



E2 e-tubes

Protection against dirt and debris



E2 e-tubes - protection in environments with dirt and debris

E2 Series R100 and Series R

Since igus® introduced the first openable e-tubes in the mid-1980's, many additions and improvements have been introduced into the program. igus® e-tubes work in hot chip areas, in areas of dirt and dust generated by woodworking, steelmills, pulp and paper, textile, agriculture, coal plant and many other hostile environments.

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



UL94-V2 classifications upon request



e-tubes with HT-material for hot chips
up to 850°C available upon request



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



Series R - For higher speeds and smooth running





E2 e-tubes in chip-area of a tooling machine. Resistant against hot metal chips up to 850°C



U-shaped supported e-tube
for high lateral acceleration



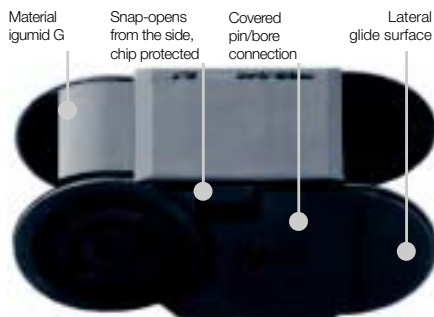
Standing application - R68 e-tube -
Note: the first links are supported

System RX - Extremely chip repellent e-tubes

Totally redesigned igus®
e-tube - it repels chips,
is extremely tight, and is
still openable!

System RX ► from page 6.50



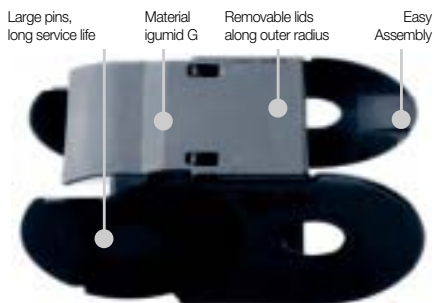


E2 Series R100 - robust and tight

- Very good protection against chips (including hot chips)
- Hinged, snap-open, removable lids along inner and 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 ► [chapter Design, page 1.38](#)

Selection table

Series	Inner height <i>hi</i> [mm]	Inner width <i>Bi</i> [mm]	Outer width <i>Ba</i> [mm]	Outer height <i>ha</i> [mm]	Bending radius <i>R</i> [mm]	Unsupported length max. [m]	Page
R117/118	21	20-100	32-112	28	63 - 180	1,20	6.6
R157/158	40	40-200	56-216	50	100 - 250	2,25	6.12
R167/168	50	50-250	68-268	64	100 - 300	2,50	6.20



E2 Series R - small pitch for smooth motion

- Protection for cables and hoses against chips (including 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 ► [chapter Design, page 1.38](#)

Selection table

Series	Inner height <i>hi</i> [mm]	Inner width <i>Bi</i> [mm]	Outer width <i>Ba</i> [mm]	Outer height <i>ha</i> [mm]	Bending radius <i>R</i> [mm]	Unsupported length max. [m]	Page
R48	25	25-130	36-141	36	60 - 250	1,50	6.26
R58	35	50-200	66-216	50	75 - 250	2,30	6.34
R68	45	50-250	68-268	64	100 - 300	2,50	6.42

Type R100 | **Series R117/R118 · R157/R158 · R167/R168****Assembling | Type R100**

Push, click - and snap in pin



Swivel lids - push and snap



Slide last lid



Push and snap

Separating | Type R100

Lever open lid



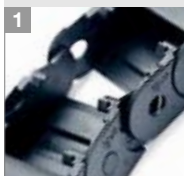
Bend e-tube to remove lid



Release side-link



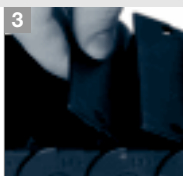
Twist and pull apart

Type R | **Series R48 · R58 · R68****Assembling | Type R**

Push and click



Snap in pin



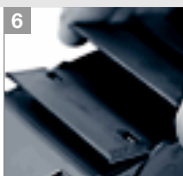
Slide lid



Push and snap

Separating | Type R

Lever open lid



Remove lid



Release side-link



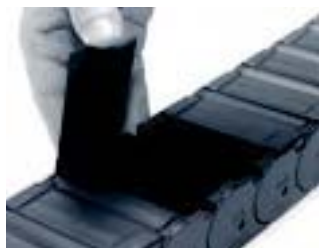
Twist and pull apart



Price index

UL94-V2 classifications
upon requestiF-Design Award Winner
Series R117/R118e-tubes with HT-material
for hot chips up to 850°C
available upon request

- ➊ Effective chip protection, even against hot metal chips
- ➋ Smooth, chip-repellent exterior
- ➌ Double stop dog for strong unsupported length
- ➍ Snap-open from the side, covered pin/bore connection
- ➎ Lateral glide surfaces for side-mounted operation
- ➏ Snap-open lids along inner or outer radius
- ➐ Universal KMA mounting brackets with attachment capability on all sides
- ➑ Space-efficient with optimized ratio of inner dimension to outer dimension

To open the e-tube Series R100 lift
up the lid and swivel lid to the side

When to use the Series R117/R118:

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



When not to use it:

- For smoother running and smaller pitch
 - ▶ e-tubes E2, Series R48, page 6.26
- If no chip protection is required
 - ▶ Series 1400/1500 E2/000, page 5.142



Order example complete e-tube

Please indicate e-tube-lengths or number of links **Example: 1 m or 33 links**

1 m 117.100.100.0



e-tube

with 2 separators 1186.01 assembled every 2" link



Interior separation

1 set 11800.100.14



Mounting bracket

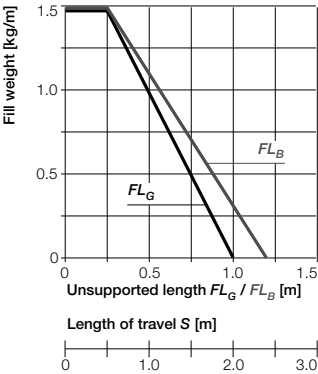
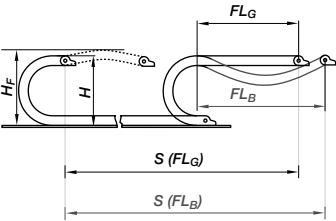


Unsupported length

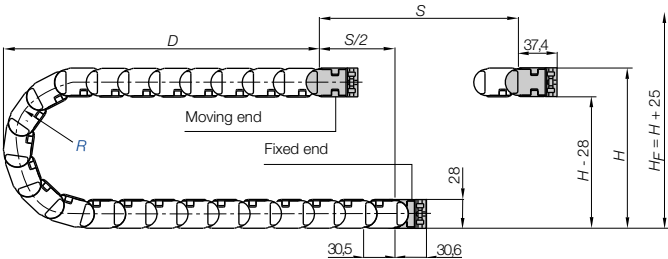
FL_G = with straight upper run

FL_B = with permitted sag

Further information ► **Design, page 1.12**



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



Short travels - unsupported

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

Pitch = 30,5 mm/link Links/m = 33 (1000,6 mm) Chain length = $S/2 + K$

R	063	075	100	110	125	145	180
H	154	178	228	248	278	318	388
D	123	135	160	170	185	205	240
K	260	300	380	410	455	520	630

The required clearance height:
 $H_F = H + 25 \text{ mm}$
(with 1,0 kg/m fill weight)

Hot Chips up to 850°C

e-tubes that repel hot chips, up to 850 °C. Some applications, depending on amount and size of the chips, can burn or melt the surface. That is no longer the case with the igus® "igumid HT" material.

Order example - Full e-tube made of HT*: 118.080.100.0.HT

Order example - Lids made of HT: 118.080HT.100.0

*for long travels upon request

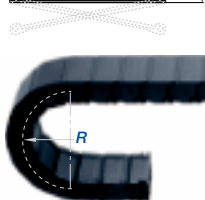
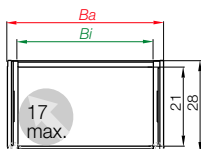
Delivery time up to 4 weeks! Further Information: www.igus.de/en/HT

Technical Data

Speed / acceleration FL_G	max. 10 [m/s] / max. 100 [m/s²]
Speed / acceleration FL_B	max. 3 [m/s] / max. 6 [m/s²]
Gliding speed / acceleration (maximum)	max. 0,5 [m/s] / max. 5 [m/s²]
Material - permitted temperature °C	igumid G / -40° up to +120° C
Flammability class, igumid G	VDE 0304 IIC UL94 HB



Details of material properties
► page 1.38



Part No. structure

117. 100. 100. 0

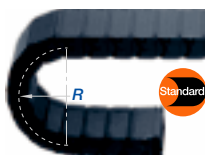
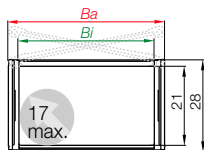


Series R117 - hinged, snap-open on both sides of the inner radius

Part No.	Bi (mm)	Ba (mm)	R (mm)	Bending radii								Weight [kg/m]
117.020..0	20	32	063	075	100	110	125	145	180			≈ 0,43
117.025..0	25	37	063	075	100	110	125	145	180			≈ 0,46
117.038..0	38	50	063	075	100	110	125	145	180			≈ 0,56
117.048..0	48	60	063	075	100	110	125	145	180			≈ 0,66
117.063..0	63	75	063	075	100	110	125	145	180			≈ 0,76
117.080..0	80	92	063	075	100	110	125	145	180			≈ 0,89
117.100..0	100	112	063	075	100	110	125	145	180			≈ 1,06

Supplement Part No. with required radius. Example: 117.100.100.0

0 = standard color, other colors ► page 1.39 · Pitch = 30,5 mm/link - Links/m = 33



Part No. structure

118. 080. 100. 0



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

Part No.	Bi (mm)	Ba (mm)	R (mm)	Bending radii								Weight [kg/m]
118.020..0	20	32	063	075	100	110	125	145	180			≈ 0,43
118.025..0	25	37	063	075	100	110	125	145	180			≈ 0,46
118.038..0	38	50	063	075	100	110	125	145	180			≈ 0,56
118.048..0	48	60	063	075	100	110	125	145	180			≈ 0,66
118.063..0	63	75	063	075	100	110	125	145	180			≈ 0,76
118.080..0	80	92	063	075	100	110	125	145	180			≈ 0,89
118.100..0	100	112	063	075	100	110	125	145	180			≈ 1,06

The sizes 020 / 038 / 063 / 100 are available upon request.

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

Supplement Part No. with required radius. Example: 118.080.100.0

0 = standard color, other colors ► page 1.39 · Pitch = 30,5 mm/link - Links/m = 33



Series R117·R118 | Accessories | Interior Separation

Vertical Separator	
unassembled	1185.01
assembled	1186.01

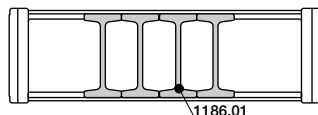


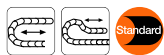
Option 1: Vertical Separators

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

● Standard subdivision with Vertical Separator 1185.01

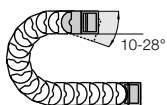


**Option KMA* - pivoting**

- Pivoting
- Short and long travels
- Space-restricted
- Corrosion-resistant
- Pivoting option at fixed end available upon request

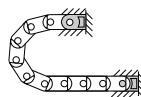
(Part No. 11800...12)

*KMA = Polymer Metal Mounting Bracket

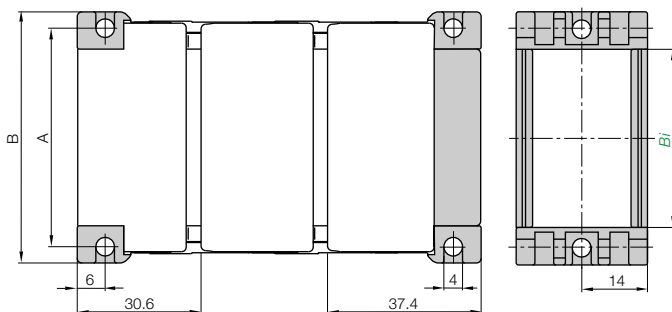
Moving end (outer link)
11800...1

11800...4

Fixed end (inner link)



Mounting bracket attachment

11800...4
Fixed end11800...1
Moving end**Dimensions and
order configurations**

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.

Part No. structure

11800.020.14 A

A... must be indicated on preassembled configurations

Full set = 14

Width

KMA pivoting for selected chain type

Full set, for both ends:

11800.020.14

Single-part order:

11800.020.1

Mounting bracket with bore

11800.020.4

Mounting bracket with pin

For Series	Part No. full set	Dim. A [mm]	Dim. B [mm]
117-118.020. ▶	11800.020.14	29	36
117-118.025. ▶	11800.025.14	34	41
117-118.038. ▶	11800.038.14	47	54
117-118.048. ▶	11800.048.14	57	64
117-118.063. ▶	11800.063.14	72	79
117-118.080. ▶	11800.080.14	89	96
117-118.100. ▶	11800.100.14	109	116

Please add the Part No. with the requested index - e.g. 11800.048.14

For the preassembled mode please add the index A e.g. 11800.048.14 A

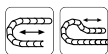
Phone +49- (0) 22 03-96 49-800
Fax +49- (0) 22 03-96 49-222



▶ page 6.5



Possible installation conditions for assembled mounting brackets ► Order example "preassembled" below

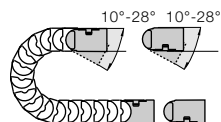


Angled polymer bracket

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

Moving end (outer link)

1180...1PZ(B)



1180...4PZ(B) Fixed end

(inner link)

Dimensions and order configurations

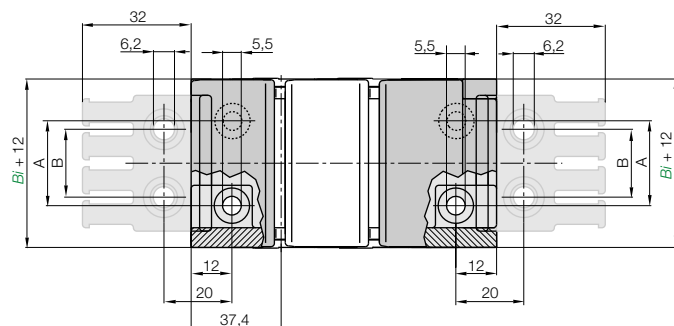
Strain relief is possible on the moving end and/or the fixed end.

