

RX

Extremely swarf-resistant without undercuts or edges



Advantages of the RX system:

- Openable along the outer radius
- Round contour prevents swarf accumulation
- Injection-moulded seal between links
- No holes, gaps or undercuts
- RX e-tubes - IP40 tested
- Covered pin/bore connection and stop-dogs
- Interior separation and support tray available
- **ABR** version with Reverse Bend Radius available



When to use another e-tube:

- For swarf protection on gliding applications
- ▶ **R4.1 e-tubes, page 616**
- When a particularly cost-effective solution is required
- ▶ **R2.1 e-tubes, page 442**



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**HENNLICH -
ŽIJEME TECHNIKOU**

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extremely
warf-resistant
-tubes -
iX system

blem solver for energy supply systems in
as with swarf; operable along the outer
lius. Swarf and dirt can significantly reduce
: service life of cables and hoses. With the
system igus® offers an extremely tough but
coolly shaped polymer e-tube.

- Openable along the outer radius
- Round contour prevents swarf accumulation
- Injection-moulded seal between links
- No holes, gaps or undercuts

Covered pin/bore connection and stop-logs

Series RX40 has been tested for IP protection class (IP40) (TÜV NORD CERT GmbH)

RBR version with Reverse Bend Radius available

ical industries and applications

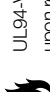
Machine tools ● All applications in swarf area
With dust and dirt ● General mechanical engineering



 Electrically conductive ESD e-tubes
upon request



Optionally available with igumid HT material for hot swarf up to +850°C



 UL94-V0 classification
upon request



reddot design award
honourable mention 2011



Series	Inner height h_I [mm]	Inner width B_I [mm]	Outer width B_a [mm]	Outer height h_a [mm]	Bend radius R [mm]	Unsupported length $\leq$ [m]	Page
 RX system - extremely swarf- resistant e-tubes lids removable along the outer radius							
RX32	26 / 42	80	98.4	56	080 - 175	1.70	522
RX40	32 / 52	100	123.0	70	100 - 300	1.80	526
RX48	35 / 62	120	147.6	84	120 - 255	2.10	530
RX56	41 / 73	140	172.2	98	140 - 250	2.30	534



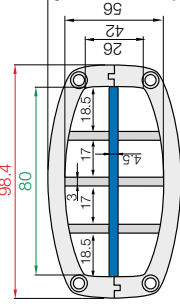
**RX system -
extremely swarf-
resistant e-tubes**

lids removable along the outer radius

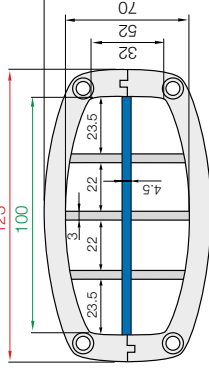


Available from stock. Ready to ship in 72hrs.*

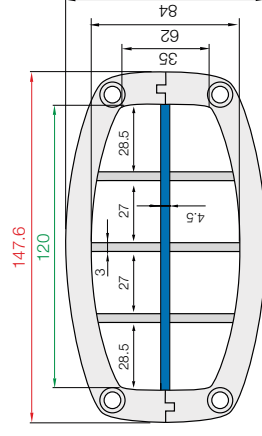
RX32



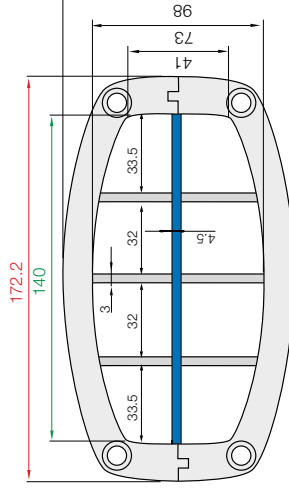
RX40



RX48



RX56



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Options with order keys | Examples based on series RX40

	Standard	Reverse Bend Radius (RBR) for circular movements	e-tube - no burning- in of hot swarf up to 850°C	ESD - electrically conductive material
	Part No. Standard 	Part No. RBR 	Part No. igumid HT 	Part No. igumid ESD 
	RX40.100.R.0	RX40.100.R1/R2.0	RX40.100.R.0.HT	RX40.100.R.0.ESD

	Ready to ship in 72hrs.*	Ready to ship in 20 business days*	Ready to ship in 6 weeks*	Ready to ship in 12 business days*
*Average time before the ordered goods are dispatched.				

