and Full Tubes

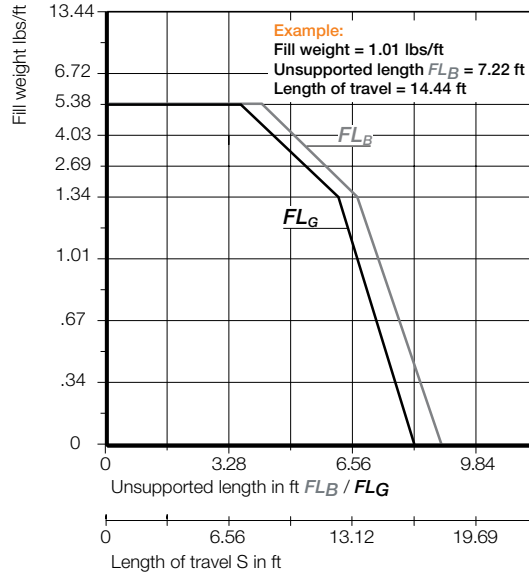
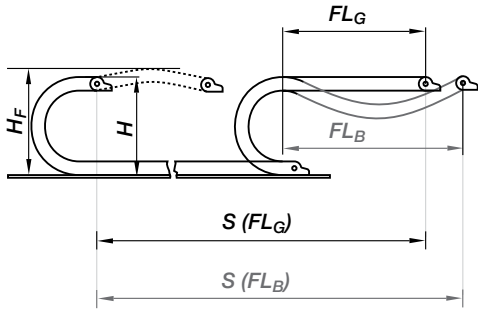
Installation Dimensions



2600
2700

Short travel, unsupported length

- FL_B = unsupported with permitted sag
 - FL_G = unsupported with straight upper run
- Further information ► Design, Chapter 1



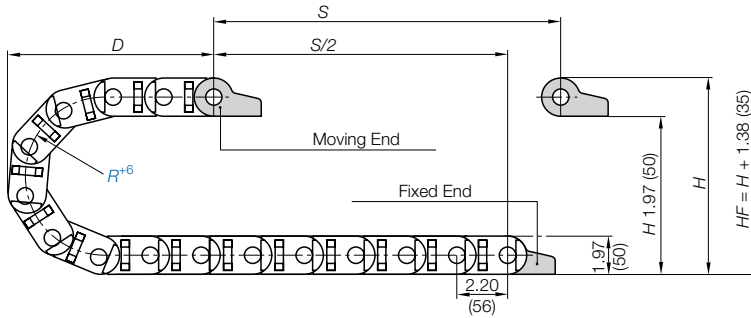
Short Travels - Unsupported



Unsupported e-chains® feature positive camber over short travels. This must be accounted for when specifying the clearance height. Please refer to **Installation dimensions** for further details.

Legend

- S = Length of travel
- R = Bending radius
- H = Nominal clearance height
- D = Overlength e-chain® radius in final position
- $K = \pi \cdot R + \text{safety buffer}$
- H_F = Required clearance height



Pitch per link: = 2.20" (56 mm)
Links per ft (m): = 5.49 (18)
For center mount applications:
Chain length = $S/2 + K$

The required clearance height: $H_F = H + 1.38$ in. (35 mm) (with 1.34 lbs/ft (2.0 kg/m) fill weight). Please consult igus® if space is particularly restricted.

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)
H	6.93 (176)	7.87 (200)	9.84 (250)	11.81 (300)	13.78 (350)	15.75 (400)	17.72 (450)	21.65 (550)
D	6.77 (172)	7.24 (184)	8.23 (209)	9.21 (234)	10.20 (259)	11.18 (284)	12.17 (309)	14.13 (359)
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)

* Radius available upon request, please consult igus® for delivery time
Radii 063, 075: the e-tube is not completely enclosed. Please consult igus®

Speed / acceleration FL_G	max. 65.6 ft/s (20 m/s) / max. 656 ft/s ² (200 m/s ²)
Speed / acceleration FL_B	max. 9.84 ft/s (3 m/s) / max. 19.69 ft/s ² (6 m/s ²)
Gliding speed / acceleration (maximum)	max. 32.8 ft/s (10 m/s) / max. 164 ft/s ² (50 m/s ²)
Material - permitted temperature	igumid G / -40°F (-40°C) up to +248°F (+120° C)
Flammability Class, igumid G	VDE 0304 IIC UL94 HB

Technical Data



Details of material properties

► Chapter 1

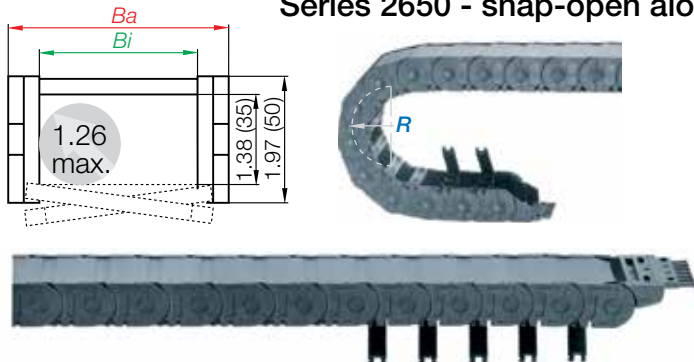
1.38

PDF: igus.com/e-chain-pdfs
Product information: igus.com/e-chains

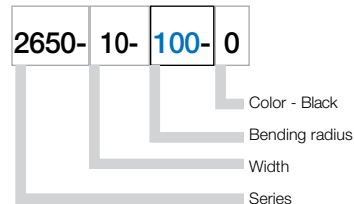


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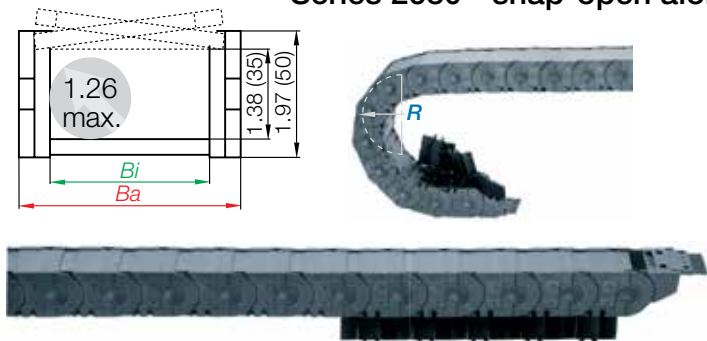
Series 2650 - snap-open along the inner radius



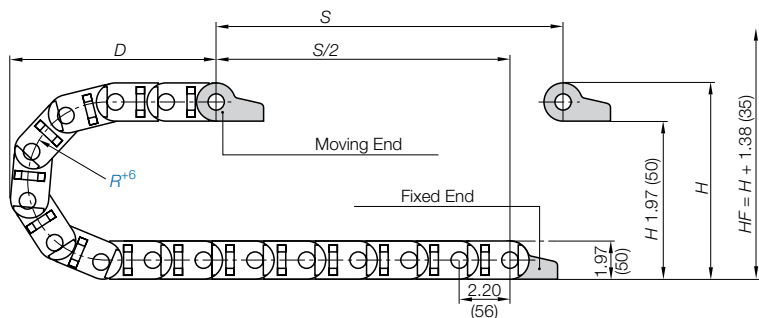
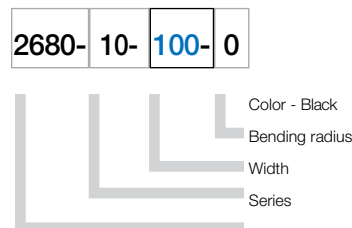
Part Number Structure



Series 2680 - snap-open along the inner radius



Part Number Structure



Supplement part number with required radius. Example: 2650-10-100-0
Pitch: 2.20 in. (56 mm) per link links/ft(m) = 5.49 (18)

Part Number.

Snap-open inner radius	Snap-open outer radius	Bi in. (mm)	Ba in. (mm)	Weight 2650 lbs/ft (kg/m)	Weight 2680 lbs/ft (kg/m)
2650-05-□-0	2680-05-□-0	1.97 (50)	2.60 (66)	≈ 0.84 (1.25)	≈ 0.89 (1.33)
2650-06-□-0	2680-06-□-0	2.56 (65)	3.19 (81)	≈ 0.91 (1.36)	≈ 0.96 (1.43)
2650-07-□-0	2680-07-□-0	2.95 (75)	3.58 (91)	≈ 0.94 (1.40)	≈ 1.01 (1.51)
2650-09-□-0	2680-09-□-0	3.54 (90)	4.17 (106)	≈ 1.04 (1.55)	≈ 1.09 (1.62)
2650-10-□-0	2680-10-□-0	3.94 (100)	4.57 (116)	≈ 1.08 (1.61)	≈ 1.22 (1.81)
2650-12-□-0	2680-12-□-0	4.92 (125)	5.55 (141)	≈ 1.14 (1.70)	≈ 1.34 (1.99)
2650-15-□-0	2680-15-□-0	5.91 (150)	6.53 (166)	≈ 1.21 (1.80)	≈ 1.46 (2.17)
2650-17-□-0	2680-17-□-0	6.89 (175)	7.64 (194)	≈ 1.34 (2.00)	≈ 1.58 (2.35)

Choose from the radii below for all of the above sizes
Radius (mm) Example: 2650-10-100-0

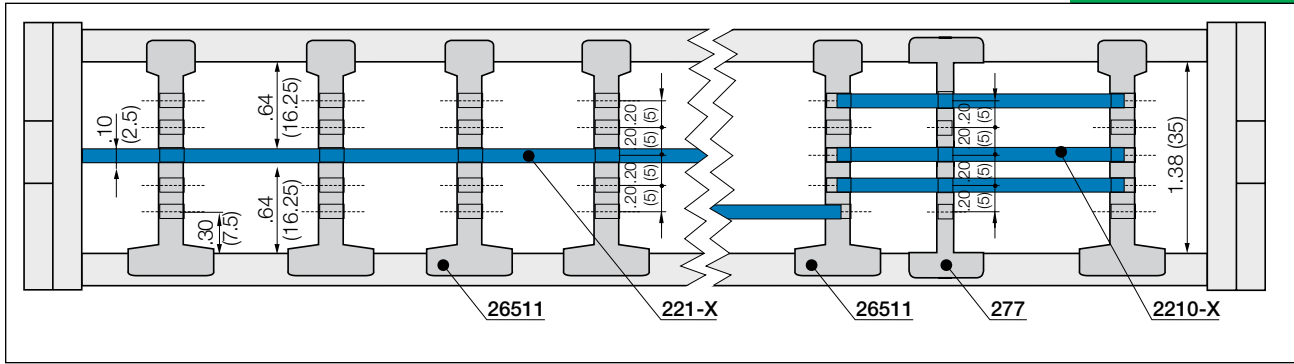
	063*	075*	100	125	150	175	200	250
R	2.48 (063*)	2.95 (075*)	3.94 (100)	4.92 (125)	5.91 (150)	6.89 (175)	7.87 (200)	9.84 (250)
H	6.93 (176)	7.87 (200)	9.84 (250)	11.81 (300)	13.78 (350)	15.75 (400)	17.72 (450)	21.65 (550)
D	6.77 (172)	7.24 (184)	8.23 (209)	9.21 (234)	10.20 (259)	11.18 (284)	12.17 (309)	14.13 (359)
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)

* Radius available upon request, please consult igus® for delivery time
Radii 063, 075: the e-tube is not completely enclosed. Please consult igus®

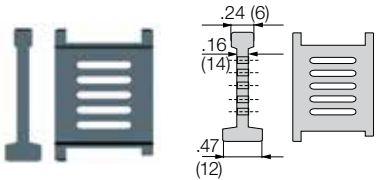
e-chain system® E2/000
 Series 2650/2680 e-chain® Half-Tubes and Full Tubes
 Interior Separation



2650
 2680



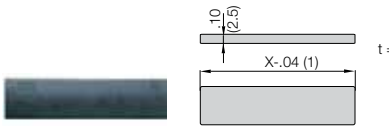
In the standard configuration separators are assembled every 2nd e-chain® link



Separator, wide base
 Unassembled Part No. 26501
 Assembled Part No. 26511

- **Slotted separator 26501**
 Separator with wide base for maximum locking strength and safe standing in e-chains®.

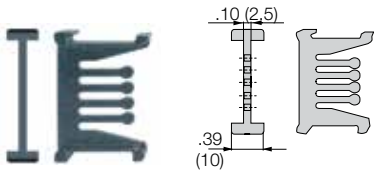
Full-width shelves - for the standard interior separation



Separator, narrow head
 Unassembled Part No. 220-X
 Assembled Part No. 221-X

- **Full-width shelf 220-X**
 this option makes sense in applications with many thin cables with similar diameters. For a consequent subdivision. Full-width shelves can be inserted at 5 different heights in .20" (5 mm) increments

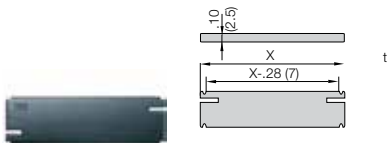
Width X in. (mm)	Part No. Unassembled	Part No. Assembled	Width X in. (mm)	Part No. Unassembled	Part No. Assembled
.98 (25)	220-25	221-25	3.54 (90)	220-90	221-90
1.50 (38)	220-38	221-38	4.06 (103)	220-103	221-103
2.24 (57)	220-57	221-57	4.92 (125)	220-125	221-125
3.03 (77)	220-77	221-77			



Separator, wide base
 Unassembled Part No. 276
 Assembled Part No. 276

- **Slotted separator 276**
 Separator with wide base for maximum locking strength and safe standing in e-chains®.

Full-width shelves - for the standard interior separation



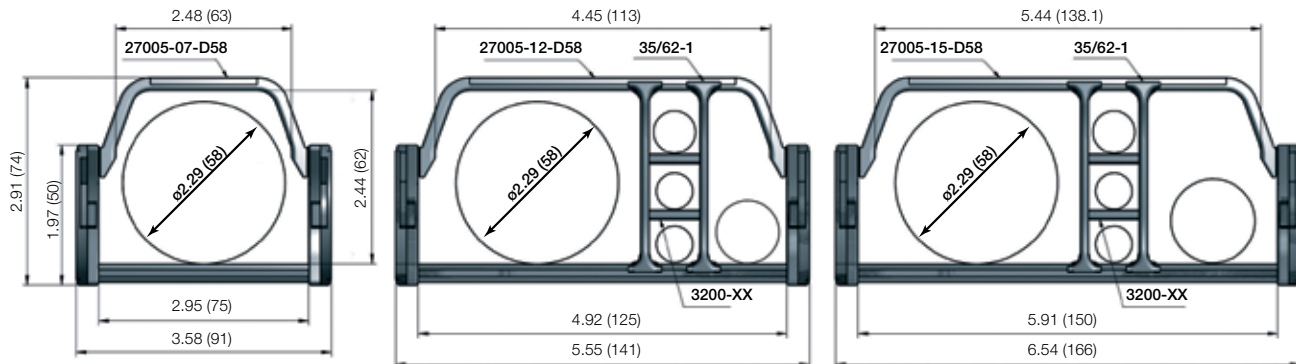
Separator, narrow head
 Unassembled Part No. 2200-X
 Assembled Part No. 2210-X

- **Full-width shelf 2200-X**
 this option makes sense in applications with many thin cables with similar diameters. For a consequent subdivision. Full-width shelves can be inserted at 5 different heights in .20" (5 mm) increments

Width X in. (mm)	Part No. Unassembled	Part No. Assembled	Width X in. (mm)	Part No. Unassembled	Part No. Assembled
.98 (25)	2200-25	2210-25	3.54 (90)	2200-90	221-90
1.50 (38)	2200-38	2210-38	4.06 (103)	2200-103	2210-103
2.24 (57)	2200-57	2210-57	4.92 (125)	2200-125	2210-125
3.03 (77)	2200-77	2210-77			

PDF: igus.com/e-chain-pdfs
 Product information: igus.com/e-chains

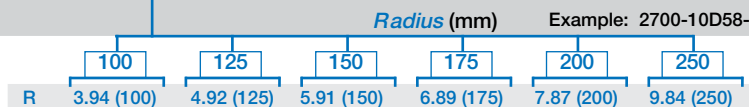




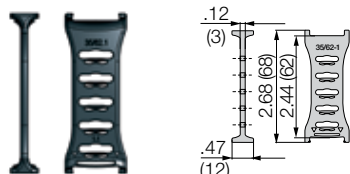
Part Number.
Extender crossbars
for e-chains®
that snap-open
along inner radius

		<i>Bi</i>	<i>Ba</i>
		in. (mm)	in. (mm)
2650-07D58-	<input type="checkbox"/> -0	2.95 (75)	3.58 (91)
2650-12D58-	<input type="checkbox"/> -0	4.92 (125)	5.55 (141)
2650-15D58-	<input type="checkbox"/> -0	5.91 (150)	6.54 (166)

Choose from the radii below for all of the above sizes



Interior separation for extender crossbars

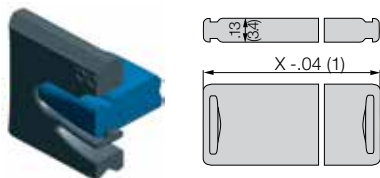


Separator, wide base

Unassembled	Part No. 35/62-1
Assembled	Part No. 35/62-1-1

- **Standard separator 35/62-1, wide base**
For maximum locking strength and safe standing. In standard configuration separators are assembled every 2nd e-chain® link.

Lockable full-width shelves - for the standard interior separation



Full width shelf, lockable

Unassembled	Part No. 3200-X
Assembled	Part No. 3210-X

- **Full width shelf, lockable**
is used when vertical and horizontal separation is required.

Width X	Part No.	Part No.	Width X	Part No.	Part No.
in. (mm)	Unassembled	Assembled	in. (mm)	Unassembled	Assembled
1.97 (050)	3200-50	3210-50	5.91 (150)	3200-150	3210-150
2.95 (075)	3200-75	3210-75	6.89 (175)	3200-175	3210-175
3.94 (100)	3200-100	3210-100	7.87 (200)	3200-200	3210-200
4.53 (115)	3200-115	3210-115	8.86 (225)	3200-225	3210-225
4.92 (125)	3200-125	3210-125	9.84 (250)	3200-250	3210-250

Separator with integrated strain relief

Strain relief separator Part No. 262-Z 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, it can be installed on the first or last e-chain® link and is easy to assemble without any screws.

For more information ► Chapter 10, Strain Relief



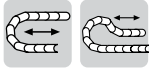
e-chain system® E2/000

Series 2650/2680 e-chain® Half-Tubes and Full Tubes

Mounting Bracket - Plastic



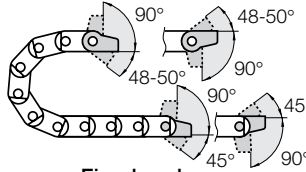
2650
2680



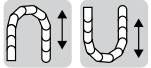
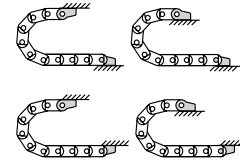
Option 1: pivoting

- For unsupported and gliding applications
- Well suited for tight installation conditions
- Detachable strain relief tiwrap plates
- Can be mounted on the fixed and/or moving end

Moving end
26...3PZB



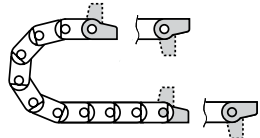
Fixed end
26...4PZB



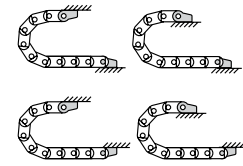
Option 2: locking

- For unsupported and gliding applications
- Extreme speed and/or accelerations
- For height restricted applications
- Can be mounted on the fixed and/or moving end

Moving end
26...1PZB

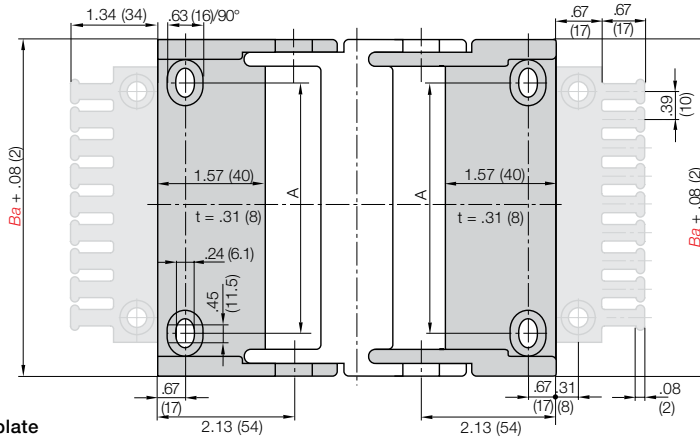
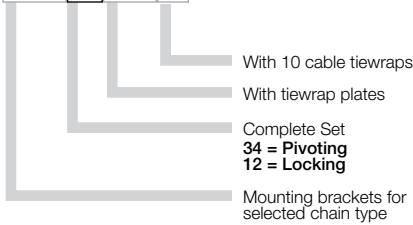


Fixed end
26...2PZB



Part Number Structure

2605- 34 PZB K1



Full set, for both ends:

2605- [34] [PZB] Full set, each part with pin/bore + tiwrap plate

Single-part order:

2605- [3] [PZB] Mounting bracket with bore + tiwrap plate

2605- [4] [PZB] Mounting bracket with pin + tiwrap plate

Part No. Full Set (pivoting)

With Tiwrap Plates

Series 2650:

2605-34PZB

Part No. Full Set (pivoting)

With Tiwrap Plates + 10 cable ties

Series 2650:

2605-34PZBK1

For Chain Type	Part No. Full Set without Tiwrap Plate	Part No. Full Set with Tiwrap Plate	Part No. Full Set with Tiwrap Plate + 10 cable ties	Dimension A in. (mm)	Number of Teeth
2650/2680-05	2605- [] PZ	2605- [] PZB	2605- [] PZBK1	1.18 (30)	5
2650/2680-06	2606- [] PZ	2606- [] PZB	2606- [] PZBK1	1.77 (45)	5
2650/2680-07	2607- [] PZ	2607- [] PZB	2607- [] PZBK1	2.17 (55)	7
2650/2680-09	2609- [] PZ	2609- [] PZB	2609- [] PZBK1	2.76 (70)	9
2650/2680-10	2610- [] PZ	2610- [] PZB	2610- [] PZBK1	3.15 (80)	10
2650/2680-12	2612- [] PZ	2612- [] PZB	2612- [] PZBK1	4.13 (105)	12
2650/2680-15	2615- [] PZ	2615- [] PZB	2615- [] PZBK1	5.12 (130)	15
2650/2680-17	2617- [] PZ	2617- [] PZB	2617- [] PZBK1	6.10 (155)	17

34 or 12

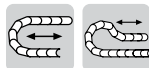
For pivoting brackets choose 34

For locking brackets choose 12

Example: 2605- [34] PZB

PDF: igus.com/e-chain-pdfs
Product information: igus.com/e-chains

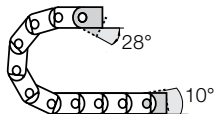




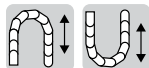
Option 1: pivoting

- For unsupported applications
- Bolted connection outside of chain cross section
- Confined installation conditions
- Attachment points on all sides
- Stackable

Moving end
2650 = 26500...1
2680 = 24800...1



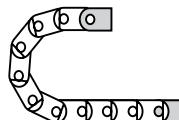
Fixed end
2650 = 26500...2
2680 = 26800...2



Option 2: locking

- For vertical hanging/standing applications
- Bolted connection outside of chain cross section
- For very high speeds and accelerations
- Attachment points on all sides
- Stackable

Moving end
2650 = 24510...1
2680 = 24810...1



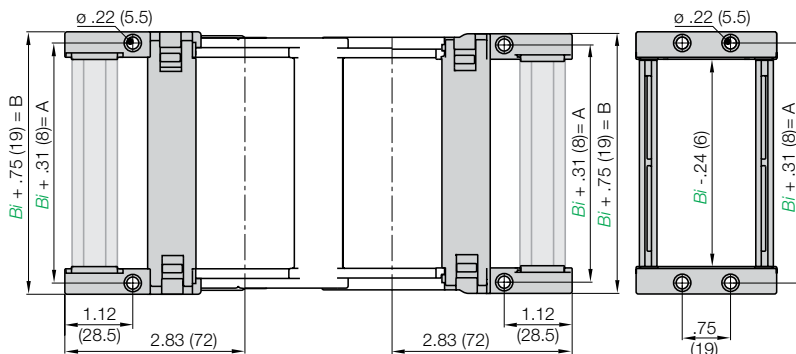
Fixed end
2650 = 24510...2
2680 = 24810...2



Part Number Structure

26500-10-12 P

- With profile rail
- Complete Set
- Width
- Mounting brackets for selected chain type
26500 = Pivoting
26800 = Locking



Full set, for both ends:

26500-12 P Full set, each part with pin/bore + profile rail

Single-part order:

26500-1 P Mounting bracket with bore + profile rail

26500-2 P Mounting bracket with pin + profile rail

Part No. Full Set (pivoting)

With Profile Rail

Series 2650/2680:

26500-Width-12P

Part No. Full Set (pivoting)

Without Profile Rail

Series 2650/2680:

26500-Width-12

For Chain Type	Part No. Full set with Profile Rail	Part No. Full Set without Profile Rail	Dimension A in. (mm)	Dimension B in. (mm)
2650/2680-05	<input type="text"/> -05-12P	<input type="text"/> -05-12	2.28 (58)	2.72 (69)
2650/2680-06	<input type="text"/> -06-12P	<input type="text"/> -06-12	2.87 (73)	3.31 (84)
2650/2680-07	<input type="text"/> -07-12P	<input type="text"/> -07-12	3.27 (83)	3.70 (94)
2650/2680-09	<input type="text"/> -09-12P	<input type="text"/> -09-12	3.86 (98)	4.29 (109)
2650/2680-10	<input type="text"/> -10-12P	<input type="text"/> -10-12	4.25 (108)	4.69 (119)
2650/2680-12	<input type="text"/> -12-12P	<input type="text"/> -12-12	5.24 (133)	5.67 (144)
2650/2680-15	<input type="text"/> -15-12P	<input type="text"/> -15-12	6.22 (158)	6.65 (169)
2650/2680-17	<input type="text"/> -17-12P	<input type="text"/> -17-12	7.20 (183)	7.64 (194)

For pivoting brackets choose

For locking brackets choose

Example: -10-12P

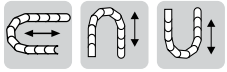
e-chain system® E2/000

Series 2650/2680 e-chain® Half-Tubes and Full Tubes

Mounting Bracket - Steel

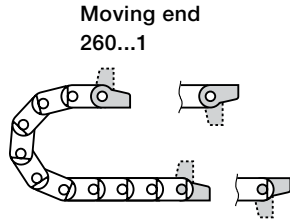


2650
2680

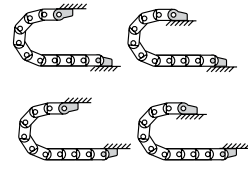


Option 1: Steel

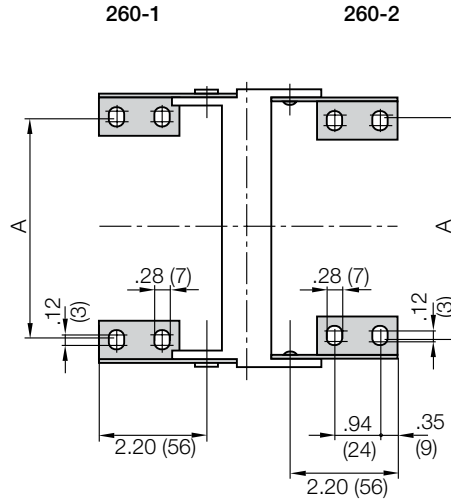
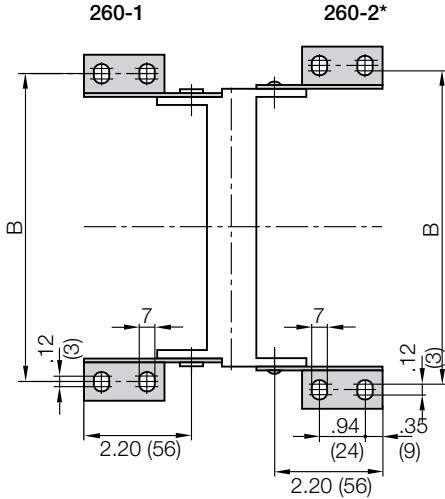
- One part (two-piece) for all chain widths
- Electrically conductive
- Bolted connection outside of chain cross-section possible



Fixed end
260...2



Possible installation configurations -



*pivoting with no stop, (360°)

Chain Type	Part No. Full Set	Dimension A		Dimension B	
		in.	(mm)	in.	(mm)
2650/2680-05	260-12	1.46	(37)	3.27	(83)
2650/2680-06	260-12	2.05	(52)	3.86	(98)
2650/2680-07	260-12	2.44	(62)	4.25	(108)
2650/2680-09	260-12	3.03	(77)	4.84	(123)
2650/2680-10	260-12	3.43	(87)	5.24	(133)
2650/2680-12	260-12	4.41	(112)	6.22	(158)
2650/2680-15	260-12	5.39	(137)	7.20	(183)
2650/2680-17	260-12	6.42	(163)	8.23	(209)

Part No. Mounting Brackets Full Set
4 parts, 2 with pin, 2 with bore
Series 2650/2680:
260-12

Part No. Mounting Bracket Moving End
2 parts, 1 left & 1 right
Series 2650/2680:
260-1

Part No. Mounting Bracket Fixed End
2 parts, 1 left & 1 right
Series 2650/2680:
260-2

PDF: igus.com/e-chain-pdfs
Product information: igus.com/e-chains



Chainfix clamps for the profile rail



igus® Chainfix strain relief elements are available in either steel or stainless steel. They can be adjusted with a hexagon socket and are available in single, double and triple configurations.

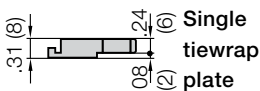
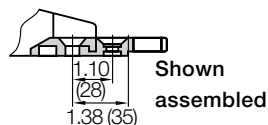
Part No. Single Clamp		Part No. Double Clamp		Part No. Triple Clamp		Cable ø	
Steel	Stainless	Steel	Stainless	Steel	Stainless	in.	(mm)
CFX12-1	CFX12-1E	CFX12-2	CFX12-2E	CFX12-3	-	.24 - .47	(06 - 12)
CFX14-1	CFX14-1E	CFX14-2	CFX14-2E	CFX14-3	-	.47 - .55	(12 - 14)
CFX16-1	CFX16-1E	CFX16-2	CFX16-2E	CFX16-3	-	.55 - .63	(14 - 16)
CFX18-1	CFX18-1E	CFX18-2	CFX18-2E	CFX18-3	-	.63 - .71	(16 - 18)
CFX20-1	CFX20-1E	CFX20-2	CFX20-2E	CFX20-3	-	.71 - .79	(18 - 20)
CFX22-1	CFX22-1E	CFX22-2	CFX22-2E	CFX22-3	-	.79 - .87	(20 - 22)
CFX26-1	CFX26-1E	CFX26-2	CFX26-2E	-	-	.87 - 1.02	(22 - 26)
CFX30-1	CFX30-1E	CFX30-2	CFX30-2E	-	-	1.02 - 1.18	(26 - 30)
CFX34-1	CFX34-1E	CFX34-2	CFX34-2E	-	-	1.18 - 1.34	(30 - 34)
CFX38-1	CFX38-1E	-	-	-	-	1.34 - 1.50	(34 - 38)
CFX42-1	CFX42-1E	-	-	-	-	1.50 - 1.65	(38 - 42)

For more information please refer to strain relief section of Chapter 10

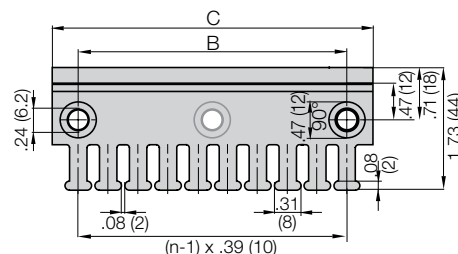
Tiewrap Plates

**Option 1:
Tiewrap plates as an individual part**

Available as an individual component, can be fixed onto a mounting bracket with the use of a profile rail.



Tiewrap Plate	n Number of Teeth	C Overall Width in. (mm)	B Bore Width in. (mm)	Center Bore
3050-ZB	5	1.97 (50)	1.18 (30)	no
3075-ZB	7	2.95 (75)	2.16 (55)	no
3100-ZB	10	3.94 (100)	3.15 (80)	no
3115-ZB	11	4.53 (115)	3.74 (95)	no
3125-ZB	12	4.92 (125)	4.13 (105)	no
3150-ZB	15	5.91 (150)	5.12 (130)	no
3175-ZB	17	6.89 (175)	6.10 (155)	no
3200-ZB	20	7.87 (200)	7.09 (180)	yes
3225-ZB	22	8.86 (225)	8.07 (205)	yes
3250-ZB	25	9.84 (250)	9.06 (230)	yes



For more information please refer to strain relief section of Chapter 10

**Option 2:
Clip-on Tiewrap plates**

Available as a clip-on tiewrap plate without the use of bolts They are inserted and removed with a screwdriver used as a lever. Clip-on tiewrap plates are also available as an attachment to the opening crossbars.

Part No.	Number of Teeth	Width of Strain Relief in. (mm)
3050-ZC	5	1.97 (50)
3075-ZC	7	2.95 (75)

For more information please refer to strain relief section of Chapter 10

Strain relief for steel mounting brackets

Clip-on connection is not possible with steel mounting brackets. In this case, the tiewrap plates must be bolted directly into separate bore holes in front of the mounting bracket. Alternatively the tiewrap plates 30XX-Z and ZS can be also used here. Details chapter 10





PDF: igus.com/e-chain-pdfs
Product information: igus.com/e-chains



3400
3500



e-chain system® E2/000

Series 3400/3500



Price Index



Series 3400/3500

Special Features / Options



IPA Qualification Certificate, Air Cleanliness Class ISO Class 3 (at v = 2 m/s) upon request



ESD classification: Electrically conductive ESD/ATEX version upon request



UL94 V2 classifications upon request

Assembly Tips



Snap-open mechanism, choice of snap-open on left or right. Hinged crossbar can be swiveled by more than 180° on both sides. Lightning-fast closing by hand. Secure fit without additional locking devices.

Other Installation Methods

Vertical, hanging ≤ 262 ft (80 m)

Vertical, standing ≤ 9.84 ft (3 m)

Side-mounted, un_supp. ≤ 3.28 ft (1 m)

Rotary requires further calculation

Usage Guidelines



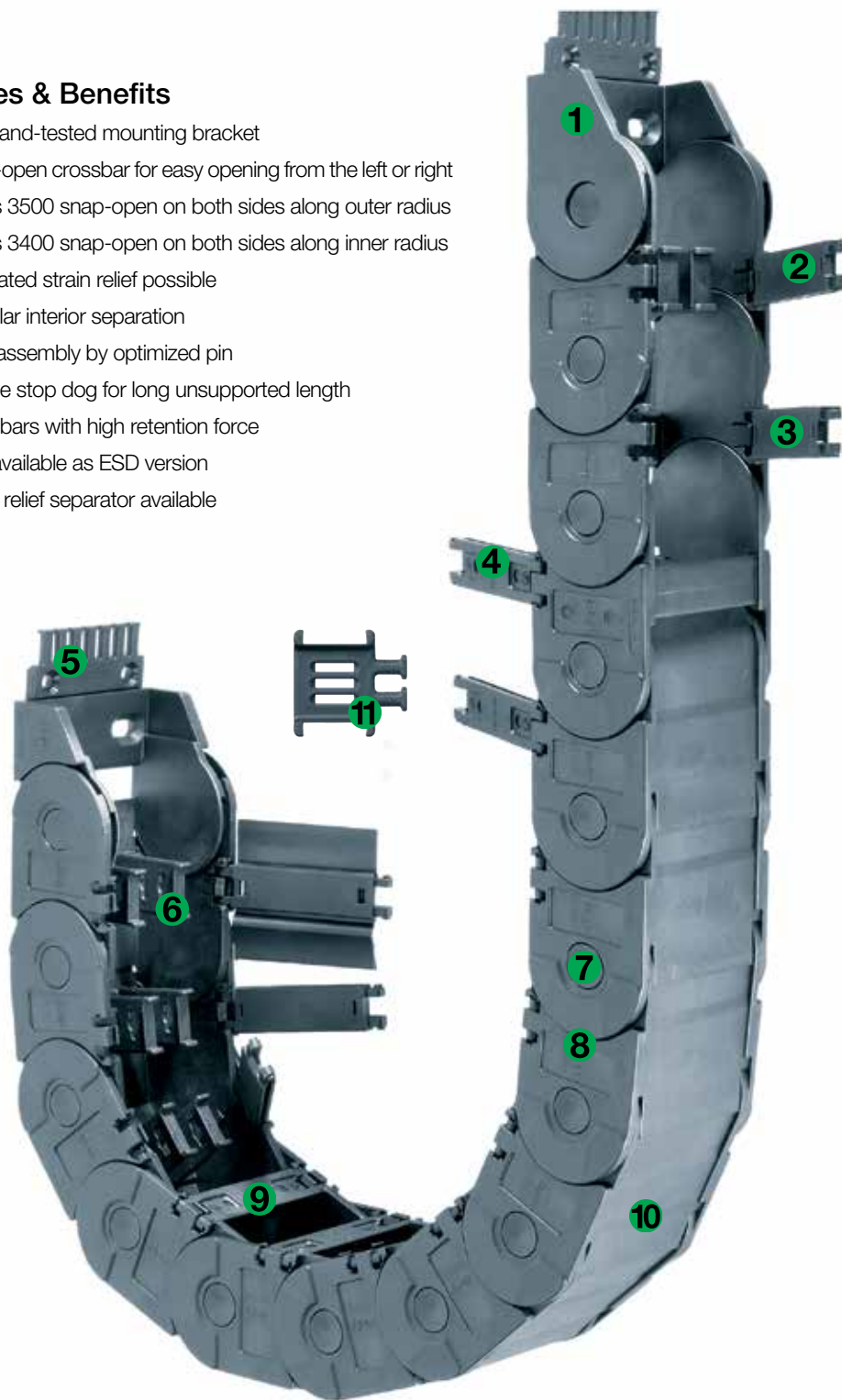
- If snap-open accessibility along the inner or outer radius is required
- If integrated strain relief at the mounting point is required
- If modular interior separation is needed
- If long service life is required
- If easy installation is required



- If the application is very simple
➤ Series E300 E-Z Chain
- If greater stability is required
➤ Series E4-42 E4-1 Series

Features & Benefits

- 1 Tried-and-tested mounting bracket
- 2 Snap-open crossbar for easy opening from the left or right
- 3 Series 3500 snap-open on both sides along outer radius
- 4 Series 3400 snap-open on both sides along inner radius
- 5 Integrated strain relief possible
- 6 Modular interior separation
- 7 Easy assembly by optimized pin
- 8 Double stop dog for long unsupported length
- 9 Crossbars with high retention force
- 10 Also available as ESD version
- 11 Strain relief separator available



Order Example: Complete e-chain®

Please indicate chain length or number of links. Example:

9.84 ft (3 m) **3400-100-100-0**



e-chain®

With 2 separators **45.1.1** assembled every 2nd link



Interior Separation

1 Set **3100-34PZB**



Mounting Bracket

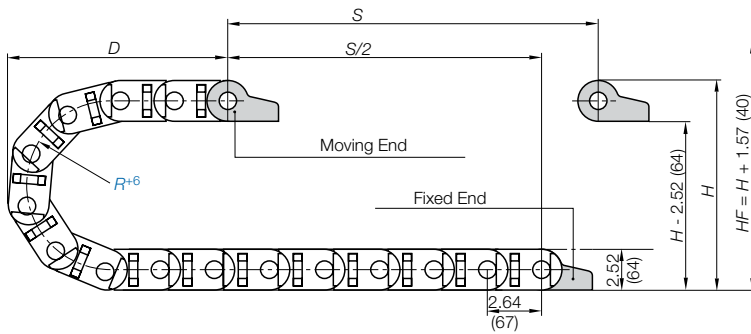
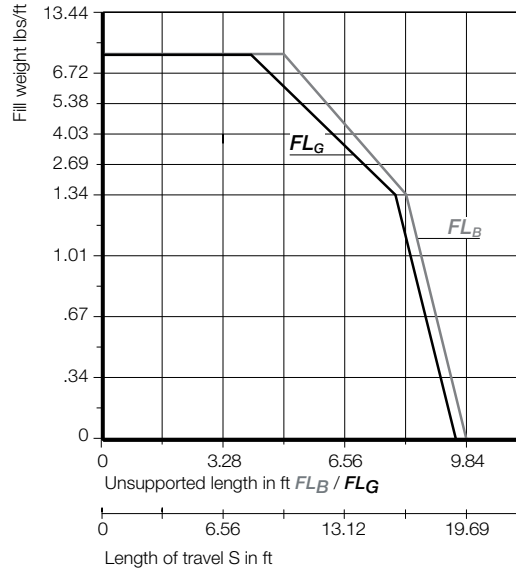
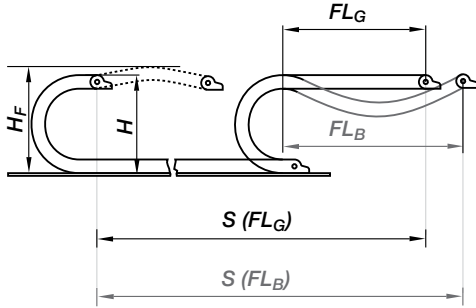
e-chain system® E2/000

Series 3400/3500

Installation Dimensions

Short travel, unsupported length

- FL_B = unsupported with permitted sag
 - FL_G = unsupported with straight upper run
- Further information ► Design, Chapter 1



Pitch per link: = 2.64" (67 mm)
 Links per ft (m): = 4.57 (15)
 For center mount applications:
 Chain length = $S/2 + K$

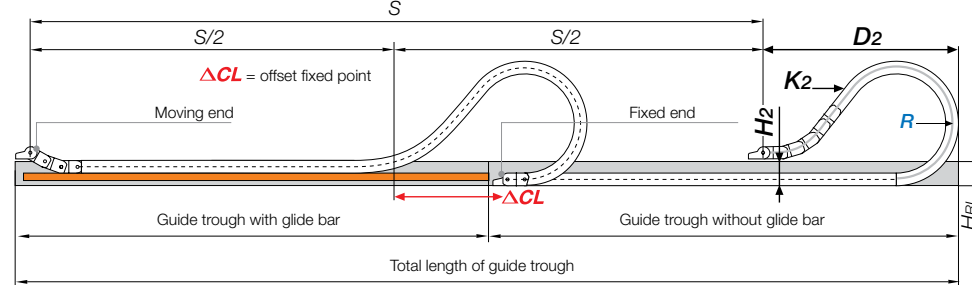
The required clearance height: $H_f = H + 1.57$ in. (40 mm) (with 1.68 lbs/ft (2.5 kg/m) fill weight).
 Please consult igus® if space is particularly restricted.

R	1.50 (075)	3.94 (100)	4.92 (125)	5.91 (150)	7.87 (200)	9.84 (250)	11.81 (300)
H	8.43 (214)	10.39 (264)	12.36 (314)	14.33 (364)	18.27 (464)	22.20 (564)	26.14 (664)
D	8.19 (208)	9.17 (233)	10.16 (258)	11.14 (283)	13.11 (333)	15.08 (383)	17.05 (433)
K	14.57 (370)	17.72 (450)	20.87 (530)	24.02 (610)	30.11 (765)	36.22 (920)	42.52 (1080)

For long travels with lowered mounting height

Long travel lengths from 32.8 ft. (10 m) to max. 492 ft. (150 m)

For long travels, igus® specifies Series 3500 that snap open on the outer radius.



For center mount applications:
 Chain length: = $S/2 + K_2$

R	1.50 (075)	3.94 (100)	4.92 (125)	5.91 (150)	7.87 (200)	9.84 (250)	11.81 (300)
H_2	5.91 (150)	7.87 (200)	7.32 (186)	7.32 (186)	7.32 (186)	7.32 (186)	7.32 (186)
D_2^{25}	8.19 (208)	9.17 (233)	18.70 (475)	22.44 (570)	30.71 (780)	39.76 (1010)	45.28 (1150)
K_2	14.57 (370)	17.72 (450)	31.65 (804)	39.57 (1005)	52.76 (1340)	65.94 (1675)	76.50 (1943)
ΔCL	—	—	9.17 (233)	11.93 (303)	18.23 (463)	25.31 (643)	28.86 (733)

Speed / acceleration FL_G	max. 65.6 ft/s (20 m/s) / max. 656 ft/s ² (200 m/s ²)
Speed / acceleration FL_B	max. 9.84 ft/s (3 m/s) / max. 19.69 ft/s ² (6 m/s ²)
Gliding speed / acceleration (maximum)	max. 32.8 ft/s (10 m/s) / max. 164 ft/s ² (50 m/s ²)
Material - permitted temperature	igumid G / -40°F (-40°C) up to +248°F (+120°C)
Flammability Class, igumid G	VDE 0304 IIC UL94 HB



3400
3500

Short Travels - Unsupported



Unsupported e-chains® feature positive camber over short travels. This must be accounted for when specifying the clearance height. Please refer to **Installation dimensions** for further details.

Legend

- S = Length of travel
- R = Bending radius
- H = Nominal clearance height
- D = Overlength e-chain® radius in final position
- $K = \pi \cdot R + \text{safety buffer}$
- H_f = Required clearance height
- H_{R1} = Trough inner height
- H_2 = *Mounting height
- D_2 = Overlength - long travels, gliding
- K_2 = *Add-on

*If the mounting bracket location is set lower

Long Travels - Gliding



If the unsupported length is exceeded, the e-chain® must glide on itself. This requires a guide trough. **Design, Chapter 1**

Technical Data



Details of material properties

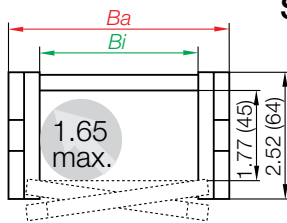
► Chapter 1



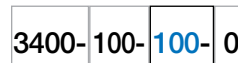
PDF: igus.com/e-chain-pdfs
 Product information: igus.com/e-chains



Series 3400 - snap-open along the inner radius

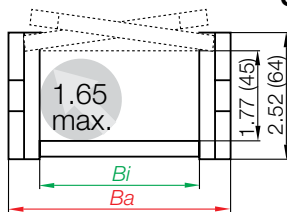


Part Number Structure

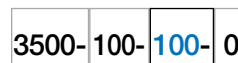


Color - Black
Bending radius
Width
Series

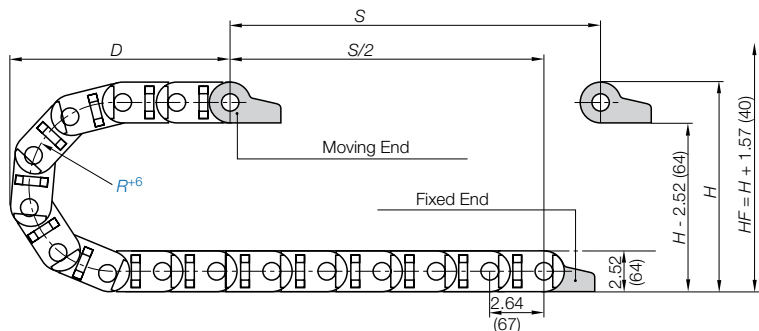
Series 3500 - snap-open along the outer radius



Part Number Structure



Color - Black
Bending radius
Width
Series



Supplement part number with required radius.
Example: 3500-100-100-0
Pitch: 264 in. (67 mm) per link links/ft(m) = 4.57 (15)

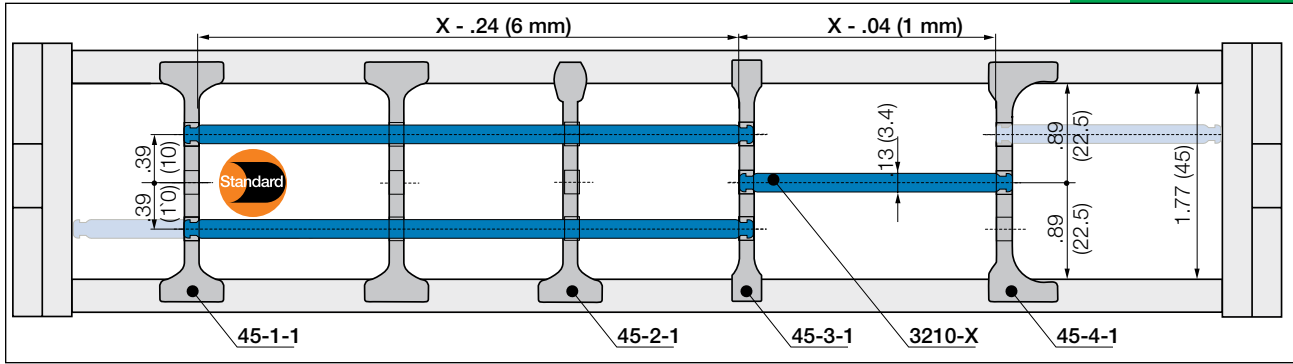
Part Number.

3400-Snap-open inner radius	3500-Snap-open outer radius	Bi in. (mm)	Ba in. (mm)	Weight lbs/ft (kg/m)
3400-050-□-0	3500-050-□-0	1.97 (50)	2.76 (70)	≈ 1.07 (1.60)
3400-075-□-0	3500-075-□-0	2.95 (75)	3.74 (95)	≈ 1.20 (1.78)
3400-100-□-0	3500-100-□-0	3.94 (100)	4.72 (120)	≈ 1.30 (1.93)
3400-115-□-0	3500-115-□-0	4.53 (115)	5.31 (135)	≈ 1.34 (1.99)
3400-125-□-0	3500-125-□-0	4.92 (125)	5.71 (145)	≈ 1.36 (2.03)
3400-150-□-0	3500-150-□-0	5.91 (150)	6.69 (170)	≈ 1.46 (2.17)
3400-175-□-0	3500-175-□-0	6.89 (175)	7.68 (195)	≈ 1.53 (2.28)
3400-200-□-0	3500-200-□-0	7.87 (200)	8.66 (220)	≈ 1.65 (2.45)
3400-225-□-0	3500-225-□-0	8.86 (225)	9.65 (245)	≈ 1.74 (2.59)
3400-250-□-0	3500-250-□-0	9.84 (250)	10.63 (270)	≈ 1.83 (2.73)

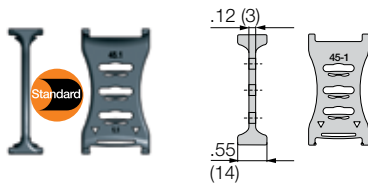
Choose from the radii below for all of the above sizes

Radius (mm) Example: 3500-100-100-0

	075	100	125	150	200	250	300
R	1.50 (075)	3.94 (100)	4.92 (125)	5.91 (150)	7.87 (200)	9.84 (250)	11.81 (300)
H	8.43 (214)	10.39 (264)	12.36 (314)	14.33 (364)	18.27 (464)	22.20 (564)	26.14 (664)
D	8.19 (208)	9.17 (233)	10.16 (258)	11.14 (283)	13.11 (333)	15.08 (383)	17.05 (433)
K	14.57 (370)	17.72 (450)	20.87 (530)	24.02 (610)	30.11 (765)	36.22 (920)	42.52 (1080)



In the standard configuration separators are assembled every 2nd e-chain® link

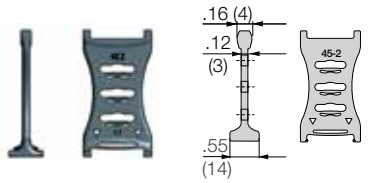


Separator, wide base

Unassembled Part No. 45.1
Assembled Part No. 45.1.1

- **Standard separator 45.1 for all applications**

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



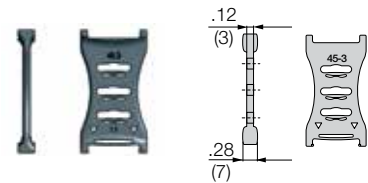
Separator, narrow head

Unassembled Part No. 45.2
Assembled Part No. 45.2.1

- **Separator 45.2**

For even faster installation

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



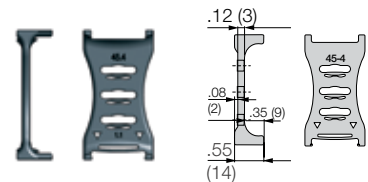
Separator, narrow base

Unassembled Part No. 45.3
Assembled Part No. 45.3.1

- **Separator 45.3**

For many thin cables

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



Separator, asymmetrical

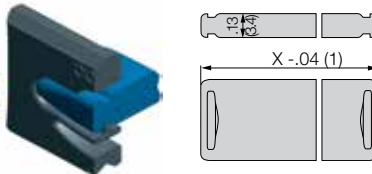
Unassembled Part No. 45.4
Assembled Part No. 45.4.1

- **Separator 45.4**

For side mounted applications

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

Lockable full-width shelves - for the standard interior separation



Full width shelf, lockable

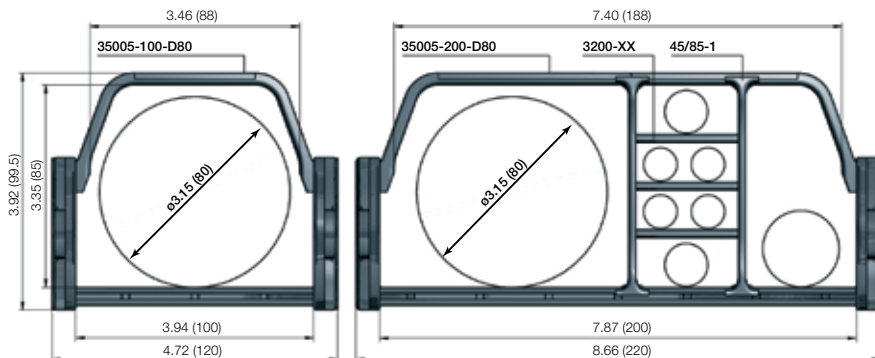
Unassembled Part No. 3200-X
Assembled Part No. 3210-X

- **Full width shelf, lockable**

is used when vertical and horizontal separation is required.

Width X in. (mm)	Part No. Unassembled	Part No. Assembled	Width X in. (mm)	Part No. Unassembled	Part No. Assembled
1.97 (050)	3200-50	3210-50	5.91 (150)	3200-150	3210-150
2.95 (075)	3200-75	3210-75	6.89 (175)	3200-175	3210-175
3.94 (100)	3200-100	3210-100	7.87 (200)	3200-200	3210-200
4.53 (115)	3200-115	3210-115	8.86 (225)	3200-225	3210-225
4.92 (125)	3200-125	3210-125	9.84 (250)	3200-250	3210-250





Part Number.

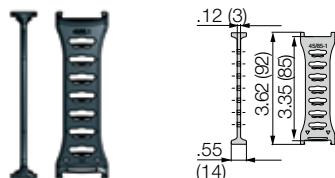
Extender crossbars for e-chains® that snap-open along inner radius		Extender crossbars for e-chains® that snap-open along outer radius		<i>Bi</i>	<i>Ba</i>
				in. (mm)	in. (mm)
3400-100D80-	<input type="checkbox"/> -0	3500-100D80-	<input type="checkbox"/> -0	2.95 (100)	3.58 (120)
3400-200D80-	<input type="checkbox"/> -0	3400-200D80-	<input type="checkbox"/> -0	4.92 (200)	5.55 (220)

Choose from the radii below for all of the above sizes

Radius (mm)		Example: 2700-10D58-	
R	075*	100*	100
	2.95 (075)	3.94 (100)	9.84 (250)

*Radius 075 and 100 are only available for Series 3500 e-chains®

Interior separation for extender crossbars

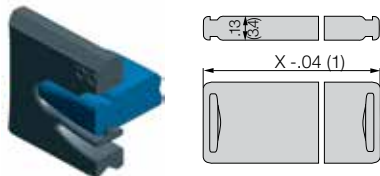


Separator, wide base

Unassembled	Part No. 45/85.1
Assembled	Part No. 45/85.1.1

- **Standard separator 45/85.1, wide base**
For maximum locking strength and safe standing. In standard configuration separators are assembled every 2nd e-chain® link.

Lockable full-width shelves - for the standard interior separation



Full width shelf, lockable

Unassembled	Part No. 3200-X
Assembled	Part No. 3210-X

- **Full width shelf, lockable**
is used when vertical and horizontal separation is required.

Width X in. (mm)	Part No. Unassembled	Part No. Assembled	Width X in. (mm)	Part No. Unassembled	Part No. Assembled
1.97 (050)	3200-50	3210-50	5.91 (150)	3200-150	3210-150
2.95 (075)	3200-75	3210-75	6.89 (175)	3200-175	3210-175
3.94 (100)	3200-100	3210-100	7.87 (200)	3200-200	3210-200
4.53 (115)	3200-115	3210-115	8.86 (225)	3200-225	3210-225
4.92 (125)	3200-125	3210-125	9.84 (250)	3200-250	3210-250

Separator with integrated strain relief

Strain relief separator Part No. 301-Z 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, it can be installed on the first or last e-chain® link and is easy to assemble without any screws.



For more information ► Chapter 10, Strain Relief

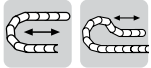
e-chain system® E2/000

Series 3400/3500

Mounting Bracket - Plastic

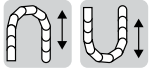
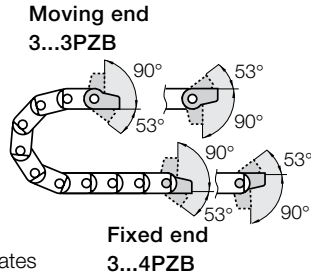


3400
3500



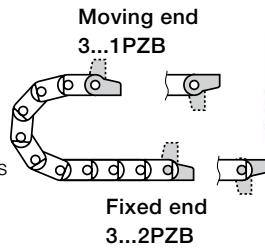
Option 1: pivoting

- For unsupported and gliding applications
- Well suited for tight installation conditions
- Detachable strain relief tiwrap plates
- Can be mounted on the fixed and/or moving end



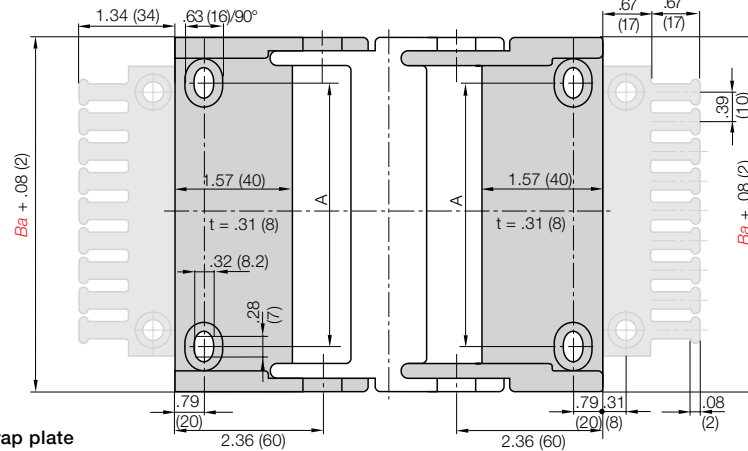
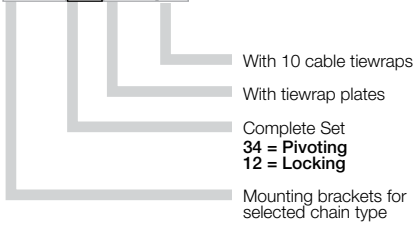
Option 2: locking

- For unsupported and gliding applications
- Extreme speed and/or accelerations
- For height restricted applications
- Can be mounted on the fixed and/or moving end



Part Number Structure

3075- 34 PZB K1



Full set, for both ends:

3075- [34] PZB Full set, each part with pin/bore + tiwrap plate

Single-part order:

3075- [3] PZB Mounting bracket with bore + tiwrap plate

3075- [4] PZB Mounting bracket with pin + tiwrap plate

Part No. Full Set (pivoting)

Without Tiwrap Plates

Series 3400:

3075-34PZ

Part No. Full Set (pivoting)

With Tiwrap Plates

Series 3400:

3075-34PZB

Part No. Full Set (pivoting)

With Tiwrap Plates + 10 cable ties

Series 3400:

3075-34PZBK1

For Chain Type	Part No. Full Set without Tiwrap Plate	Part No. Full Set with Tiwrap Plate	Part No. Full Set with Tiwrap Plate + 10 cable ties	Dimension A in. (mm)	Number of Teeth
3400/3500-050	3050- [] PZ	3050- [] PZB	3050- [] PZBK1	2.09 (28)	5
3400/3500-075	3075- [] PZ	3075- [] PZB	3075- [] PZBK1	2.09 (53)	7
3400/3500-100	3100- [] PZ	3100- [] PZB	3100- [] PZBK1	3.07 (78)	10
3400/3500-115	3115- [] PZ	3115- [] PZB	3115- [] PZBK1	3.66 (93)	11
3400/3500-125	3125- [] PZ	3125- [] PZB	3125- [] PZBK1	4.06 (103)	12
3400/3500-150	3150- [] PZ	3150- [] PZB	3150- [] PZBK1	5.04 (128)	15
3400/3500-175	3175- [] PZ	3175- [] PZB	3175- [] PZBK1	6.02 (153)	17
3400/3500-200	3200- [] PZ	3200- [] PZB	3200- [] PZBK1	7.01 (178)	20
3400/3500-225	3225- [] PZ	3225- [] PZB	3225- [] PZBK1	7.99 (203)	22
3400/3500-250	3250- [] PZ	3250- [] PZB	3250- [] PZBK1	8.98 (228)	25

34 or 12

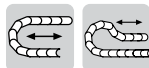
For pivoting brackets choose 34

For locking brackets choose 12

Example: 3075- 34 PZB

PDF: igus.com/e-chain-pdfs
Product information: igus.com/e-chains

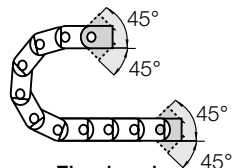




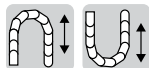
Option 1: pivoting

- For unsupported applications
- Bolted connection outside of chain cross section
- Confined installation conditions
- Attachment points on all sides
- Stackable

Moving end
34001...1



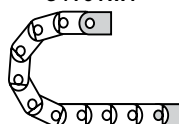
Fixed end
34001...2



Option 2: locking

- For vertical hanging/standing applications
- Bolted connection outside of chain cross section
- For very high speeds and accelerations
- Attachment points on all sides
- Stackable

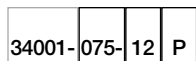
Moving end
34101...1



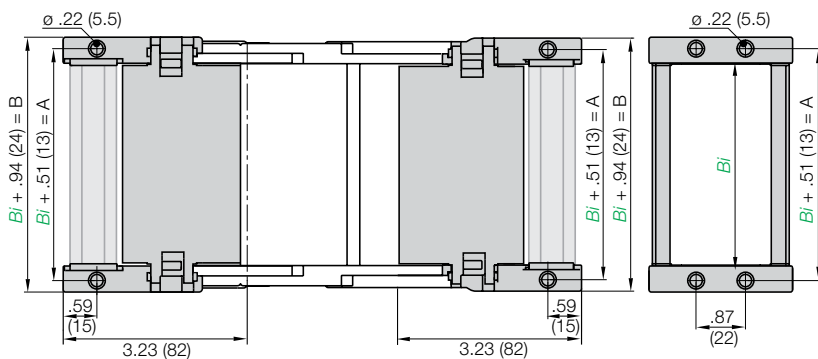
Fixed end
34101...2



Part Number Structure



- With profile rail
- Complete Set
- Width
- Mounting brackets for selected chain type
34001 = Pivoting
34101 = Locking



Full set, for both ends:

34001-12 P Full set, each part with pin/bore + profile rail

Single-part order:

34001-1 P Mounting bracket with bore + profile rail

34001-2 P Mounting bracket with pin + profile rail

Part No. Full Set (pivoting)

With Profile Rail

Series 3400/3500:

34001-Width-12P

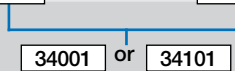
Part No. Full Set (pivoting)

Without Profile Rail

Series 3400/3500:

34001-Width-12

For Chain Type	Part No. Full set with Profile Rail	Part No. Full Set without Profile Rail	Dimension A in. (mm)	Dimension B in. (mm)
3400/3500-050	<input type="text"/> -050-12P	<input type="text"/> -050-12	2.48 (63)	2.91 (74)
3400/3500-075	<input type="text"/> -075-12P	<input type="text"/> -075-12	3.46 (88)	3.90 (99)
3400/3500-100	<input type="text"/> -100-12P	<input type="text"/> -100-12	4.45 (113)	4.88 (124)
3400/3500-115	<input type="text"/> -115-12P	<input type="text"/> -115-12	5.04 (128)	5.47 (139)
3400/3500-150	<input type="text"/> -150-12P	<input type="text"/> -150-12	6.42 (163)	6.85 (174)
3400/3500-175	<input type="text"/> -175-12P	<input type="text"/> -175-12	7.40 (188)	7.83 (199)



For pivoting brackets choose **34001**

For locking brackets choose **34101**

Example: **34001**-075-12P

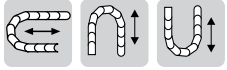
e-chain system® E2/000

Series 3400/3500

Mounting Bracket - Steel

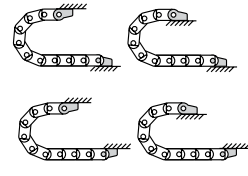
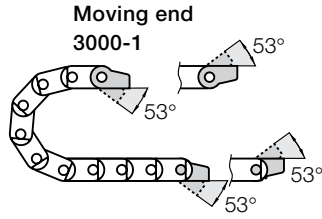


3400
3500



Option 1: Steel

- One part (two-piece) for all chain widths
- Electrically conductive
- Bolted connection outside of chain cross-section possible



Possible installation configurations -

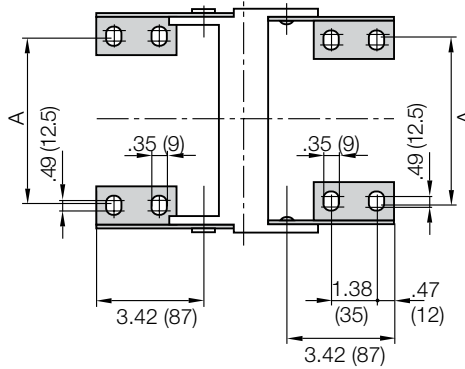
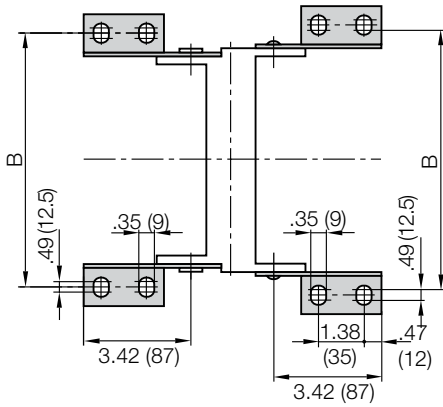
Fixed end
3000-2

3000-1

3000-2*

3000-1

3000-2



*pivoting with no stop, (360°)

Chain Type	Part No. Full Set	Dimension A		Dimension B	
		in.	(mm)	in.	(mm)
3400/3500-075	3000-12	2.09	(53)	4.37	(111)
3400/3500-100	3000-12	3.07	(78)	5.35	(136)
3400/3500-115	3000-12	3.66	(93)	5.94	(151)
3400/3500-150	3000-12	5.04	(128)	7.32	(186)
3400/3500-175	3000-12	6.02	(153)	8.35	(212)

Part No. Mounting Brackets Full Set

4 parts, 2 with pin, 2 with bore
Series 3400/3500:
3000-12

Part No. Mounting Bracket Moving End

2 parts, 1 left & 1 right
Series 3400/3500:
3000-1

Part No. Mounting Bracket Fixed End

2 parts, 1 left & 1 right
Series 3400/3500:
3000-2

PDF: igus.com/e-chain-pdfs
Product information: igus.com/e-chains



Chainfix clamps for the profile rail



igus® Chainfix strain relief elements are available in either steel or stainless steel. They can be adjusted with a hexagon socket and are available in single, double and triple configurations.

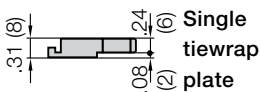
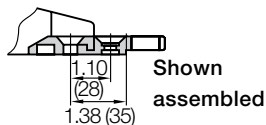
Part No. Single Clamp		Part No. Double Clamp		Part No. Triple Clamp		Cable ø	
Steel	Stainless	Steel	Stainless	Steel	Stainless	in.	(mm)
CFX12-1	CFX12-1E	CFX12-2	CFX12-2E	CFX12-3	-	.24 - .47	(06 - 12)
CFX14-1	CFX14-1E	CFX14-2	CFX14-2E	CFX14-3	-	.47 - .55	(12 - 14)
CFX16-1	CFX16-1E	CFX16-2	CFX16-2E	CFX16-3	-	.55 - .63	(14 - 16)
CFX18-1	CFX18-1E	CFX18-2	CFX18-2E	CFX18-3	-	.63 - .71	(16 - 18)
CFX20-1	CFX20-1E	CFX20-2	CFX20-2E	CFX20-3	-	.71 - .79	(18 - 20)
CFX22-1	CFX22-1E	CFX22-2	CFX22-2E	CFX22-3	-	.79 - .87	(20 - 22)
CFX26-1	CFX26-1E	CFX26-2	CFX26-2E	-	-	.87 - 1.02	(22 - 26)
CFX30-1	CFX30-1E	CFX30-2	CFX30-2E	-	-	1.02 - 1.18	(26 - 30)
CFX34-1	CFX34-1E	CFX34-2	CFX34-2E	-	-	1.18 - 1.34	(30 - 34)
CFX38-1	CFX38-1E	-	-	-	-	1.34 - 1.50	(34 - 38)
CFX42-1	CFX42-1E	-	-	-	-	1.50 - 1.65	(38 - 42)

For more information please refer to strain relief section of Chapter 10

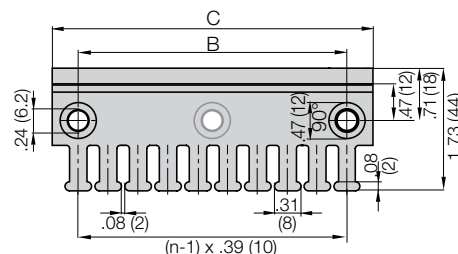
Tiewrap Plates

**Option 1:
Tiewrap plates as an individual part**

Available as an individual component, can be fixed onto a mounting bracket with the use of a profile rail.



Tiewrap Plate	n Number of Teeth	C Overall Width in. (mm)	B Bore Width in. (mm)	Center Bore
3050-ZB	5	1.97 (50)	1.18 (30)	no
3075-ZB	7	2.95 (75)	2.16 (55)	no
3100-ZB	10	3.94 (100)	3.15 (80)	no
3115-ZB	11	4.53 (115)	3.74 (95)	no
3125-ZB	12	4.92 (125)	4.13 (105)	no
3150-ZB	15	5.91 (150)	5.12 (130)	no
3175-ZB	17	6.89 (175)	6.10 (155)	no
3200-ZB	20	7.87 (200)	7.09 (180)	yes
3225-ZB	22	8.86 (225)	8.07 (205)	yes
3250-ZB	25	9.84 (250)	9.06 (230)	yes



For more information please refer to strain relief section of Chapter 10

**Option 2:
Clip-on Tiewrap plates**

Available as a clip-on tiewrap plate without the use of bolts They are inserted and removed with a screwdriver used as a lever. Clip-on tiewrap plates are also available as an attachment to the opening crossbars.

Part No.	Number of Teeth	Width of Strain Relief in. (mm)
3050-ZC	5	1.97 (50)
3075-ZC	7	2.95 (75)

For more information please refer to strain relief section of Chapter 10

Strain relief for steel mounting brackets

Clip-on connection is not possible with steel mounting brackets. In this case, the tiewrap plates must be bolted directly into separate bore holes in front of the mounting bracket. Alternatively the tiewrap plates 30XX-Z and ZS can be also used here. **Details chapter 10**



e-chain® E2/000

Series 3400/3500

Guide Troughs



3400
3500

Guide troughs are used with applications where the upper run of the e-chain® glides on the lower run. If using igus® steel guide troughs, the following components are required:

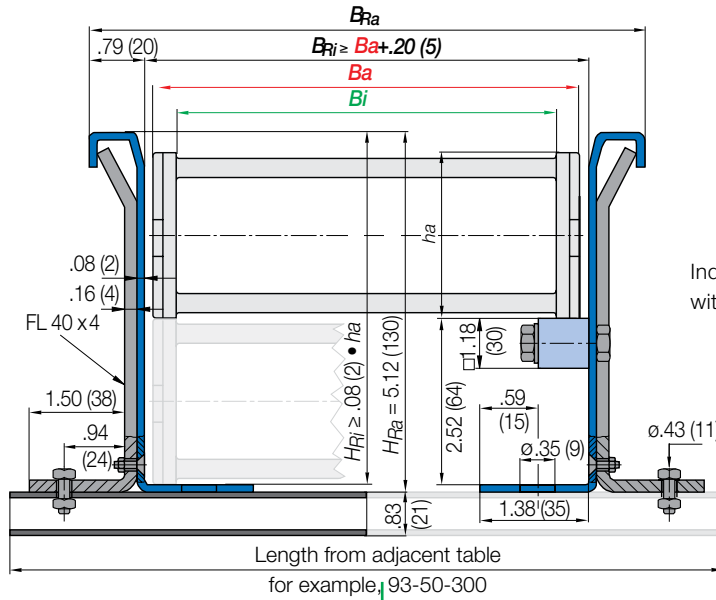
- Full travel length of guide trough
Part Number 93-30
- 1/2 travel length of glide bars
Part number 93-01
- Installation sets as end connectors
Part Number 93-50 -XX

-XX indicates the length of the profile rail on which the guide trough is mounted. The values and part numbers are specified in the table on the left. The standard length of the trough components and glide bars is 6.56 ft (2 m.) The required overall length of the guide trough directly correlates to the length of travel.

Example:

Width of Crossbar
3500-075-200-0

	B_{Ri}	Installation Part No.
-050	2.95 (75)	93-50-200
-075	3.94 (100)	93-50-225
-100	4.92 (125)	93-50-250
-115	5.51 (140)	93-50-250
-125	5.91 (150)	93-50-275
-150	6.89 (175)	93-50-300
-175	7.87 (200)	93-50-325
-200	8.86 (225)	93-50-350
-225	9.84 (250)	93-50-375
-250	10.83 (275)	93-50-400



Length of travel 164 ft (50 m)

Center mounted

Required guide troughs:

164 ft (50 m) guide trough

82 ft (25 m) glide bar

= 25 sections of 6.56 ft (2 m) guide trough

Part No. 93-30

= 13 sections of 6.56 ft (2 m) glide bar

Part No. 93-01

Required number of installation sets:

= Number of guide trough components

+ 1

= 25 + 1 = 26

Part number of the installation sets

Example: 93-50-300 for 15.75" (400 mm) long profile rail.