1180...1PZ(B)

Moving end

1180 ...4PZ(B)

Fixed end



Part No. structure

1180. 048. 14 PZB A1

A... must be indicated on preassembled configurations with assembled tiewrap plates

Full set = 14

Width

Mounting brackets for selected chain type

Full set, for both ends:

1180.048. 14 PZB + tiewrap plate

Single-part order:

1180.048. 1 PZB + tiewrap plate

Mounting bracket with bore

1180.048. 4 PZB + tiewrap plate

Mounting bracket with pin

For Series	Part No. full set with tiewrap plate	Part No. full set without tiewrap plate	Dim. A [mm]	Dim. B [mm]
117-118.025. ►	1180. 025 .14PZB	1180. 025 .14PZ	12	15
117-118.038. ►	1180. 038 .14PZB	1180. 038 .14PZ	25	20
117-118.048. ►	1180. 048 .14PZB	1180. 048 .14PZ	35	30
117-118.063. ►	1180. 063 .14PZB	1180. 063 .14PZ	50	40
117-118.080. ►	1180. 080 .14PZB	1180. 080 .14PZ	67	60
117-118.100. ►	1180. 100 .14PZB	1180. 100 .14PZ	87	80

Please add the Part No. with the requested index - e.g. 1180. 048 .14 PZB

For the **preassembled** mode please add the index A1 ... A4 e.g. 1180. 048 14PZB A1

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

- Countersunk bolt M5 DIN 912-8.8 Length depends on the thickness of the attachment base
- Hexagon nut M5 DIN 934-8

Phone +49- (0) 22 03-96 49-800
Fax +49- (0) 22 03-96 49-222

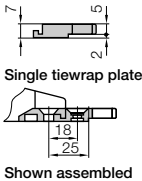
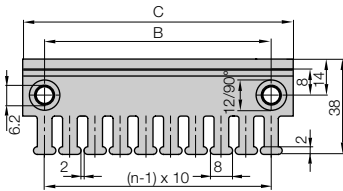
igus® GmbH
51147 Cologne

Internet: www.igus.eu
E-mail: info@igus.de

Tiewrap plate	No. of teeth <i>n</i>	Dim. C [mm]	Dim. B [mm]
2020.ZB	3	30	15
2030.ZB	4	40	20
2040.ZB	5	50	30
2050.ZB	6	60	40
2070.ZB	8	80	60
2090.ZB = (2030.ZB + 2040.ZB)	9	90	–
2100.ZB	10	100	80
2125.ZB = (2050.ZB + 2050.ZB)	12	120	–

Tiewrap plate as individual part

As individual component screwed on KMA. Can be plugged in the mounting brackets. **Details ▶ chapter 10**



Cable tiewraps as individual part

Cable tiewraps (100-piece bag)	Width x length	max. Ø	Tensile strength
CFB.001	4,8 x 150 mm	36 mm	222 N



Other strain relief elements
▶ chapter 10

E2 e-tubes Type R
Inner height: 21 mm

Phone +49- (0) 22 03-96 49-800
Fax +49- (0) 22 03-96 49-222



chapter 10



page 6.5



Price index

UL94-V2 classifications
upon requestESD classification:
Electrically conductive
ESD/ATEX version upon requeste-tubes with HT-material
for hot chips up to 850°C
available upon requestTo open the e-tube Series R100 lift
up the lid and swivel lid to the side

When to use the Series R157/R158:

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



When not to use it:

- For extremely chip repellent e-tubes
► **System RX, Series RX32, page 6.58**
- If snap-open accessibility along both sides is required
► **System E4.1, Series R4.32, page 7.42**
- If very smooth travel due to small pitch is required
► **Type R, Series R58, page 6.34**

- 1 Snap-open lids along inner or outer radius
- 2 Snap-open from the side, covered pin/bore connection
- 3 Effective chip protection, even against hot metal chips
- 4 Double stop dog for strong unsupported length
- 5 Lateral glide surfaces for side-mounted operation
- 6 Universal KMA mounting brackets with attachment capability on all sides
- 7 Space-efficient with optimized ratio of inner dimension to outer dimension
- 8 **Strain relief separator** - Separator with integrated strain relief for the use in the first or last chain link ► **page 6.18**



Order example complete e-tube

Please indicate e-tube-lengths or number of links **Example: 1 m or 22 links**

1 m 157.088.100.0

e-tube

with 2 separators 1586.01 assembled every 2nd link

Interior separation

1 set 15800.088.12

Mounting bracket

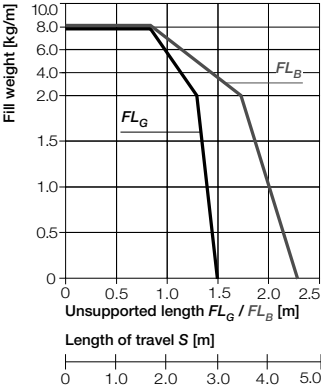
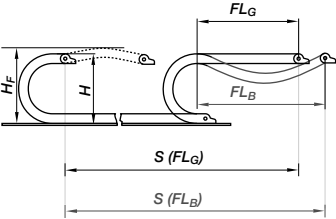


Unsupported length

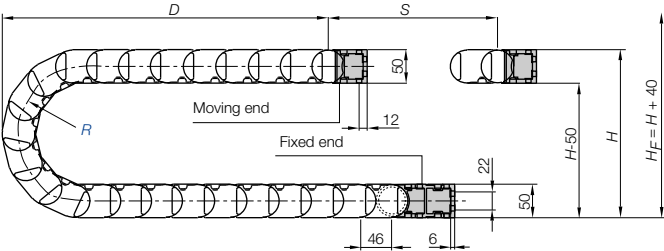
FL_G = with straight upper run

FL_B = with permitted sag

Further information ► Design, page 1.12



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



Short travels - unsupported

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

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

R	100	125	150	175	200	250
H	250	300	350	400	450	550
D	194	219	244	269	294	344
K	410	485	565	645	725	880

The required clearance height:
 $H_F = H + 40 \text{ mm}$
(with 1,0 kg/m fill weight)

Hot Chips up to 850°C

e-tubes that repel hot chips, up to 850 °C. Some applications, depending on amount and size of the chips, can burn or melt the surface. That is no longer the case with the igus® "igumid HT" material.

Order example - Full e-tube made of HT*: **158.100.100.0.HT**

Order example - Lids made of HT: **158.100HT.100.0**

*for long travels upon request

Delivery time up to 4 weeks! Further Information: www.igus.de/en/HT

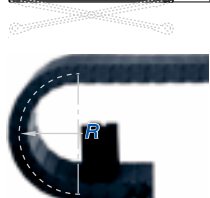
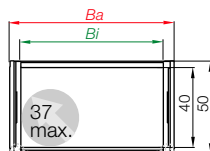
Technical Data

Speed / acceleration FL_G	max. 10 [m/s] / max. 100 [m/s]
Speed / acceleration FL_B	max. 3 [m/s] / max. 6 [m/s]
Gliding speed / acceleration (maximum)	max. 0,5 [m/s] / max. 5 [m/s]
Material - permitted temperature °C	igumid G / -40° up to +120° C
Flammability class, igumid G	VDE 0304 IIC UL94 HB



Details of material properties
► page 1.38





Part No. structure

157. 100. 100. 0



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

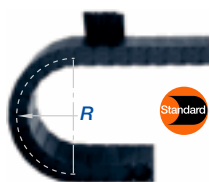
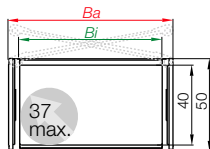
Part No.	Bi [mm]	Ba [mm]	R [mm]	Bending radii						Weight [kg/m]
157.040.	.0*	40	56	100	125	150	175	200	250	≈ 1,21
157.050.	.0	50	66	100	125	150	175	200	250	≈ 1,30
157.075.	.0	75	91	100	125	150	175	200	250	≈ 1,50
157.088.	.0	88	104	100	125	150	175	200	250	≈ 1,57
157.090.	.0**	88	104	100	125	150	175	200	250	≈ 1,63
157.100.	.0	100	116	100	125	150	175	200	250	≈ 1,71
157.125.	.0	125	141	100	125	150	175	200	250	≈ 1,92
157.135.	.0	135	150	100	125	150	175	200	250	≈ 2,10
157.150.	.0	150	166	100	125	150	175	200	250	≈ 2,13
157.175.	.0	175	191	100	125	150	175	200	250	≈ 2,34
157.200.	.0	200	216	100	125	150	175	200	250	≈ 2,55

* Lid removable only, not hinged

** Same dimensions as 157.088 - less recent design, no hinged option

Supplement Part No. with required radius. Example: 157.100.100.0

0 = standard color, other colors ► page 1.39 · Pitch = 46 mm/link - Links/m = 22



Part No. structure

158. 100. 100. 0



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

Part No.	Bi [mm]	Ba [mm]	R [mm]	Bending radii						Weight [kg/m]
158.040.	.0*	40	56	100	125	150	175	200	250	≈ 1,21
158.050.	.0	50	66	100	125	150	175	200	250	≈ 1,30
158.075.	.0	75	91	100	125	150	175	200	250	≈ 1,50
158.088.	.0	88	104	100	125	150	175	200	250	≈ 1,57
158.090.	.0**	88	104	100	125	150	175	200	250	≈ 1,63
158.100.	.0	100	116	100	125	150	175	200	250	≈ 1,71
158.125.	.0	125	141	100	125	150	175	200	250	≈ 1,92
158.135.	.0	135	150	100	125	150	175	200	250	≈ 2,10
158.150.	.0	150	166	100	125	150	175	200	250	≈ 2,13
158.175.	.0	175	191	100	125	150	175	200	250	≈ 2,34
158.200.	.0	200	216	100	125	150	175	200	250	≈ 2,55

* Lid removable only, not hinged

** Same dimensions as 158.088 - less recent design, no hinged option

The size 125 is available upon request. Delivery time: approx. 8-10 weeks after receipt of order

Supplement Part No. with required radius. Example: 158.100.100.0

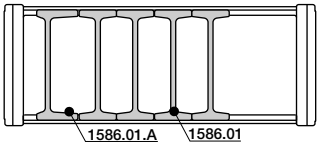
0 = standard color, other colors ► page 1.39 · Pitch = 46 mm/link - Links/m = 22



Option 1: Vertical Separators

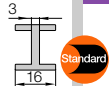
Vertical Separators are used if a vertical subdivision of the e-chain® interior is required -
By standard Vertical Separators are assembled every other e-chain® link

- **Standard** subdivision with **Vertical Separator 1586.01**
- **Asymetrical Separator 1586.01.A** for side-mounted operations
- **Strain Relief Separator 1586.01.Z**, integrable in the mounting bracket, to position at any point - can be combined with **Full-Width Shelf 221.X** and **Shelf 2210.X**



Vertical Separator

unassembled	1585.01
assembled	1586.01



Asymetrical Separator

unassembled	1585.01.A
assembled	1586.01.A



Strain Relief Separator

unassembled	1585.01.Z
assembled	1586.01.Z

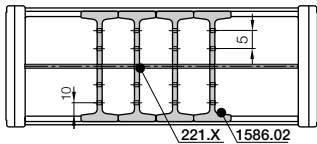


E2 e-tubes Type R
Inner height: 40 mm

Option 2: Full-Width Shelves

For applications involving many thin cables with similar or identical diameters

- **Vertical Separator, slotted 1586.02** for applications with **Full-Width Shelf 221.X**



Vert. Separator, slotted

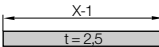
unassembled	1585.02
assembled	1586.02



Width X [mm]	Part No. unassembled	Part No. assembled
040	220.40	221.40
050	220.50	221.50
075	220.75	221.75
088	220.87	221.87
100	220.100	221.100

Width X [mm]	Part No. unassembled	Part No. assembled
125	220.125	221.125
135	220.135	221.135
150	220.150	221.150
175	220.175	221.175
200	220.200	221.200

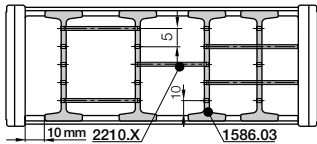
Full-Width Shelf



Option 3: Shelves

For applications involving many cables with similar or identical diameters. Partial separation into individual chambers can be achieved and the entire width *B*-10 mm can be used

- **Shelf 2210.X** can be combined with **Middle Plate 1586.03**



Middle Plate

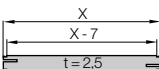
unassembled	1585.03
assembled	1586.03

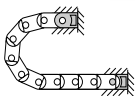


Width X [mm]	Part No. unassembled	Part No. assembled
018	2200.18	2210.18
023	2200.23	2210.23
028	2200.28	2210.28
033	2200.33	2210.33
038	2200.38	2210.38
043	2200.43	2210.43
048	2200.48	2210.48

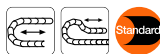
Width X [mm]	Part No. unassembled	Part No. assembled
058	2200.58	2210.58
068	2200.68	2210.68
073	2200.73	2210.73
088	2200.88	2210.88
099	2200.99	2210.99
124	2200.124	2210.124
149	2200.149	2210.149

Shelf





The attachment variants arising automatically by the choice of the KMA mounting bracket



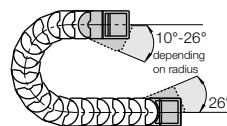
Option KMA* - pivoting, extended

- Recommended for unsupported and gliding applications
- Extended, pivoting
- Easy to install
- Universally mountable with attachment capability on all sides
- Locked connection to e-tube
- Long travels with lowered mounting height possible

*KMA = Polymer Metal Mounting Bracket

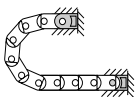
Moving end (outer link)

15800/15801 ...1

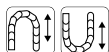


15800/15801...2

Fixed end (inner link)



The attachment variants arising automatically by the choice of the KMA mounting bracket

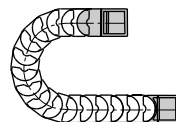


Option KMA - locking, extended

- Recommended for vertical hanging / standing applications
- Extended, locking
- Easy to install
- Flush mounting at both ends of the e-tube
- Universally mountable with attachment capability on all sides
- Corrosion-resistant

Moving end (outer link)

15800/15801 ...3



15800/15801...4

Fixed end (inner link)

Dimensions and order configurations



Quickflange upon request

Part No. structure (pivoting)

15800.100.12 A

A... must be indicated on preassembled configurations
Full set pivoting = 12
Width
KMA for selected chain type

Full set, for both ends:

15800.100.12

Single-part order:

15800.100.1

Mounting bracket with bore

15800.100.2

Mounting bracket with pin

Part No. structure (locking)

15800.100.34 A

A... must be indicated on preassembled configurations
Full set locking = 34
Width
KMA for selected chain type

Full set, for both ends:

15800.100.34

Single-part order:

15800.100.3

Mounting bracket with bore

15800.100.4

Mounting bracket with pin

15800/15801...1 Standard! (pivoting)

15800/15801...3 (locking)

