

E2 R

e-tubes for swarf protection at higher speeds and smooth running



Advantages of the E2 R series:

- Strong e-tubes with small pitch for low noise, smooth running
- High level of protection against swarf (including hot swarf)
- Lids removable along the outer radius
- Robust and sealed
- Space-efficient with optimised ratio of inner to outer dimensions



When to use another e-tube:

- When a particularly cost-effective solution is required
▶ R2.1 e-tubes, page 442
- When no swarf protection is required ▶ E2/000 e-chains®, page 374
- For extremely swarf-resistant e-tubes ▶ RX system, page 516
- When even higher strength is required ▶ R4.1L e-tubes, page 538

swarf protection t higher speeds nd smooth nning - :2R e-tubes

R e-tubes - small pitch for higher speeds
d smooth motion. igus® e-tubes work in hot
arf areas, in areas of dirt and dust generated
woodworking, steel mills, pulp and paper,
tile, agriculture, coal plant and many other
stile environments.
-high level of protection against swarf
including hot swarf)
Robust and sealed
Space-efficient with optimised ratio of inner
o outer dimensions
Modular interior separation
Universal KMA mounting brackets with
attachment options from any side

ical industries and applications
Machine tools ● Wood processing machines
General mechanical engineering ● In all
as with dirt and swarf

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-  e-tubes with igumid HT material for hot
swarf up to +850°C available upon request
-  Electrically conductive ESD e-tubes
upon request
-  UL94-V0 classification
upon request
-  **iF product design award**
1987 igus® series R68

s.eu/E2R 

E2 R e-tubes | 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]	Bend radius <i>R</i> [mm]	Unsupported length ≤ [m]	Page
 E2 R e-tubes - lids removable along the outer radius							
R48	25	25 - 130	36 - 141	36	060 - 250	1.50	498
R58	35	50 - 200	66 - 216	50	075 - 250	2.30	504
R68	45	50 - 250	68 - 268	64	100 - 300	2.50	510

 **Available from stock. Ready to ship in 48 - 72hrs.***
*Average time before the ordered goods are dispatched.



E2 e-tubes in swarf area of a machine tool. With igumid HT material resistant to swarf up to +850°C

 3D CAD, configurators, service life calculation and more ► www.igus.eu/E2R

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



Side mounted
unsupported

≤ 1.5m

upon request

upon request

≤ 2.0m

upon request

upon request

≤ 2.0m

upon request

upon request



Zig-zag



Unsupported
lower run

upon request

upon request

upon request

E2 R e-tubes | Options and order keys

Options with order keys | Examples based on series R58



Standard	NC version - (No Camber) without pretension	e-tube - no burning- in of hot swarf up to 850°C	ESD - electrically conductive material
Part No. Standard	Part No. NC version	Part No. igumid HT	Part No. igumid ESD



58.100.R.0	58.100.R.0.NC	58.100.R.0.HT	58.100.R.0.ESD
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Ready to ship in 48 - 72hrs.*	Ready to ship in 5 business days*	Ready to ship in 6 weeks*	Ready to ship in 12 business days*
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*Average time before the ordered goods are dispatched.

Order example | Order key and colour examples | Examples based on series R58



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 28 links	58.100.100.0
+ Mounting brackets	KWA - 1 set	580.100.12
Interior separation	with 2 separators assembled every 2nd link	2 x 582
Order text:	1m 58.100.100.0 + 580.100.12 + 2 x 582	



Order key

Links removable along the outer radius

58.100.100.0



Order index for colour options

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

Black e-chains® ready to ship in 48 - 72hrs.*

Above special colours upon request.

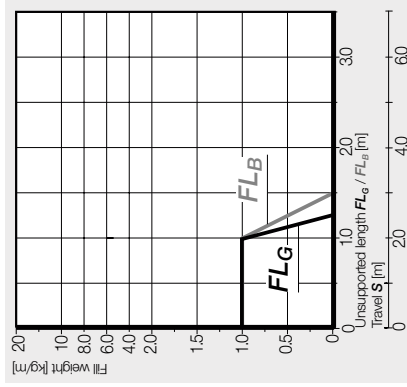
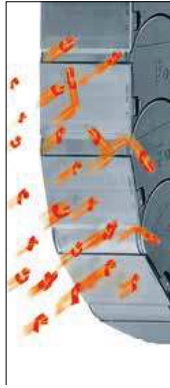