Order example | Order key and colour examples | Examples based on series RX40

 Order example for complete e-tube (1.0m), colour black, with mounting brackets and interior separation:

e-tube (1.0m)	Please indicate e-tube length or number of links: 1.0m or 18 links	RX40.100.100.0
+ Mounting brackets	Set	RX401.100.12ZB
+ Interior separation	with 1 separator (central position) assembled every 2 nd link	1 x RX40.1.1
+ Interior separation	with 2 separators (lateral position) assembled every 2 nd link	2 x RX40.2.1
Order text:	1m RX40.100.140.0 + RX401.100.12ZB + 1 x RX40.1.1 + 2 x RX40.2.1	

 Order key

Lids removable along the outer radius

Series / Type

Width index (depends on *B*)

Bend radius *R*

Colour index (standard black)

Order index for colour options

Colour	Order index	Colour	Order index
Black	Standard	Orange	Special colour
Silver-grey	Special colour	Yellow	Special colour
White	Special colour	Light grey	Special colour
Grey-white	Special colour		

Black e-chains® ready to ship in 72hrs.*

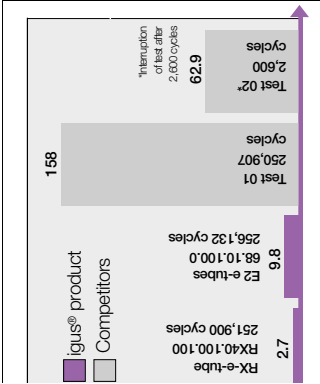
Above special colours upon request.

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≤ 10 [m/s] / ≤ 100 [m/s²]
≤ 3 [m/s] / ≤ 6 [m/s²]
-40°C / +120°C
VDE 0304 IIC UL94-HB

	Side mounted unsupported		Rotary		Zig-zag
upon request	with rework	upon request	with rework	upon request	with rework
upon request	with rework	upon request	with rework	upon request	with rework
upon request	with rework	upon request	with rework	upon request	with rework



Product	Cycles
igus® product (RX-e-tube)	251,900 cycles
Competitors (E2 e-tubes)	256,132 cycles

ss - various tube styles were covered with a defined swarf. After 251,900 cycles, only 2.7g of swarf were e interior of the RX tube

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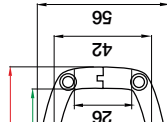
o.z. LIN-TECH HENNLICH s.r.o.

Českolipská 9, 412 01 Litoměřice

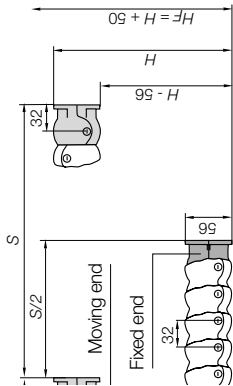


iter radius

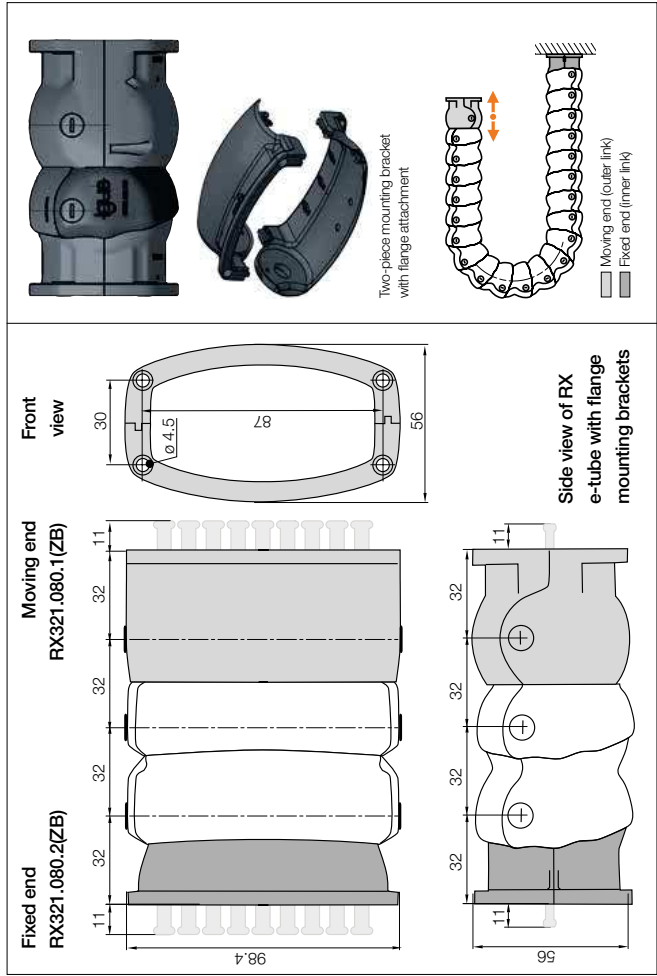
and radii	RX32
25 150 175 200° 225° 250°*	[kg/m]
	≈ 1.23