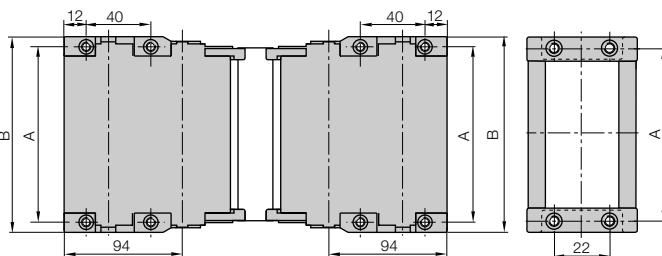
Moving end

Standard! (pivoting) 15800/15801...2

(locking) 15800/15801...4

Fixed end

Quickflange available upon request



For Series	Part No. full set	Dim. A [mm]	Dim. B [mm]
157-158.040 ▶	15801.040. <input type="checkbox"/>	50	61
157-158.050 ▶	15800.050. <input type="checkbox"/>	60	71
157-158.075 ▶	15800.075. <input type="checkbox"/>	85	96
157-158.088 ▶	15800.088. <input type="checkbox"/>	98	109
157-158.090 ▶	15801.090. <input type="checkbox"/>	98	109
157-158.100 ▶	15800.100. <input type="checkbox"/>	110	121
157-158.125 ▶	15800.125. <input type="checkbox"/>	135	146
157-158.135 ▶	15800.135. <input type="checkbox"/>	145	156
157-158.150 ▶	15800.150. <input type="checkbox"/>	160	171
157-158.175 ▶	15800.175. <input type="checkbox"/>	185	196
157-158.200 ▶	15800.200. <input type="checkbox"/>	210	221

Please add the Part No. with the requested index - 12 for the pivoting configuration

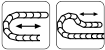
e.g. 15800.100.12 or 34 for the locking configuration e.g. 15800.100.34

For the preassembled mode please add the index A e.g. 15800.100.12 A

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

- Socket head cap bolt M5 DIN 912-8.8 Length depends on the thickness of the attachment base
- Washer 5,3 DIN 125-ST ● Hexagon nut M5 DIN 934-8

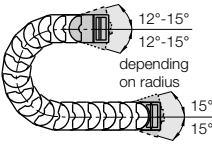




Option KMA* - pivoting, abbreviated

- Recommended for unsupported and gliding applications
 - Abbreviated, pivoting
 - Universally mountable with attachment capability on all sides
 - Locked connection to e-tube
 - Corrosion-resistant
 - Space-restricted
 - Long travels with lowered mounting height possible
- *KMA = Polymer Metal Mounting Bracket

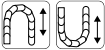
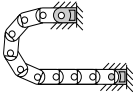
Moving end (outer link)
1580...1



Fixed end (inner link)
1580...2



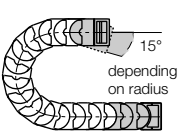
The attachment variants arising automatically by the choice of the KMA mounting bracket



Option KMA - locking, abbreviated

- Recommended for vertical hanging / standing applications
- Abbreviated, locking
- Flush mounting at both ends of the e-tube
- Corrosion-resistant
- Flush mounting, turned 90° at fixed end option

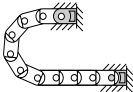
Moving end (outer link)
1585...1



Fixed end (inner link)
1585...2



The attachment variants arising automatically by the choice of the KMA mounting bracket



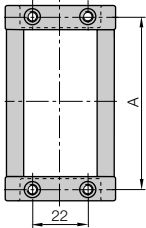
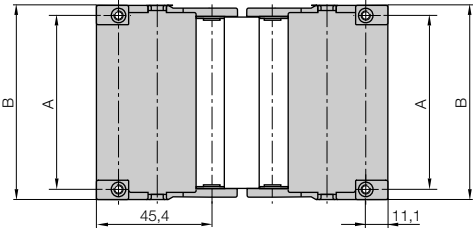
1580...1 (pivoting)
1585...1 (locking)

(pivoting) 1580...2
(locking) 1585...2

Quickflange available upon request

Moving end

Fixed end



For Series	Part No. full set	Dim. A [mm]	Dim. B [mm]
157-158.040 ▶	□.040.12	50	61
157-158.050 ▶	□.050.12	60	71
157-158.075 ▶	□.075.12	85	96
157-158.088 ▶	□.088.12	98	109
157-158.090 ▶	□.090.12	98	109
157-158.100 ▶	□.100.12	110	121
157-158.125 ▶	□.125.12	135	146
157-158.135 ▶	□.135.12	145	156
157-158.150 ▶	□.150.12	160	171
157-158.175 ▶	□.175.12	185	196
157-158.200 ▶	□.200.12	210	221

Please add the Part No. with the requested index - 1580 for the pivoting configuration

e.g. [1580.]100.12 or 1585 for the locking configuration e.g. [1585.]100.12

For the preassembled mode please add the index [A] e.g. [1580.]100.12 [A]

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

- Socket head cap bolt M5 DIN 912-8.8 Length depends on the thickness of the attachment base
- Washer 5,3 DIN 125-ST ● Hexagon nut M5 DIN 934-8



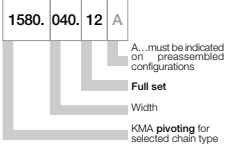
Strain relief separator for the use in the first or last chain link ▶ page 6.18

Dimensions and order configurations



Quickflange upon request

Part No. structure (pivoting)



Full set, for both ends:

[1580.]040.12

Single-part order:

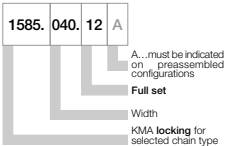
[1580.]040.1

Mounting bracket with bore

[1580.]040.2

Mounting bracket with pin

Part No. structure (locking)



Full set, for both ends:

[1585.]040.12

Single-part order:

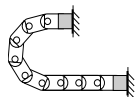
[1585.]040.1

Mounting bracket with bore

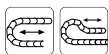
[1585.]040.2

Mounting bracket with pin





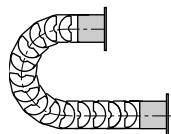
Flush mounting possibilities
at both ends of the e-tube



Flange mounting brackets made of steel

- Metallic flange brackets with popular hole patterns, easily be replaced by their modern successors, without having to alter the hole pattern
- Bolted connection outside of chain cross-section possible
- Universally mountable with attachment capability on all sides
- Steel, galvanized
- One-piece mounting bracket
- High stability

Moving end (outer link)
906.461.X



906.461.X

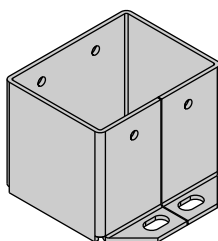
Fixed end (inner link)

Dimensions and order configurations

Hole patterns flange steel
mounting brackets 906.461.X

906.461.X
Moving end

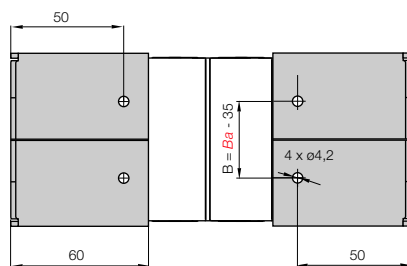
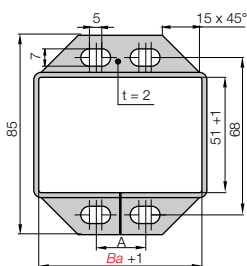
906.461.X
Fixed end



Principle sketch flange
steel mounting brackets



Mounting only with hexa-
gon socket DIN 912 M6 and
washer DIN 125, 6,3 mm

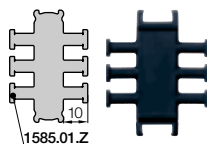


For Series	Hole pattern	Part No. full set	Bi [mm]	Ba [mm]	Dim. A [mm]	Dim. B [mm]
157-158.050 ▶	58.05	906.461.1	50	66	20	31
157-158.075 ▶	58.1	906.461.2	75	91	30	57

R100 | Series R157·R158 | Accessories | Strain Relief

Strain relief separator

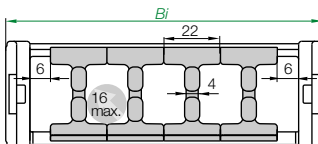
Separator with integrated strain relief, for use in the first or last chain link. For manufacturing of switchgear cabinets or for the assembly of machines. Easy to assemble without any fastening device. Separator base **1585.01.Z** is 22 mm wide. The possible number of separators per e-chain* is defined by its inner width *Bi* and by the cable-diameter. **Details ▶ chapter 10**



Part No.	Number of teeth	For Series
1585.01.Z	3 both sides	R157/158 e-tube



Other strain relief elements
▶ chapter 10



Strain Relief Separator - The number of separators is depending on the cables and the available inner space. Example: e-chain* inner width *Bi* 100 mm: 4 Strain Relief Separator, max. cable diameter 16 mm. **Details ▶ chapter 10**

Phone +49- (0) 22 03-96 49-800
Fax +49- (0) 22 03-96 49-222

igus® GmbH
51147 Cologne

Internet: www.igus.eu
E-mail: info@igus.de



E2 e-tubes Type R
Inner height: 40 mm



igus® e-tubes Series R100
in a medical application

Phone +49- (0) 22 03-96 49-800
Fax +49- (0) 22 03-96 49-222



chapter 10



page 6.5



Price index

UL94-V2 classifications
upon requestESD classification:
Electrically conductive
ESD/ATEX version upon requeste-tubes with HT-material
for hot chips up to 850°C
available upon requestTo open the e-tube Series R100 lift
up the lid and swivel lid to the side

When to use the Series R167/R168:

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



When not to use it:

- For extremely chip repellent e-tubes
► **System RX, Series RX40, page 6.64**
- If snap-open accessibility along both sides is required
► **System E4.1, Series R4.42, page 7.60**
- If very smooth travel due to small pitch is required
► **Type R, Series R68, page 6.42**

- 1 Double stop dog for strong unsupported length
- 2 Effective chip protection, even against hot metal chips
- 3 Covered pin/bore connection
- 4 Lateral glide surfaces for side-mounted operation
- 5 Snap-open lids along inner or outer radius
- 6 Lids can be swivelled from the left to the right
- 7 Space-efficient with optimized ratio of inner dimension to outer dimension
- 8 Universal KMA mounting brackets with attachment capability on all sides
- 9 **Strain relief separator** - Separator with integrated strain relief for the use in the first or last chain link ► **page 6.25**



Order example complete e-tube

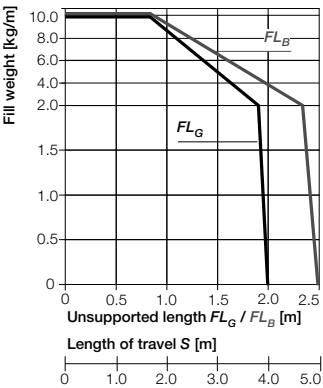
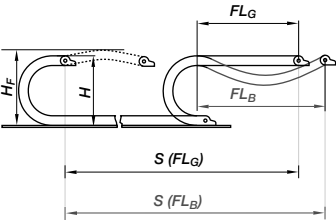
Please indicate e-tube-lengths or number of links **Example: 1 m or 17 links**1 m **167.100.100.0****e-tube**with 2 separators **1686.01** assembled every 2nd link**Interior separation**1 set **1680.100.12****Mounting bracket**

Unsupported length

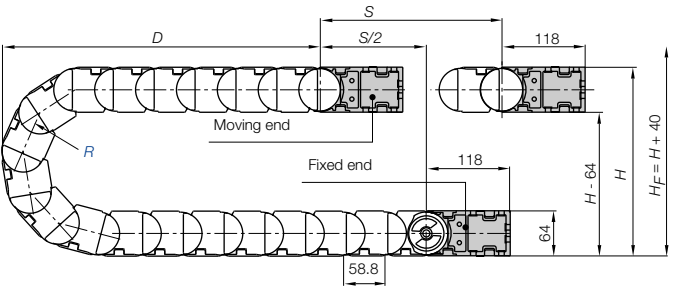
FL_G = with straight upper run

FL_B = with permitted sag

Further information ► Design, page 1.12



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



Short travels - unsupported

Unsupported e-chains* feature positive camber over short travels. This must be accounted for when specifying the clearance height H_F . Please consult igus* if space is particularly restricted.

Pitch = 58,8 mm/link Links/m = 17 (999,6 mm) Chain length = $S/2 + K$

R	100	125	150	175	200	225	250	300
H	264	314	364	414	464	514	564	664
D	220	245	270	295	320	345	370	420
K	435	515	590	670	750	825	905	1065

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

Hot Chips up to 850°C


e-tubes that repel hot chips, up to 850 °C. Some applications, depending on amount and size of the chips, can burn or melt the surface. That is no longer the case with the igus® "igumid HT" material.