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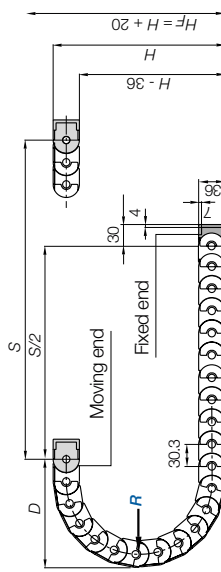


er radius

end radii	R48 [kg/m]					
00	125	150	175	200	250	≈ 0.64
00	125	150	175	200	250	≈ 0.84
00	125	150	175	200	250	≈ 1.03
00	125	150	175	200	250	≈ 1.23
00	125	150	175	200	250	≈ 1.46



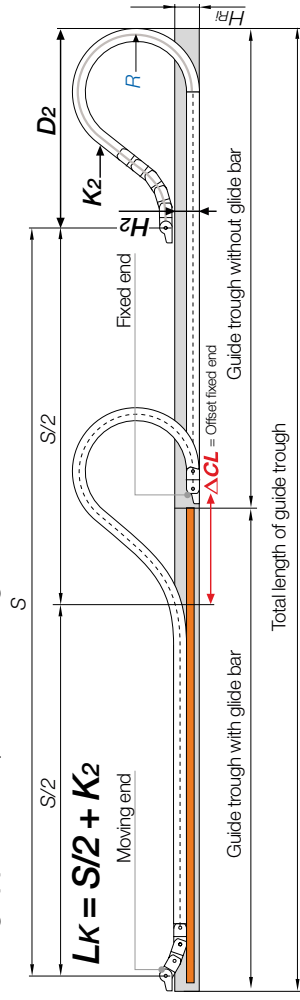
	Inner height [mm]	25
	Pitch [mm/link]	30.3
	Links/m	33
	corresponds to [mm]	999.9
	e-tube length	$L_K = \frac{S}{2} + K$



<i>R</i>	060	075	100	125	150	175	200	250
<i>H</i>	156	186	236	286	336	386	436	536
<i>D</i>	123	138	163	188	213	238	263	313
<i>K</i>	250	300	375	455	535	615	690	850

The required clearance height: $H_F = H + 20\text{mm}$ (with 0.5kg/m fill weight)

Gliding applications | For travel lengths from 5m to max. 50m



Note: We recommend the project planning of such a system to be carried out by igus®. In case of travels between 2 and 5m we recommend an e-tube with a longer unsupported length. If a gliding application is required for a long travel, please consult igus®.

R	060	075	100	125	150	175	200	250
H_2	156	186	176	176	176	176	176	*
D_2	110	125	330	450	610	730	690	*
K_2	250	300	545	758	970	1,151	1,182	*
Δ_{CL}	—	—	170	270	380	470	*	*

*Values upon request



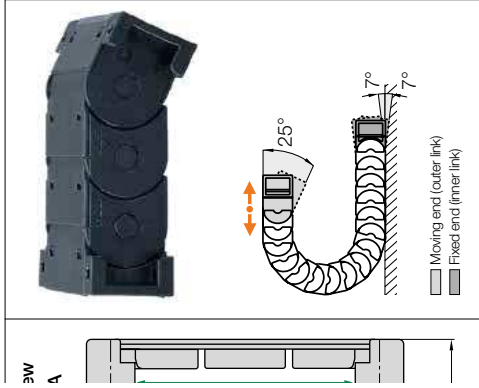
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Applications and standing applications