- Guide trough
- Glide bars
- Installation set "Basic"
- Profile rail

Individual attachment without profile rail

* Specialized guide trough available upon request

PDF: igus.com/e-chain-pdfs
Product information: igus.com/e-chains



3450
3480



e-chain system® E2/000

Series 3450/3480 e-chain®

Half-Tubes and Full Tubes



Price Index



Series 3450/3480

Special Features / Options



IPA Qualification Certificate, Air Cleanliness Class ISO Class 3 (at v = 2 m/s) upon request



ESD classification: Electrically conductive ESD/ATEX version upon request



UL94 V2 classifications upon request

Assembly Tips



Insert screwdriver into the slot, using a lever action apply pressure to the screwdriver to release

Other Installation Methods

Vertical, hanging ≤ 262 ft (80 m)

Vertical, standing ≤ 9.84 ft (3 m)

Side-mounted, un_supp. ≤ 3.28 ft (1 m)

Rotary requires further calculation

Usage Guidelines



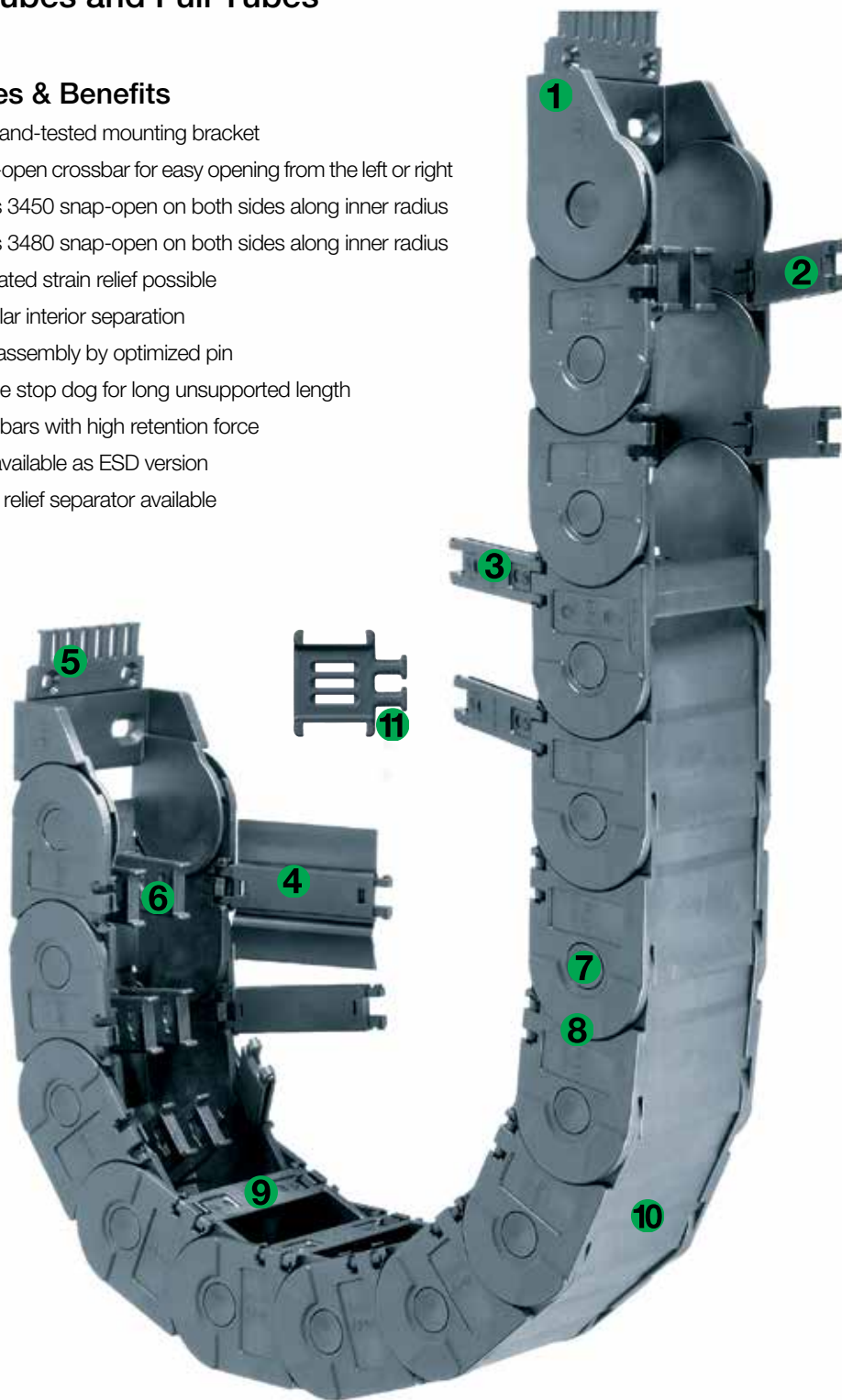
- If snap-open accessibility along the inner or outer radius is required
- If integrated strain relief at the mounting point is required
- If modular interior separation is needed
- If long service life is required
- If easy installation is required



- If the application is very simple
➤ **Series E300 E-Z Chain**
- If greater stability is required
➤ **Series E4-42 E4-1 Series**

Features & Benefits

- 1 Tried-and-tested mounting bracket
- 2 Snap-open crossbar for easy opening from the left or right
- 3 Series 3450 snap-open on both sides along inner radius
- 4 Series 3480 snap-open on both sides along inner radius
- 5 Integrated strain relief possible
- 6 Modular interior separation
- 7 Easy assembly by optimized pin
- 8 Double stop dog for long unsupported length
- 9 Crossbars with high retention force
- 10 Also available as ESD version
- 11 Strain relief separator available



Order Example: Complete e-chain®

Please indicate chain length or number of links. Example:

9.84 ft (3 m) **3450-100-125-0**



e-chain®

With 2 separators **45.1.1** assembled every 2nd link



Interior Separation

1 Set **3125-34PZB**



Mounting Bracket

e-chain system® E2/000

Series 3450/3480 e-chain® Half-Tubes and Full Tubes

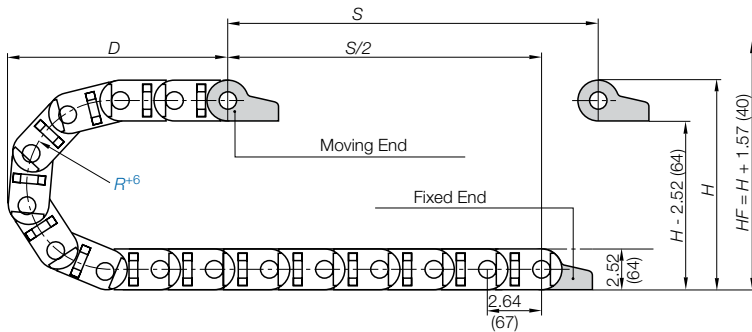
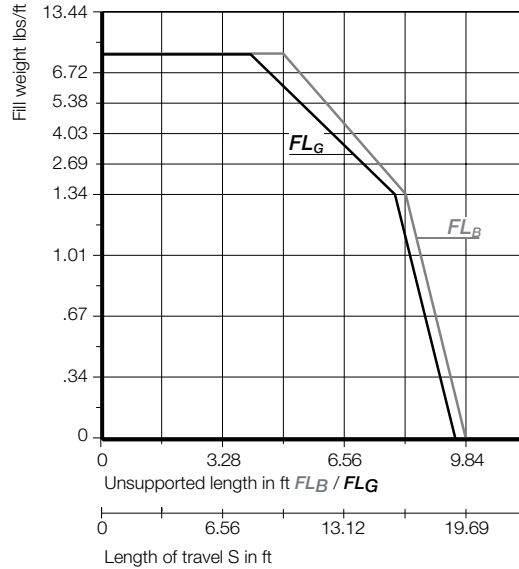
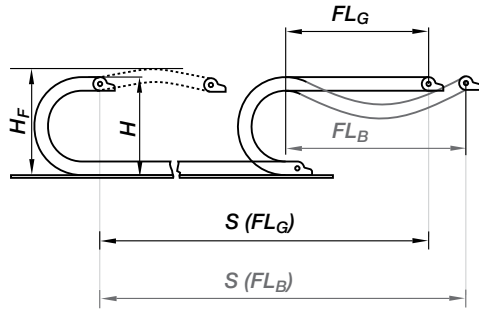
Installation Dimensions



3450
3480

Short travel, unsupported length

- FL_B = unsupported with permitted sag
 - FL_G = unsupported with straight upper run
- Further information ► Design, Chapter 1



Pitch per link: = 2.64" (67 mm)
Links per ft (m): = 4.57 (15)
For center mount applications:
Chain length = $S/2 + K$

The required clearance height: $HF = H + 1.57$ in. (40 mm) (with 1.68 lbs/ft (2.5 kg/m) fill weight).
Please consult igus® if space is particularly restricted.

R	2.95 (075*)	3.94 (100*)	4.92 (125)	5.91 (150)	7.87 (200)	9.84 (250)	11.81 (300)
H	8.42 (214)	10.39 (264)	12.36 (314)	14.33 (364)	18.27 (464)	22.20 (564)	26.14 (664)
D	8.19 (208)	9.17 (233)	10.16 (258)	11.14 (283)	13.11 (333)	15.08 (383)	17.05 (433)
K	14.57 (370)	17.72 (450)	20.87 (530)	24.02 (610)	30.11 (765)	36.22 (920)	42.52 (1080)

* Radius available upon request, please consult igus® for delivery time
Radii 075, 100: the e-tube is not completely enclosed. Please consult igus®
Before using Series 3450/3480 on long travels please consult igus®.

Short Travels - Unsupported



Unsupported e-chains® feature positive camber over short travels. This must be accounted for when specifying the clearance height. Please refer to **Installation dimensions** for further details.

Legend

- S = Length of travel
- R = Bending radius
- H = Nominal clearance height
- D = Overlength e-chain® radius in final position
- $K = \pi \cdot R + \text{safety buffer}$
- HF = Required clearance height



PDF: igus.com/e-chain-pdfs
Product information: igus.com/e-chains



Speed / acceleration FL_G	max. 65.6 ft/s (20 m/s) / max. 656 ft/s ² (200 m/s ²)
Speed / acceleration FL_B	max. 9.84 ft/s (3 m/s) / max. 19.69 ft/s ² (6 m/s ²)
Gliding speed / acceleration (maximum)	max. 32.8 ft/s (10 m/s) / max. 164 ft/s ² (50 m/s ²)
Material - permitted temperature	igumid G / -40°F (-40°C) up to +248°F (+120° C)
Flammability Class, igumid G	VDE 0304 IIC UL94 HB

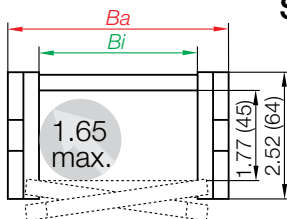
Technical Data



Details of material properties

► Chapter 1

Series 3450 - snap-open along the inner radius, closed along the outer

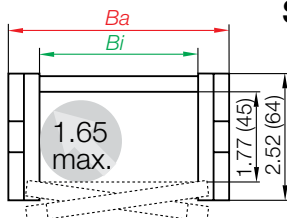


Part Number Structure

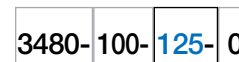


- Color - Black
- Bending radius
- Width
- Series

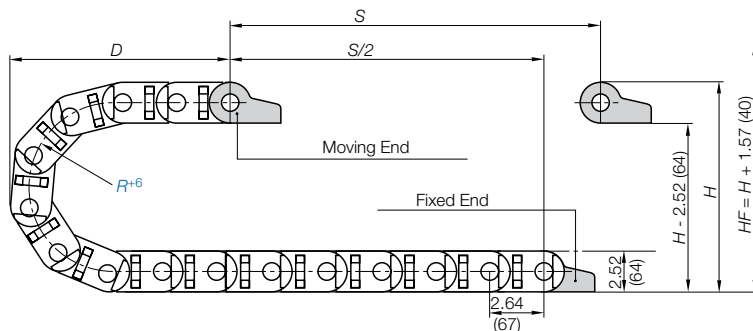
Series 3480 - snap-open along the inner radius, fully enclosed



Part Number Structure



- Color - Black
- Bending radius
- Width
- Series



Supplement part number with required radius.
Example: 3450-100-125-0
Pitch: 264 in. (67 mm) per link links/ft(m) = 4.57 (15)

Part Number.		Weight	
Snap-open inner radius	Snap-open outer radius	3450 lbs/ft (kg/m)	3480 lbs/ft (kg/m)
3450-050- <input type="checkbox"/> -0	3480-050- <input type="checkbox"/> -0	≈ 1.19 (1.77)	≈ 1.32 (1.96)
3450-075- <input type="checkbox"/> -0	3480-075- <input type="checkbox"/> -0	≈ 1.31 (1.95)	≈ 1.39 (2.07)
3450-100- <input type="checkbox"/> -0	3480-100- <input type="checkbox"/> -0	≈ 1.44 (2.15)	≈ 1.55 (2.30)
3450-115- <input type="checkbox"/> -0	3480-115- <input type="checkbox"/> -0	≈ 1.55 (2.30)	≈ 1.65 (2.46)
3450-125- <input type="checkbox"/> -0	3480-125- <input type="checkbox"/> -0	≈ 1.63 (2.42)	≈ 1.67 (2.49)
3450-150- <input type="checkbox"/> -0	3480-150- <input type="checkbox"/> -0	≈ 1.75 (2.60)	≈ 1.76 (2.62)
3450-175- <input type="checkbox"/> -0	3480-175- <input type="checkbox"/> -0	≈ 1.84 (2.75)	≈ 1.88 (2.80)
3450-200- <input type="checkbox"/> -0	3480-200- <input type="checkbox"/> -0	≈ 1.95 (2.90)	≈ 1.98 (2.94)
3450-225- <input type="checkbox"/> -0	3480-225- <input type="checkbox"/> -0	≈ 2.12 (3.15)	≈ 2.10 (3.12)
3450-250- <input type="checkbox"/> -0	3480-250- <input type="checkbox"/> -0	≈ 2.22 (3.30)	≈ 2.20 (3.28)

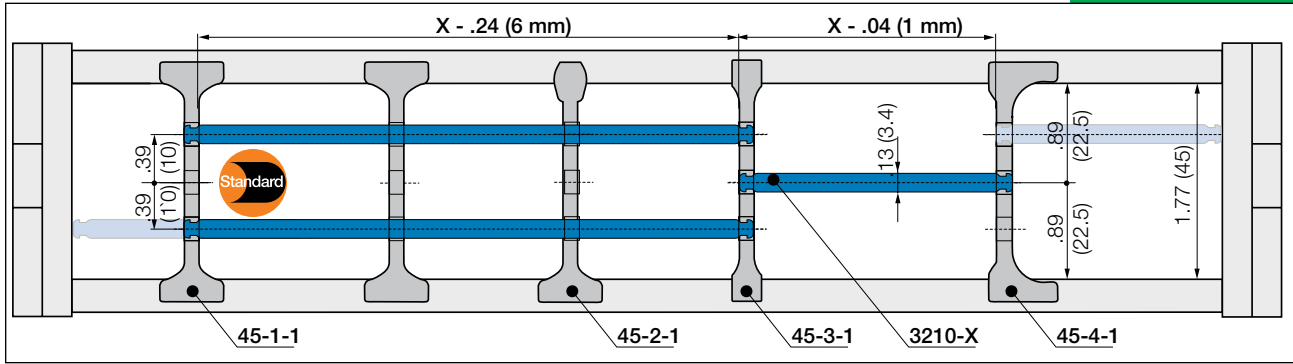
Choose from the radii below for all of the above sizes							
Radius (mm)							
	075*	100*	125	150	200	250	300
R	2.95 (075*)	3.94 (100*)	4.92 (125)	5.91 (150)	7.87 (200)	9.84 (250)	11.81 (300)
H	8.42 (214)	10.39 (264)	12.36 (314)	14.33 (364)	18.27 (464)	22.20 (564)	26.14 (664)
D	8.19 (208)	9.17 (233)	10.16 (258)	11.14 (283)	13.11 (333)	15.08 (383)	17.05 (433)
K	14.57 (370)	17.72 (450)	20.87 (530)	24.02 (610)	30.11 (765)	36.22 (920)	42.52 (1080)

* Radius available upon request, please consult igus® for delivery time
Radii 075, 100: the e-tube is not completely enclosed. Please consult igus®

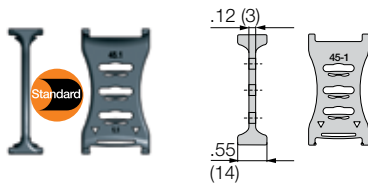
e-chain system® E2/000
 Series 3450/3480 e-chain® Half-Tubes and Full Tubes
 Interior Separation



3450
 3480

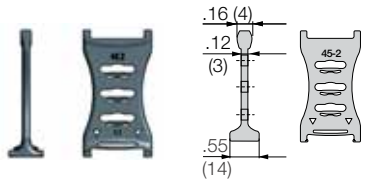


In the standard configuration separators are assembled every 2nd e-chain® link



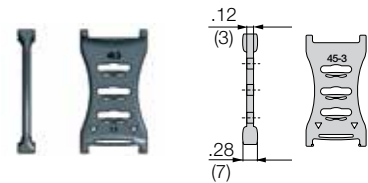
Separator, wide base
 Unassembled Part No. 45.1
 Assembled Part No. 45.1.1

- **Standard separator 45.1 for all applications**
 Separator with wide base for maximum locking strength and safe standing in e-chains®.



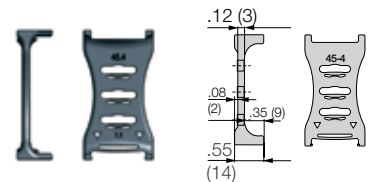
Separator, narrow head
 Unassembled Part No. 45.2
 Assembled Part No. 45.2.1

- **Separator 45.2 For even faster installation**
 is used when vertical and horizontal separation is required. Due to its slot, it allows basic vertical/horizontal shelving arrangements.



Separator, narrow base
 Unassembled Part No. 45.3
 Assembled Part No. 45.3.1

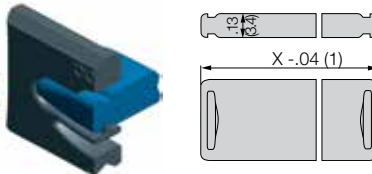
- **Separator 45.3 For many thin cables**
 is used when vertical and horizontal separation is required. Due to its slot, it allows basic vertical/horizontal shelving arrangements.



Separator, asymmetrical
 Unassembled Part No. 45.4
 Assembled Part No. 45.4.1

- **Separator 45.4 For side mounted applications**
 is used when vertical and horizontal separation is required.

Lockable full-width shelves - for the standard interior separation



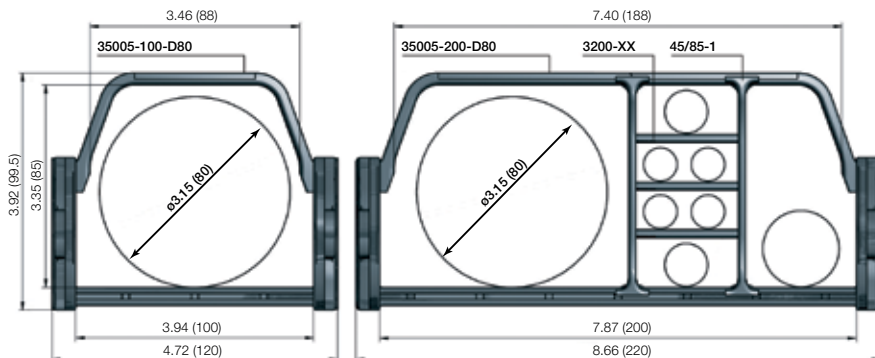
Full width shelf, lockable
 Unassembled Part No. 3200-X
 Assembled Part No. 3210-X

- **Full width shelf, lockable**
 is used when vertical and horizontal separation is required.

Width X in. (mm)	Part No. Unassembled	Part No. Assembled	Width X in. (mm)	Part No. Unassembled	Part No. Assembled
1.97 (050)	3200-050	3210-050	5.91 (150)	3200-150	3210-150
2.95 (075)	3200-075	3210-075	6.89 (175)	3200-175	3210-175
3.94 (100)	3200-100	3210-100	7.87 (200)	3200-200	3210-200
4.53 (115)	3200-115	3210-115	8.86 (225)	3200-225	3210-225
4.92 (125)	3200-125	3210-125	9.84 (250)	3200-250	3210-250

PDF: igus.com/e-chain-pdfs
 Product information: igus.com/e-chains





Part Number.

Extender crossbars
for e-chains®
that snap-open
along inner radius

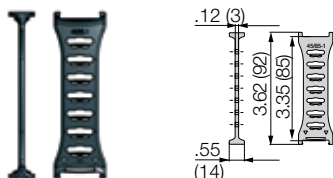
	<i>Bi</i>	<i>Ba</i>
	in. (mm)	in. (mm)
3450-100D80-□-0	2.95 (100)	3.58 (120)
3450-200D80-□-0	4.92 (200)	5.55 (220)

Choose from the radii below for all of the above sizes

	Radius (mm)				
	125	150	200	250	300
R	4.92 (125)	5.91 (150)	6.89 (175)	7.87 (200)	9.84 (250)

*Extender crossbars are only available for Series 3450 e-chains®

Interior separation for extender crossbars

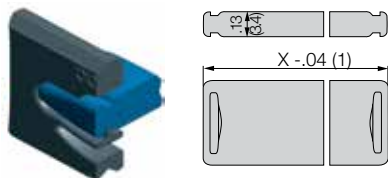


Separator, wide base

Unassembled	Part No. 45/85.1
Assembled	Part No. 45/85.1.1

- **Standard separator 45/85.1, wide base**
For maximum locking strength and safe standing. In standard configuration separators are assembled every 2nd e-chain® link.

Lockable full-width shelves - for the standard interior separation



Full width shelf, lockable

Unassembled	Part No. 3200-X
Assembled	Part No. 3210-X

- **Full width shelf, lockable**
is used when vertical and horizontal separation is required.

Width X in. (mm)	Part No. Unassembled	Part No. Assembled	Width X in. (mm)	Part No. Unassembled	Part No. Assembled
1.97 (050)	3200-050	3210-050	5.91 (150)	3200-150	3210-150
2.95 (075)	3200-075	3210-075	6.89 (175)	3200-175	3210-175
3.94 (100)	3200-100	3210-100	7.87 (200)	3200-200	3210-200
4.53 (115)	3200-115	3210-115	8.86 (225)	3200-225	3210-225
4.92 (125)	3200-125	3210-125	9.84 (250)	3200-250	3210-250

Separator with integrated strain relief

Strain relief separator Part No. 34501-Z 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, it can be installed on the first or last e-chain® link and is easy to assemble without any screws.



For more information ► Chapter 10, Strain Relief

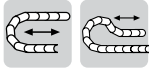
e-chain system® E2/000

Series 3450/3480 e-chain® Half-Tubes and Full Tubes

Mounting Bracket - Plastic

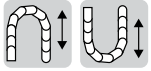


3450
3480



Option 1: pivoting

- For unsupported and gliding applications
- Well suited for tight installation conditions
- Detachable strain relief tiwrap plates
- Can be mounted on the fixed and/or moving end



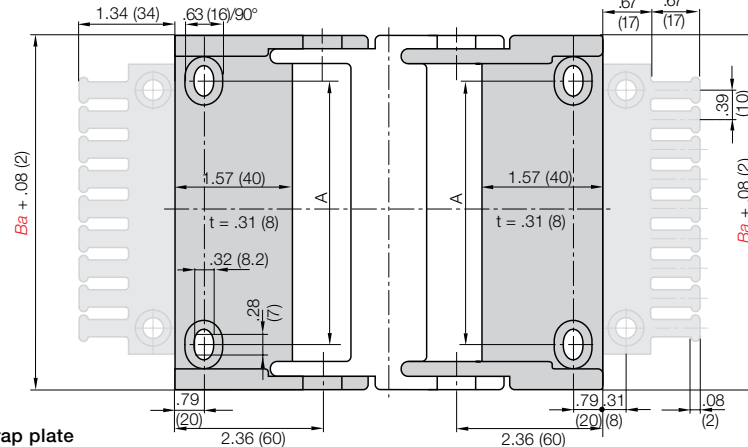
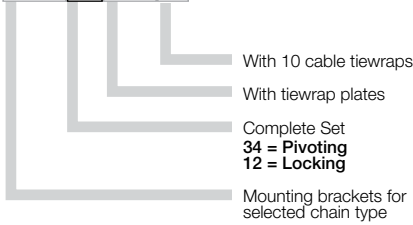
Option 2: locking

- For unsupported and gliding applications
- Extreme speed and/or accelerations
- For height restricted applications
- Can be mounted on the fixed and/or moving end



Part Number Structure

3075- 34 PZB K1



Full set, for both ends:

3075- [34] PZB Full set, each part with pin/bore + tiwrap plate

Single-part order:

3075- [3] PZB Mounting bracket with bore + tiwrap plate

3075- [4] PZB Mounting bracket with pin + tiwrap plate

Part No. Full Set (pivoting)

Without Tiwrap Plates

Series 3450:

3075-34PZ

Part No. Full Set (pivoting)

With Tiwrap Plates

Series 3450:

3075-34PZB

Part No. Full Set (pivoting)

With Tiwrap Plates + 10 cable ties

Series 3450:

3075-34PZBK1

For Chain Type	Part No. Full Set without Tiwrap Plate	Part No. Full Set with Tiwrap Plate	Part No. Full Set with Tiwrap Plate + 10 cable ties	Dimension A in. (mm)	Number of Teeth
3450/3480-050	3050- [] PZ	3050- [] PZB	3050- [] PZBK1	2.09 (28)	5
3450/3480-075	3075- [] PZ	3075- [] PZB	3075- [] PZBK1	2.09 (53)	7
3450/3480-100	3100- [] PZ	3100- [] PZB	3100- [] PZBK1	3.07 (78)	10
3450/3480-115	3115- [] PZ	3115- [] PZB	3115- [] PZBK1	3.66 (93)	11
3450/3480-125	3125- [] PZ	3125- [] PZB	3125- [] PZBK1	4.06 (103)	12
3450/3480-150	3150- [] PZ	3150- [] PZB	3150- [] PZBK1	5.04 (128)	15
3450/3480-175	3175- [] PZ	3175- [] PZB	3175- [] PZBK1	6.02 (153)	17
3450/3480-200	3200- [] PZ	3200- [] PZB	3200- [] PZBK1	7.01 (178)	20
3450/3480-225	3225- [] PZ	3225- [] PZB	3225- [] PZBK1	7.99 (203)	22
3450/3480-250	3250- [] PZ	3250- [] PZB	3250- [] PZBK1	8.98 (228)	25

34 or 12

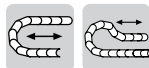
For pivoting brackets choose 34

For locking brackets choose 12

Example: 3075-34PZB

PDF: igus.com/e-chain-pdfs
Product information: igus.com/e-chains

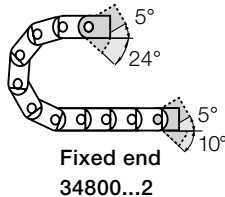




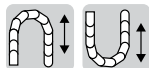
Option 1: pivoting

- For unsupported applications
- Bolted connection outside of chain cross section
- Confined installation conditions
- Attachment points on all sides
- Stackable

Moving end
34800...1



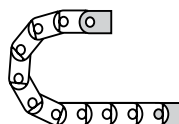
Fixed end
34800...2



Option 2: locking

- For vertical hanging/standing applications
- Bolted connection outside of chain cross section
- For very high speeds and accelerations
- Attachment points on all sides
- Stackable

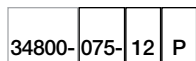
Moving end
34810...1



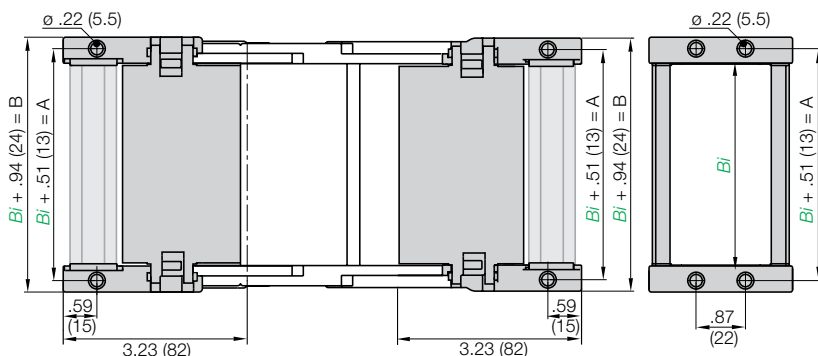
Fixed end
34810...2



Part Number Structure



- 34800 - With profile rail
 - 075 - Complete Set
 - 12 - Width
 - P - Mounting brackets for selected chain type
- 34800 = Pivoting
34810 = Locking



Full set, for both ends:

34800-12 P Full set, each part with pin/bore + profile rail

Single-part order:

34800-1 P Mounting bracket with bore + profile rail

34800-2 P Mounting bracket with pin + profile rail

Part No. Full Set (pivoting)

With Profile Rail

Series 3480:

34800-Width-12P

Part No. Full Set (pivoting)

Without Profile Rail

Series 3480:

34800-Width-12

For Chain Type	Part No. Full set with Profile Rail	Part No. Full Set without Profile Rail	Dimension A in. (mm)	Dimension B in. (mm)
3450/3480-050	<input type="text"/> -050-12P	<input type="text"/> -050-12	2.48 (63)	2.91 (74)
3450/3480-075	<input type="text"/> -075-12P	<input type="text"/> -075-12	3.46 (88)	3.90 (99)
3450/3480-100	<input type="text"/> -100-12P	<input type="text"/> -100-12	4.45 (113)	4.88 (124)
3450/3480-115	<input type="text"/> -115-12P	<input type="text"/> -115-12	5.04 (128)	5.47 (139)
3450/3480-125	<input type="text"/> -125-12P	<input type="text"/> -125-12	5.43 (138)	5.87 (149)
3450/3480-150	<input type="text"/> -150-12P	<input type="text"/> -150-12	6.42 (163)	6.85 (174)
3450/3480-175	<input type="text"/> -175-12P	<input type="text"/> -175-12	7.40 (188)	7.83 (199)
3450/3480-200	<input type="text"/> -200-12P	<input type="text"/> -200-12	8.38 (213)	8.82 (224)
3450/3480-225	<input type="text"/> -225-12P	<input type="text"/> -225-12	9.37 (238)	9.80 (249)
3450/3480-250	<input type="text"/> -250-12P	<input type="text"/> -250-12	10.35 (263)	10.79 (274)

34800 or 34810

For pivoting brackets choose **34800**

For locking brackets choose **34810**

Example: **34800**-075-12P

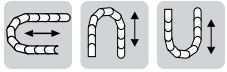
e-chain system® E2/000

Series 3450/3480 e-chain® Half-Tubes and Full Tubes

Mounting Bracket - Steel

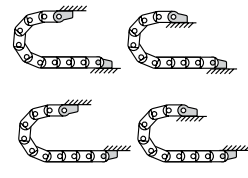
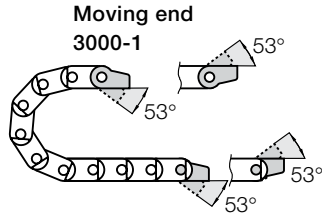


3450
3480



Option 1: Steel

- One part (two-piece) for all chain widths
- Electrically conductive
- Bolted connection outside of chain cross-section possible



Possible installation configurations -

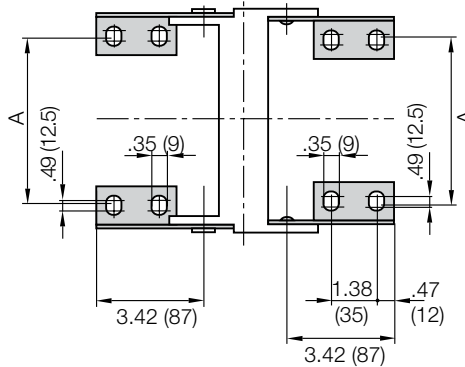
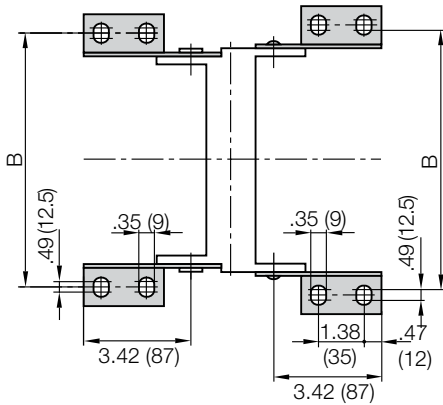
Fixed end
3000-2

3000-1

3000-2*

3000-1

3000-2



*pivoting with no stop, (360°)

Chain Type	Part No. Full Set	Dimension A		Dimension B	
		in.	(mm)	in.	(mm)
3450/3480-050	3000-12	1.10	(28)	3.39	(86)
3450/3480-075	3000-12	2.09	(53)	4.37	(111)
3450/3480-100	3000-12	3.07	(78)	5.35	(136)
3450/3480-115	3000-12	3.66	(93)	5.94	(151)
3450/3480-125	3000-12	4.06	(103)	6.34	(161)
3450/3480-150	3000-12	5.04	(128)	7.32	(186)
3450/3480-175	3000-12	6.02	(153)	8.35	(212)
3450/3480-200	3000-12	7.01	(178)	9.29	(236)
3450/3480-225	3000-12	7.99	(203)	10.28	(261)
3450/3480-250	3000-12	8.98	(228)	11.26	(286)

Part No. Mounting Brackets Full Set

4 parts, 2 with pin, 2 with bore
Series 3480:
3000-12

Part No. Mounting Bracket Moving End

2 parts, 1 left & 1 right
Series 3480:
3000-1

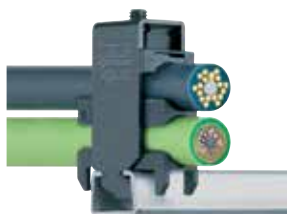
Part No. Mounting Bracket Fixed End

2 parts, 1 left & 1 right
Series 3480:
3000-2

PDF: igus.com/e-chain-pdfs
Product information: igus.com/e-chains



Chainfix clamps for the profile rail



igus® Chainfix strain relief elements are available in either steel or stainless steel. They can be adjusted with a hexagon socket and are available in single, double and triple configurations.

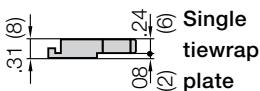
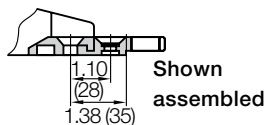
Part No. Single Clamp		Part No. Double Clamp		Part No. Triple Clamp		Cable ø	
Steel	Stainless	Steel	Stainless	Steel	Stainless	in.	(mm)
CFX12-1	CFX12-1E	CFX12-2	CFX12-2E	CFX12-3	-	.24 - .47	(06 - 12)
CFX14-1	CFX14-1E	CFX14-2	CFX14-2E	CFX14-3	-	.47 - .55	(12 - 14)
CFX16-1	CFX16-1E	CFX16-2	CFX16-2E	CFX16-3	-	.55 - .63	(14 - 16)
CFX18-1	CFX18-1E	CFX18-2	CFX18-2E	CFX18-3	-	.63 - .71	(16 - 18)
CFX20-1	CFX20-1E	CFX20-2	CFX20-2E	CFX20-3	-	.71 - .79	(18 - 20)
CFX22-1	CFX22-1E	CFX22-2	CFX22-2E	CFX22-3	-	.79 - .87	(20 - 22)
CFX26-1	CFX26-1E	CFX26-2	CFX26-2E	-	-	.87 - 1.02	(22 - 26)
CFX30-1	CFX30-1E	CFX30-2	CFX30-2E	-	-	1.02 - 1.18	(26 - 30)
CFX34-1	CFX34-1E	CFX34-2	CFX34-2E	-	-	1.18 - 1.34	(30 - 34)
CFX38-1	CFX38-1E	-	-	-	-	1.34 - 1.50	(34 - 38)
CFX42-1	CFX42-1E	-	-	-	-	1.50 - 1.65	(38 - 42)

For more information please refer to strain relief section of Chapter 10

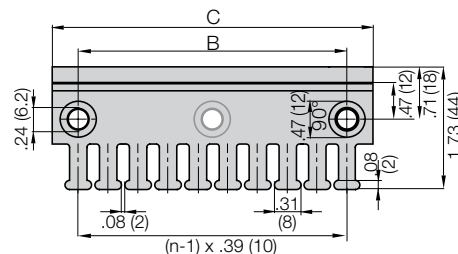
Tiewrap Plates

**Option 1:
Tiewrap plates as an individual part**

Available as an individual component, can be fixed onto a mounting bracket with the use of a profile rail.



Tiewrap Plate	n Number of Teeth	C Overall Width in. (mm)	B Bore Width in. (mm)	Center Bore
3050-ZB	5	1.97 (50)	1.18 (30)	no
3075-ZB	7	2.95 (75)	2.16 (55)	no
3100-ZB	10	3.94 (100)	3.15 (80)	no
3115-ZB	11	4.53 (115)	3.74 (95)	no
3125-ZB	12	4.92 (125)	4.13 (105)	no
3150-ZB	15	5.91 (150)	5.12 (130)	no
3175-ZB	17	6.89 (175)	6.10 (155)	no
3200-ZB	20	7.87 (200)	7.09 (180)	yes
3225-ZB	22	8.86 (225)	8.07 (205)	yes
3250-ZB	25	9.84 (250)	9.06 (230)	yes



For more information please refer to strain relief section of Chapter 10

**Option 2:
Clip-on Tiewrap plates**

Available as a clip-on tiewrap plate without the use of bolts They are inserted and removed with a screwdriver used as a lever. Clip-on tiewrap plates are also available as an attachment to the opening crossbars.



Part No.	Number of Teeth	Width of Strain Relief in. (mm)
3050-ZC	5	1.97 (50)
3075-ZC	7	2.95 (75)

For more information please refer to strain relief section of Chapter 10

Strain relief for steel mounting brackets

Clip-on connection is not possible with steel mounting brackets. In this case, the tiewrap plates must be bolted directly into separate bore holes in front of the mounting bracket. Alternatively the tiewrap plates 30XX-Z and ZS can be also used here. **Details chapter 10**





PDF: igus.com/e-chain-pdfs
Product information: igus.com/e-chains



Price Index


Series 255

Special Features / Options

 IPA Qualification Certificate, Air
 Cleanliness Class ISO Class 3
 (at v = 2 m/s) upon request

 ESD classification:
 Electrically conductive ESD/
 ATEX version upon request

 UL94 V2 classifications
 upon request

Assembly Tips

 Insert screwdriver into the slot, using a
 lever action apply pressure to the screw-
 driver to release

Other Installation Methods

Vertical, hanging ≤ 131 ft (40 m)

Vertical, standing ≤ 9.84 ft (3 m)

Side-mounted, un_supp. ≤ 3.28 ft (1 m)

Rotary requires further calculation

Usage Guidelines


- If quieter operation at very high speeds is required
- If integrated strain relief at the mounting point is required
- If modular interior separation is needed
- If easy installation is required



- If each link requires snap-open accessibility on both sides
 - **Series E4-21 E4-1**
- If maximum stability is required
 - **Series E4-21 E4-1**
- If the application is very simple and easy filling is required
 - **Series E300 E-Z Chain**

Features & Benefits

- 1 Tried-and-tested mounting bracket
- 2 Snap-open crossbar for easy opening from the left or right
- 3 Series 255 snap-open on both sides along outer radius
- 4 Integrated strain relief possible
- 5 Modular interior separation
- 6 Easy assembly by optimized pin
- 7 Double stop dog for long unsupported length
- 8 Crossbars with high retention force
- 9 Also available as ESD version


Order Example: Complete e-chain®

Please indicate chain length or number of links. Example:

 3.28 ft (1 m) **255-10-200-0**

e-chain®

 With 2 separators **2552** assembled every 2nd link

Interior Separation

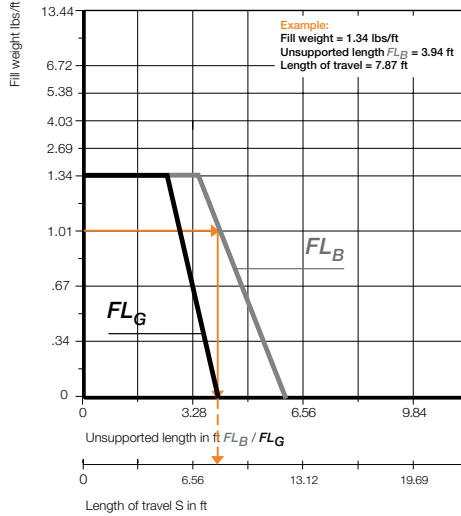
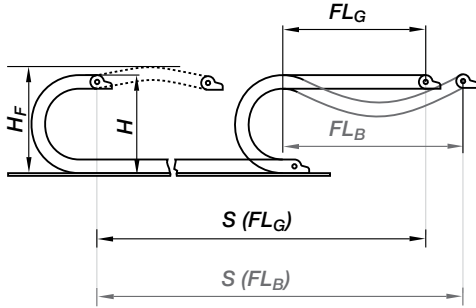
 1 Set **2105-34PZ1B** with tiewrap plate

Mounting Bracket

e-chain system® E2 Medium Series 255 e-chain® Installation Dimensions

Short travel, unsupported length

- FL_B = unsupported with permitted sag
 - FL_G = unsupported with straight upper run
- Further information ► Design, Chapter 1

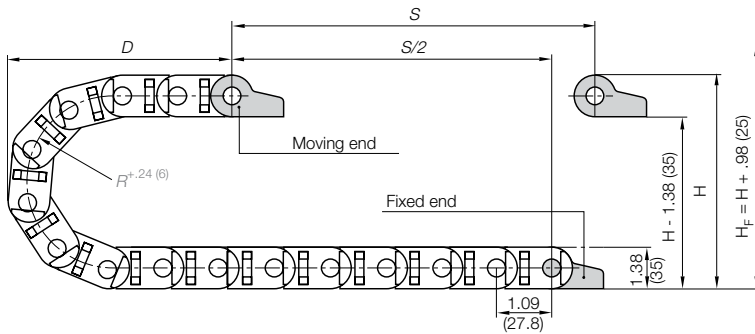


Short Travels - Unsupported

Unsupported e-chains® feature positive camber over short travels. This must be accounted for when specifying the clearance height. Please refer to **Installation dimensions** for further details.

Legend

- S = Length of travel
- R = Bending radius
- H = Nominal clearance height
- D = Overlength e-chain® radius in final position
- $K = \pi \cdot R + \text{safety buffer}$
- H_f = Required clearance height



Pitch per link = 1.09" (27.8 mm)
Links per ft (m) = 11 (36)
For center mount applications:
Chain length = $S/2 + K$

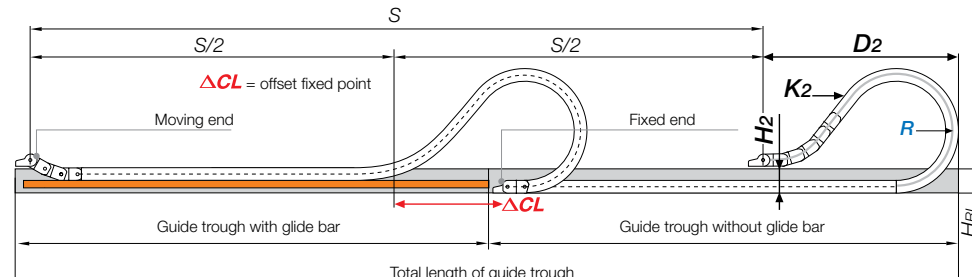
The required clearance height: $H_f = H + .98$ in. (25 mm) (with 1.01 lbs/ft (1.5 kg/m) fill weight). Please consult igus® if space is particularly restricted.

R	2.17 (055)	2.95 (075)	3.94 (100)	4.92 (125)	5.91 (150)	6.89 (175)	7.87 (200)	8.86 (225)	9.84 (250)
H_f^{+0}	5.71 (145)	7.28 (185)	9.25 (235)	11.22 (285)	13.19 (335)	15.16 (385)	17.13 (435)	19.09 (485)	21.06 (535)
D	4.48 (114)	5.28 (134)	6.26 (159)	7.24 (184)	8.23 (209)	9.21 (234)	10.20 (259)	11.18 (284)	12.17 (309)
K	9.06 (230)	11.61 (295)	14.57 (370)	17.72 (450)	20.87 (530)	24.02 (610)	26.97 (685)	30.12 (765)	33.27 (845)

For long travels with lowered mounting height

Long travel lengths from 32.8 ft. (10 m) to max. 328 ft. (100 m)

For center mount applications:
Chain length = $S/2 + K_2$



In the case of travels between 13 ft. (4m) and 32.8 ft. (10m) we recommend a longer unsupported length.

R	2.17 (055)	2.95 (075)	3.94 (100)	4.92 (125)	5.91 (150)	6.89 (175)	7.87 (200)	8.86 (225)	9.84 (250)
H_2	4.33 (110)	5.91 (150)	3.94 (100)	3.94 (100)	3.94 (100)	3.94 (100)	3.94 (100)	3.94 (100)	3.94 (100)
D_2^{+25}	4.49 (114)	5.28 (134)	14.96 (380)	19.49 (495)	22.44 (570)	26.18 (665)	29.13 (740)	40.94 (1040)	44.49 (1130)
K_2	9.06 (230)	11.61 (295)	24.09 (612)	31.73 (806)	37.20 (945)	43.78 (1112)	48.15 (1223)	63.39 (1610)	70.04 (1779)
ΔCL	—	—	8.74 (222)	12.68 (322)	14.65 (372)	17.20 (437)	19.57 (497)	—	32.36 (822)

Long Travels - Gliding

If the unsupported length is exceeded, the e-chain® must glide on itself. This requires a guide trough. **Design, Chapter 1**

Speed / acceleration FL_G	max. 65.6 ft/s (20 m/s) / max. 656 ft/s ² (200 m/s ²)
Speed / acceleration FL_B	max. 9.84 ft/s (3 m/s) / max. 19.69 ft/s ² (6 m/s ²)
Gliding speed / acceleration (maximum)	max. 32.8 ft/s (10 m/s) / max. 164 ft/s ² (50 m/s ²)
Material - permitted temperature	igumid G / -40°F (-40°C) up to +248°F (+120°C)
Flammability Class, igumid G	VDE 0304 IIC UL94 HB

Technical Data



Details of material properties

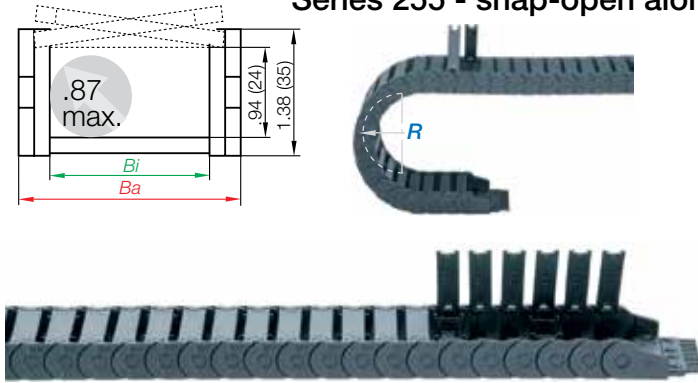
► Chapter 1



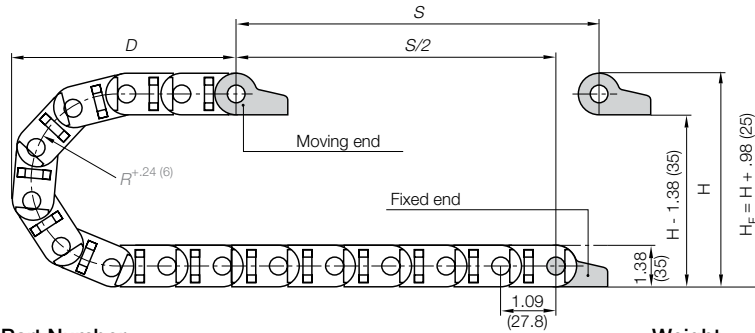
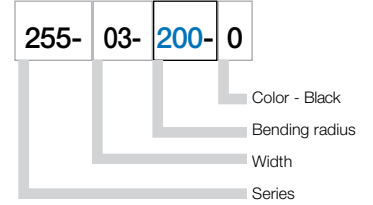
PDF: igus.com/e-chain-pdfs
Product information: igus.com/e-chains



Series 255 - snap-open along the outer radius



Part Number Structure



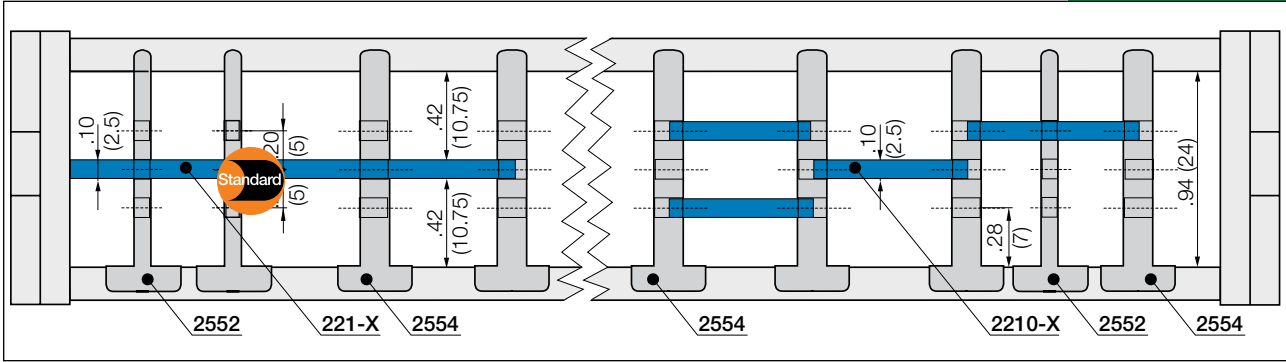
Supplement part number with required radius.

Example: 255-03-**200**-0
Pitch: 1.09 in. (27.8 mm) per link
links/ft(m) = 11 (36)

Part Number.	<i>Bi</i>	<i>Ba</i>	Weight
Snap-open inner radius	in. (mm)	in. (mm)	lbs/ft (kg/m)
255-03- <input type="text"/> -0	1.97 (38)	2.76 (54)	≈ 0.54 (0.81)
255-05- <input type="text"/> -0	2.95 (57)	3.74 (73)	≈ 0.60 (0.90)
255-07- <input type="text"/> -0	3.94 (77)	4.72 (93)	≈ 0.68 (1.01)
255-10- <input type="text"/> -0	4.53 (103)	5.31 (119)	≈ 0.77 (1.15)

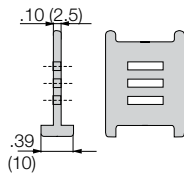
Choose from the radii below for all of the above sizes
Radius (mm) Example: 255-03-**200**-0

055	075	100	125	150	175	200	225	250
2.17 (055)	2.95 (075)	3.94 (100)	4.92 (125)	5.91 (150)	6.89 (175)	7.87 (200)	8.86 (225)	9.84 (250)
5.71 (145)	7.28 (185)	9.25 (235)	11.22 (285)	13.19 (335)	15.16 (385)	17.13 (435)	19.09 (485)	21.06 (535)
4.48 (114)	5.28 (134)	6.26 (159)	7.24 (184)	8.23 (209)	9.21 (234)	10.20 (259)	11.18 (284)	12.17 (309)
9.06 (230)	11.61 (295)	14.57 (370)	17.72 (450)	20.87 (530)	24.02 (610)	26.97 (685)	30.12 (765)	33.27 (845)



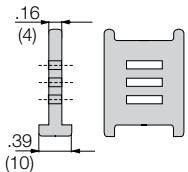
In the standard configuration separators are assembled every 2nd e-chain® link

Separators



Slotted Separator for e-chains®
 Unassembled Part No. 2551
 Assembled Part No. 2552

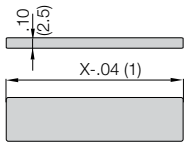
- **Standard slotted separator 2551**
 Separator with wide base for maximum locking strength and safe standing in e-chains®.



Slotted separator for e-chains®
 Unassembled Part No. 2553
 Assembled Part No. 2554

- **Slotted Separator 2553**
 is used when vertical and horizontal separation is required. Due to its slot, it allows basic vertical/horizontal shelving arrangements.

Full-width shelves

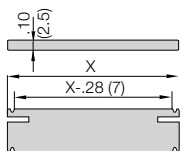


Full-width shelf for e-chains®
 Unassembled Part No. 220-X
 Assembled Part No. 221-X

- **Full-width shelf 220-X**
 is used when vertical and horizontal separation is required. Due to its slot, it allows basic vertical/horizontal shelving arrangements.

Width X	Part No.	Part No.	Width X	Part No.	Part No.
in. (mm)	Unassembled	Assembled	in. (mm)	Unassembled	Assembled
1.50 (038)	2200-38	2210-38	3.03 (077)	2200-73	2210-73
2.24 (057)	2200-58	2210-58	4.06 (103)	2200-88	2210-88

Shelves

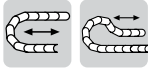


Shelf for e-chains®
 Unassembled Part No. 2200-X
 Assembled Part No. 2210-X

- **Shelf 2200-X**
 is used when vertical and horizontal separation is required.

Width X	Part No.	Part No.	Width X	Part No.	Part No.	Width X	Part No.	Part No.
in. (mm)	Unassembled	Assembled	in. (mm)	Unassembled	Assembled	in. (mm)	Unassembled	Assembled
0.71 (018)	2200-18	2210-18	1.69 (043)	2200-43	2210-43	3.46 (088)	2200-88	2210-88
0.91 (023)	2200-23	2210-23	1.89 (048)	2200-48	2210-48	3.90 (099)	2200-99	2210-99
1.10 (028)	2200-28	2210-28	2.28 (058)	2200-58	2210-58			
1.30 (033)	2200-33	2210-33	2.68 (068)	2200-68	2210-68			
1.50 (038)	2200-38	2210-38	2.87 (073)	2200-73	2210-73			

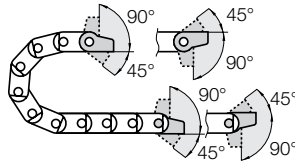




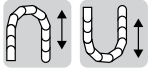
Option 1: pivoting

- For unsupported and gliding applications
- Well suited for tight installation conditions
- Detachable strain relief tiwrap plates
- Can be mounted on the fixed and/or moving end

Moving end
3...3PZB



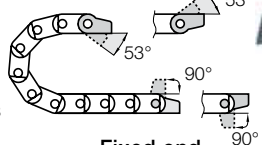
Fixed end
3...4PZB



Option 2: locking

- For vertical hanging and standing applications
- Extreme speed and/or accelerations
- For height restricted applications
- Can be mounted on the fixed and/or moving end

Moving end
3...1PZB

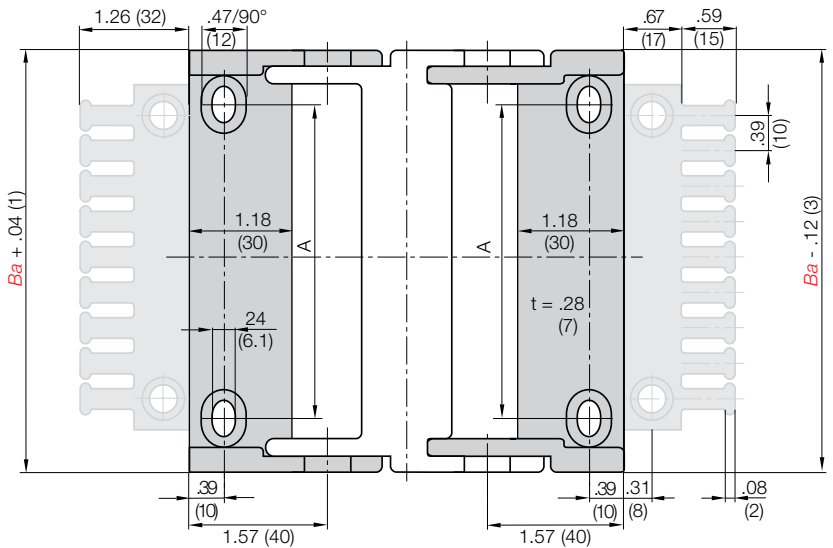
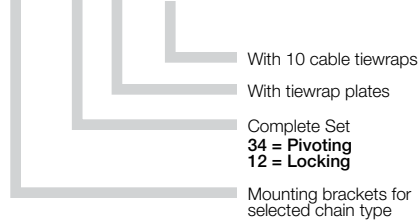


Fixed end
3...2PZB



Part Number Structure

2035- 34 PZB K1



Full set, for both ends:

2035- 34 PZB Full set, each part with pin/bore + tiwrap plate

Single-part order:

2035- 3 PZB Mounting bracket with bore + tiwrap plate

2035- 4 PZB Mounting bracket with pin + tiwrap plate

Part No. Full Set (pivoting)
Without Tiwrap Plates

Series 255:
2035-34PZ1

Part No. Full Set (pivoting)
With Tiwrap Plates

Series 255:
2035-34PZ1B

Part No. Full Set (pivoting)
With Tiwrap Plates + 10 cable ties

Series 255:
2035-34PZ1BK1

For Chain Type	Part No. Full Set without Tiwrap Plate	Part No. Full Set with Tiwrap Plate	Part No. Full Set with Tiwrap Plate + 10 cable ties	Dimension A in. (mm)	Number of Teeth
255-03	2035- <input type="checkbox"/> PZ1	2035- <input type="checkbox"/> PZ1B	2035- <input type="checkbox"/> PZ1BK1	.98 (25)	4
255-05	2055- <input type="checkbox"/> PZ1	2055- <input type="checkbox"/> PZ1B	2055- <input type="checkbox"/> PZ1BK1	1.73 (44)	6
255-07	2075- <input type="checkbox"/> PZ1	2075- <input type="checkbox"/> PZ1B	2075- <input type="checkbox"/> PZ1BK1	2.52 (64)	8
255-10	2105- <input type="checkbox"/> PZ1	2105- <input type="checkbox"/> PZ1B	2105- <input type="checkbox"/> PZ1BK1	3.54 (90)	10

34 or 12

For pivoting brackets choose 34
For locking brackets choose 12
Example: 2035- 34 PZ1B

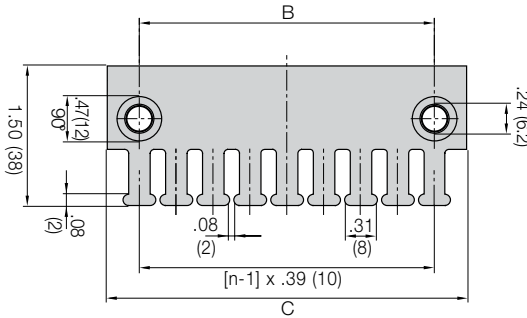
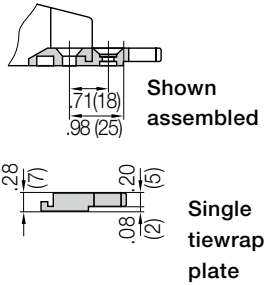
Tiewrap Plates



Option 1:
 Tiewrap plates as an individual part

Available as an individual component or can be fixed onto a mounting bracket with the use of a profile rail.

Series 2000



Tiewrap Plates	n Number of Teeth	Dimension C	Dimension B
2020-ZB	3	1.18 (30)	.59 (15)
2030-ZB	4	1.57 (40)	.79 (20)
2040-ZB	5	1.97 (50)	1.18 (30)
2050-ZB	6	2.36 (60)	1.57 (40)
2070-ZB	8	3.15 (80)	2.36 (60)
2090-ZB	9	3.54 (90)	2.76 (70) = 2030-ZB + 2040-ZB combined
2100-ZB	10	3.94 (100)	3.15 (80) = 2050-ZB x 2 pieces combined
2125-ZB	12	4.72 (120)	3.94 (100)

If used with KMA brackets with profile rail please add "KMA" to the end of the part number.

Example: 2020-ZBKMA



Guide troughs are used with applications where the upper run of the e-chain® glides on the lower run. If using igus® steel guide troughs, the following components are required:

- Full travel length of guide trough
Part Number 92-30
- 1/2 travel length of glide bars
Part Number 92-01
- Installation sets as end connectors
Part Number 92-50-XX

-XX indicates the length of the profile rail on which the guide trough is mounted. The values and part numbers are specified in the table on the left. The standard length of the trough components and glide bars is 6.56 ft (2 m.) The required overall length of the guide trough directly correlates to the length of travel.

Example:
Length of travel 164 ft (50 m)
Center mounted

Required guide troughs:
164 ft (50 m) guide trough
82 ft (25 m) glide bar
= 25 sections of 6.56 ft
(2 m) guide trough
Part No. 92-30
= 13 sections of 6.56 ft (2 m) glide bar
Part No. 92-01

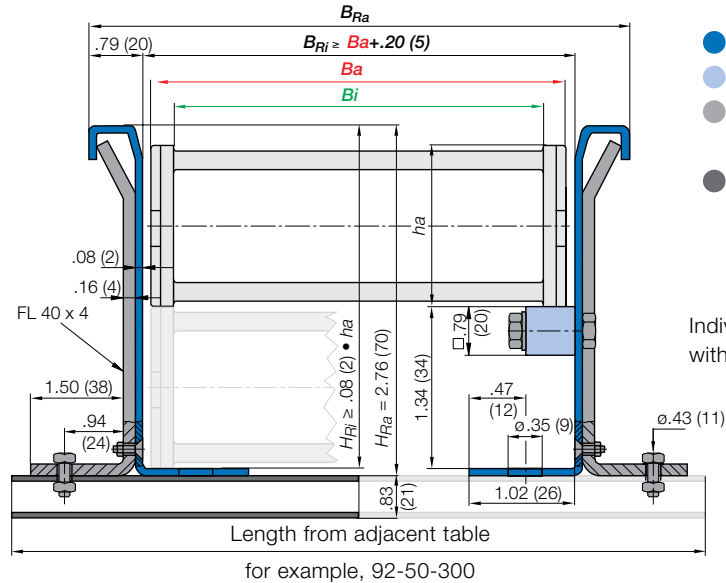


Required number of installation sets:
= Number of guide trough components + 1
= 25 + 1 = 26
Part number of the installation sets

Example: 92-50-400 for 15.75" (400 mm) long profile rail.

Width of Crossbar
255-03-200-0

	B_{Ri}	Installation Part No.
-03	2.32 (59)	92-50-175
-05	3.07 (78)	92-50-200
-07	3.86 (98)	92-50-225
-10	4.88 (124)	92-50-250



- Guide trough
- Glide bars
- Installation set "Basic"
- Profile rail

Individual attachment without profile rail

Standard length profile rail

* Specialized guide trough available upon request



PDF: igus.com/e-chain-pdfs
Product information: igus.com/e-chains





igus[®] E2 tubes



E2 tubes - protection against hot chips and debris

E2 e-tube

Series R100, R and R1000

Laboratory tests and numerous field applications over the past 20 years prove that igus® e-chains® and fully enclosed e-tubes protect cables used in welding robots and machine tools. For extreme-temperature applications, igus® offers e-tubes made from its igumid HT material, which repels hot chips and flying debris reaching 1,562°F (850°C). All standard E2 and E4 e-tubes are available made from igumid HT, upon request.

Typical industries and applications

- Tooling machines
- Woodworking machines
- All kind of industries and machines with chip, dirt and dust



iF-Design Awards -
Series R117/118 and Series R68



ESD Classification: Electrically conductive
ESD/ATEX version upon request



Flammability Class
VDE 0304 IIC UL94 HB



Series R - For higher speeds and smooth running



Series R100 - Cost effective alternative, for applications with low and medium speeds





E2 e-tubes in chip-area of a tooling machine. Resistant against hot metal chips up to 1,562°F (850°C)



U-shaped supported e-tube for high lateral acceleration



Standing application - R68 Tube -
Note: the first links are supported

RX system e-tube with chip repellent design

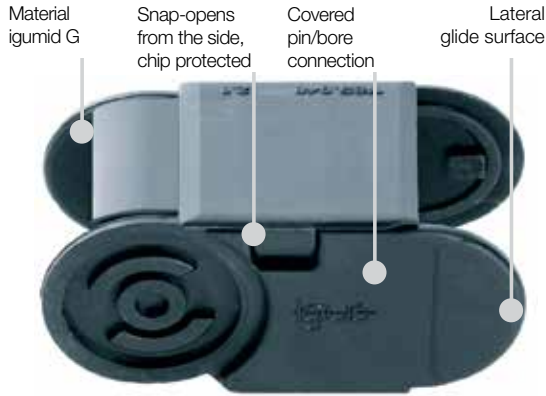
Repels chips, is extremely tight, and can still be opened!

Series RX ► Page 5.69



e-chain system® E2 tubes

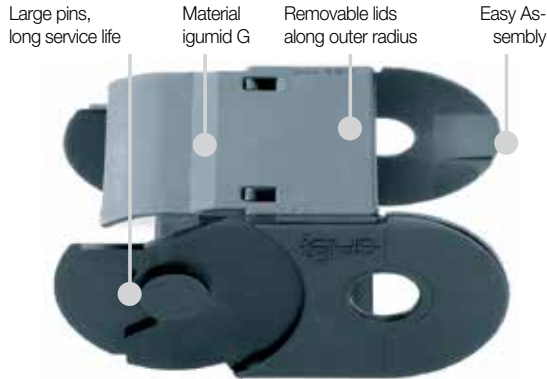
Selection Guide



E2 Series R100 - robust and tight

- Very good protection against chips (also hot chips)
- Hinged, snap-open, removable lids along inner or outer radius reduce assembly time
- Space-efficient with optimized ratio of inner dimension to outer dimension
- Double stop dog for long service life and strong unsupported lengths
- Universal KMA mounting brackets with attachment capability on all sides
- You can find more technical data about the material, chemical resistance, temperatures ➤ **Design, Chapter 1**

Series	Inner height <i>hi</i>		Inner width <i>Bi</i>		Outer width <i>Ba</i>		Outer height <i>ha</i>		Bending radius <i>R</i>	
	in.	(mm)	in.	(mm)	in.	(mm)	in.	(mm)	in.	(mm)
R117/118	.83	(21)	.79-3.94	(20-100)	1.26-4.41	(32-112)	1.10	(28)	2.48-7.09	(63 - 180)
R157/158	1.57	(40)	1.57-7.87	(40-200)	2.20-8.50	(56-216)	1.97	(50)	3.94-9.84	(100 - 250)
R167/168	1.97	(50)	1.97-9.84	(50-250)	2.68-10.55	(68-268)	2.52	(64)	3.94-11.81	(100 - 300)



E2 Series R - small pitch for smooth motion

- Protection for cables and hoses against chips (also hot chips)
- Small pitch for low noise, smooth operation
- Smooth, chip repellent exterior
- Lids removable for assembly time reduction
- Double stop dog for strong unsupported lengths
- KMA mounting brackets with attachment capability on all sides
- Very small radii possible due to small pitch
- You can find more technical data about the material, chemical resistance, temperatures ➤ **Design, Chapter 1**

Series	Inner height <i>hi</i>		Inner width <i>Bi</i>		Outer width <i>Ba</i>		Outer height <i>ha</i>		Bending radius <i>R</i>	
	in.	(mm)	in.	(mm)	in.	(mm)	in.	(mm)	in.	(mm)
R48	.98	(25)	.98-5.12	(25-130)	1.42-5.55	(36-141)	1.42	(36)	2.36-9.84	(60 - 250)
R58	1.38	(35)	1.97-7.87	(50-200)	2.60-8.50	(66-216)	1.97	(50)	2.95-9.84	(75 - 250)
R68	1.77	(45)	1.97-9.84	(50-250)	2.68-10.55	(68-268)	2.52	(64)	3.94-11.81	(100 - 300)



Series R2 - Cost-effective chip protection

- Protection for cables and hoses against chips (also hot chips)
- Covered in/bore connection
- Smooth, chip repellent exterior
- Lids openable along the outer radius from left or right sides
- Double stop dog for strong unsupported lengths
- KMA mounting brackets with attachment capability on all sides
- Light with large inner height
- You can find more technical data about the material, chemical resistance, temperatures ➤ **Design, Chapter 1**

Series	Inner height <i>hi</i>		Inner width <i>Bi</i>		Outer width <i>Ba</i>		Outer height <i>ha</i>		Bending radius <i>R</i>	
	in.	(mm)	in.	(mm)	in.	(mm)	in.	(mm)	in.	(mm)
R2.75	2.95	(75)	4.37-7.87	(111-200)	5.31-8.82	(135-224)	3.54	(90)	5.12-9.84	(130-250)



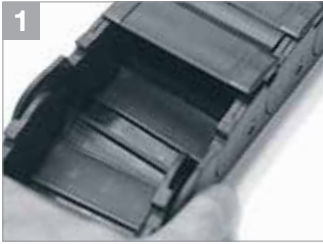
Available from stock. Orders ship as early as today.*

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

e-chain system® E2 tubes

Assembly Instructions

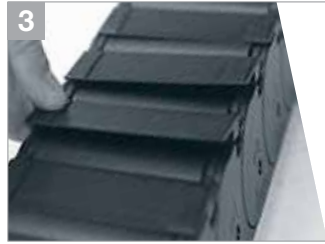
e-chains® - Assembling E2 Series R100 e-tubes



1 Push, click - and snap in pin



2 Swivel lids - push and snap

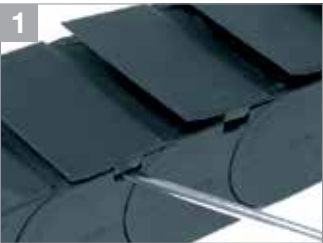


3 Slide last lid



4 Push and snap

e-chains® - Separating E2 Series R100 e-tubes



1 Lever open lid



2 Bend e-tube to remove lid



1 Release side-link

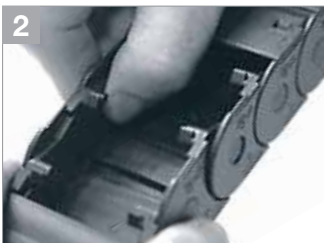


2 Twist and pull apart

e-chains® - Assembling E2 Series R48, R58, R68 e-tubes



1 Push and click



2 Snap in pin



3 Slide lid



4 Push and snap

e-chains® - Separating E2 Series R48, R58, R68 e-tubes



1 Lever open lid



2 Remove lid



3 Release side-link



4 Twist and pull apart

e-chains® - Separating E2 Series R2.75 e-tubes



1 Lever open lid



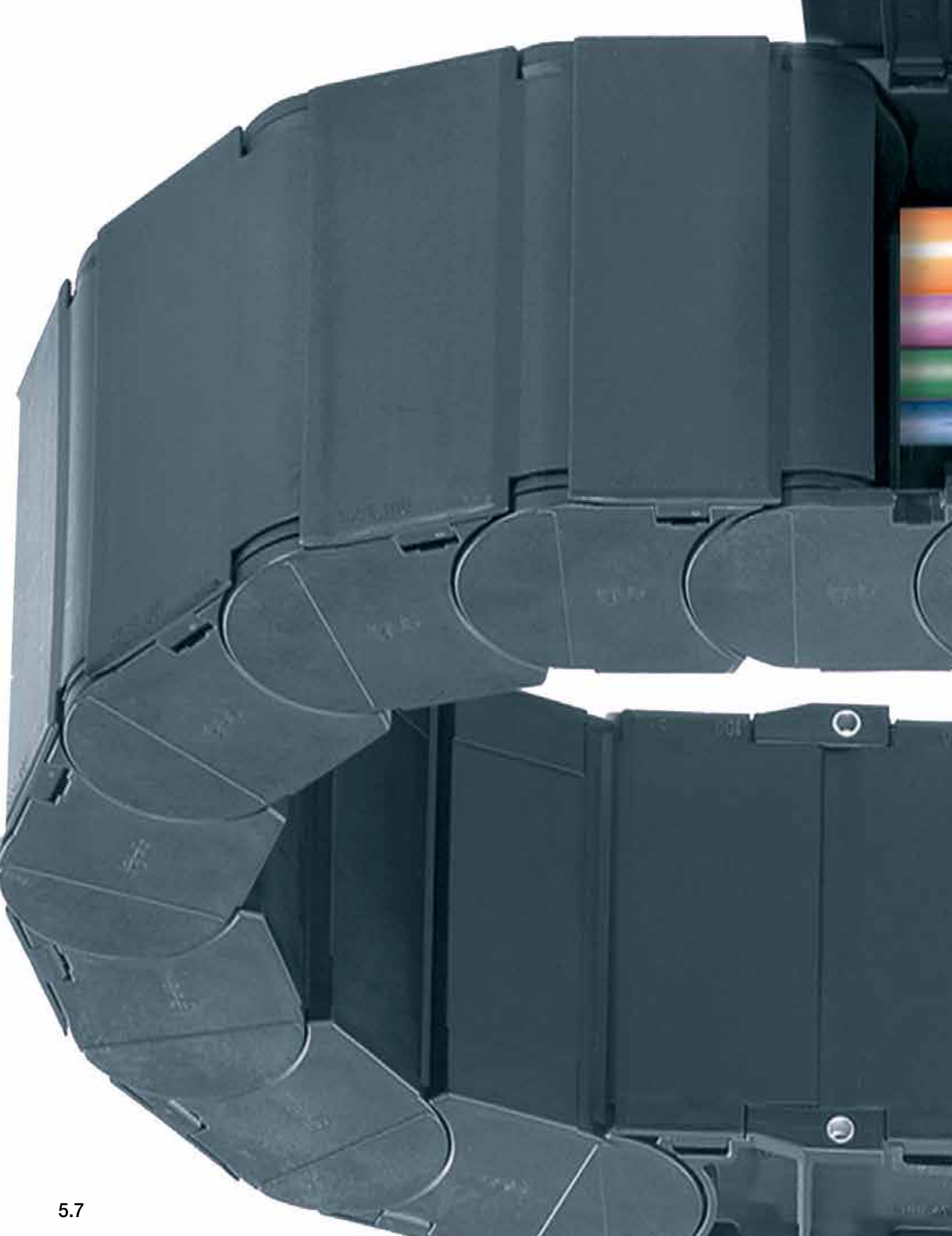
2 Remove lid



3 Release side-link



4 Twist and pull apart





E2 R100

**e-tubes for cost-effective
protection against dirt and chips**



Price Index



Series R117/R118

Special Features / Options



ESD classification:
Electrically conductive ESD/
ATEX version upon request

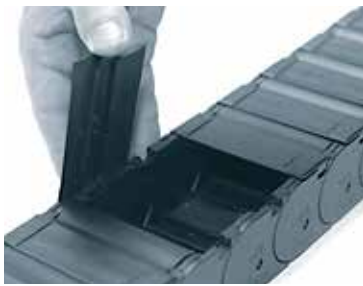


Flammability Class
VDE 0304 IIC UL94 HB



iF-Design Award Winner

Assembly Tips



Lids of the e-tube Series R100 are hinged for easy access

Other Installation Methods

Vertical, hanging ≤ 65.6 ft (20 m)

Vertical, standing ≤ 6.56 ft (2 m)

Side-mounted, un supp. ≤ 2.29 ft (0.7 m)

Rotary requires further calculation

Usage Guidelines



- If snap-open accessibility along inner or outer radius is required
- If price is an issue
- If flush attachment is required



- For smoother running and smaller pitch
➤ Series R48 E2 tubes
- If accessibility along the sides of the radius is required
➤ Series R4-28 E4-1

Features & Benefits

- 1 Effective chip protection, even against hot metal
- 2 chips
- 3 Double stop dog for strong unsupported length
- 4 Smooth, chip-repellent exterior
- 5 Lateral glide surfaces for side-mounted operation
Universal KMA mounting brackets with attachment
- 6 capability on all sides
Snap-open from the side, covered pin/bore
- 7 connection
Space-efficient with optimized ratio of inner to outer
- 8 dimension
Snap-open lids along the inner or outer radius



Order Example: Complete e-chain®

Please indicate chain length or number of links. Example:

3.28 ft (1 m) 117-100-100-0



e-chain®

With 2 separators 1186-01 assembled every 2nd link



Interior Separation

1 Set 11800-100-14



Mounting Bracket

e-chain system® E2 tubes

Series R117/R118

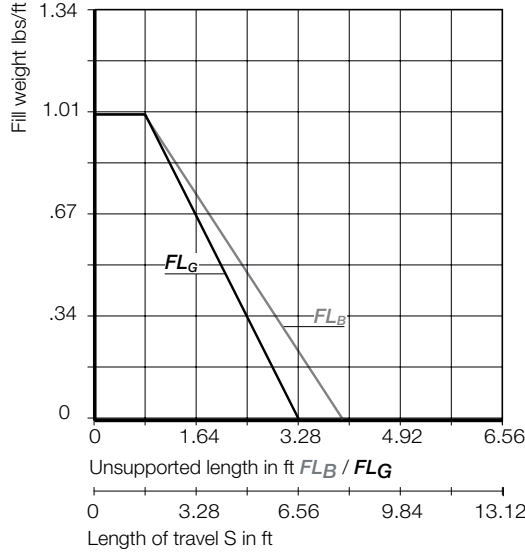
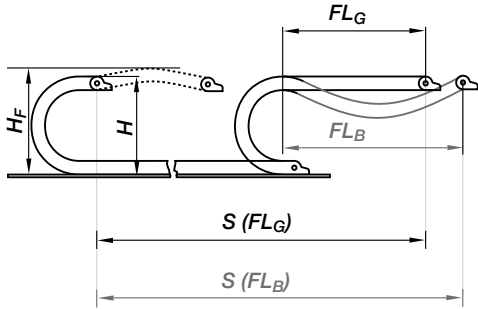
Installation Dimensions



R117
R118

Short travel, unsupported length

- FL_B = unsupported with permitted sag
 - FL_G = unsupported with straight upper run
- Further information ► Design, Chapter 1

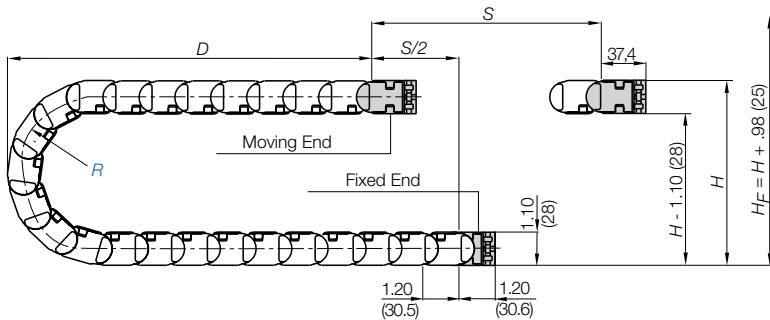


Short Travels - Unsupported

Unsupported e-chains® feature positive camber over short travels. This must be accounted for when specifying the clearance height. Please refer to **Installation dimensions** for further details.