Order example - Full e-tube made of HT*: 168.100.100.0.HT

Order example - Lids made of HT: 168.100HT.100.0

*for long travels upon request

Delivery time up to 4 weeks! Further Information: www.igus.de/en/HT



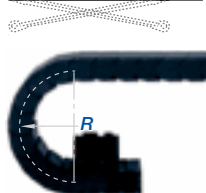
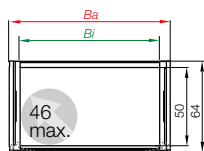
Technical Data

Speed / acceleration FL_G	max. 10 [m/s] / max. 100 [m/s²]
Speed / acceleration FL_B	max. 3 [m/s] / max. 6 [m/s²]
Gliding speed / acceleration (maximum)	max. 0,5 [m/s] / max. 5 [m/s²]
Material - permitted temperature °C	igumid G / -40° up to +120° C
Flammability class, igumid G	VDE 0304 IIC UL94 HB



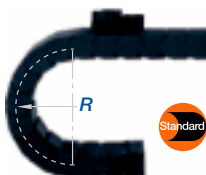
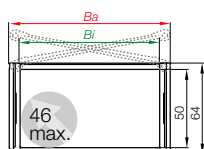
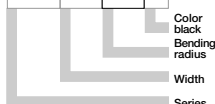
Details of material properties
► page 1.38





Part No. structure

167. 100. 100. 0



Part No. structure

168. 100. 100. 0



Series R167 - hinged, snap-open on both sides of the inner radius

Part No.	Bi (mm)	Ba (mm)	R (mm)	Bending radii								Weight [kg/m]
167.050.	0	50	68	100	125	150	175	200	225	250	300	≈ 1,58
167.075.	0	75	93	100	125	150	175	200	225	250	300	≈ 1,84
167.100.	0	100	118	100	125	150	175	200	225	250	300	≈ 2,09
167.115.	0	115	133	100	125	150	175	200	225	250	300	≈ 2,24
167.125.	0	125	143	100	125	150	175	200	225	250	300	≈ 2,35
167.150.	0	150	168	100	125	150	175	200	225	250	300	≈ 2,60
167.175.	0	175	193	100	125	150	175	200	225	250	300	≈ 2,86
167.200.	0	200	218	100	125	150	175	200	225	250	300	≈ 3,11
167.225.	0	225	243	100	125	150	175	200	225	250	300	≈ 3,37
167.250.	0	250	268	100	125	150	175	200	225	250	300	≈ 3,62

Supplement Part No. with required radius. Example: 167.100.100.0

0 = standard color, other colors ► page 1.39 · Pitch = 58,8 mm/link · Links/m = 17



Series R168 - hinged, snap-open on both sides of the outer radius

Part No.	Bi (mm)	Ba (mm)	R (mm)	Bending radii								Weight [kg/m]
168.050.	0	50	68	100	125	150	175	200	225	250	300	≈ 1,58
168.075.	0	75	93	100	125	150	175	200	225	250	300	≈ 1,84
168.100.	0	100	118	100	125	150	175	200	225	250	300	≈ 2,09
168.115.	0	115	133	100	125	150	175	200	225	250	300	≈ 2,24
168.125.	0	125	143	100	125	150	175	200	225	250	300	≈ 2,35
168.150.	0	150	168	100	125	150	175	200	225	250	300	≈ 2,60
168.175.	0	175	193	100	125	150	175	200	225	250	300	≈ 2,86
168.200.	0	200	218	100	125	150	175	200	225	250	300	≈ 3,11
168.225.	0	225	243	100	125	150	175	200	225	250	300	≈ 3,37
168.250.	0	250	268	100	125	150	175	200	225	250	300	≈ 3,62

The sizes 125 / 225 / 250 are available upon request. Delivery time: approx. 8-10 weeks after receipt of order

Supplement Part No. with required radius. Example: 168.100.100.0

0 = standard color, other colors ► page 1.39 · Pitch = 58,8 mm/link · Links/m = 17

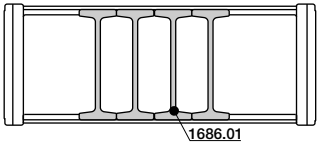


Option 1: Vertical Separators

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

- **Standard** subdivision with **Vertical Separator 1686.01**
- **Strain Relief Separator 1686.01.Z**, integrable in the mounting bracket, to position at any point - can be combined with **Full-Width Shelf 321.X** and **Shelf 2210.X**



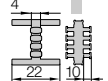
Vertical Separator

unassembled	1685.01
assembled	1686.01



Strain Relief Separator

unassembled	1685.01.Z
assembled	1686.01.Z

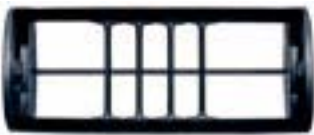
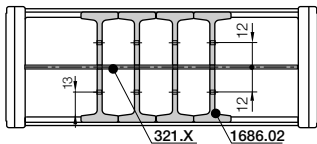


E2 e-tubes Type R
Inner height: 50 mm

Option 2: Full-Width Shelves

For applications involving many thin cables with similar or identical diameters

- **Vertical Separator, slotted 1686.02** for applications with **Full-Width Shelf 321.X**



Vert. Separator, slotted

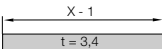
unassembled	1685.02
assembled	1686.02



Width X [mm]	Part No. unassembled	Part No. assembled
050	320.050	321.050
075	320.075	321.075
100	320.100	321.100
115	320.115	321.115
125	320.125	321.125

Width X [mm]	Part No. unassembled	Part No. assembled
150	320.150	321.150
175	320.175	321.175
200	320.200	321.200
225	320.225	321.225
250	320.250	321.250

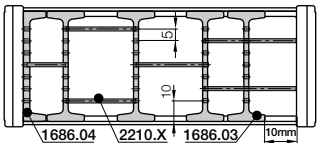
Full-Width Shelf



Option 3: Shelves

For applications involving many cables with similar or identical diameters. Partial separation into individual chambers can be achieved and the entire width **Bi-10 mm** can be used

- **Shelf 2210.X** can be combined with **Middle Plate 1686.03** and **Side Plate 1686.04**



Middle Plate

unassembled	1685.03
assembled	1686.03



Side Plate

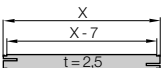
unassembled	1685.04
assembled	1686.04

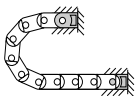


Width X [mm]	Part No. unassembled	Part No. assembled
018	2200.18	2210.18
023	2200.23	2210.23
028	2200.28	2210.28
033	2200.33	2210.33
038	2200.38	2210.38
043	2200.43	2210.43
048	2200.48	2210.48

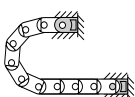
Width X [mm]	Part No. unassembled	Part No. assembled
058	2200.58	2210.58
068	2200.68	2210.68
073	2200.73	2210.73
088	2200.88	2210.88
099	2200.99	2210.99
124	2200.0124	2210.124
149	2200.0149	2210.149

Shelf

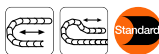




The attachment variants arising automatically by the choice of the KMA mounting bracket



The attachment variants arising automatically by the choice of the KMA mounting bracket



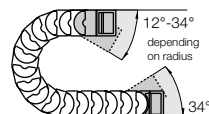
Option KMA* - pivoting

- Recommended for unsupported and gliding applications
- Option - KMA with Quickflange, bolted connection outside of e-tube cross-section
- Universally mountable with attachment capability on all sides
- Locked connection to e-tube
- Long travels with lowered mounting height possible
- Corrosion-resistant

*KMA = Polymer Metal Mounting Bracket

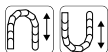
Moving end (outer link)

1680...1



1680...2

Fixed end (inner link)

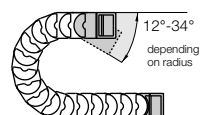


Option KMA - locking

- Recommended for vertical hanging / standing applications
- Option - KMA with Quickflange, bolted connection outside of e-tube cross-section
- At very high speed and acceleration
- Universally mountable with attachment capability on all sides
- Flush mounting at both ends of the e-tube

Moving end (outer link)

1680...1



1680...4

Fixed end (inner link)

Dimensions and order configurations



Quickflange upon request

Part No. structure (pivoting)

1680.100.12.A



A... must be indicated on preassembled configurations

Full set, pivoting = 12

Width

KMA for selected chain type

Full set, for both ends:

1680.100.12

Single-part order:

1680.100.1

Mounting bracket with bore

1680.100.2

Mounting bracket with pin

Part No. structure (locking)

1680.100.14.A

A... must be indicated on preassembled configurations

Full set, locking = 14

Width

KMA for selected chain type

Full set, for both ends:

1680.100.14

Single-part order:

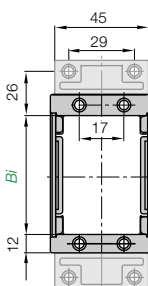
1680.100.1

Mounting bracket with bore

1680.100.4

Mounting bracket with pin

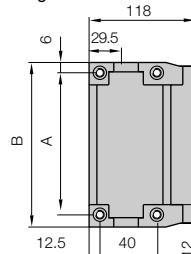
Quickflange



1680...1 Standard! (pivoting)

1680...1 (locking)

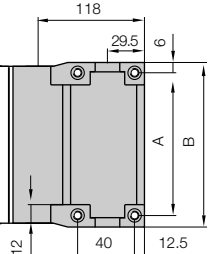
Moving end



Standard! (pivoting) 1680...2

(locking) 1680...4

Fixed end



For Series	Part No. full set	Part No. full set with Quickflange	Dim. A [mm]	Dim. B [mm]
167-168.050	1680.050.	1680.050. QF	62	74
167-168.075	1680.075.	1680.075. QF	87	99
167-168.100	1680.100.	1680.100. QF	112	124
167-168.115	1680.115.	1680.115. QF	127	139
167-168.125	1680.125.	1680.125. QF	137	149
167-168.150	1680.150.	1680.150. QF	162	174
167-168.175	1680.175.	1680.175. QF	187	199
167-168.200	1680.200.	1680.200. QF	212	224
167-168.225	1680.225.	1680.225. QF	237	249
167-168.250	1680.250.	1680.250. QF	262	274

Please add the Part No. with the requested index - 12 for the pivoting configuration

e.g. 1680.100.12 or 14 for the locking configuration e.g. 1680.100.14

For the preassembled mode please add the index [A] e.g. 1680.100.12 [A]

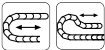
Quickflange unassembled: Part No. 16800.QF

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

- Socket head cap bolt M5 DIN 912-8.8 Length depends on the thickness of the attachment base
- Washer 5,3 DIN 125-ST ● Hexagon nut M5 DIN 934-8



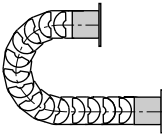
Strain relief separator for the use in the first or last chain link ► page 6.25



Flange mounting brackets made of steel

- Metallic flange brackets with popular hole patterns, easily be replaced by their modern successors, without having to alter the hole pattern
- Bolted connection outside of chain cross-section possible
- Universally mountable with attachment capability on all sides
- Steel, galvanized
- One-piece mounting bracket
- High stability

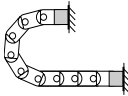
Moving end (outer link)
905.050.X



905.050.X
Fixed end (inner link)



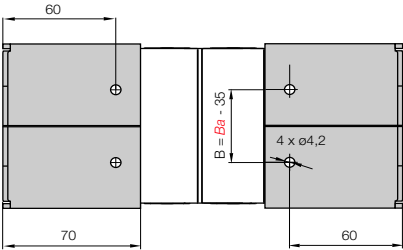
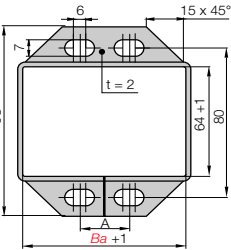
Flush mounting possibilities
at both ends of the e-tube



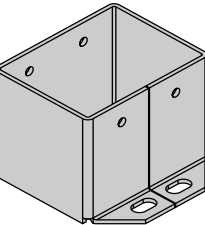
Hole patterns flange steel
mounting brackets 905.050.X

905.050.X
Moving end

905.050.X
Fixed end



Dimensions and
order configurations



Principle sketch flange
steel mounting brackets



Mounting only with hexa-
gon socket DIN 912 M6 and
washer DIN 125, 6,3 mm

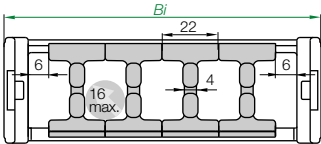
For Series	Hole pattern	Part No. full set	Bi [mm]	Ba [mm]	Dim. A [mm]	Dim. B [mm]
R168.075 ▶	68.01	905.050.1	75	93	30	58
R168.115 ▶	68.02	905.050.2	115	133	50	98
R168.175 ▶	68.03	905.050.3	175	193	100	158

R100 | Serie R167·R168 | Accessories | Strain Relief

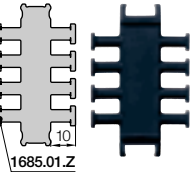
Strain relief separator

Separator with integrated strain relief, for use in the first or last chain link. For manufacturing of switchgear cabinets or for the assembly of machines. Easy to assemble without any fastening device. Separator base **1658.01.Z** is 22 mm wide. The possible number of separators per e-chain* is defined by its inner width *Bi* and by the cable-diameter. **Details ▶ chapter 10**

Part No.	Number of teeth	For Series
1658.01.Z	4 both sides	R167/168 e-tube



Strain Relief Separator - The number of separators is depending on the cables and the available inner space. Example: e-chain* inner width *Bi* 100 mm: 4 Strain Relief Separator, max. cable diameter 16 mm.
Details ▶ chapter 10



Other strain relief elements
▶ chapter 10



▶ chapter 10



▶ page 6.5

● ● ● Price index



UL94-V2 classifications
upon request



ESD classification:
Electrically conductive
ESD/ATEX version upon request



e-tubes with HT-material
for hot chips up to 850°C
available upon request



To open the e-tube Series R lift up the lid
(with a screwdriver) and remove the lid



When to use the Series R48:

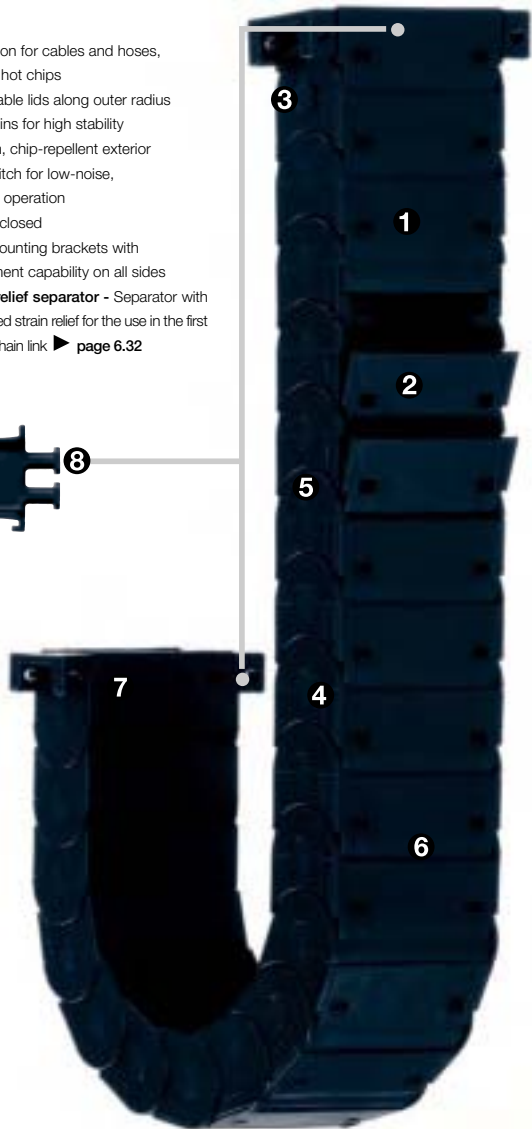
- If particularly quiet operation is required
- At very high speed
- If chip-repellent features are required



When not to use it:

- For extremely chip repellent e-tubes
► **System RX, Series RX32**, page 6.58
- If a particularly low-cost solution
is the main factor
► **Series R117/R118**, page 6.6
- If no chip protection is required
► **Series 2400/2500 E2/000**, page 5.160

- 1 Protection for cables and hoses,
against hot chips
- 2 Removable lids along outer radius
- 3 Large pins for high stability
- 4 Smooth, chip-repellent exterior
- 5 Small pitch for low-noise,
smooth operation
- 6 Fully enclosed
- 7 KMA mounting brackets with
attachment capability on all sides
- 8 **Strain relief separator** - Separator with
integrated strain relief for the use in the first
or last chain link ► **page 6.32**



Order example complete e-tube

Please indicate e-tube-lengths or number of links **Example: 1 m or 33 links**

1 m 48.075.060.0



e-tube

with 2 separators 482 assembled every 2nd link



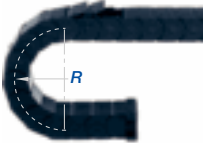
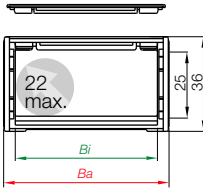
Interior separation

1 set 480.075.12



Mounting bracket





Part No. structure

48.	100.	100.	0
-----	------	------	---



Series R48 - snap-open along outer radius

Part No.	Bi (mm)	Ba (mm)	R (mm)	Bending radii	Weight [kg/m]
48.025.	.0	25	36	060 075 100 125 150 175 200 250	≈ 0,64
48.050.	.0	50	61	060 075 100 125 150 175 200 250	≈ 0,84
48.075.	.0	75	86	060 075 100 125 150 175 200 250	≈ 1,03
48.100.	.0	100	111	060 075 100 125 150 175 200 250	≈ 1,23
48.130.	.0	130	141	060 075 100 125 150 175 200 250	≈ 1,46

Supplement Part No. with required radius. Example: 48.100.100.0

0 = standard color, other colors ► page 1.39 • Pitch = 30,3 mm/link - Links/m = 33



E2 e-tubes | R | Series R48 | Accessories | Interior Separation

Vertical Separator

unassembled	481
assembled	482



Strain Relief Separator

unassembled	481.ZR
assembled	482.ZR

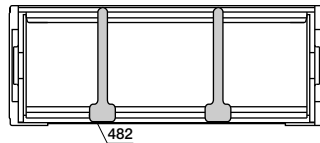


Option 1: Vertical Separators

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

- Standard subdivision with Vertical Separator 482
- Strain Relief Separator 482.ZR, integrable in the mounting bracket, to position at any point



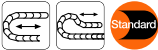
Hot Chips up to 850°C

e-tubes that repel hot chips, up to 850 °C. Some applications, depending on amount and size of the chips, can burn or melt the surface. That is no longer the case with the igus® "igumid HT" material.