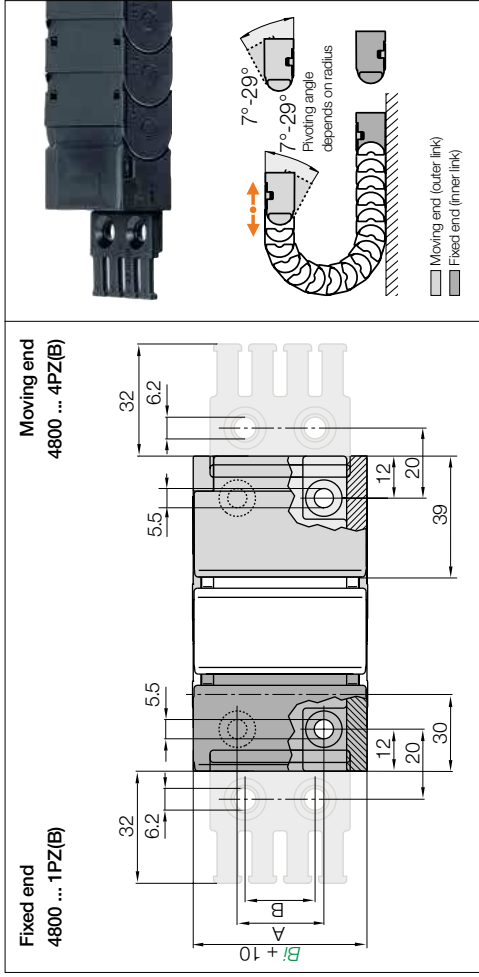
A	B	Bi
[mm]	[mm]	[mm]
45	55	25
70	80	50
95	105	75
120	130	100
150	160	130

Washer 5.3 DIN 125-ST ● Hexagon nut M5 DIN 934-8

Washer 5.3 DIN 125-ST ● Hexagon nut M5 DIN 934-8



2
s are available from stock. The complete

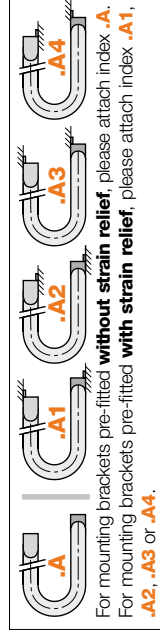


Angled polymer bracket | One end pivoting
Recommended for unsupported applications

Width index	Part No. full set with tiwrap plates	Part No. full set without tiwrap plates	A [mm]	B [mm]	Number of teeth
025. ▲	4800.025.12PZB	4800.025.12	12	15	3
050. ▲	4800.050.12PZB	4800.050.12	37	30	5
075. ▲	4800.075.12PZB	4800.075.12	62	60	8
100. ▲	4800.100.12PZB	4800.100.12	87	80	10
30. ▲	–	4800.130.12	117	–	–

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 ● Hexagon nut M5 DIN 7991 ● Washer 5.3 DIN 125-ST



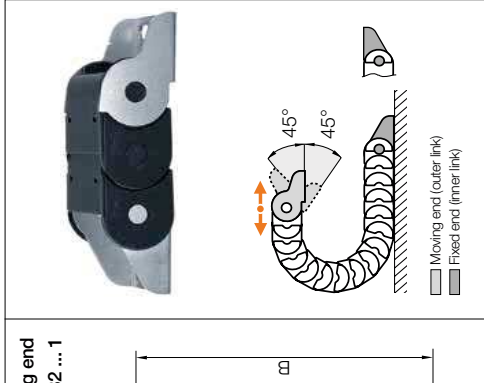
4800,100,12PZB.A2 Order example

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



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standing applications

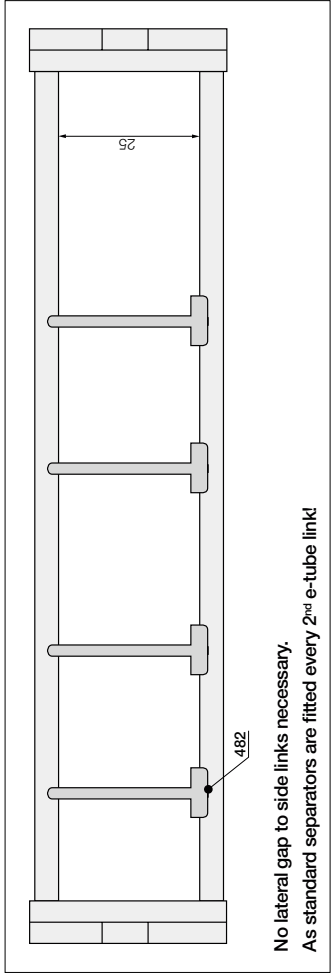
A	B
[mm]	[mm]
–	35
22	60
47	85
72	110
102	140

pre-	482.100.12.A1	Order example
		...to indicate option with brackets pre-fitted
		Full set
		Width index
		Series

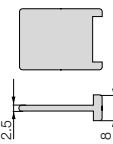
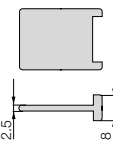
s are available from stock. The complete
2



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No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-tube link!