Legend

- S = Length of travel
- R = Bending radius
- H = Nominal clearance height
- D = Overlength e-chain® radius in final position
- $K = \pi \cdot R + \text{safety buffer}$
- H_F = Required clearance height



Pitch per link: = 1.20" (30.5 mm)
 Links per ft (m): = 10.06 (33)
 For center mount applications:
 Chain length = $\frac{S}{2} + K$

The required clearance height: $H_F = H + .98 \text{ in. (25 mm)}$ (with .67 lbs/ft (1.0 kg/m) fill weight). Please consult igus® if space is particularly restricted.

R	2.48 (063)	2.95 (075)	3.94 (100)	4.33 (110)	4.92 (125)	5.71 (145)	7.09 (180)
H	6.06 (154)	7.01 (178)	8.98 (228)	9.76 (248)	10.94 (278)	12.52 (318)	15.28 (388)
D	4.84 (123)	5.31 (135)	6.30 (160)	6.69 (170)	7.28 (185)	8.07 (205)	9.45 (240)
K	10.24 (260)	11.81 (300)	14.96 (380)	16.14 (410)	17.91 (455)	20.47 (520)	24.80 (630)

Speed / acceleration FL_G	max. 32.8 ft/s (10 m/s) / max. 328 ft/s ² (100 m/s ²)
Speed / acceleration FL_B	max. 9.84 ft/s (3 m/s) / max. 19.69 ft/s ² (6 m/s ²)
Gliding speed / acceleration (maximum)	max. 1.64 ft/s (0.5 m/s) / max. 16.4 ft/s ² (5 m/s ²)
Material - permitted temperature	igumid G / -40°F (-40°C) up to +248°F (+120° C)
Flammability Class, igumid G	VDE 0304 IIC UL94 HB

Technical Data



Details of material properties

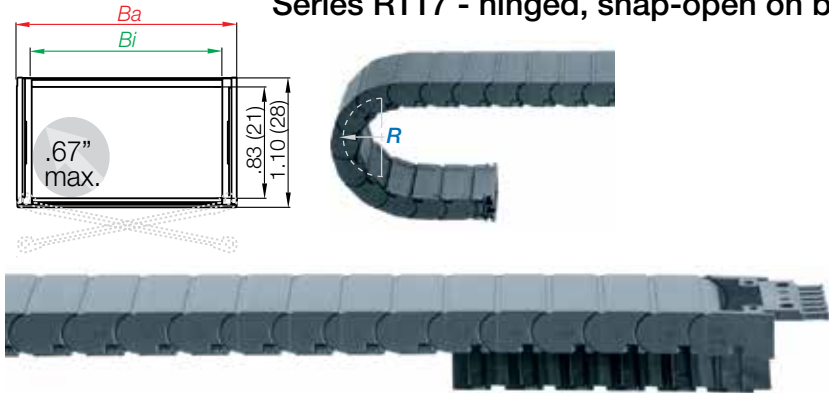
► Chapter 1



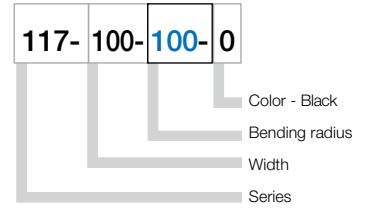
PDF: igus.com/e-chain-pdfs
 Product information: igus.com/e-chains



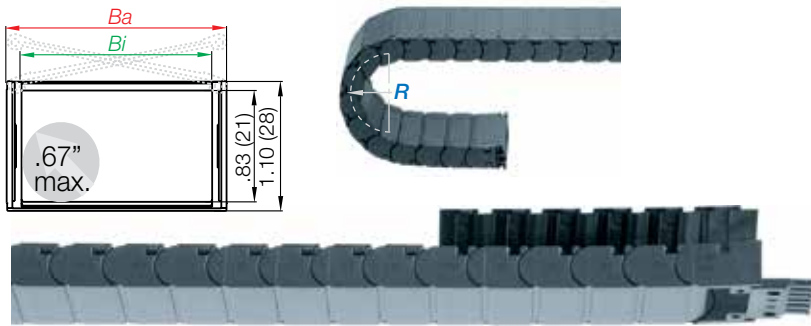
Series R117 - hinged, snap-open on both sides of the inner radius



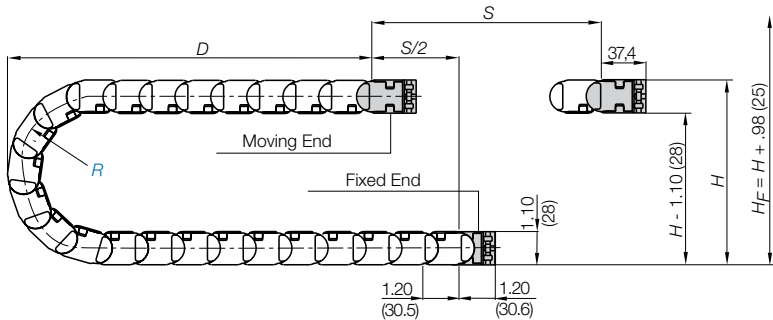
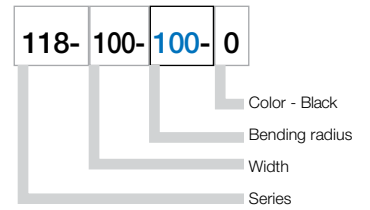
Part Number Structure



Series R118 - hinged, snap-open on both sides of the outer radius



Part Number Structure



Supplement part number with required radius. Example: 117-100-100-0
Pitch: 1.20 in. (30.5 mm) per link links/ft (m) = 10.06 (33)

Part Number.

Snap-open inner radius	Snap-open outer radius		Bi in. (mm)	Ba in. (mm)	Weight lbs/ft (kg/m)
117-020-		<input type="checkbox"/> -0	.79 (20)	1.26 (32)	≈ 0.29 (0.43)
117-025-	118-025-	<input type="checkbox"/> -0	.98 (25)	1.46 (37)	≈ 0.31 (0.46)
117-038-		<input type="checkbox"/> -0	1.50 (38)	1.97 (50)	≈ 0.38 (0.56)
117-048-	118-048-	<input type="checkbox"/> -0	1.89 (48)	2.40 (60)	≈ 0.44 (0.66)
117-063-		<input type="checkbox"/> -0	2.48 (63)	2.95 (75)	≈ 0.51 (0.76)
117-080-	118-080-	<input type="checkbox"/> -0	3.15 (80)	3.62 (92)	≈ 0.60 (0.89)
117-100-		<input type="checkbox"/> -0	3.94 (100)	4.41 (112)	≈ 0.71 (1.06)

Choose from the radii below for all of the above sizes

Radius (mm) Example: 117-100-100-0

	063	075	100	110	125	145	180
R	2.48 (063)	2.95 (075)	3.94 (100)	4.33 (110)	4.92 (125)	5.71 (145)	7.09 (180)
H	6.06 (154)	7.01 (178)	8.98 (228)	9.76 (248)	10.94 (278)	12.52 (318)	15.28 (388)
D	4.84 (123)	5.31 (135)	6.30 (160)	6.69 (170)	7.28 (185)	8.07 (205)	9.45 (240)
K	10.24 (260)	11.81 (300)	14.96 (380)	16.14 (410)	17.91 (455)	20.47 (520)	24.80 (630)

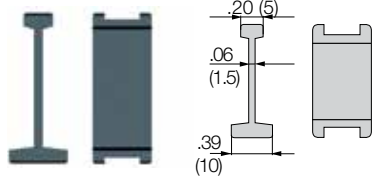
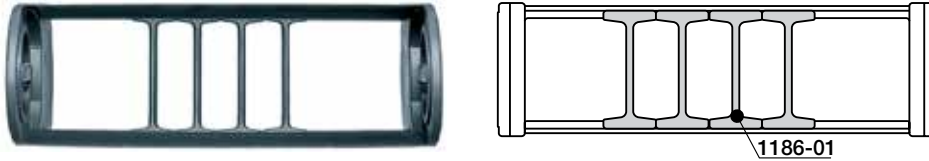
e-chain system® E2 tubes Series R117/R118 Interior Separation Mounting Brackets - KMA



R117
R118

Option 1: Vertical separators and spacers

Vertical separators are used if a vertical subdivision of the e-chain® interior is required. By standard, vertical separators are assembled every other e-chain® link. .



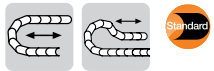
Vertical Separator

Unassembled **Part No. 1185-01**

Assembled **Part No. 1186-01**

- **Standard separator 1185-01 for e-chains®**
This separator is used for general subdivision of e-chain®.

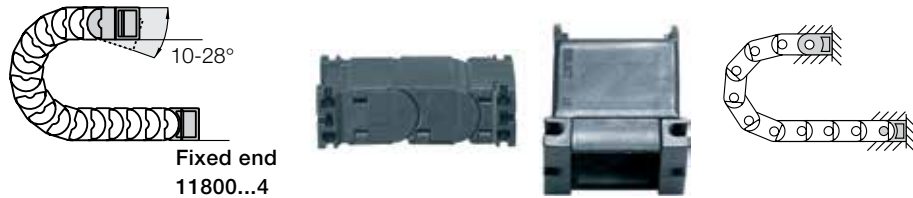
Mounting Brackets - KMA



Option: KMA pivoting

- Short and long travels
- Space restricted
- Corrosion-resistant

Moving end
11800...1



Fixed end
11800...4

Part Number Structure

11800- 020- 14

Complete Set

Width

KMA Pivoting for selected chain type

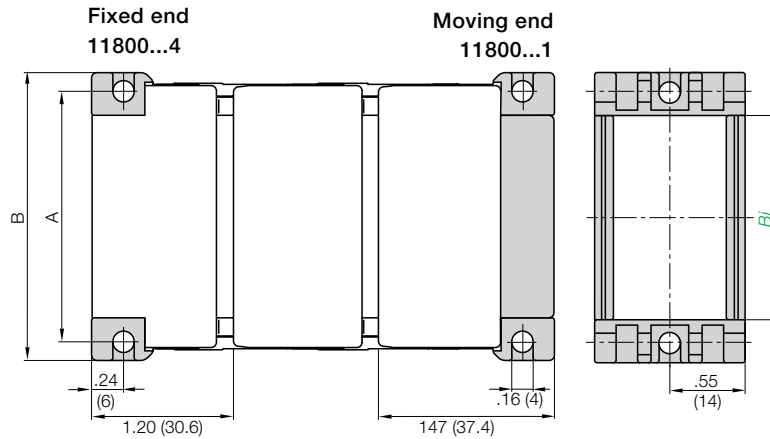
Full set, for both ends:

11800-020-14 Full set, each part with pin/bore

Single-part order:

11800-020-1 Mounting bracket with bore

11800-020-4 Mounting bracket with pin

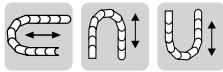


Series	Part No.	Dimension A		Dimension B	
		in.	(mm)	in.	(mm)
117-020	11800-020-14	1.14	(29)	1.42	(36)
117/118-025	11800-025-14	1.34	(34)	1.61	(41)
117-038	11800-038-14	1.85	(47)	2.13	(54)
117/118-048	11800-048-14	2.24	(57)	2.52	(64)
117-063	11800-063-14	2.83	(72)	3.11	(79)
117/118-080	11800-080-14	3.50	(89)	3.78	(96)
117-100	11800-100-14	4.29	(109)	4.57	(116)

- The mounting brackets are supplied with hexagon nuts and can be attached with M4 bolts, or the mounting brackets may also be attached with M4 socket head cap bolts

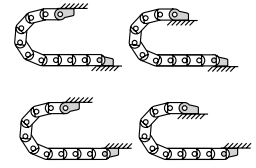
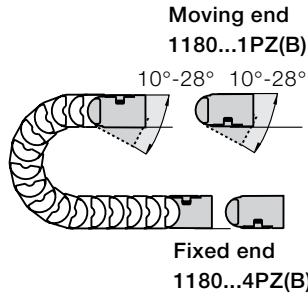
PDF: igus.com/e-chain-pdfs
Product information: igus.com/e-chains





Option: plastic bracket

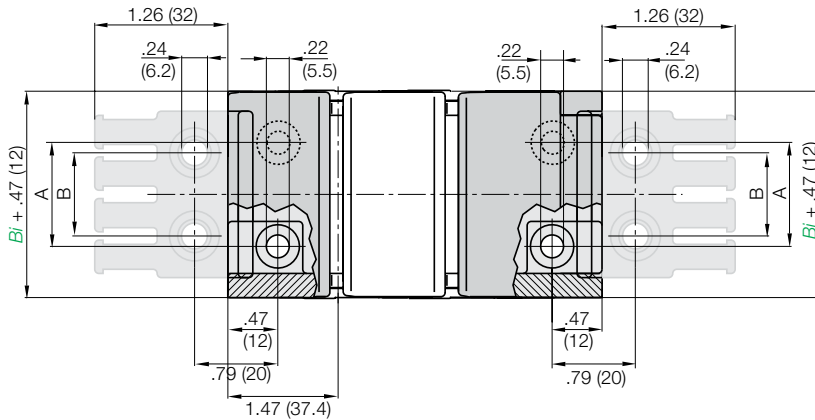
- For long travels
- Attachment option for strain relief tiewrap plate
- Locked connection to e-tube
- Minimized external width



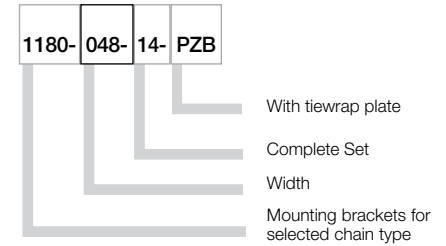
Possible installation configurations -

Moving end
1180...1PZ(B)

Fixed end
1180...4PZ(B)



Part Number Structure



- Full set, for both ends:**
1180-048-14 Full set, each part with pin/bore
- Single-part order:**
1180-048-1 Mounting bracket with bore
1180-048-4 Mounting bracket with pin

Part No. Mounting Brackets Full Set
4 parts, 2 with pin, 2 with bore
Series R117/R118:
1180-Width-14

Part No. Mounting bracket with bore
2 parts, 1 left & 1 right
Series R117/R118:
1180-Width-1

Part No. Mounting bracket with pin
2 parts, 1 left & 1 right
Series R117/R118:
1180-Width-4

For Series	Part No. Full Set without Tiewrap Plate	Part No. Full Set with Tiewrap Plate	Dimension A in. (mm)	Dimension B in. (mm)
R117/R118-025	1180-025-14PZ	1180-025-14PZB	.47 (12)	.59 (15)
R117-038	1180-038-14PZ	1180-038-14PZB	.98 (25)	.79 (20)
R117/R118-048	1180-048-14PZ	1180-048-14PZB	1.38 (35)	1.18 (30)
R117-063	1180-063-14PZ	1180-063-14PZB	1.97 (50)	1.57 (40)
R117/R118-080	1180-080-14PZ	1180-080-14PZB	2.64 (67)	2.36 (60)
R117-100	1180-100-14PZ	1180-100-14PZB	3.43 (87)	3.15 (80)

The following parts are required for attachment of the mounting brackets:

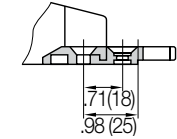
- Countersunk bolt M5* DIN 912-8.8
- Hexagon nut M5 DIN 934-8
4 pieces/set

* The length of the socket head cap bolt is dependent on the thickness of the attachment base.

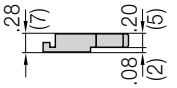
Tiewrap Plates

Option 1:
Tiewrap plates as an individual part

Available as an individual component, can be fixed onto a mounting bracket with the use of a profile rail.

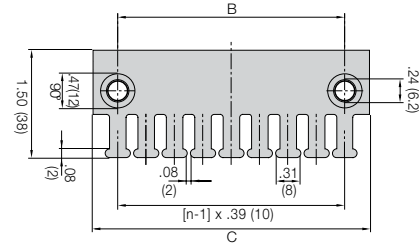


Shown assembled



Single tiewrap plate

Tiewrap Plates	n Number of Teeth	Dimension C	Dimension B
2020-ZB	3	1.18 (30)	.59 (15)
2030-ZB	4	1.57 (40)	.79 (20)
2040-ZB	5	1.97 (50)	1.18 (30)
2050-ZB	6	2.36 (60)	1.57 (40)
2070-ZB	8	3.15 (80)	2.36 (60)
2090-ZB	9	3.54 (90)	2.76 (70)
2100-ZB	10	3.94 (100)	3.15 (80)
2125-ZB	12	4.72 (120)	3.94 (100)



For more information please refer to strain relief section of Chapter 10



Cable tiewraps as individual parts

Cable tiewraps 100 pieces/bag	Width x Length		Maximum Ø		Tensile Strength	
	in.	(mm)	in.	(mm)	lbs	(N)
CFB-001	.19 x 5.91	(4.8 x 150)	1.42	(36)	50	(222)

PDF: igus.com/e-chain-pdfs
Product information: igus.com/e-chains



R157
R158



e-chain system® E2 tubes Series R157/R158



Price Index



Series R157/R158

Special Features / Options

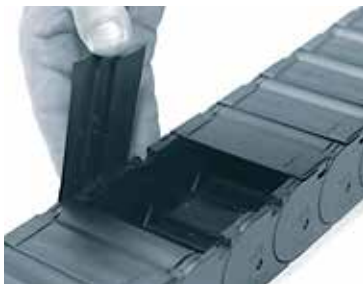


ESD classification:
Electrically conductive ESD/
ATEX version upon request



Flammability Class
VDE 0304 IIC UL94 HB

Assembly Tips



Lids of the e-tube Series R100 are hinged for easy access

Other Installation Methods

Vertical, hanging ≤ 131.2 ft (40 m)

Vertical, standing ≤ 9.84 ft (3 m)

Side-mounted, un_supp. ≤ 3.28 ft (1 m)

Rotary requires further calculation

Usage Guidelines



- If hinged, snap-open accessibility along inner or outer radius is required
- If a low-cost, lightweight e-tube for many types of applications is required
- If flush attachment is required
- If chip-repellent features are required



- If particularly quiet operation is required
 - Series R58 E2 tubes
- If snap-open accessibility along both radii simultaneously is required
 - Series R4-32 E4-1

Features & Benefits

- 1 Effective chip protection even against hot chips
- 2 Space-efficient with optimized ratio of inner dimension to outer dimension
- 3 Snap-open lids along the inner and outer radius
- 4 Snap-open from the side, covered pin/bore connection
- 5 Double stop dog for strong unsupported length
- 6 Universal KMA mounting brackets with attachment capability on all sides
- 7 Lateral glide surfaces for side mounted operation



Order Example: Complete e-chain®

Please indicate chain length or number of links. Example:

3.28 ft (1 m) 157-088-100-0



e-chain®

With 2 separators 1586-01 assembled every 2nd link



Interior Separation

1 Set 15800-088-12



Mounting Bracket

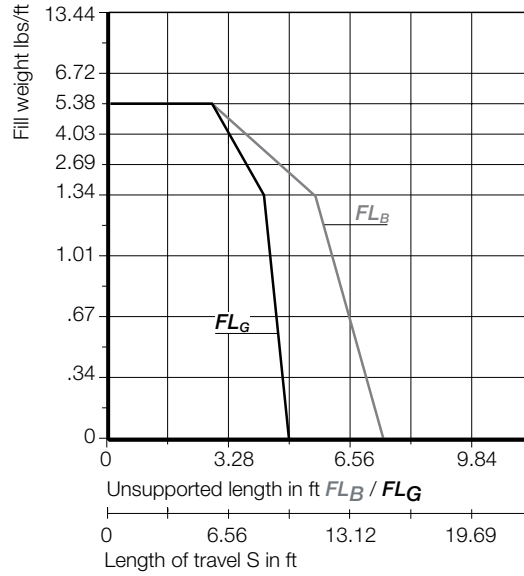
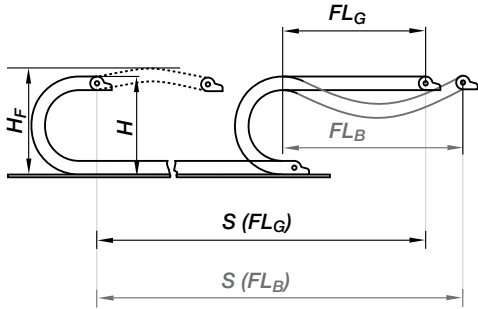
e-chain system® E2 tubes Series R157/R158 Installation Dimensions



R157
R158

Short travel, unsupported length

- FL_B = unsupported with permitted sag
 - FL_G = unsupported with straight upper run
- Further information ► Design, Chapter 1



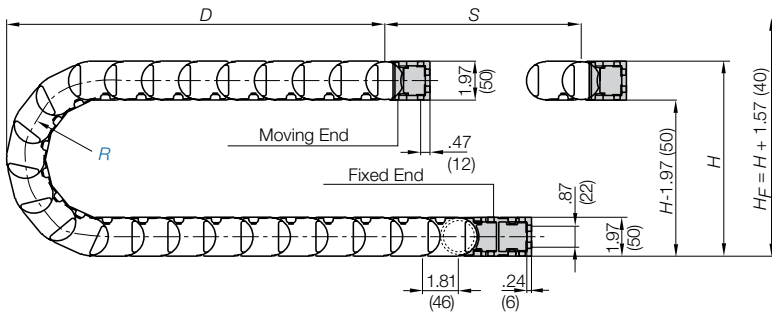
Short Travels - Unsupported



Unsupported e-chains® feature positive camber over short travels. This must be accounted for when specifying the clearance height. Please refer to **Installation dimensions** for further details.

Legend

- S = Length of travel
- R = Bending radius
- H = Nominal clearance height
- D = Overlength e-chain® radius in final position
- $K = \pi \cdot R + \text{safety buffer}$
- H_F = Required clearance height



Pitch per link: = 1.81" (46 mm)
Links per ft (m): = 6.71 (22)
For center mount applications:
Chain length = $S/2 + K$

The required clearance height: $H_F = H + 1.57$ in. (40 mm) (with .67 lbs/ft (1.0 kg/m) fill weight. Please consult igus® if space is particularly restricted.

R	3.94 (100)	4.92 (125)	5.91 (150)	6.89 (175)	7.87 (200)	9.84 (250)
H	9.84 (250)	11.81 (300)	13.78 (350)	15.75 (400)	17.72 (450)	21.65 (550)
D	7.64 (194)	8.62 (219)	9.61 (244)	10.59 (269)	11.57 (294)	13.54 (344)
K	16.14 (410)	19.09 (485)	22.24 (565)	25.39 (645)	28.54 (725)	34.65 (880)

Speed / acceleration FL_G	max. 32.8 ft/s (10 m/s) / max. 328 ft/s ² (100 m/s ²)
Speed / acceleration FL_B	max. 9.84 ft/s (3 m/s) / max. 19.69 ft/s ² (6 m/s ²)
Gliding speed / acceleration (maximum)	max. 1.64 ft/s (0.5 m/s) / max. 16.4 ft/s ² (5 m/s ²)
Material - permitted temperature	igumid G / -40°F (-40°C) up to +248°F (+120° C)
Flammability Class, igumid G	VDE 0304 IIC UL94 HB

Technical Data



Details of material properties

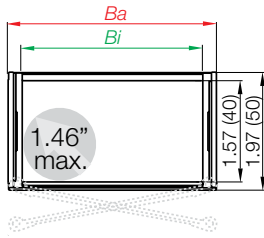
► Chapter 1



PDF: igus.com/e-chain-pdfs
Product information: igus.com/e-chains



Series R157 - hinged, snap-open on both sides of the inner radius

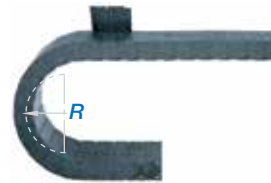
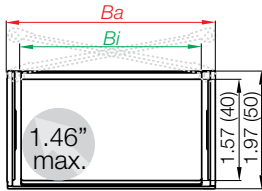


Part Number Structure

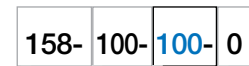


Color - Black
Bending radius
Width
Series

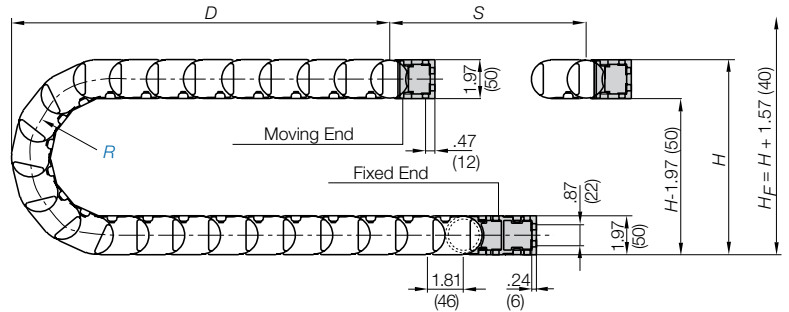
Series R158 - hinged, snap-open on both sides of the outer radius



Part Number Structure



Color - Black
Bending radius
Width
Series



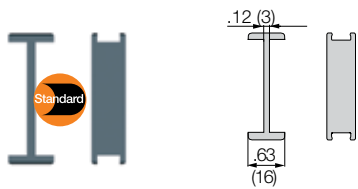
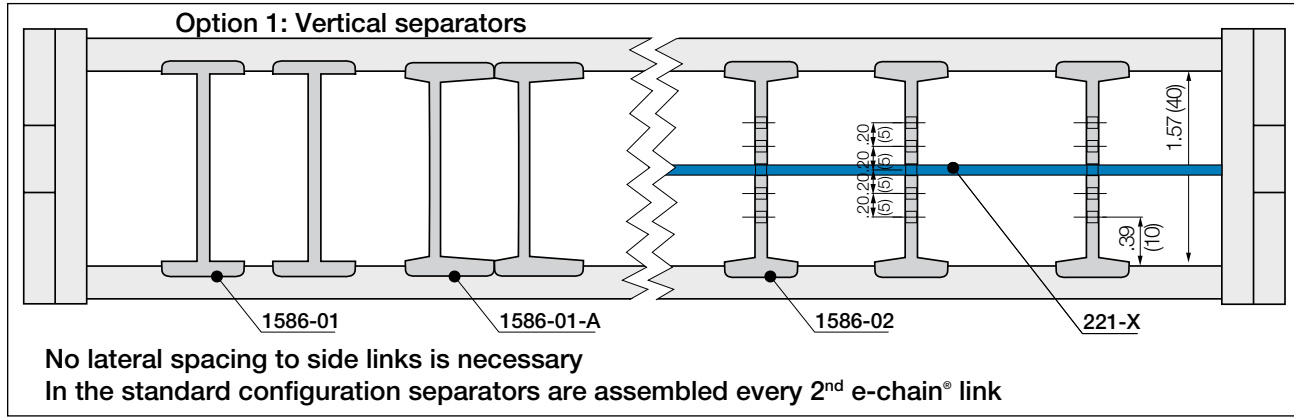
Supplement part number with required radius.
Example: 157-100--0
Pitch: 1.81 in. (46 mm) per link links/ft (m) = 6.71 (22)

Part Number.			<i>Bi</i>	<i>Ba</i>	Weight
Snap-open inner radius	Snap-open outer radius		in. (mm)	in. (mm)	lbs/ft (kg/m)
157-040-*	158-040-*	<input type="text" value=""/> -0	1.57 (40)	2.20 (56)	≈ 0.81 (1.21)
157-050-	158-050-	<input type="text" value=""/> -0	1.97 (50)	2.60 (66)	≈ 0.87 (1.30)
157-075-	158-075-	<input type="text" value=""/> -0	2.95 (75)	3.58 (91)	≈ 1.01 (1.50)
157-088-	158-088-	<input type="text" value=""/> -0	3.46 (88)	4.09 (104)	≈ 1.06 (1.57)
157-090-**	158-090-**	<input type="text" value=""/> -0	3.46 (88)	4.09 (104)	≈ 1.10 (1.63)
157-100-	158-100-	<input type="text" value=""/> -0	3.94 (100)	4.57 (116)	≈ 1.15 (1.71)
157-125-	158-125-	<input type="text" value=""/> -0	4.92 (125)	5.55 (141)	≈ 1.29 (1.92)
157-135-	158-135-	<input type="text" value=""/> -0	5.31 (135)	5.91 (150)	≈ 1.41 (2.10)
157-150-	158-150-	<input type="text" value=""/> -0	5.91 (150)	6.54 (166)	≈ 1.43 (2.13)
157-175-	158-175-	<input type="text" value=""/> -0	6.89 (175)	7.52 (191)	≈ 1.57 (2.34)
157-200-	158-200-	<input type="text" value=""/> -0	7.87 (200)	8.50 (216)	≈ 1.71 (2.55)

Choose from the radii below for all of the above sizes
Radius (mm) Example: 157-100--0

	100	125	150	175	200	250
R	3.94 (100)	4.92 (125)	5.91 (150)	6.89 (175)	7.87 (200)	9.84 (250)
H	9.84 (250)	11.81 (300)	13.78 (350)	15.75 (400)	17.72 (450)	21.65 (550)
D	7.64 (194)	8.62 (219)	9.61 (244)	10.59 (269)	11.57 (294)	13.54 (344)
K	16.14 (410)	19.09 (485)	22.24 (565)	25.39 (645)	28.54 (725)	34.65 (880)

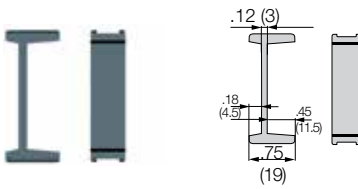
*Removable lid only, not hinged
**Same dimensions as 157/158-088 - removable lids only



Separator for e-tubes

Unassembled	Part No. 1585-01
Assembled	Part No. 1586-01

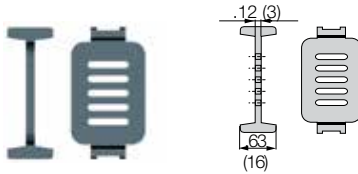
- **Separator 1585-01**
 For vertical separation with wide base for maximum stability when used with thick cables or hoses



Asymmetrical separator for e-tubes

Unassembled	Part No. 1585-01-A
Assembled	Part No. 1586-01-A

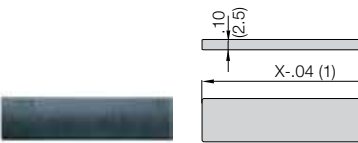
- **Asymmetrical separator 1585-01-A**
 For side-mounted applications. Asymmetrical separator for defined distance. No additional spacers necessary.



Slotted Separator for e-tubes

Unassembled	Part No. 1585-02
Assembled	Part No. 1586-02

- **Slotted separator 1585-02**
 is used when vertical and horizontal separation is required. Due to its slot, it allows basic vertical/horizontal shelving arrangements.



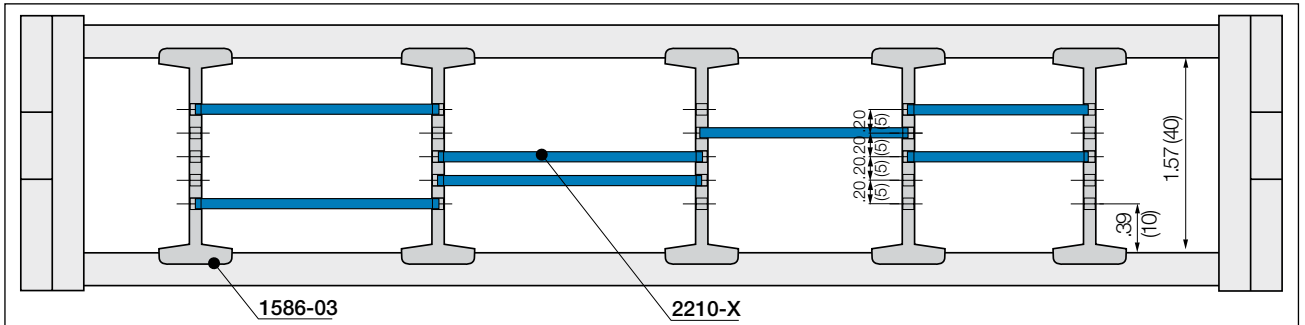
Full width shelf for e-tubes

Unassembled	Part No. 220-X
Assembled	Part No. 221-X

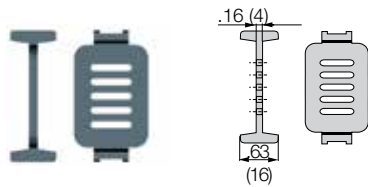
- **Full width shelf 220-X**
 is used in applications with many thin cables with similar diameters. Full-width shelves can be arranged at 5 different heights in .20" (5mm) increments.

Width X	Part No.	Part No.	Width X	Part No.	Part No.	Width X	Part No.	Part No.
in. (mm)	Unassembled	Assembled	in. (mm)	Unassembled	Assembled	in. (mm)	Unassembled	Assembled
1.57 (040)	220-40	221-40	3.94 (100)	220-100	221-100	6.89 (175)	220-175	221-175
1.97 (050)	220-50	221-50	4.92 (125)	220-125	221-125	7.87 (200)	220-200	221-200
2.95 (075)	220-75	221-75	5.31 (135)	220-135	221-135			
3.46 (088)	220-88	221-88	5.91 (150)	220-150	221-150			





No lateral spacing to side links is necessary
In the standard configuration separators are assembled every 2nd e-chain® link

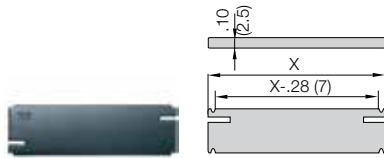


Separator, narrow base

Unassembled	Part No. 1585-03
Assembled	Part No. 1586-03

- **Slotted separator 1585-03**
is used when vertical and horizontal separation is required. Due to its slot, it allows basic vertical/horizontal shelving arrangements.

Full-width shelves - for the standard interior separation



Full width shelf

Unassembled	Part No. 2200-X
Assembled	Part No. 2210-X

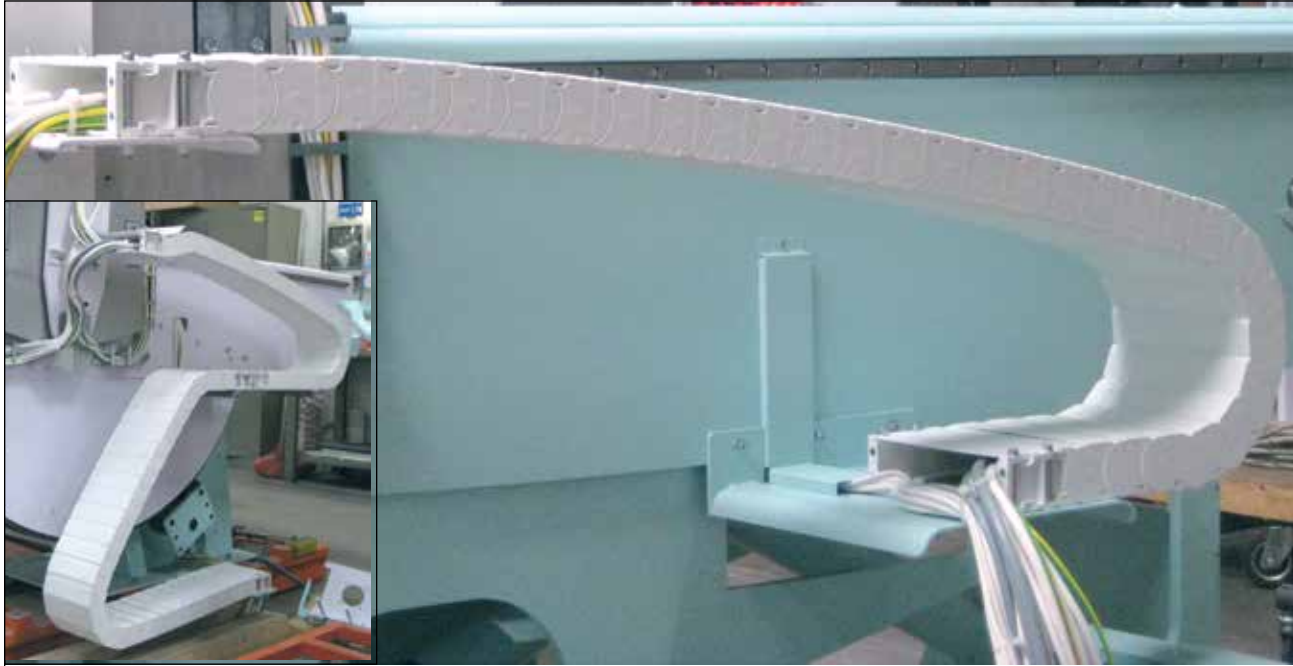
- **Full width shelf 2200-X**
For applications involving many cables with different diameters, shelves can be arranged at alternate heights. They can be arranged at 5 different heights in .20" (5mm) increments.

Width X in. (mm)	Part No. Unassembled	Part No. Assembled	Width X in. (mm)	Part No. Unassembled	Part No. Assembled	Width X in. (mm)	Part No. Unassembled	Part No. Assembled
.71 (18)	2200-18	2210-18	1.69 (43)	2200-43	2210-43	3.46 (88)	2200-88	2210-88
.91 (23)	2200-23	2210-23	1.89 (48)	2200-48	2210-48	3.90 (99)	2200-99	2210-99
1.10 (28)	2200-28	2210-28	2.28 (58)	2200-58	2210-58	4.88 (124)	2200-124	2210-124
1.30 (33)	2200-33	2210-33	2.68 (68)	2200-68	2210-68	5.87 (149)	2200-149	2210-149
1.50 (38)	2200-38	2210-38	2.87 (73)	2200-73	2210-73			

Separator with integrated strain relief

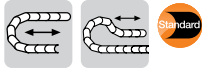
Strain relief separator Part No. 1585-01-Z can be integrated into the mounting bracket and can be placed there at any point of the e-tube®. It combines strain relief and interior separation, it can be installed on the first or last e-tube® link and is easy to assemble without any screws.

For more information ► **Chapter 10, Strain Relief**



PDF: igus.com/e-chain-pdfs
Product information: igus.com/e-chains

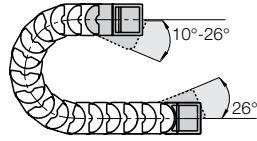




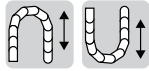
Option 1: KMA pivoting

- Extended, pivoting
- Easy to install
- Universal use
- Corrosion-resistant
- Long travels with lowered mounting height possible

Moving end
15800/15801...1

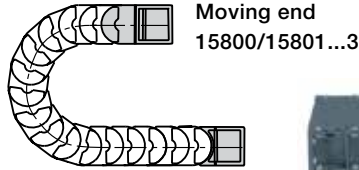


Fixed end
15800/15801...2



Option 2: KMA locking

- Extended, locking
- Easy to install
- Flush mounting at both ends of the e-tube
- Mounting points on all sides
- Corrosion resistant

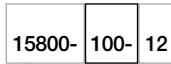


Moving end
15800/15801...3

Fixed end
15800/15801...4



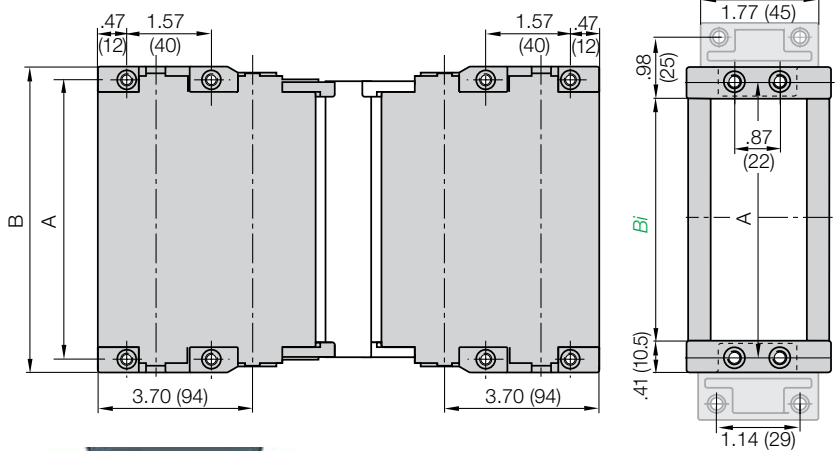
Part Number Structure



Complete Set
12 = Pivoting
34 = Locking
Width
KMA Pivoting for selected chain type

Moving end
1580...1/1580...3

Fixed end
1580...2/1580...4



Full set, for both ends:

15800-100-12 Full set, each part with pin/bore

Single-part order:

15800-100-1 Mounting bracket with bore

15800-100-2 Mounting bracket with pin



Quickflange upon request

- Unassembled

Part number 15800-QF

Series	Part No.	Dimension A		Dimension B	
		in.	(mm)	in.	(mm)
157/158-040	15801-040- <input type="checkbox"/>	1.97	(50)	2.40	(61)
157/158-050	15800-050- <input type="checkbox"/>	2.40	(60)	2.80	(71)
157/158-075	15800-075- <input type="checkbox"/>	3.35	(85)	3.78	(96)
157/158-088	15800-088- <input type="checkbox"/>	3.86	(98)	4.29	(109)
157/158-090	15801-090- <input type="checkbox"/>	3.86	(98)	4.29	(109)
157/158-100	15800-100- <input type="checkbox"/>	4.33	(110)	4.76	(121)
157/158-125	15800-125- <input type="checkbox"/>	5.31	(135)	5.75	(146)
157/158-135	15800-135- <input type="checkbox"/>	5.71	(145)	6.14	(156)
157/158-150	15800-150- <input type="checkbox"/>	6.30	(160)	6.73	(171)
157/158-175	15800-175- <input type="checkbox"/>	7.28	(185)	7.72	(196)
157/158-200	15800-200- <input type="checkbox"/>	8.27	(210)	8.70	(221)

The following parts are required for attachment of the mounting brackets:

- **Socket head cap bolt**
M5* DIN 912-8.8
8 pieces/set
- **Washer**
5.3 DIN 125-ST
8 pieces/set
- **Hexagon nut**
M5 DIN 934-8
8 pieces/set

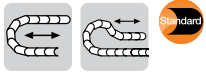
* The length of the socket head cap bolt is dependent on the thickness of the attachment base.

For pivoting brackets choose 12
For locking brackets choose 34
Example: 15800-100- 34

e-chain system® E2 tubes Series R157/R158 Mounting Brackets - KMA Abbreviated



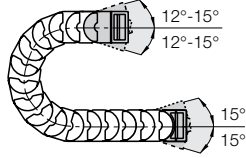
R157
R158



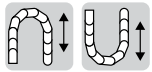
Option 1: KMA pivoting

- Extended, pivoting
- Easy to install
- Universal use
- Corrosion-resistant
- Long travels with lowered mounting height possible

Moving end
1580...1



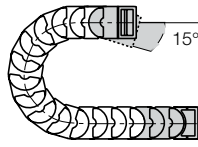
Fixed end
1580...2



Option 2: KMA locking

- Extended, locking
- Easy to install
- Flush mounting at both ends of the e-tube
- Mounting points on all sides
- Corrosion resistant

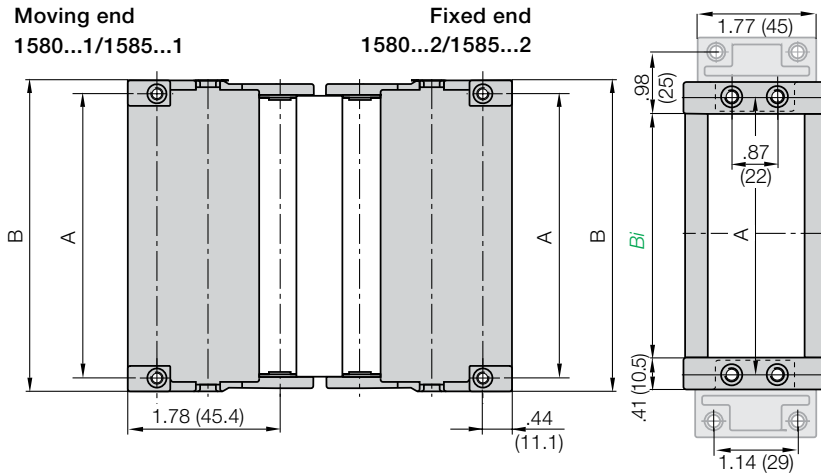
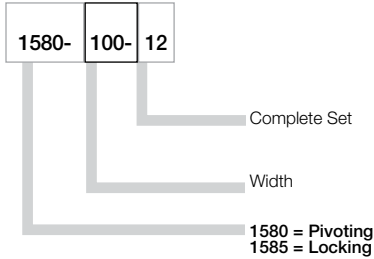
Moving end
1585...1



Fixed end
1585...2



Part Number Structure



Part number examples are shown for pivoting brackets.
For locking brackets change part number to 1585

Full set, for both ends:

1580-100-12 Full set, each part with pin/bore

Single-part order:

1580-100-1 Mounting bracket with bore

1580-100-2 Mounting bracket with pin



Quickflange upon request

- Unassembled

Part number 15800-QF

Series	Part No. Full Set		Dimension A		Dimension B	
	Pivoting	Locking	in.	(mm)	in.	(mm)
157/158-040	1580-040-12	1585-040-12	1.97	(50)	2.40	(61)
157/158-050	1580-050-12	1585-050-12	2.40	(60)	2.80	(71)
157/158-075	1580-075-12	1585-075-12	3.35	(85)	3.78	(96)
157/158-088	1580-088-12	1585-088-12	3.86	(98)	4.29	(109)
157/158-090	1580-090-12	1585-090-12	3.86	(98)	4.29	(109)
157/158-100	1580-100-12	1585-100-12	4.33	(110)	4.76	(121)
157/158-125	1580-125-12	1585-125-12	5.31	(135)	5.75	(146)
157/158-135	1580-135-12	1585-135-12	5.71	(145)	6.14	(156)
157/158-150	1580-150-12	1585-150-12	6.30	(160)	6.73	(171)
157/158-175	1580-175-12	1585-175-12	7.28	(185)	7.72	(196)
157/158-200	1580-200-12	1585-200-12	8.27	(210)	8.70	(221)

The following parts are required for attachment of the mounting brackets:

- **Socket head cap bolt**
M5* DIN 912-8.8
8 pieces/set
- **Washer**
5.3 DIN 125-ST
8 pieces/set
- **Hexagon nut**
M5 DIN 934-8
8 pieces/set

* The length of the socket head cap bolt is dependent on the thickness of the attachment base.

PDF: igus.com/e-chain-pdfs
Product information: igus.com/e-chains





Series R167/R168

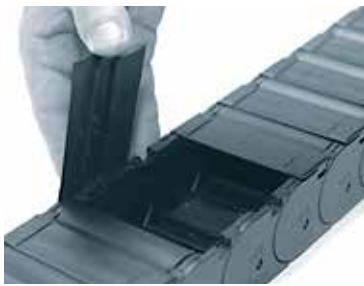
Special Features / Options



ESD classification:
Electrically conductive ESD/
ATEX version upon request



Flammability Class
VDE 0304 IIC UL94 HB



Lids of the e-tube Series R100 are hinged for easy access

Other Installation Methods

Vertical, hanging ≤ 164 ft (50 m)

Vertical, standing ≤ 9.84 ft (3 m)

Side-mounted, un_supp. ≤ 3.28 ft (1 m)

Rotary requires further calculation

Usage Guidelines



- If snap-open accessibility along inner outer radius is required
- If a low-cost, lightweight e-tube for many types of applications is required
- If flush attachment is required
- If chip-repellent features are required



- If very smooth travel due to small pitch is required
➤ **Series R68 E2 tubes**
- If snap-open accessibility along both radii simultaneously is required
➤ **Series R4-42 E4-1**

Features & Benefits

- 1 Lateral glide surfaces for side mounted operation
- 2 Snap-open lids along the inner and outer radius
- 3 Lids can be swiveled from the left to the right
- 4 Universal KMA mounting brackets with attachment capability on all sides
- 5 Double stop dog for strong unsupported length
- 6 Effective chip protection even against hot chips
- 7 Space-efficient with optimized ratio of inner dimension to outer dimension
- 8 Covered pin/bore connection



Order Example: Complete e-chain®

Please indicate chain length or number of links. Example:

3.28 ft (1 m) **167-100-100-0**



e-chain®

With 2 separators **1686-01** assembled every 2nd link



Interior Separation

1 Set **1680-100-12**



Mounting Bracket

e-chain system® E2 tubes

Series R167/R168

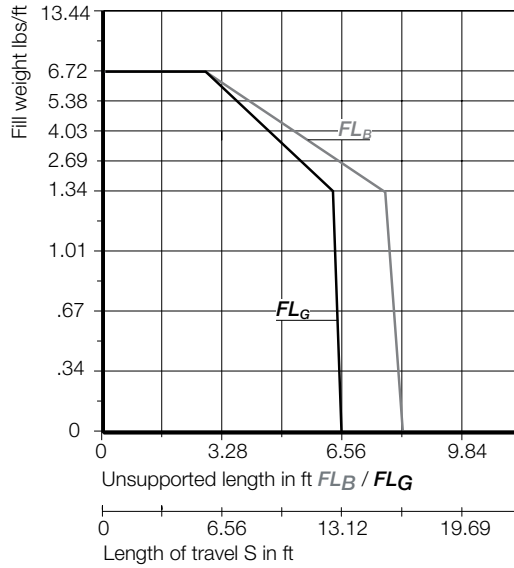
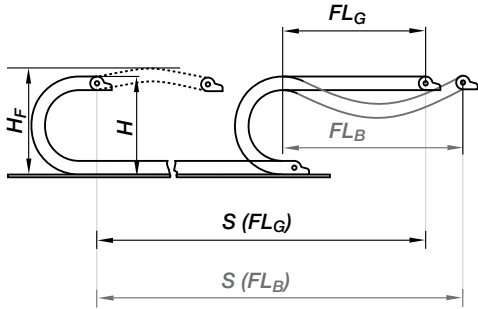
Installation Dimensions



R167
R168

Short travel, unsupported length

- FL_B = unsupported with permitted sag
 - FL_G = unsupported with straight upper run
- Further information ► Design, Chapter 1



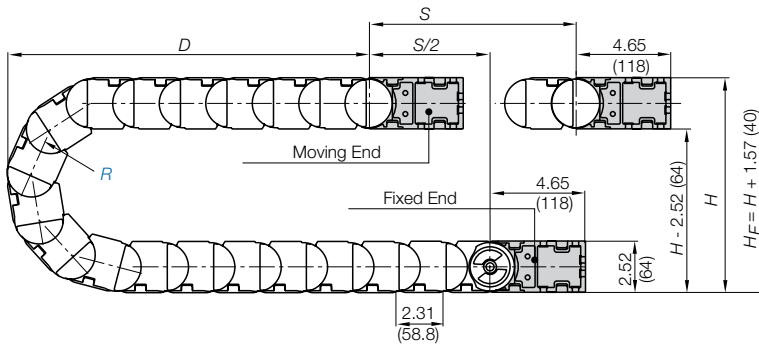
Short Travels - Unsupported



Unsupported e-chains® feature positive camber over short travels. This must be accounted for when specifying the clearance height. Please refer to **Installation dimensions** for further details.

Legend

- S = Length of travel
- R = Bending radius
- H = Nominal clearance height
- D = Overlength e-chain® radius in final position
- $K = \pi \cdot R + \text{safety buffer}$
- H_F = Required clearance height



Pitch per link = 2.31" (58.8 mm)
 Links per ft (m) = 5.18 (17)
 For center mount applications:
 Chain length = $\frac{S}{2} + K$

The required clearance height: $H_F = H + 1.57$ in. (40 mm) (with 1.34 lbs/ft (2.0 kg/m) fill weight. Please consult igus® if space is particularly restricted.

R	3.94 (100)	4.92 (125)	5.91 (150)	6.89 (175)	7.87 (200)	8.86 (225)	9.84 (250)	11.81 (300)
H	10.39 (264)	12.36 (314)	14.33 (364)	16.30 (414)	18.27 (464)	20.24 (514)	22.20 (564)	26.14 (664)
D	8.66 (220)	9.65 (245)	10.63 (270)	11.61 (295)	12.60 (320)	13.58 (345)	14.57 (370)	16.54 (420)
K	17.12 (435)	20.28 (515)	23.23 (590)	26.38 (670)	29.53 (750)	32.48 (825)	35.63 (905)	41.93 (1065)

Speed / acceleration FL_G	max. 32.8 ft/s (10 m/s) / max. 328 ft/s ² (100 m/s ²)
Speed / acceleration FL_B	max. 9.84 ft/s (3 m/s) / max. 19.69 ft/s ² (6 m/s ²)
Gliding speed / acceleration (maximum)	max. 1.64 ft/s (0.5 m/s) / max. 16.4 ft/s ² (5 m/s ²)
Material - permitted temperature	igumid G / -40°F (-40°C) up to +248°F (+120° C)
Flammability Class, igumid G	VDE 0304 IIC UL94 HB

Technical Data



Details of material properties

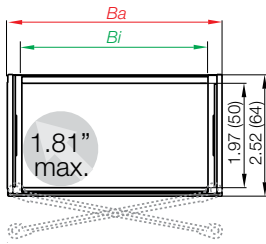
► Chapter 1



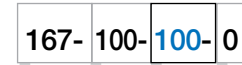
PDF: igus.com/e-chain-pdfs
 Product information: igus.com/e-chains



Series R167 - hinged, snap-open on both sides of the inner radius

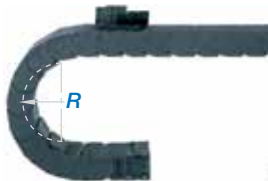
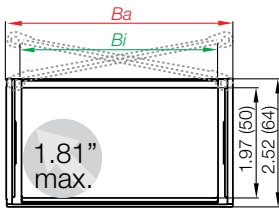


Part Number Structure

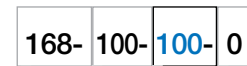


- Color - Black
- Bending radius
- Width
- Series

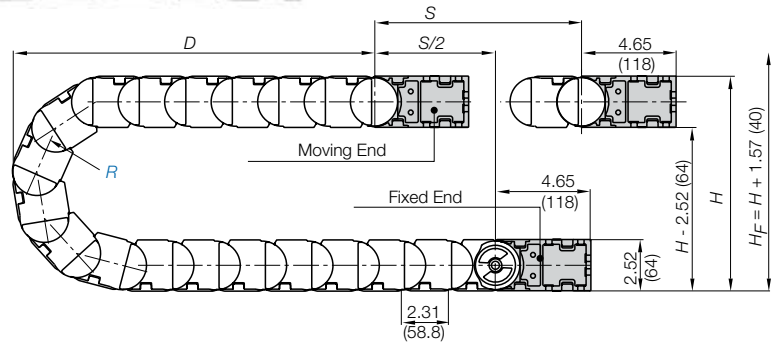
Series R168 - hinged, snap-open on both sides of the outer radius



Part Number Structure



- Color - Black
- Bending radius
- Width
- Series



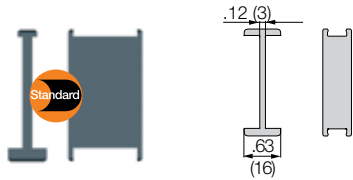
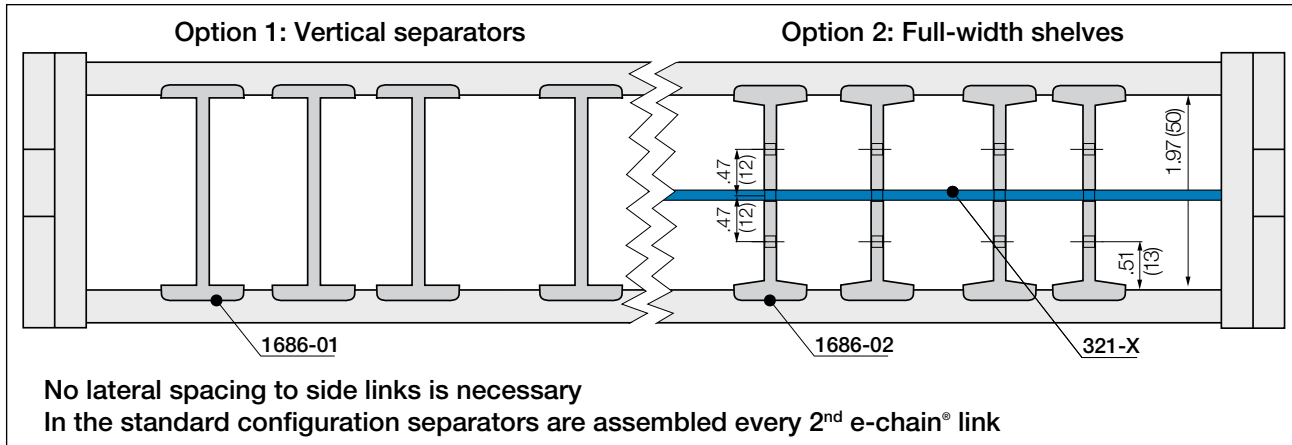
Supplement part number with required radius.
Example: 167-100-**100**-0
Pitch: 2.31 in. (58.8 mm) per link links/ft (m) = 5.18 (17)

Part Number.			<i>Bi</i>	<i>Ba</i>	Weight
Snap-open inner radius	Snap-open outer radius		in. (mm)	in. (mm)	lbs/ft (kg/m)
167-050-	168-050-	<input type="checkbox"/> -0	1.97 (50)	2.68 (68)	≈ 1.06 (1.58)
167-075-	168-075-	<input type="checkbox"/> -0	2.95 (75)	3.66 (93)	≈ 1.24 (1.84)
167-100-	168-100-	<input type="checkbox"/> -0	3.94 (100)	4.65 (118)	≈ 1.40 (2.09)
167-115-	168-115-	<input type="checkbox"/> -0	4.53 (115)	5.24 (133)	≈ 1.51 (2.24)
167-125-	—	<input type="checkbox"/> -0	4.92 (125)	5.63 (143)	≈ 1.58 (2.35)
167-150-	168-150-	<input type="checkbox"/> -0	5.91 (150)	6.61 (168)	≈ 1.75 (2.60)
167-175-	168-175-	<input type="checkbox"/> -0	6.89 (175)	7.60 (193)	≈ 1.92 (2.86)
167-200-	168-200-	<input type="checkbox"/> -0	7.87 (200)	8.58 (218)	≈ 2.09 (3.11)
167-225-	—	<input type="checkbox"/> -0	8.86 (225)	9.57 (243)	≈ 2.26 (3.37)
167-250-	—	<input type="checkbox"/> -0	9.84 (250)	10.55 (268)	≈ 2.43 (3.62)

Choose from the radii below for all of the above sizes

Radius (mm) Example: 167-100-**100**-0

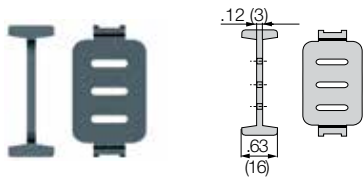
100	125	150	175	200	225	250	300
10.39 (264)	12.36 (314)	14.33 (364)	16.30 (414)	18.27 (464)	20.24 (514)	22.20 (564)	26.14 (664)
8.66 (220)	9.65 (245)	10.63 (270)	11.61 (295)	12.60 (320)	13.58 (345)	14.57 (370)	16.54 (420)
17.12 (435)	20.28 (515)	23.23 (590)	26.38 (670)	29.53 (750)	32.48 (825)	35.63 (905)	41.93 (1065)



Separator for e-tubes

Unassembled	Part No. 1685-01
Assembled	Part No. 1686-01

- **Separator 1685-01**
For vertical separation with wide base for maximum stability when used with thick cables or hoses

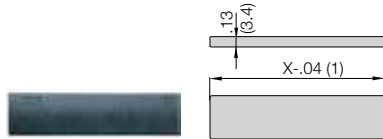


Slotted Separator for e-tubes

Unassembled	Part No. 1685-02
Assembled	Part No. 1686-02

- **Slotted separator 1685-02**
is used when vertical subdivision is required. Due to its slot, it allows basic vertical/horizontal shelving arrangements.

Full-width shelves - for the standard interior separation



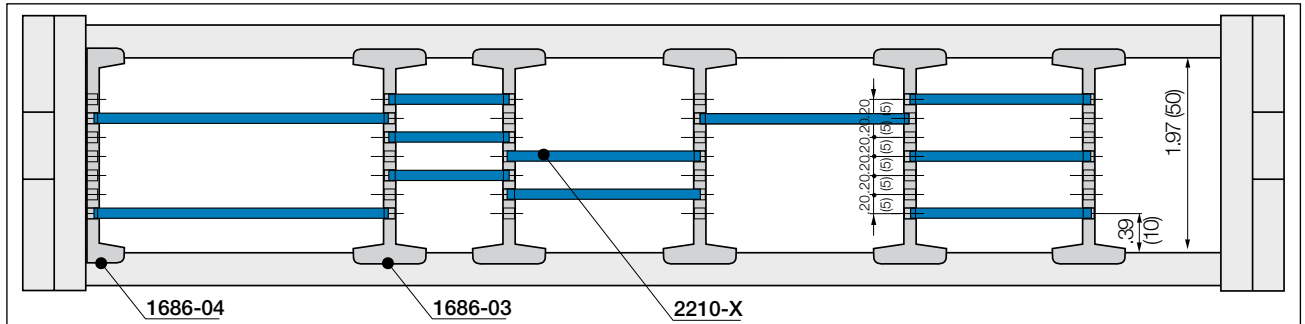
Full width shelf for e-tubes

Unassembled	Part No. 320-X
Assembled	Part No. 321-X

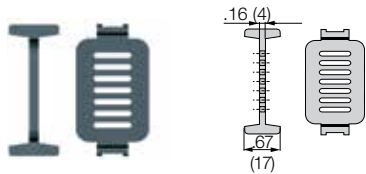
- **Full width shelf 320-X**
is used in applications with many thin cables with similar diameters. Full-width shelves can be arranged at 3 different heights in .47" (12mm) increments.

Width X in. (mm)	Part No. Unassembled	Part No. Assembled	Width X in. (mm)	Part No. Unassembled	Part No. Assembled	Width X in. (mm)	Part No. Unassembled	Part No. Assembled
1.97 (50)	320-50	321-50	4.92 (125)	320-125	321-125	7.87 (200)	320-200	321-200
2.95 (75)	320-75	321-75	5.91 (150)	320-150	321-150	8.86 (225)	320-225	321-225
4.53 (115)	320-115	321-115	6.89 (175)	320-175	321-175	9.84 (250)	320-250	321-250





No lateral spacing to side links is necessary
In the standard configuration separators are assembled every 2nd e-chain® link

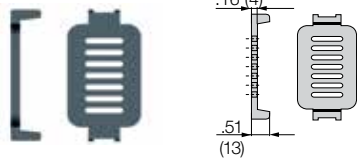


Separator, narrow base

Unassembled	Part No. 1685-03
Assembled	Part No. 1686-03

● **Middle plate 1685-03**

To achieve modular separation the shelf 2200-X can be arranged at 7 different heights in .20" (5mm) increments.



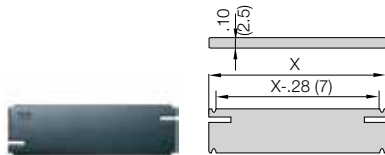
Separator, narrow base

Unassembled	Part No. 1685-04
Assembled	Part No. 1686-04

● **Side plate 1685-04**

For use with shelf 2200-X and middle plate 1685-03

Full-width shelves - for the standard interior separation



Full width shelf

Unassembled	Part No. 2200-X
Assembled	Part No. 2210-X

● **Full width shelf 2200-X**

For applications involving many cables with different diameters, shelves can be arranged at alternate heights. They can be arranged at 5 different heights in .20" (5mm) increments.

Width X in. (mm)	Part No. Unassembled	Part No. Assembled	Width X in. (mm)	Part No. Unassembled	Part No. Assembled	Width X in. (mm)	Part No. Unassembled	Part No. Assembled
.71 (18)	2200-18	2210-18	1.69 (43)	2200-43	2210-43	3.46 (88)	2200-88	2210-88
.91 (23)	2200-23	2210-23	1.89 (48)	2200-48	2210-48	3.90 (99)	2200-99	2210-99
1.10 (28)	2200-28	2210-28	2.28 (58)	2200-58	2210-58	4.88 (124)	2200-124	2210-124
1.30 (33)	2200-33	2210-33	2.68 (68)	2200-68	2210-68	5.87 (149)	2200-149	2210-149
1.50 (38)	2200-38	2210-38	2.87 (73)	2200-73	2210-73			

Separator with integrated strain relief

Strain relief separator Part No. 1685-01-Z can be integrated into the mounting bracket and can be placed there at any point of the e-tube®. It combines strain relief and interior separation, it can be installed on the first or last e-tube® link and is easy to assemble without any screws.

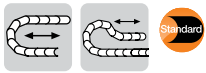
For more information ► Chapter 10, Strain Relief



e-chain system® E2 tubes Series R167/R168 Mounting Brackets - KMA Extended

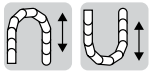


R167
R168



Option 1: pivoting

- Unsupported and gliding applications
- Mounting points on all sides
- Quickflange Option, bolted outside of e-tube cross section
- Long travels with lowered mounting height possible
- Corrosion-resistant



Option 2: locking

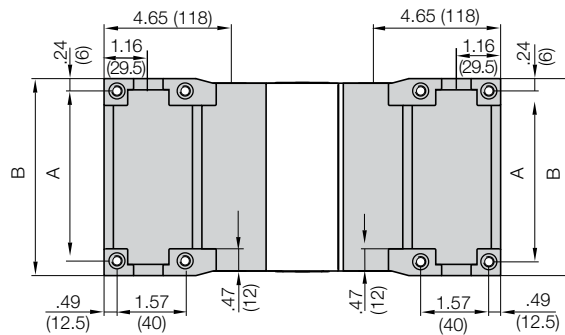
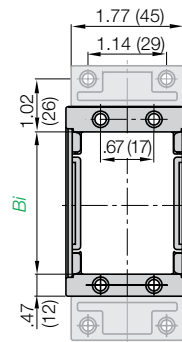
- Vertical hanging/standing applications
- Quickflange Option, bolted outside of e-tube cross section
- Extreme speeds and accelerations
- Mounting points on all sides
- Flush mounting at both ends of the e-tube



Part Number Structure

1680- 100- 12 QF

- With Quickflange
- Complete Set
12 = Pivoting
14 = Locking
- Width
- Mounting brackets for selected chain type



Full set, for both ends:

1680-100-12 QF Full set, each part with pin/bore + tiewrap plate

Single-part order:

1680-100-1 QF Mounting bracket with bore + tiewrap plate

1680-100-2 QF Mounting bracket with pin + tiewrap plate



Quickflange Unassembled
Part number 1680-QF

For Tube Type	Part No. Full set with Tiewrap Plate	Part No. Full Set with Quickflange	Dimension A in. (mm)	Dimension B in. (mm)
167/168-050	1680-050- <input type="checkbox"/>	1680-050- <input type="checkbox"/> QF	2.44 (62)	2.91 (74)
167/168-075	1680-075- <input type="checkbox"/>	1680-075- <input type="checkbox"/> QF	3.43 (87)	3.90 (99)
167/168-100	1680-100- <input type="checkbox"/>	1680-100- <input type="checkbox"/> QF	4.41 (112)	4.88 (124)
167/168-115	1680-115- <input type="checkbox"/>	1680-115- <input type="checkbox"/> QF	5.00 (127)	5.47 (139)
167/168-125	1680-125- <input type="checkbox"/>	1680-125- <input type="checkbox"/> QF	5.39 (137)	5.87 (149)
167/168-150	1680-150- <input type="checkbox"/>	1680-150- <input type="checkbox"/> QF	6.38 (162)	6.85 (174)
167/168-175	1680-175- <input type="checkbox"/>	1680-175- <input type="checkbox"/> QF	7.36 (187)	7.83 (199)
167/168-200	1680-200- <input type="checkbox"/>	1680-200- <input type="checkbox"/> QF	8.35 (212)	8.82 (224)
167/168-225	1680-225- <input type="checkbox"/>	1680-225- <input type="checkbox"/> QF	9.33 (237)	9.80 (249)
167/168-250	1680-250- <input type="checkbox"/>	1680-250- <input type="checkbox"/> QF	10.31 (262)	10.79 (274)

For pivoting brackets choose 12
For locking brackets choose 14
Example: 1680-100- 14 QF

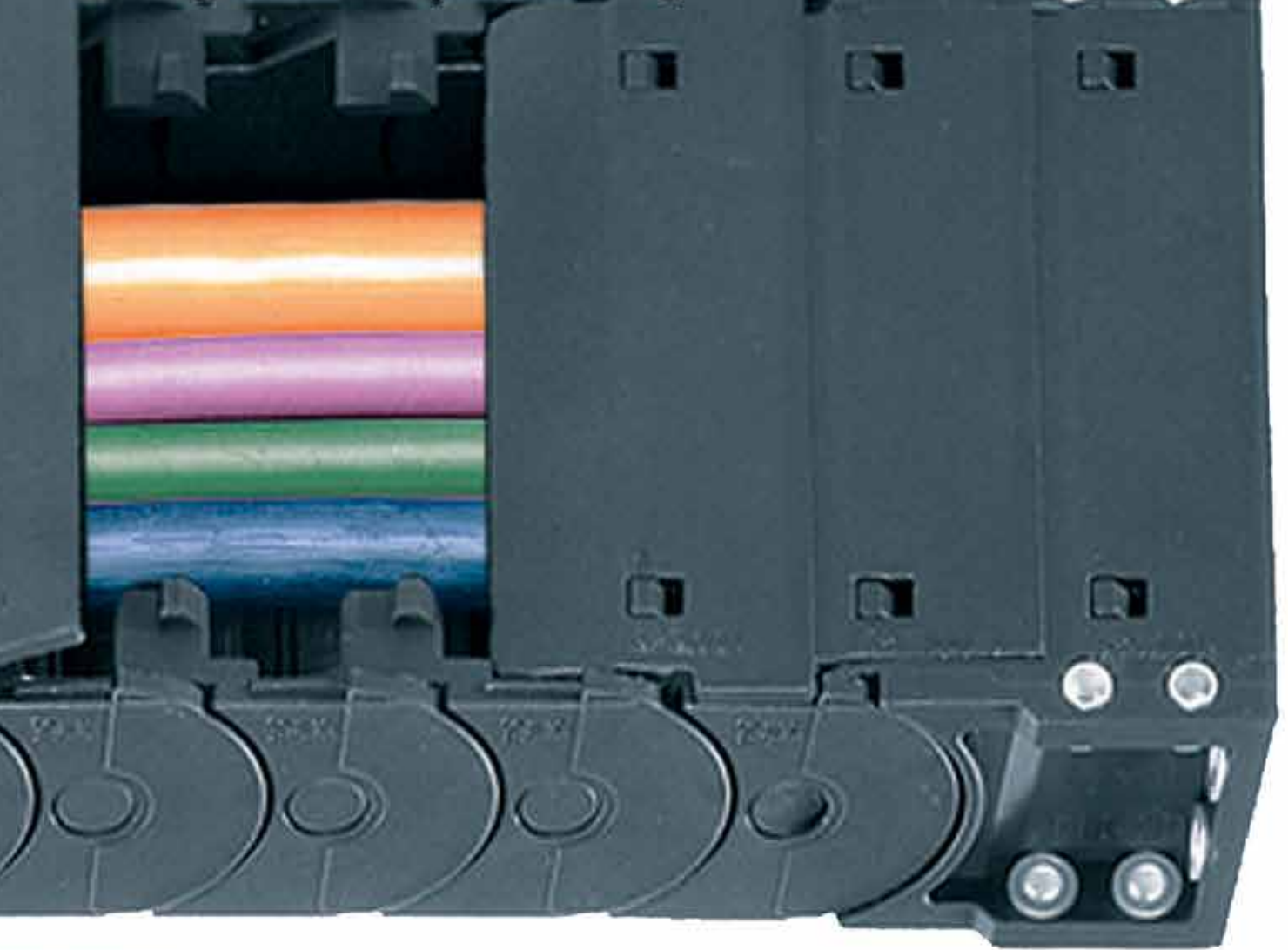
The following parts are required for attachment of the mounting brackets:

* The length of the socket head cap bolt is dependent on the thickness of the attachment base.