Inner height [mm]	42
Pitch [mm/link]	32
Links/m	32
corresponds to [mm]	1,024
e-tube length	$L_K = s_{\frac{1}{2}} + K$

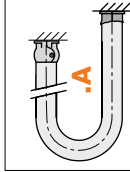


225°*	250°*
506	556
301	326
775	850



Mounting brackets, flange | Locking

Width index	Part No. full set with tiewrap plates	Part No. full set without tiewrap plates	Number of teeth
080. ▲	RX321.080.12ZB	RX321.080.12	8



Flange mounting brackets for flush attachment. Option: with M6 insert nuts. To receive brackets **pre-fitted** please add index **A**.



Strain relief e.g. clamps, tiewrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ► From page 1392



Slotted separators:

- 1 (central position)
- 2 (lateral position)

Separation of the interior space using cable-friendly, "separators". Due to their slots, basic vertical and slanting arrangements are possible. As standard separators are fitted every 2nd e-tube link!

Internal separation

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

X (mm)	unassembled	assembled
064	520.64	521.64
084	520.84	521.84

Hot swarf up to +850°C for e-tubes

- e-tubes can repel swarf up to +850°C. Special production option with the igus® material igumid HT
- No hot swarf melting or embedding into the chain

More information ► www.igus.eu/HT



Steel support tray for support of the lower run

- Simple one-piece support trays for the lower run
- Guides the RX e-tube safely and lets the swarf pass through easily
- Available in different lengths

More information ► www.igus.eu/RX



Strain relief block for flange mounting brackets

- Strain relief block to match cable layout
- Fast assembly
- Can be integrated in the RX e-tube flange mounting bracket

More information ► www.igus.eu/RX32



Supply of the main spindle in a tooling machine with igus® RX e-tube. The rounded contour of the energy supply repels all kinds of swarf



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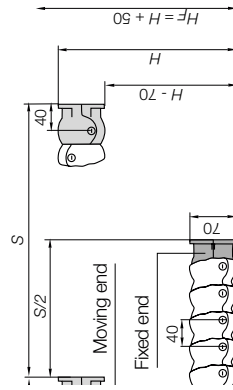


iter radius

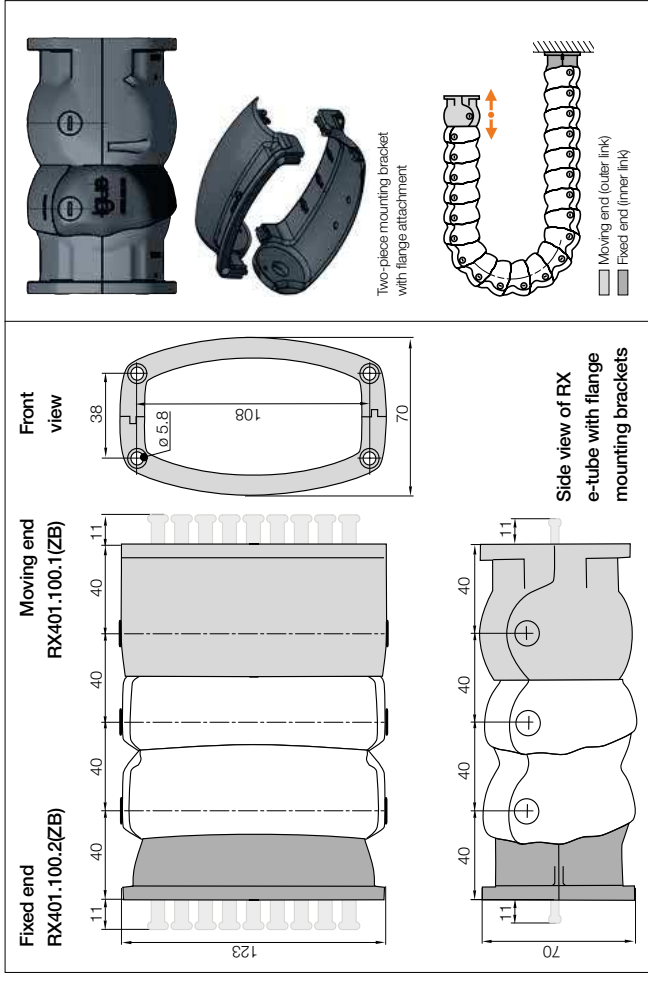
Band radii	RX40 [kg/m]
50 175 200 225 250 275 300	≈ 1.89