		Standard separator unassembled	481
		Standard separator assembled	482

Standard separator

For simple vertical subdivision. Offers security due to its wide base design, also when used with large cables or hoses.

Separator with integrated strain relief teeth

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

Part No. 481.ZR - more information ► From page 1424



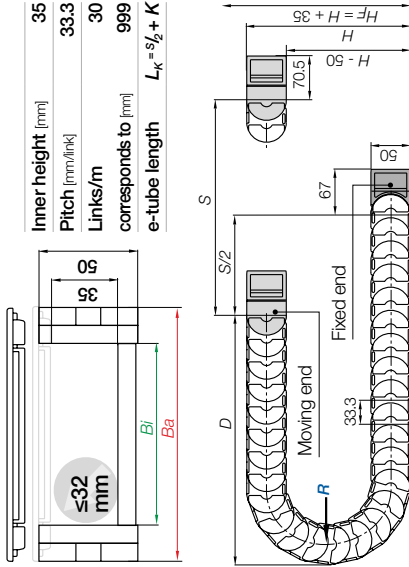
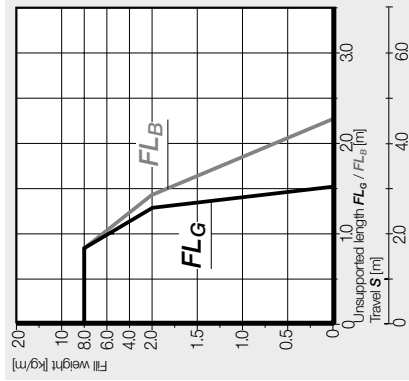
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ear radius

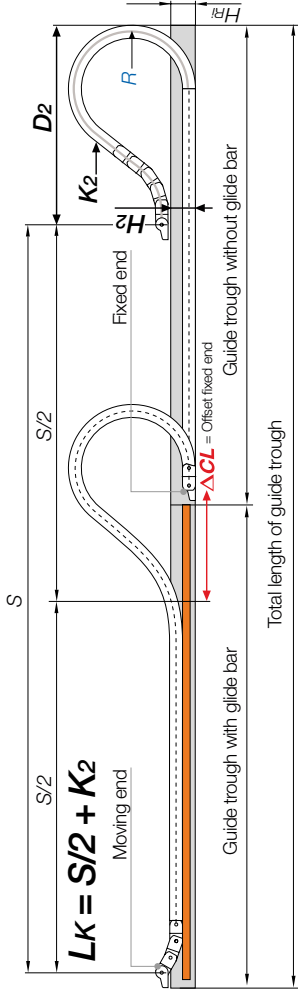
and radii	R58				[kg/m]
25	150	200	250		≈ 1.50
25	150	200	250		≈ 1.77
25	150	200	250		≈ 2.04
25	150	200	250		≈ 2.31
25	150	200	250		≈ 2.61
25	150	200	250		≈ 2.88
25	150	200	250		≈ 3.15



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

The required clearance height: $H_f = H + 35\text{mm}$ (with 0.5kg/m fill weight)

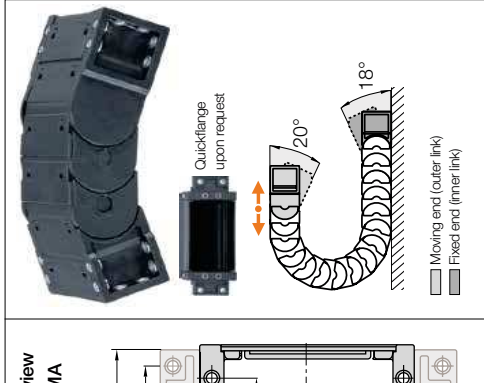
Gliding applications | For travel lengths from 5m to max. 75m



Note: We recommend the project planning of such a system to be carried out by igus®.
In case of travels between 3 and 5m we recommend an e-tube with a longer unsupported length.
If a gliding application is required for a long travel, please consult igus®.