PDF: igus.com/e-chain-pdfs
Product information: igus.com/e-chains







E2R

**e-tubes for chip protection
at higher speeds and
smooth running**

Chip protection at higher speeds and smooth running - E2 R e-tubes

E2 R e-tubes - small pitch for higher speeds and smooth motion. igus® e-tubes work in hot chip areas, in areas of dirt and dust generated by woodworking, steel mills, pulp and paper, textile, agriculture, coal plant and many other hostile environments.

- High level of protection against chips (including hot chips)
- Robust and sealed
- Space-efficient with optimized ratio of inner to outer dimensions
- Modular interior separation
- Universal KMA mounting brackets with attachment options from any side

Typical industries and applications

- Machine tools
- Wood processing machines
- General mechanical engineering
- In all areas with dirt and chips



e-tubes with igumid HT-Material for hot chips up to +1,562°F available upon request



Electrically conductive ESD e-tubes upon request



UL94-V0 classifications upon request



iF product design award

1987 igus® series R68

Energy Chain System® E2 R tubes

Selection Guide

Series	Inner height <i>hi</i>		Inner width <i>Bi</i>		Outer width <i>Ba</i>		Outer height <i>ha</i>		Bend radius <i>R</i>		Unsupported length ≤ ft. (m)
	in.	(mm)	in.	(mm)	in.	(mm)	in.	(mm)	in.	(mm)	



R48	.98	(25)	.98-5.12	(25-130)	1.42-5.55	(36-141)	1.42	(36)	2.36-9.84	(060-250)	4.92	(1.50)
R58	1.38	(35)	1.97-7.87	(50-200)	2.60-8.50	(66-216)	1.97	(50)	2.95-9.84	(075-250)	7.55	(2.30)
R68	1.77	(45)	1.97-9.84	(50-250)	2.68-10.55	(68-268)	2.52	(64)	3.94-11.81	(100-300)	8.20	(2.50)



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

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



E2 e-tubes in chip area of a machine tool. Resistant to chips up to +1,562°F with special igumid HT material

Price Index


Series R48

Special Features / Options


ESD classification:
Electrically conductive ESD/
ATEX version upon request



Flammability Class
VDE 0304 IIC UL94 HB

Assembly Tips


To open the e-tube Series R, lift up the lid (with a screwdriver) and remove the lid

Other Installation Methods

Vertical, hanging ≤ 164 ft (50 m)

Vertical, standing ≤ 13.12 ft (4 m)

Side-mounted, un_supp. ≤ 4.92 ft (1.5 m)

Rotary requires further calculation

Usage Guidelines

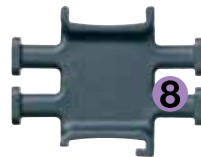

- If particularly quiet operation is required
- If very high speeds are required
- If chip repellent features are required



- If a particularly low-cost solution is the main factor
➤ **Series R117/R118 E2 tubes**
- If no chip protection is required
➤ **Series 2500 E2/000**

Features & Benefits

- 1 Large pins for high stability
- 2 Protection for cables and hoses against hot chips
- 3 Removable lids along the outer radius
- 4 Small pitch for low-noise, smooth operation
- 5 KMA mounting brackets with attachment capabilities on all sides
- 6 Smooth, chip-repellent exterior
- 7 Fully enclosed
- 8 Strain relief separator option: Separator with integrated strain relief for use in the first or last chain link ➤ **Strain Relief, Chapter 10**


Order Example: Complete e-chain®

Please indicate chain length or number of links. Example:

3.28 ft (1 m) **48-075-060-0**

With 2 separators **482** assembled every 2nd link

1 Set **480-075-12**

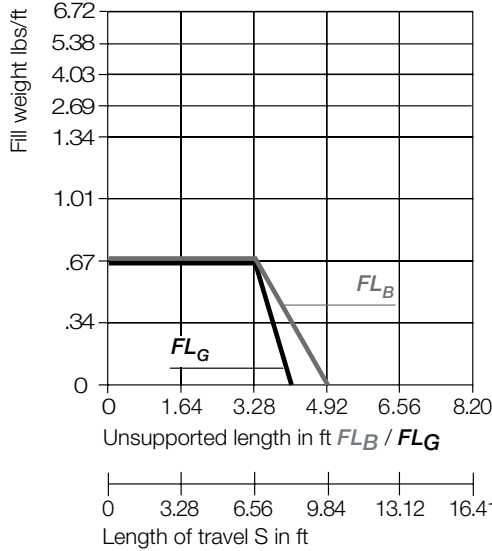
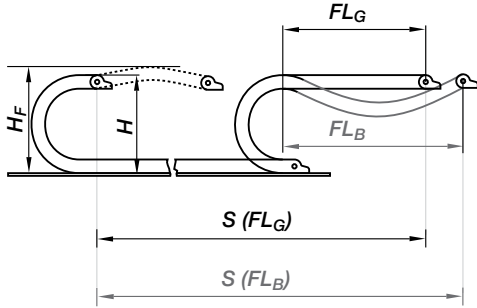
e-chain system® E2 tubes

Series R48

Installation Dimensions

Short travel, unsupported length

- FL_B = unsupported with permitted sag
 - FL_G = unsupported with straight upper run
- Further information ► Design, Chapter 1

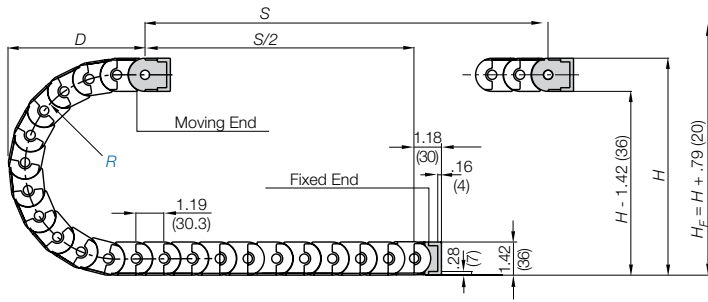


Short Travels - Unsupported

Unsupported e-chains® feature positive camber over short travels. This must be accounted for when specifying the clearance height. Please refer to **Installation dimensions** for further details.

Legend

- S = Length of travel
- R = Bending radius
- H = Nominal clearance height
- D = Overlength e-chain® radius in final position
- $K = \pi \cdot R + \text{safety buffer}$
- H_f = Required clearance height



Pitch per link = 1.19" (30.3 mm)
 Links per ft (m) = 10.06 (33)
 For center mount applications:
 Chain length = $\frac{S}{2} + K$

The required clearance height: $H_f = H + .79$ in. (20 mm) (with .34 lbs/ft (0.5 kg/m) fill weight). Please consult igus® if space is particularly restricted.

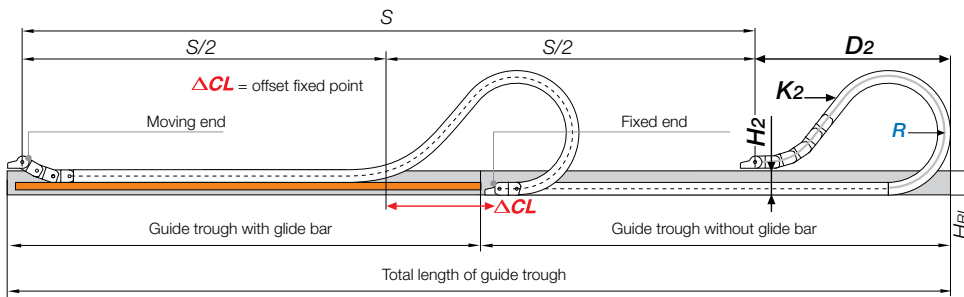
R	2.36 (060)	2.95 (075)	3.94 (100)	4.92 (125)	5.91 (150)	6.89 (175)	7.87 (200)	9.84 (250)
H	6.14 (156)	7.32 (186)	9.29 (236)	11.26 (286)	13.23 (336)	15.20 (386)	17.17 (436)	21.10 (536)
D	4.84 (123)	5.43 (138)	6.42 (163)	7.40 (188)	8.39 (213)	9.37 (238)	10.35 (263)	12.32 (313)
K	9.84 (250)	11.81 (300)	14.76 (375)	17.91(455)	21.06 (535)	24.21 (615)	27.17 (690)	33.46 (850)

For long travels with lowered mounting height

Long travel lengths from 16.41 ft. (5 m) to max. 164 ft. (50 m)

For center mount applications:

Chain length = $\frac{S}{2} + K_2$



Long Travels - Gliding



If the unsupported length is exceeded, the e-chain®/ Tube must glide on itself. This requires a guide trough.

Design, Chapter 1

R	2.36 (060)	2.95 (075)	3.94 (100)	4.92 (125)	5.91 (150)	6.89 (175)	7.87 (200)	9.84 (250)
H	6.14 (156)	7.32 (186)	6.93 (176)	6.93 (176)	6.93 (176)	6.93 (176)	6.93 (176)	*
D	4.33 (110)	4.92 (125)	12.99 (330)	17.72 (450)	24.02 (610)	28.74 (730)	27.16 (690)	*
K	9.84 (250)	11.81 (300)	21.46 (545)	29.84 (758)	38.19 (970)	45.31 (1151)	46.54 (1182)	*
ΔCL	*	*	6.69 (170)	10.63 (270)	14.96 (380)	18.50 (470)	*	*

Speed / acceleration FL_G	max. 32.8 ft/s (10 m/s) / max. 328 ft/s ² (100 m/s ²)
Speed / acceleration FL_B	max. 9.84 ft/s (3 m/s) / max. 19.69 ft/s ² (6 m/s ²)
Gliding speed / acceleration (maximum)	max. 9.84 ft/s (3 m/s) / max. 32.8 ft/s ² (10 m/s ²)
Material - permitted temperature	igumid G / -40°F (-40°C) up to +248°F (+120°C)
Flammability Class, igumid G	VDE 0304 IIC UL94 HB

Technical Data



Details of material properties

► Chapter 1

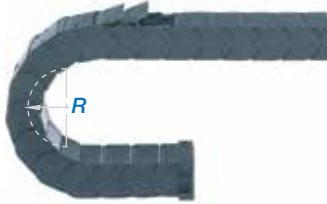
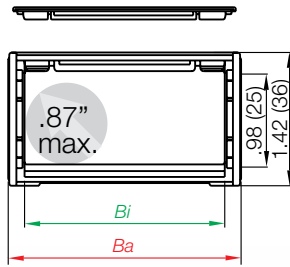


PDF: igus.com/e-chain-pdfs
 Product information: igus.com/e-chains

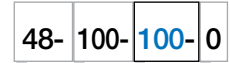


Series R48 - e-tube snap-open along the outer radius

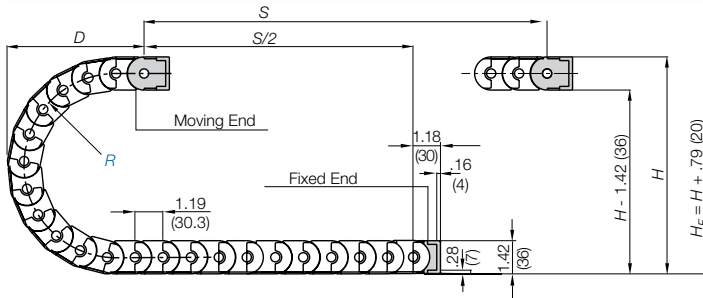
igus®
e-chain system®



Part Number Structure



- Color - Black
- Bending radius
- Width
- Series



Supplement part number with required radius. Example: R48-100-**100**-0
Pitch: 1.19 in. (30.3 mm) per link links/ft (m) = 10.06 (33)

Part Number	<i>Bi</i> in. (mm)	<i>Ba</i> in. (mm)	Weight lbs/ft (kg/m)
48-025- <input type="text"/> -0	.98 (25)	1.42 (36)	≈ 0.43 (0.64)
48-050- <input type="text"/> -0	1.97 (50)	2.40 (61)	≈ 0.56 (0.84)
48-075- <input type="text"/> -0	2.95 (75)	3.39 (86)	≈ 0.69 (1.03)
48-100- <input type="text"/> -0	3.94 (100)	4.37 (111)	≈ 0.83 (1.23)
48-130- <input type="text"/> -0	5.12 (130)	5.55 (141)	≈ 0.98 (1.46)

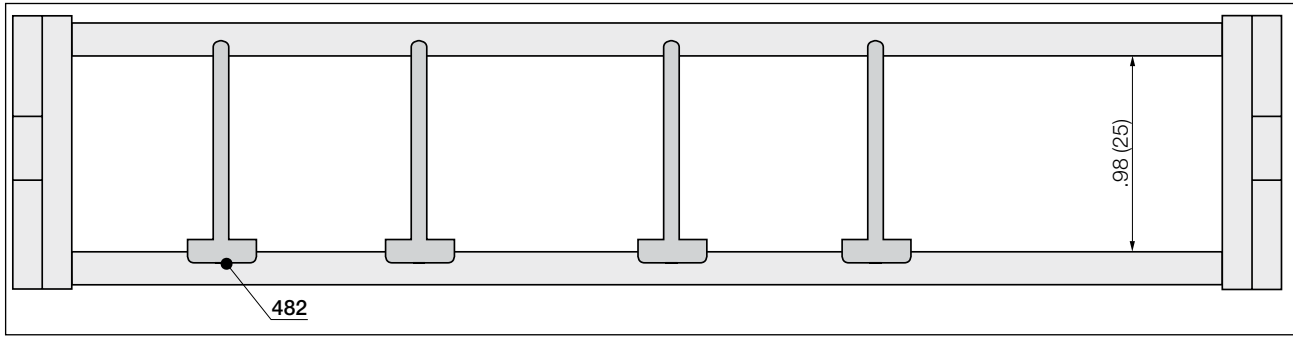
Choose from the radii below for all of the above sizes

Radius (mm) Example: R48-100-**100**-0

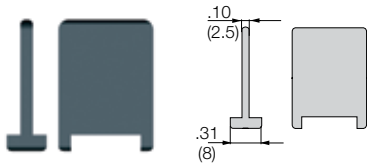
	060	075	100	125	150	175	200	250
R	2.36 (060)	2.95 (075)	3.94 (100)	4.92 (125)	5.91 (150)	6.89 (175)	7.87 (200)	9.84 (250)
H	6.14 (156)	7.32 (186)	9.29 (236)	11.26 (286)	13.23 (336)	15.20 (386)	17.17 (436)	21.10 (536)
D	4.84 (123)	5.43 (138)	6.42 (163)	7.40 (188)	8.39 (213)	9.37 (238)	10.35 (263)	12.32 (313)
K	9.84 (250)	11.81 (300)	14.76 (375)	17.91 (455)	21.06 (535)	24.21 (615)	27.17 (690)	33.46 (850)

Telephone 1-800-521-2747

Internet: igus.com
email: sales@igus.com
QuickSpec: igus.com/quickspec



No lateral spacing to side links is necessary.
 In the standard configuration separators are assembled every 2nd e-chain[®] link



Separator, wide base

Unassembled	Part No. 481
Assembled	Part No. 482

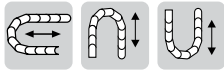
• **Standard separator 481**

Vertical separators are used if a vertical subdivision of the e-tube is required. By standard vertical separators are assembled every other e-tube link.

Separator with integrated strain relief

Strain relief separator Part No. 481-ZR can be integrated into the mounting bracket and can be placed there at any point of the e-tube[®]. It combines strain relief and interior separation, it can be installed on the first or last e-tube[®] link and is easy to assemble without any screws.
 For more information ► **Chapter 10, Strain Relief**

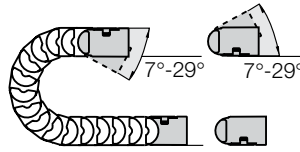




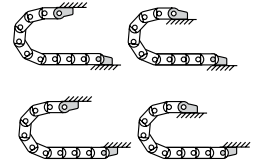
Option 1: Plastic

- Attachment option for strain relief tiewrap plate
- Locked connection to e-tube
- Minimized external width

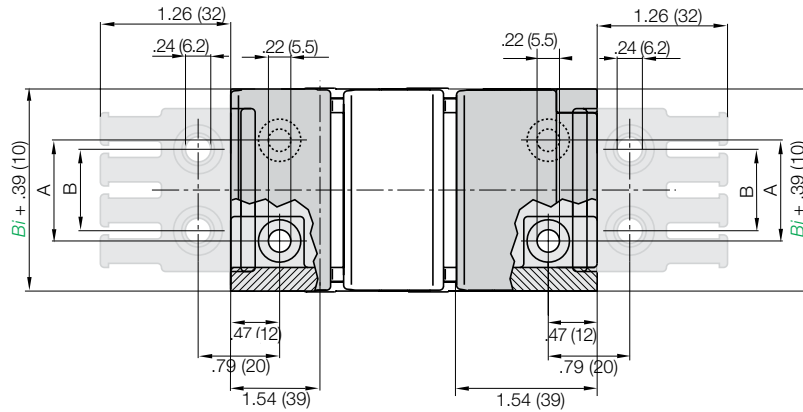
Moving end
4800...1



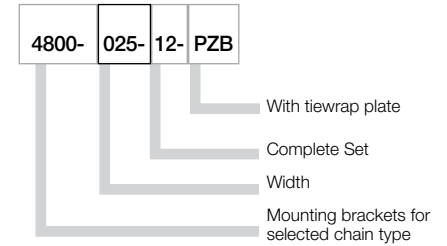
Fixed end
4800...2



Possible installation configurations -



Part Number Structure



- Full set, for both ends:**
4800-025-12 Full set, each part with pin/bore
- Single-part order:**
4800-025-1 Mounting bracket with bore
4800-025-2 Mounting bracket with pin

Part No. Mounting Brackets Full Set
4 parts, 2 with pin, 2 with bore
Series R48:
4800-Width-12

Part No. Mounting bracket with bore
2 parts, 1 left & 1 right
Series R48:
4800-Width -1

Part No. Mounting bracket with pin
2 parts, 1 left & 1 right
Series R48:
4800-Width-2

For Series	Part No. Full Set	Part No. Full Set with Tiewrap Plate	Dimension A in. (mm)	Dimension B in. (mm)	Number of teeth
48-025	4800-025-12	4800-025-12PZB	.47 (12)	.59 (15)	3
48-050	4800-050-12	4800-050-12PZB	1.46 (37)	1.18 (30)	5
48-075	4800-075-12	4800-075-12PZB	2.44 (62)	2.36 (60)	8
48-100	4800-100-12	4800-100-12PZB	3.43 (87)	3.15 (80)	10
48-130	4800-130-12	4800-130-12PZB	4.61 (117)	-	-

The following parts are required for attachment of the mounting brackets:

- Socket head cap bolt M5* DIN 912-8.8
4 pieces/set
- Washer 5.3 DIN 125-ST
8 pieces/set
- Hexagon nut M5 DIN 934-8
4 pieces/set

* The length of the socket head cap bolt is dependent on the thickness of the attachment base.

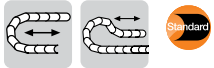
e-chain system® E2 tubes

Series R48

Mounting Bracket - KMA

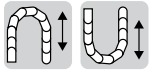
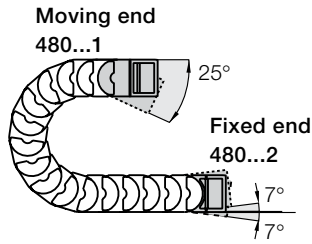


R48



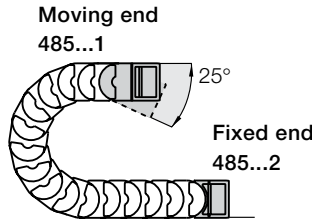
Option 1: KMA pivoting

- Attachment points on all sides
- Corrosion resistant

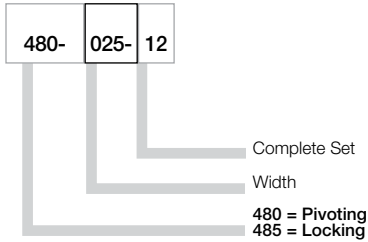


Option 2: KMA locking

- Vertical hanging, standing travel
- Attachment points on all sides
- Corrosion resistant



Part Number Structure

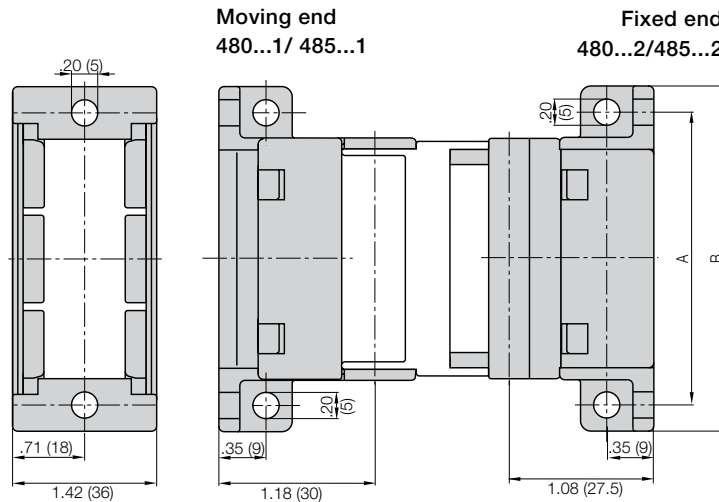


Full set, for both ends:

480- 025- 12 Full set, each part with pin/bore

Single-part order:

- 480- 025- 1 Mounting bracket with bore
- 480- 025- 2 Mounting bracket with pin



Width	Part No. Full Set			Dimension A		Dimension B	
	Pivoting	Locking		in.	(mm)	in.	(mm)
-025	480	485	-025-12	1.77	(45)	2.17	(55)
-050	480	485	-050-12	2.76	(70)	3.15	(80)
-075	480	485	-075-12	3.74	(95)	4.13	(105)
-100	480	485	-100-12	4.72	(120)	5.12	(130)
-130	480	485	-130-12	5.91	(150)	6.30	(160)

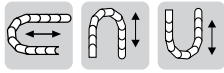
The following parts are required for attachment of the mounting brackets:

- Socket head cap bolt M5* DIN 912-8.8
4 pieces/set
- Washer 5.3 DIN 125-ST
8 pieces/set
- Hexagon nut M5 DIN 934-8
4 pieces/set

* The length of the socket head cap bolt is dependent on the thickness of the attachment base.

PDF: igus.com/e-chain-pdfs
Product information: igus.com/e-chains

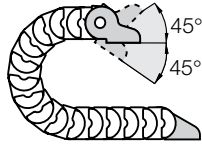




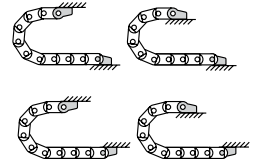
Option 1: Steel

- Locked connection to e-tube
- Electrically conductive
- Minimized external width

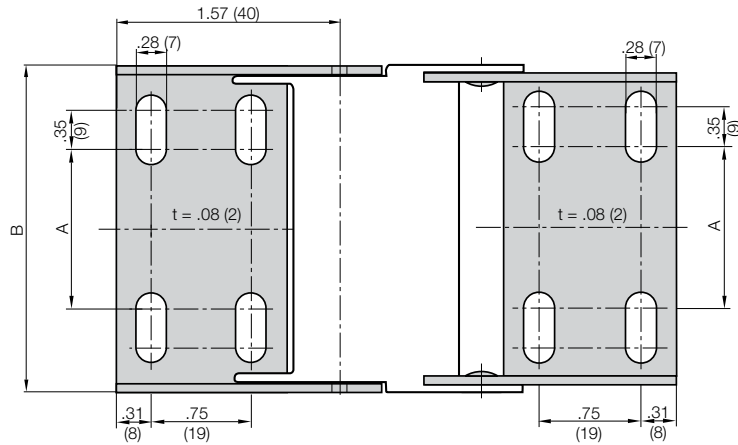
Moving end
482...1



Fixed end
482...2



Possible installation configurations -



Full set, for both ends:

482- 025- 12 Full set, each part with pin/bore

Single-part order:

482- 025- 1 Mounting bracket with bore

482- 025- 2 Mounting bracket with pin

For Series	Part No. Full Set	Dimension A in. (mm)	Dimension B in. (mm)
48-025	482-025-12	-	1.38 (35)
48-050	482-050-12	.87 (22)	2.36 (60)
48-075	482-075-12	1.85 (47)	3.35 (85)
48-100	482-100-12	2.83 (72)	4.33 (110)
48-130	482-130-12	4.02 (102)	5.51 (140)

Part No. Mounting Brackets Full Set

4 parts, 2 with pin, 2 with bore
Series R48:

482-Width-12

Part No. Mounting bracket with bore

2 parts, 1 left & 1 right

Series R48:

482-Width -1

Part No. Mounting bracket with pin

2 parts, 1 left & 1 right

Series R48:

482-Width-2

The following parts are required for attachment of the mounting brackets:

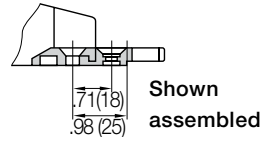
- **Socket head cap bolt M5* DIN 912-8.8**
4 pieces/set
- **Washer 5.3 DIN 125-ST**
8 pieces/set
- **Hexagon nut M5 DIN 934-8**
4 pieces/set

* The length of the socket head cap bolt is dependent on the thickness of the attachment base.

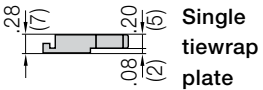
Tiewrap Plates

Option 1:
Tiewrap plates as an individual part

Available as an individual component that can be fixed external to the mounting bracket.

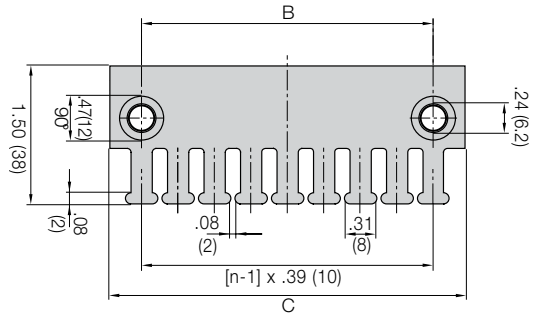


Shown assembled



Single tiewrap plate

Tiewrap Plates	n Number of Teeth	Dimension C	Dimension B
2020-ZB	3	1.18 (30)	.59 (15)
2030-ZB	4	1.57 (40)	.79 (20)
2040-ZB	5	1.97 (50)	1.18 (30)
2050-ZB	6	2.36 (60)	1.57 (40)
2070-ZB	8	3.15 (80)	2.36 (60)
2090-ZB	9	3.54 (90)	2.76 (70)
2100-ZB	10	3.94 (100)	3.15 (80)
2120-ZB	12	4.72 (120)	3.94 (100)



For more information please refer to strain relief section of Chapter 10



Cable tiewraps as individual parts

Cable tiewraps 100 pieces/bag	Width x Length		Maximum Ø		Tensile Strength	
	in.	(mm)	in.	(mm)	lbs	(N)
CFB-001	.19 x 5.91	(4.8 x 150)	1.42	(36)	50	(222)



Price Index


Series R58

Special Features / Options


ESD classification:
Electrically conductive ESD/
ATEX version upon request



Flammability Class
VDE 0304 IIC UL94 HB

Assembly Tips


To open the e-tube Series R, lift up the lid (with a screwdriver) and remove the lid


Other Installation Methods

Vertical, hanging ≤ 164 ft (50 m)

Vertical, standing ≤ 13.12 ft (4 m)

Side-mounted, un supp. ≤ 6.56 ft (2 m)

Rotary requires further calculation

Usage Guidelines

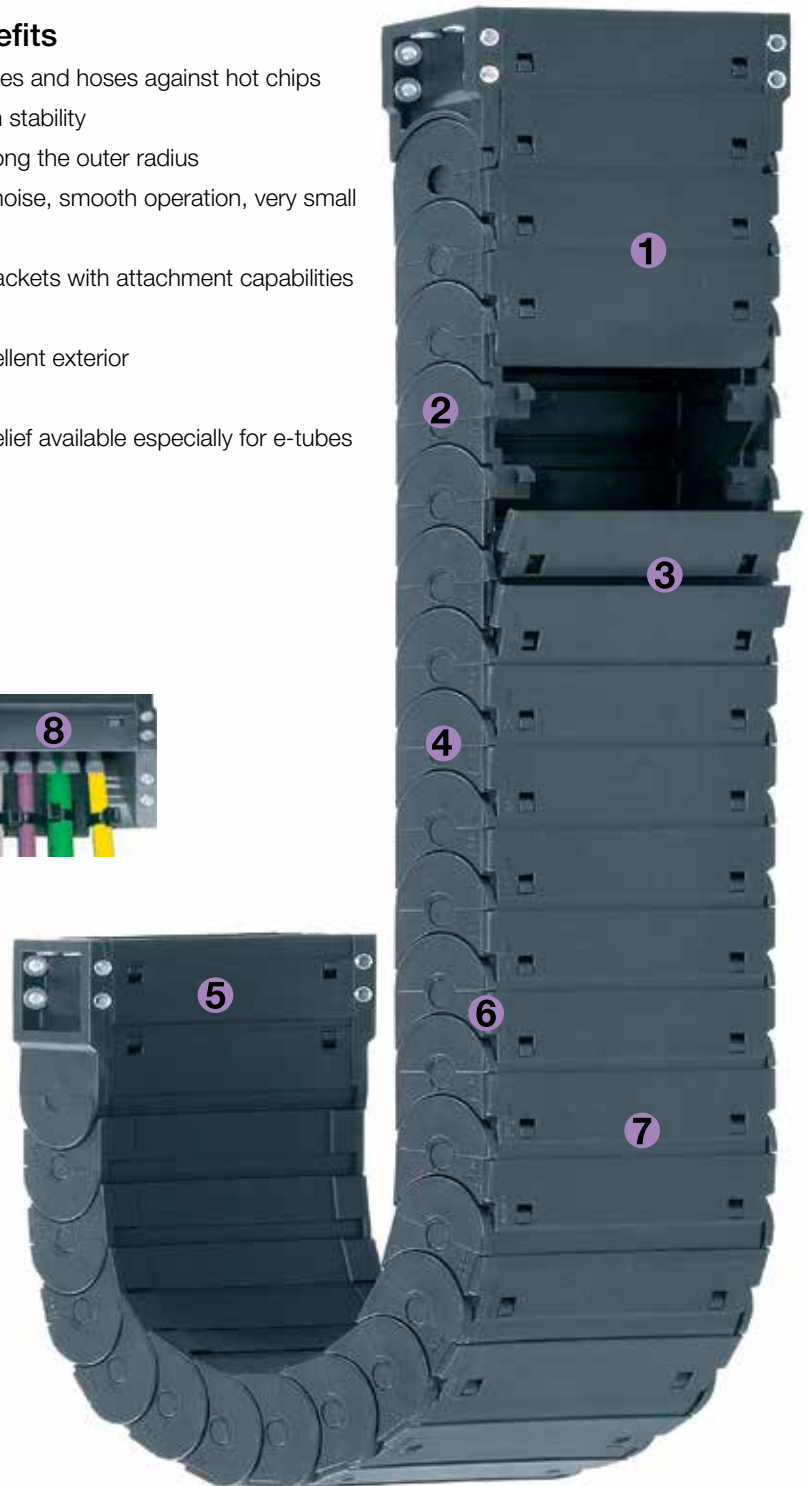

- If particularly quiet operation is required
- If very high speeds are required
- If chip protection is subject to stringent requirements



- If a particularly low-cost solution is the main factor
 - **Series R157/R158 E2 tubes**
- If no chip protection is required
 - **Series 2500 E2/000**

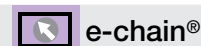
Features & Benefits

- 1 Protection for cables and hoses against hot chips
- 2 Large pins for high stability
- 3 Removable lids along the outer radius
- 4 Small pitch - low-noise, smooth operation, very small radii
- 5 KMA mounting brackets with attachment capabilities on all sides
- 6 Smooth, chip-repellent exterior
- 7 Fully enclosed
- 8 Integrated strain relief available especially for e-tubes

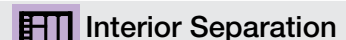

Order Example: Complete e-chain®

Please indicate chain length or number of links. Example:

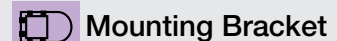
3.28 ft (1 m) **58-100-100-0**



With 2 separators **582** assembled every 2nd link



1 Set **580-100-12**



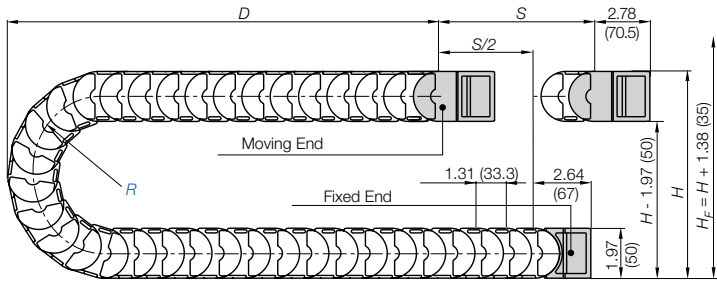
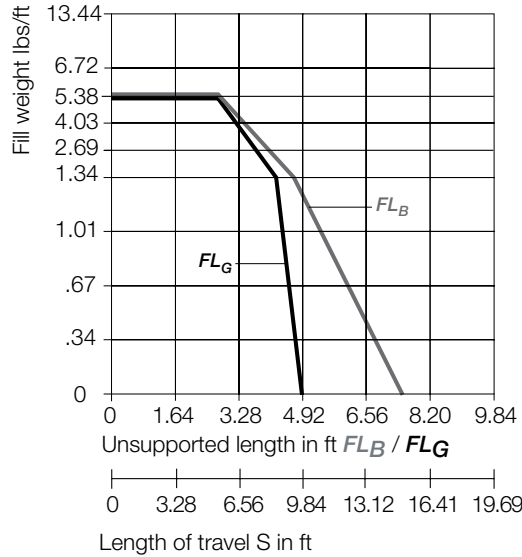
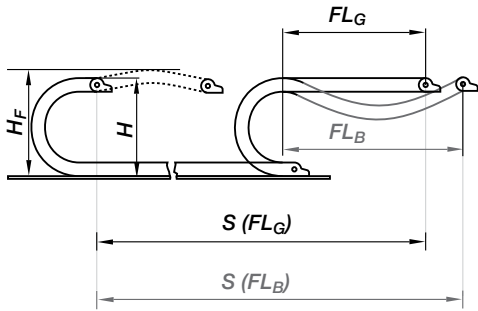
e-chain system® E2 tubes

Series R58

Installation Dimensions

Short travel, unsupported length

- FL_B = unsupported with permitted sag
 - FL_G = unsupported with straight upper run
- Further information ► Design, Chapter 1



Pitch per link = 1.31" (33.3 mm)
 Links per foot (m) = 9.14 (30)
 For center mount applications:
 Chain length = $\frac{S}{2} + K$

The required clearance height: $H_F = H + 1.38$ in. (35 mm) (with .34 lbs/ft (0.5 kg/m) fill weight. Please consult igus® if space is particularly restricted.

R	2.95 (075)	3.94 (100)	4.92 (125)	5.91 (150)	7.87 (200)	9.84 (250)
H	7.87 (200)	9.84 (250)	11.81 (300)	13.78 (350)	17.72 (450)	21.65 (550)
D	5.91 (150)	6.89 (175)	7.87 (200)	8.86 (225)	10.83 (275)	12.80 (325)
K	12.96 (305)	15.16 (385)	18.11 (460)	21.26 (540)	27.36 (695)	33.66 (855)



R58

Short Travels - Unsupported



Unsupported e-chains® feature positive camber over short travels. This must be accounted for when specifying the clearance height. Please refer to Installation dimensions for further details.

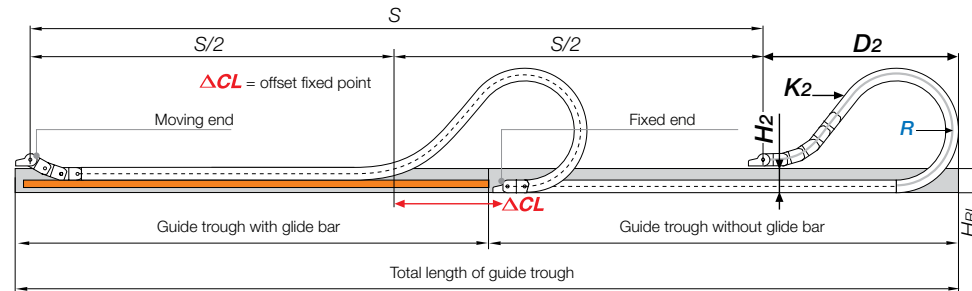
Legend

- S = Length of travel
- R = Bending radius
- H = Nominal clearance height
- D = Overlength e-chain® radius in final position
- $K = \pi \cdot R + \text{safety buffer}$
- H_F = Required clearance height
- H_{R1} = Trough inner height
- H_2 = *Mounting height
- D_2 = Overlength - long travels, gliding
- K_2 = *Add-on

*If the mounting bracket location is set lower

For long travels with lowered mounting height

Long travel lengths from 32.8 ft. (10 m) to max. 246 ft. (75 m)



For center mount applications:
 Chain length = $\frac{S}{2} + K_2$

Long Travels - Gliding



If the unsupported length is exceeded, the e-chain®/ Tube must glide on itself. This requires a guide trough.

Design, Chapter 1

R	2.95 (075)	3.94 (100)	4.92 (125)	5.91 (150)	7.87 (200)	9.84 (250)
H_2	5.91 (150)	6.54 (166)	6.54 (166)	6.54 (166)	6.54 (166)	6.54 (166)
D_2	5.91 (150)	12.20 (310)	14.96 (380)	18.90 (480)	31.50 (800)	41.34 (1050)
K_2	14.76 (375)	19.69 (500)	27.52 (699)	34.09 (866)	49.80 (1265)	65.55 (1665)
ΔCL	—	4.80 (122)	6.57 (167)	9.72 (247)	20.16 (512)	28.23 (717)

Speed / acceleration FL_G	max. 32.8 ft/s (10 m/s) / max. 328 ft/s ² (100 m/s ²)
Speed / acceleration FL_B	max. 9.84 ft/s (3 m/s) / max. 19.69 ft/s ² (6 m/s ²)
Gliding speed / acceleration (maximum)	max. 9.84 ft/s (3 m/s) / max. 32.8 ft/s ² (10 m/s ²)
Material - permitted temperature	igumid G / -40°F (-40°C) up to +248°F (+120° C)
Flammability Class, igumid G	VDE 0304 IIC UL94 HB

Technical Data



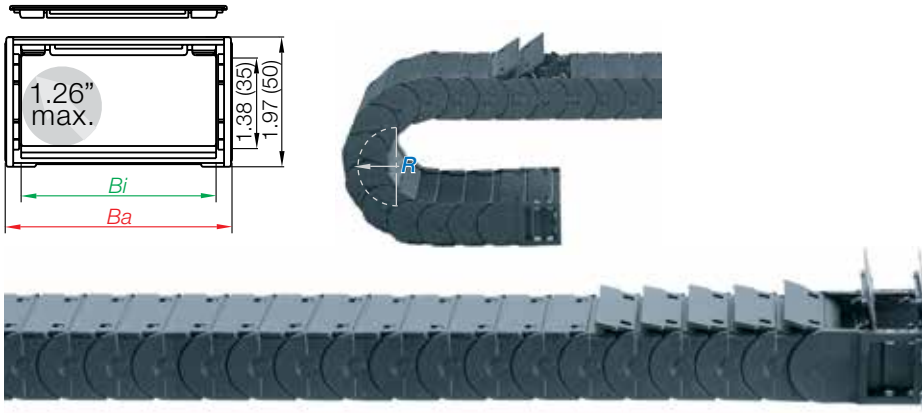
Details of material properties

► Chapter 1

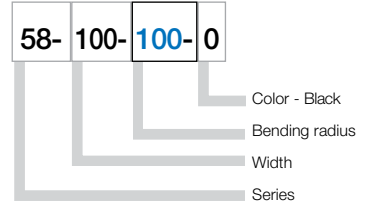
PDF: igus.com/e-chain-pdfs
 Product information: igus.com/e-chains



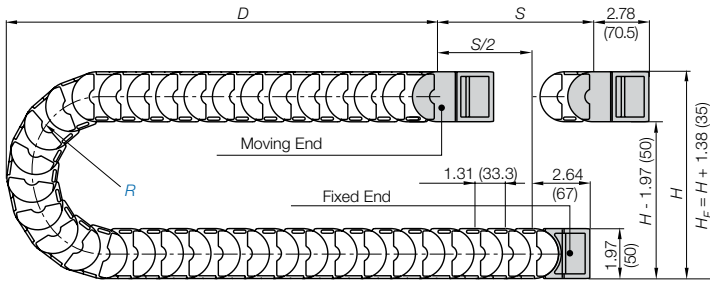
Series R58 - e-tube snap-open along the outer radius



Part Number Structure



Telephone 1-800-521-2747



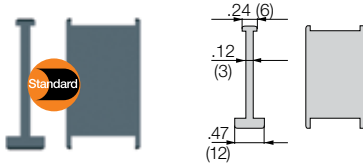
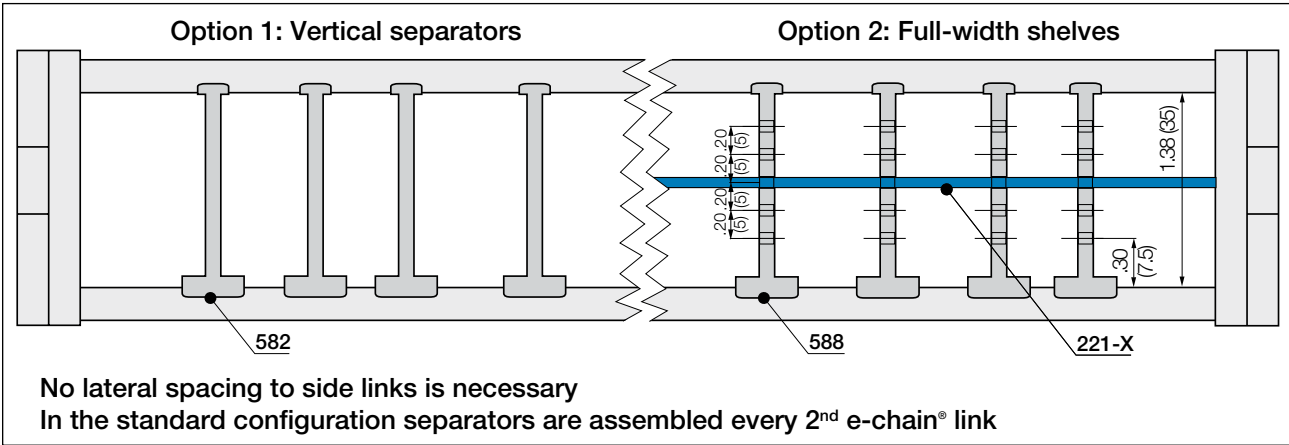
Supplement part number with required radius. Example: R58-100--0
Pitch: 1.31 in. (33.3 mm) per link links/ft (m) = 9.14 (30)

Part Number	<i>Bi</i> in. (mm)	<i>Ba</i> in. (mm)	Weight lbs/ft (kg/m)
58-050- <input type="text" value=""/> -0	1.97 (50)	2.60 (66)	≈ 1.01 (1.50)
58-075- <input type="text" value=""/> -0	2.95 (75)	3.58 (91)	≈ 1.19 (1.77)
58-100- <input type="text" value=""/> -0	3.94 (100)	4.57 (116)	≈ 1.37 (2.04)
58-125- <input type="text" value=""/> -0	4.92 (125)	5.55 (141)	≈ 1.55 (2.31)
58-150- <input type="text" value=""/> -0	5.91 (150)	6.54 (166)	≈ 1.75 (2.61)
58-175- <input type="text" value=""/> -0	6.89 (175)	7.52 (191)	≈ 1.94 (2.88)
58-200- <input type="text" value=""/> -0	7.87 (200)	8.50 (216)	≈ 2.12 (3.15)

Choose from the radii below for all of the above sizes
Radius (mm) Example: R58-100--0

	<input type="text" value="075"/>	<input type="text" value="100"/>	<input type="text" value="125"/>	<input type="text" value="150"/>	<input type="text" value="200"/>	<input type="text" value="250"/>
R	2.95 (75)	3.94 (100)	4.92 (125)	5.91 (150)	7.87 (200)	9.84 (250)
H	7.87 (200)	9.84 (250)	11.81 (300)	13.78 (350)	17.72 (450)	21.65 (550)
D	5.91 (150)	6.89 (175)	7.87 (200)	8.86 (225)	10.83 (275)	12.80 (325)
K	12.96 (305)	15.16 (385)	18.11 (460)	21.26 (540)	27.36 (695)	33.66 (855)

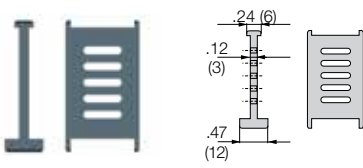
Internet: igus.com
email: sales@igus.com
QuickSpec: igus.com/quickspec



Separator for e-tubes

Unassembled	Part No. 581
Assembled	Part No. 582

- **Separator 581**
 For vertical separation with wide base for maximum stability when used with thick cables or hoses

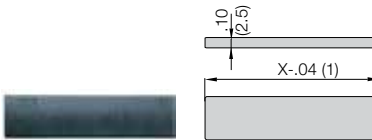


Slotted Separator for e-tubes

Unassembled	Part No. 587
Assembled	Part No. 588

- **Separator 587**
 is used when vertical and horizontal separation is required. Due to its slot, it allows basic vertical/horizontal shelving arrangements.

Full-width shelves - for the standard interior separation



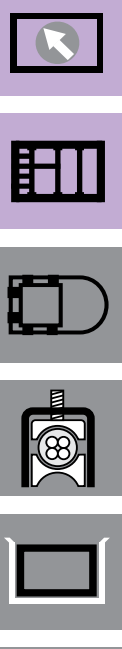
Full width shelf for e-tubes

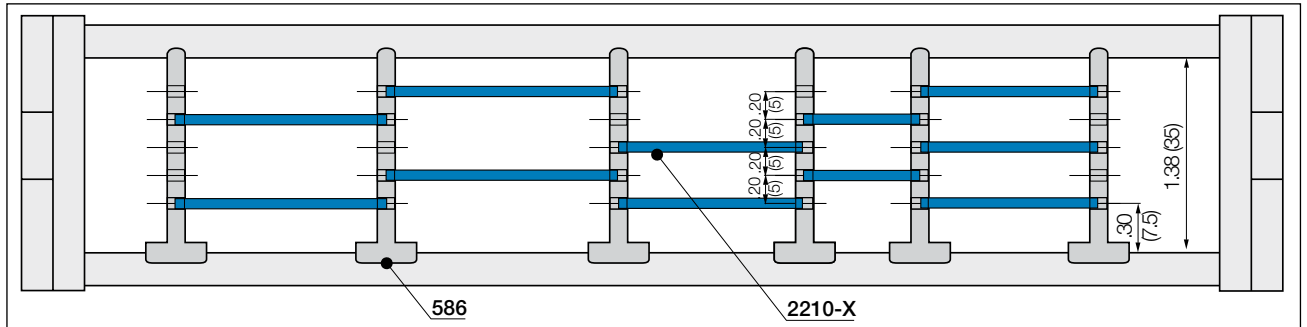
Unassembled	Part No. 220-X
Assembled	Part No. 221-X

- **Full width shelf 220-X**
 is used in applications with many thin cables with similar diameters. Full-width shelves can be arranged at 5 different heights in .20" (5mm) increments..

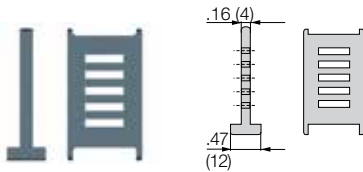
Width X	Part No.	Part No.	Width X	Part No.	Part No.	Width X	Part No.	Part No.
in. (mm)	Unassembled	Assembled	in. (mm)	Unassembled	Assembled	in. (mm)	Unassembled	Assembled
1.97 (50)	220-50	221-50	4.92 (125)	220-125	221-125	7.87 (200)	220-200	221-200
2.95 (75)	220-75	221-75	5.91 (150)	220-150	221-150			
3.94 (100)	220-100	221-100	6.89 (175)	220-175	221-175			

PDF: igus.com/e-chain-pdfs
 Product information: igus.com/e-chains





No lateral spacing to side links is necessary
In the standard configuration separators are assembled every 2nd e-chain® link

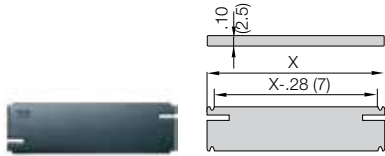


Separator, narrow base

Unassembled	Part No. 585
Assembled	Part No. 586

- **Slotted separator 585**
is used when vertical and horizontal separation is required. Due to its slot, it allows basic vertical/horizontal shelving arrangements.

Full-width shelves - for the standard interior separation



Full width shelf

Unassembled	Part No. 2200-X
Assembled	Part No. 2210-X

- **Full width shelf 2200-X**
For applications involving many cables with different diameters, shelves can be arranged at alternate heights. They can be arranged at 5 different heights in .20" (5mm) increments.

Width X in. (mm)	Part No. Unassembled	Part No. Assembled	Width X in. (mm)	Part No. Unassembled	Part No. Assembled	Width X in. (mm)	Part No. Unassembled	Part No. Assembled
.71 (18)	2200-18	2210-18	1.69 (43)	2200-43	2210-43	3.46 (88)	2200-88	2210-88
.91 (23)	2200-23	2210-23	1.89 (48)	2200-48	2210-48	3.90 (99)	2200-99	2210-99
1.10 (28)	2200-28	2210-28	2.28 (58)	2200-58	2210-58	4.88 (124)	2200-124	2210-124
1.30 (33)	2200-33	2210-33	2.68 (68)	2200-68	2210-68	5.87 (149)	2200-149	2210-149
1.50 (38)	2200-38	2210-38	2.87 (73)	2200-73	2210-73			

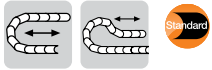
e-chain system® E2 tubes

Series R58

Mounting Brackets - KMA

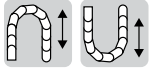


R58



Option 1: pivoting

- Unsupported and gliding applications
- Space-restricted conditions
- Mounting points on all sides
- KMA with Quickflange option available for short and long travels



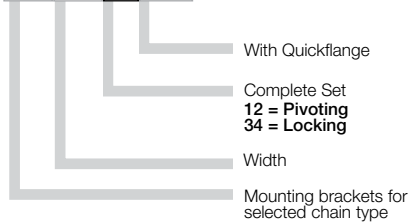
Option 2: locking

- Vertical hanging/standing travels
- Extreme speeds and accelerations
- Mounting points on all sides
- Flush mounting at both ends of the e-tube
- KMA with Quickflange option



Part Number Structure

580-050-12 QF

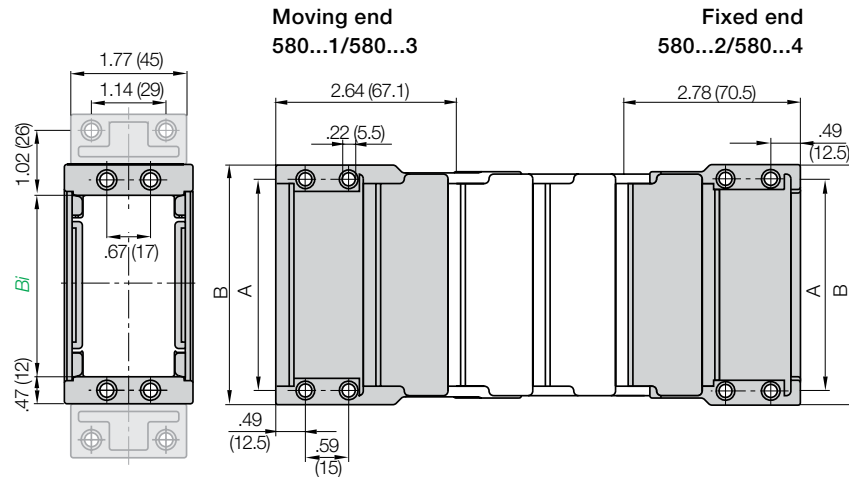


With Quickflange

Complete Set
12 = Pivoting
34 = Locking

Width

Mounting brackets for
selected chain type



Full set, for both ends:

580-050-12 QF Full set, each part with pin/bore + Quickflange

Single-part order:

580-050-1 QF Mounting bracket with bore + Quickflange

580-050-2 QF Mounting bracket with pin + Quickflange



Quickflange upon request
• Unassembled

For Tube Type	Part No. Full set without Quickflange	Part No. Full Set with Quickflange	Dimension A in. (mm)	Dimension B in. (mm)
58-050	580-050-□	580-050-□ QF	2.44 (62)	2.91 (74)
58-075	580-075-□	580-075-□ QF	3.43 (87)	3.90 (99)
58-100	580-100-□	580-100-□ QF	4.41 (112)	4.88 (124)
58-125	580-125-□	580-125-□ QF	5.39 (137)	5.87 (149)
58-150	580-150-□	580-150-□ QF	6.38 (162)	6.85 (174)
58-175	580-175-□	580-175-□ QF	7.36 (187)	7.83 (199)
58-200	580-200-□	580-200-□ QF	8.35 (212)	8.82 (224)

For pivoting brackets choose **12**
For locking brackets choose **34**
Example: 580-050-**34** QF

The following parts are required for attachment of the mounting brackets:

- Socket head cap bolt M5* DIN 912-8.8
8 pieces/set
- Washer 5.3 DIN 125-ST
8 pieces/set
- Hexagon nut M5 DIN 934-8
8 pieces/set

* The length of the socket head cap bolt is dependent on the thickness of the attachment base.

PDF: igus.com/e-chain-pdfs
Product information: igus.com/e-chains





- Strain relief disappears completely within the e-tube
- Easy to assemble, no screws required

Part. No.	Width (mm)	Number of teeth
5850-Z	1.81 (46)	4

Number of tiewrap plates 5850-Z for selected inner width *Bi*

<i>Bi</i> in. (mm)	Width tiewrap plate in. (mm)	Number of tiewrap plates <i>n</i>	Total number of teeth
1.97 (50)	–	–	–
2.95 (75)	1.81 (46)	1	4
3.94 (100)	1.81 (46)	1	4
4.92 (125)	1.81 (46)	2	8
5.91 (150)	1.81 (46)	2	8
6.89 (175)	1.81 (46)	3	12
7.87 (200)	1.81 (46)	3	12

e-chain® E2 tubes

Series R58

Guide Trough



R58

Guide troughs are used with applications where the upper run of the e-chain® glides on the lower run. If using igus® steel guide troughs, the following components are required:

- Full travel length of guide trough
Part number 95-30
- 1/2 travel length glide bars
Part number 92-01
- Installation sets as end connectors
Part number 95-50-XX

-XX indicates the length of the profile rails on which the guide trough is mounted. The values and part numbers are specified in the table on the right. The standard length of the trough components and glide bars is 6.56 ft (2 m). The required overall length of the guide trough directly correlates to the length of travel.

Example:

Length of travel 164 ft (50 m)
Center mounted

Required guide troughs:

164 ft (50 m) guide trough without glide bar
82 ft (25 m) glide bar
= 25 sections of 6.56 ft (2 m) guide trough

Part No. 95-30

= 13 sections of 6.56 ft (2 m) glide bar

Part No. 92-01

Required number of installation sets:

= Number of guide trough components + 1
= 25 + 1 = 26

Part number of the installation sets

95-50-XXX

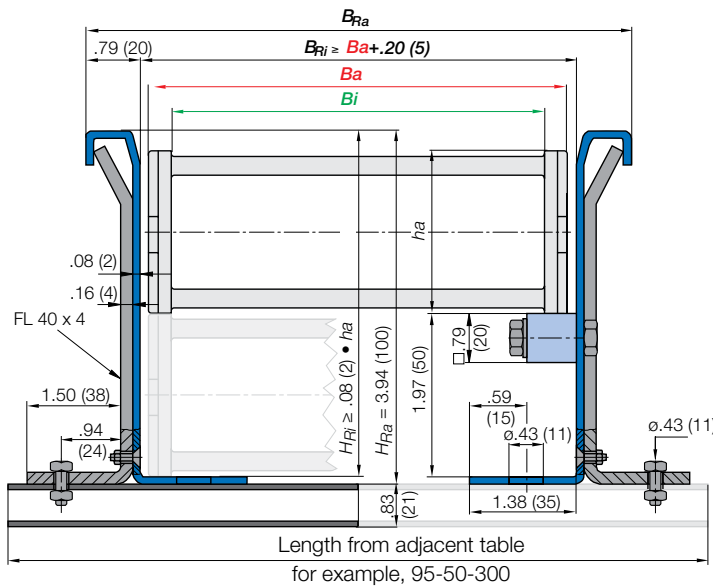
Example:

95-50-250 for 9.84" (250 mm) long profile rail.



Width of Crossbar
58-075-200-0

	B_{Ri}	Part No. Installation Set
-050	2.80 (71)	95-50-200
-075	3.78 (96)	95-50-225
-100	4.76 (121)	95-50-250
-125	5.75 (146)	95-50-275
-150	6.73 (171)	95-50-300
-175	7.72 (196)	95-50-325
-200	8.70 (221)	95-50-350



- Guide trough
- Glide bars
- Installation set "Basic"
- C-profile rail

Individual attachment without profile rail

Standard length profile rail

* Specialized guide trough available upon request

PDF: igus.com/e-chain-pdfs
Product information: igus.com/e-chains



Price Index


Series R68

Special Features / Options


ESD classification:
Electrically conductive ESD/
ATEX version upon request



Flammability Class
VDE 0304 IIC UL94 HB



iF-Design Award Winner

Assembly Tips


To open the e-tube Series R, lift up the lid (with a screwdriver) and remove the lid

Other Installation Methods

Vertical, hanging ≤ 197 ft (60 m)

Vertical, standing ≤ 13.12 ft (4 m)

Side-mounted, un_supp. ≤ 6.56 ft (2 m)

Rotary requires further calculation

Usage Guidelines


- If particularly quiet operation is required
- If very high speeds are required
- If chip protection is subject to stringent requirements



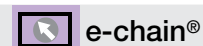
- If a particularly low-cost solution is the main factor
 - **Series R167/R168 E2 tubes**
- If no chip protection is required
 - **Series 3500 E2/000**

Features & Benefits

- 1 Large pins for high stability
- 2 Protection for cables and hoses against hot chips
- 3 Small pitch for low-noise, smooth operation
- 4 Removable lids along the outer radius
- 5 Smooth, chip-repellent exterior
- 6 KMA mounting brackets with attachment capabilities on all sides
- 7 Fully enclosed
- 8 Integrated strain relief available especially for e-tubes


Order Example: Complete e-chain®

Please indicate chain length or number of links. Example:

3.28 ft (1 m) **68-100-100-0**

e-chain®

With 2 separators **311** assembled every 2nd link

Interior Separation

1 Set **680-100-12**

Mounting Bracket

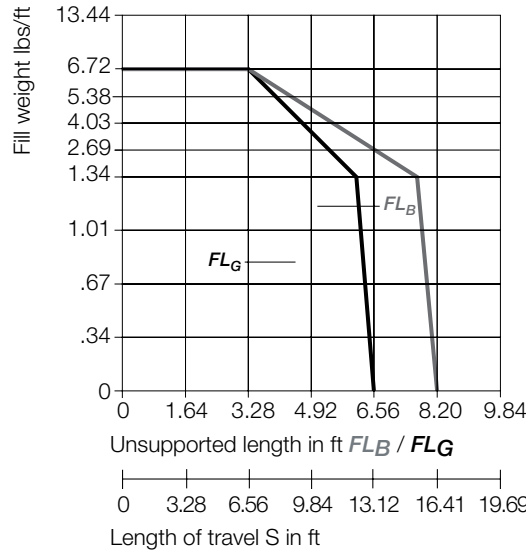
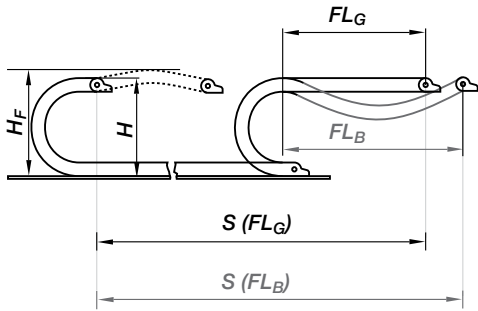
e-chain system® E2 tubes

Series R68

Installation Dimensions

Short travel, unsupported length

- FL_B = unsupported with permitted sag
 - FL_G = unsupported with straight upper run
- Further information ► Design, Chapter 1

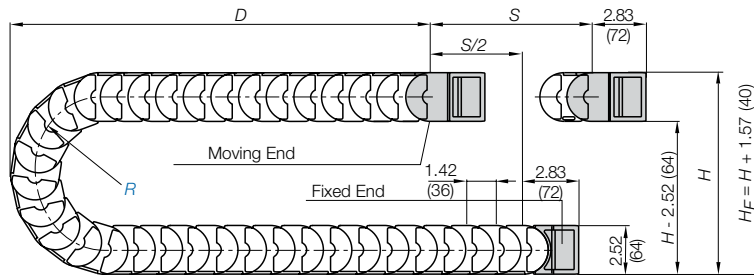


Short Travels - Unsupported

Unsupported e-chains® feature positive camber over short travels. This must be accounted for when specifying the clearance height. Please refer to **Installation dimensions** for further details.

Legend

- S = Length of travel
- R = Bending radius
- H = Nominal clearance height
- D = Overlength e-chain® radius in final position
- $K = \pi \cdot R + \text{safety buffer}$
- H_f = Required clearance height
- H_{R1} = Trough inner height
- H_2 = *Mounting height
- D_2 = Overlength - long travels, gliding
- K_2 = *Add-on



Pitch per link = 1.42" (36 mm)
 Links per foot (m) = 8.53 (28)
 For center mount applications:
 Chain length = $\frac{S}{2} + K$

The required clearance height: $H_f = H + 1.57$ in. (40 mm) (with 1.68 lbs/ft (2.5 kg/m) fill weight. Please consult igus® if space is particularly restricted.

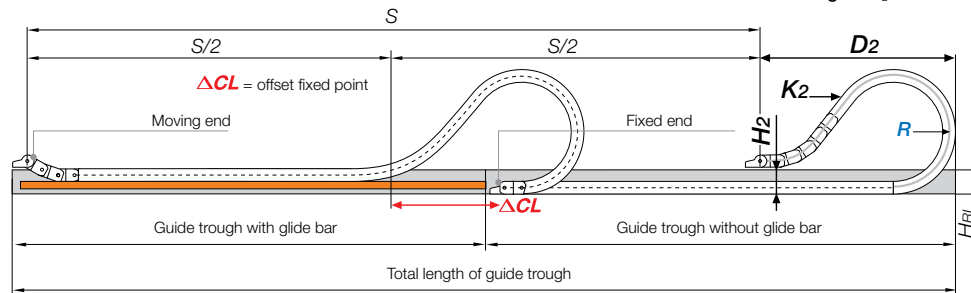
R	3.94 (100)	4.92 (125)	5.91 (150)	6.89 (175)	7.87 (200)	8.86 (225)	9.84 (250)	11.81 (300)
H	10.39 (264)	12.36 (314)	14.33 (364)	16.30 (414)	18.27 (464)	20.24 (514)	22.20 (564)	26.14 (664)
D	7.32 (186)	8.31 (211)	9.29 (236)	10.28 (261)	11.26 (286)	12.24 (311)	13.23 (336)	15.20 (386)
K	15.35 (390)	18.31 (465)	21.46 (545)	24.60 (625)	27.76 (705)	30.71 (780)	33.86 (860)	39.96 (1015)

*If the mounting bracket location is set lower

For long travels with lowered mounting height

Long travel lengths from 32.8 ft. (10 m) to max. 328 ft. (100 m)

For center mount applications:
 Chain length = $\frac{S}{2} + K_2$



Long Travels - Gliding

If the unsupported length is exceeded, the e-chain®/ Tube must glide on itself. This requires a guide trough. **Design, Chapter 1**

R	3.94 (100)	4.92 (125)	5.91 (150)	6.89 (175)	7.87 (200)	8.86 (225)	9.84 (250)	11.81 (300)
H_2	7.91 (201)	8.66 (220)	8.66 (220)	8.66 (220)	8.66 (220)	8.66 (220)	8.66 (220)	8.66 (220)
D_2	7.87 (200)	14.57 (370)	17.32 (440)	21.26 (540)	25.59 (650)	27.56 (700)	33.46 (850)	41.34 (1050)
K_2	19.69 (500)	25.51 (648)	31.18 (792)	35.43 (900)	43.94 (1116)	49.96 (1269)	58.11 (1476)	70.87 (1800)
ΔCL	—	6.46 (164)	8.03 (204)	11.57 (294)	14.33 (364)	17.28 (439)	20.24 (514)	26.14 (664)

Speed / acceleration FL_G	max. 32.8 ft/s (10 m/s) / max. 328 ft/s ² (100 m/s ²)
Speed / acceleration FL_B	max. 9.84 ft/s (3 m/s) / max. 19.69 ft/s ² (6 m/s ²)
Gliding speed / acceleration (maximum)	max. 9.84 ft/s (3 m/s) / max. 32.8 ft/s ² (10 m/s ²)
Material - permitted temperature	igumid G / -40°F (-40°C) up to +248°F (+120° C)
Flammability Class, igumid G	VDE 0304 IIC UL94 HB

Technical Data



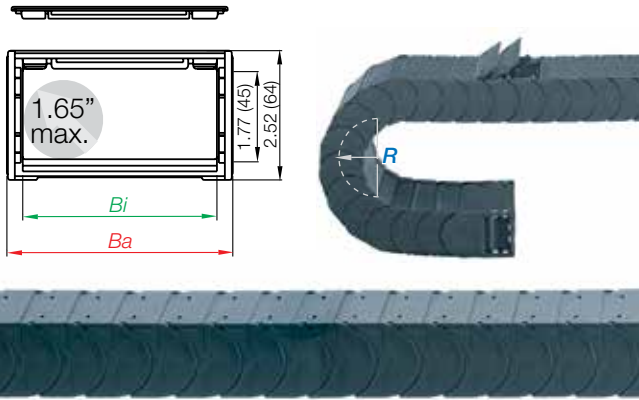
Details of material properties

► Chapter 1

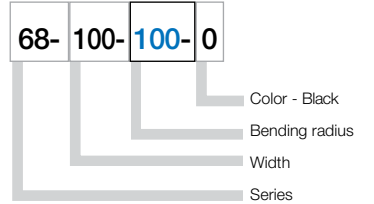


Series R68 - e-tube snap-open along the outer radius

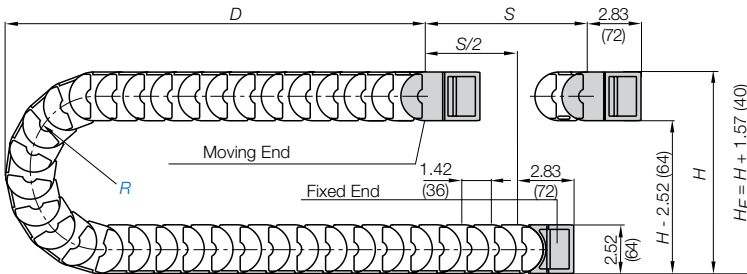
igus®
e-chain system®



Part Number Structure



Telephone 1-800-521-2747



Supplement part number with required radius. Example: R68-100--0
Pitch: 1.42 in. (36 mm) per link links/ft (m) = 8.53 (28)

Part Number	<i>Bi</i> in. (mm)	<i>Ba</i> in. (mm)	Weight lbs/ft (kg/m)
68-050- <input type="text" value=""/> -0	1.97 (50)	2.68 (68)	≈ 1.28 (1.90)
68-075- <input type="text" value=""/> -0	2.95 (75)	3.66 (93)	≈ 1.46 (2.18)
68-100- <input type="text" value=""/> -0	3.94 (100)	4.65 (118)	≈ 1.65 (2.46)
68-115- <input type="text" value=""/> -0	4.53 (115)	5.24 (133)	≈ 1.77 (2.63)
68-125- <input type="text" value=""/> -0	4.92 (125)	5.63 (143)	≈ 1.86 (2.77)
68-150- <input type="text" value=""/> -0	5.91 (150)	6.61 (168)	≈ 2.05 (3.05)
68-175- <input type="text" value=""/> -0	6.89 (175)	7.60 (193)	≈ 2.26 (3.36)
68-200- <input type="text" value=""/> -0	7.87 (200)	8.58 (218)	≈ 2.45 (3.64)
68-225- <input type="text" value=""/> -0	8.86 (225)	9.57 (243)	≈ 2.63 (3.92)
68-250- <input type="text" value=""/> -0	9.84 (250)	10.55 (268)	≈ 2.84 (4.23)

Choose from the radii below for all of the above sizes

Radius (mm) Example: R68-100--0

	100	125	150	175	200	225	250	300
R	3.94 (100)	4.92 (125)	5.91 (150)	6.89 (175)	7.87 (200)	8.86 (225)	9.84 (250)	11.81 (300)
H	10.39 (264)	12.36 (314)	14.33 (364)	16.30 (414)	18.27 (464)	20.24 (514)	22.20 (564)	26.14 (664)
D	7.32 (186)	8.31 (211)	9.29 (236)	10.28 (261)	11.26 (286)	12.24 (311)	13.23 (336)	15.20 (386)
K	15.35 (390)	18.31 (465)	21.46 (545)	24.60 (625)	27.76 (705)	30.71 (780)	33.86 (860)	39.96 (1015)

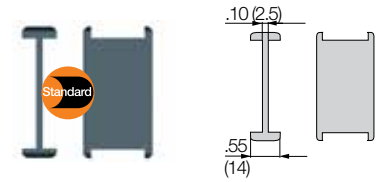
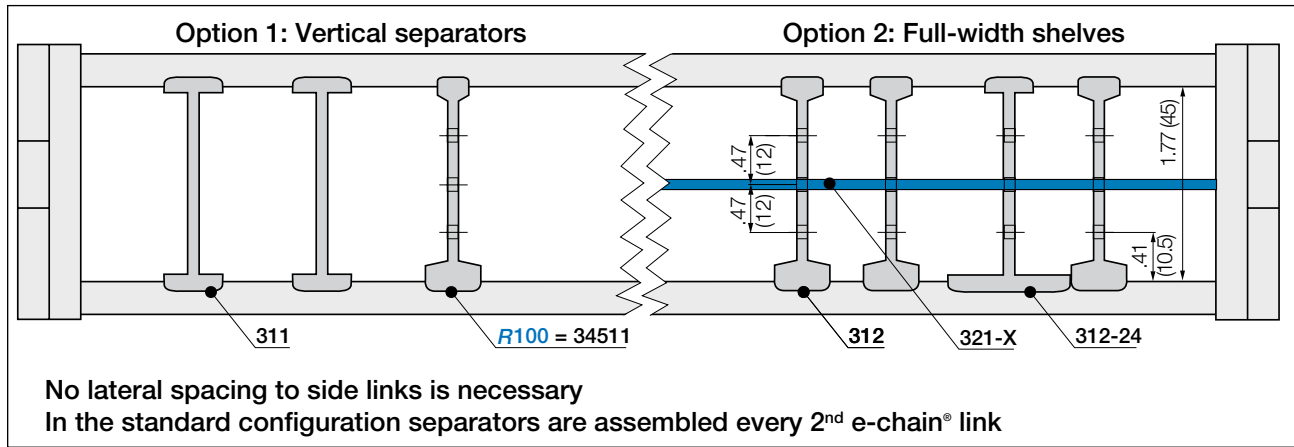
Separator with integrated strain relief

Strain relief separator Part No. 34501-Z 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, it can be installed on the first or last e-chain® link and is easy to assemble without any screws.



For more information ► Chapter 10, Strain Relief

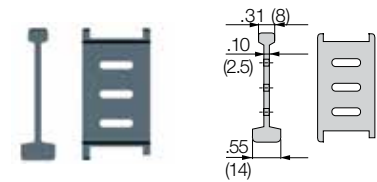
Internet: igus.com
email: sales@igus.com
QuickSpec: igus.com/quickspec



Separator for e-tubes

Unassembled	Part No. 301
Assembled	Part No. 311

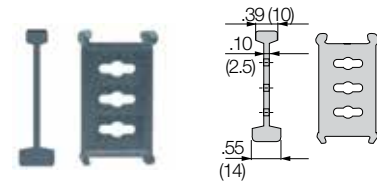
- **Separator 301**
For vertical separation with wide base for maximum stability when used with thick cables or hoses



Slotted Separator for e-tubes (for radius R 100)

Unassembled	Part No. 34501
Assembled	Part No. 34511

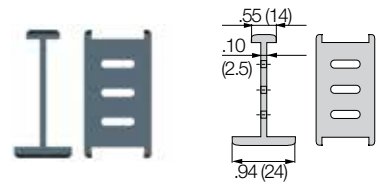
- **Separator 34501 (for radius R 100)**
if you select bending radius R 100 please use this separator for a vertical subdivision.



Slotted Separator for e-tubes

Unassembled	Part No. 302
Assembled	Part No. 312

- **Separator 302**
is used when vertical separation is required. Due to its slot, it allows basic vertical/horizontal shelving arrangements.

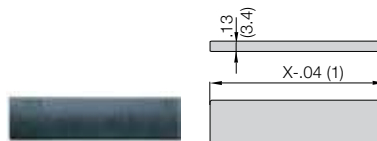


Slotted Separator with wide base* for e-tubes

Unassembled	Part No. 302-24
Assembled	Part No. 312-24

- **Separator 302-24**
If a wide space between the separators must be maintained or separators must be in a fixed position. Features a wide base. *(for side mounted applications).

Full-width shelves - for the standard interior separation



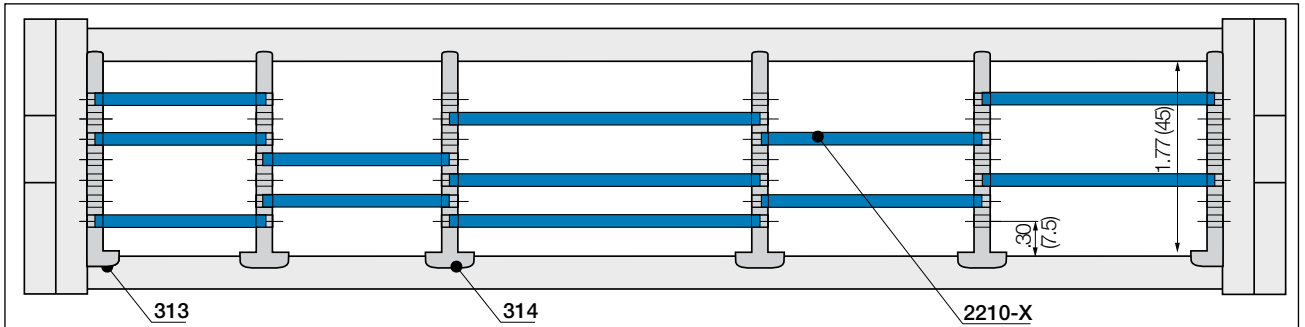
Full width shelf for e-tubes

Unassembled	Part No. 320-X
Assembled	Part No. 321-X

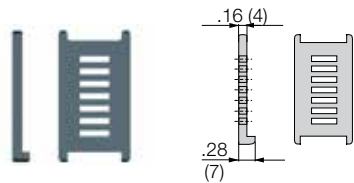
- **Full width shelf 320-X**
is used in applications with many thin cables with similar diameters. Full-width shelves can be arranged at 5 different heights in .20" (5mm) increments..