Order example - Full e-tube made of HT*: **48.100.100.0.HT**Order example - Lids made of HT: **48.100.HT.100.0**

*for long travels upon request

Delivery time up to 4 weeks! Further Information: www.igus.de/en/HT

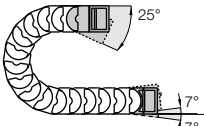


Option KMA* - pivoting

- Recommended for unsupported applications
- Bolted connection outside of chain cross-section possible
- Space-restricted
- Universally mountable with attachment capability on all sides
- Mounting-surfaces can be used on the upper side or front-sided

*KMA = Polymer Metal Mounting Bracket

Moving end (outer link)
480....1

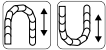
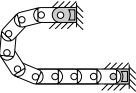


480...2

Fixed end (inner link)



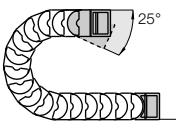
The attachment variants arising automatically by the choice of the KMA mounting bracket



Option KMA - locking

- Recommended for vertical hanging / standing applications
- Bolted connection outside of chain cross-section possible
- At very high speed and acceleration
- Universally mountable with attachment capability on all sides
- Mounting-surfaces can be used on the upper side or front-sided

Moving end (outer link)
485...1

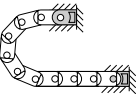


485...2

Fixed end (inner link)

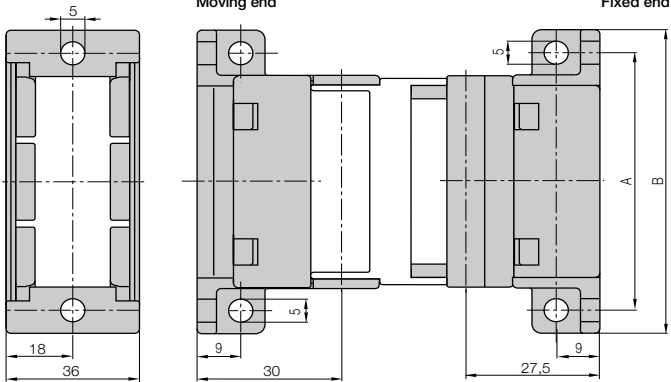


The attachment variants arising automatically by the choice of the KMA mounting bracket



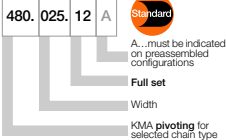
480...1 (pivoting)
485...1 (locking)
Moving end

(pivoting) 480...2
(locking) 485...2
Fixed end



Dimensions and order configurations

Part No. structure (pivoting)



Full set, for both ends:

480.025.12

Single-part order:

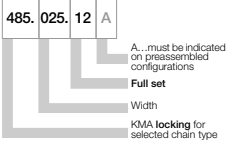
480.025.1

Mounting bracket with bore

480.025.2

Mounting bracket with pin

Part No. structure (locking)



Full set, for both ends:

485.025.12

Single-part order:

485.025.1

Mounting bracket with bore

485.025.2

Mounting bracket with pin

For Series	Part No. full set	Dim. A [mm]	Dim. B [mm]
48.025 ▶	480.025.12	45	55
48.050 ▶	480.050.12	70	80
48.075 ▶	480.075.12	95	105
48.100 ▶	480.100.12	120	130
48.130 ▶	480.130.12	150	160

Please add the Part No. with the requested index - 480 for the pivoting configuration

e.g. 480.025.12 or 485 for the locking configuration e.g. 485.025.12

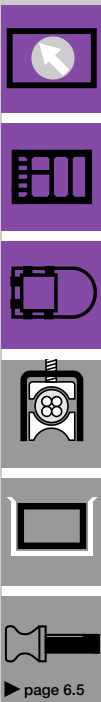
For the preassembled mode please add the index A e.g. 480.025.12 A

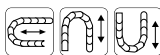
The following parts are required for attachment of the mounting brackets:

- Socket head cap bolt M5 DIN 912-8.8 Length depends on the thickness of the attachment base
- Washer 5,3 DIN 125-ST ● Hexagon nut M5 DIN 934-8



Strain relief separator for the use in the first or last chain link ▶ page 6.32



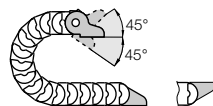


Steel mounting bracket

- Locked connection to e-tube
- Electrically conductive
- Minimized external width

Moving end (outer link)

482...1



482...2

Fixed end (inner link)



Possible installation conditions -

Further installation angles ► installation sketch

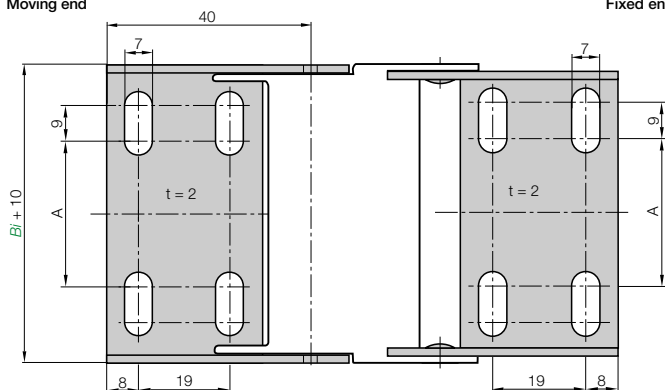
Dimensions and order configurations

482...1

Moving end

482...2

Fixed end



Part No. structure

482.	050.	12	A1
------	------	----	----

A...must be indicated
on preassembled

Full set = 12

Width

Mounting brackets for selected chain type

Full set, for both ends:

482.050.12

Single-part order:

482.	050.	1
------	------	---

Mounting bracket with bore

482.	050.	2
------	------	---

Mounting bracket **with pin**

For Series	Part No. full set	Dim. A [mm]
48.025. ►	482. <u>025</u> .12	—
48.050. ►	482. <u>050</u> .12	22
48.075. ►	482. <u>075</u> .12	47
48.100. ►	482. <u>100</u> .12	72
48.130. ►	482. <u>130</u> .12	102

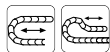
Please add the Part No. with the requested index - e.g. 482.050.12

For the **preassembled** mode please add the index A1 ... A4 e.g. 482.05012A1

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

- Socket head cap bolt M5 DIN 912-8.8 Length depends on the thickness of the attachment base
 ● Washer 5,3 DIN 125-ST ● Hexagon nut M5 DIN 934-8



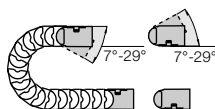


Angled polymer bracket

- Attachment option for strain relief tie-wrap plate
- Locked connection to e-tube
- Minimized external width

Moving end (outer link)

4800...1 (PZB)



4800...2(PZB)

Fixed end (inner link)



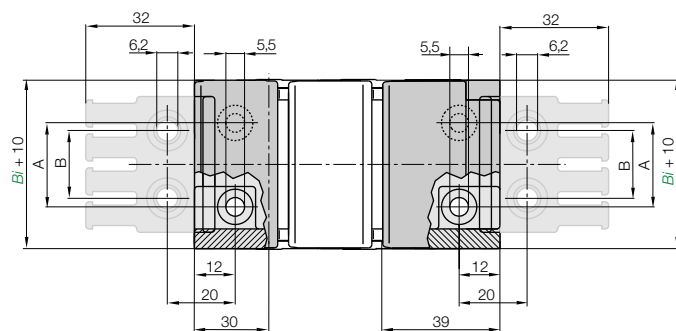
Possible installation conditions for assembled mounting brackets ► Order example "preassembled" below

4800...1(PZB)

Moving end

4800 ...2(PZB)

Fixed end



For Series	Part No. Full set with tiewrap plates	Part No. Full set without tiewrap plates	Dim. A [mm]	Dim. B [mm]
48.025. ►	4800. <u>025</u> .12PZB	4800. <u>025</u> .12	12	15
48.050. ►	4800. <u>050</u> .12PZB	4800. <u>050</u> .12	37	30
48.075. ►	4800. <u>075</u> .12PZB	4800. <u>075</u> .12	62	60
48.100. ►	4800. <u>100</u> .12PZB	4800. <u>100</u> .12	87	80
48.130. ►	–	4800. <u>130</u> .12	117	–

Please add the Part No. with the requested index - e.g. 4800. 050 .12 PZB

For the **preassembled** mode please add the index **A1** ... **A4** e.g. 4800. **050** 12PZB **A1**

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

- Countersunk bolt M5 DIN 912-8.8 Length depends on the thickness of the attachment base
- Hexagon nut M5 DIN 934-8

Dimensions and order configurations

Strain relief is possible on the moving end and/or the fixed end.

Part No. structure

4800.025.	12	PZB	A1
-----------	----	-----	----



A...must be indicated
on preassembled
configurations
with assembled
tiewrap plates

Full set = 12

Width

Mounting brackets for
selected chain type

Full set, for both ends:

4800.	025.	12	PZB
-------	------	----	-----

Single-part order:

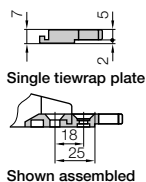
4800.	025.	1	PZB
-------	------	---	-----

Mounting bracket with bore

4800.	025.	2	PZB
-------	------	---	-----

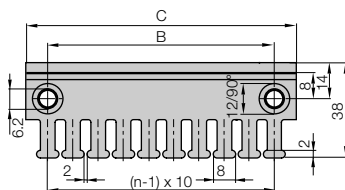
Mounting bracket with pin





As individual component screwed on KMA. Can be plugged in the mounting brackets. **Details ►**

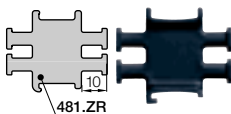
chapter 10



Tiewrap plate	No. of teeth <i>n</i>	Dim. C [mm]	Dim. B [mm]
2020.ZB	3	30	15
2030.ZB	4	40	20
2040.ZB	5	50	30
2050.ZB	6	60	40
2070.ZB	8	80	60
2090.ZB = (2030.ZB + 2040.ZB)	9	90	–
2100.ZB	10	100	80
2125.ZB = (2050.ZB + 2050.ZB)	12	120	–



Cable tiewraps (100-piece bag)	Width x length	max. Ø	Tensile strength
CFB.001	4,8 x 150 mm	36 mm	222 N

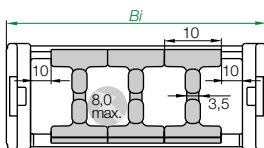


Separator with integrated strain relief, for use in the first or last chain link. For manufacturing of switchgear cabinets or for the assembly of machines. Easy to assemble without any fastening device. Separator base 481.ZR is 10 mm wide. The possible number of separators per e-chain* is defined by its inner width B_i and by the cable-diameter. **Details ► chapter 10**

Part No.	Number of teeth	For Series
481.ZR	2 both sides	R48 e-tube



Other strain relief elements
► chapter 10



Strain Relief Separator - The number of separators is depending on the cables and the available inner space. Example: e-chain® inner width B_i 50 mm: 3 Strain Relief Separator, max. cable diameter 8 mm. **Details ► chapter 10**



-



chapter 10



chapter 9



▶ page 6.5



Price index



UL94-V2 classifications
upon request



ESD classification:
Electrically conductive
ESD/ATEX version upon request



e-tubes with HT-material
for hot chips up to 850°C
available upon request



To open the e-tube Series R lift up the lid
(with a screwdriver) and remove the lid



When to use the Series R58:

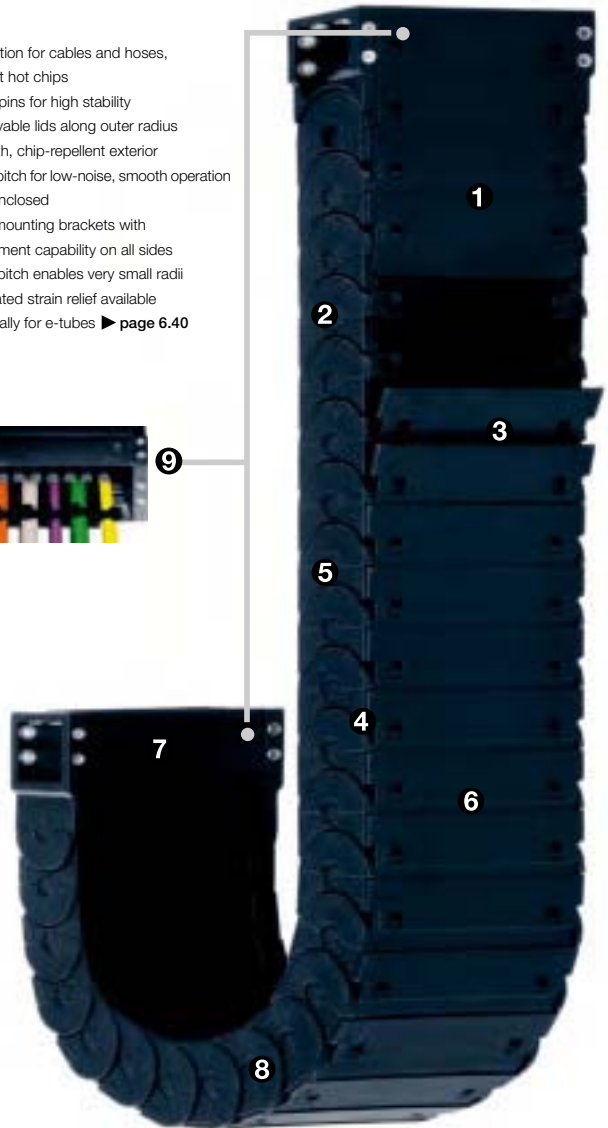
- If particularly quiet operation is required
- At very high speed
- If chip protection is subject to stringent requirements