.....

Inner height [mm]	52
Pitch [mm/link]	40
Links/m	25
corresponds to [mm]	1,000
e-tube length	$L_{K-S/2} + K$

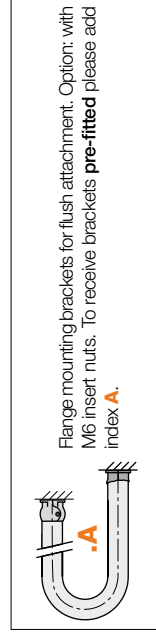


250	275	300
570	620	670
345	370	395
870	945	1 025



Mounting brackets, flange | Locking

Width index		Part No. full set with tiwrap plates	Part No. full set without tiwrap plates	Number of teeth
100. ▲		RX401.100.12ZB	RX401.100.12	10



Flange mounting brackets for flush attachment. Option: with M6 insert nuts. To receive brackets **pre-fitted** please add index **A**.



 **Strain relief** e.g. clamps, tie-wrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ► From page 1392



Slotted separators:

- 1 (central position)
- 2 (lateral position)

Separation of the interior space using cable-friendly, 'separators'. Due to their slots, basic vertical and lateral shelving arrangements are possible. As standard separators are fitted every 2nd e-tube link!

Internal separation

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

X (mm)	unassembled	assembled
079	520.79	521.79
104	520.104	521.104

Hot swarf up to +850°C for e-tubes

- e-tubes can repel swarf up to +850°C. Special production option with the igus® material igumid HT
- No hot swarf melting or embedding into the chain

More information ► www.igus.eu/HT



Steel support tray for support of the lower run

- Simple one-piece support trays for the lower run
- Guides the RX e-tube safely and lets the swarf pass through easily
- Available in different lengths

More information ► www.igus.eu/RX



Strain relief block for flange mounting brackets

- Strain relief block to match cable layout
- Fast assembly
- Can be integrated in the RX e-tube flange mounting bracket

More information ► www.igus.eu/RX40



Swarf tests at the igus® test lab prove the excellent sealing of igus® RX e-tube. Video online ► www.igus.eu/RX_tested



igus 3D CAD, configurators, service life calculation and more ► www.igus.eu/RX

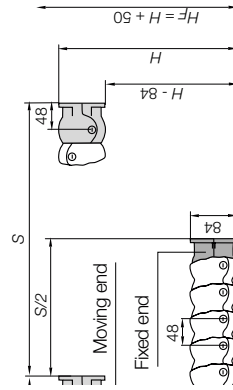
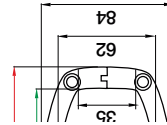