Width X	Part No.	Part No.	Width X	Part No.	Part No.	Width X	Part No.	Part No.
in. (mm)	Unassembled	Assembled	in. (mm)	Unassembled	Assembled	in. (mm)	Unassembled	Assembled
1.97 (50)	320-50	321-50	4.92 (125)	320-125	321-125	7.87 (200)	320-200	321-200
2.95 (75)	320-75	321-75	5.91 (150)	320-150	321-150	8.86 (225)	320-225	321-225
4.53 (115)	320-115	321-115	6.89 (175)	320-175	321-175	9.84 (250)	320-250	321-250





No lateral spacing to side links is necessary
In the standard configuration separators are assembled every 2nd e-chain® link

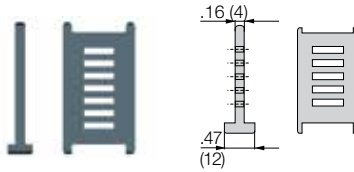


Separator, narrow base

Unassembled	Part No. 303
Assembled	Part No. 313

• **Side plate 303**

Side plate for use with full-width shelf 2200-X and middle plate 304



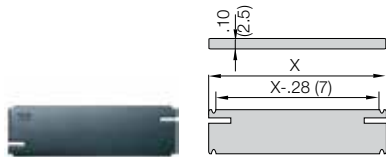
Separator, narrow base

Unassembled	Part No. 304
Assembled	Part No. 314

• **Middle plate 304**

To achieve a modular interior separation the shelf 2200-X can be arranged at 7 different heights in .20" (5mm) increments.

Full-width shelves - for the standard interior separation



Full width shelf, lockable

Unassembled	Part No. 2200-X
Assembled	Part No. 2210-X

• **Full width shelf 2200-X**

For applications involving many cables with different diameters, shelves can be arranged at alternate heights. They can be arranged at 7 different heights in .20" (5mm) increments.

Width X	Part No.	Part No.	Width X	Part No.	Part No.	Width X	Part No.	Part No.
in. (mm)	Unassembled	Assembled	in. (mm)	Unassembled	Assembled	in. (mm)	Unassembled	Assembled
.71 (18)	2200-18	2210-18	1.69 (43)	2200-43	2210-43	3.46 (88)	2200-88	2210-88
.91 (23)	2200-23	2210-23	1.89 (48)	2200-48	2210-48	3.90 (99)	2200-99	2210-99
1.10 (28)	2200-28	2210-28	2.28 (58)	2200-58	2210-58	4.88 (124)	2200-124	2210-124
1.30 (33)	2200-33	2210-33	2.68 (68)	2200-68	2210-68	5.87 (149)	2200-149	2210-149
1.50 (38)	2200-38	2210-38	2.87 (73)	2200-73	2210-73			

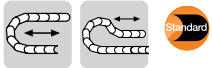
e-chain system® E2 tubes

Series R68

Mounting Bracket

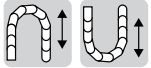


R68



Option 1: pivoting

- Unsupported and gliding applications
- Space-restricted conditions
- Mounting points on all sides
- KMA with Quickflange option available for short and long travels



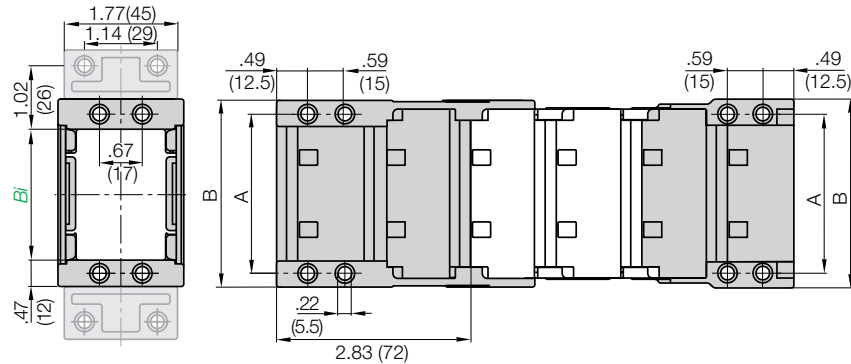
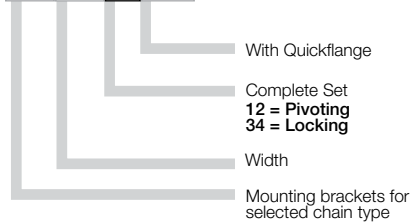
Option 2: locking

- Vertical hanging/standing travels
- Extreme speeds and accelerations
- Mounting points on all sides
- Flush mounting at both ends of the e-tube
- KMA with Quickflange option



Part Number Structure

680-050-12 QF



Full set, for both ends:

680-050-12 QF Full set, each part with pin/bore + tiewrap plate

Single-part order:

680-050-1 QF Mounting bracket with bore + tiewrap plate

680-050-2 QF Mounting bracket with pin + tiewrap plate



Quickflange unassembled
Part number 16800-QF

For Tube Type	Part No. Full set with Tiewrap Plate	Part No. Full Set with Quickflange	Dimension A in. (mm)	Dimension B in. (mm)
68-050	680-050-□	680-050-□ QF	2.44 (62)	2.91 (74)
68-075	680-075-□	680-075-□ QF	3.43 (87)	3.90 (99)
68-100	680-100-□	680-100-□ QF	4.41 (112)	4.88 (124)
68-115	680-115-□	680-115-□ QF	5.00 (127)	5.47 (139)
68-125	680-125-□	680-125-□ QF	5.39 (137)	5.87 (149)
68-150	680-150-□	680-150-□ QF	6.38 (162)	6.85 (174)
68-175	680-175-□	680-175-□ QF	7.36 (187)	7.83 (199)
68-200	680-200-□	680-200-□ QF	8.35 (212)	8.82 (224)
68-225	680-225-□	680-225-□ QF	9.33 (237)	9.80 (249)
68-250	680-250-□	680-250-□ QF	10.31 (262)	10.79 (274)

The following parts are required for attachment of the mounting brackets:

- Socket head cap bolt
M5* DIN 912-8.8
8 pieces/set
- Washer
5.3 DIN 125-ST
8 pieces/set
- Hexagon nut
M5 DIN 934-8
8 pieces/set

* The length of the socket head cap bolt is dependent on the thickness of the attachment base.

For pivoting brackets choose **12**
For locking brackets choose **34**
Example: 680-050-**34** QF

PDF: igus.com/e-chain-pdfs
Product information: igus.com/e-chains





Integrated strain relief for E2 e-tubes - Series R

- Strain relief disappears completely within the e-tube
- Easy to assemble, no screws required

Part. No.	Width (mm)	Number of teeth
3050-Z	1.97 (50)	5
3075-Z	2.95 (75)	7

Number of tiewrap plates 3050-Z for selected inner width *Bi*

<i>Bi</i> in. (mm)	Width tiewrap plate in. (mm)	Number of tiewrap plates <i>n</i>	Total number of teeth
1.97 (50)	–	–	–
2.95 (75)	–	–	–
3.94 (100)	1.97 (50)	1	5
4.52 (115)	1.97 (50)	1	5
4.92 (125)	1.97 (50)	1	5
5.91 (150)	1.97 (50)	2	10
6.89 (175)	1.97 (50)	2	10
7.87 (200)	1.97 (50)	3	15
8.86 (225)	1.97 (50)	3	15
9.89 (250)	1.97 (50)	4	20

Number of tiewrap plates 3075-Z for selected inner width *Bi*

<i>Bi</i> in. (mm)	Width tiewrap plate in. (mm)	Number of tiewrap plates <i>n</i>	Total number of teeth
1.97 (50)	–	–	–
2.95 (75)	–	–	–
3.94 (100)	–	–	–
4.52 (115)	2.95 (75)	1	7
4.92 (125)	2.95 (75)	1	7
5.91 (150)	2.95 (75)	1	7
6.89 (175)	2.95 (75)	2	14
7.87 (200)	2.95 (75)	2	14
8.86 (225)	2.95 (75)	3	21
9.89 (250)	2.95 (75)	3	21

e-chain system® E2 tubes

Series R68

Guide Trough



R68

Guide troughs are used with applications where the upper run of the e-tube glides on the lower run. If using igus® steel guide troughs, the following components are required:

- Full travel length of guide trough
Part number 93-30
- 1/2 travel length glide bars
Part number 93-01
- Installation sets as end connectors
Part number 93-50-XX

-XX indicates the length of the profile rail on which the guide trough is mounted. The values and part numbers are specified in the table on the right. The standard length of the trough components and glide bars is 6.56 ft (2 m). The required overall length of the guide trough directly correlates to the length of travel.

Example:

Length of travel 164 ft (50 m)
Center mounted

Required guide troughs:

164 ft (50 m) guide trough, 82 ft (25 m) glide bar
= 25 sections of 6.56 ft (2 m) guide trough
Part No. 93-30

= 13 sections of 6.56 ft (2 m) glide bar
Part No. 93-01

Required number of installation sets:

= Number of guide trough components + 1
= 25 + 1 = 26

Part number of the installation sets

93-50-XXX

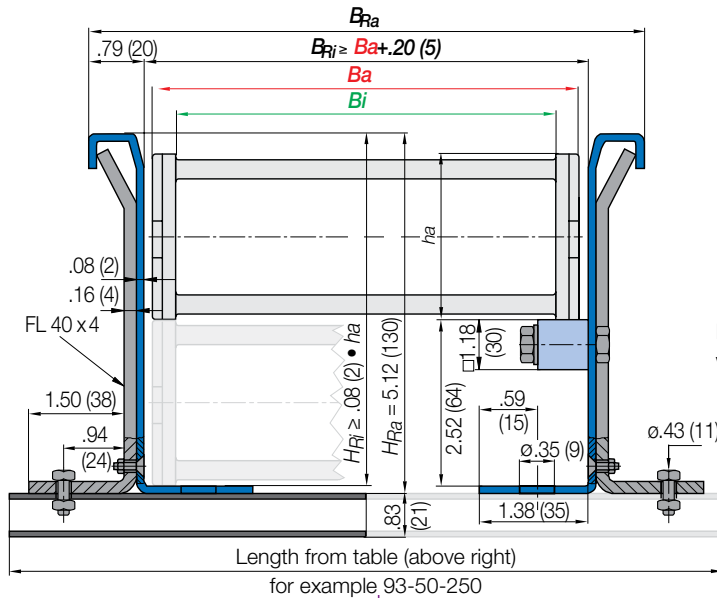
Example:

93-50-250 for 9.84" (250 mm) long profile rail.



Width of Crossbar
68-075-200-0

	B_{Ri}	Installation Part No.
-050	2.87 (73)	93-50-200
-075	3.86 (98)	93-50-225
-100	4.84 (123)	93-50-250
-115	5.43 (138)	93-50-250
-125	5.83 (148)	93-50-275
-150	6.81 (173)	93-50-300
-175	7.80 (198)	93-50-325
-200	8.78 (223)	93-50-350
-225	9.76 (248)	93-50-375
-250	10.75 (273)	93-50-400



- Guide trough
- Glide bars
- Installation set "Basic"
- C-profile rail

Individual attachment without profile rail

* Specialized guide trough available upon request

Standard length profile rail

PDF: igus.com/e-chain-pdfs
Product information: igus.com/e-chains





R2.1

Cost-effective chip protection



reddot design award
winner 2018



Cost-effective Chip protection - R2.1 e-tubes

Cost-effective, strong e-tubes with 1.02" (26mm), 1.57" (40mm), 1.89" (48mm) and 2.95" (75mm) inner height. Openable and removable lids along inner or outer radius, openable from both sides. Very sealed design and strong double stop-dogs for high fill weights and unsupported lengths.

- Large inner height and therefore cost-effective
- Cables are protected from chips
- Easy to fill, lids openable along the inner or outer radius, from both sides
- Low noise operation due to integrated brake
- Notch separator, recommended for side-mounted applications

Typical industries and applications

- Machine tools
- Wood processing machines
- Textile machines
- General mechanical engineering
- In all areas with dirt and chips



e-tubes with igumid HT-Material for hot chips
up to +1,562°F available upon request



Electrically conductive ESD
e-tubes upon request



UL94-V0 classifications upon request



iF product design award

1987 igus® series R68

Energy Chain System® E2 R tubes

Selection Guide

Series	Inner height h_i		Inner width B_i		Outer width B_a		Outer height h_a		Bend radius R		Unsupported length \leq ft. (m)
	in.	(mm)	in.	(mm)	in.	(mm)	in.	(mm)	in.	(mm)	



R2.75	2.95	(75)	4.37-7.87	(111-200)	5.31-8.82	(135-224)	3.54	(90)	5.12-9.84	(130-250)	9.84	(3.00)
-------	------	------	-----------	-----------	-----------	-----------	------	------	-----------	-----------	------	--------



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

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



E2 e-tubes in chip area of a machine tool. Resistant to chips up to +1,562°F with special igumid HT material

Price Index


Series R2.75

Special Features / Options


ESD classification:
Electrically conductive ESD
version upon request



UL94-V0 classifications upon
request

Assembly Tips


To open the e-tube Series R, pry open the lid (with a screwdriver)

Other Installation Methods

Vertical, hanging ≤ 164 ft (50 m)

Vertical, standing ≤ 16.4 ft (5 m)

Side-mounted, un_supp. ≤ 6.56 ft (2 m)

Rotary requires further calculation

Usage Guidelines

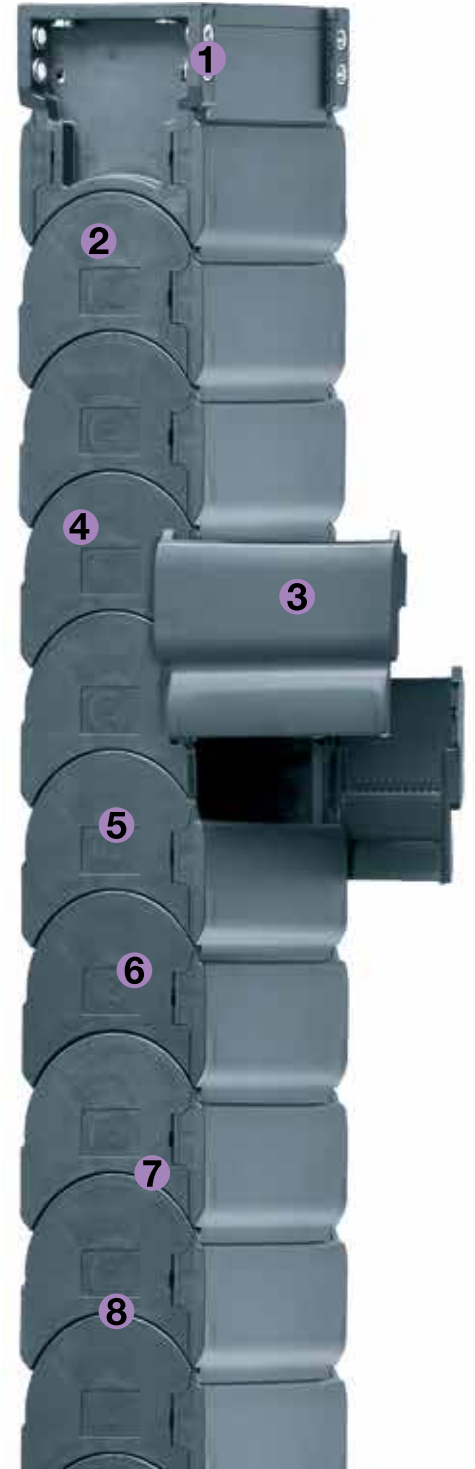

- If a lightweight e-tube ideal for high dynamics is desired
- If a cost-effective carrier with large inner height is required
- If chip resistant features are required
- If lids openable from both sides is required
- If low noise operation is required



- For extreme chip protection according to IP40
➤ **Series RX tubes**
- For higher fill weights and unsupported lengths
➤ **Series E4-1 e-tubes**

Features & Benefits

- 1 KMA mounting brackets with attachment capabilities on all sides
- 2 Smooth design, chips cannot stick
- 3 Lids openable from both sides
- 4 Ideal for 90° rotating applications
- 5 Covered pin/bore connection
- 6 Low noise operation due to built in brake
- 7 Lightweight with large inner height, good ratio of inner to outer dimensions
- 8 Strong double stop-dog system for large unsupported lengths


Order Example: Complete e-chain®

Please indicate chain length or number of links. Example:

3.28 ft (1 m) **R2.75.111.130.0**



e-chain®

With 2 separators **75.1.1** assembled every 2nd link



Interior Separation

1 Set **R2.750.111.12**



Mounting Bracket

e-chain system® E2 tubes

Series R2.75

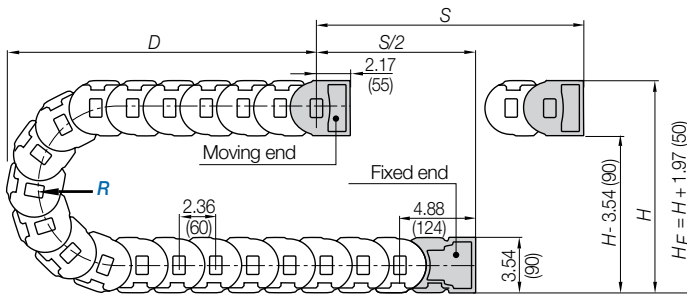
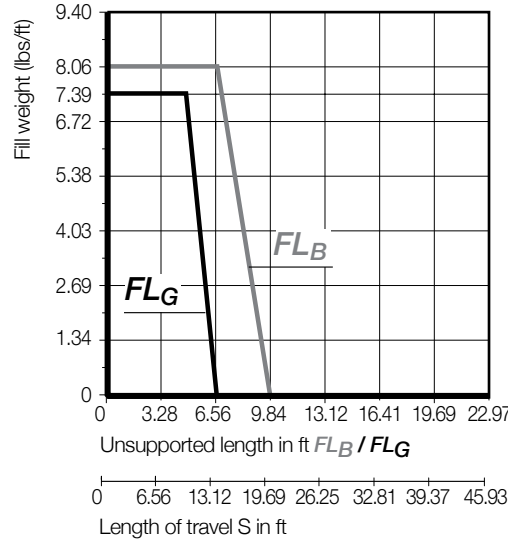
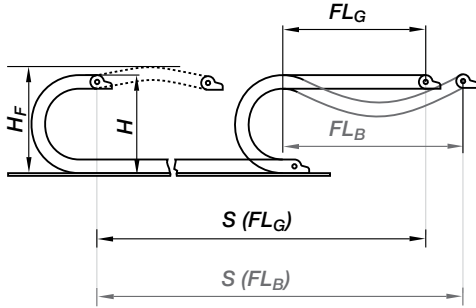
Installation Dimensions



R2.75

Short travel, unsupported length

- FL_B = unsupported with permitted sag
 - FL_G = unsupported with straight upper run
- Further information ► Design, Chapter 1



Pitch per link = 2.36" (60 mm)
 Links per ft (m) = 5.1 (17)
 For center mount applications:
 Chain length = $S/2 + K$

The required clearance height: $H_f = H + 1.97$ in. (50 mm) (with 2.02 lbs/ft (3 kg/m) fill weight). Please consult igus® if space is particularly restricted.

R	5.12 (130)	5.91 (150)	7.87 (200)	9.84 (250)
H	13.78 (350)	15.35 (390)	19.29 (490)	23.23 (590)
D	10.43 (265)	11.22 (285)	13.19 (335)	15.16 (385)
K	20.87(530)	23.43 (595)	29.53 (750)	35.83 (910)



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

Short Travels - Unsupported



Unsupported e-chains® feature positive camber over short travels. This must be accounted for when specifying the clearance height. Please refer to **Installation dimensions** for further details.

Legend

- S = Length of travel
- R = Bending radius
- H = Nominal clearance height
- D = Overlength e-chain® radius in final position
- $K = \pi \cdot R + \text{safety buffer}$
- H_f = Required clearance height

2.95

PDF: igus.com/e-chain-pdfs
 Product information: igus.com/e-chains



Speed / acceleration FL_G	max. 32.8 ft/s (10 m/s) / max. 328 ft/s ² (100 m/s ²)
Speed / acceleration FL_B	max. 9.84 ft/s (3 m/s) / max. 19.69 ft/s ² (6 m/s ²)
Gliding speed / acceleration (maximum)	max. 9.84 ft/s (3 m/s) / max. 32.8 ft/s ² (10 m/s ²)
Material - permitted temperature	igumid G / -40°F (-40°C) up to +248°F (+120°C)
Flammability Class, igumid G	VDE 0304 IIC UL94 HB

Technical Data

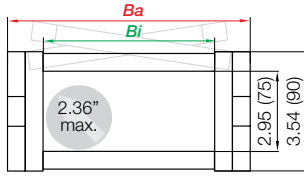


Details of material properties

► Chapter 1

5.62

Series R2.75 - lids openable from both sides
along the outer radius

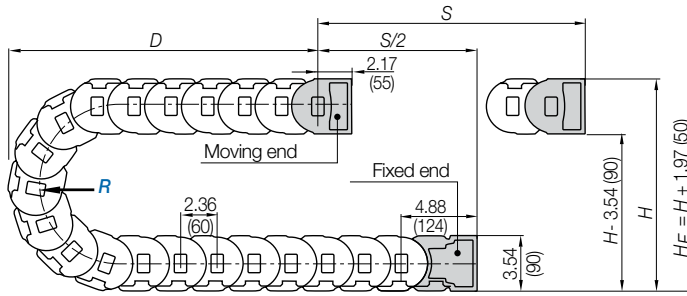


Part Number Structure



- Color - Black
- Bending radius
- Width
- Series

Telephone 1-800-521-2747



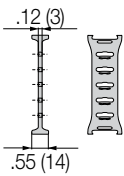
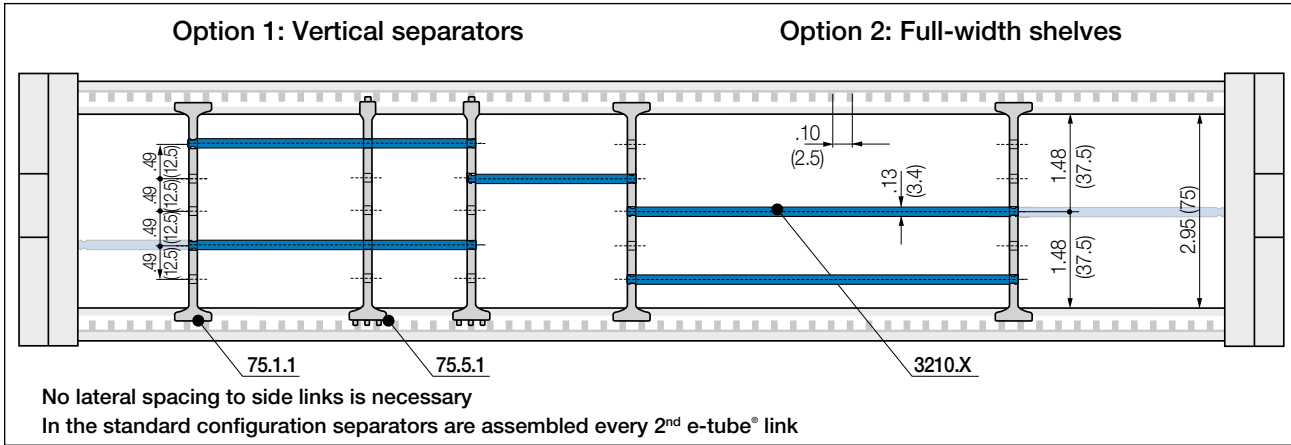
Supplement part number with required radius. Example: R2.75.111. .0
Pitch: 2.36 in. (60 mm) per link links/ft (m) = 5.1 (17)

Part Number	<i>Bi</i> in. (mm)	<i>Ba</i> in. (mm)	Weight lbs/ft (kg/m)
R2.75.111. <input type="text" value="130"/> .0	4.37 (111)	5.31 (135)	≈ 2.13 (3.175)
R2.75.111. <input type="text" value="150"/> .0	6.42 (163)	7.36 (187)	≈ 2.47 (3.672)
R2.75.111. <input type="text" value="200"/> .0	7.87 (200)	8.82 (224)	≈ 2.70 (4.012)

Choose from the radii below for all of the above sizes
Radius (mm) Example: R2.75.111. .0

	<input type="text" value="130"/>	<input type="text" value="150"/>	<input type="text" value="200"/>	<input type="text" value="250"/>
R	5.12 (130)	5.91 (150)	7.87 (200)	9.84 (250)
H	13.78 (350)	15.35 (390)	19.29 (490)	23.23 (590)
D	10.43 (265)	11.22 (285)	13.19 (335)	15.16 (385)
K	20.87(530)	23.43 (595)	29.53 (750)	35.83 (910)

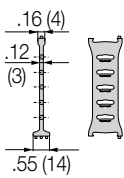
Internet: igus.com
email: sales@igus.com
QuickSpec: igus.com/quickspec



Standard separator

Unassembled	Part No. 75.1
Assembled	Part No. 75.1.1

- **Separator 75.1**
Separator with wide base for maximum holding force in the e-tube.

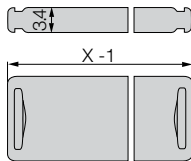


Notch Separator for notched crossbar

Unassembled	Part No. 75.5
Assembled	Part No. 75.5.1

- **Notch separator 75.5**
Notch separator for exact positioning in an e-tube®. Recommended for side mounted applications

Full-width shelves - for the standard interior separation



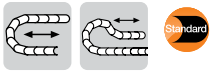
Full width shelf for e-tubes, lockable

Unassembled	Part No. 3200-X
Assembled	Part No. 3210-X

- **Full width shelf 3200-X**
Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf

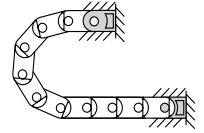
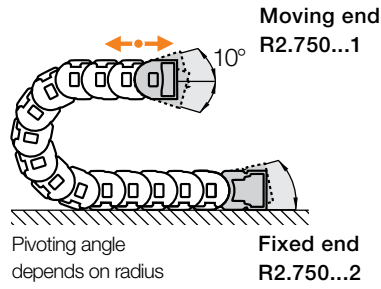
Width X in. (mm)	Part No. Unassembled	Part No. Assembled	Width X in. (mm)	Part No. Unassembled	Part No. Assembled	Width X in. (mm)	Part No. Unassembled	Part No. Assembled
1.97 (050)	3200-050	3210-50	4.53 (115)	3200-115	3210-115	6.89 (175)	3200-175	3210-175
2.95 (075)	3200-075	3210-75	4.92 (125)	3200-125	3210-125	7.87 (200)	3200-200	3210-200
3.94 (100)	3200-100	3210-100	5.91 (150)	3200-150	3210-150			



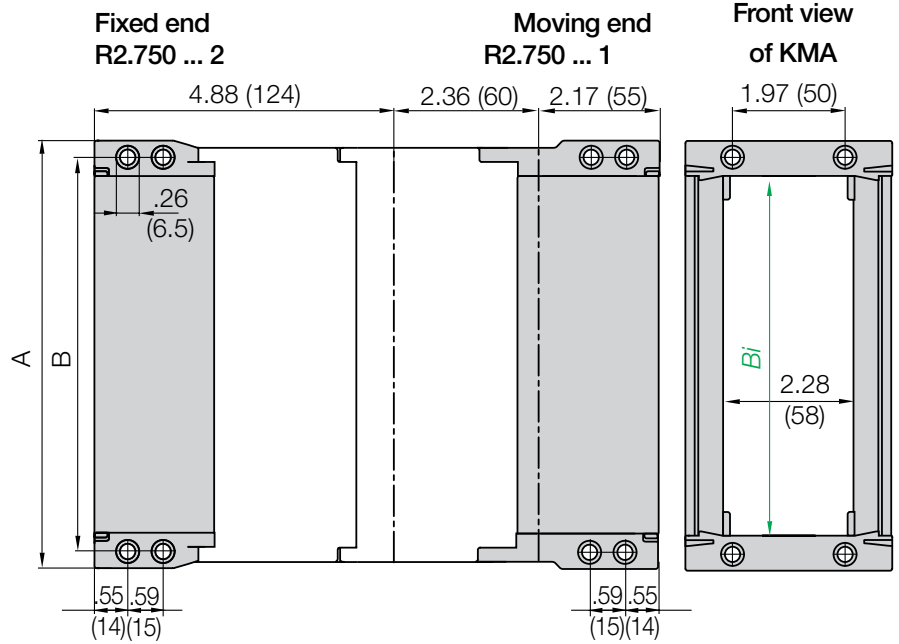
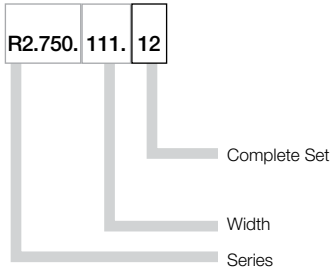


Option 1: pivoting

- Unsupported and gliding applications
- Space-restricted conditions
- Mounting points on all sides
- Corrosion-resistant

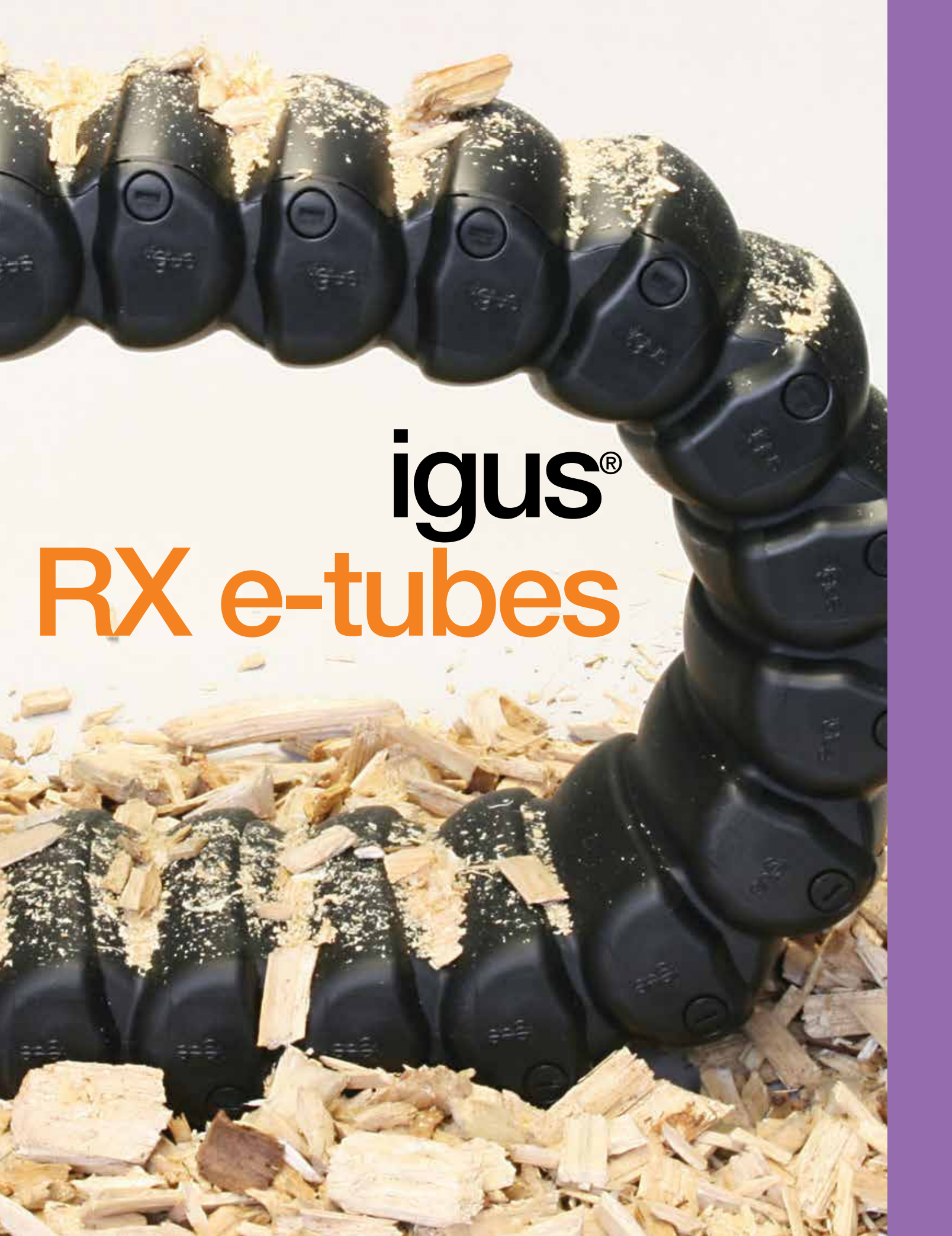


Part Number Structure



Width index	Standard	Part no. full set		A		B		Bi	
		KMA pivoting	KMA locking	in.	(mm)	in.	(mm)	in.	(mm)
.111		R2.750.111.12	-	5.55	(141)	5.00	(127)	4.37	(111)
.163		R2.750.163.12	-	7.59	(193)	7.05	(179)	6.42	(163)
.200		R2.750.200.12	-	9.06	(230)	8.50	(216)	7.87	(200)





igus[®]
RX e-tubes

RX e-tube - with chip repellent design

igus® e-tube repels chips, is extremely tight, and can be opened!

- Full chip protection without undercuts, projecting edges and gaps
- Round contour prevents chip accumulation
- Large interior cross section with 2.87" (73 mm) max. inner height
- Covered pin/bore connection and stop dogs
- Reverse bending radius (RBR) becomes a standard option

Typical industries and applications

- Tooling machines
- Woodworking machines
- All kind of industries and machines with chip, dirt and dust



ESD Classification: Electrically conductive
ESD/ATEX version upon request



Flammability Class
VDE 0304 IIC UL94 HB

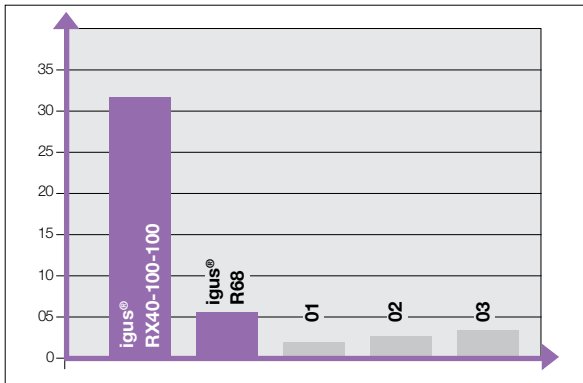


e-tubes with HT-material for hot chips
up to 1562°F (850°C) available upon request

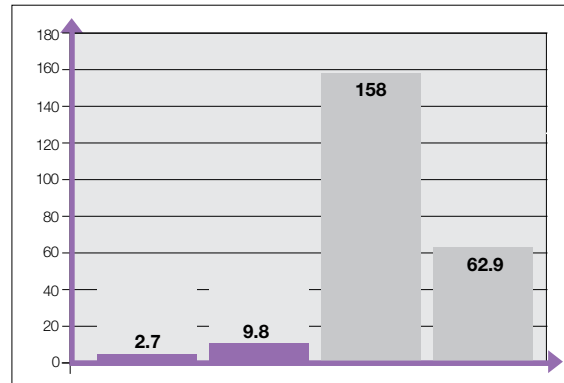




RX e-tubes, without undercuts, projecting edges or gaps



Test 1: Drowning - Various tube styles were submerged under water. For the RX e-tube, it takes more than 30 sec. to fill up with water

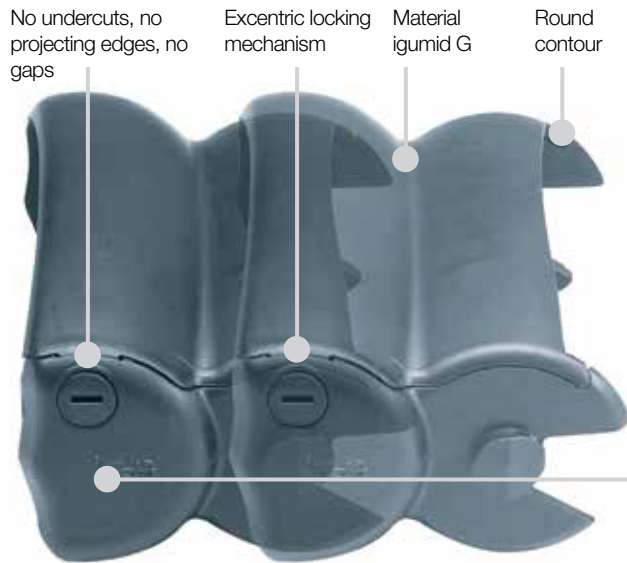


Test 2: Chip intrusion - Various tube styles were charged with a defined quantity of chips. Only 3.7 g of chips were found inside the new RX e-tube after 251,900 cycles



Chip-test at the igus® test-lab proven enormous tightness.

e-chain system® RX e-tubes



Series RX - chip protected design, small pitch, lids open

- Full chip protection without undercuts, projecting edges or gaps
- Round contour prevents chip accumulation
- Large interior cross section with 2.05 (52 mm) maximum inner height
- Covered pin/bore connection and stop dogs
- Reverse bending radius (RBR) becomes a standard option
- Perfect fastening with flange mounting brackets
- You can find more technical data about the material, chemical resistance, temperatures ► **Design, Chapter 1**

Fully covered stop dogs and connections

Selection table

Series	Inner height <i>hi</i>		Inner width <i>Bi</i>		Outer width <i>Ba</i>		Outer height <i>ha</i>		Bending radius <i>R</i>	
	in.	(mm)	in.	(mm)	in.	(mm)	in.	(mm)	in.	(mm)
RX32	1.02-1.65	(26-42)	3.15	(80)	3.87	(98.4)	2.20	(56)	3.15-5.91	(80-150)
RX40	1.26/2.05	(32/52)	3.94	(100)	4.84	(123)	2.76	(70)	3.94-11.81	(100-300)
RX48	1.38-2.44	(35-62)	4.72	(120)	5.81	(147.6)	3.31	(84)	4.72-5.91	(120-150)
RX56	1.61-2.87	(41-73)	5.51	(140)	6.78	(172.2)	3.86	(98)	5.51	(140)



Protection from all kinds of chips



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

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

e-chain system® RX e-tubes

e-tubes - Assembling RX e-tube



Easy opening of lids on the outer radius with embedded eccentric locking mechanism

e-tubes - Interior Separation of the RX e-tube



Interior separation with cable-friendly separators and shelves

Price Index



Series RX32

Special Features / Options



ESD classification:
Electrically conductive ESD/
ATEX version upon request



Flammability Class
VDE 0304 IIC UL94 HB

Assembly Tips



Easy opening of lids on the outer radius with embedded excentric locking mechanism

Features & Benefits

- 1 Mounting bracket available with or without strain relief
- 2 Full chip protection without undercuts, projecting edges or gaps
- 3 Large interior cross section
- 4 Round contour prevents chip accumulation
- 5 Covered pin/bore connection and stop dogs
- 6 Lids open from outer radius
- 7 Interior separation available



Usage Guidelines



- If fully protected e-tube is desired
- If easy access from the outside is required



- If a particularly low-cost solution is the main factor
 - Series R168 E2 tubes
- If no chip protection is required
 - Series E4-56 E4-1

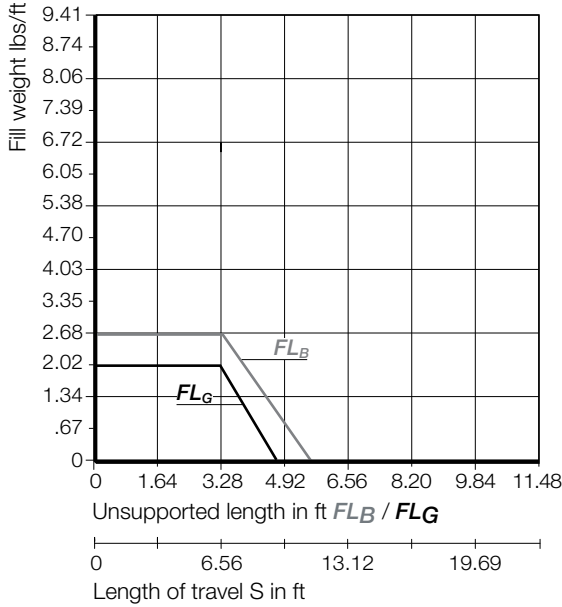
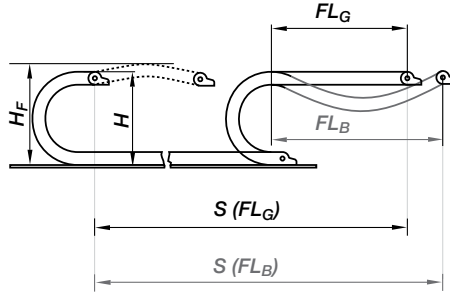
Order Example: Complete e-chain®

Please indicate chain length or number of links. Example:

3.28 ft (1 m) RX32-080-080-0	e-chain®
With 3 separators RX32-1-1/RX32-1-2 assemb. every 2nd link	Interior Separation
1 Set RX321-080-12	Mounting Bracket

Short travel, unsupported length

- FL_B = unsupported with permitted sag
 - FL_G = unsupported with straight upper run
- Further information ► Design, Chapter 1



Short Travels - Unsupported

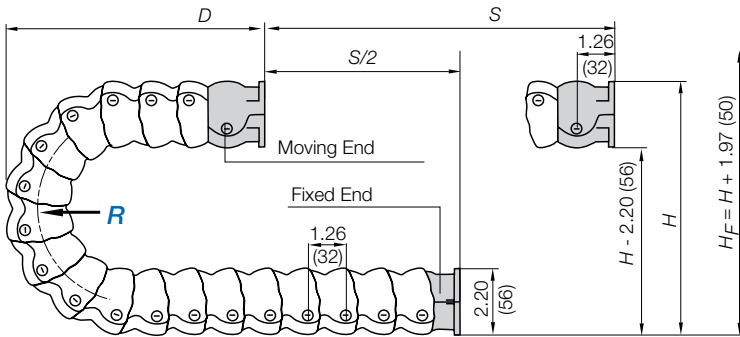


Unsupported e-chains® feature positive camber over short travels. This must be accounted for when specifying the clearance height. Please refer to **Installation dimensions** for further details.

1.65

Legend

- S = Length of travel
- R = Bending radius
- H = Nominal clearance height
- D = Overlength e-chain® radius in final position
- $K = \pi \cdot R + \text{safety buffer}$
- H_f = Required clearance height



Pitch per link: = 1.26" (32 mm)
 Links per ft (m): = 9.52 (32)
 For center mount applications:
 Chain length = $\frac{S}{2} + K$

R	3.15 (080)	5.91 (150)
H	8.50 (216)	14.02 (356)
D	6.14 (156)	8.89 (226)
K	12.60 (320)	21.26 (540)

The required clearance height: $H_f = H + 1.97$ in. (50 mm) (with .34 lbs/ft (0.5 kg/m) fill weight). Please consult igus® if space is particularly restricted.

PDF: igus.com/e-chain-pdfs
 Product information: igus.com/e-chains



Technical Data

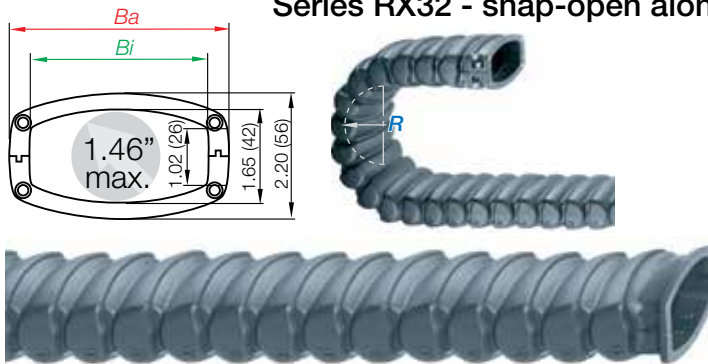
Speed / acceleration FL_G	max. 32.8 ft/s (10 m/s) / max. 328 ft/s ² (100 m/s ²)
Speed / acceleration FL_B	max. 9.84 ft/s (3 m/s) / max. 19.69 ft/s ² (6 m/s ²)
Material - permitted temperature	igumid G / -40°F (-40°C) up to +248°F (+120° C)
Flammability Class, igumid G	VDE 0304 IIC UL94 HB



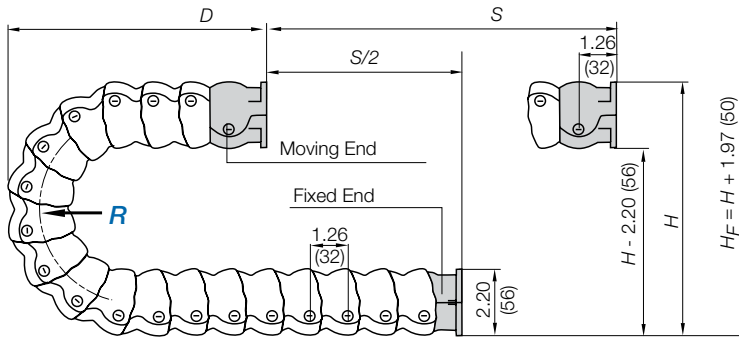
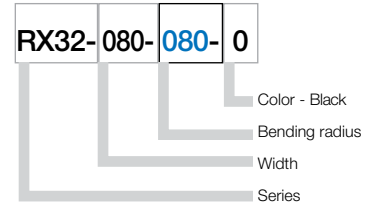
Details of material properties

► Chapter 1

Series RX32 - snap-open along the outer radius



Part Number Structure



Supplement part number with required radius. Example: RX32-080-080-0
 Pitch: 1.26 in. (32 mm) per link links/ft (m) = 9.52 (32)

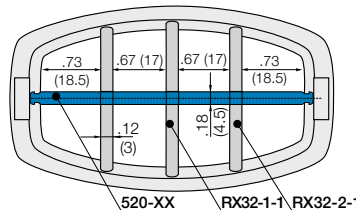
Part Number	Bi in. (mm)	Ba in. (mm)	Weight lbs/ft (kg/m)
RX32-080- <input type="text"/> -0	3.15 (80)	3.87 (98.4)	≈ 0.83 (1.23)

Choose from the radii below for all of the above sizes
 Radius (mm) Example: RX32-080-080-0

	080	150
R	3.15 (080)	5.91 (150)
H	8.50 (216)	14.02 (356)
D	6.14 (156)	8.89 (226)
K	12.60 (320)	21.26 (540)

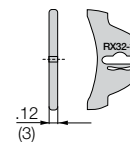
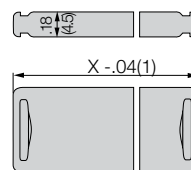
Separators and shelves

Vertical separators are used if a vertical subdivision of the e-tube interior is required. By standard, vertical separators are assembled every other e-tube link.

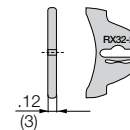


Shelves 520-XX

Full width shelves lock into separators on both ends, fixed width possible.



Separator, central
 Unassembled Part No. RX32-1
 Assembled Part No. RX32-1-1



Slotted Separator, lateral
 Unassembled Part No. RX32-1
 Assembled Part No. RX32-2-1

Width X in. (mm)	Part No. Unassembled	Part No. Assembled
1.14 (29)	520-29	521-29
2.13 (54)	520-54	521-54
3.11 (79)	520-79	521-79
4.09 (104)	520-104	521-104

e-chain system® RX e-tubes Series RX32 Mounting Brackets

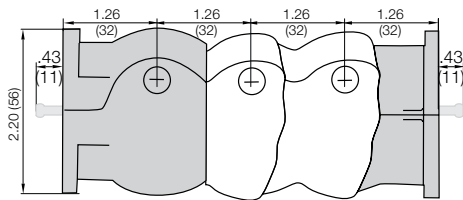
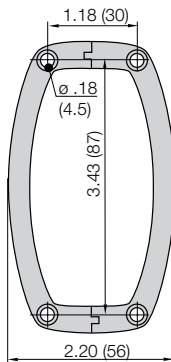
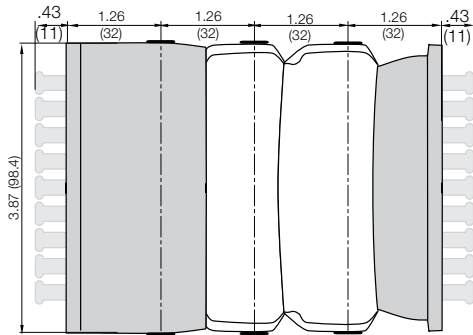
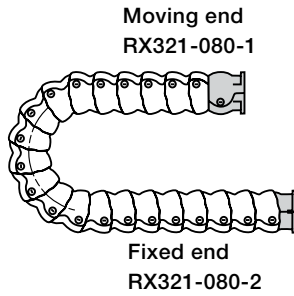


RX32



Option: Flange mounting brackets

- Universally mountable with flange attachment capability
- Optional strain relief tiwrap plates
- Easy to open
- Optional M4 insert nuts



Shown with strain relief



Chain Type	Part No. full set with tiwrap plate	Part No. full set without tiwrap plate	Number of Teeth
RX32	RX321-080-12ZB	RX321-080-12	8

Full set, for both ends:

RX321-080-12

Single-part order:

RX321-080-1 Mounting bracket moving end

RX321-080-2 Mounting bracket fixed end

PDF: igus.com/e-chain-pdfs
Product information: igus.com/e-chains



Price Index



Series RX40

Special Features / Options



ESD classification:
Electrically conductive ESD/
ATEX version upon request



Flammability Class
VDE 0304 IIC UL94 HB



e-tubes with HT-material for
hot chips up to 1562°F (850°C)
available upon request

Assembly Tips



Easy opening of lids on the outer radius with embedded excentric locking mechanism

Features & Benefits

- 1 Mounting bracket available with or without strain relief
- 2 Full chip protection without undercuts, projecting edges or gaps
- 3 Large interior cross section
- 4 Round contour prevents chip accumulation
- 5 Covered pin/bore connection and stop dogs
- 6 Lids open from outer radius
- 7 Interior separation available



Usage Guidelines



- If a fully protected e-tube is desired
- If easy access from the outside is required



- If a particularly low-cost solution is the main factor
 - Series R68 E2 tubes
- If no chip protection is required
 - Series 3500 E2/000

Order Example: Complete e-chain®

Please indicate chain length or number of links. Example:

3.28 ft (1 m) RX-40-100-100-0



e-chain®

With 3 separators RX40-1-1/RX40-1-2 assemb. every 2nd link



Interior Separation

1 Set RX401-100-12



Mounting Bracket

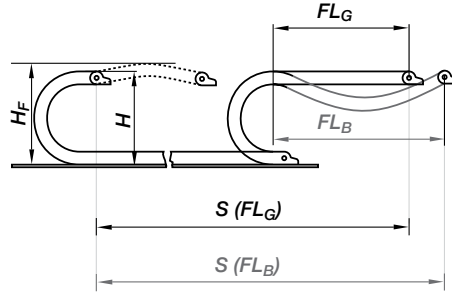
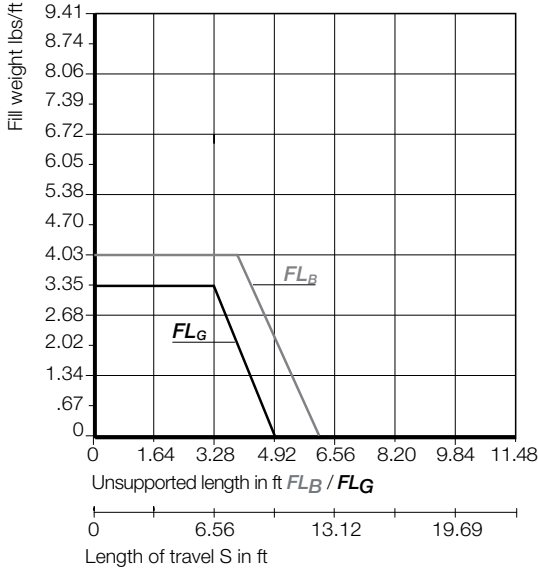
e-chain system® RX e-tubes

Series RX40

Installation Dimensions

Short travel, unsupported length

- FL_B = unsupported with permitted sag
 - FL_G = unsupported with straight upper run
- Further information ► Design, Chapter 1



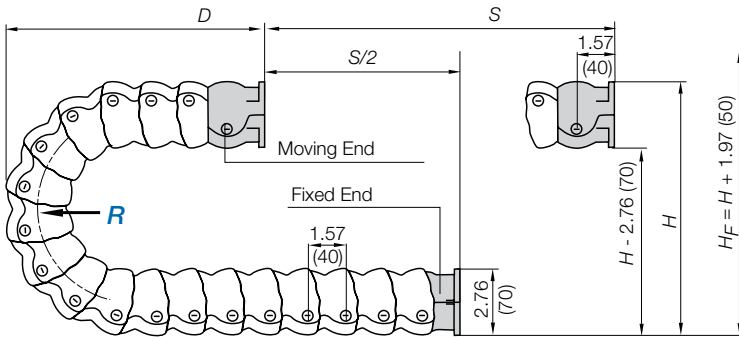
Short Travels - Unsupported



Unsupported e-chains® feature positive camber over short travels. This must be accounted for when specifying the clearance height. Please refer to **Installation dimensions** for further details.

Legend

- S = Length of travel
- R = Bending radius
- H = Nominal clearance height
- D = Overlength e-chain® radius in final position
- $K = \pi \cdot R + \text{safety buffer}$
- H_F = Required clearance height



Pitch per link = 1.57" (40 mm)
 Links per ft (m) = 7.62 (25)
 For center mount applications:
 Chain length = $\frac{S}{2} + K$

The required clearance height: $H_F = H + 1.97$ in. (50 mm) (with 1.68 lbs/ft (2.5 kg/m) fill weight).
 Please consult igus® if space is particularly restricted.

R	3.94 (100)	4.92 (125)	5.91 (150)	6.89 (175)	7.87 (200)	8.86 (225)	9.84 (250)	10.83 (275)	11.81 (300)
H	10.63 (270)	12.59 (320)	14.57 (370)	16.54 (420)	18.50 (470)	20.47 (520)	22.44 (570)	24.41 (620)	26.38 (670)
D	7.68 (195)	8.66 (220)	9.65 (245)	10.63 (270)	11.61 (295)	12.60 (320)	13.58 (345)	14.57 (370)	15.55 (395)
K	15.55 (395)	18.70 (475)	21.85 (555)	24.80 (630)	27.95(710)	31.10 (790)	34.25 (870)	37.20 (945)	40.35(1025)

Technical Data

Speed / acceleration FL_G	max. 32.8 ft/s (10 m/s) / max. 328 ft/s ² (100 m/s ²)
Speed / acceleration FL_B	max. 9.84 ft/s (3 m/s) / max. 19.69 ft/s ² (6 m/s ²)
Material - permitted temperature	igumid G / -40°F (-40°C) up to +248°F (+120° C)
Flammability Class, igumid G	VDE 0304 IIC UL94 HB



Details of material properties

► Chapter 1



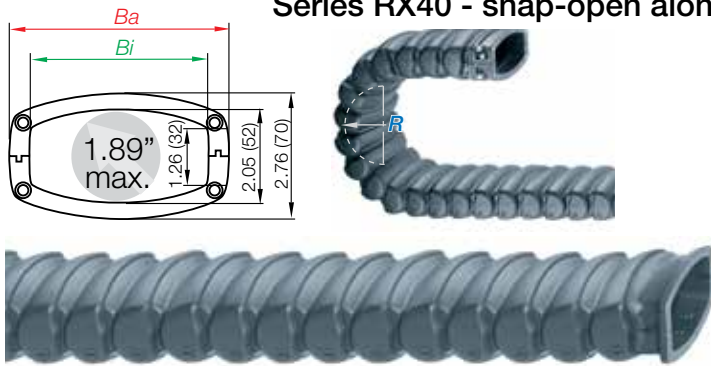
RX40

2.05

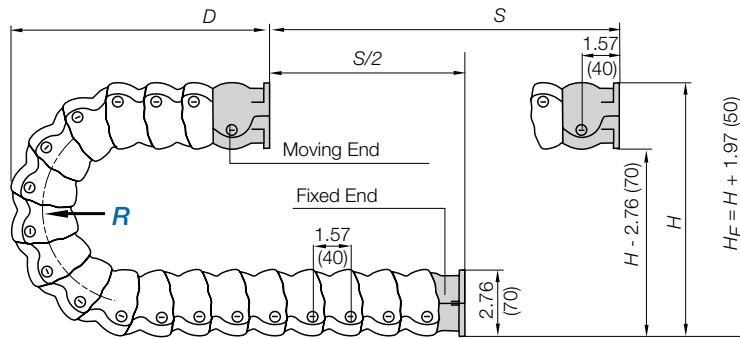
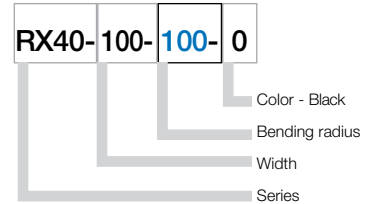
PDF: igus.com/e-chain-pdfs
 Product information: igus.com/e-chains



Series RX40 - snap-open along the outer radius



Part Number Structure



Supplement part number with required radius. Example: RX40-100-**100**-0
Pitch: 1.57 in. (40 mm) per link links/ft(m) = 7.62 (25)

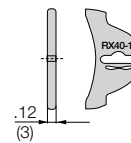
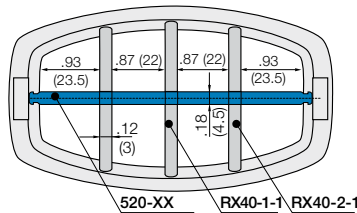
Part Number	Bi in. (mm)	Ba in. (mm)	Weight lbs/ft (kg/m)
RX40-100- <input type="text"/> -0	3.94 (100)	4.84 (123)	≈ 1.27 (1.89)

Choose from the radii below for all of the above sizes
Radius (mm) Example: RX40-100-**100**-0

	100	125	150	175	200	225	250	275	300
R	3.94 (100)	4.92 (125)	5.91 (150)	6.89 (175)	7.87 (200)	8.86 (225)	9.84 (250)	10.83 (275)	11.81 (300)
H	10.63 (270)	12.59 (320)	14.57 (370)	16.54 (420)	18.50 (470)	20.47 (520)	22.44 (570)	24.41 (620)	26.38 (670)
D	7.68 (195)	8.66 (220)	9.65 (245)	10.63 (270)	11.61 (295)	12.60 (320)	13.58 (345)	14.57 (370)	15.55 (395)
K	15.55 (395)	18.70 (475)	21.85 (555)	24.80 (630)	27.95(710)	31.10 (790)	34.25 (870)	37.20 (945)	40.35(1025)

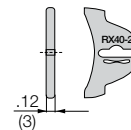
Separators and shelves

Vertical separators are used if a vertical subdivision of the e-tube interior is required. By standard, vertical separators are assembled every other e-tube link.



Separator, central

Unassembled Part No. RX40-1
Assembled Part No. RX40-1-1

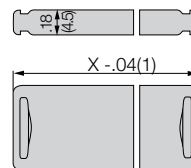


Slotted Separator, lateral

Unassembled Part No. RX40-1
Assembled Part No. RX40-2-1

Shelves 520-XX

Full width shelves lock into separators on both ends, fixed width possible. Separators can be moved freely over the shelf horizontally.



Width X in. (mm)	Part No. Unassembled	Part No. Assembled
1.14 (29)	520-24	521-24
2.13 (54)	520-44	521-44
3.11 (79)	520-64	521-64
4.09 (104)	520-84	521-84

e-chain system® RX e-tubes Series RX40 Mounting Brackets

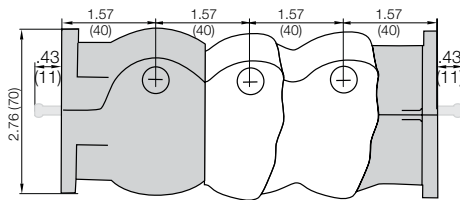
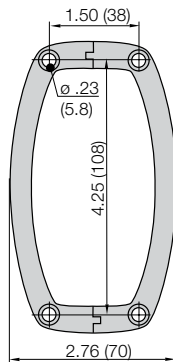
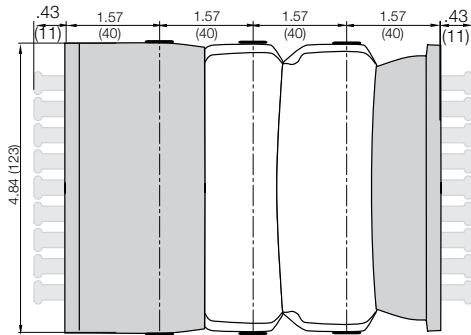
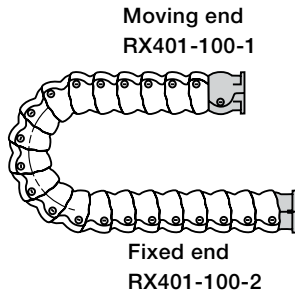


RX40



Option: Flange mounting brackets

- Universally mountable with flange attachment capability
- Optional strain relief tiwrap plates
- Easy to open
- Optional M4 insert nuts



Shown with strain relief



Chain Type	Part No. full set with tiwrap plate	Part No. full set without tiwrap plate	Number of Teeth
RX40	RX401-100-12ZB	RX401-100-12	10

Full set, for both ends:

RX401-100-12

Single-part order:

RX401-100-1 Mounting bracket moving end

RX401-100-2 Mounting bracket fixed end

PDF: igus.com/e-chain-pdfs
Product information: igus.com/e-chains



Price Index


Series RX48

Special Features / Options

ESD classification:
 Electrically conductive ESD/
 ATEX version upon request

Flammability Class
 VDE 0304 IIC UL94 HB

Assembly Tips


Easy opening of lids on the outer radius with embedded excentric locking mechanism


Features & Benefits

- 1 Mounting bracket available with or without strain relief
- 2 Full chip protection without undercuts, projecting edges or gaps
- 3 Large interior cross section
- 4 Round contour prevents chip accumulation
- 5 Covered pin/bore connection and stop dogs
- 6 Lids open from outer radius
- 7 Interior separation available


Usage Guidelines


- If a fully protected e-tube is desired
- If easy access from the outside is required



- For chip protection in gliding applications
 ► Series R18840 E4 Light

Order Example: Complete e-chain®

Please indicate chain length or number of links. Example:

 9.84 ft (3 m) **RX48-120-120-0**

e-chain®

 With 3 separators **RX48-1-1/RX48-1-2** assemb. every 2nd link

Interior Separation

 1 Set **RX48-120-12**

Mounting Bracket

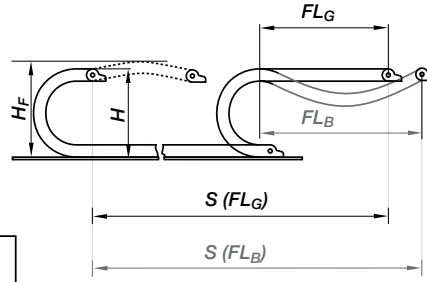
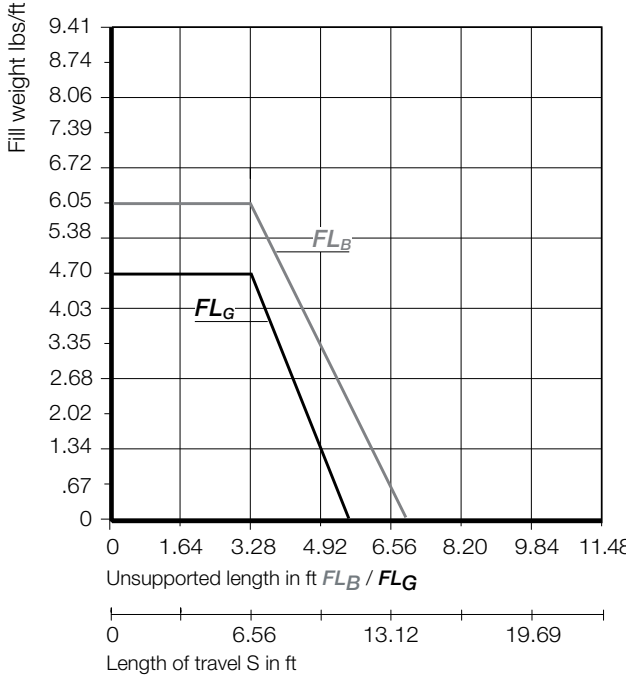
e-chain system® RX e-tubes

Series RX48

Installation Dimensions

Short travel, unsupported length

- FL_B = unsupported with permitted sag
 - FL_G = unsupported with straight upper run
- Further information ► Design, Chapter 1



RX48

Short Travels - Unsupported

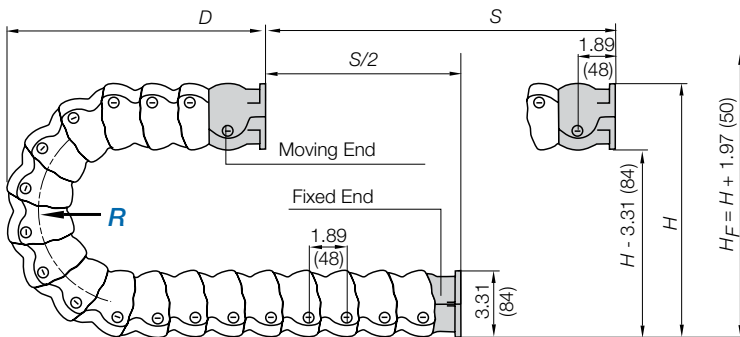


Unsupported e-chains® feature positive camber over short travels. This must be accounted for when specifying the clearance height. Please refer to **Installation dimensions** for further details.

2.44

Legend

- S = Length of travel
- R = Bending radius
- H = Nominal clearance height
- D = Overlength e-chain® radius in final position
- $K = \pi \cdot R + \text{safety buffer}$
- H_F = Required clearance height



Pitch per link = 1.89° (48 mm)

Links per ft (m) = 6.35 (21)

For center mount applications:

Chain length = $S/2 + K$

The required clearance height: $H_F = H + 1.97$ in. (50 mm) (with .34 lbs/ft (0.5 kg/m) fill weight). Please consult igus® if space is particularly restricted.

	4.72 (120)	5.91 (150)
R	4.72 (120)	5.91 (150)
H	12.76 (324)	15.12 (384)
D	9.21 (234)	10.39 (264)
K	18.70 (475)	22.44 (570)

Technical Data

Speed / acceleration FL_G	max. 32.8 ft/s (10 m/s) / max. 328 ft/s ² (100 m/s ²)
Speed / acceleration FL_B	max. 9.84 ft/s (3 m/s) / max. 19.69 ft/s ² (6 m/s ²)
Material - permitted temperature	igumid G / -40°F (-40°C) up to +248°F (+120°C)
Flammability Class, igumid G	VDE 0304 IIC UL94 HB



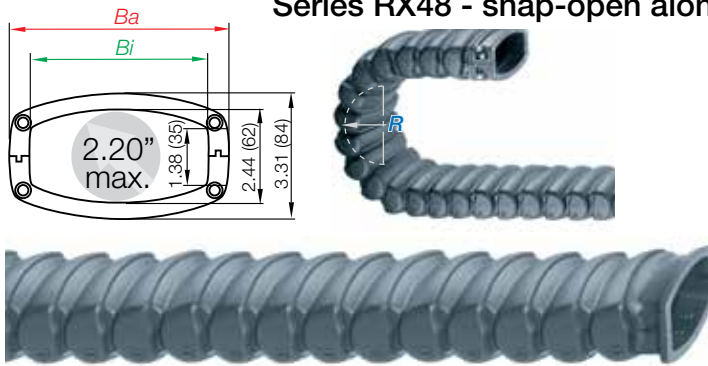
Details of material properties

► Chapter 1

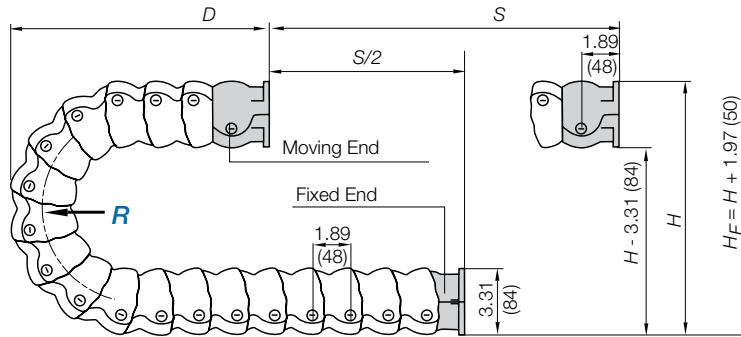
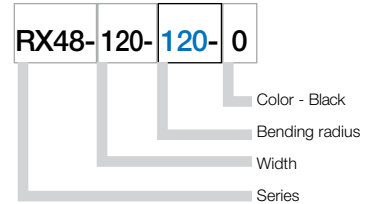
PDF: igus.com/e-chain-pdfs
Product information: igus.com/e-chains



Series RX48 - snap-open along the outer radius



Part Number Structure



Supplement part number with required radius. Example: RX48-120-**120**-0
 Pitch: 1.89 in. (48 mm) per link links/ft(m) = 6.35 (21)

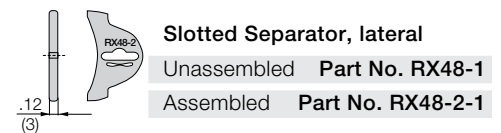
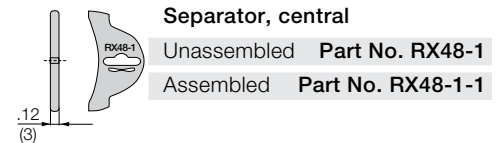
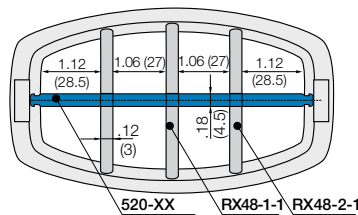
Part Number	Bi in. (mm)	Ba in. (mm)	Weight lbs/ft (kg/m)
RX48-120- <input type="text"/> -0	4.72 (120)	5.81 (147.6)	≈ 1.85 (2.76)

Choose from the radii below for all of the above sizes
 Radius (mm) Example: RX48-120-**120**-0

	120	150
R	4.72 (120)	5.91 (150)
H	12.76 (324)	15.12 (384)
D	9.21 (234)	10.39 (264)
K	18.70 (475)	22.44 (570)

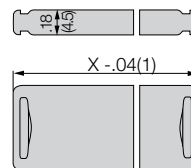
Separators and shelves

Vertical separators are used if a vertical subdivision of the e-tube interior is required. By standard, vertical separators are assembled every other e-tube link.



Shelves 520-XX

Full width shelves lock into separators on both ends, fixed width possible. Separators can be moved freely over the shelf horizontally.



Width X in. (mm)	Part No. Unassembled	Part No. Assembled
1.34 (34)	520-34	521-34
2.52 (64)	520-64	521-64
3.70 (94)	520-94	521-94
4.88 (124)	520-124	521-124

e-chain system® RX e-tubes Series RX48 Mounting Brackets

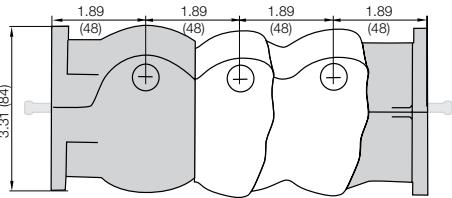
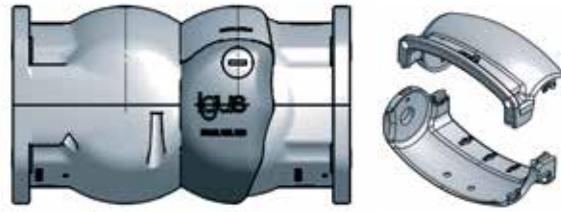
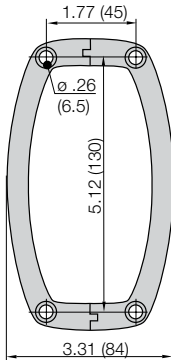
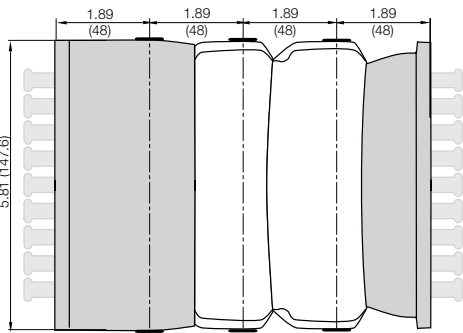
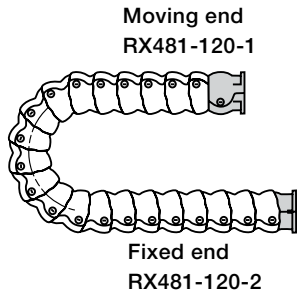


RX48



Option: Flange mounting brackets

- Universally mountable with flange attachment capability
- Optional strain relief tiwrap plates
- Easy to open
- Optional M4 insert nuts



Shown with strain relief



Full set, for both ends:

RX481-120-12

Single-part order:

RX481-120-1 Mounting bracket moving end

RX481-120-2 Mounting bracket fixed end

Chain Type	Part No. full set with tiwrap plate upon request	Part No. full set without tiwrap plate RX481-120-12	Number of Teeth upon request
RX48	upon request	RX481-120-12	upon request

PDF: igus.com/e-chain-pdfs
Product information: igus.com/e-chains



Price Index



Series RX56

Special Features / Options



ESD classification:
Electrically conductive ESD/
ATEX version upon request



Flammability Class
VDE 0304 IIC UL94 HB

Assembly Tips



Easy opening of lids on the outer radius with embedded excentric locking mechanism

Features & Benefits

- 1 Mounting bracket available with or without strain relief
- 2 Full chip protection without undercuts, projecting edges or gaps
- 3 Large interior cross section
- 4 Round contour prevents chip accumulation
- 5 Covered pin/bore connection and stop dogs
- 6 Lids open from outer radius
- 7 Interior separation available



Usage Guidelines



- If a fully protected e-tube is desired
- If easy access from the outside is required



- For chip protection in gliding applications
➤ Series R19850 E4 Light

Order Example: Complete e-chain®

Please indicate chain length or number of links. Example:

9.84 ft (3 m) RX56-140-140-0	e-chain®
With 3 separators RX56-1-1/RX56-1-2 assemb. every 2nd link	Interior Separation
1 Set RX561-140-12	Mounting Bracket

e-chain system® RX e-tubes

Series RX56

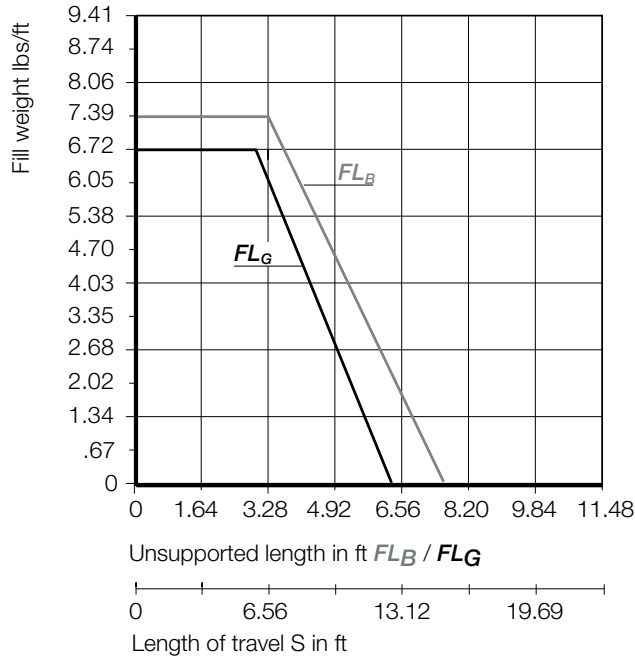
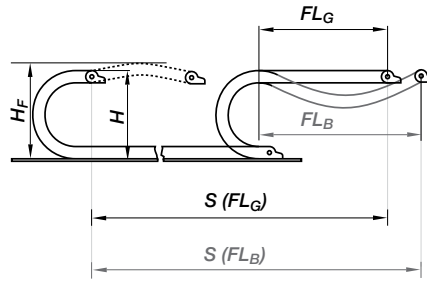
Installation Dimensions



RX56

Short travel, unsupported length

- FL_B = unsupported with permitted sag
 - FL_G = unsupported with straight upper run
- Further information ► Design, Chapter 1



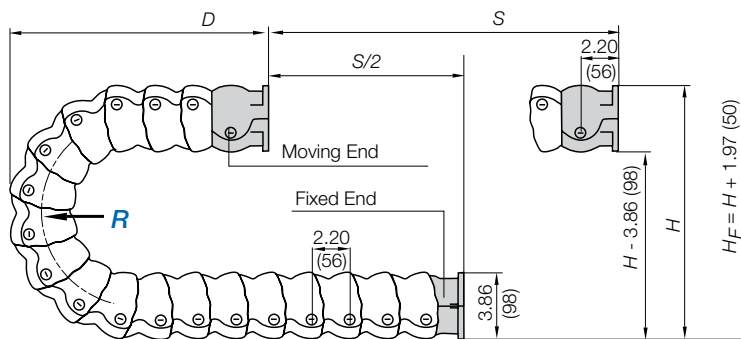
Short Travels - Unsupported

2.87

Unsupported e-chains® feature positive camber over short travels. This must be accounted for when specifying the clearance height. Please refer to **Installation dimensions** for further details.