When not to use it:

- If a particularly low-cost solution is the main factor
► Series R157/158, page 6.12
- If no chip protection is required
► Series 2600/2700 E2/000, page 5.182

- 1 Protection for cables and hoses, against hot chips
- 2 Large pins for high stability
- 3 Removable lids along outer radius
- 4 Smooth, chip-repellent exterior
- 5 Small pitch for low-noise, smooth operation
- 6 Fully enclosed
- 7 KMA mounting brackets with attachment capability on all sides
- 8 Small pitch enables very small radii
- 9 Integrated strain relief available especially for e-tubes ► page 6.40



Order example complete e-tube

Please indicate e-tube-lengths or number of links **Example: 1 m or 56 links**

1 m 58.100.100.0



e-tube

with 2 separators 582 assembled every 2nd link



Interior separation

1 set 580.100.12



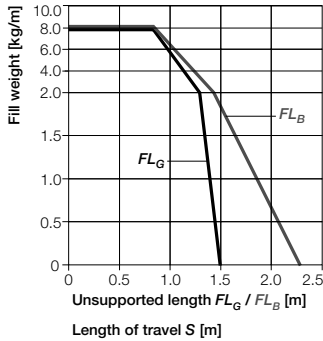
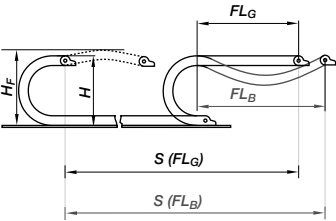
Mounting bracket



Unsupported length

FL_G = with straight upper run
 FL_B = with permitted sag

Further information ► Design, page 1.12



- S = Length of travel
 - R = Bending radius
 - H = Nominal clearance height
 - H_F = Required clearance height
 - H_{RI} = Trough inner height
 - D = Overlength e-chain" radius in final position
 - $K = \pi \cdot R + \text{"safety"}$
 - D_2 = Over length - long travels, gliding
 - K_2 = "Further add-on
 - H_2 = "Mounting height
- "if the mounting bracket location is set lower

Other installation methods

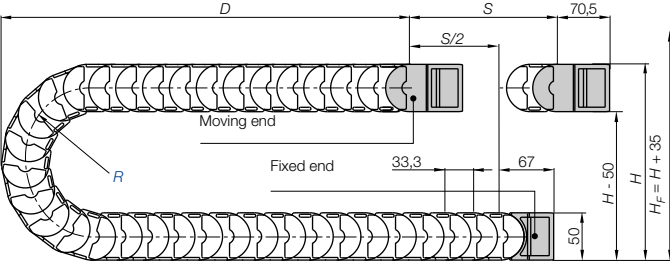
- Vertical, hanging ≤ 50 m
- Vertical, standing ≤ 4 m
- Side mounted, un supp. ≤ 2 m
- Rotary requires further calculation
- Unsupported length of upper run = upon request



Short travels - unsupported

Unsupported e-chains" feature positive camber over short travels. This must be accounted for when specifying the clearance height H_F . Please consult igus" if space is particularly restricted.

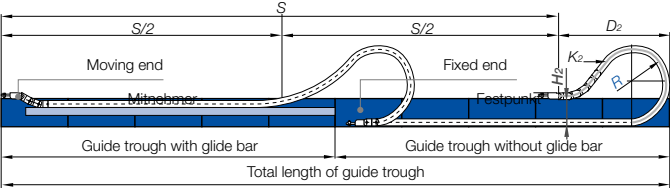
The required clearance height:
 $H_F = H + 35$ mm
(with 0,5 kg/m fill weight)



Pitch = 33,3 mm/link Links/m = 30 (999 mm) Chain length = $S/2 + K$

	075	100	125	150	200	250
R	075	100	125	150	200	250
H	200	250	300	350	450	550
D	150	175	200	225	275	325
K	305	385	460	540	695	855
H_2	200	216	216	216	216	216
D_2	150	310	380	480	800	1050
K_2	375	500	699	866	1265	1665

Long travel lengths from 5,0 m to max. 75 m Chain length = $S/2 + K_2$



In case of travels between 3,0 and 5,0 m we recommend a longer unsupported length.



Gliding, long travel applications (max. 75 m)

In this case the e-chain" upper run will be introduced in a guide trough on the lower run. We recommend to realize the engineering of such a plant by our technicians.

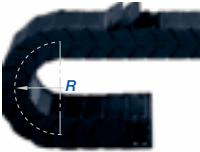
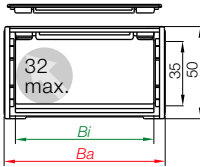
Technical Data



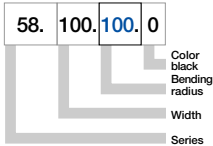
Details of material properties
► page 1.38

Speed / acceleration FL_G	max. 10 [m/s] / max. 100 [m/s]
Speed / acceleration FL_B	max. 3 [m/s] / max. 6 [m/s]
Gliding speed / acceleration (maximum)	max. 3 [m/s] / max. 10 [m/s]
Material - permitted temperature °C	igumid G / -40° up to +120° C
Flammability class, igumid G	VDE 0304 IIC UL94 HB





Part No. structure



Series R58 - snap-open along outer radius

Part No.		<i>Bi</i> (mm)	<i>Ba</i> (mm)	<i>R</i> (mm)	Bending radii						Weight [kg/m]
58.050.	.0	50	66	075	100	125	150	200	250		≈ 1,50
58.075.	.0	75	91	075	100	125	150	200	250		≈ 1,77
58.100.	.0	100	116	075	100	125	150	200	250		≈ 2,04
58.125.	.0	125	141	075	100	125	150	200	250		≈ 2,31
58.150.	.0	150	166	075	100	125	150	200	250		≈ 2,61
58.175.	.0	175	191	075	100	125	150	200	250		≈ 2,88
58.200.	.0	200	216	075	100	125	150	200	250		≈ 3,15

 Supplement Part No. with required radius. Example: 58.100.100.0

0 = standard color, other colors ► page 1.39 · Pitch = 33,3 mm/link - Links/m = 30



Hot Chips up to 850°C

e-tubes that repel hot chips, up to 850 °C. Some applications, depending on amount and size of the chips, can burn or melt the surface. That is no longer the case with the igus® "igumid HT" material.

Order example - Full e-tube made of HT*: 58.100.100.0.HT

Order example - Lids made of HT: 58.100.HT.100.0

*for long travels upon request

Delivery time up to 4 weeks! Further Information: www.igus.de/en/HT

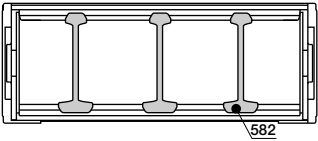


Option 1: Vertical Separators

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

- Standard subdivision with Vertical Separator 582

Vertical Separator	
unassembled	581
assembled	582



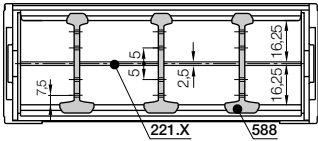
E2 e-tubes Type R
Inner height: 35 mm

Option 2: Full-Width Shelves

For applications involving many thin cables with similar or identical diameters

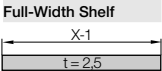
- Vertical Separator, slotted 588 can be combined with Full-Width Shelf 221.X

Vert. Separator, slotted	
unassembled	587
assembled	588



Width X [mm]	Part No. unassembled	Part No. assembled
050	220.50	221.50
075	220.75	221.75
100	220.100	221.100
125	220.125	221.125

Width X [mm]	Part No. unassembled	Part No. assembled
150	220.150	221.150
175	220.175	221.175
200	220.200	221.200



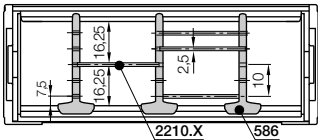
Phone +49- (0) 22 03-96 49-800
Fax +49- (0) 22 03-96 49-222

Option 3: Shelves

For applications involving many cables with similar or identical diameters. Partial separation into individual chambers can be achieved and the entire width B/-10 mm can be used

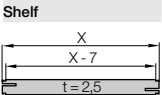
- Shelf 2210.X can be combined with Middle Plate 586

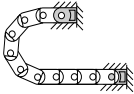
Middle Plate	
unassembled	585
assembled	586



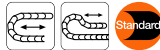
Width X [mm]	Part No. unassembled	Part No. assembled
018	2200.18	2210.18
023	2200.23	2210.23
028	2200.28	2210.28
033	2200.33	2210.33
038	2200.38	2210.38
043	2200.43	2210.43
048	2200.48	2210.48

Width X [mm]	Part No. unassembled	Part No. assembled
058	2200.58	2210.58
068	2200.68	2210.68
073	2200.73	2210.73
088	2200.88	2210.88
099	2200.99	2210.99
124	2200.124	2210.124
149	2200.149	2210.149





The attachment variants arising automatically by the choice of the KMA mounting bracket

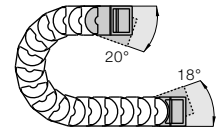


Option KMA* - pivoting

- Option - KMA with Quickflange for short and long travels
- Recommended for unsupported and gliding applications
- Space-restricted
- Universally mountable with attachment capability on all sides

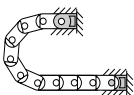
*KMA = Polymer Metal Mounting Bracket

Moving end (outer link)
580...1

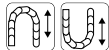


580...2

Fixed end (inner link)



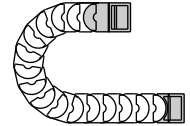
The attachment variants arising automatically by the choice of the KMA mounting bracket



Option KMA - locking

- Option - KMA with Quickflange
- Recommended for vertical hanging / standing applications
- At very high speed and acceleration
- Universally mountable with attachment capability on all sides
- Flush mounting at both ends of the e-tube

Moving end (outer link)
580...3



580...4

Fixed end (inner link)

Dimensions and order configurations



Quickflange
upon request

Part No. structure (pivoting)

580.050.12.A



A... must be indicated on preassembled configurations
Full set pivoting = 12
Width
KMA for selected chain type

Full set, for both ends:

580.050.12

Single-part order:

580.050.1

Mounting bracket with bore

580.050.2

Mounting bracket with pin

Part No. structure (locking)

580.050.34.A

A... must be indicated on preassembled configurations
Full set locking = 34
Width
KMA for selected chain type

Full set, for both ends:

580.050.34

Single-part order:

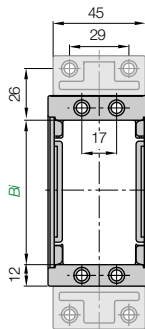
580.050.3

Mounting bracket with bore

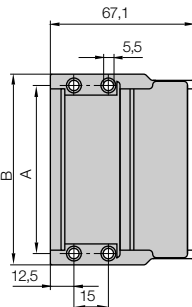
580.050.4

Mounting bracket with pin

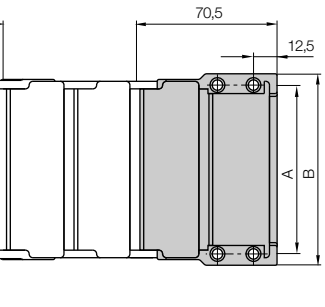
Quickflange
Part No. 16800.QF,
unassembled



580...2 Standard! (pivoting)
580...4 (locking)
Fixed end



Standard! (pivoting) 580...1
(locking) 580...3
Moving end



For Series	Part No. Full set	Part No. Full set with Quickflange	Dim. A [mm]	Dim. B [mm]
58.050. ▶	580.050. []	580.050. [] QF	62	74
58.075. ▶	580.075. []	580.075. [] QF	87	99
58.100. ▶	580.100. []	580.100. [] QF	112	124
58.125. ▶	580.125. []	580.125. [] QF	137	149
58.150. ▶	580.150. []	580.150. [] QF	162	174
58.175. ▶	580.175. []	580.175. [] QF	187	199
58.200. ▶	580.200. []	580.200. [] QF	212	224

Please add the Part No. with the requested index - 12 for the pivoting configuration e.g. 580.100.12 or 34 for the locking configuration e.g. 580.100.34

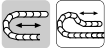
For the preassembled mode please add the index [A] e.g. 580.100.34 [A]

Quickflange unassembled: Part No. 16800.QF

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

- Socket head cap bolt M5 DIN 912-8.8 Length depends on the thickness of the attachment base
- Washer 5,3 DIN 125-ST ● Hexagon nut M5 DIN 934-8

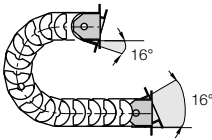




Flange mounting brackets made of steel

- Metallic flange brackets with popular hole patterns, easily be replaced by their modern successors, without having to alter the hole pattern
- Bolted connection outside of chain cross-section possible
- Universally mountable with attachment capability on all sides
- Steel, galvanized
- One-piece mounting bracket
- High stability

Moving end (outer link)
906.463.X.1

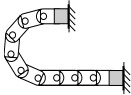


906.463.X.2

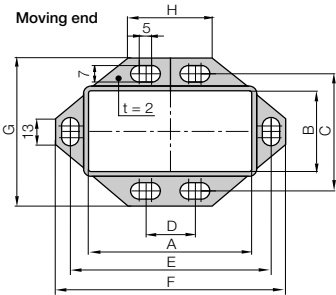
Fixed end (inner link)



Flush mounting possibilities
at both ends of the e-tube

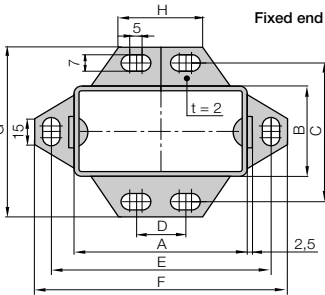


906.463.X.1
Moving end



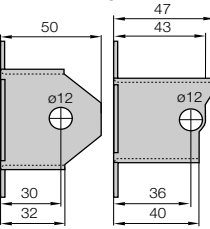
Hole pattern metallic flange
Moving end 906.463.X.1

906.463.X.2
Fixed end



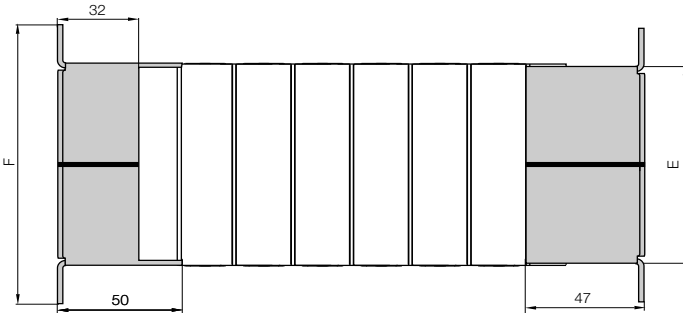
Hole pattern metallic flange
Fixed end 906.463.X.2

Dimensions and
order configurations



Moving end
906.463.X.1

Fixed end
906.463.X.2



Full set, for both ends:

906. 463. X. 12.