R	075	100	125	150	200	250
H ₂	150	166	166	166	166	166
D ₂	150	310	380	480	800	1,050
K ₂	375	500	699	866	1,265	1,665
ΔCL	*	122	167	247	512	717

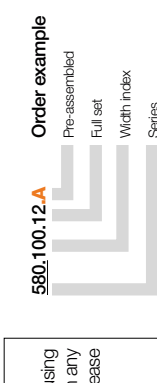
*Upon request



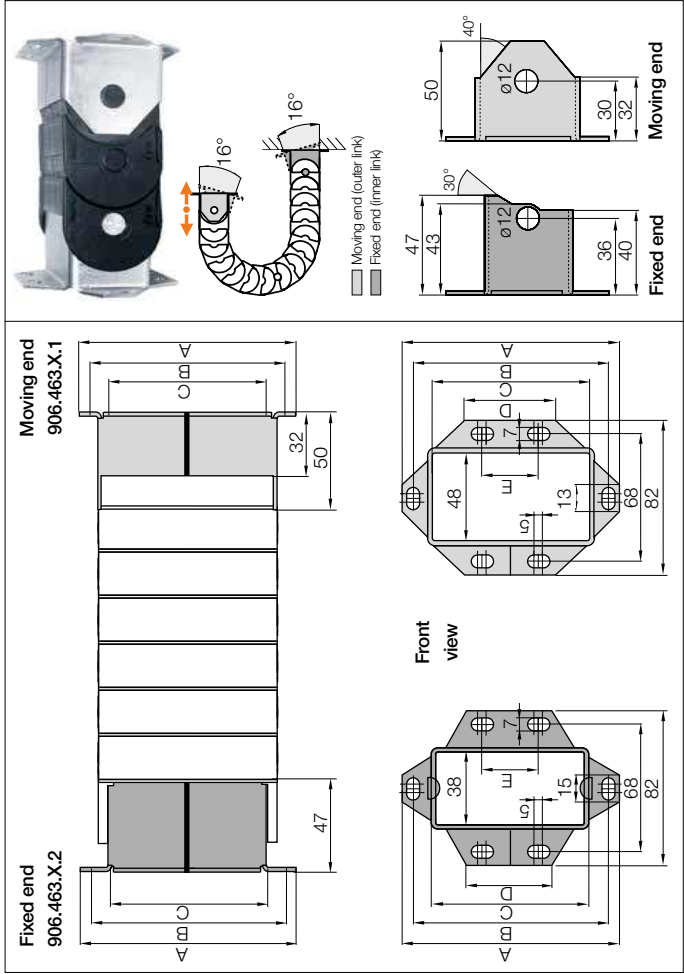
**Applications
and standing applications**

A	B	Bi
[mm]	[mm]	[mm]
62	74	50
87	99	75
112	124	100
137	149	125
162	174	150
187	199	175
212	224	200

Washer 5.3 DIN 125-ST ● Hexagon nut M5 DIN 934-8
Quickflange: Part No. 16800.OF



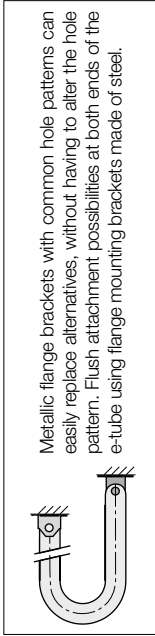
are available from stock. The complete
2



Steel flange, pivoting | Recommended for unsupported applications

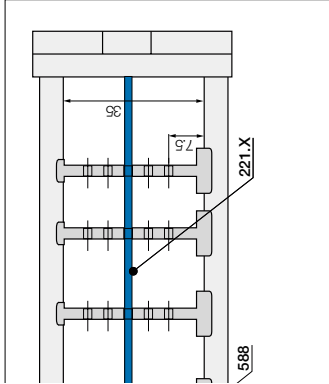
Width index	Hole pattern	Part No.	A	B	C	D	E
		Moving end	[mm]	[mm]	[mm]	[mm]	[mm]
050. ▲	58.05	906.463.05.1	90.5	78.5	58.3	24.5	20
075. ▲	58.1	906.463.1.1	116	104	83.3	50	30