Legend

- S = Length of travel
- R = Bending radius
- H = Nominal clearance height
- D = Overlength e-chain® radius in final position
- $K = \pi \cdot R + \text{ safety buffer }$
- H_F = Required clearance height



Pitch per link = 2.20" (56 mm)
 Links per ft (m) = 5.45 (18)
 For center mount applications:
 Chain length = $\frac{S}{2} + K$

The required clearance height: $H_F = H + 1.97$ in. (50 mm) (with .34 lbs/ft (0.5 kg/m) fill weight). Please consult igus® if space is particularly restricted.

R	5.51 (140)
H	14.88 (378)
D	10.75 (273)
K	21.85 (555)

PDF: igus.com/e-chain-pdfs
 Product information: igus.com/e-chains



Technical Data

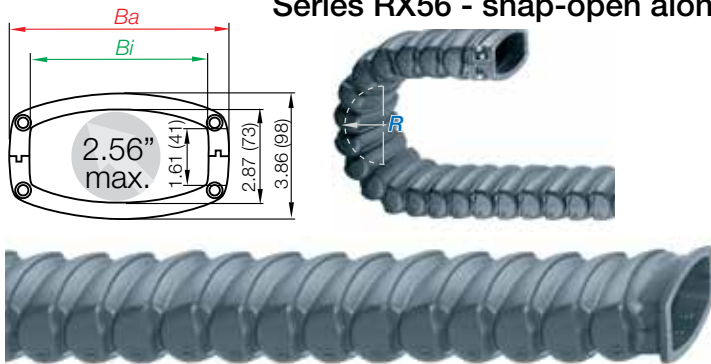
Speed / acceleration FL_G	max. 32.8 ft/s (10 m/s) / max. 328 ft/s² (100 m/s²)
Speed / acceleration FL_B	max. 9.84 ft/s (3 m/s) / max. 19.69 ft/s² (6 m/s²)
Material - permitted temperature	igumid G / -40°F (-40°C) up to +248°F (+120° C)
Flammability Class, igumid G	VDE 0304 IIC UL94 HB



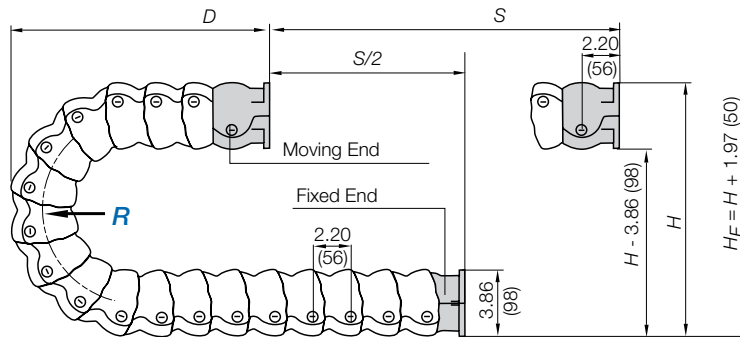
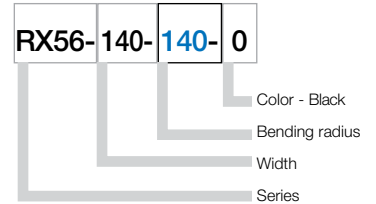
Details of material properties

► Chapter 1

Series RX56 - snap-open along the outer radius



Part Number Structure



Supplement part number with required radius. Example: RX56-140-140-0
 Pitch: 2.20 in. (56 mm) per link links/ft(m) = 5.45 (18)

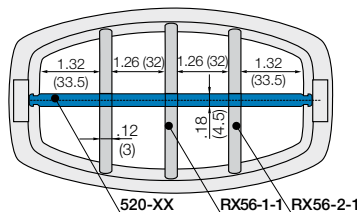
Part Number	Bi in. (mm)	Ba in. (mm)	Weight lbs/ft (kg/m)
RX56-140- <input type="text"/> -0	5.51 (140)	6.78 (172.2)	≈ 2.57 (3.83)

Choose from the radii below for all of the above sizes
 Radius (mm) Example: RX56-140-140-0

R	5.51 (140)
H	14.88 (378)
D	10.75 (273)
K	21.85 (555)

Separators and shelves

Vertical separators are used if a vertical subdivision of the e-tube interior is required. By standard, vertical separators are assembled every other e-tube link.



Separator, central
 Unassembled Part No. RX56-1
 Assembled Part No. RX56-1-1

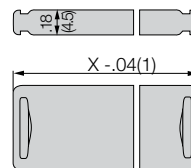


Slotted Separator, lateral
 Unassembled Part No. RX56-2
 Assembled Part No. RX56-2-1



Shelves RX520-XX

Full width shelves lock into separators on both ends, fixed width possible. Separators can be moved freely over the shelf horizontally.



Width X in. (mm)	Part No. Unassembled	Part No. Assembled
1.54 (39)	520-39	521-39
2.91 (74)	520-74	521-74
4.29 (109)	520-109	521-109
5.67 (144)	520-144	521-144

e-chain system® RX e-tubes Series RX56 Mounting Brackets



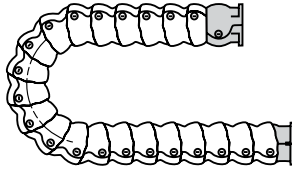
RX56



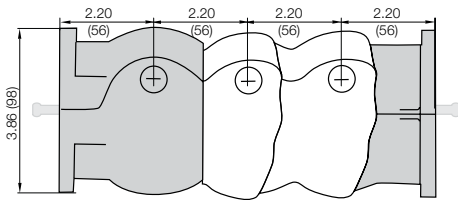
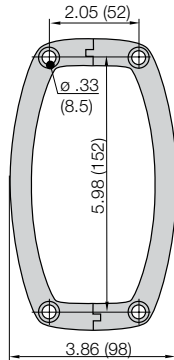
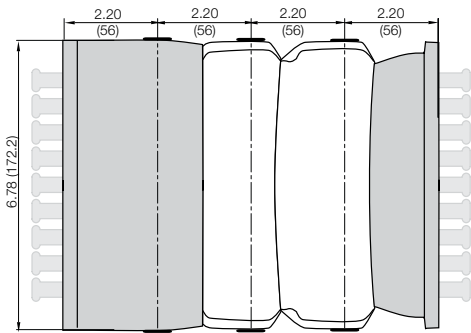
Option: Flange mounting brackets

- Universally mountable with flange attachment capability
- Optional strain relief tiwrap plates
- Easy to open
- Optional M4 insert nuts

Moving end
RX561-140-1



Fixed end
RX561-140-2



Shown with
strain relief



Full set, for both ends:

RX561-140-12

Single-part order:

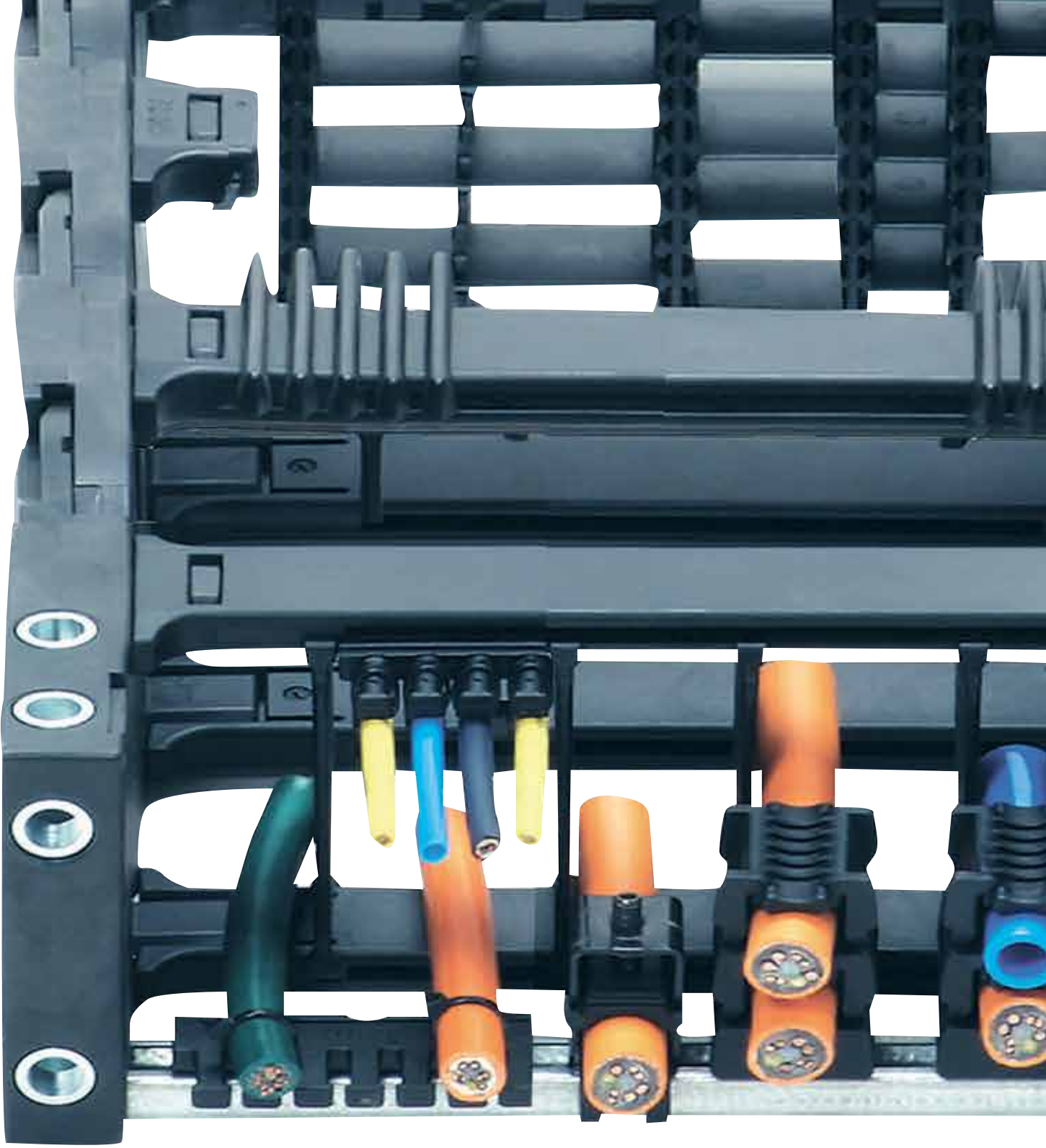
RX561-140-1 Mounting bracket moving end

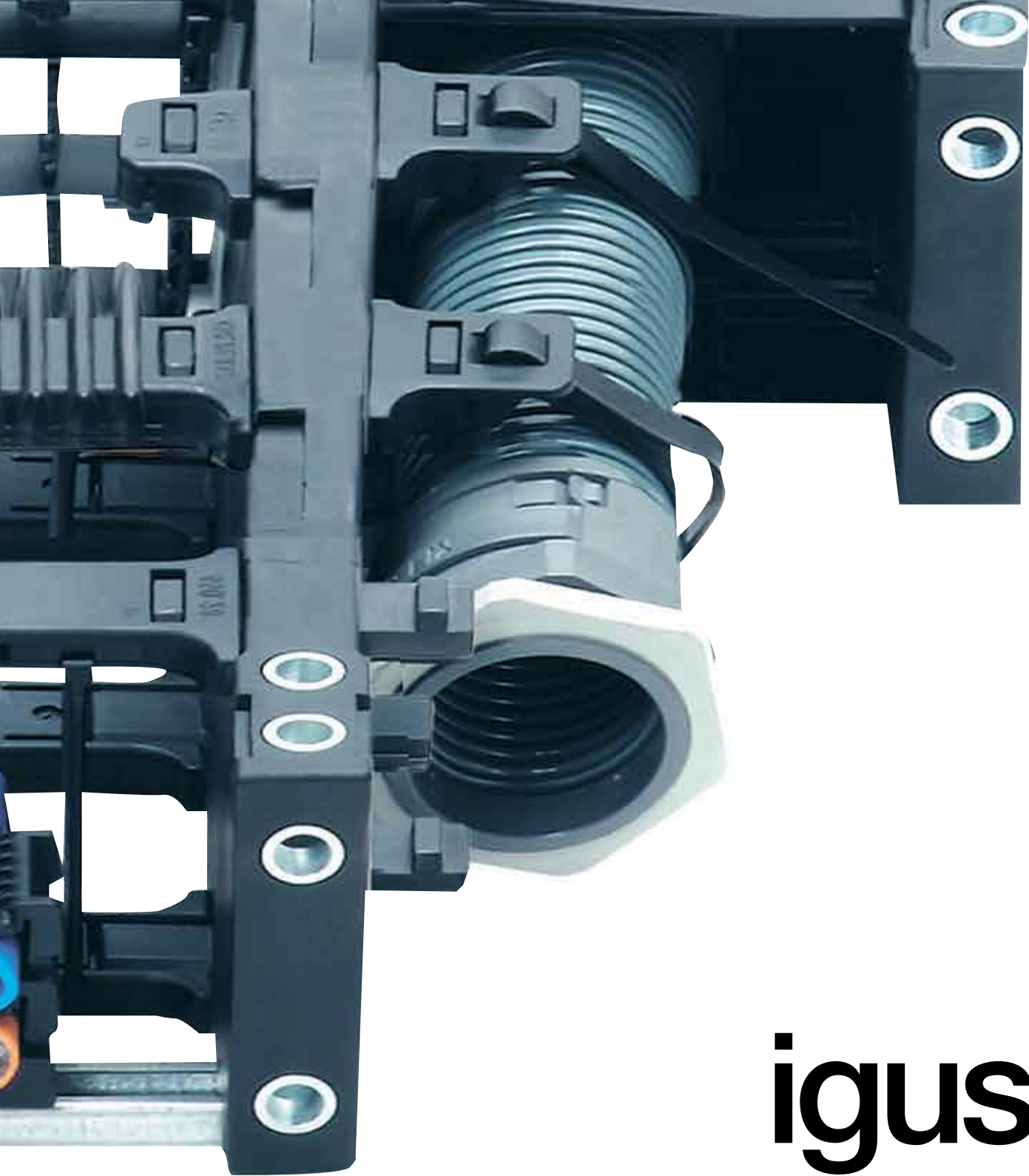
RX561-140-2 Mounting bracket fixed end

Chain Type	Part No. full set with tiwrap plate	Part No. full set without tiwrap plate	Number of Teeth
RX56	upon request	RX561-120-12	upon request

PDF: igus.com/e-chain-pdfs
Product information: igus.com/e-chains







igus[®]
System E4
E4-1, E4-1 light, E4/light

E4-1 e-chain® series for almost all applications

The E4-1 system combines all the advantages of its three predecessors:

- Tongue and groove design provides greater lateral stability, high shear force on long travels and for longer unsupported lengths
- Ideal for side-mounted applications
- Noise dampening “brakes” and rubber dampers available
- Snap-open links for quick assembly, with or without pretension
- Dirt repellent and wear-resistant
- Side wear pads

Almost all accessories and mounting dimensions are identical. With the E4-1, the service life of your application can be still increased with lower costs.

Typical industries and applications

- Crane
- Indoor crane
- Composting plants
- Sewage plants
- Machine tools
- General mechanical engineering
- Material handling technology
- Refrigeration engineering
- Construction machinery
- Wood working
- Robotics and handling systems



Cleanroom test upon request



Reduced noise due to special rubber pads and special stop dog design



ESD classification: Electrically conductive ESD/ATEX version upon request



System E4-1 field proven in long travels



Fully enclosed e-tubes available as special design with HT material for 1562°F hot chips



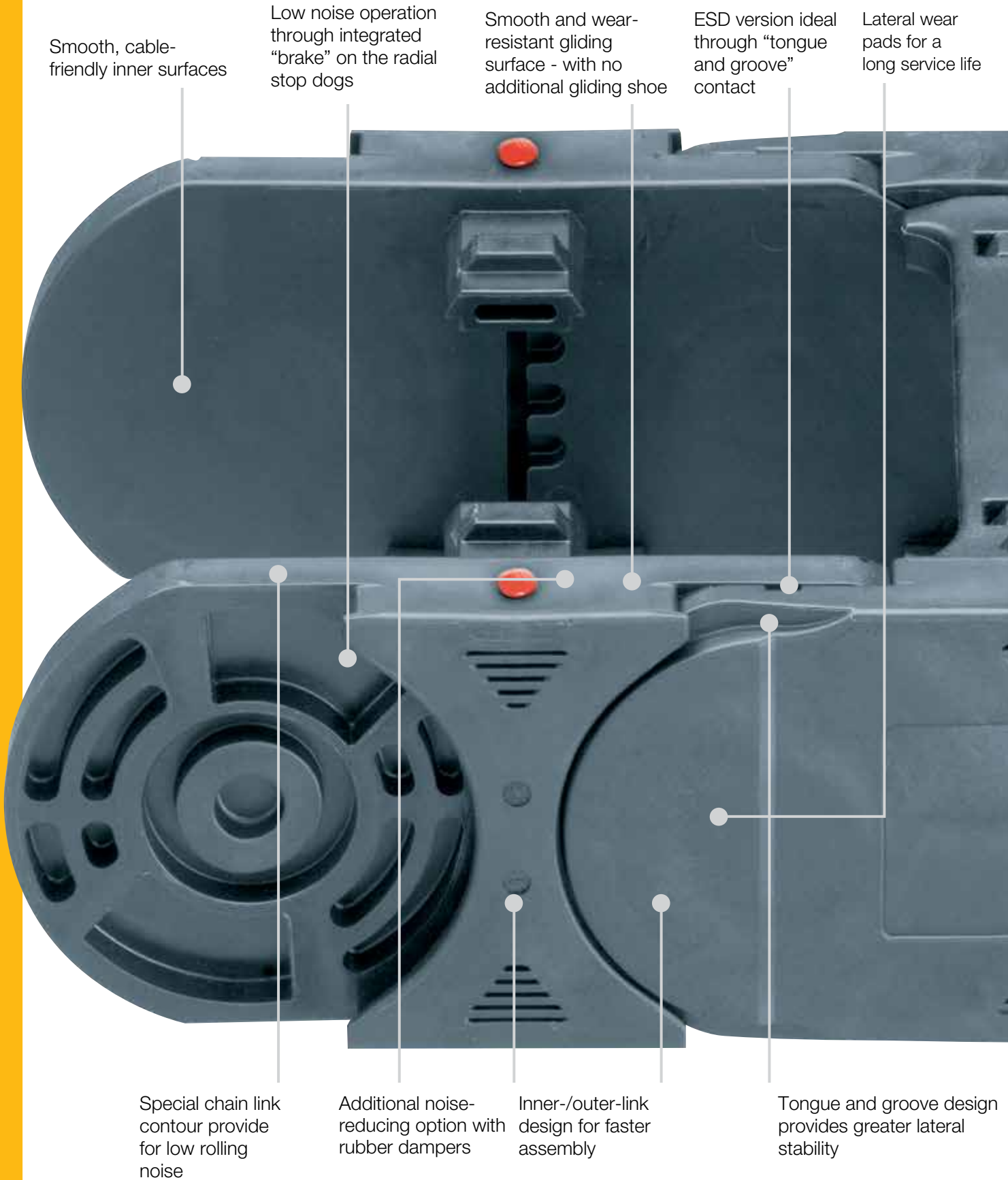


The E4-42 series in a machine tool, completely assembled with igus® chainflex® cables

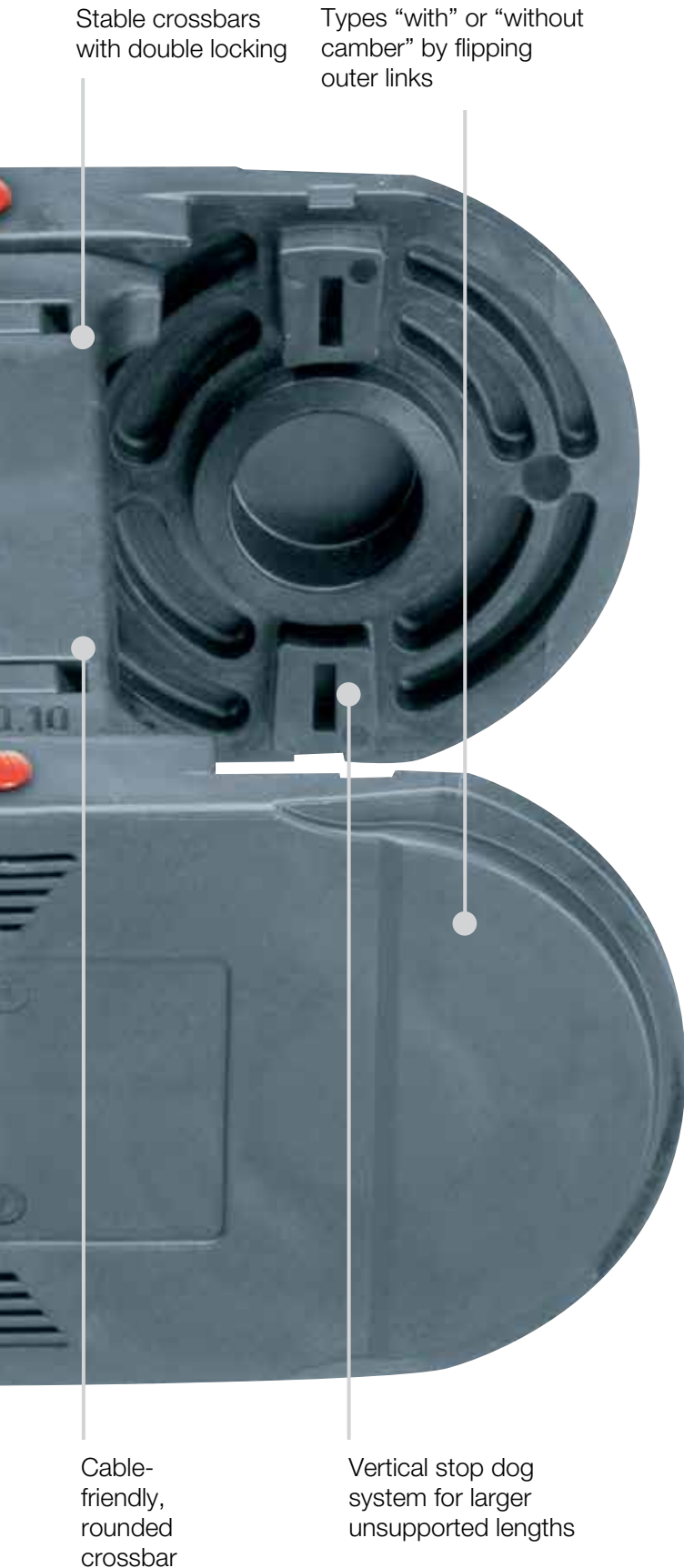
Application	Design feature
Long unsupported length	Special stop dogs, tongue and groove link design
Low-noise operation, unsupported gliding	Integrated “brake”, smooth gliding surfaces - rubber dampers optional
Hanging and standing installation	Torsional stability through tongue and groove link design, “no camber” option by flipping the outer link
Long travels	High push/pull forces through tongue and groove link design and stop dogs, large and smooth gliding surfaces
Side-mounted, unsupported	Tongue and groove link design 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 chains	Large pins, optimized material, high stability
ESD, ATEX	Tongue and groove link design for secure contact surfaces in motion (special version in conductive material)
Operation under dirt, chips, humidity	Tongue and groove link design design prevents chain breakage, dirt-resistant design

E4-1 Design Features

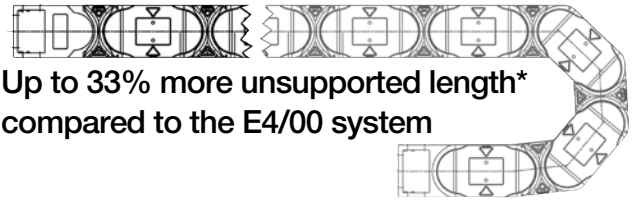
The E4-1 Series combines the tongue and groove link design and the inner and outer link design of previous E4 constructions – all in one e-chain®



E4-1 Design Features



Cut costs by eliminating additional components with E4-1 e-chains® - Proven durability and stability

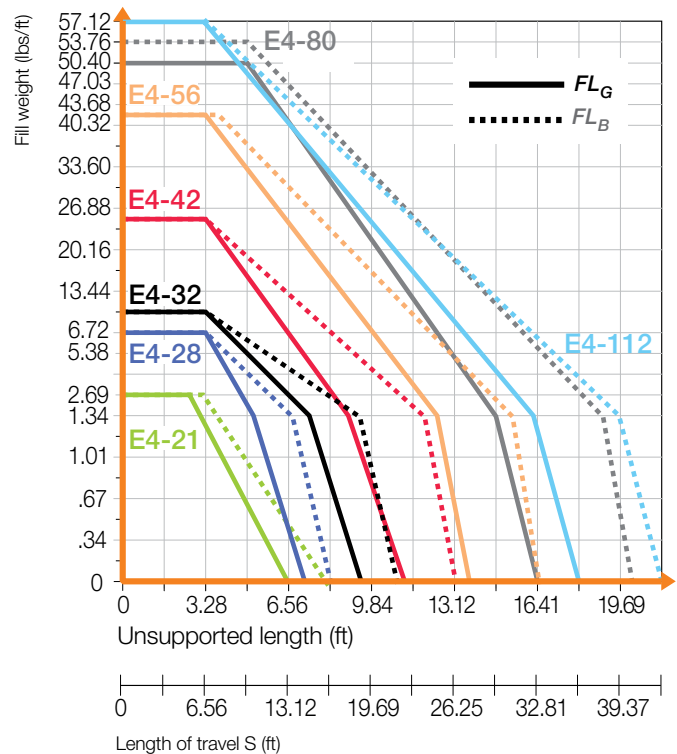


- Up to 133% higher tensile strength*
- Up to 33% more unsupported length*. Save in the purchase cost, as you can now use smaller e-chains®
- Due to the large unsupported lengths or loads, oversized energy supply systems can be optimized with the igus® E4-1 system

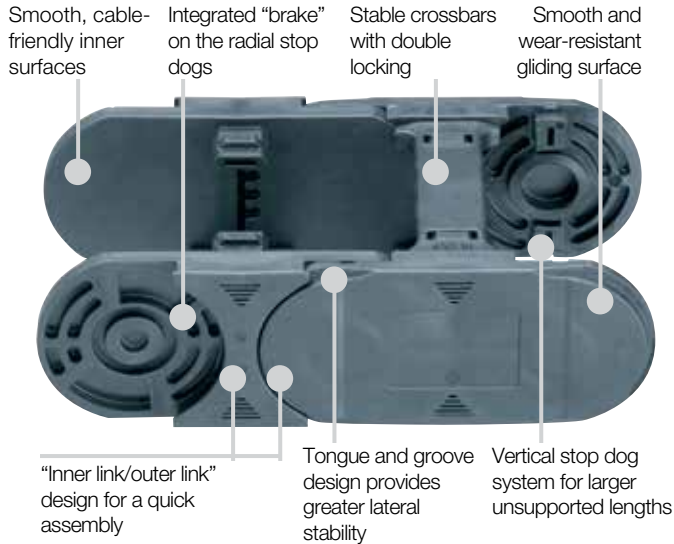
* Compared to the igus® E4/00 system series

** Test at igus® laboratory: Sag tested with defined weight and length over 96h

Selection table and assembly instructions
 ► page 6.7



E4-1 Design Features



- Available in 40 width sizes in both e-chain® and e-tube
- Interlocking side links for optimum lateral stability, for high push/pull force on long travels
- Long unsupported lengths
- "Brake" and rubber dampers as additional noise-reducing options
- Inner link/outer link design for quick assembly with various interior separation options
- Double locking stable crossbars that open from both sides
- Support Tray tool kit for the support of the lower run
- **Chapter 9**
- Find more technical data about the material, chemical resistance, temperatures ➤ **Chapter 1**

Crossbars every link for particularly demanding applications



Series	Inner height h_i in. (mm)	Inner width B_i in. (mm)	Outer width B_a in. (mm)	Outer height h_a in. (mm)	Bending radius R in. (mm)
E4-21	.82 (21)	1.18-5.51 (30-140)	1.73-5.28 (44-134)	1.10 (28)	1.50-7.87 (38-200)
E4-28	1.10 (28)	1.57-11.81 (40-300)	2.36-12.60 (60-320)	1.65 (42)	2.16-9.84 (55-250)
E4-32	1.26 (32)	1.97-15.75 (50-400)	2.87-16.65 (73-423)	2.13 (54)	2.48-11.81 (63-300)
E4-42	1.65 (42)	1.97-15.75 (50-400)	2.99-16.77 (76-426)	2.52 (64)	2.95-13.78 (75-350)
E4-56	2.20 (56)	1.97-23.62 (50-600)	3.31-24.96 (84-634)	3.31 (84)	5.31-19.69 (135-500)
E4-80	3.15 (80)	1.97-23.62 (50-600)	3.94-25.59 (100-650)	4.25 (108)	5.91-39.37 (150-1000)
E4-112	4.41 (112)	1.97-23.62 (50-600)	4.02-25.67 (102-652)	5.51 (140)	7.87-39.37 (200-1000)
E4-162	6.38 (162)	7.87-23.62 (200-600)	10.08-25.83 (256-656)	7.68 (195)	9.84-39.37 (250-1000)
800	7.87 (200)	7.87-23.62 (200-600)	10.24-25.98 (260-660)	9.29 (236)	12.80-39.37 (325-1000)
840	8.03 (204)	3.94-22.16 (100-563)	6.30-24.53 (160-623)	9.29 (236)	12.80-39.37 (325-1000)
E4-350	13.78 (350)	15.75-31.50 (400-800)	21.26-37.01 (540-940)	17.72 (450)	19.69-39.37 (500-1000)

Crossbars every 2nd link for almost all applications



Series	Inner height h_i in. (mm)	Inner width B_i in. (mm)	Outer width B_a in. (mm)	Outer height h_a in. (mm)	Bending radius R in. (mm)
H4-32	1.26 (32)	1.97-15.75 (50-400)	2.87-16.65 (73-423)	2.13 (54)	2.48-11.81 (63-300)
H4-42	1.65 (42)	1.97-15.75 (50-400)	2.99-16.77 (76-426)	2.52 (64)	2.95-13.78 (75-350)
H4-56	2.20 (56)	1.97-23.62 (50-600)	3.31-24.96 (84-634)	3.31 (84)	5.31-19.69 (135-500)
H4-80	3.15 (80)	1.97-23.62 (50-600)	3.94-25.59 (100-650)	4.25 (108)	5.91-39.37 (150-1000)

e-tubes fully enclosed, for complete cable protection



Series	Inner height h_i in. (mm)	Inner width B_i in. (mm)	Outer width B_a in. (mm)	Outer height h_a in. (mm)	Bending radius R in. (mm)
R4-28	1.10 (28)	1.97-11.81 (50-300)	2.76-12.60 (70-320)	1.65 (42)	2.95-9.84 (75-250)
R4-32	1.26 (32)	1.97-11.81 (50-300)	2.87-12.72 (73-323)	2.13 (54)	4.92-11.81 (125-300)
R4-42	1.65 (42)	1.97-11.81 (50-300)	2.99-12.83 (76-326)	2.52 (64)	4.92-13.78 (125-350)
R4-56	2.20 (56)	2.95-18.19 (75-462)	4.29-19.57 (109-497)	3.31 (84)	5.31-19.69 (135-500)
R4-80	3.15 (80)	5.91-18.19 (150-462)	7.87-20.20 (200-513)	4.25 (108)	7.87-39.37 (200-1000)
R4-112	4.25 (108)	7.87-19.69 (200-500)	9.92-21.73 (252-552)	5.51 (140)	9.84-39.37 (250-1000)

e-chain system® E4-1

Assembly instructions

e-chains® - Opening



1 Remove crossbars - Insert screwdriver into the slot, using a lever action, apply pressure to the screwdriver to remove the crossbar.



2 Remove clips - Insert screwdriver into the slot, using a lever action, apply pressure to the screwdriver to remove the clip

e-tube - Opening



1 Remove lids/bottoms - Insert screwdriver into the slot, using a lever action apply pressure to the screwdriver to release

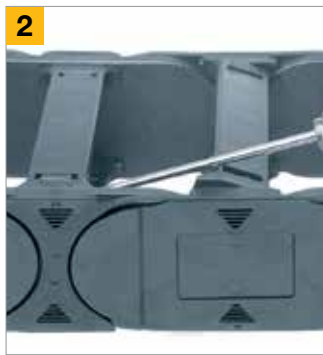


2 Release only **one side** to open the lid

e-chains® and e-tubes - Assembling



1 Line up two inner side links side by side. Attach an outer side link between



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



3 Assemble clips (for e-chains with crossbars every other link) - push down and snap in using a screwdriver



4 Assemble e-tube lids and bottoms - Attach to the connector at an angle and snap in place

e-chains® and e-tubes - Separating



1 Remove crossbars, clips, lids and bottoms at the outer links



2 Insert screwdriver into the slot between the side links. Using a lever action, release the side links



3 Remove the outer links



4 Separate the e-chain®



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

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

Price Index



Series E4-21

Special Options Available



Low noise version available with special rubber pads



Cleanroom test upon request



ESD classification:
Electrically conductive ESD/
ATEX version upon request

Assembly Tips



Opening e-chains®: Remove crossbars and clips - Insert screwdriver into the slot, push down, release by lever action

Other Installation Methods

Vertical, hanging ≤ 131 ft (40 m)

Vertical, standing ≤ 9.84 ft (3 m)

Side-mounted, un_supp. ≤ 3.28 ft (1 m)

Rotary requires further calculation

Usage Guidelines



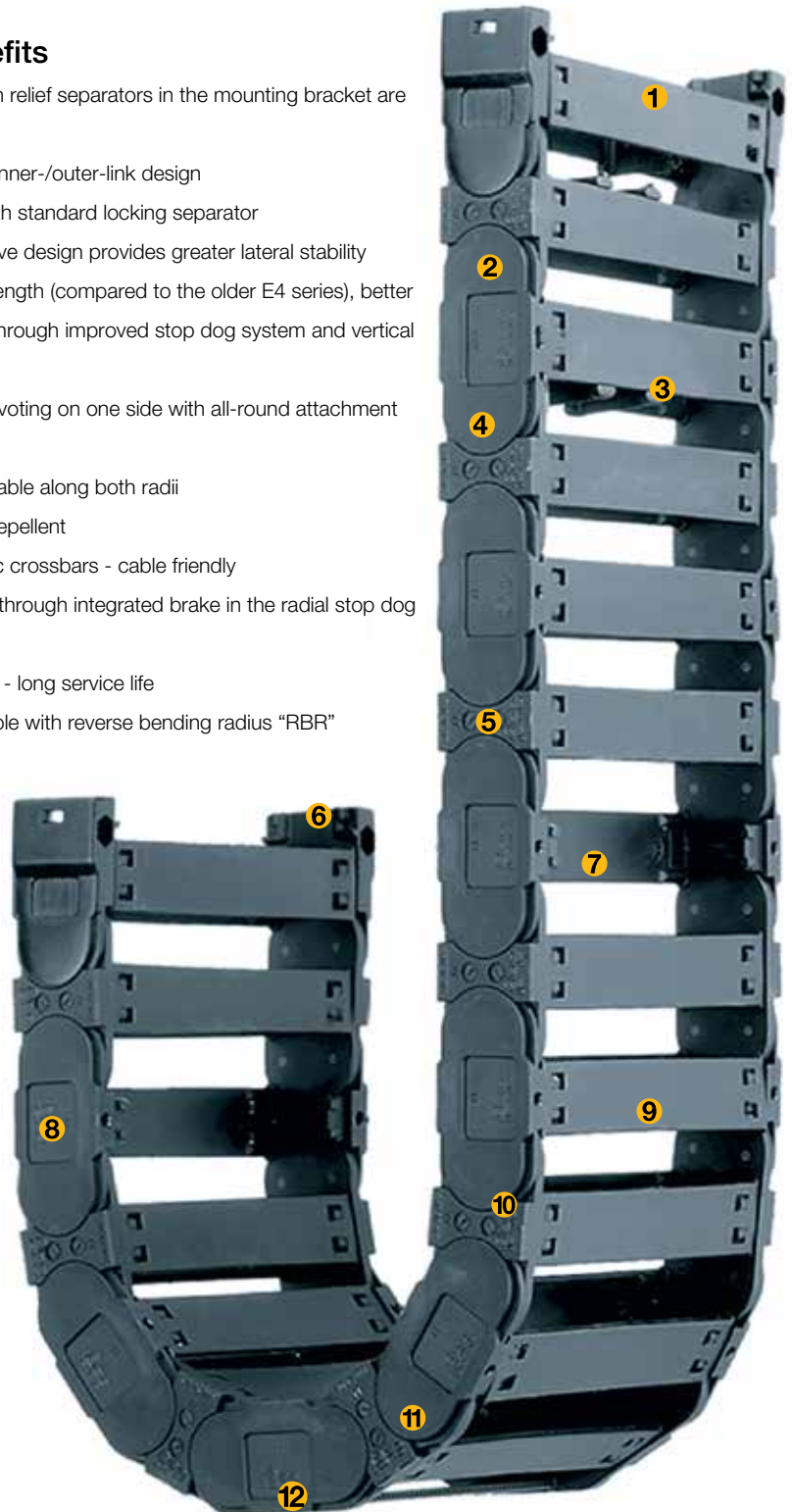
- If quiet operation is required
- If very high speeds and/or accelerations are required
- Long travels
- High fill weights



- When an economic one-sided snap-open e-chain/tube is required
 - Series 1400/1500
- When a one-sided snap-open e-tube is required at a low price
 - Series 1450/1480

Features & Benefits

- 1 Strain relief with strain relief separators in the mounting bracket are available
- 2 Straight run through inner-/outer-link design
- 3 Interior separation with standard locking separator
- 4 The tongue and groove design provides greater lateral stability
- 5 15% more tensile strength (compared to the older E4 series), better unsupported length through improved stop dog system and vertical radial stops
- 6 Mounting brackets pivoting on one side with all-round attachment option
- 7 Crossbars are removable along both radii
- 8 Smooth outline, dirt repellent
- 9 Wide, rounded plastic crossbars - cable friendly
- 10 Low-noise operation through integrated brake in the radial stop dog system
- 11 Optimized glide pads - long service life
- 12 e-chains® also available with reverse bending radius "RBR"



Order Example: Complete e-chain®

Please indicate chain length or number of links. Example:

6.56 ft (2 m) **E4-21-120-100-0**

e-chain®

With 2 separators **T2112** assembled every 2nd link

Interior Separation

1 Set **E4-210-120-12**

Mounting Bracket

e-chain system® E4-1

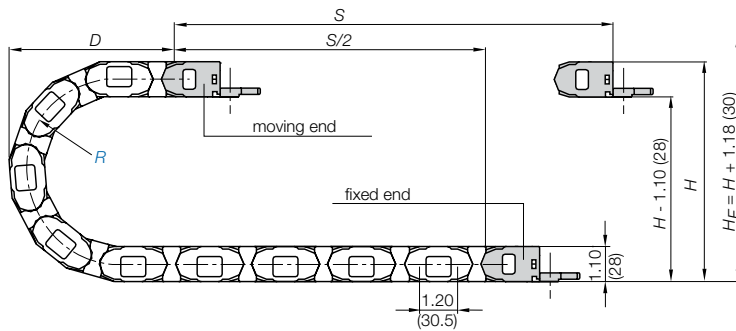
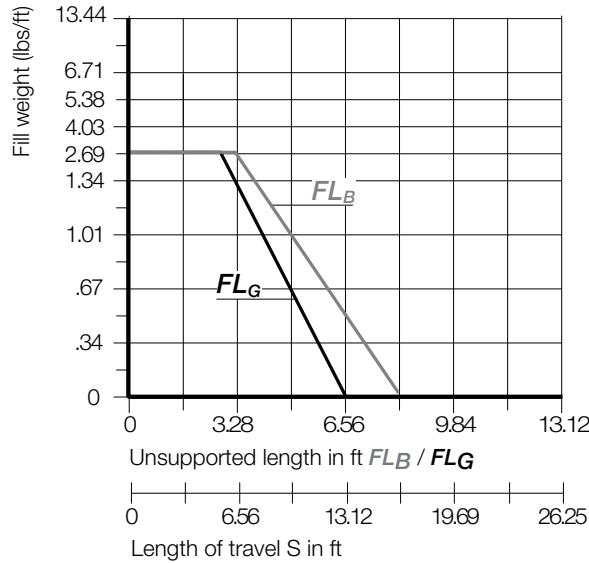
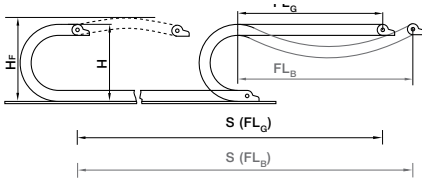
Series E4-21

Installation Dimensions

Short travel, unsupported length

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

Further information ► Design, Chapter 1



Pitch per link = 1.20" (30.5 mm)
 Links per ft (m) = 10.06 (33)
 For center mount applications:
 Chain length = $\frac{S}{2} + K$

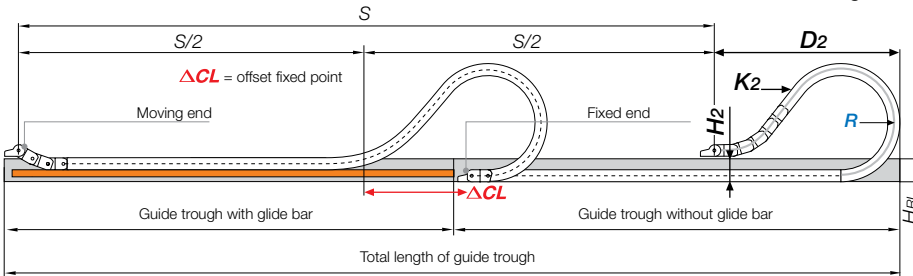
The required clearance height:
 $H_f = H + 1.18$ in. (30 mm) (with 1.01 lbs/ft (1.5 kg/m) fill weight).
 Please consult igus® if space is particularly restricted.

R	1.50 (038)	1.89 (048)	2.48 (063)	2.95 (075)	3.94 (100)	5.91 (150)	7.87 (200)
H	4.09 (104)	4.88 (124)	6.06 (154)	7.01 (178)	8.98 (228)	12.91 (328)	16.85 (428)
D	3.86 (98)	4.25 (108)	4.84 (123)	5.31 (135)	6.30 (160)	8.27 (210)	10.24 (260)
K	7.28 (185)	8.46 (215)	10.24 (260)	11.81 (300)	14.96 (380)	21.06 (535)	27.17 (690)

For long travels with lowered mounting height

Long travel lengths from 32.8 ft. (10m) to max. 394 ft. (120m)

For center mount applications:
 Chain length = $\frac{S}{2} + K_2$



R	1.50 (038)	1.89 (048)	2.48 (063)	2.95 (075)	3.94 (100)	5.91 (150)	7.87 (200)
H ₂	-	-	-	-	5.31 (135)	5.31 (135)	5.31 (135)
D ₂₊₂₅	-	-	-	-	19.29 (490)	20.87 (530)	26.18 (665)
K ₂	-	-	-	-	30.79 (782)	36.22 (920)	43.46 (1104)
ΔACL	-	-	-	-	10.63 (270)	14.57 (370)	18.50 (470)

In case of travels between 13 and 32.8 ft (4 and 10 m) we recommend a longer unsupported length.



E4-21

Short Travels - Unsupported

Unsupported e-chains® feature positive camber over short travels. This must be accounted for when specifying the clearance height. Please refer to **Installation dimensions** for further details.

Legend

- S = Length of travel
 - R = Bending radius
 - H = Nominal clearance height
 - D = Overlength e-chain® radius in final position
 - $K = \pi \cdot R + \text{safety buffer}$
 - H_f = Required clearance height
 - H_{int} = Trough inner height
 - H₂ = *Mounting height
 - D₂ = Overlength - long travels, gliding
 - K₂ = *Add-on
- *If the mounting bracket location is set lower



PDF: igus.com/e-chain-pdfs
 Product information: igus.com/e-chains

Long Travels - Gliding



If the unsupported length is exceeded, the e-chain®/ Tube must glide on itself. This requires a guide trough.

Design, Chapter 1 main catalog



For support of the lower run, see Chapter 9 of the main catalog for the Support Tray tool kit

Technical Data



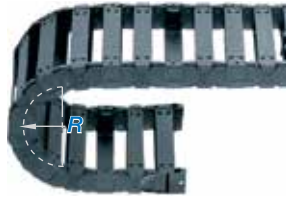
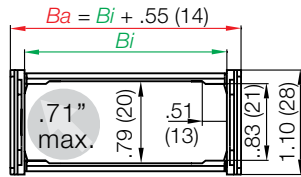
Details of material properties

► Chapter 1

Speed / acceleration FL_G	max. 65.6 ft/s (20 m/s) / max. 656 ft/s ² (200 m/s ²)
Speed / acceleration FL_B	max. 9.84 ft/s (3 m/s) / max. 19.69 ft/s ² (6 m/s ²)
Gliding speed / acceleration (maximum)	max. 32.8 ft/s (10 m/s) / max. 164 ft/s ² (50 m/s ²)
Material - permitted temperature	igumid G / -40°F (-40°C) up to +248°F (+120°C)
Flammability Class, igumid G	VDE 0304 IIC UL94 HB

Series E4-21 - e-chain® with crossbars every link

igus®
e-chain system®



- Crossbars every link
- Removable crossbars
- Separator for locking crossbar (fixable) Standard
- Can be opened from both sides

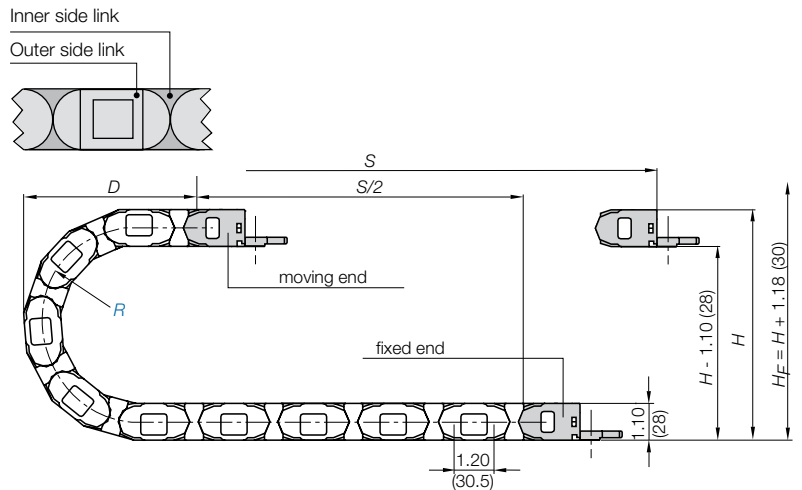
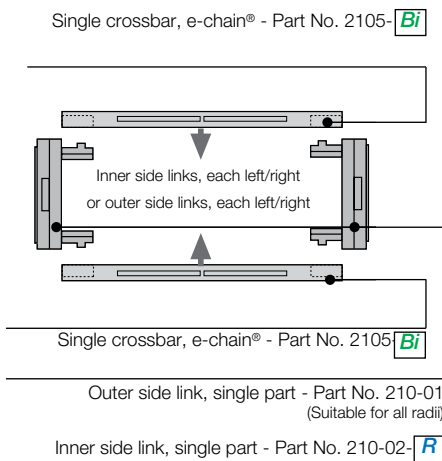
Part Number Structure



- Color - Black
- Bending radius
- Width
- Series



e-chain® as separate parts, links and side plates



Supplement part number with required radius. Example: E4-21-120-100-0
Pitch: 1.20 in. (30.5 mm) per link links/ft(m) = 10.06 (33)

Part Number.	<i>Bi</i>	<i>Ba</i>	Weight
Snap-open inner radius	in. (mm)	in. (mm)	lbs/ft (kg/m)
E4-21-030-□-0	1.18 (30)	1.73 (44)	≈ 0.40 (0.60)
E4-21-040-□-0	1.57 (40)	2.13 (54)	≈ 0.43 (0.64)
E4-21-050-□-0	1.97 (50)	2.52 (64)	≈ 0.45 (0.67)
E4-21-060-□-0	2.36 (60)	2.91 (74)	≈ 0.48 (0.71)
E4-21-070-□-0	2.76 (70)	3.31 (84)	≈ 0.50 (0.74)
E4-21-080-□-0	3.15 (80)	3.70 (94)	≈ 0.52 (0.78)
E4-21-090-□-0	3.54 (90)	4.09 (104)	≈ 0.55 (0.82)
E4-21-100-□-0	3.94 (100)	4.49 (114)	≈ 0.57 (0.85)
E4-21-110-□-0	4.33 (110)	4.88 (124)	≈ 0.60 (0.89)
E4-21-120-□-0	4.72 (120)	5.28 (134)	≈ 0.62 (0.92)
E4-21-140-□-0	5.51 (140)	6.06 (154)	≈ 0.67 (0.99)

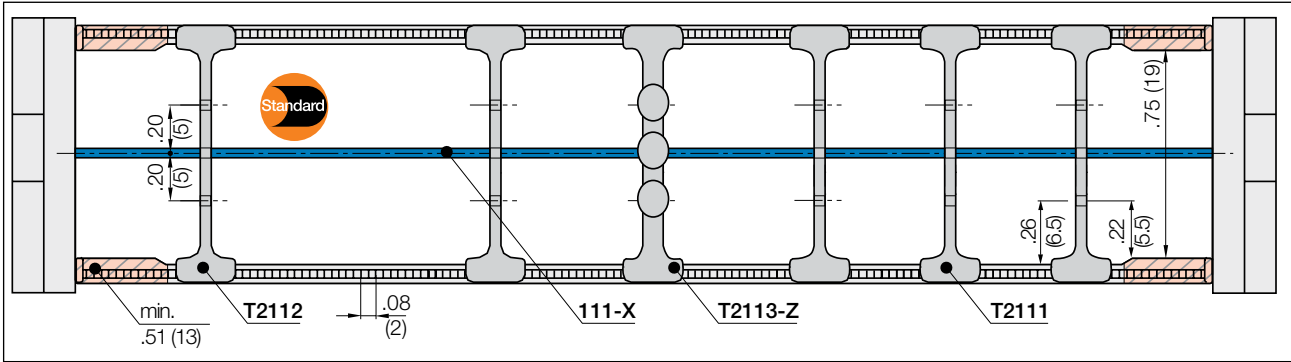
Choose from the radii below for all of the above sizes

Radius (mm) Example: E4-21-120-100-0

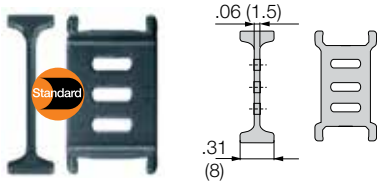
	038	048	063	075	100	150	200
<i>R</i>	1.50 (038)	1.89 (048)	2.48 (063)	2.95 (075)	3.94 (100)	5.91 (150)	7.87 (200)
<i>H</i>	4.09 (104)	4.88 (124)	6.06 (154)	7.01 (178)	8.98 (228)	12.91 (328)	16.85 (428)
<i>D</i>	3.86 (98)	4.25 (108)	4.84 (123)	5.31 (135)	6.30 (160)	8.27 (210)	10.24 (260)
<i>K</i>	7.28 (185)	8.46 (215)	10.24 (260)	11.81 (300)	14.96 (380)	21.06 (535)	27.17 (690)

Telephone 1-800-521-2747

Internet: igus.com
email: sales@igus.com
QuickSpec: igus.com/quickSpec



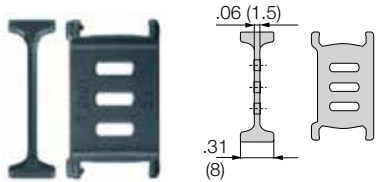
Note: Please maintain a lateral spacing of .51" (13 mm) between the separators and the side links. In the standard configuration separators are assembled every 2nd e-chain® link



Separator, wide base

Unassembled	Part No. T2102
Assembled	Part No. T2112

- **Standard separator T2102**
 is used when vertical separation is required. Due to its slot, it allows basic vertical/horizontal shelving arrangements.

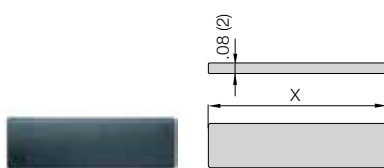


Separator, narrow head

Unassembled	Part No. T2101
Assembled	Part No. T2111

- **Notch separator T2101**
 Can be locked in .08 (2mm) increments due to notches on the crossbars of the e-chain®. The separator cannot slide sideways during operation.

Full-width shelves - for the standard interior separation



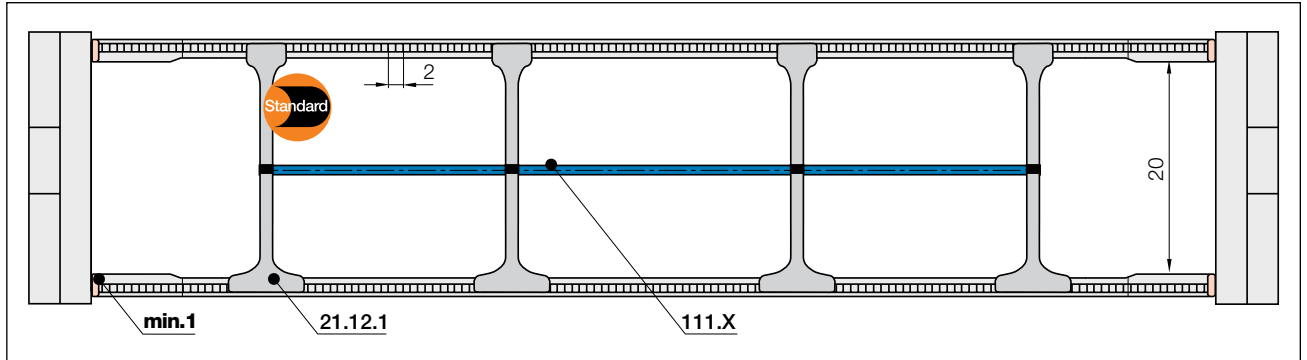
Full width shelf

Unassembled	Part No. 110-X
Assembled	Part No. 111-X

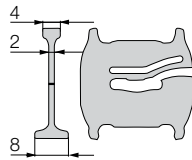
- **Full width shelf 110-X**
 is used in applications with many thin cables with similar diameters. Full width shelves can be arranged at 3 different heights in .20" (5 mm) increments.

Width X in. (mm)	Part No. Unassembled	Part No. Assembled	Width X in. (mm)	Part No. Unassembled	Part No. Assembled	Width X in. (mm)	Part No. Unassembled	Part No. Assembled
1.18 (30)	110-30	111-30	2.76 (70)	110-70	111-70	4.33 (110)	110-110	111-110
1.57 (40)	110-40	111-40	3.15 (80)	110-80	111-80	4.72 (120)	110-120	111-120
1.97 (50)	110-50	111-50	3.54 (90)	110-90	111-90			
2.36 (60)	110-60	111-60	3.94 (100)	110-100	111-100			





Note: Please maintain a lateral spacing of .51" (13 mm) between the separators and the side links. In the standard configuration separators are assembled every 2nd e-chain® link



Lean Separator

Unassembled	Part No. 21-12
Assembled	Part No. 21-12-1



- **Lean separators 31-12**
New design allows extremely fast fitting of shelves in several layers, which significantly reduces assembly time. Enables extremely fast replacement of individual cables in a very full e-chain®.
- **Lean separator design - several layers of cables fitted quickly, save up to 50%* assembly time**
(*Lean separator vs. standard separator - measured on a 4m long e-chain® fitted with 12 cables in the igus® harnessing factory)

Separator with integrated strain relief teeth

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

Part No. T2103.Z. [More information](#) ► Chapter 10



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](#) ► Chapter 9



Reduce assembly time - E4 e-chain® opener

- e-chain® opener tools for easy opening and closing of e-chains®
- Simple opening and closing of e-chain® crossbars
- Also for use in hard to reach locations
- Significant assembly time reduction

[More information](http://www.igus.com/E4savetime) ► www.igus.com/E4savetime



e-chain system® E4-1

Series E4-21

Mounting Brackets - Polymer



E4-21

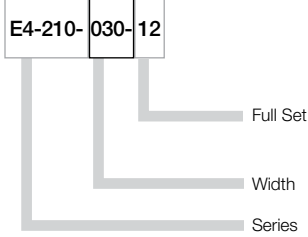


Option: pivoting

- Recommended for unsupported and gliding applications
- KMA mounting bracket with attachment points on all sides
- Well suited for tight installation conditions
- Integrated strain relief possible



Part Number Structure



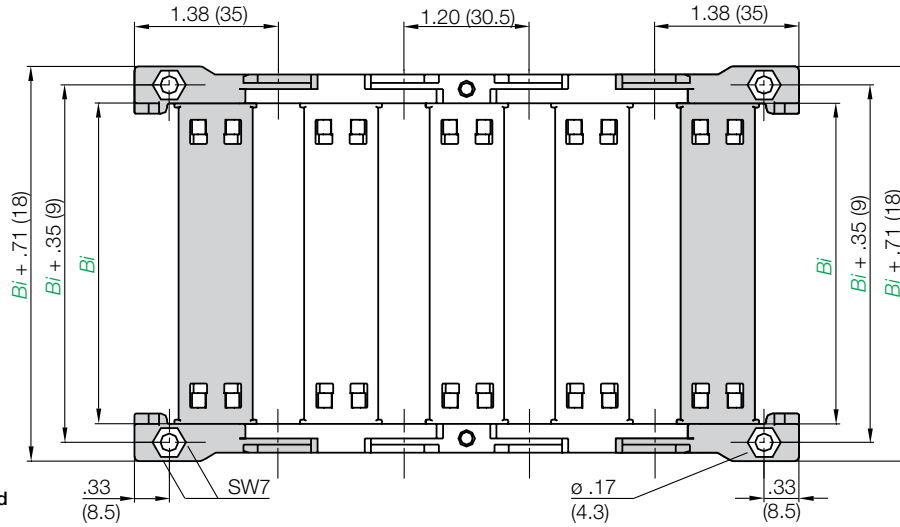
Full set, for both ends:

E4-210-030-12

Single-part order:

E4-210-030-1 Mounting bracket moving end

E4-210-030-2 Mounting bracket fixed end



Width	Part No. Full Set	Bi in. (mm)	Width	Part No. Full Set	Bi in. (mm)
-030	E4-210-030-12	1.18 (30)	-090	E4-210-090-12	3.54 (90)
-040	E4-210-040-12	1.57 (40)	-100	E4-210-100-12	3.94 (100)
-050	E4-210-050-12	1.97 (50)	-110	E4-210-110-12	4.33 (110)
-060	E4-210-060-12	2.36 (60)	-120	E4-210-120-12	4.72 (120)
-070	E4-210-070-12	2.75 (70)	-140	E4-210-140-12	5.51 (140)
-080	E4-210-080-12	3.15 (80)			



Special feature mounting brackets KMA: Series E4-21

- Mounting brackets with attachment points on all sides
- Mounting hole is countersunk for socket head screw (M4) and hexagon nut (M4)
- **Attention:** Series E4-21 always needs to end with an inner link (odd number of links)



igus®
e-chain system®

Telephone 1-800-521-2747

Internet: igus.com
email: sales@igus.com
QuickSpec: igus.com/quickspec

E4-28
R4-28



e-chain system® E4-1 Series E4-28/R4-28



Price Index



Special Options Available

- Low noise version available with special rubber pads
- Cleanroom test upon request
- ESD classification: Electrically conductive ESD/ATEX version upon request

Assembly Tips



Opening e-chains®: Remove crossbars and clips - Insert screwdriver into the slot, push down, release by lever action



Remove lids/bottoms (e-tubes) - Insert screwdriver into the slot, release by lever action

Other Installation Methods

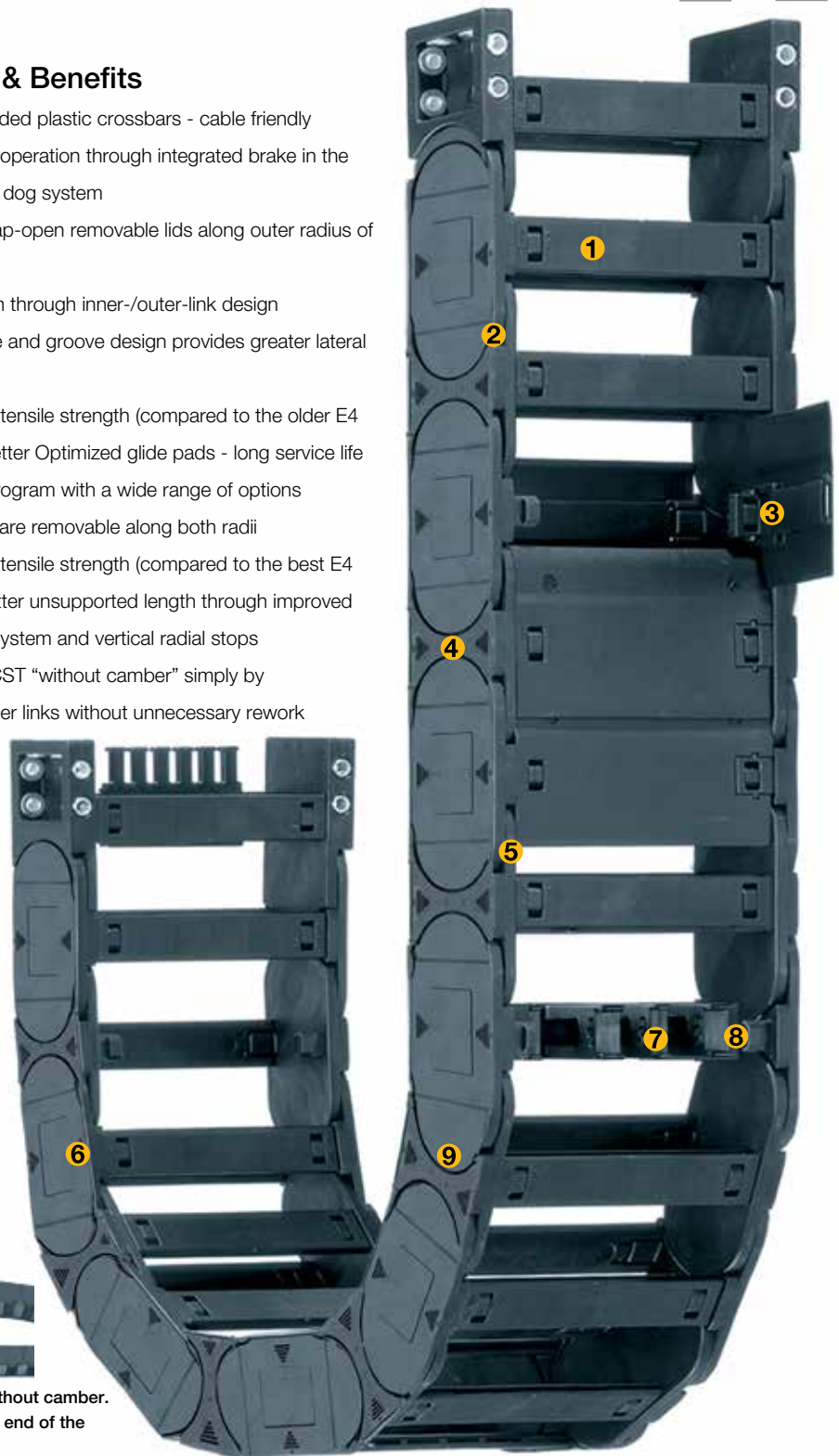
- Vertical, hanging ≤ 262 ft (80 m)
- Vertical, standing ≤ 16.4 ft (5 m)
- Side-mounted, un_supp. ≤ 3.94 ft (1.2 m)
- Rotary requires further calculation

Usage Guidelines

- If quiet operation is required
- If very high speeds and/or accelerations are required
- Long travels
- High fill weights
- When an extremely low vibration e-chain®/e-tube is required
 - Series E6-29
 - Series R6-29
- When an economic one-sided snap-open e-chain®/e-tube is required
 - Series 2400/2450/2480/2500

Features & Benefits

- Wide, rounded plastic crossbars - cable friendly
- Low-noise operation through integrated brake in the radial stop dog system
- Hinged snap-open removable lids along outer radius of e-tube
- Straight run through inner-/outer-link design
- The tongue and groove design provides greater lateral stability
- 15% more tensile strength (compared to the older E4 series), better Optimized glide pads - long service life
- Shelving program with a wide range of options
- Crossbars are removable along both radii
- 15% more tensile strength (compared to the best E4 series), better unsupported length through improved stop dog system and vertical radial stops
- Version NCST "without camber" simply by turning outer links without unnecessary rework

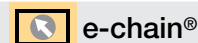


Also available without camber. Add NCST to the end of the part number.
Ex: E4-28-300-250NCST

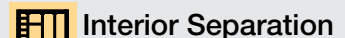
Order Example: Complete e-chain®

Please indicate chain length or number of links. Example:

9.84 ft (3 m) **E4-28-300-250-0**



With 2 separators **2211** assembled every 2nd link



1 Set **E4-280-300-12**



e-chain system® E4-1

Series E4-28/R4-28

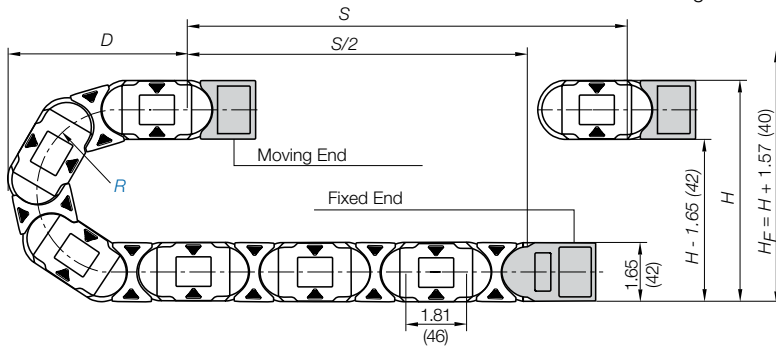
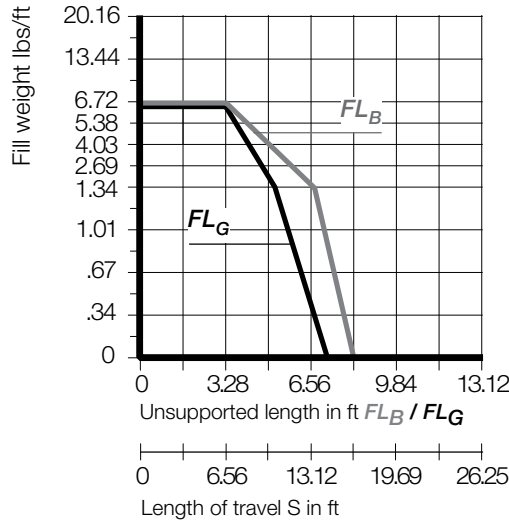
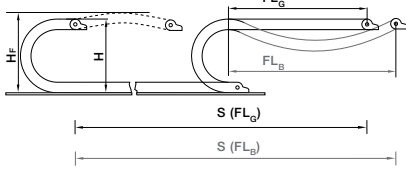
Installation Dimensions



E4-28
R4-28

Short travel, unsupported length

- FL_B = unsupported with permitted sag
 - FL_G = unsupported with straight upper run
- Further information ► Design, Chapter 1



Pitch per link = 1.81" (46 mm)
Links per ft (m) = 6.71 (22)
For center mount applications:
Chain length = $\frac{S}{2} + K$

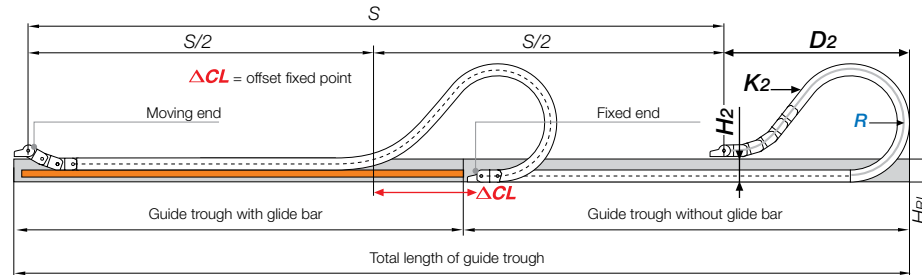
The required clearance height: $H_f = H +$ (with .67 lbs/ft (1.0 kg/m) fill weight).
Please consult igus® if space is particularly restricted.

R	2.17 (055)	2.48 (063)	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)	9.53 (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)

For long travels with lowered mounting height

Long travel lengths from 32.8 ft.(10m) to max. 656 ft. (200m)

For center mount applications:
Chain length = $\frac{S}{2} + K_2$



R	2.17 (055)	2.48 (063)	2.95 (075)	3.94 (100)	4.92 (125)	5.91 (150)	6.89 (175)	7.87 (200)	9.84 (250)
H ₂	-	-	-	6.22 (158)	6.22 (158)	6.22 (158)	6.22 (158)	6.22 (158)	6.22 (158)
D ₂	-	-	-	13.78 (350)	19.29 (490)	20.87 (530)	26.18 (665)	28.74 (730)	36.81 (935)
K ₂	-	-	-	23.54 (598)	30.79 (782)	36.22 (920)	43.46 (1104)	48.89 (1242)	63.39 (1610)
ΔCL	-	-	-	5.91 (150)	10.63 (270)	11.81 (300)	15.75 (400)	17.72 (450)	23.62 (600)

In case of travels between 13 and 32.8 ft (4 and 10 m) we recommend a longer unsupported length.

Short Travels - Unsupported

Unsupported e-chains® feature positive camber over short travels. This must be accounted for when specifying the clearance height. Please refer to **Installation dimensions** for further details.

Legend

- S = Length of travel
- R = Bending radius
- H = Nominal clearance height
- D = Overlength e-chain® radius in final position
- $K = \pi \cdot R + \text{safety buffer}$
- H_f = Required clearance height
- H_{in} = Trough inner height
- H₂ = *Mounting height
- D₂ = Overlength - long travels, gliding
- K₂ = *Add-on

*If the mounting bracket location is set lower

Long Travels - Gliding



If the unsupported length is exceeded, the e-chain®/ Tube must glide on itself. This requires a guide trough.