Single-part order:

906. 463. X. 1

Mounting bracket with bore

906. 463. X. 2.

Mounting bracket with pin

For Series	Hole pattern	Part No. Moving end	Part No. Fixed end	Bi [mm]	Ba [mm]	Dim. A [mm]	Dim. B [mm]	Dim. C [mm]	Dim. D [mm]	Dim. E [mm]	Dim. F [mm]	Dim. G [mm]	Dim. H [mm]
58.050	58.05	906.463.05.1	906.463.05.2	50	66	58,3	48	68	20	78,5	90,5	82	24,5
58.075	58.1	906.463.1.1	906.463.1.2	75	91	83,3	48	68	30	104	116	82	50





Integrated strain relief for E2 e-tubes - Series R

Characteristic features: ● Strain relief disappears completely in the e-tube ● Easy to assemble without any screws ● **Use:** Individual part for the manufacturing of switchgear cabinets or for the assembly of machines ● Accessory for igus® e-chainsystems®

Part. No.	Width [mm]	Number of teeth	For Series
5850.Z	46	4	R58

Number of tiewrap plates 5850.Z for selected inner width *Bi*

<i>Bi</i> [mm]	Width tiewrap plate [mm]	Number of tiewrap plate <i>n</i>	Total number of teeth
50	–	–	–
75	46	1	4
100	46	1	4
125	46	2	8
150	46	2	8
175	46	3	12
200	46	3	12

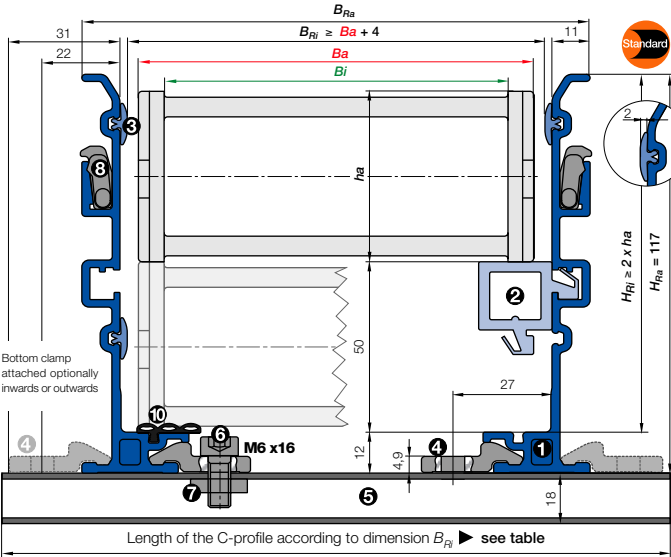
Phone +49- (0) 22 03-96 49-800
Fax +49- (0) 22 03-96 49-222

igus® GmbH
51147 Cologne

Internet: www.igus.eu
E-mail: info@igus.de



Other strain relief elements
► chapter 10



- **Components, trough "Basic":** ① Trough side parts, aluminum, 2 m ② Glide bar, plastic, 2 m ③ Glide strips, plastic, 2 m (without glide strips on request) ⑩ Optional: Silencer profile, rubber ● **Components, installation set "Basic":** ④ Bottom clamp, aluminum ⑤ C-profile, steel galvanized ⑥ Screw M6 x16 ⑦ Sliding nut M6 ⑧ Interface connector, plastic



Order example: Length of travel 30 m - Center mounted for Series 58.075.200.0 with $B_{Ri} = 95$

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

Order text: 16 m guide trough without glide bar (8 x 2 m sections) Part No. 972.30.SL

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

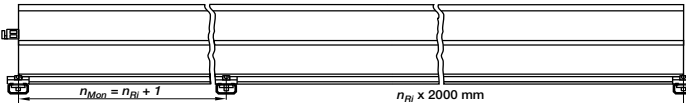
Order text: 16 m guide trough with glide bar (8 x 2 m sections) Part No. 972.32.SL

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

Order text: 17 installation sets "Basic" Part No. 960.30.150

Option: For an additional noise dampening with silencer profile, please add Index A - Example:

Part No. 972.30.SLA



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

Other guide trough systems



"Heavy Duty" for heavy plant construction with glide bar and silencer profiles

► chapter 9



"Steel trough" very stable and robust guide trough out of steel, 2 pieces, adjustable on chain width

► chapter 9

B_a = Outer width e-chains* / e-tube
 B_i = Inner width e-chains* / e-tube
 h_a = Outer height e-chains* / e-tube

H_{Ri} = Inner trough height

H_{Ra} = Outer trough height

B_{Ri} = Inner trough width ► depends on dim. B_a

B_{Ra} = Outer trough width

n_{Mon} = Number of installation sets (left/right)

n_{Ri} = Number of troughs sets (left/right)

! $H_{Ri} \geq 2 \cdot h_a$

$B_{Ri} \geq B_a + 4$

● = Guide trough set

● = Glide bar

● = Installation set "Basic" ● = C-profile

Installation set "Basic" with C-profile

Bottom Clamp attached optionally inwards or outwards

58.075.200.0 ► Order example

B_{Ri} [mm]		Part No. attached inwards	Part No. attached outwards
.050	70	-	960.30.175
.075	95	960.30.150	960.30.200
.100	120	960.30.175	960.30.225
.125	145	960.30.200	960.30.250
.150	170	960.30.225	960.30.275
.175	195	960.30.250	960.30.300
.200	220	960.30.275	960.30.325

Insert for the installation set

"Heavy Duty": **972.50.XXX**

instead of (960.30.XXX) on the right column "attached outwards"

Phone +49- (0) 22 03-96 49-800
Fax +49- (0) 22 03-96 49-222



► chapter 10



► chapter 9



► page 6.75



Price index



UL94-V2 classifications
upon request



ESD classification:
Electrically conductive
ESD/ATEX version upon request



iF-Design Award Winner
Series R68



e-tubes with HT-material
for hot chips up to 850°C
available upon request



To open the e-tube Series R lift up the lid
(with a screwdriver) and remove the lid



When to use the Series R68:

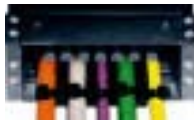
- If particularly quiet operation is required
- At very high speed
- If chip protection is subject to stringent requirements



When not to use it:

- For extremely chip repellent e-tubes
 - ▶ System RX, Series RX32, page 6.58
- If a particularly low-cost solution is the main factor
 - ▶ Series R167/R168, page 6.20
- If no chip protection is required
 - ▶ Series 3400/3500 E2/000, page 5.204

- 1 Protection for cables and hoses, against hot chips
- 2 Large pins for high stability
- 3 Smooth, chip-repellent exterior
- 4 Small pitch for low-noise, smooth operation
- 5 Removable lids along outer radius
- 6 Fully enclosed
- 7 KMA mounting brackets with attachment capability on all sides
- 8 Integrated strain relief available especially for e-tubes ▶ page 6.48



Order example complete e-tube

Please indicate e-tube-lengths or number of links **Example: 1 m or 28 links**

1 m 68.100.100.0



e-tube

with 2 separators 311 assembled every 2nd link



Interior separation

1 set 680.100.12



Mounting bracket

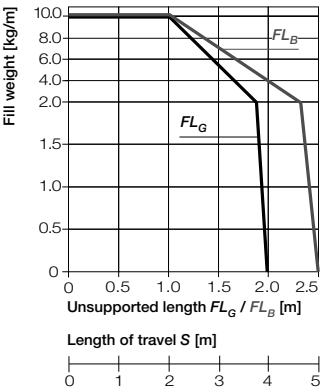
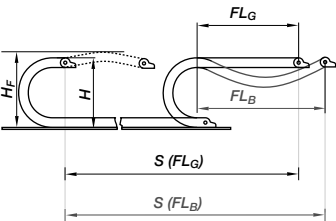


Unsupported length

FL_G = with straight upper run

FL_B = with permitted sag

Further information ► Design, page 1.12



- S = Length of travel
 - R = Bending radius
 - H = Nominal clearance height
 - H_F = Required clearance height
 - H_{RI} = Trough inner height
 - D = Overlength e-chain" radius in final position
 - $K = \pi \cdot R + \text{"safety"}$
 - D_2 = Over length - long travels, gliding
 - K_2 = "Further add-on
 - H_2 = "Mounting height
- "If the mounting bracket location is set lower

Other installation methods

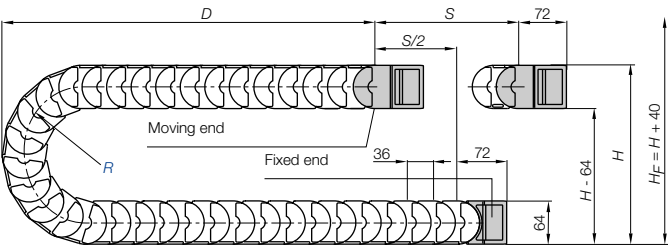
- Vertical, hanging ≤ 60 m
- Vertical, standing ≤ 4 m
- Side mounted, un supp. ≤ 2 m
- Rotary requires further calculation
- Unsupported length of upper run = upon request



Short travels - unsupported

Unsupported e-chains" feature positive camber over short travels. This must be accounted for when specifying the clearance height H_F . Please consult igus" if space is particularly restricted.

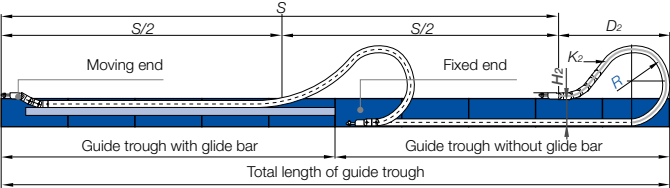
The required clearance height:
 $H_F = H + 40$ mm
(with 2,5 kg/m fill weight)



Pitch = 36 mm/link Links/m = 28 (1008 mm) Chain length = $S/2 + K$

	100	125	150	175	200	225	250	300
R	264	314	364	414	464	514	564	664
H	186	211	236	261	286	311	336	386
D	390	465	545	625	705	780	860	1015
K	265	284	284	284	284	284	284	284
H_2	200	370	440	540	650	700	850	1050
D_2	500	648	792	900	1116	1269	1476	1800
K_2								

Long travel lengths from 6,0 m to max. 100 m Chain length = $S/2 + K_2$



In case of travels between 4,0 and 6,0 m we recommend a longer unsupported length.



Gliding, long travel applications (max. 100 m)

In this case the e-chain" upper run will be introduced in a guide trough on the lower run. We recommend to realize the engineering of such a plant by our technicians.

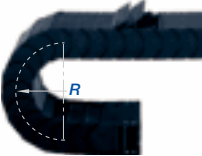
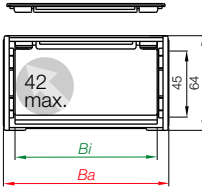
Technical Data



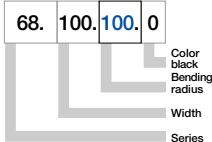
Details of material properties
► page 1.38

Speed / acceleration FL_G	max. 10 [m/s] / max. 100 [m/s]
Speed / acceleration FL_B	max. 3 [m/s] / max. 6 [m/s]
Gliding speed / acceleration (maximum)	max. 3 [m/s] / max. 10 [m/s]
Material - permitted temperature °C	igumid G / -40° up to +120° C
Flammability class, igumid G	VDE 0304 IIC UL94 HB





Part No. structure



Series R68 - snap-open along outer radius

Part No.		Bi (mm)	Ba (mm)	R (mm)	Bending radii								Weight [kg/m]
68.050.	.0	50	68	100	125	150	175	200	225	250	300		≈ 1,90
68.075.	.0	75	93	100	125	150	175	200	225	250	300		≈ 2,18
68.100.	.0	100	118	100	125	150	175	200	225	250	300		≈ 2,46
68.115.	.0	115	133	100	125	150	175	200	225	250	300		≈ 2,63
68.125.	.0	125	143	100	125	150	175	200	225	250	300		≈ 2,77
68.150.	.0	150	168	100	125	150	175	200	225	250	300		≈ 3,05
68.175.	.0	175	193	100	125	150	175	200	225	250	300		≈ 3,36
68.200.	.0	200	218	100	125	150	175	200	225	250	300		≈ 3,64
68.225.	.0	225	243	100	125	150	175	200	225	250	300		≈ 3,92
68.250.	.0	250	268	100	125	150	175	200	225	250	300		≈ 4,23

Supplement Part No. with required radius. Example: 68.100.100.0

0 = standard color, other colors ► page 1.39 • Pitch = 36 mm/link • Links/m = 28



Hot Chips up to 850°C

e-tubes that repel hot chips, up to 850 °C. Some applications, depending on amount and size of the chips, can burn or melt the surface. That is no longer the case with the igus® "igumid HT" material.