iter radius

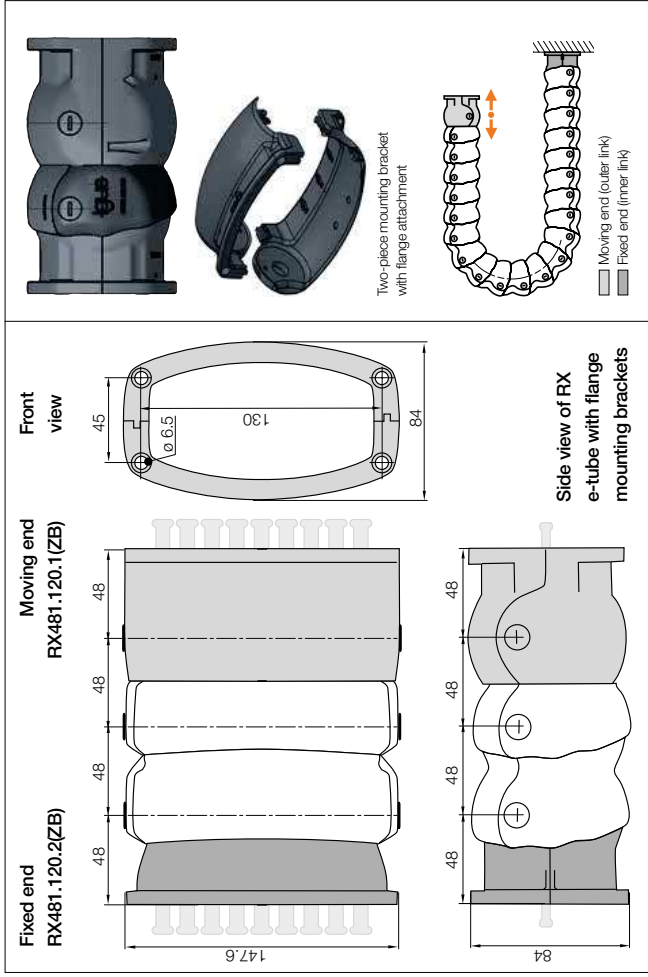
and radii	RX48
	[kg/m]
75 ⁺ 200 ⁺ 225 250 ⁺ 275 ⁺ 300 ⁺ 325 ⁺	≈ 2.76



Technical drawing of a 35 mm e-tube. The drawing shows a cross-section of the tube with three dimensions indicated: 35 mm for the inner diameter, 62 mm for the outer diameter, and 84 mm for the total width including the mounting flange. The tube is shown in a perspective view with a red arrow indicating the direction of flow.

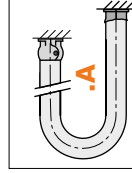


275*	300*	325*
634	684	734
389	414	439
960	1 040	1 120



Mounting brackets, flange | Locking

Width index	 Part No. full set with tiwrap plates	Part No. full set without tiwrap plates	Number of teeth
120. ▲	RX481.120.12ZB	RX481.120.12	12



Flange mounting brackets for flush attachment. Option: with M6 insert nuts. To receive brackets **pre-fitted** please add index **A**.

RX481.120.12ZB.A Order example



 **Strain relief** e.g. clamps, tie-wrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ► From page 1392



Slotted separators:

- 1 (central position)
- 2 (lateral position)

separation of the interior space using cable-friendly, "separators". Due to their slots, basic vertical and lateral shelving arrangements are possible. As standard separators are fitted every 2nd e-tube link!

Internal separation

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

X [mm]	unassembled	assembled
094	520.94	521.94
124	520.124	521.124

Hot swarf up to +850°C for e-tubes

- e-tubes can repel swarf up to +850°C. Special production option with the igus® material igumid HT
- No hot swarf melting or embedding into the chain

More information ► www.igus.eu/HT



Steel support tray for support of the lower run

- Simple one-piece support trays for the lower run
- Guides the RX e-tube safely and lets the swarf pass through easily
- Available in different lengths

More information ► www.igus.eu/RX



Strain relief block for flange mounting brackets

- Strain relief block to match cable layout
- Fast assembly
- Can be integrated in the RX e-tube flange mounting bracket

More information ► www.igus.eu/RX48



With the extremely swarf-resistant igus® RX e-tube and harnessed chainflex® cables, the service life of this woodworking machine was considerably increased. Because of dust and dirt, previous cables failed after one month