Design, Chapter 1



For support of the lower run, see **Chapter 9** of the main catalog for the **Support Tray** tool kit

Technical Data



Details of material properties

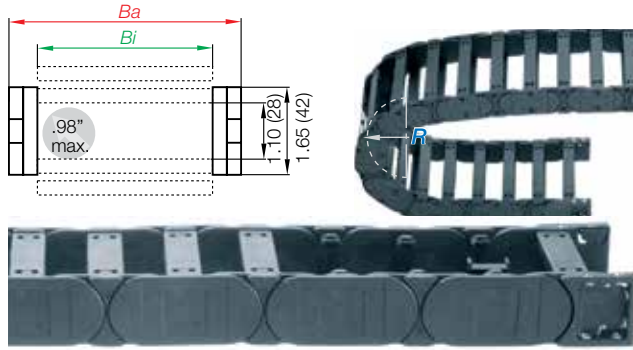
► Chapter 1



PDF: igus.com/e-chain-pdfs
Product information: igus.com/e-chains

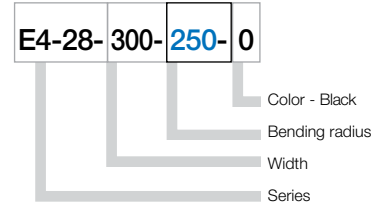


Series E4-28 - e-chain® with crossbars every link

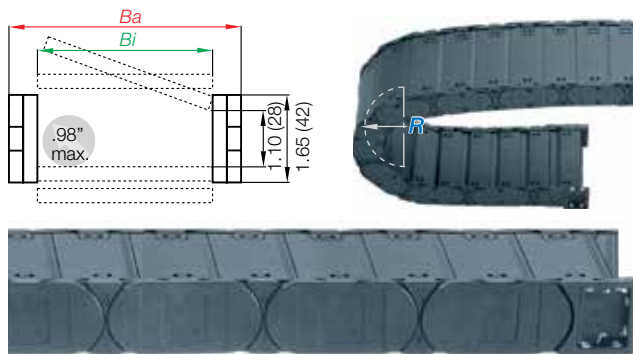


- Robust solution with crossbars every link
- Can be opened from two sides
- Removable crossbars

Part Number Structure

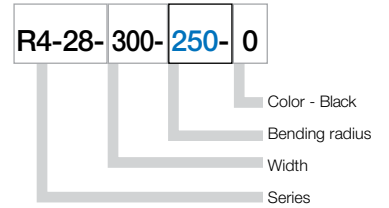


Series R4-28 - fully enclosed e-tube

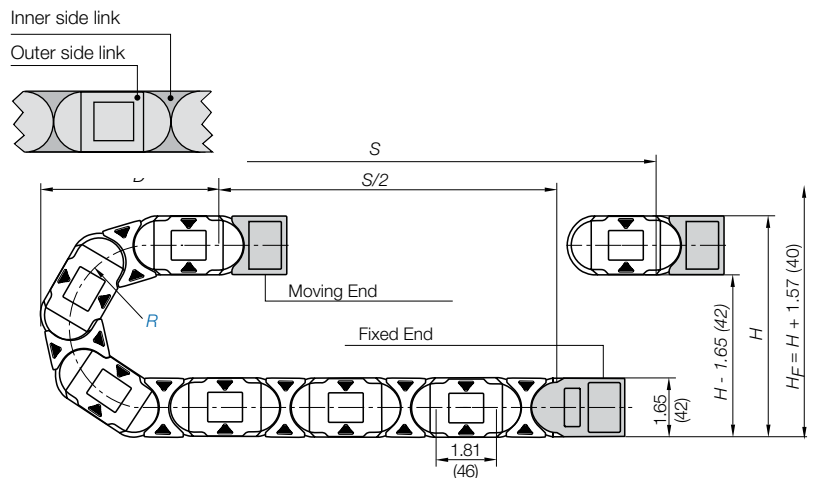
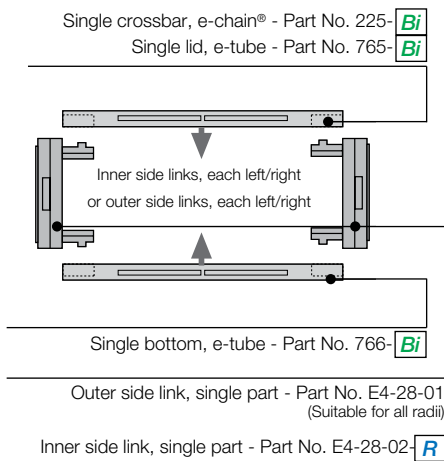


- Fully enclosed
- Excellent cable and hose protection against dirt
- Protection against hot chips
- Lids along inner radius are completely removable
- Lids along the outer radius are single-sided, snap open, hinged on one side as well as completely removable

Part Number Structure



e-chain® as separate parts, links and side plates



e-chain system® E4-1

Series E4-28/R4-28

Product Range



E4-28
R4-28

Supplement part number with required radius. Example: E4-28-300--0
Pitch: 1.81 in. (46mm) per link links/ft (m) = 6.71 (22)

Part Number.				<i>Bi</i>	<i>Ba</i>	E4-28	R4-28
Crossbars	Tube			in. (mm)	in. (mm)	lbs/ft (kg/m)	lbs/ft (kg/m)
Every link	Version						
E4-28-040-		<input type="text" value=""/>	-0	1.57 (40)	2.36 (60)	≈ 0.71 (1.06)	–
E4-28-050-	R4-28-050-	<input type="text" value=""/>	-0	1.97 (50)	2.76 (70)	≈ 0.75 (1.11)	≈ 1.48 (2.20)
E4-28-052		<input type="text" value=""/>	-0	2.05 (52)	2.83 (72)	≈ 0.76 (1.13)	–
E4-28-062-		<input type="text" value=""/>	-0	2.44 (62)	3.23 (82)	≈ 0.79 (1.17)	–
E4-28-070-		<input type="text" value=""/>	-0	2.76 (70)	3.54 (90)	≈ 0.81 (1.20)	–
E4-28-075-	R4-28-075	<input type="text" value=""/>	-0	2.95 (75)	3.74 (95)	≈ 0.83 (1.23)	≈ 1.56 (2.32)
E4-28-087-		<input type="text" value=""/>	-0	3.43 (87)	4.21 (107)	≈ 0.86 (1.28)	–
E4-28-100-	R4-28-100-	<input type="text" value=""/>	-0	3.94 (100)	4.72 (120)	≈ 0.92 (1.37)	≈ 1.71 (2.54)
E4-28-125-	R4-28-125-	<input type="text" value=""/>	-0	4.92 (125)	5.71 (145)	≈ 1.01 (1.51)	≈ 1.87 (2.78)
E4-28-150-	R4-28-150-	<input type="text" value=""/>	-0	5.91 (150)	6.69 (170)	≈ 1.08 (1.61)	≈ 2.03 (3.02)
E4-28-175-	R4-28-175-	<input type="text" value=""/>	-0	6.89 (175)	7.68 (195)	≈ 1.15 (1.71)	≈ 2.19 (3.26)
E4-28-200-	R4-28-200-	<input type="text" value=""/>	-0	7.87 (200)	8.66 (220)	≈ 1.24 (1.84)	≈ 2.35 (3.50)
E4-28-225-	R4-28-225-	<input type="text" value=""/>	-0	8.86 (225)	9.65 (245)	≈ 1.34 (1.99)	≈ 2.57 (3.82)
E4-28-250-	R4-28-250-	<input type="text" value=""/>	-0	9.84 (250)	10.63 (270)	≈ 1.44 (2.14)	≈ 2.67 (3.98)
E4-28-275-		<input type="text" value=""/>	-0	10.83 (275)	11.61 (295)	≈ 1.53 (2.27)	–
E4-28-300-	R4-28-300-	<input type="text" value=""/>	-0	11.81 (300)	12.60 (320)	≈ 1.61 (2.39)	≈ 3.00 (4.46)

Choose from the radii below for all of the above sizes
Radius (mm) Example: E4-28-300--0

	055*	063*	075	100	125	150	175	200	250
<i>R</i>	2.17 (055*)	2.48 (063*)	2.95 (075)	3.94 (100)	4.92 (125)	5.91 (150)	6.89 (175)	7.87 (200)	9.84 (250)
<i>H</i>	5.98 (152)	6.61 (168)	7.56 (192)	9.53 (242)	11.50 (292)	13.46 (342)	15.43 (392)	17.40 (442)	21.34 (542)
<i>D</i>	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)
<i>K</i>	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)

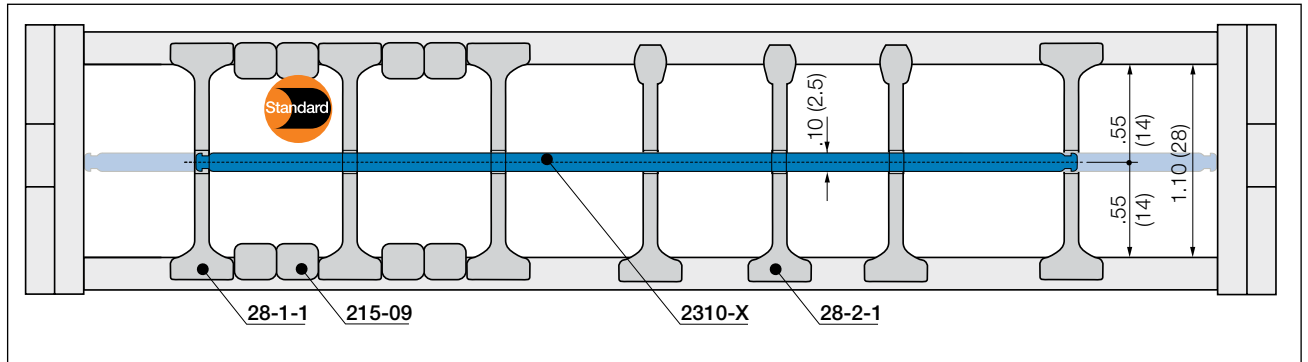
* This radius is not available for the R4-28 Series

0 = Standard color black.

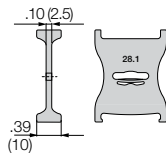
For other colors see Chapter 1

PDF: igus.com/e-chain-pdfs
Product information: igus.com/e-chains





In the standard configuration separators are assembled every 2nd e-chain® link

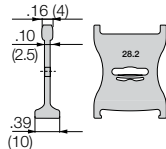


Separator, wide base

Unassembled	Part No. 28-1
Assembled	Part No. 28-1-1

- **Standard separator 28-1 for all applications**

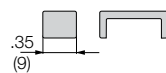
Separator with wide base for maximum locking strength and safe standing in e-chains®.



Separator, narrow head

Unassembled	Part No. 28-2
Assembled	Part No. 28-2-1

- **Separator 28-2 For even faster installation**
is used when vertical and horizontal separation is required. Due to its slot, it allows basic vertical/horizontal shelving arrangements.

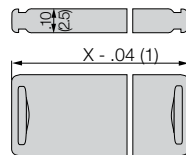


Spacer for e-chains®

Unassembled	Part No. 205-09
Assembled	Part No. 215-09

- **Spacer 205-09**
Separators can be fixed in position by spacers. The available interior height is reduced by .08 (2 mm) per spacer (.16 (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.)

Lockable full-width shelves - for the standard interior separation



Full width shelf, lockable

Unassembled	Part No. 2300-X
Assembled	Part No. 2310-X

- **Full width shelf, lockable**
is used when vertical and horizontal separation is required. Due to its slot, it allows basic vertical/horizontal shelving arrangements.

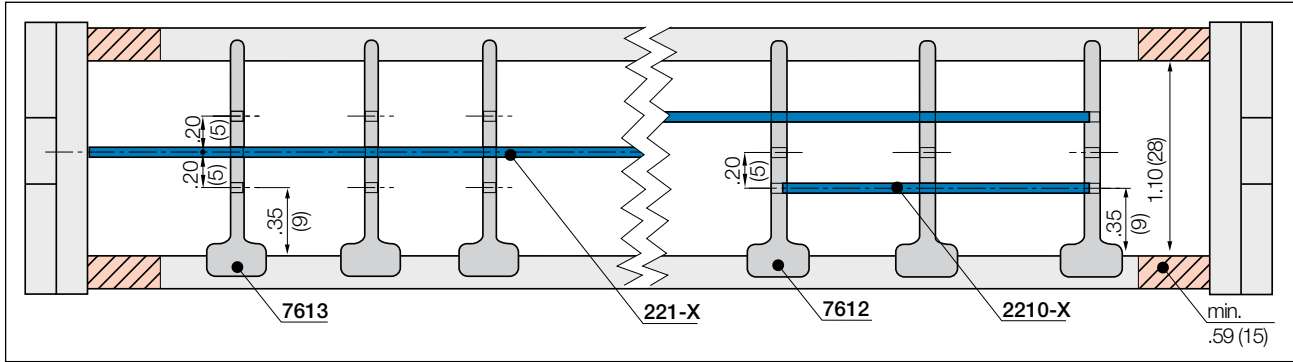
Width X in. (mm)	Part No. Unassembled	Part No. Assembled	Width X in. (mm)	Part No. Unassembled	Part No. Assembled	Width X in. (mm)	Part No. Unassembled	Part No. Assembled
015	2300-15	2310-15	060	2300-60	2310-60	087	2300-87	2310-87
025	2300-25	2310-25	062	2300-62	2310-62	090	2300-90	2310-90
030	2300-30	2310-30	065	2300-65	2310-65	100	2300-100	2310-100
038	2300-38	2310-38	070	2300-70	2310-70	103	2300-103	2310-103
040	2300-40	2310-40	075	2300-75	2310-75	110	2300-110	2310-110
050	2300-50	2310-50	077	2300-77	2310-77	120	2300-120	2310-120
057	2300-57	2310-57	080	2300-80	2310-80	125	2300-125	2310-125

Separator with integrated strain relief teeth

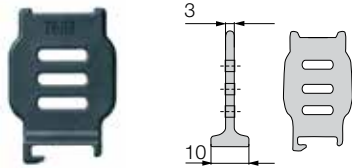
- Can be integrated into the mounting bracket or placed at any point in the e-chain®
- Combines strain relief and interior separation, for restricted space conditions
- Strain relief separator is easy to assemble without any screws

Part No. T2103.Z. More information ► Chapter 10





Note e-tube: Please maintain a lateral spacing of .59" (15 mm) between the separators and the side links. In the standard configuration separators are assembled every 2nd e-chain® link

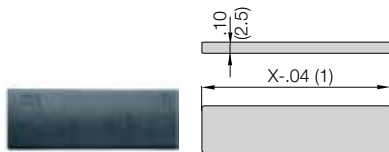


Separator, e-tubes only

Unassembled	Part No. 7603
Assembled	Part No. 7613

- **Slotted separator for full-width shelves**
is used when vertical separation is required. Due to its slot, it allows basic vertical/horizontal shelving arrangements.

Full-width shelves - for the standard interior separation

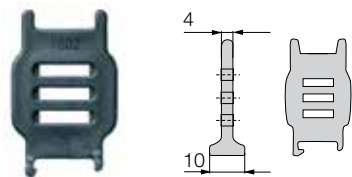


Full width shelf

Unassembled	Part No. 220-X
Assembled	Part No. 221-X

- **Full width shelf 220-X**
is used in applications with many thin cables with similar diameters. Full width shelves can be arranged at 3 different heights in .20" (5 mm) increments.

Width X in. (mm)	Part No. Unassembled	Part No. Assembled	Width X in. (mm)	Part No. Unassembled	Part No. Assembled	Width X in. (mm)	Part No. Unassembled	Part No. Assembled
1.57 (40)	220-40	221-40	2.95 (75)	220-75	221-75	5.91 (150)	220-150	221-150
1.97 (50)	220-50	221-50	3.43 (87)	220-87	221-87	6.89 (175)	220-175	221-175
2.44 (62)	220-62	221-62	3.94 (100)	220-100	221-100	7.87 (200)	220-200	221-200
2.76 (70)	220-70	221-70	1.92 (125)	220-125	221-125			

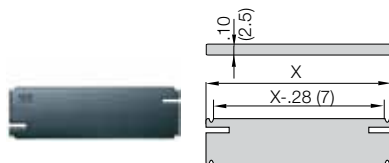


Slotted separator

Unassembled	Part No. 7602
Assembled	Part No. 7612

- **Slotted separator for partial shelves 7602**
Can be locked in .08 (2mm) increments due to notches on the crossbars of the e-chain®. The separator cannot slide sideways during operation.

Shelves - for the standard interior separation



Shelf for e-tubes

Unassembled	Part No. 2200-X
Assembled	Part No. 2210-X

- **Shelves 2200-X**
is used in applications with many cables with different diameters. Shelves can be fitted at different heights.

Width X	Part No. Unassembled	Part No. Assembled	Width X	Part No. Unassembled	Part No. Assembled	Width X	Part No. Unassembled	Part No. Assembled
018	2200-18	2210-40	043	2200-43	2210-87	088	2200-88	2210-200
023	2200-23	2210-50	048	2200-48	221-100	099	2200-99	2210-200
028	2200-28	2210-62	058	2200-58	2210-125	124	2200-124	2210-200
033	2200-33	2210-70	068	2200-68	2210-150	149	2200-149	2210-200
038	2200-38	2210-75	073	2200-73	2210-175			

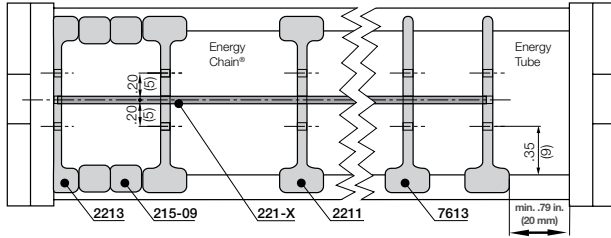




Option 1: Vertical separators and spacers

Vertical separators are used if a vertical subdivision of the e-chain® interior is required. By standard, vertical separators are assembled every other e-chain® link.

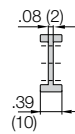
NOTE: Observe a lateral spacing of at least .79 in. (20mm) for e-tubes and



STANDARD



Vertical separator
2201



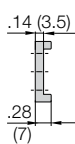
Vertical separator (Chain only)

Unassembled	Part No. 2201
Assembled	Part No. 2211

- **Vertical separator 2201 for e-chains®**
This separator is used for vertical subdivision. Because they are slotted, separators can also be used horizontally to form simple compartments.



Side plate
2203



Side plate (chain only)

Unassembled	Part No. 2203
Assembled	Part No. 2213

- **Side plate 2203 for e-chains®**
Used in conjunction with full-width shelf 220-X, this option is used for applications involving many thin cables with similar diameters.



Spacers
205-09

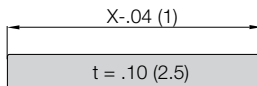


Spacer (chain only)

Unassembled	Part No. 205-09
Assembled	Part No. 215-09

- **NOTE ON SPACERS**
Vertical separators are adjustable, but can be fixed in position by means of a spacer. Spacers are most often necessary for side mounted applications. The available inner height is reduced by .08" (2mm) **per spacer** (for example if one spacer is placed on either side of the separator, the overall inner height is reduced by .16" (4mm)). To avoid this, place the spacers on the **outside** of the opening crossbar (**not for long travels**).

Full-width shelf 220-XX



Width X in. (mm)	Part No.		Width X in. (mm)	Part No.	
	Unassembled	Assembled		Unassembled	Assembled
1.57 (040)	220-40	221-40	3.94 (100)	220-100	221-100
1.97 (050)	220-50	221-50	4.92 (125)	220-125	221-125
2.44 (062)	220-62	221-62	5.91 (150)	220-150	221-150
2.76 (070)	220-70	221-70	6.89 (175)	220-175	221-175
2.95 (075)	220-75	221-75	7.87 (200)	220-200	221-200
3.43 (087)	220-87	221-87			

e-chain system® E4-1

Series R4-28

Interior Separation - Previous Generation



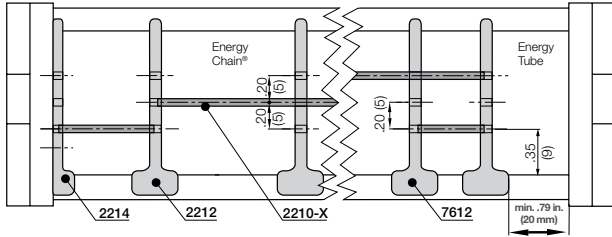
E4-28
R4-28



Option 2: Shelves

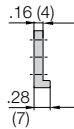
e-chains® and e-tubes can be subdivided both vertically and horizontally using the various interior separation elements.

► **Design, Chapter 1**, for layout recommendations.



- **Side plates 2204**

This component is used to form the basic pattern of a shelf system.



Side plate

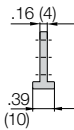
Unassembled	Part No. 2204
Assembled	Part No. 2214

Side plate
2204



- **Vertical separator 2202 for e-chain®**

This component is used to form the basic pattern of a shelf system.



Vertical separator (chain only)

Unassembled	Part No. 2202
Assembled	Part No. 2212

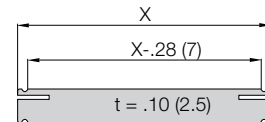
Vertical separator
2202



Shelves 420-XX

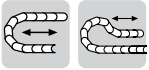
These components form the basic pattern of a shelf system. Shelves of various widths can be arranged at 3 different heights in .20" (5mm) increments

Width X in. (mm)	Part No. Unassembled	Part No. Assembled	Width X in. (mm)	Part No. Unassembled	Part No. Assembled
.71 (18)	2200-18	2210-18	2.28 (58)	2200-58	2210-58
.91 (23)	2200-23	2210-23	2.68 (68)	2200-68	2210-68
1.10 (28)	2200-28	2210-28	2.87 (73)	2200-73	2210-73
1.30 (33)	2200-33	2210-33	3.46 (88)	2200-88	2210-88
1.50 (38)	2200-38	2210-38	3.90 (99)	2200-99	2210-99
1.69 (43)	2200-43	2210-43	4.88 (124)	2200-124	2210-124
1.89 (48)	2200-48	2210-48	5.87 (149)	2200-149	2210-149



PDF: igus.com/e-chain-pdfs
Product information: igus.com/e-chains

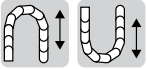
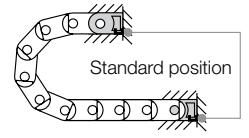
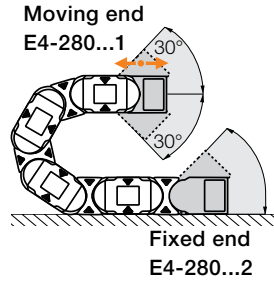




Standard

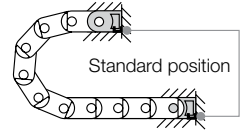
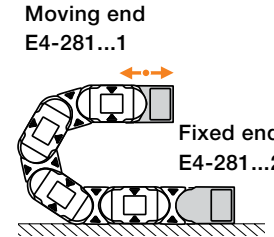
Option 1: pivoting

- Unsupported and gliding applications
- mounting capabilities on all sides
- Bolted connection outside of chain cross-section
- Space-restricted conditions
- corrosion-resistant

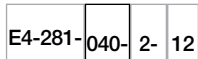


Option 2: locking

- Vertical hanging/standing applications
- For high accelerations
- Universally mountable
- Various mounting positions
- Corrosion-resistant



Part Number Structure



Full Set
Complete Set
Width
E4-280 = Pivoting
E4-281 = Locking

Full set, for both ends:

E4-280-040-12

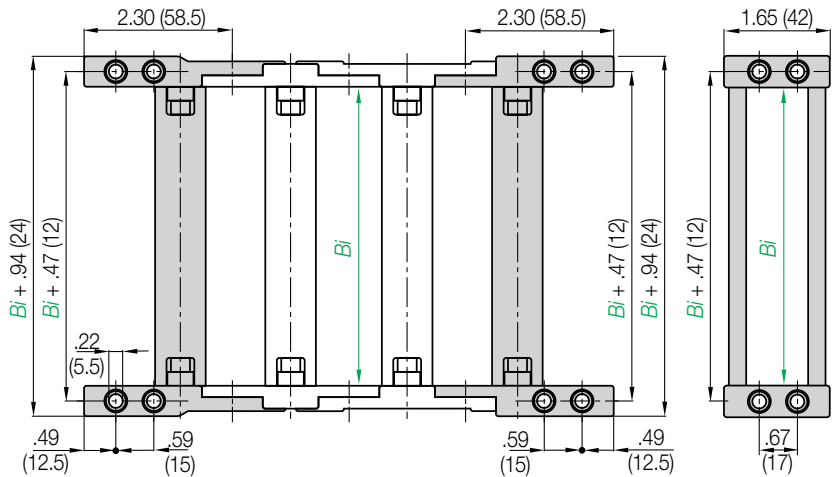
Single-part order:

E4-280-040-1

Mounting bracket moving end

E4-280-040-2

Mounting bracket fixed end



Part number example is shown for pivoting brackets.
For locking brackets change part number to E4-281

Part No. Full Set (pivoting)
Series E4-28
E4-28-Width-12

Width	Part No. Full Set			Bi in. (mm)
	Pivoting	Locking		
-040	E4-280	E4-281	-040-12	1.57 (40)
-050	E4-280	E4-281	-050-12	1.97 (50)
-052	E4-280	E4-281	-052-12	2.05 (52)
-062	E4-280	E4-281	-062-12	2.44 (62)
-070	E4-280	E4-281	-070-12	2.76 (70)
-075	E4-280	E4-281	-075-12	2.95 (75)
-087	E4-280	E4-281	-087-12	3.43 (87)
-100	E4-280	E4-281	-100-12	3.94 (100)
-125	E4-280	E4-281	-125-12	4.92 (125)
-150	E4-280	E4-281	-150-12	5.91 (150)
-175	E4-280	E4-281	-175-12	6.89 (175)
-200	E4-280	E4-281	-200-12	7.87 (200)
-225	E4-280	E4-281	-225-12	8.86 (225)
-250	E4-280	E4-281	-250-12	9.84 (250)
-275	E4-280	E4-281	-275-12	10.83 (275)
-300	E4-280	E4-281	-300-12	11.81 (300)

Due to the design of the E4-28 series chains,
please note the following when ordering brackets:

Even number of links = full set, part number ending in -12
Odd number of links = 2 pieces, part number ending in -1

Strain relief tiwrap plate
Part No. 2050-Z can be fixed
on the last crossbar.
Details ► chapter 10 main catalog

Part. No.	Width [mm]	Number of teeth
2050.Z	60	6

e-chain system® E4-1

Series R4-28

Mounting Bracket - KMA

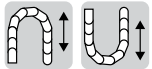
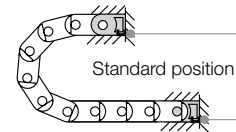
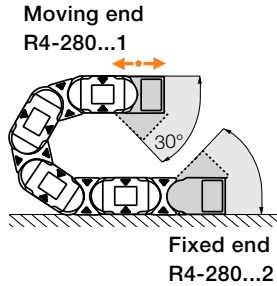


E4-28
R4-28



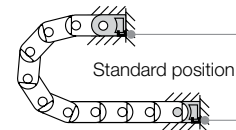
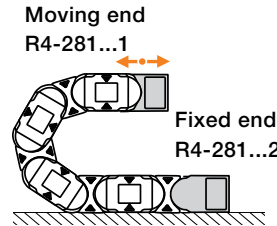
Option 1: pivoting

- Unsupported and gliding applications
- mounting capabilities on all sides
- Bolted connection outside of chain cross-section
- Space-restricted conditions
- corrosion-resistant



Option 2: locking

- Vertical hanging/standing applications
- For high accelerations
- Universally mountable
- Various mounting positions
- Corrosion-resistant



Part Number Structure

R4-281-040-2-12

- Full Set
- Complete Set
- Width
- R4-280 = Pivoting
- R4-281 = Locking

Full set, for both ends:

R4-280-040-12

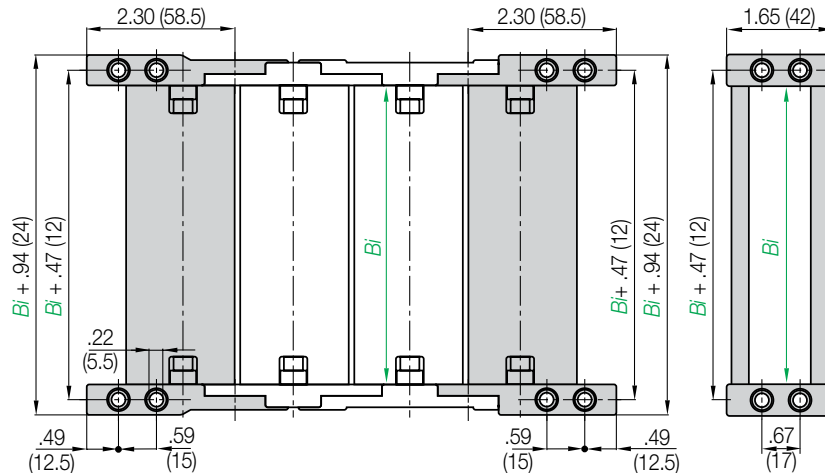
Single-part order:

R4-280-040-1

Mounting bracket moving end

R4-280-040-2

Mounting bracket fixed end




Part number example is shown for pivoting brackets.
For locking brackets change part number to R4-281

Part No. Full Set (pivoting)
Series R4-28
R4-28-Width-12

Width	Part No. Full Set		Bi	in. (mm)
	Pivoting	Locking		
-050	R4-280	R4-281	-050-12	1.97 (50)
-075	R4-280	R4-281	-075-12	2.95 (75)
-100	R4-280	R4-281	-100-12	3.94 (100)
-125	R4-280	R4-281	-125-12	4.92 (125)
-150	R4-280	R4-281	-150-12	5.91 (150)
-175	R4-280	R4-281	-175-12	6.89 (175)
-200	R4-280	R4-281	-200-12	7.87 (200)
-225	R4-280	R4-281	-225-12	8.86 (225)
-250	R4-280	R4-281	-250-12	9.84 (250)
-300	R4-280	R4-281	-300-12	11.81 (300)

Due to the design of the E4-28 series chains,
please note the following when ordering brackets:

Even number of links = full set, part number ending in -12
Odd number of links = 2 pieces, part number ending in -1



Strain relief tiwrap plate
Part No. 2050-Z can be fixed on the last crossbar.
Details ► chapter 10 main catalog

Part. No.	Width [mm]	Number of teeth
2050.Z	60	6

PDF: igus.com/e-chain-pdfs
Product information: igus.com/e-chains



Guide troughs are used with applications where the upper run of the e-chain® glides on the lower run. If using igus® steel guide troughs, the following components are required:

- Full travel length of guide trough
Part No. 96-30
- 1/2 travel length of glide bars
Part No. 92-01
- Installation sets as end connectors
Part No. 95-50-XX

-XX indicates the length of the profile rail on which the guide trough is mounted. The values and part numbers are specified in the table on the left. Standard length of the trough components and glide bars is 6.56 ft (2m). The required overall length of the guide trough directly correlates to the length of travel.

Example:

Length of travel 164 ft. (50 m)
Center mounted

Required guide troughs:

164 ft (50 m) guide trough,
82 ft (25 m) glide bar
= 25 sections of 6.56 ft (2 m) guide trough

Part No. 96-30

= 13 sections of 6.56 ft. (2 m) glide bar

Part No. 92-01

Required number of installation sets

= Number of guide trough components + 1
= 25 + 1 = 26

Part number of the installation sets

95-50-XXX

Example: 95-50-400 for
15.75 (400 mm) long profile rail



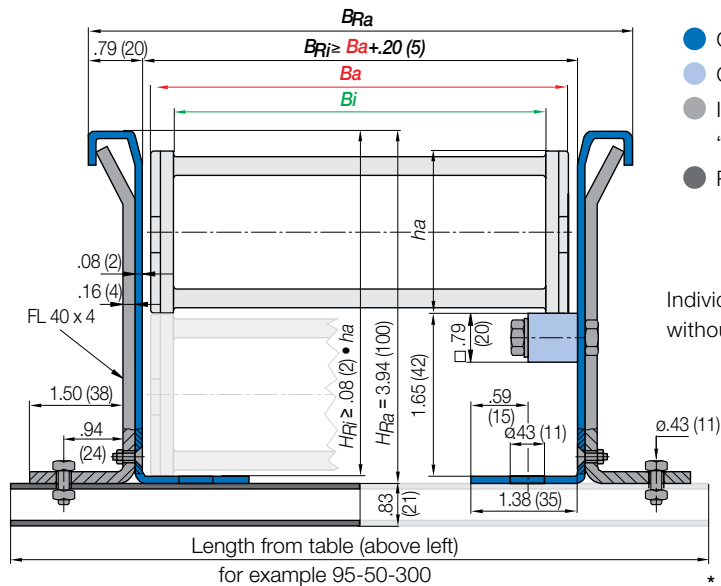
Left: Guide trough with glide bars
Right: Guide troughs without glide bars



Installation sets as section connectors

Width of Crossbar
E4-28-040-200-0

	B_{Ri}	Installation Part No.
-040	2.56 (65)	*
-050	2.95 (75)	95-50-200
-052	2.99 (76)	95.50-200
-062	3.43 (87)	95-50-200
-070	3.74 (95)	95-50-200
-075	3.94 (100)	95-50-225
-100	4.92 (125)	95-50-250
-125	5.91 (150)	95-50-275
-150	6.89 (175)	95-50-300
-175	7.87 (200)	95-50-325
-200	8.86 (225)	95-50-350
-225	9.84 (250)	95-50-375
-250	10.83 (275)	95-50-400
-275	11.81 (300)	95-50-425
-300	12.80 (325)	95-50-450



- Guide trough
- Glide bars
- Installation set "Basic"
- Profile rail

Individual attachment without profile rail

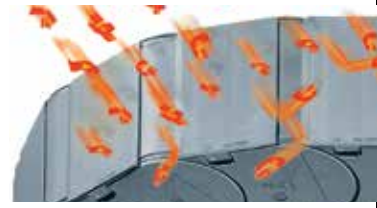
Standard length profile rail

* Specialized guide trough available upon request

Hot chips up to 1562°F

- e-tubes to withstand 1,562°F hot chips, as a special option
- No hot chips melting or embedding into the chain
- igus® igumid HT material

More information ► www.igus.com/HT



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 ► [Chapter 9](#)



Reduce assembly time - E4 e-chain® opener

- e-chain® opener tools for easy opening and closing of e-chains®
- Simple opening and closing of e-chain® crossbars
- Also for use in hard to reach locations
- Significant assembly time reduction

More information ► www.igus.com/E4savetime

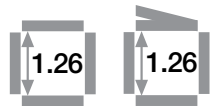


E4-32
H4-32
R4-32

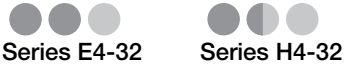


e-chain system® E4-1

Series E4-32/H4-32/R4-32



Price Index



Series E4-32

Series H4-32



Series R4-32

Special Options Available



Low noise version available with special rubber pads



Cleanroom test upon request



ESD classification:
Electrically conductive ESD/
ATEX version upon request

Assembly Tips



Opening e-chains®: Remove crossbars and clips - Insert screwdriver into the slot, push down, release by lever action



Remove lids/bottoms (e-tubes) - Insert screwdriver into the slot, release by lever action

Other Installation Methods

- Vertical, hanging ≤ 262 ft (80 m)
- Vertical, standing ≤ 16.4 ft (5 m)
- Side-mounted, un supp. ≤ 4.92 ft (1.5 m)
- Rotary requires further calculation

Usage Guidelines



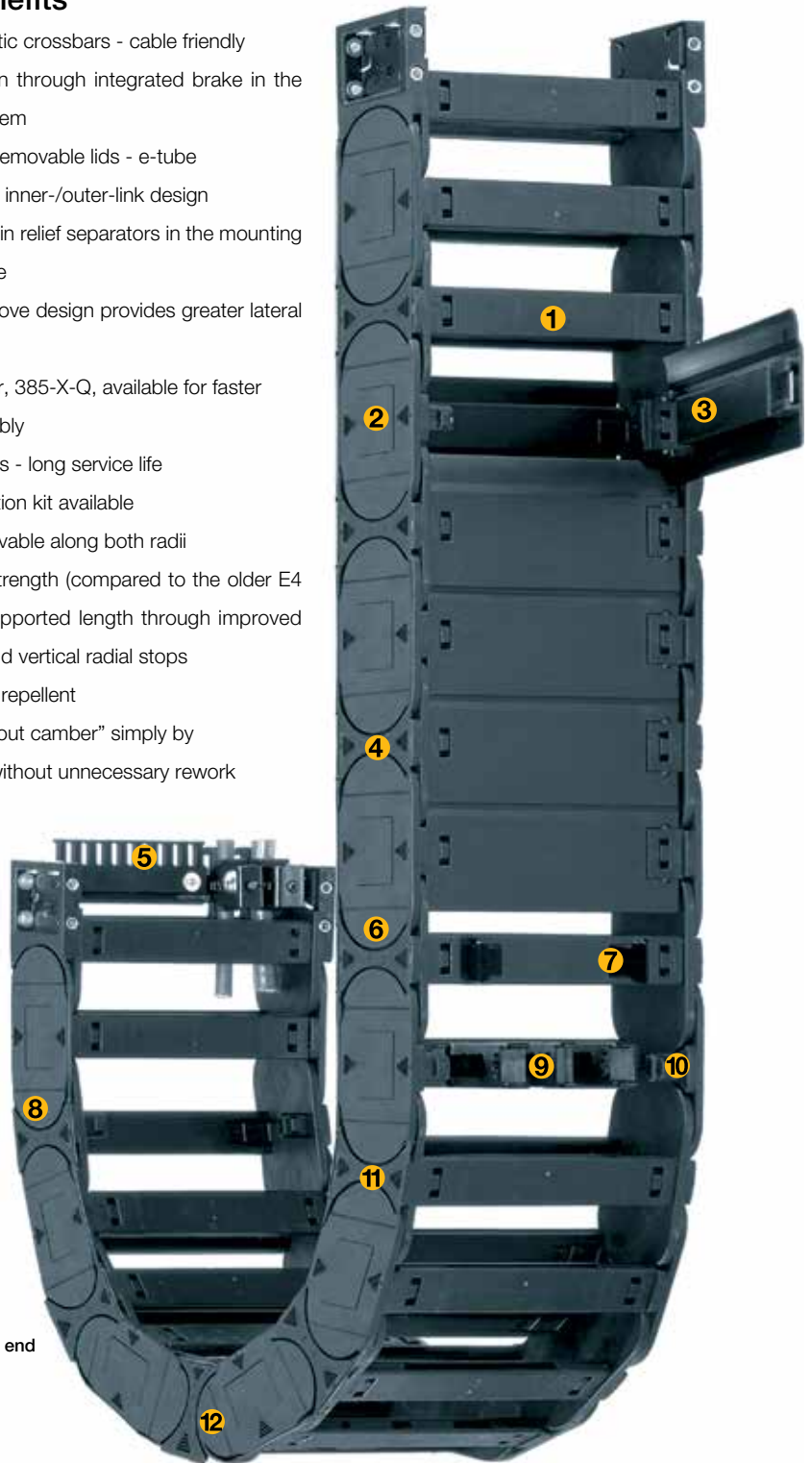
- If quiet operation is required
- If very high speeds and/or accelerations are required
- Long travels
- High additional loads



- When an extremely low vibration e-chain® is required
 - Series E6-35
- When an economic one-sided snap-open e-chain®/e-tube is required
 - Series 2600/2650/2680/2700

Features & Benefits

- 1 Wide, rounded plastic crossbars - cable friendly
- 2 Low-noise operation through integrated brake in the radial stop dog system
- 3 Hinged snap-open removable lids - e-tube
- 4 Straight run through inner-/outer-link design
- 5 Strain relief with strain relief separators in the mounting bracket are available
- 6 The tongue and groove design provides greater lateral stability
- 7 QuickLock Crossbar, 385-X-Q, available for faster assembly/disassembly
- 8 Optimized glide pads - long service life
- 9 New Interior separation kit available
- 10 Crossbars are removable along both radii
- 11 15% more tensile strength (compared to the older E4 series), better unsupported length through improved stop dog system and vertical radial stops
- 12 Smooth outline, dirt repellent
- 13 Version NCST "without camber" simply by turning outer links without unnecessary rework



Also available without camber. Add NCST to the end of the part number.
Ex: E4-32-30-300NCST

Order Example: Complete e-chain®

Please indicate chain length or number of links. Example:

13.12 ft (4 m) **E4-32-30-300-0**



e-chain®

With 2 separators **282** assembled every 2nd link



Interior Separation

1 Set **E4-320-30-12P**



Mounting Bracket

e-chain system® E4-1

Series E4-32/H4-32/R4-32

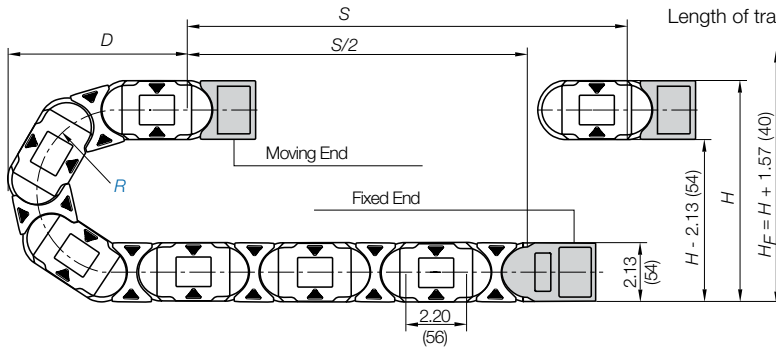
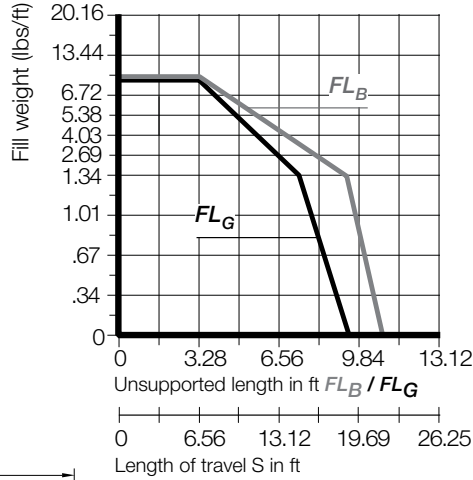
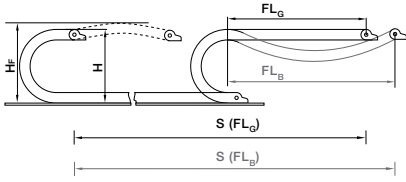
Installation Dimensions



E4-32
H4-32
R4-32

Short travel, unsupported length

- FL_B = unsupported with permitted sag
 - FL_G = unsupported with straight upper run
- Further information ► Design, Chapter 1



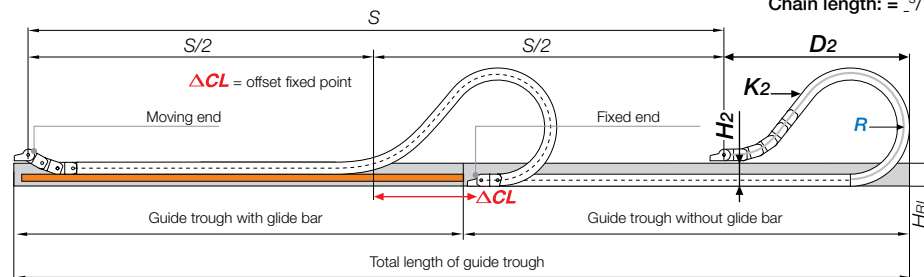
Pitch per link = 2.20" (56 mm)
Links per ft (m) = 5.49 (18)
For center mount applications:
Chain length = $\frac{S}{2} + K$

The required clearance height: $H_F = H + 1.57$ in. (40 mm) (with 1.34 lbs/ft (2.0 kg/m) fill weight). Please consult igus® if space is particularly restricted.

R	2.48 (063)	2.95 (075)	3.94 (100)	4.92 (125)	5.91 (150)	6.89 (175)	7.87 (200)	8.66 (220)	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)	19.45 (494)	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)	13.03 (331)	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)	31.69 (805)	35.43 (900)	41.54 (1055)

For long travels with lowered mounting height

Long travel lengths from 32.8 ft.(10m) to max. 656 ft. (200m)



For center mount applications:
Chain length = $\frac{S}{2} + K_2$

Long Travels - Gliding



If the unsupported length is exceeded, the e-chain®/ Tube must glide on itself. This requires a guide trough.

Design, Chapter 1

R	2.48 (063)	2.95 (075)	3.94 (100)	4.92 (125)	5.91 (150)	6.89 (175)	7.87 (200)	8.66 (220)	9.84 (250)	11.81 (300)
H ₂	-	-	6.54 (166)	6.54 (166)	6.54 (166)	6.54 (166)	6.54 (166)	6.54 (166)	6.54 (166)	6.54 (166)
D ₂	-	-	14.57 (370)	18.50 (470)	19.69 (500)	25.79 (655)	30.31 (770)	35.43 (900)	36.61 (930)	43.31 (1100)
K ₂	-	-	24.25 (616)	30.87 (784)	35.27 (896)	44.10 (1120)	50.71 (1288)	57.32 (1456)	61.73 (1568)	75.00 (1904)
ΔCL	-	-	6.30 (160)	8.27 (210)	9.45 (240)	14.57 (370)	18.11 (460)	21.26 (540)	22.44 (570)	27.17 (690)

In case of travels between 22.9 and 32.8 ft (7 and 10 m) we recommend a longer unsupported length.



For support of the lower run, see Chapter 9 of the main catalog for the Support Tray tool kit

Speed / acceleration FL_G	max. 65.6 ft/s (20 m/s) / max. 656 ft/s ² (200 m/s ²)
Speed / acceleration FL_B	max. 9.84 ft/s (3 m/s) / max. 19.69 ft/s ² (6 m/s ²)
Gliding speed / acceleration (maximum)	max. 32.8 ft/s (10 m/s) / max. 164 ft/s ² (50 m/s ²)
Material - permitted temperature	igumid G / -40°F (-40°C) up to +248°F (+120°C)
Flammability Class, igumid G	VDE 0304 IIC UL94 HB

Technical Data



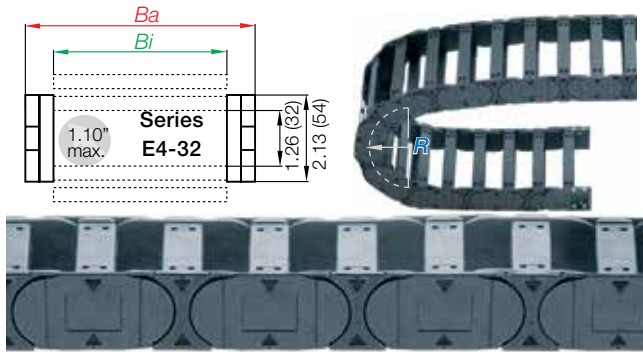
Details of material properties

► Chapter 1

PDF: igus.com/e-chain-pdfs
Product information: igus.com/e-chains

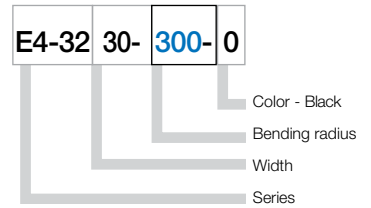


Series E4-32 - e-chain® with crossbars every link

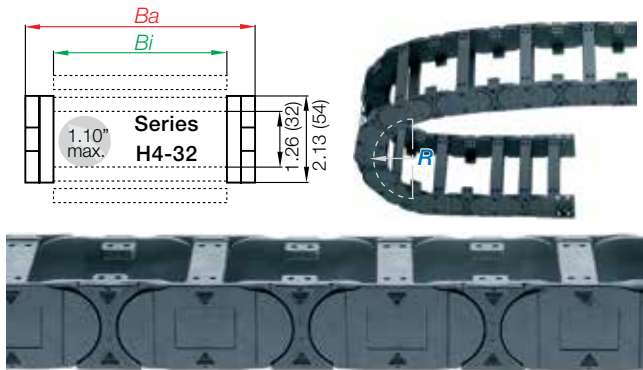


- Crossbars every link
- For use with rigid hydraulic hoses
- For particularly demanding applications
- Can be opened from both sides

Part Number Structure

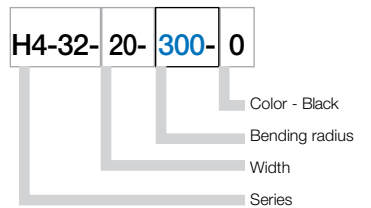


Series H4-32 - e-chain® with crossbars every other link

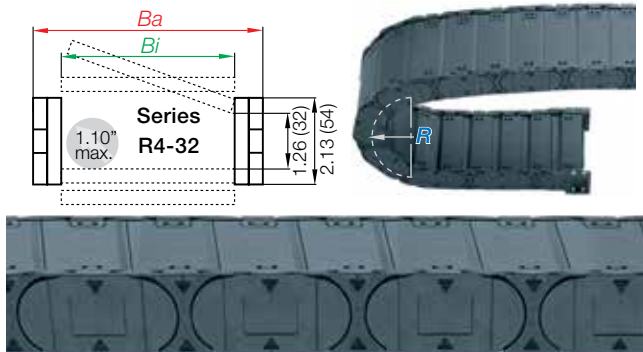


- Crossbars every other link
- Standard configuration
- For nearly every situation
- Can be opened from both sides
- Easy assembly
- Stable
- Cost-effective

Part Number Structure

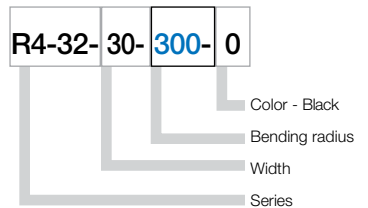


Series R4-32 - fully enclosed e-tube

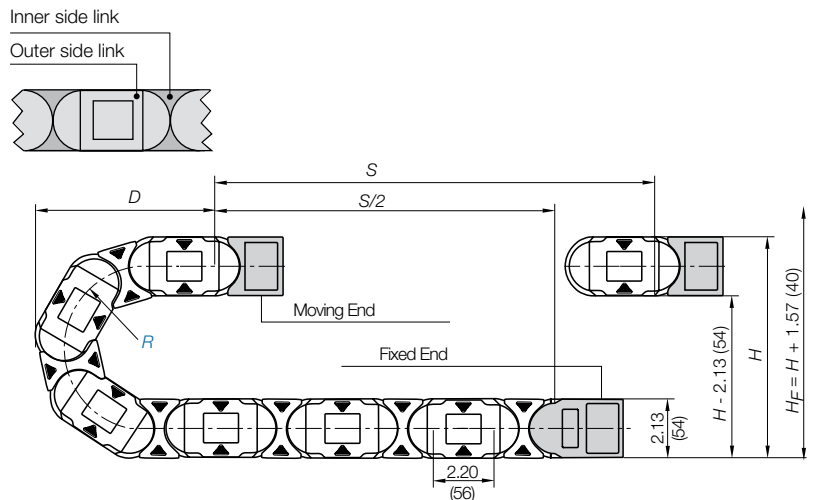
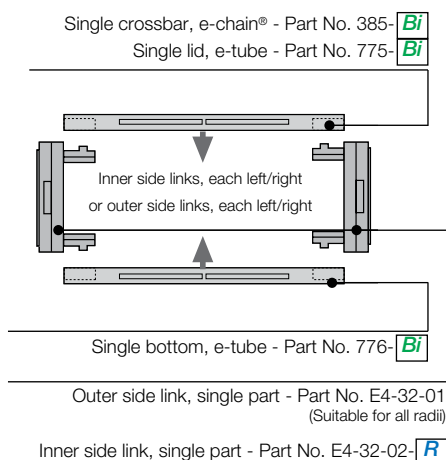


- Fully enclosed
- Excellent cable and hose protection against dirt
- Protection against hot chips
- Lids along inner radius are completely removable
- Lids along the outer radius are single-sided, snap open, hinged on one side as well as completely removable

Part Number Structure



e-chain® as separate parts, links and side plates



e-chain system® E4-1

Series E4-32/H4-32/R4-32

Product Range



E4-32
H4-32
R4-32

Supplement part number with required radius. Example: E4-32-30-300-0
Pitch: 2.20 in. (56mm) per link links/ft(m) = 5.49 (18)

Part Number			Weight					
Crossbars Every link	Crossbars Every other	Tube Version	<i>Bi</i> in. (mm)	<i>Ba</i> in. (mm)	E4-32 lbs/ft (kg/m)	H4-32 lbs/ft (kg/m)	R4-32 lbs/ft (kg/m)	
E4-32-05-	H4-32-05-	*R4-32-05-	<input type="checkbox"/> -0	1.97 (50)	2.87 (73)	≈ 1.05 (1.57)	≈ 0.96 (1.43)	≈ 1.65 (2.45)
E4-32-06-	H4-32-06-		<input type="checkbox"/> -0	2.68 (68)	3.58 (91)	≈ 1.14 (1.70)	≈ 1.00 (1.49)	-
E4-32-07-	H4-32-07-	R4-32-07-	<input type="checkbox"/> -0	2.95 (75)	3.86 (98)	≈ 1.16 (1.73)	≈ 1.01(1.51)	≈ 1.73 (2.57)
E4-32-087-	H4-32-087-		<input type="checkbox"/> -0	3.43 (87)	4.33 (110)	≈ 1.21 (1.80)	≈ 1.03 (1.54)	-
E4-32-097-	H4-32-097-		<input type="checkbox"/> -0	3.82 (97)	4.72 (120)	≈ 1.25 (1.86)	≈ 1.05 (1.57)	-
E4-32-10-	H4-32-10-	R4-32-10-	<input type="checkbox"/> -0	3.94 (100)	4.84 (123)	≈ 1.27 (1.89)	≈ 1.06 (1.58)	≈ 1.78 (2.65)
E4-32-11-	H4-32-11-	R4-32-11-	<input type="checkbox"/> -0	4.25 (108)	5.16 (131)	≈ 1.30 (1.94)	≈ 1.08 (1.61)	≈ 1.85 (2.76)
E4-32-112-	H4-32-112-		<input type="checkbox"/> -0	4.41(112)	5.35 (136)	≈ 1.32 (1.96)	≈ 1.09 (1.62)	-
E4-32-12-	H4-32-12-	R4-32-12-	<input type="checkbox"/> -0	4.92 (125)	5.83 (148)	≈ 1.39 (2.07)	≈ 1.13 (1.68)	≈ 1.92 (2.85)
E4-32-137-	H4-32-137-		<input type="checkbox"/> -0	5.39 (137)	6.34 (161)	≈ 1.42 (2.12)	≈ 1.14 (1.70)	-
E4-32-15-	H4-32-15-	R4-32-15-	<input type="checkbox"/> -0	5.91 (150)	6.81 (173)	≈ 1.49 (2.21)	≈ 1.18 (1.75)	≈ 2.02 (3.01)
E4-32-162-	H4-32-162-		<input type="checkbox"/> -0	6.38 (162)	7.32 (186)	≈ 1.50 (2.24)	≈ 1.18 (1.76)	-
E4-32-17-	H4-32-17-	R4-32-17-	<input type="checkbox"/> -0	6.61 (168)	7.52 (191)	≈ 1.56 (2.32)	≈ 1.21 (1.80)	≈ 2.16 (3.21)
E4-32-18-	H4-32-18-		<input type="checkbox"/> -0	6.89 (175)	7.80 (198)	≈ 1.58 (2.35)	≈ 1.22 (1.81)	-
E4-32-187-	H4-32-187-		<input type="checkbox"/> -0	7.36 (187)	8.31 (211)	≈ 1.61 (2.39)	≈ 1.24 (1.84)	-
E4-32-20-	H4-32-20-	R4-32-20-	<input type="checkbox"/> -0	7.87 (200)	8.78 (223)	≈ 1.69 (2.52)	≈ 1.28 (1.90)	≈ 2.29 (3.41)
E4-32-212-	H4-32-212-		<input type="checkbox"/> -0	8.35 (212)	9.29 (236)	≈ 1.73 (2.57)	≈ 1.30 (1.93)	-
E4-32-23-	H4-32-23-		<input type="checkbox"/> -0	8.86 (225)	9.76 (248)	≈ 1.79 (2.67)	≈ 1.33 (1.98)	-
E4-32-237-	H4-32-237-		<input type="checkbox"/> -0	9.33 (237)	10.28 (261)	≈ 1.81 (2.70)	≈ 1.34 (1.99)	-
E4-32-25-	H4-32-25-	R4-32-25-	<input type="checkbox"/> -0	9.84 (250)	10.75 (273)	≈ 1.90 (2.83)	≈ 1.38 (2.06)	≈ 2.59 (3.86)
E4-32-262-	H4-32-262-		<input type="checkbox"/> -0	10.31 (262)	11.26 (286)	≈ 1.96 (2.92)	≈ 1.41 (2.10)	-
E4-32-28	H4-32-28-		<input type="checkbox"/> -0	10.83 (275)	11.73 (298)	≈ 2.01 (2.99)	≈ 1.44 (2.14)	-
E4-32-29-	H4-32-29-		<input type="checkbox"/> -0	11.30 (287)	12.24 (311)	≈ 2.02 (3.02)	≈ 1.44 (2.15)	-
E4-32-30-	H4-32-30-	R4-32-30-	<input type="checkbox"/> -0	11.81 (300)	12.72 (323)	≈ 2.12 (3.15)	≈ 1.49 (2.22)	≈ 2.85 (4.25)
E4-32-312-	H4-32-312-		<input type="checkbox"/> -0	12.28 (312)	13.23 (336)	≈ 2.14 (3.18)	≈ 1.50 (2.23)	-
E4-32-325-	H4-32-325-		<input type="checkbox"/> -0	12.79 (325)	13.70 (348)	≈ 2.20 (3.28)	≈ 1.53 (2.28)	-
E4-32-337-	H4-32-337-		<input type="checkbox"/> -0	13.27 (337)	14.21 (361)	≈ 2.24 (3.34)	≈ 1.55 (2.31)	-
E4-32-350-	H4-32-350-		<input type="checkbox"/> -0	13.78 (350)	14.69 (373)	≈ 2.40 (3.57)	≈ 1.63 (2.42)	-
E4-32-362-	H4-32-362-		<input type="checkbox"/> -0	14.25 (362)	15.20 (386)	≈ 2.46 (3.66)	≈ 1.66 (2.47)	-
E4-32-375-	H4-32-375-		<input type="checkbox"/> -0	14.76 (375)	15.67 (398)	≈ 2.51 (3.74)	≈ 1.69 (2.51)	-
E4-32-387-	H4-32-387-		<input type="checkbox"/> -0	15.24 (387)	16.18 (411)	≈ 2.55 (3.80)	≈ 1.71 (2.54)	-
E4-32-400	H4-32-400-		<input type="checkbox"/> -0	15.75 (400)	16.65 (423)	≈ 2.60 (3.87)	≈ 1.73 (2.58)	-

Choose from the radii below for all of the above sizes

Radius (mm) Example: E4-32-30-300-0

	063**	075**	100	125	150	175	200	220	250	300
<i>R</i>	2.48 (063**)	2.95 (075**)	3.94 (100)	4.92 (125)	5.91 (150)	6.89 (175)	7.87 (200)	8.66 (220)	9.84 (250)	11.81 (300)
<i>H</i> $^{0}_{+20}$	7.09 (180)	8.03 (204)	10.00 (254)	11.97 (304)	13.94 (354)	15.91 (404)	17.87 (454)	19.45 (494)	21.81 (554)	25.75 (654)
<i>D</i>	6.85 (174)	7.32 (186)	8.31 (211)	9.29 (236)	10.28 (261)	11.26 (286)	12.24 (311)	13.03 (331)	14.21 (361)	16.18 (411)
<i>K</i>	12.20 (310)	13.78 (350)	16.93 (430)	19.88 (505)	23.03 (585)	26.18 (665)	29.33 (745)	31.69 (805)	35.43 (900)	41.54 (1055)

** This radius is not available for the R4-32 Series

*Removable lid only, no hinged option

0 = Standard color black.

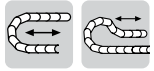
For other colors see Chapter 1

For wider chains see page 6.36

For large diameter hoses see page 6.37

PDF: igus.com/e-chain-pdfs
Product information: igus.com/e-chains

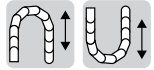




Standard

Option 1: pivoting

- Recommended for unsupported and gliding applications
- Attachment capability on all sides
- Bolted connection outside of chain cross-section
- Space restricted conditions
- Corrosion resistant



Option 2: locking

- Profile rail option
- Universal use
- Corrosion resistant
- Vertical hanging/standing travels
- Extreme accelerations

Part Number Structure

E4-320- 07- 12 P



Due to the design of the E4-32 series chains, please note the following when ordering brackets:

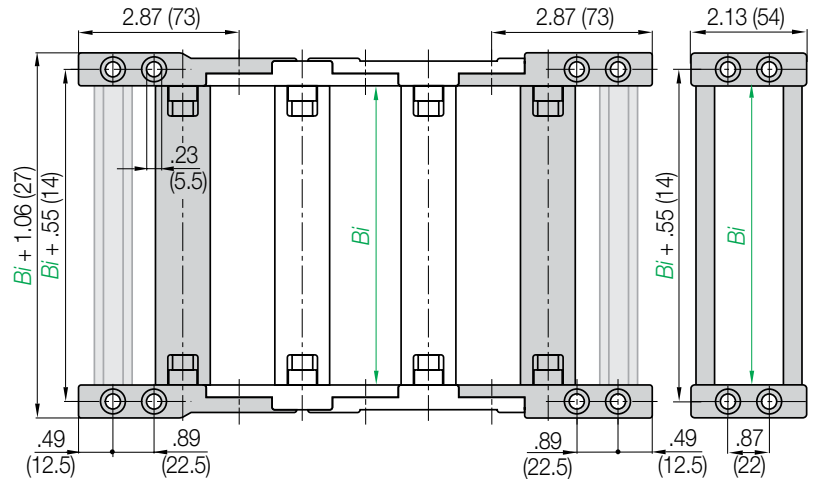
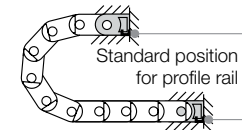
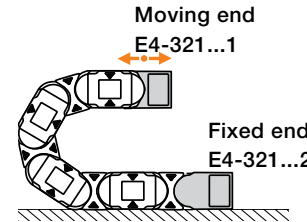
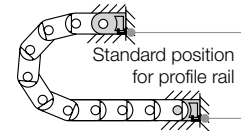
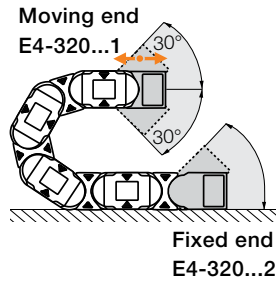
Even number of links = full set, part number ending in -12; Odd number of links = 2 pieces, part number ending in -1

Part No. Full Set (pivoting)
Series E4-32 or H4-32
E4-320-Width-12

Part No. Full Set (pivoting)
with profile rail
Series E4-32 or H4-32
E4-320-Width-12P

Part number examples are shown for pivoting brackets for e-chain.
For locking brackets change part number to 321

Width	Part No. Full Set chain		With Profile Rail	Bi in. (mm)	Width	Part No. Full Set chain		With Profile Rail	Bi in. (mm)
	Pivoting	Locking				Pivoting	Locking		
-05	E4-320	E4-321	-05-12	1.97 (50)	-212	E4-320	E4-321	-212-12	8.35 (212)
-06	E4-320	E4-321	-06-12	2.68 (68)	-23	E4-320	E4-321	-23-12	8.86 (225)
-07	E4-320	E4-321	-07-12	2.95 (75)	-237	E4-320	E4-321	-237-12	9.33 (237)
-087	E4-320	E4-321	-087-12	3.43 (87)	-25	E4-320	E4-321	-25-12	9.84 (250)
-097	E4-320	E4-321	-097-12	3.82 (97)	-262	E4-320	E4-321	-262-12	10.31 (262)
-10	E4-320	E4-321	-10-12	3.94 (100)	-28	E4-320	E4-321	-28-12	10.83 (275)
-11	E4-320	E4-321	-11-12	4.25 (108)	-29	E4-320	E4-321	-29-12	11.30 (287)
-112	E4-320	E4-321	-112-12	4.41 (112)	-30	E4-320	E4-321	-30-12	11.81 (300)
-12	E4-320	E4-321	-12-12	4.92 (125)	-312	E4-320	E4-321	-312-12	12.28 (312)
-137	E4-320	E4-321	-137-12	5.39 (137)	-325	E4-320	E4-321	-325-12	12.79 (325)
-15	E4-320	E4-321	-15-12	5.91 (150)	-337	E4-320	E4-321	-337-12	13.27 (337)
-162	E4-320	E4-321	-162-12	6.38 (162)	-350	E4-320	E4-321	-350-12	13.78 (350)
-17	E4-320	E4-321	-17-12	6.61 (168)	-362	E4-320	E4-321	-362-12	14.25 (362)
-18	E4-320	E4-321	-18-12	6.89 (175)	-375	E4-320	E4-321	-375-12	14.76 (375)
-187	E4-320	E4-321	-187-12	7.36 (187)	-387	E4-320	E4-321	-387-12	15.24 (387)
-20	E4-320	E4-321	-20-12	7.87 (200)	-400	E4-320	E4-321	-400-12	15.75 (400)



e-chain system® E4-1

Series R4-32

Mounting Brackets - KMA

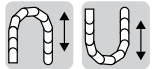
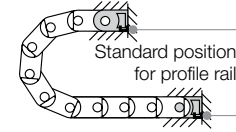
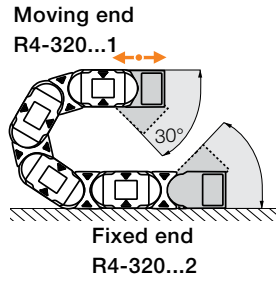


E4-32
H4-32
R4-32



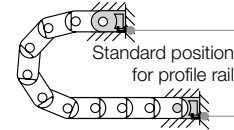
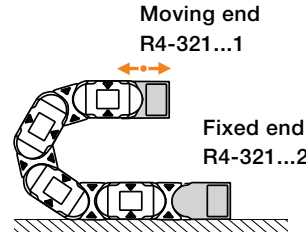
Option 1: pivoting

- Recommended for unsupported and gliding applications
- Attachment capability on all sides
- Bolted connection outside of chain cross-section
- Space restricted conditions
- Corrosion resistant

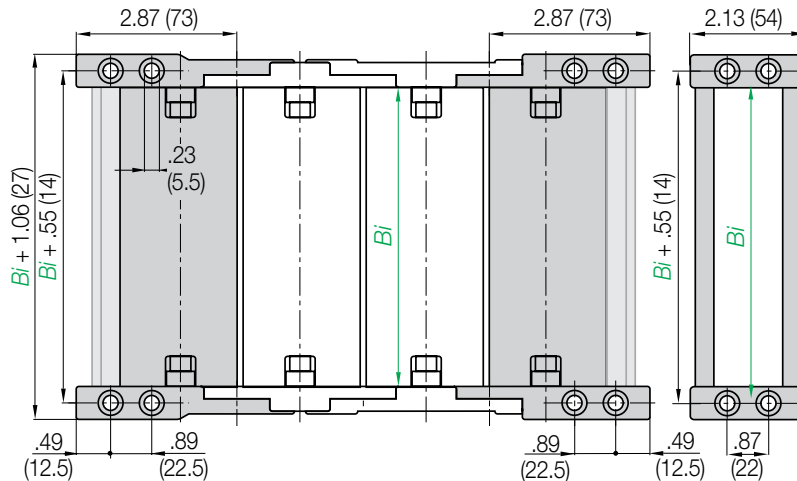
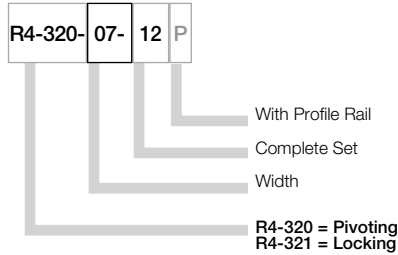


Option 2: locking

- Profile rail option
- Universal use
- Corrosion resistant
- Vertical hanging/standing travels
- Extreme accelerations



Part Number Structure



Due to the design of the E4-32 series chains, please note the following when ordering brackets:

Even number of links = full set, part number ending in -12; Odd number of links = 2 pieces, part number ending in -1

Part No. Full Set (pivoting)
Tube Series R4-32
R4-320-Width-12

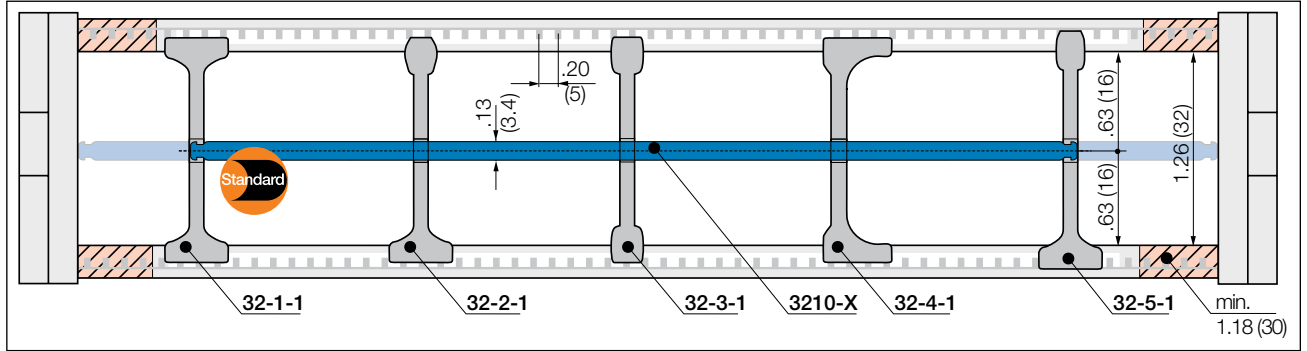
Part No. Full Set (pivoting)
with Profile Rail
Tube Series R4-32
R4-320-Width-12P

Part number examples are shown for pivoting brackets for e-chain.
For locking brackets change part number to 321

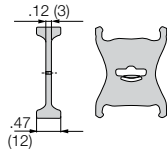
Width	Part No. Full Set tube		With Profile Rail	Bi in. (mm)	Width	Part No. Full Set tube		With Profile Rail	Bi in. (mm)		
	Pivoting	Locking				Pivoting	Locking				
-05	R4-320	R4-321	-05-12	P	1.97 (50)	-15	R4-320	R4-321	-15-12	P	5.91 (150)
-07	R4-320	R4-321	-07-12	P	2.95 (75)	-17	R4-320	R4-321	-17-12	P	6.61 (168)
-10	R4-320	R4-321	-10-12	P	3.94 (100)	-20	R4-320	R4-321	-20-12	P	7.87 (200)
-11	R4-320	R4-321	-11-12	P	4.25 (108)	-25	R4-320	R4-321	-25-12	P	9.84 (250)
-12	R4-320	R4-321	-12-12	P	4.92 (125)	-30	R4-320	R4-321	-30-12	P	11.81 (300)

PDF: igus.com/e-chain-pdfs
Product information: igus.com/e-chains





Note e-tube: Please maintain a lateral spacing of 1.18" (30 mm) between the separators and the side links. In the standard configuration separators are assembled every 2nd e-chain® link

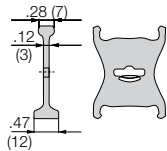


Separator, wide base

Unassembled	Part No. 32-1
Assembled	Part No. 32-1-1

• **Standard separator 32-1 for all applications**

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

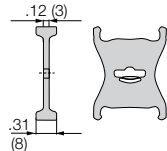


Separator, narrow head

Unassembled	Part No. 32-2
Assembled	Part No. 32-2-1

• **Separator 32-2 For even faster installation**

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

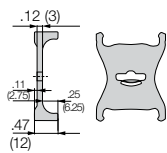


Separator, narrow base

Unassembled	Part No. 32-3
Assembled	Part No. 32-3-1

• **Separator 32-3 For many thin cables**

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

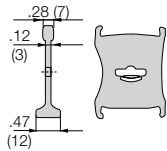


Separator, asymmetrical

Unassembled	Part No. 32-4
Assembled	Part No. 32-4-1

• **Separator 32-4 For side mounted applications**

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

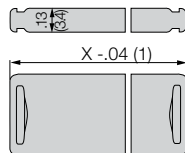


Separator, asymmetrical

Unassembled	Part No. 32-5
Assembled	Part No. 32-5-1

• **Separator 32-5 Locks safely in .20" (5 mm) increments**
Notch separator for exact positioning in e-chains®. Recommended for side-mounted applications.

Lockable full-width shelves - for the standard interior separation



Full width shelf, lockable

Unassembled	Part No. 3200-X
Assembled	Part No. 3210-X

• **Full width shelf, lockable**
Shelf locks safely into separators on both ends, fixed width possible. Separators can be moved freely over the shelf in horizontal direction. Can be used at one height.

Width X in. (mm)	Part No. Unassembled	Part No. Assembled	Width X in. (mm)	Part No. Unassembled	Part No. Assembled	Width X in. (mm)	Part No. Unassembled	Part No. Assembled
1.97 (050)	3200-50	3210-50	4.92 (125)	3200-125	3210-125	8.86 (225)	3200-225	3210-225
2.95 (075)	3200-75	3210-75	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			

e-chain system® E4-1

Series Series E4-32/H4-32/R4-32

Interior Separation - Previous Generation



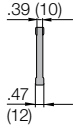
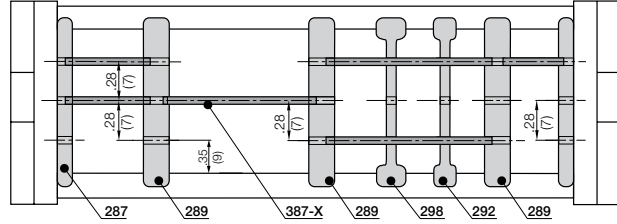
E4-32
H4-32
R4-32



Shelves and Separators

e-chains® and e-tubes can be subdivided both vertically and horizontally using the various interior separation elements. ➤

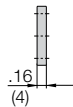
Design, Chapter 1 for layout recommendations.



Split Separator (chain only)

Unassembled	Part No. T323
Assembled	Part No. T323M

- **Split separator T323 for e-chains®**
This separator is ideal for subsequent shelving or the initial assembly of the e-chain. Fast assembly and disassembly using a hinge/push mechanism. Enhances flexibility



Side Plate

Unassembled	Part No. 286
Assembled	Part No. 287

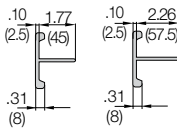
- **Side plates 286**
This component is used to form the basic pattern of a shelf system.



Vertical Separator

Unassembled	Part No. 288
Assembled	Part No. 289

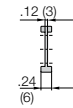
- **Vertical separator 288**
This component is used to form the basic pattern of a shelf system.



Separators w/Integrated Shelf

Unassembled	Part No. 281-S-45
Assembled	Part No. 282-S-45
Unassembled	Part No. 281-S-57
Assembled	Part No. 282-S-57

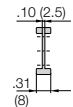
- **Locking vertical separator 281-S**
This separator is slotted and able to be combined with shelves



Slotted Separators

Unassembled	Part No. 291
Assembled	Part No. 292

- **Closed Slotted separators 291**
These are used for complex subdivisions. However, they cannot be retrofitted into an existing interior separation system without removing the shelves first.



Slotted Separators, Open

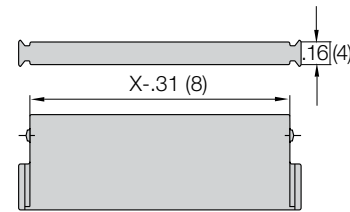
Unassembled	Part No. 297
Assembled	Part No. 298

- **Open slotted separator 297**
This separator can be retrofitted into an existing interior separation system without removing the shelves, as long as these shelves fit into the middle slot only.

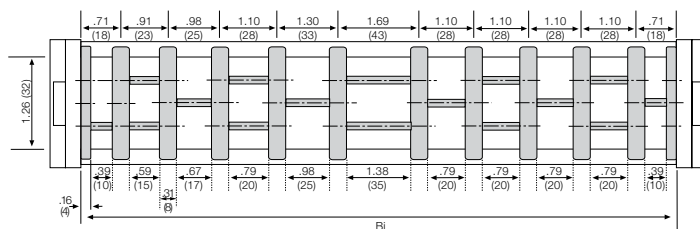
Width X in. (mm)	Usable Width in. (mm)	Part No. Unassembled	Part No. Assembled
.71 (18)	.39 (10)	386-18	387-18
.91 (23)	.59 (15)	386-23	387-23
.98 (25)	.67 (17)	386-25	387-25
1.10 (28)	.79 (20)	386-28	387-28
1.30 (33)	.98 (25)	386-33	387-33
1.69 (43)	1.38 (35)	386-43	387-43
1.97 (50)	1.65 (42)	386-50	387-50
2.13 (54)	1.81 (46)	386-54	387-54
2.44 (62)	2.13 (54)	386-62	387-62
2.95 (75)	2.64 (67)	386-75	387-75
3.43 (87)	3.12 (87)	386-87	387-87
3.94 (100)	3.62 (92)	386-100	387-100
4.25 (108)	3.94 (100)	386-108	387-108
4.92 (125)	4.61 (117)	386-125	387-125
5.91 (150)	5.59 (142)	386-150	387-150
6.89 (175)	6.57 (167)	386-175	387-175
7.87 (200)	7.56 (192)	386-200	387-200
8.19 (208)	7.87 (200)	386-208	387-208
8.86 (225)	8.54 (217)	386-225	387-225

Shelves 386-XX

These components form the basic pattern of a shelf system. Shelves of various widths can be arranged at 3 different heights in .28" (7mm) increments



The diagram below is for reference purposes only. Multiple configurations are possible. To create your e-chain shelving cross section please see our online e-chain configurator. Call 1-800-521-2747 for assistance and/or go to igus.com click on the **Products** drop down menu, choose **e-chain Cable Carriers** and on the next drop down menu simply click on **e-chain Configurator**.