Order example - Full e-tube made of HT*: **68.100.100.0.HT**

Order example - Lids made of HT: **68.100.HT.100.0**

*for long travels upon request

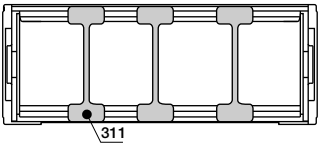
Delivery time up to 4 weeks! Further Information: www.igus.de/en/HT



Option 1: Vertical Separators

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

- Standard subdivision with Vertical Separator 311
(if you select bending radius R = 100 please use Vertical Separator 34511)

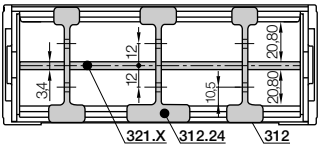


Vertical Separator*	
unassembled	301
assembled	311
*not suitable for bending radius = 100	

Vertical Separator, for bending radius R = 100	
unassembled	34501
assembled	34511

Option 2: Full-Width Shelves

- For applications involving many thin cables with similar or identical diameters
- Vertical Separator, slotted 312 or Vertical Separator, slotted 312.24 with wide base
can be combined with Full-Width Shelf 221.X



Width X [mm]	Part No. unassembled	Part No. assembled
50	320.050	321.050
75	320.075	321.075
100	320.100	321.100
115	320.115	321.115
125	320.125	321.125

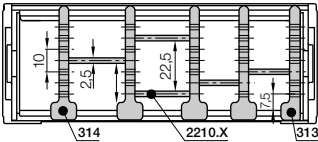
Width X [mm]	Part No. unassembled	Part No. assembled
150	320.150	321.150
175	320.175	321.175
200	320.200	321.200
225	320.225	321.225
250	320.250	321.250

Vert. Separator, slotted	
unassembled	302
assembled	312

Vert. Separator, slotted	
unassembled	302.24
assembled	312.24

Option 3: Shelves

- For applications involving many cables with similar or identical diameters. Partial separation into individual chambers can be achieved and the entire width B/-10 mm can be used
- Shelf 2210.X can be combined with Side Plate 313 and Middle Plate 314
- Option 3 "Shelves" can also be combined with option 1 "Vertical Separators"



Width X [mm]	Part No. unassembled	Part No. assembled
018	2200.18	2210.18
023	2200.23	2210.23
028	2200.28	2210.28
033	2200.33	2210.33
038	2200.38	2210.38
043	2200.43	2210.43
048	2200.48	2210.48

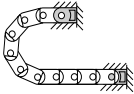
Width X [mm]	Part No. unassembled	Part No. assembled
058	2200.58	2210.58
068	2200.68	2210.68
073	2200.73	2210.73
088	2200.88	2210.88
099	2200.99	2210.99
124	2200.124	2210.124
149	2200.149	2210.149

Side Plate	
unassembled	303
assembled	313
Middle Plate	
unassembled	304
assembled	314

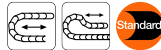
Shelf	
X	
X - 7	
t = 2,5	

E2 e-tubes Type R
Inner height: 45 mm

Phone +49- (0) 22 03-96 49-800
Fax +49- (0) 22 03-96 49-222



The attachment variants arising automatically by the choice of the KMA mounting bracket

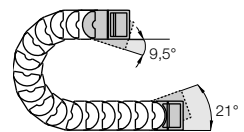


Option KMA* - pivoting

- Recommended for unsupported and gliding applications
- Option - KMA with Quickflange
- Short and long travels
- Universally mountable with attachment capability on all sides

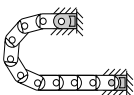
*KMA = Polymer Metal Mounting Bracket

Moving end (outer link)
680...1

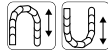


680...2

Fixed end (inner link)



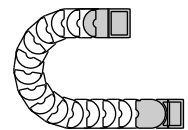
The attachment variants arising automatically by the choice of the KMA mounting bracket



Option KMA - locking

- Recommended for vertical hanging / standing applications
- Option - KMA with Quickflange
- At very high speed and acceleration
- Universally mountable with attachment capability on all sides
- Flush mounting at both ends of the e-tube

Moving end (outer link)
680...3



680...4

Fixed end (inner link)

Dimensions and order configurations



Quickflange upon request

Part No. structure (pivoting)

680.100.12.A	A... must be indicated on preassembled configurations
Full set pivoting = 12	
Width	
KMA for selected chain type	

Full set, for both ends:

680.100.12

Single-part order:

680.100.1

Mounting bracket with bore

680.100.2

Mounting bracket with pin

Part No. structure (locking)

680.100.34.A	A... must be indicated on preassembled configurations
Full set locking = 34	
Width	
KMA for selected chain type	

Full set, for both ends:

680.100.34

Single-part order:

680.100.3

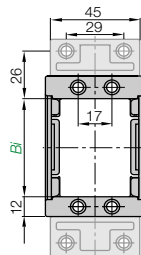
Mounting bracket with bore

680.100.4

Mounting bracket with pin

Quickflange

Part No. 16800.QF, unassembled



680...1 Standard! (pivoting)

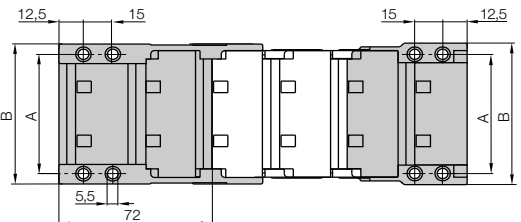
680...3 (locking)

Moving end

Standard! (pivoting) 680...2

(locking) 680...4

Fixed end



For Series	Part No. Full set	Part No. Full set with Quickflange	Dim. A [mm]	Dim. B [mm]
68.050. ▶	680.050. []	680.050. [] QF	62	74
68.075. ▶	680.075. []	680.075. [] QF	87	99
68.100. ▶	680.100. []	680.100. [] QF	112	124
68.115. ▶	680.115. []	680.115. [] QF	127	139
68.125. ▶	680.125. []	680.125. [] QF	137	149
68.150. ▶	680.150. []	680.150. [] QF	162	174
68.175. ▶	680.175. []	680.175. [] QF	187	199
68.200. ▶	680.200. []	680.200. [] QF	212	224
68.225. ▶	680.225. []	680.225. [] QF	237	249
68.250. ▶	680.250. []	680.250. [] QF	262	274

Please add the Part No. with the requested index - 12 for the pivoting configuration

e.g. 680.100.12 or 34 for the locking configuration e.g. 680.100.34

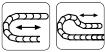
For the preassembled mode please add the index [A] e.g. 680.100.34 [A]

Quickflange unassembled: Part No. 16800.QF

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

- Socket head cap bolt M5 DIN 912-8.8 Length depends on the thickness of the attachment base
- Washer 5,3 DIN 125-ST ● Hexagon nut M5 DIN 934-8

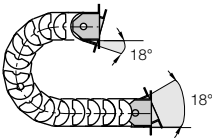




Flange mounting brackets made of steel

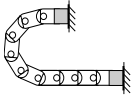
- Metallic flange brackets with popular hole patterns, easily be replaced by their modern successors, without having to alter the hole pattern
- Bolted connection outside of chain cross-section possible
- Universally mountable with attachment capability on all sides
- Steel, galvanized
- One-piece mounting bracket
- High stability

Moving end (outer link)
906.462.X.1



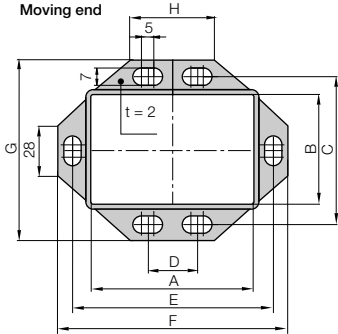
906.462.X.2

Fixed end (inner link)



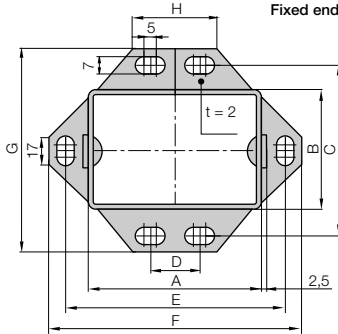
Flush mounting possibilities
at both ends of the e-tube

906.462.X.1
Moving end



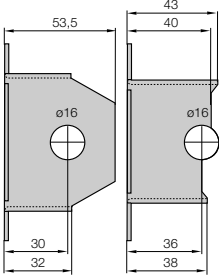
Hole pattern metallic flange
Moving end 906.462.X.1

906.462.X.2
Fixed end



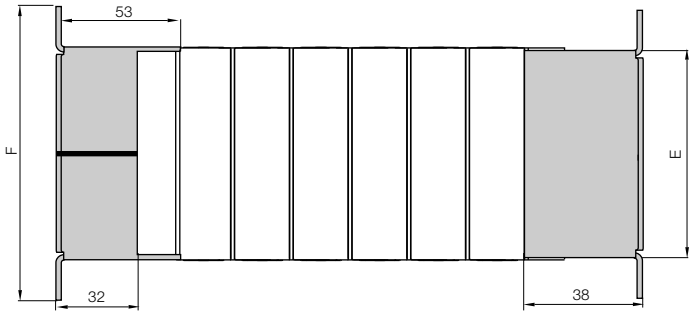
Hole pattern metallic flange
Fixed end 906.462.X.2

Dimensions and
order configurations



Moving end
906.462.X.1

Fixed end
906.462.X.2



Full set, for both ends:

906.462.X.12.

Single-part order:

906.462.X.1

Mounting bracket with bore

906.462.X.2.

Mounting bracket with pin

For Series	Hole pattern	Part No. Moving end	Part No. Fixed end	Bi [mm]	Ba [mm]	Dim. A [mm]	Dim. B [mm]	Dim. C [mm]	Dim. D [mm]	Dim. E [mm]	Dim. F [mm]	Dim. G [mm]	Dim. H [mm]
68.075	68.1	906.462.1.1	906.462.1.2	75	93	83,4	59	80	30	104	116	95	38
68.115	68.2	906.462.2.1	906.462.2.2	115	133	123,4	59	80	50	144	156	95	78
68.175	68.3	906.462.3.1	906.462.3.2	175	193	183,4	59	80	100	204	216	95	138





Integrated strain relief for E2 e-tubes - Series R

Characteristic features: ● Strain relief disappears completely in the e-tube ● Easy to assemble without any screws ● **Use:** Individual part for the manufacturing of switchgear cabinets or for the assembly of machines ● Accessory for igus® e-chainsystems®

Part. No.	Width [mm]	Number of teeth	For Series
3050.Z	50	5	R68
3075.Z	75	7	R68

Number of tiewrap plates 3050.Z for selected inner width *Bi*

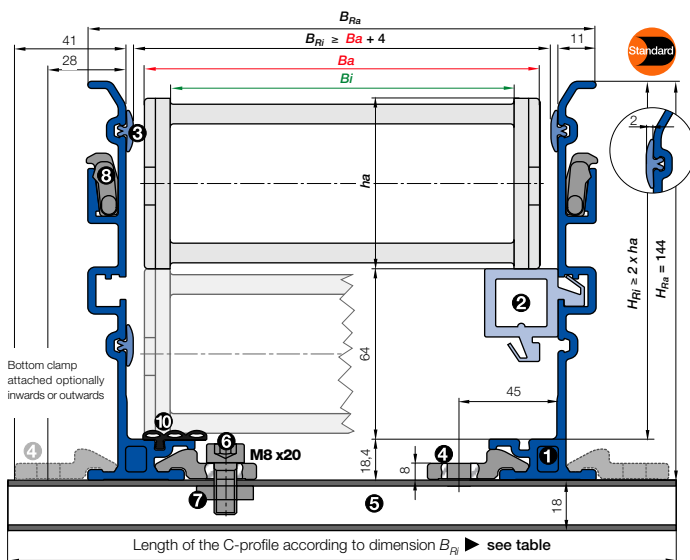
<i>Bi</i> [mm]	Width tiewrap plate [mm]	Number of tiewrap plate <i>n</i>	Total number of teeth
50	–	–	–
75	–	–	–
100	50	1	5
115	50	1	5
125	50	1	5
150	50	2	10
175	50	2	10
200	50	3	15
225	50	3	15
250	50	4	20

Number of tiewrap plates 3075.Z for selected inner width *Bi*

<i>Bi</i> [mm]	Width tiewrap plate [mm]	Number of tiewrap plate <i>n</i>	Total number of teeth
50	–	–	–
75	–	–	–
100	–	–	–
115	75	1	7
125	75	1	7
150	75	1	7
175	75	2	14
200	75	2	14
225	75	3	21
250	75	3	21



Other strain relief elements
► chapter 10



- **Components, trough "Basic":** ① Trough side parts, aluminum, 2 m ② Glide bar, plastic, 2 m ③ Glide strips, plastic, 2 m (without glide strips on request) ⑩ Optional: Silencer profile, rubber ● **Components, installation set "Basic":** ④ Bottom clamp, aluminum ⑤ C-profile, steel galvanized ⑥ Screw M6 x16 ⑦ Sliding nut M6 ⑧ Interface connector, plastic



Order example: Length of travel 30 m - Center mounted for Series 68.100.200.0 with $B_{Ri} = 122$

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

Order text: 16 m guide trough without glide bar (8 x 2 m sections) Part No. 973.30.SL

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

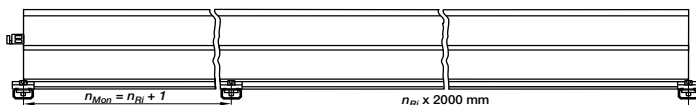
Order text: 16 m guide trough with glide bar (8 x 2 m sections) Part No. 973.31.SL

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

Order text: 17 installation sets "Basic" Part No. 960.40.175

Option: For an additional noise dampening with silencer profile, please add Index A - Example:

Part No. 973.30.SLA



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

Other guide trough systems



"Heavy Duty" for heavy plant construction with glide bar and silencer profiles

► chapter 9



"Steel trough" very stable and robust guide trough out of steel, 2 pieces, adjustable on chain width

► chapter 9

B_a = Outer width e-chains* / e-tube
 B_i = Inner width e-chains* / e-tube
 h_a = Outer height e-chains* / e-tube

H_{Ri} = Inner trough height

H_{Ra} = Outer trough height

B_{Ri} = Inner trough width ► depends on dim. B_a

B_{Ra} = Outer trough width

n_{Mon} = Number of installation sets (left/right)

n_{Ri} = Number of troughs sets (left/right)

$H_{Ri} \geq 2 \cdot h_a$

$B_{Ri} \geq B_a + 4$

- = Guide trough set ● = Glide bar
● = Installation set "Basic" ● = C-profile

Installation set "Basic" with C-profile

Bottom Clamp attached optionally inwards or outwards

68.100.200.0 ► Order example

B_{Ri} [mm]	Part No. attached inwards	Part No. attached outwards
.050 72	-	960.40.200
.075 97	-	960.40.225
.100 122	960.40.175	960.40.250
.115 137	960.40.200	960.40.275
.125 147	960.40.200	960.40.275
.150 172	960.40.225	960.40.300
.175 197	960.40.250	960.40.325
.200 222	960.40.275	960.40.350
.225 247	960.40.300	960.40.375
.250 272	960.40.325	960.40.400

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

Phone +49- (0) 22 03-96 49-800
Fax +49- (0) 22 03-96 49-222



► chapter 10



► chapter 9



► page 6.5