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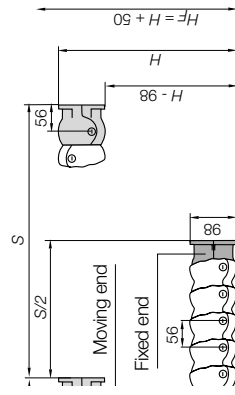


iter radius

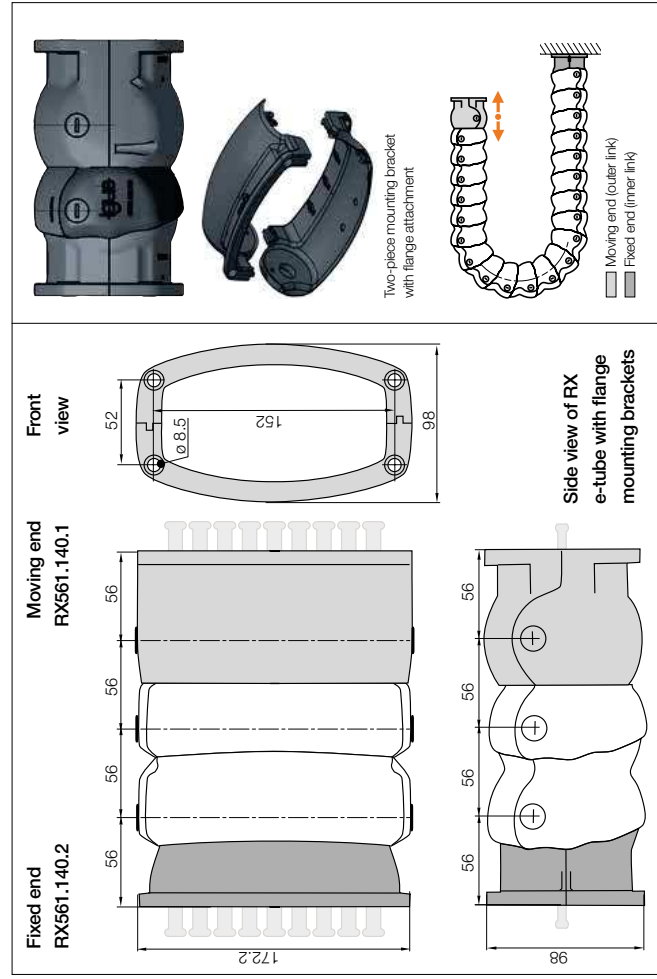
and radii	RX56
	[kg/m]
100*	225* 250 275* 300* 325* 350*
	≈ 3.83

Journal of Management Inquiry 23(4)

Inner height [mm]	73
Pitch [mm/link]	56
Links/m	18
corresponds to [mm]	1,008
e-tube length	$L_K = \frac{s}{2} + K$

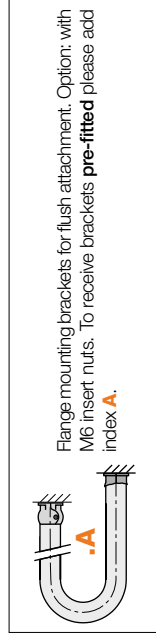


300*	325*	350*
698	748	798
433	458	483
1,055	1,135	1,215



Mounting brackets, flange | Locking

Width index	 Part No. full set with tie-wrap plates	Part No. full set without tie-wrap plates	Number of teeth upon request
140, ▲		RX561.140.12	



RX561.140.12.A Order example



Strain relief e.g. clamps, tie-wrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ► From page 1392



l separation - slotted separators:

- 1 (central position)
- 2 (lateral position)

separation of the interior space using cable-friendly, separators. Due to their slots, basic vertical and al shelving arrangements are possible. As standard rs are fitted every 2nd e-tube link!

ntal separation

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

X (mm)	unassembled	assembled
109	520.109	521.109
144	520.144	521.144

Hot swarf up to +850°C for e-tubes

- e-tubes can repel swarf up to +850°C. Special production option with the igus® material igumid HT
- No hot swarf melting or embedding into the chain

More information ► www.igus.eu/HT



Steel support tray for support of the lower run

- Simple one-piece support trays for the lower run
- Guides the RX e-tube safely and lets the swarf pass through easily
- Available in different lengths

More information ► www.igus.eu/RX



Strain relief block for flange mounting brackets

- Strain relief block to match cable layout
- Fast assembly
- Can be integrated in the RX e-tube flange mounting bracket

More information ► www.igus.eu/RX56



The RX e-tube used in this compact turning machine has Reverse Bend Radius (**RBR**) and operates even with the very restricted space



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