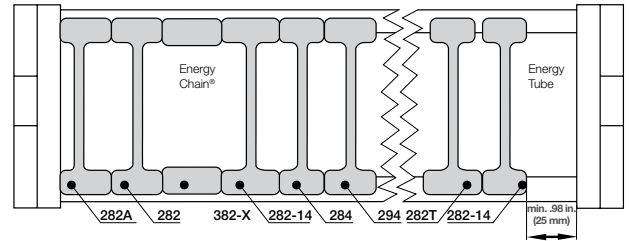
PDF: igus.com/e-chain-pdfs
Product information: igus.com/e-chains



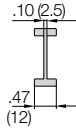


Vertical separators and spacers

Vertical separators are used if a vertical subdivision of the e-chain® interior is required. By standard, vertical separators are assembled every other e-chain® link.

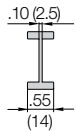


NOTE: Observe a lateral spacing of at least .98 in. (25mm) for e-tubes



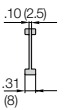
Separator (chain/tube)

Unassembled	Part No. 280
Assembled	Part No. 281



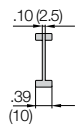
Separator (chain/tube)

Unassembled	Part No. 280-14
Assembled	Part No. 281-14



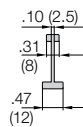
Separator (chain only)

Unassembled	Part No. 283
Assembled	Part No. 284



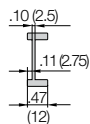
Locking Separator (chain only)

Unassembled	Part No. 293
Assembled	Part No. 294



Locking Separator (tubes only)

Unassembled	Part No. 281T
Assembled	Part No. 282T



Asymmetric separator (chain only)

Unassembled	Part No. 280A
Assembled	Part No. 281A



Spacer (chain only)

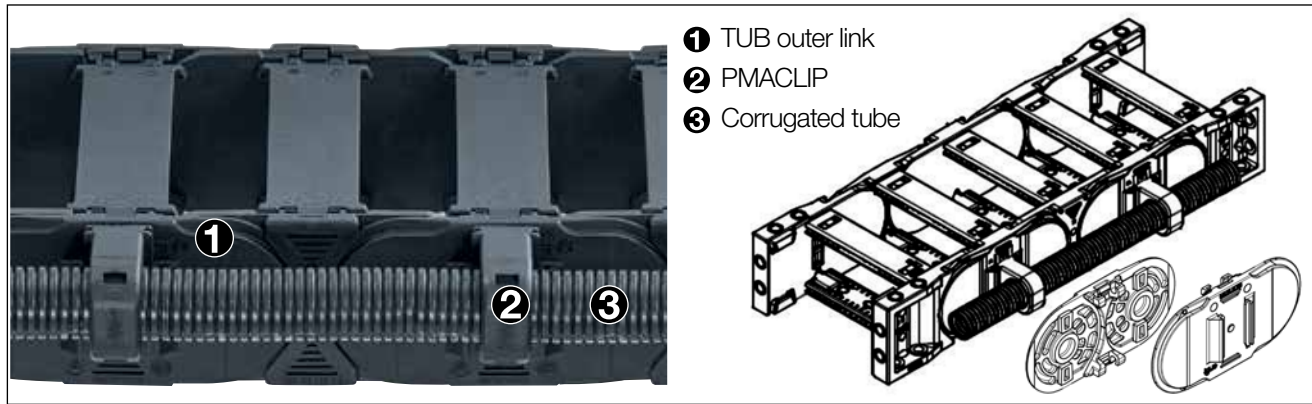
Unassembled	Part No. 381-XX
Assembled	Part No. 382-XX

XX = width of the spacer

Spacers available in the following sizes:

Part No. Unassembled	Part No. Assembled	in.	(mm)
381 -10	382 -10	.39"	(10)
381 -15	382 -15	.59"	(15)
381 -20	382 -20	.79"	(20)

- Standard separator 280 for e-chains® and e-tubes**
This separator offers safe stability due to its wide base design, also when used with thick cables or hoses.
- Vertical separator 280-14 for e-chains® and e-tubes**
This separator offers safe stability due to its broad base design when used with thick cables or hoses.
- Vertical separator 283 for e-chains®**
This separator features a narrow base for use in applications where a large number of small cables need to be individually separated.
- Locking separator 293 for e-chains®**
This separator is used in applications with very high relative humidity. It features increased retention force which is produced by asymmetrical retention "clamps" attached to the chain's crossbar. Please ensure that they are properly aligned.
- Locking separator 281T for e-tubes**
It clamps to the fixed radius and remains free along the other radius to facilitate lid removal.
- Asymmetrical separator 281A for e-chains®**
This separator features an (12mm) base. It can be used in combinations between spacers of different widths and vertical separators in side mounted applications.
- NOTE ON SPACERS**
Vertical separators are adjustable, but can be fixed in position by means of a spacer. Spacers are most often necessary for side mounted applications. The available inner height is reduced by .08" (2mm) **per spacer** (for example if one spacer is placed on either side of the separator, the overall inner height is reduced by .16" (4mm). To avoid this, place the spacers on the **outside** of the opening crossbar (**not for long travels**).



- 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) 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]
E4-32-XXXTUBR-R-0	E4-32-XXXTUBL-R-0	E4-32-XXXTUB-R-0	.28 (07), .39 (10), .47 (12), .67 (17)

*View from the fixed end

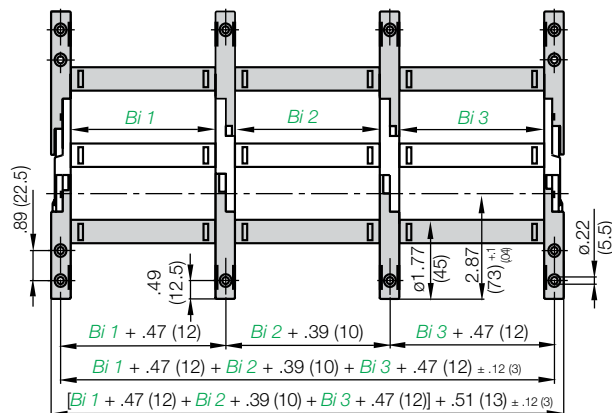
Part number appended with width index **XXX Bi** and radius (**R**) e.g.

E4-32-100TUBR-150-0 = with TUB outer sections every 2nd right hand link



Extension links - for extremely wide e-chains® up to 9.84 ft (3m)

- For applications in which particularly high fill weights necessitate extremely wide e-chains®
- The extension link design allows virtually limitless side-by-side attachment of chains
- The unsupported length of a chain can be increased when additional loads are required
- Extension links can be used with e-chains®, e-tubes or a combination of both
- They are suitable for unsupported and gliding applications in a guide trough
- e-chains® with extension links are attached with KMA or steel mounting brackets.



Part number example for e-chain®

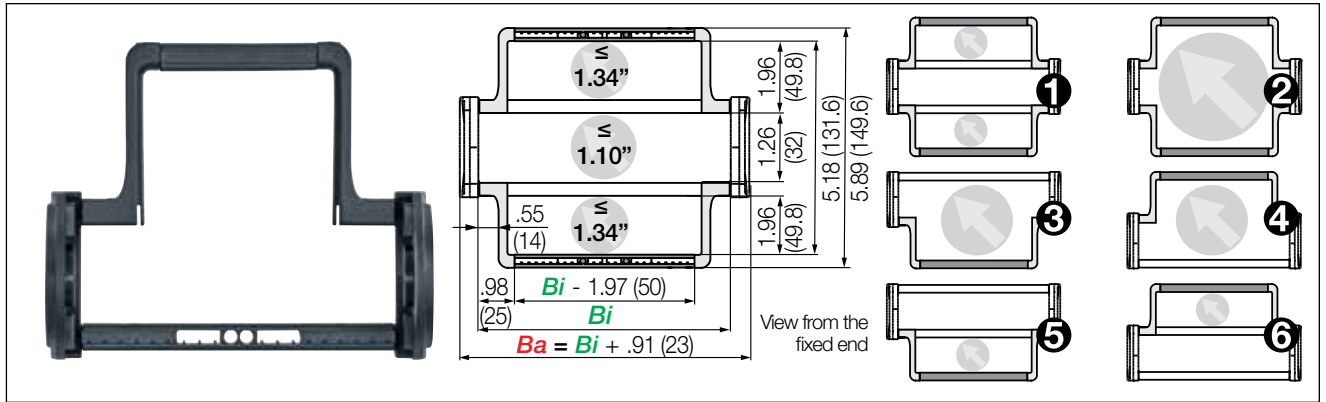
E4-32-10/20/10-200-0
E4-32-**Bi1/Bi2/Bi3**-R-0

We **strongly recommend** on-site consultation with an igus® technician for individual advice regarding mounting brackets, guide troughs and other design details.

Part No.	Part No.	Part No.
Extension link e-chain®	Extension link e-tube	Extension link as an individual part
E4-32- Bi1/Bi2/Bi3 -R-0	R4-32- Bi1/Bi2/Bi3 -R-0	284-R-

Complete Part No. with the width index **Bi1/Bi2/Bi3/etc.** and the radius (**R**). Example: E4-32-10/20/10-200-0





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)	E4-32-XXXHB50-R-0
2 Extender crossbar on both sides along the inner and outer radius ²⁾	4.72 (120)	E4-32-XXXB50-R-0
3 Extender crossbar along the outer radius ³⁾	2.83 (72)	E4-32-XXXBE50-R-0
4 Extender crossbar along the inner radius ²⁾	2.83 (72)	E4-32-XXXBZ50-R-0
5 Extender crossbar and standard crossbar alternating along the outer radius ³⁾	1.34 (34)	E4-32-XXXHBE50-R-0
6 Extender crossbar and standard crossbar alternating along inner radius ¹⁾	1.34 (34)	E4-32-XXXHBZ50-R-0

1) Minimum bend radius: **R 125**

2) Minimum bend radius: **R 150**

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

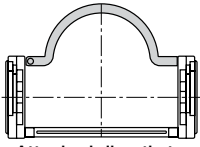
Bi [mm] Available inner widths

| 100 | 125 | 137 | 150 | 162 | 175 | 187 | 200 | 212 | 225 | 237 | 250 |
| 262 | 275 | 287 | 300 | 312 | 325 | 337 | 350 | 362 | 375 | 387 | 400 |

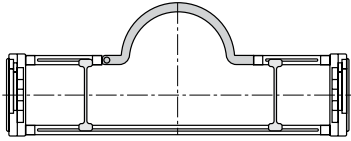
Complete Part No. with the width index **XXX Bi** and the radius (**R**). Example
E4-32-100B50-150-0 = extender crossbar on both sides along inner and outer radius



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



Attached directly to the side link.



Round extender crossbar combined with standard snap-open crossbars.

Extender crossbars

For careful guiding of large diameter cables and hoses

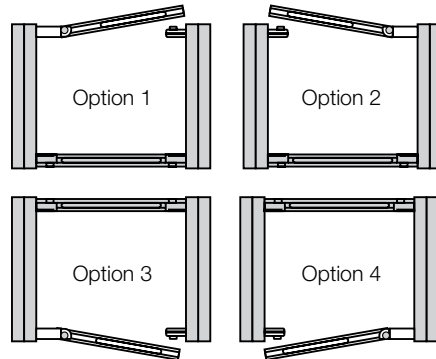
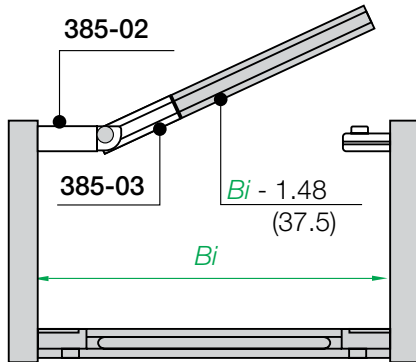
- Intended for cables and hoses with a maximum outer diameter of 4.13 in. (105 mm).
- Gliding operation with crossbars assembled along the outer radius in conjunction with a special guide trough
- Gliding operation not guaranteed with crossbars assembled along the inner radius
- The extender crossbar can either be attached to the side links directly or can be used in combination with two standard snap-open crossbars.



Part No.	Max Ø Hose in. (mm)	Style	Installation Side Link	Combined with Snap-Open Crossbars
385-15-RHD115	4.13 (105)	Round	No	Yes
385-18-RD115	4.13 (105)	Round	Yes	No

Hinged crossbars

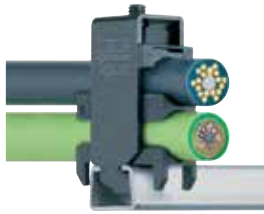
- Typically, e-chain® crossbars are completely removable. In cases where it is preferable that the opening crossbars remain on the e-chain®, a hinged design has been developed.
- Hinged crossbar: Part No. 385-02
- Snap-open crossbar (shortened): Bi-1.48" (37.5 mm) Part No. 385-03 (smallest inner width Bi = 3.44" (87.5 mm))



Part No. e-chain® with hinged crossbar	Part No. swivel clip as an individual part	Part No. openable crossbar as an individual part
E4-32-Bi-Z-R-0	385-02	385-03



Chainfix clamps for the profile rail



igus® Chainfix strain relief elements are available in either steel or stainless steel. They can be adjusted with a hexagon socket and are available in single, double and triple configurations.

Part No. Single Clamp		Part No. Double Clamp		Part No. Triple Clamp		Cable ø	
Steel	Stainless	Steel	Stainless	Steel	Stainless	in.	(mm)
CFX12-1M	CFX12-1ME	CFX12-2M	CFX12-2ME	CFX12-3M	-	.24 - .47	(06 - 12)
CFX14-1M	CFX14-1ME	CFX14-2M	CFX14-2ME	CFX14-3M	-	.47 - .55	(12 - 14)
CFX16-1M	CFX16-1ME	CFX16-2M	CFX16-2ME	CFX16-3M	-	.55 - .63	(14 - 16)
CFX18-1M	CFX18-1ME	CFX18-2M	CFX18-2ME	CFX18-3M	-	.63 - .71	(16 - 18)
CFX20-1M	CFX20-1ME	CFX20-2M	CFX20-2ME	CFX20-3M	-	.71 - .79	(18 - 20)
CFX22-1M	CFX22-1ME	CFX22-2M	CFX22-2ME	CFX22-3M	-	.79 - .87	(20 - 22)
CFX26-1M	CFX26-1ME	CFX26-2M	CFX26-2ME	-	-	.87 - 1.02	(22 - 26)
CFX30-1M	CFX30-1ME	CFX30-2M	CFX30-2ME	-	-	1.02 - 1.18	(26 - 30)
CFX34-1M	CFX34-1ME	CFX34-2M	CFX34-2ME	-	-	1.18 - 1.34	(30 - 34)
CFX38-1M	CFX38-1ME	-	-	-	-	1.34 - 1.50	(34 - 38)
CFX42-1M	CFX42-1ME	-	-	-	-	1.50 - 1.65	(38 - 42)

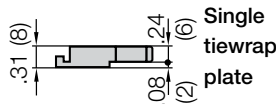
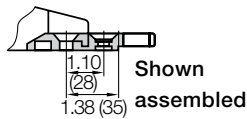
For more information please refer to strain relief section of Chapter 10

Tiewrap Plates

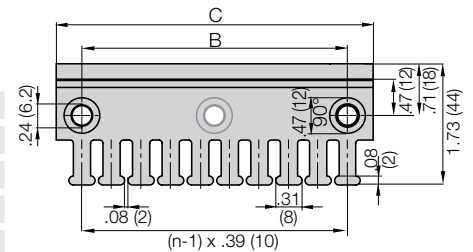
Option 1:

Tiewrap plates as an individual part

Available as an individual component, can be fixed onto a mounting bracket with the use of a profile rail.



Tiewrap Plate	n Number of Teeth	C Overall Width in. (mm)	B Bore Width in. (mm)	Center Bore
3050-ZB	5	1.97 (50)	1.18 (30)	no
3075-ZB	7	2.95 (75)	2.16 (55)	no
3100-ZB	10	3.94 (100)	3.15 (80)	no
3115-ZB	11	4.53 (115)	3.74 (95)	no
3125-ZB	12	4.92 (125)	4.13 (105)	no
3150-ZB	15	5.91 (150)	5.12 (130)	no
3175-ZB	17	6.89 (175)	6.10 (155)	no
3200-ZB	20	7.87 (200)	7.09 (180)	yes
3225-ZB	22	8.86 (225)	8.07 (205)	yes
3250-ZB	25	9.84 (250)	9.06 (230)	yes



If used with KMA brackets with profile rail please add "KMA" to the end of the part number.

Example: 3050-ZBKMA

For more information please refer to strain relief section of Chapter 10

Option 2:
Clip-on Tiewrap plates

Available as a clip-on tiewrap plate without the use of bolts They are inserted and removed with a screwdriver used as a lever. Clip-on tiewrap plates are also available as an attachment to the opening crossbars.



Part No.	Number of Teeth	Width of Strain Relief in. (mm)
3050-ZC	5	1.97 (50)
3075-ZC	7	2.95 (75)

e-chain system® E4-1

Series E4-32/H4-32/R4-32

Guide Trough



E4-32
H4-32
R4-32

Guide troughs are used with applications where the upper run of the e-chain® glides on the lower run. If using igus® steel guide troughs, the following components are required:

- Full travel length of guide trough
Part Number 98-30
- 1/2 travel length of glide bars
Part number 92-01
- Installation sets as end connectors
Part Number 93-50-XX

-XX indicates the length of the profile rail on which the guide trough is mounted. The values and part numbers are specified in the table on the left. The standard length of the trough components and glide bars is 6.56 ft (2 m.) The required overall length of the guide trough directly correlates to the length of travel.

Example:
Length of travel 164 ft (50 m)
Center mounted

Required guide troughs:
164 ft (50 m) guide trough
82 ft (25 m) glide bar

= 25 sections of 6.56 ft (2 m) guide trough
Part No. 98-30
= 13 sections of 6.56 ft (2 m) glide bar

Part No. 92-01
Required number of installation sets:
= Number of guide trough components + 1
= 25 + 1 = 26

Part number of the installation sets
93-50-XXX
Example: 93-50-400 for 15.75" (400 mm) long profile rail.



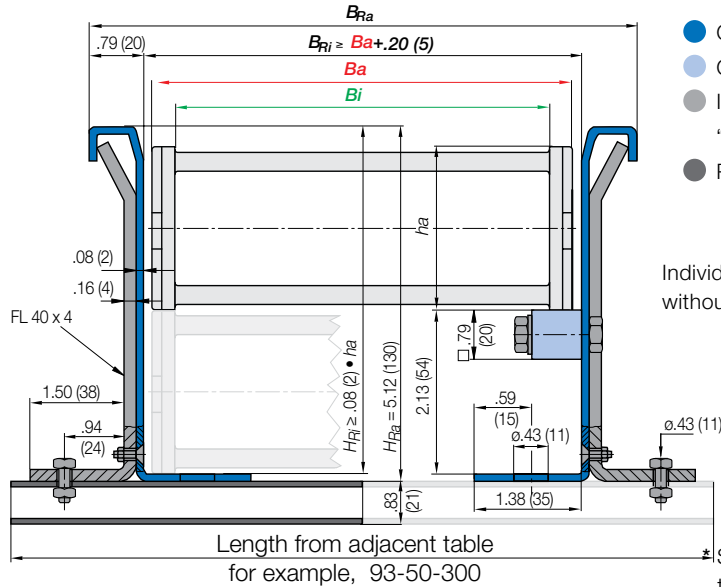
Left: Guide trough with glide bars
Right: Guide troughs without glide bars



Installation sets as section connectors

Width of Crossbar
E4-32-05-200-0

	B_{Ri}	Installation Part No.
-05	3.15 (78)	93-50-200
-06	3.86 (96)	93-50-225
-07	4.13 (103)	93-50-225
-087	4.61 (115)	93-50-225
-097	4.92 (125)	93-50-250
-10	5.12 (128)	93-50-250
-11	5.43 (136)	93-50-250
-112	5.59 (141)	93-50-250
-12	6.10 (153)	93-50-275
-137	6.57 (166)	93-50-275
-15	7.09 (178)	93-50-300
-162	7.56 (191)	93-50-300
-17	7.80 (196)	93-50-325
-18	8.07 (203)	93-50-325
-187	8.54 (216)	93-50-325
-20	9.06 (228)	93-50-350
-212	9.53 (241)	93-50-350
-23	10.04 (253)	93-50-375
-237	10.51 (266)	93-50-375
-25	11.02 (278)	93-50-400
-262	11.50 (291)	93-50-400
-28	12.01 (303)	93-50-425
-29	12.48 (316)	93-50-425
-30	12.99 (328)	93-50-450
-312	13.46 (341)	93-50-450
-325	13.98 (353)	93-50-475
-337	14.45 (366)	93-50-475
-350	14.96 (378)	93-50-500
-362	15.43 (391)	93-50-500
-375	15.94 (403)	93-50-525
-387	16.42 (416)	93-50-525
-400	16.93 (428)	93-50-550



Standard length profile rail

PDF: igus.com/e-chain-pdfs
Product information: igus.com/e-chains



E4-42
H4-42
R4-42



e-chain system® E4-1

Series E4-42/H4-42/R4-42

Price Index



Series E4-42



Series H4-42



Series R4-42

Special Options Available



Low noise version available with special rubber pads



Cleanroom test upon request



ESD classification:
Electrically conductive ESD/
ATEX version upon request

Assembly Tips



Opening e-chains®: Remove crossbars and clips - Insert screwdriver into the slot, push down, release by lever action



Remove lids/bottoms (e-tubes) - Insert screwdriver into the slot, release by lever action

Other Installation Methods

Vertical, hanging ≤ 328 ft (100 m)

Vertical, standing ≤ 19.69 ft (6 m)

Side-mounted, un_supp. ≤ 6.56 ft (2 m)

Rotary requires further calculation

Usage Guidelines



- If quiet operation is required
- If very high speeds and/or accelerations are required
- Long travels
- High additional loads



- When an extremely low vibration e-chain®/e-tube is required
➤ Series E6-40/R6-40
- When an economic one-sided snap-open e-chain®/e-tube is required
➤ Series 3400/3450/3480/3500

Features & Benefits

- 1 Wide, rounded plastic crossbars - cable friendly
- 2 Low-noise operation through integrated brake in the radial stop dog system
- 3 Hinged snap-open removable lids along the outer radius of the e-tube
- 4 Straight run through inner-/outer-link design
- 5 QuickLock Crossbar, 385-X-Q, available for faster assembly/disassembly
- 6 The tongue and groove design provides greater lateral stability
- 7 New Interior separation kit available
- 8 Crossbars are removable along both radii
- 9 15% more tensile strength (compared to the older E4 series), better unsupported length through improved stop dog system and vertical radial stops
- 10 Version NCST "without camber" simply by turning outer links without unnecessary rework

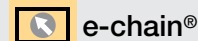


Also available without camber.
Add NCST to the end of the part number.
Ex: E4-42-20-300NCST

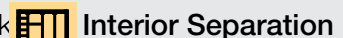
Order Example: Complete e-chain®

Please indicate chain length or number of links. Example:

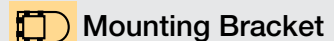
16.4 ft (5 m) E4-42-20-300-0



With 2 separators 42.1.1 assembled every 2nd link



1 Set E4-420-20-12P



e-chain system® E4-1

Series E4-42/H4-42/R4-42

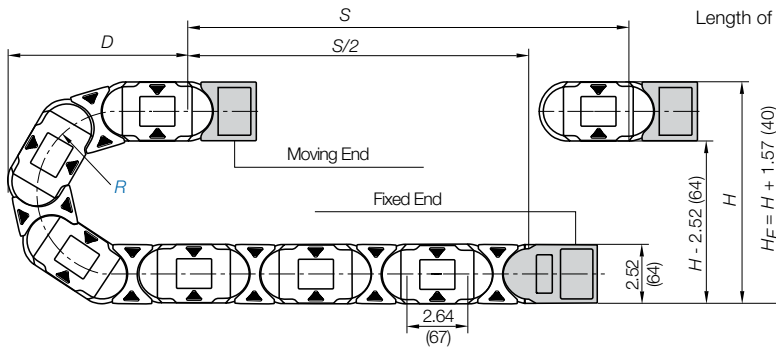
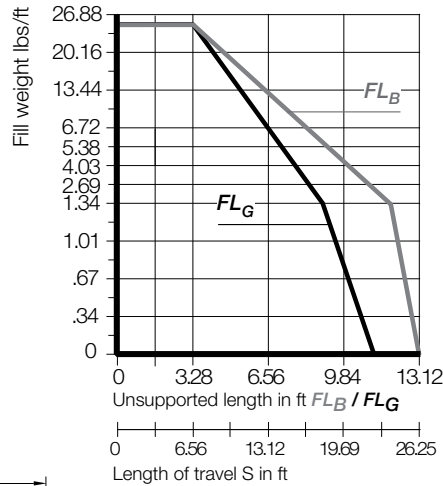
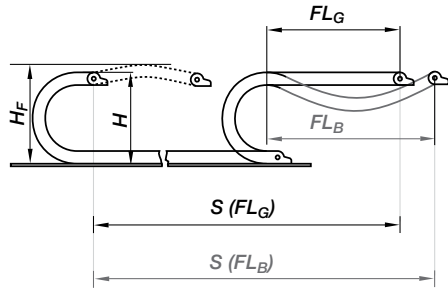
Installation Dimensions



E4-42
H4-42
R4-42

Short travel, unsupported length

- FL_B = unsupported with permitted sag
 - FL_G = unsupported with straight upper run
- Further information ► Design, Chapter 1



Pitch per link = 2.64" (67 mm)
Links per ft (m) = 4.57 (15)
For center mount applications:
Chain length = $\frac{S}{2} + K$

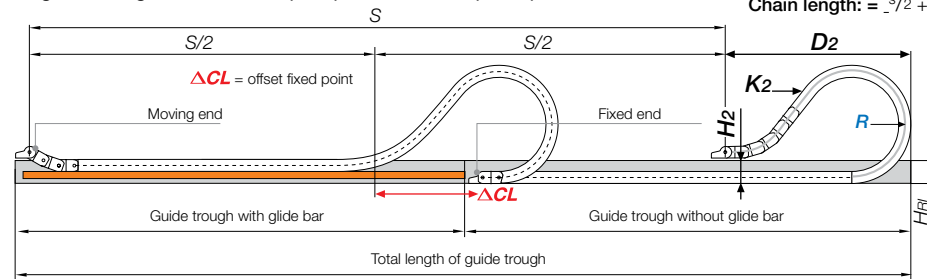
The required clearance height: $H_F = H + 1.57$ in. (40 mm) (with 2.02 lbs/ft (3 kg/m) fill weight).
Please consult igus® if space is particularly restricted.

R	2.95 (075*)	3.94 (100*)	4.53 (115*)	4.92 (125)	5.91 (150)	6.30 (160)	6.69 (175)	7.87 (200)	9.84 (250)	11.81 (300)	13.78 (350)
H ± 0.25	8.43 (214)	10.39 (264)	11.57 (294)	12.36 (314)	14.33 (364)	15.12 (384)	16.30 (414)	18.27 (464)	22.20 (564)	26.14 (664)	30.08 (764)
D	8.19 (208)	9.17 (233)	9.76 (248)	10.15 (258)	11.14 (283)	11.54 (293)	12.13 (308)	13.11 (333)	15.08 (383)	17.05 (433)	19.02 (483)
K	14.57 (370)	17.72 (450)	19.69 (500)	20.87 (530)	24.02 (610)	25.20 (640)	26.97 (685)	30.12 (765)	36.22 (920)	42.52 (1080)	48.62 (1235)

*Radius not available for e-tubes

For long travels with lowered mounting height

Long travel lengths from 32.8 ft. (10 m) to max. 984 ft. (300 m)



For center mount applications:
Chain length = $\frac{S}{2} + K_2$

R	2.95 (075*)	3.94 (100*)	4.53 (115*)	4.92 (125)	5.91 (150)	6.30 (160)	6.69 (175)	7.87 (200)	9.84 (250)	11.81 (300)	13.78 (350)
H ₂	-	-	9.06 (230)	7.32 (186)	7.32 (186)	7.32 (186)	7.32 (186)	7.32 (186)	7.32 (186)	7.32 (186)	7.32 (186)
D ₂ ± 25	-	-	17.13 (435)	18.70 (475)	22.44 (570)	24.53 (623)	26.38 (670)	30.71 (780)	40.55 (1030)	45.28 (1150)	59.06 (1500)
K ₂	-	-	29.02 (737)	31.65 (804)	36.93 (938)	42.20 (1072)	44.84 (1139)	52.76 (1340)	65.94 (1675)	76.50 (1943)	94.96 (2412)
ΔCL	-	-	7.87 (200)	9.06 (230)	11.81 (300)	14.96 (380)	14.96 (380)	18.11 (460)	25.98 (660)	28.74 (730)	40.55 (1030)

In case of travels between 26.3 and 29.4 ft (8 and 12 m) we recommend a longer unsupported length.

For support of the lower run, see Chapter 9 for the Support Tray tool kit

*Radius not available for e-tubes

Short Travels - Unsupported

Unsupported e-chains® feature positive camber over short travels. This must be accounted for when specifying the clearance height. Please refer to **Installation dimensions** for further details.

Legend

- S = Length of travel
- R = Bending radius
- H = Nominal clearance height
- D = Overlength e-chain® radius in final position
- K = $\pi \cdot R + \text{ safety buffer}$
- H_F = Required clearance height
- H_{Fri} = Trough inner height
- H₂ = *Mounting height
- D₂ = Overlength - long travels, gliding
- K₂ = *Add-on

*If the mounting bracket location is set lower



PDF: igus.com/e-chain-pdfs
Product information: igus.com/e-chains

Long Travels - Gliding



If the unsupported length is exceeded, the e-chain®/ Tube must glide on itself. This requires a guide trough.

Design, Chapter 1

Technical Data

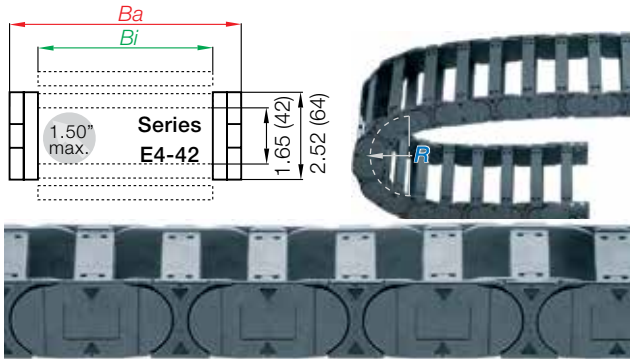
Speed / acceleration FL_G	max. 65.6 ft/s (20 m/s) / max. 656 ft/s ² (200 m/s ²)
Speed / acceleration FL_B	max. 9.84 ft/s (3 m/s) / max. 19.69 ft/s ² (6 m/s ²)
Gliding speed / acceleration (maximum)	max. 32.8 ft/s (10 m/s) / max. 164 ft/s ² (50 m/s ²)
Material - permitted temperature	igumid G / -40°F (-40°C) up to +248°F (+120°C)
Flammability Class, igumid G	VDE 0304 IIC UL94 HB



Details of material properties

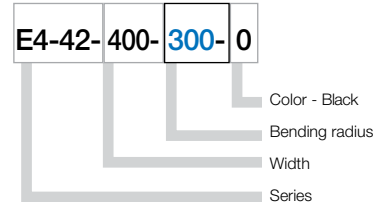
► Chapter 1

Series E4-42 - e-chain® with crossbars every link

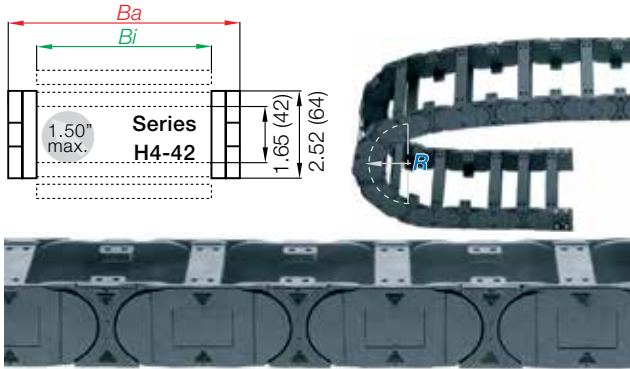


- Crossbars every link
- For use with rigid hydraulic hoses
- For particularly demanding applications
- Can be opened from both sides

Part Number Structure

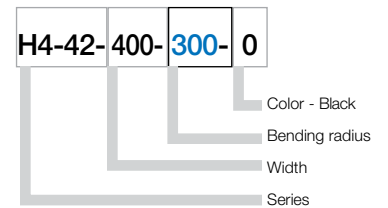


Series H4-42 - e-chain® with crossbars every other link

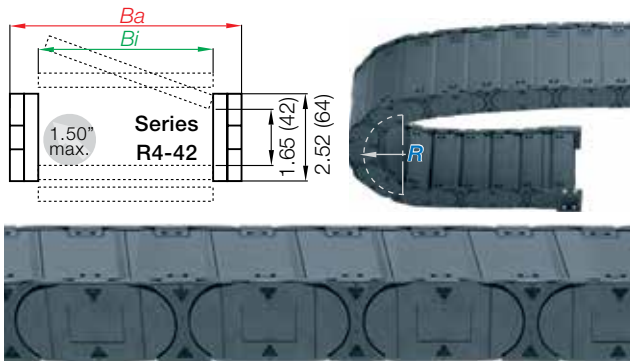


- Crossbars every other link
- Standard configuration
- For nearly every situation
- Can be opened from both sides
- Easy assembly
- Stable
- Cost-effective

Part Number Structure

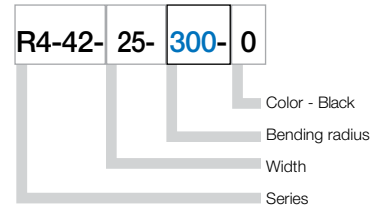


Series R4-42 - fully enclosed e-tube

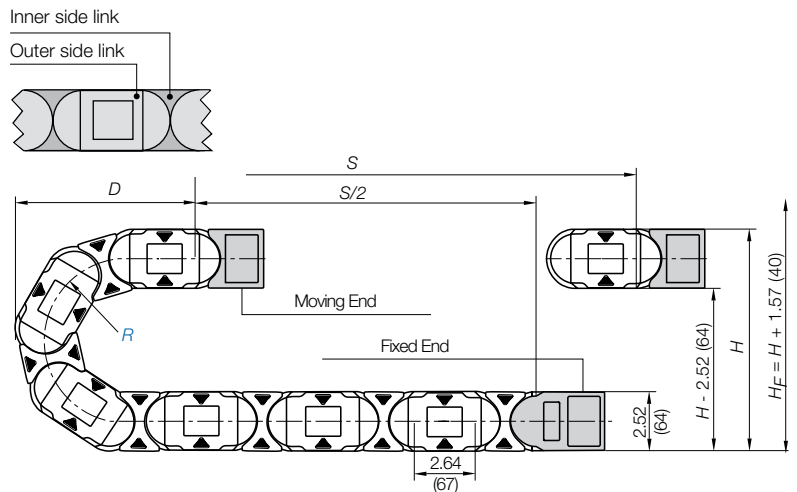
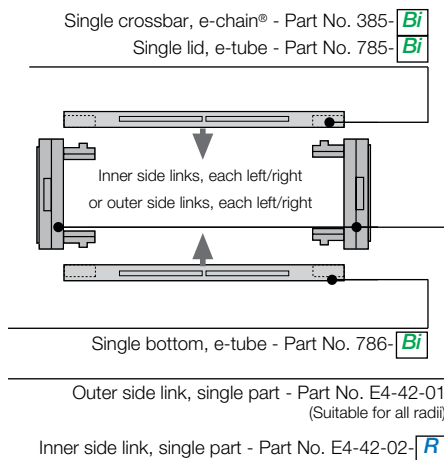


- Fully enclosed
- Excellent cable and hose protection against dirt
- Protection against hot chips
- Lids along inner radius are completely removable
- Lids along the outer radius are single-sided, snap open, hinged on one side as well as completely removable

Part Number Structure



e-chain® as separate parts, links and side plates



e-chain system® E4-1

Series E4-42/H4-42/R4-42

Product Range



E4-42
H4-42
R4-42

Supplement part number with required radius. Example: E4-42-400-300-0
Pitch: 2.64 in. (67mm) per link, links/ft(m) = 4.57 (15)

Part Number			<i>Bi</i>	<i>Ba</i>	Weight		
Crossbars Every link	Crossbars Every other	Tube Version			E4-42 lbs/ft (kg/m)	H4-42 lbs/ft (kg/m)	R4-42 lbs/ft (kg/m)
E4-42-05-	H4-42-05-	*R4-42-05- <input type="checkbox"/> -0	1.97 (50)	2.99 (76)	≈ 1.29 (1.92)	≈ 1.21 (1.80)	≈ 1.44 (2.15)
E4-42-06-	H4-42-06-	<input type="checkbox"/> -0	2.68 (68)	3.70 (94)	≈ 1.36 (2.03)	≈ 1.25 (1.86)	-
E4-42-07-	H4-42-07-	R4-42-07- <input type="checkbox"/> -0	2.95 (75)	3.98 (101)	≈ 1.38 (2.06)	≈ 1.26 (1.87)	≈ 1.53 (2.28)
E4-42-087-	H4-42-087-	<input type="checkbox"/> -0	3.43 (87)	4.49 (114)	≈ 1.42 (2.12)	≈ 1.28 (1.90)	≈ 1.62 (2.41)
E4-42-097	H4-42-097	<input type="checkbox"/> -0	3.82 (97)	4.72 (120)	≈ 1.43 (2.14)	≈ 1.29 (1.92)	-
E4-42-10-	H4-42-10-	R4-42-10- <input type="checkbox"/> -0	3.94 (100)	4.96 (126)	≈ 1.47 (2.19)	≈ 1.32 (1.96)	≈ 1.69 (2.52)
E4-42-11-	H4-42-11-	R4-42-11- <input type="checkbox"/> -0	4.25 (108)	5.28 (134)	≈ 1.50 (2.24)	≈ 1.32 (1.97)	≈ 1.73 (2.57)
E4-42-112-	H4-42-112-	<input type="checkbox"/> -0	4.41(112)	5.47 (139)	≈ 1.51 (2.25)	≈ 1.32 (1.97)	-
E4-42-12-	H4-42-12-	R4-42-12- <input type="checkbox"/> -0	4.92 (125)	5.94 (151)	≈ 1.57 (2.34)	≈ 1.35 (2.01)	≈ 1.83 (2.73)
E4-42-137-	H4-42-137-	<input type="checkbox"/> -0	5.39 (137)	6.46 (164)	≈ 1.61 (2.39)	≈ 1.37 (2.04)	-
E4-42-15-	H4-42-15-	R4-42-15- <input type="checkbox"/> -0	5.91 (150)	6.93 (176)	≈ 1.65 (2.46)	≈ 1.39 (2.07)	≈ 2.00 (2.98)
E4-42-162-	H4-42-162-	<input type="checkbox"/> -0	6.38 (162)	7.44 (189)	≈ 1.67 (2.48)	≈ 1.40 (2.09)	-
E4-42-17-	H4-42-17-	R4-42-17- <input type="checkbox"/> -0	6.61 (168)	7.64 (194)	≈ 1.71 (2.55)	≈ 1.42 (2.12)	≈ 2.12 (3.15)
E4-42-18-	H4-42-18-	<input type="checkbox"/> -0	6.89 (175)	7.91 (201)	≈ 1.73 (2.57)	≈ 1.43 (2.13)	-
E4-42-187-	H4-42-187-	<input type="checkbox"/> -0	7.36 (187)	8.43 (214)	≈ 1.75 (2.61)	≈ 1.44 (2.15)	-
E4-42-20-	H4-42-20-	R4-42-20- <input type="checkbox"/> -0	7.87 (200)	8.90 (226)	≈ 1.83 (2.72)	≈ 1.48 (2.20)	≈ 2.32 (3.45)
E4-42-212-	H4-42-212-	<input type="checkbox"/> -0	8.35 (212)	9.41 (239)	≈ 1.85 (2.76)	≈ 1.49 (2.22)	-
E4-42-23-	H4-42-23-	<input type="checkbox"/> -0	8.86 (225)	9.88 (251)	≈ 1.90 (2.84)	≈ 1.52 (2.26)	-
E4-42-237-	H4-42-237-	<input type="checkbox"/> -0	9.33 (237)	10.39 (264)	≈ 1.93 (2.87)	≈ 1.53 (2.28)	-
E4-42-25-	H4-42-25-	R4-42-25- <input type="checkbox"/> -0	9.84 (250)	10.87 (276)	≈ 2.00 (2.98)	≈ 1.57 (2.33)	≈ 2.86 (4.25)
E4-42-262-	H4-42-262-	<input type="checkbox"/> -0	10.31 (262)	11.38 (289)	≈ 2.05 (3.05)	≈ 1.59 (2.37)	-
E4-42-28	H4-42-28-	<input type="checkbox"/> -0	10.83 (275)	11.85 (301)	≈ 2.09 (3.11)	≈ 1.61 (2.40)	-
E4-42-29-	H4-42-29-	<input type="checkbox"/> -0	11.30 (287)	12.36 (314)	≈ 2.11 (3.14)	≈ 1.62 (2.41)	-
E4-42-30-	H4-42-30-	R4-42-30- <input type="checkbox"/> -0	11.81 (300)	12.83 (326)	≈ 2.18 (3.24)	≈ 1.65 (2.46)	≈ 3.29 (4.89)
E4-42-312-	H4-42-312-	<input type="checkbox"/> -0	12.28 (312)	13.35 (339)	≈ 2.19 (3.26)	≈ 1.66 (2.47)	-
E4-42-325-	H4-42-325-	<input type="checkbox"/> -0	12.79 (325)	13.82 (351)	≈ 2.24 (3.34)	≈ 1.69 (2.52)	-
E4-42-337-	H4-42-337-	<input type="checkbox"/> -0	13.27 (337)	14.33 (364)	≈ 2.28 (3.40)	≈ 1.71 (2.54)	-
E4-42-350-	H4-42-350-	<input type="checkbox"/> -0	13.78 (350)	14.80 (376)	≈ 2.41 (3.59)	≈ 1.77 (2.64)	-
E4-42-362-	H4-42-362-	<input type="checkbox"/> -0	14.25 (362)	15.31 (389)	≈ 2.47 (3.67)	≈ 1.80 (2.68)	-
E4-42-375-	H4-42-375-	<input type="checkbox"/> -0	14.76 (375)	15.83 (402)	≈ 2.51 (3.73)	≈ 1.82 (2.71)	-
E4-42-387-	H4-42-387-	<input type="checkbox"/> -0	15.24 (387)	16.30 (414)	≈ 2.55 (3.79)	≈ 1.84 (2.74)	-
E4-42-400	H4-42-400-	<input type="checkbox"/> -0	15.75 (400)	16.77 (426)	≈ 2.58 (3.84)	≈ 1.85 (2.76)	-

Choose from the radii below for all of the above sizes

Radius (mm) Example: E4-42-400-300-0

	075**	100**	115**	125	150	160	175	200	250	300	350
<i>R</i>	2.95 (075*)	3.94 (100*)	4.53 (115*)	4.92 (125)	5.91 (150)	6.30 (160)	6.69 (175)	7.87 (200)	9.84 (250)	11.81 (300)	13.78 (350)
<i>H</i> $\frac{D}{20}$	8.43 (214)	10.39 (264)	11.57 (294)	12.36 (314)	14.33 (364)	15.12 (384)	16.30 (414)	18.27 (464)	22.20 (564)	26.14 (664)	30.08 (764)
<i>D</i>	8.19 (208)	9.17 (233)	9.76 (248)	10.15 (258)	11.14 (283)	11.54 (293)	12.13 (308)	13.11 (333)	15.08 (383)	17.05 (433)	19.02 (483)
<i>K</i>	14.57 (370)	17.72 (450)	19.69 (500)	20.87 (530)	24.02 (610)	25.20 (640)	26.97 (685)	30.12 (765)	36.22 (920)	42.52 (1080)	48.62 (1235)

** This radius is not available for the R4-42 Series

*Removable lid only, no hinged option

0 = Standard color black.

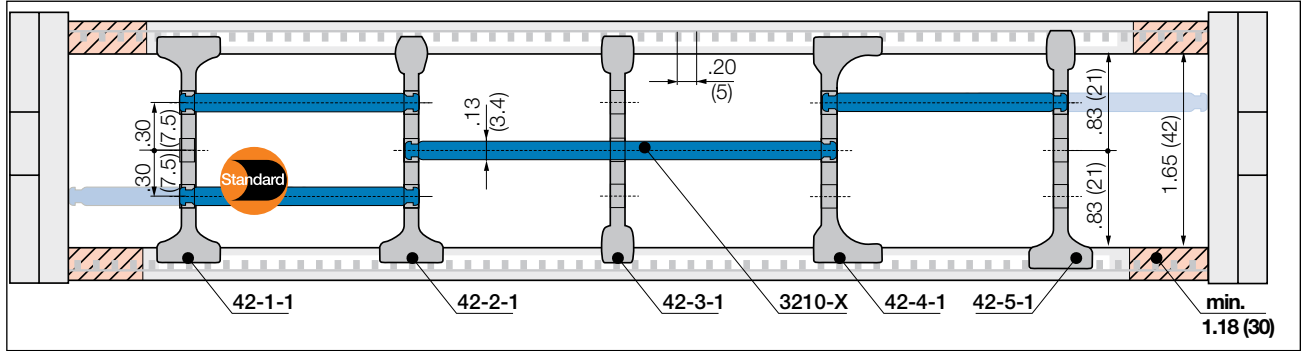
For other colors see Chapter 1

For wider chains see page 6.51

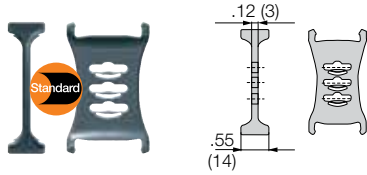
For large diameter hoses see page 6.52

PDF: igus.com/e-chain-pdfs
Product information: igus.com/e-chains





Note e-tube: Please maintain a lateral spacing of 1.18" (30 mm) between the separators and the side links. In the standard configuration separators are assembled every 2nd e-chain® link

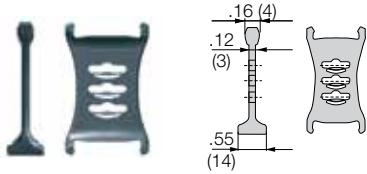


Separator, wide base

Unassembled	Part No. 42-1
Assembled	Part No. 42-1-1

- **Standard separator 42-1 for all applications**

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



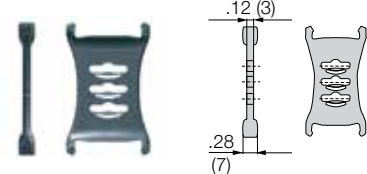
Separator, narrow head

Unassembled	Part No. 42-2
Assembled	Part No. 42-2-1

- **Separator 42-2**

For even faster installation

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



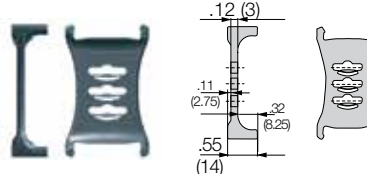
Separator, narrow base

Unassembled	Part No. 42-3
Assembled	Part No. 42-3-1

- **Separator 42-3**

For many thin cables

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



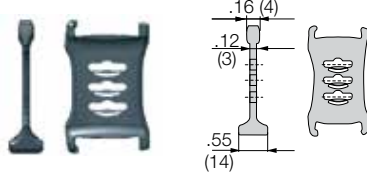
Separator, asymmetrical

Unassembled	Part No. 42-4
Assembled	Part No. 42-4-1

- **Separator 42-4**

For side mounted applications

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



Separator, asymmetrical

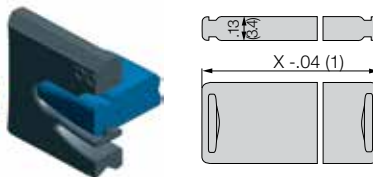
Unassembled	Part No. 42-5
Assembled	Part No. 42-5-1

- **Separator 42-5**

Locks safely in .30" (7.5 mm) increments

Notch separator for exact positioning in e-chains®. Recommended for side-mounted applications.

Lockable full-width shelves - for the standard interior separation



Full width shelf, lockable

Unassembled	Part No. 3200-X
Assembled	Part No. 3210-X

- **Full width shelf, lockable**

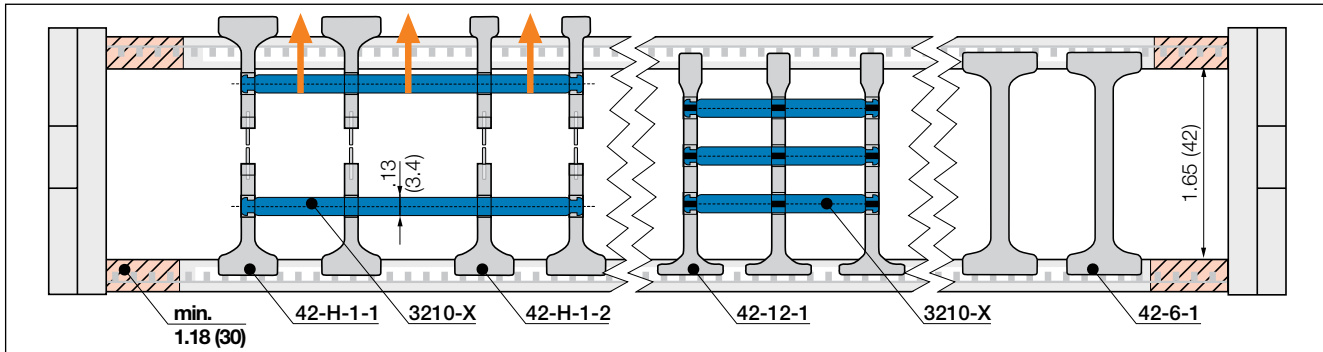
Shelf locks safely into separators on both ends, fixed width possible. Separators can be moved freely over the shelf in horizontal direction. Can be used at one height.

Width X in. (mm)	Part No. Unassembled	Part No. Assembled	Width X in. (mm)	Part No. Unassembled	Part No. Assembled	Width X in. (mm)	Part No. Unassembled	Part No. Assembled
1.97 (050)	3200-50	3210-50	4.92 (125)	3200-125	3210-125	8.86 (225)	3200-225	3210-225
2.95 (075)	3200-75	3210-75	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			

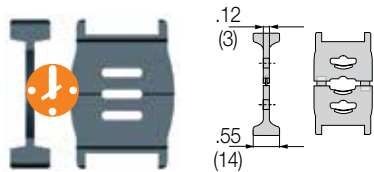
e-chain system® E4-1
 Series E4-42/H4-42/R4-42
 Interior Separation - Previous Generation



E4-42
 H4-42
 R4-42

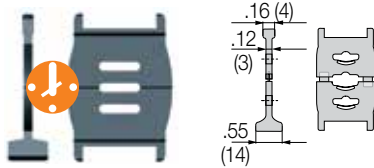


Note e-tube: Please maintain a lateral spacing of 1.18" (30 mm) between the separators and the side links. In the standard configuration separators are assembled every 2nd e-chain® link



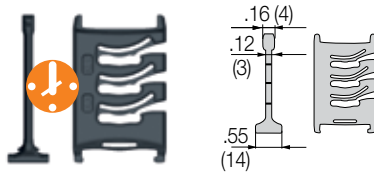
Separator, wide base

Unassembled Part No. 42-H-1
 Assembled Part No. 42-H-1-1



Separator, narrow head

Unassembled Part No. 42-H-2
 Assembled Part No. 42-H-2-1



Lean separator

Unassembled Part No. 42-12
 Assembled Part No. 42-12-1



• **Split separators for all applications**

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

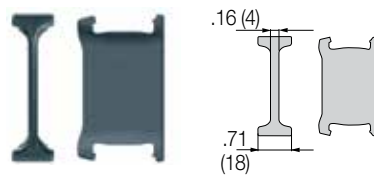
• **Lean separators 42-12**

New design allows extremely fast fitting of shelves in several layers, which significantly reduces assembly time. Enables extremely fast replacement of individual cables in a very full e-chain®.

• **Lean separator design - several layers of cables fitted quickly, save up to 50%* assembly time**

(*Lean separator vs. standard separator - measured on a 4m long e-chain® fitted with 12 cables in the igus® harnessing factory)

More interior separation options



Notch locking separator

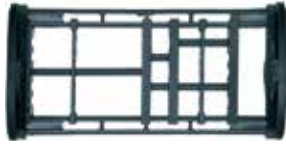
Unassembled Part No. 42-6
 Assembled Part No. 42-6-1

• **Notch locking separator for increased holding force**

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

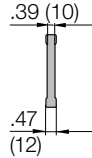
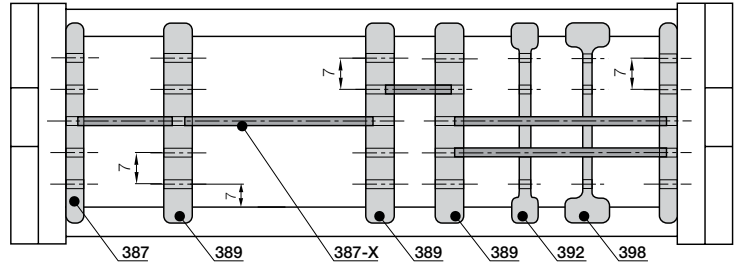
PDF: igus.com/e-chain-pdfs
 Product information: igus.com/e-chains





Shelves and Separators

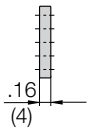
e-chains® and e-tubes can be subdivided both vertically and horizontally using the various interior separation elements. ► **Design, Chapter 1** for layout recommendations.



Split separator (chain only)

Unassembled	Part No. T423
Assembled	Part No. T423M

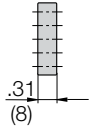
- **Split separator T423 for e-chains®**
This separator is ideal for subsequent shelving or the initial assembly of the e-chain. Fast assembly and disassembly using a hinge/push mechanism. Enhances flexibility



Side Plate

Unassembled	Part No. 386
Assembled	Part No. 387

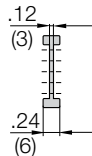
- **Side plates 386**
This component is used to form the basic pattern of a shelf system.



Vertical Separator

Unassembled	Part No. 388
Assembled	Part No. 389

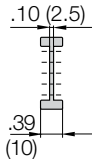
- **Vertical separator 388**
This component is used to form the basic pattern of a shelf system.



Slotted Separators

Unassembled	Part No. 391
Assembled	Part No. 392

- **Closed Slotted separators 391**
These are used for complex subdivisions. However, they cannot be retrofitted into an existing interior separation system without removing the shelves first.



Slotted Separators, Open

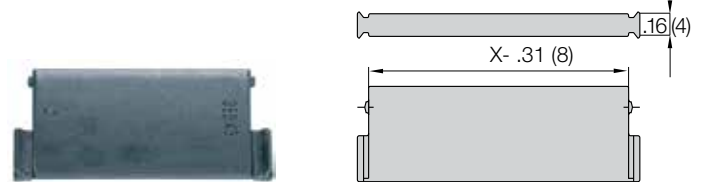
Unassembled	Part No. 397
Assembled	Part No. 398

- **Open slotted separator 397**
This separator can be retrofitted into an existing interior separation system without removing the shelves, as long as these shelves fit into the middle 3 slots only.

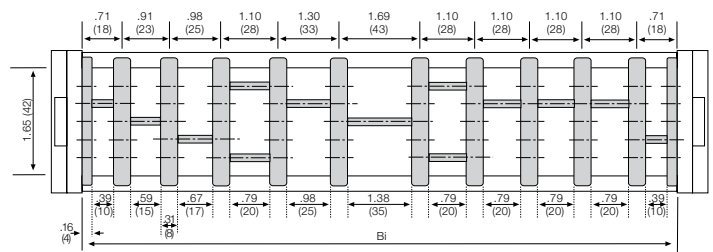
Width X	Usable Width	Part No.	Part No.
in. (mm)	in. (mm)	Unassembled	Assembled
.71 (18)	.39 (10)	386-18	387-18
.91 (23)	.59 (15)	386-23	387-23
.98 (25)	.67 (17)	386-25	387-25
1.10 (28)	.79 (20)	386-28	387-28
1.30 (33)	.98 (25)	386-33	387-33
1.69 (43)	1.38 (35)	386-43	387-43
1.97 (50)	1.65 (42)	386-50	387-50
2.13 (54)	1.81 (46)	386-54	387-54
2.44 (62)	2.13 (54)	386-62	387-62
2.95 (75)	2.64 (67)	386-75	387-75
3.43 (87)	3.12 (87)	386-87	387-87
3.94 (100)	3.62 (92)	386-100	387-100
4.25 (108)	3.94 (100)	386-108	387-108
4.92 (125)	4.61 (117)	386-125	387-125
5.91 (150)	5.59 (142)	386-150	387-150
6.89 (175)	6.57 (167)	386-175	387-175
7.87 (200)	7.56 (192)	386-200	387-200
8.19 (208)	7.87 (200)	386-208	387-208

Shelves 386-XX

These components form the basic pattern of a shelf system. Shelves of various widths can be arranged at 5 different heights in .28" (7mm) increments



The diagram below is for reference purposes only. Multiple configurations are possible. To create your e-chain shelving cross section please see our online e-chain configurator. Call 1-800-521-2747 for assistance and/or go to igus.com click on the **Products** drop down menu, choose **e-chain Cable Carriers** and on the next drop down menu simply click on **e-chain Configurator**.



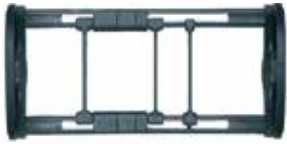
e-chain system® E4-1

Series E4-42/H4-42/R4-42

Interior Separation - Previous Generation



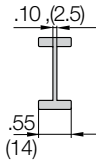
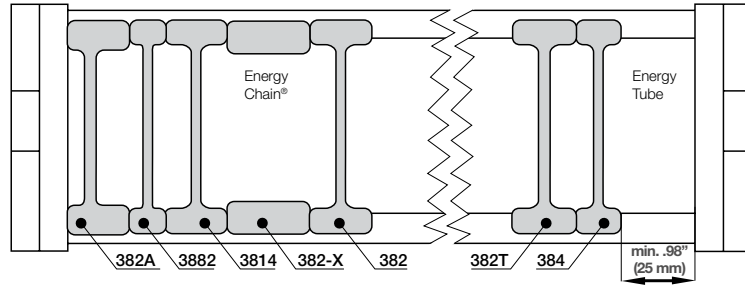
E4-42
H4-42
R4-42



Vertical separators and spacers

Vertical separators are used if a vertical subdivision of the e-chain® interior is required. By standard, vertical separators are assembled every other e-chain® link.

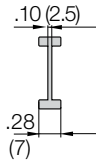
NOTE: Observe a lateral spacing of at least .98 in. (25mm) for e-tubes



Separator (chain/tube)

Unassembled **Part No. 380**
Assembled **Part No. 381**

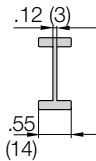
- **Standard separator 380 for e-chains® and e-tubes**
This separator offers safe stability due to its wide base design, also when used with thick cables or hoses.



Separator (chain only)

Unassembled **Part No. 3881**
Assembled **Part No. 3882**

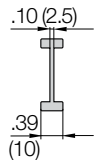
- **Vertical separator 3881 for e-chains®**
This separator features a narrow 7mm base for applications where a large number of small cables need to be individually separated.



Vertical Separator (tubes only)

Part No. 380T **Part No. 381T**

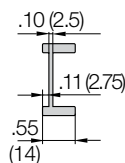
- **Locking separator 380T for e-tubes**
It clamps to the fixed radius and remains free along the other radius to facilitate lid removal. When installing please ensure they are identically aligned.



Separator (chain only)

Unassembled **Part No. 383**
Assembled **Part No. 384**

- **Vertical separator 383 for e-chains®**
This separator features an increased retention force for applications exposed to very high humidity or extreme loads. It features asymmetric claws for the crossbar which results in the increased retention force.



Asymmetric separator (chain only)

Unassembled **Part No. 381A**
Assembled **Part No. 382A**

- **Asymmetrical separator 381A for e-chains®**
This separator features an (14mm) base. It can be used in combinations between spacers of different widths and vertical separators in side mounted applications.



Spacer (chain only)

Unassembled **Part No. 381-XX**
Assembled **Part No. 382-XX**
XX = width of the spacer

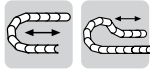
- **NOTE ON SPACERS**
Vertical separators are adjustable, but can be fixed in position by means of a spacer. Spacers are most often necessary for side mounted applications. The available inner height is reduced by .08" (2mm) **per spacer** (for example if one spacer is placed on either side of the separator, the overall inner height is reduced by .16" (4mm)). To avoid this, place the spacers on the **outside** of the opening crossbar (**not for long travels**).

Spacers available in the following sizes:

Part No. Unassembled	Part No. Assembled	in.	(mm)
381 -10	382 -10	.39"	(10)
381 -15	382 -15	.59"	(15)
381 -20	382 -20	.79"	(20)

PDF: igus.com/e-chain-pdfs
Product information: igus.com/e-chains

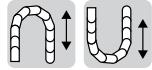




Standard

Option 1: pivoting

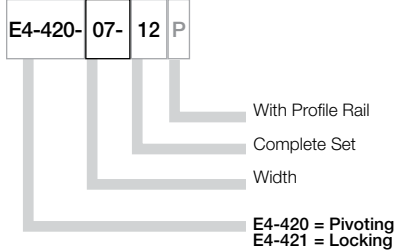
- Recommended for unsupported and gliding applications
- Attachment capability on all sides
- Bolted connection outside of chain cross-section
- Space restricted conditions
- Corrosion resistant



Option 2: locking

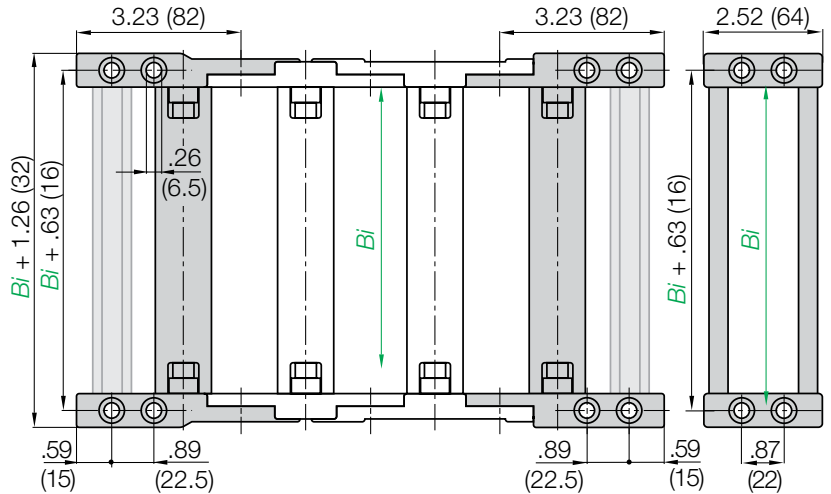
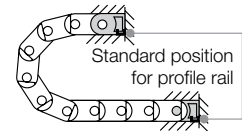
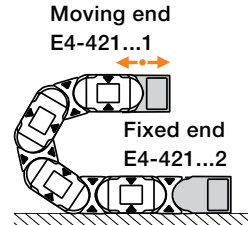
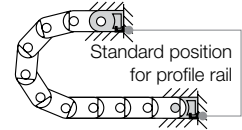
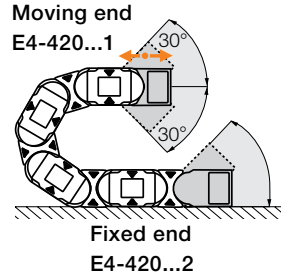
- Profile rail option
- Universal use
- Corrosion resistant
- Vertical hanging/standing travels
- Extreme accelerations

Part Number Structure



Due to the design of the E4-42 series chains, please note the following when ordering brackets:

Even number of links = full set, part number ending in -12; Odd number of links = 2 pieces, part number ending in -1



Part No. Full Set (pivoting)
Series E4-42 or H4-42
E4-420-Width-12

Part No. Full Set (pivoting)
with profile rail
Series E4-42 or H4-42
E4-420-Width-12P

Part number examples are shown for pivoting brackets for e-chain.
For locking brackets change part number to 421

Width	Part No. Full Set chain		With Profile Rail	Bi in. (mm)	Width	Part No. Full Set chain		With Profile Rail	Bi in. (mm)
	Pivoting	Locking				Pivoting	Locking		
-05*	E4-420	E4-421	-05-12	1.97 (50)	-212	E4-420	E4-421	-212-12	8.35 (212)
-06	E4-420	E4-421	-06-12	2.68 (68)	-23	E4-420	E4-421	-23-12	8.86 (225)
-07	E4-420	E4-421	-07-12	2.95 (75)	-237	E4-420	E4-421	-237-12	9.33 (237)
-087	E4-420	E4-421	-087-12	3.43 (87)	-25	E4-420	E4-421	-25-12	9.84 (250)
-097	E4-420	E4-421	-097-12	3.82 (97)	-262	E4-420	E4-421	-262-12	10.31 (262)
-10	E4-420	E4-421	-10-12	3.94 (100)	-28	E4-420	E4-421	-28-12	10.83 (275)
-11	E4-420	E4-421	-11-12	4.25 (108)	-29	E4-420	E4-421	-29-12	11.30 (287)
-112	E4-420	E4-421	-112-12	4.41 (112)	-30	E4-420	E4-421	-30-12	11.81 (300)
-12	E4-420	E4-421	-12-12	4.92 (125)	-312	E4-420	E4-421	-312-12	12.28 (312)
-137	E4-420	E4-421	-137-12	5.39 (137)	-325	E4-420	E4-421	-325-12	12.79 (325)
-15	E4-420	E4-421	-15-12	5.91 (150)	-337	E4-420	E4-421	-337-12	13.27 (337)
-162	E4-420	E4-421	-162-12	6.38 (162)	-350	E4-420	E4-421	-350-12	13.78 (350)
-17	E4-420	E4-421	-17-12	6.61 (168)	-362	E4-420	E4-421	-362-12	14.25 (362)
-18	E4-420	E4-421	-18-12	6.89 (175)	-375	E4-420	E4-421	-375-12	14.76 (375)
-187	E4-420	E4-421	-187-12	7.36 (187)	-387	E4-420	E4-421	-387-12	15.24 (387)
-20	E4-420	E4-421	-20-12	7.87 (200)	-400	E4-420	E4-421	-400-12	15.75 (400)

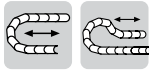
e-chain system® E4-1

Series E4-42/H4-42/R4-42

Mounting Brackets



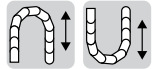
E4-42
H4-42
R4-42



Standard

Option 1: pivoting

- Recommended for unsupported and gliding applications
- Attachment capability on all sides
- Bolted connection outside of chain cross-section
- Space restricted conditions
- Corrosion resistant



Option 2: locking

- Profile rail option
- Universal use
- Corrosion resistant
- Vertical hanging/standing travels
- Extreme accelerations

Part Number Structure

R4-420-07-12 P

With Profile Rail

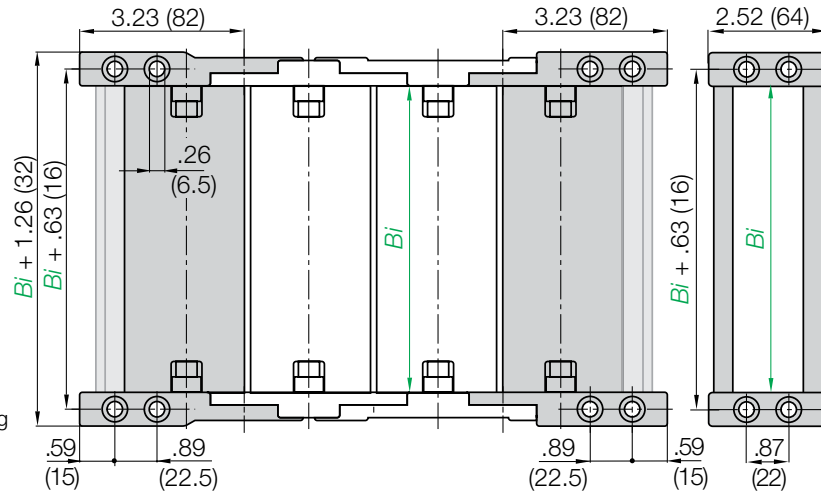
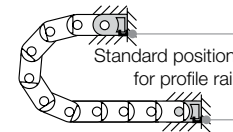
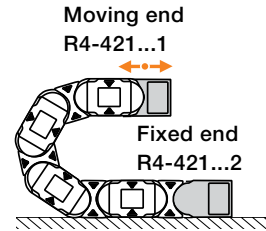
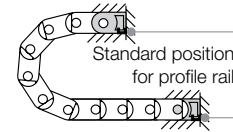
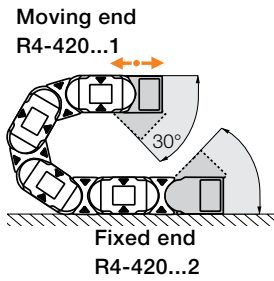
Complete Set

Width

R4-420 = Pivoting
R4-421 = Locking

Due to the design of the R4-42 series chains, please note the following when ordering brackets:

Even number of links = full set, part number ending in -12; Odd number of links = 2 pieces, part number ending in -1



Part No. Full Set (pivoting)
Tube Series R4-42
R4-420-Width-12

Part No. Full Set (pivoting)
with Profile Rail
Tube Series R4-42
R4-420-Width-12P

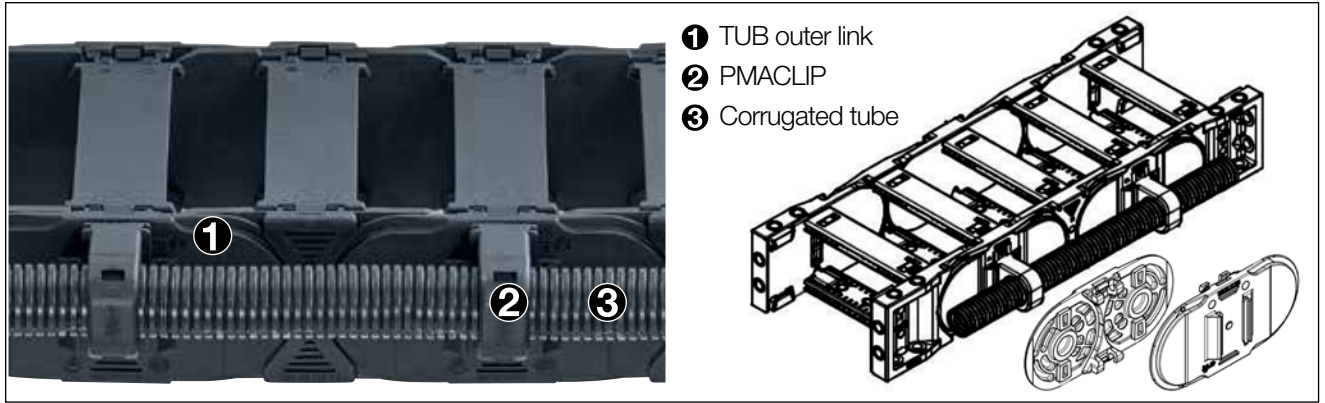
Part number examples are shown for pivoting brackets for e-chain.
For locking brackets change part number to 421

Width	Part No. Full Set chain		With Profile Rail	Bi in. (mm)
	Pivoting	Locking		
-05*	R4-420	R4-421	-05-12 P	1.97 (50)
-07	R4-420	R4-421	-07-12 P	2.95 (75)
-087	R4-420	R4-421	-087-12 P	3.43 (87)
-10	R4-420	R4-421	-10-12 P	3.94 (100)
-11	R4-420	R4-421	-11-12 P	4.25 (108)
-12	R4-420	R4-421	-12-12 P	4.92 (125)

Width	Part No. Full Set chain		With Profile Rail	Bi in. (mm)
	Pivoting	Locking		
-15	R4-420	R4-421	-15-12 P	5.91 (150)
-17	R4-420	R4-421	-17-12 P	6.61 (168)
-20	R4-420	R4-421	-20-12 P	7.87 (200)
-25	R4-420	R4-421	-25-12 P	9.84 (250)
-30	R4-420	ER4-421	-30-12 P	11.81 (300)

PDF: igus.com/e-chain-pdfs
Product information: igus.com/e-chains





- 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) 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]
E4-42-XXXTUBR-R-0	E4-42-XXXTUBL-R-0	E4-42-XXXTUB-R-0	.28 (07), .39 (10), .47 (12), .67 (17)

*View from the fixed end

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

E4-42-100TUBR-150-0 = with TUB outer sections every 2nd right hand link

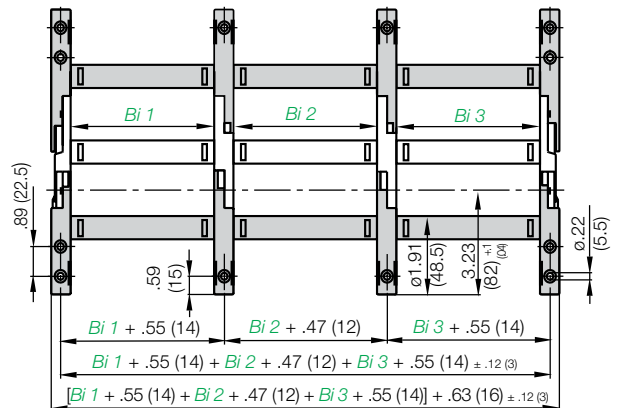


Extension links - for extremely wide e-chains® up to 9.84 ft (3m)

- For applications in which particularly high fill weights necessitate extremely wide e-chains®
- The extension link design allows virtually limitless side-by-side attachment of chains
- The unsupported length of a chain can be increased when additional loads are required
- Extension links can be used with e-chains®, e-tubes or a combination of both
- They are suitable for unsupported and gliding applications in a guide trough
- e-chains® with extension links are attached with KMA or steel mounting brackets.

Part number example for e-chain®

E4-42-10/20/10-200-0
E4-42-Bi1/Bi2/Bi3-R-0



We **strongly recommend** on-site consultation with an igus® technician for individual advice regarding mounting brackets, guide troughs and other design details.

Part No.	Part No.	Part No.
Extension link e-chain®	Extension link e-tube	Extension link as an individual part
E4-42-Bi1/Bi2/Bi3-R-0	R4-42-Bi1/Bi2/Bi3-R-0	384-R-

Complete Part No. with the width index **Bi1/Bi2/Bi3/etc.** and the radius (**R**). Example: E4-32-10/20/10-200-0