Width index	Hole pattern	Part No.	A	B	C	D	E
		Fixed end	[mm]	[mm]	[mm]	[mm]	[mm]
050. ▲	58.05	906.463.05.2	90.5	78.5	57.5	28	20
075. ▲	58.1	906.463.1.2	116	104	82.5	45	30



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





Option 1 | Separators Standard separator

Simple vertical subdivision. Offers security due to its basic design, also when used with large cables or

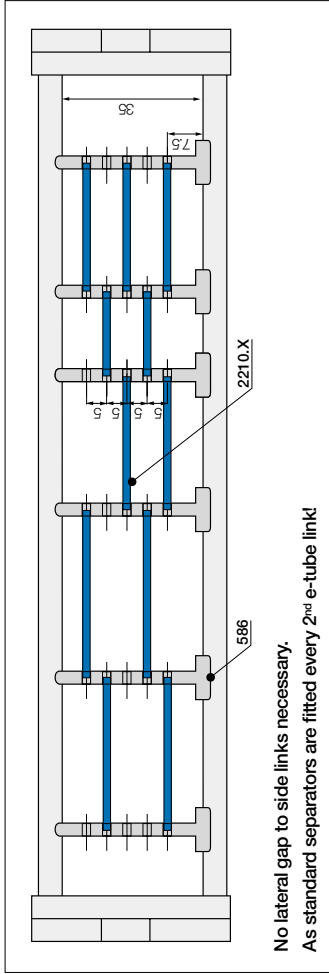
Option 2 | Full-width shelves Standard separator

Interior separation. The slot allows basic vertical and lateral shelving arrangements.

Width shelf

Option is for applications with many small cables with different diameters. For full-width separation.

assembled	X [mm]	unassembled	assembled
221.125	200	220.200	221.200
221.150			
221.175			



No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-tube link!

Option 3 | Partial shelves Slotted separator

Allows modular shelving arrangements.

Shelf

For applications involving many cables with different diameters, shelves can be fitted at different heights.

Slotted separator	
unassembled	585
assembled	586

Shelf for e-tubes	
unassembled	2200.X
assembled	2210.X

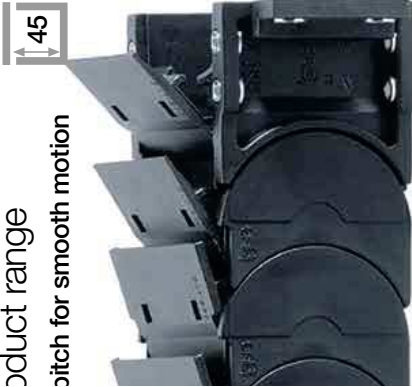
Shelves

Width = X [mm]

X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
018	2200.18	2210.18	043	2200.43	2210.43
023	2200.23	2210.23	048	2200.48	2210.48
028	2200.28	2210.28	058	2200.58	2210.58
033	2200.33	2210.33	068	2200.68	2210.68
038	2200.38	2210.38	073	2200.73	2210.73

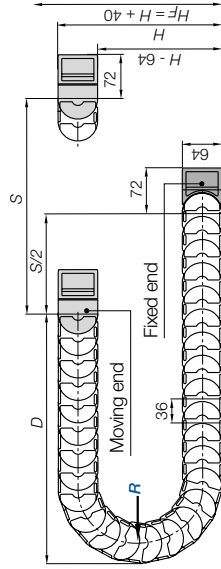
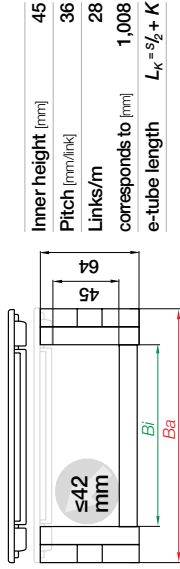
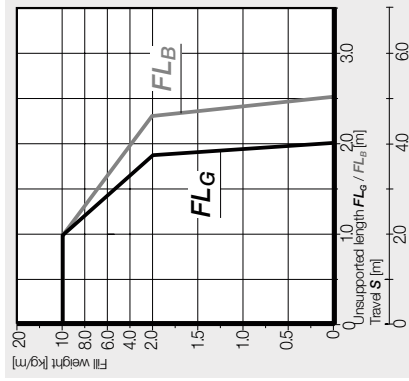


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ear radius

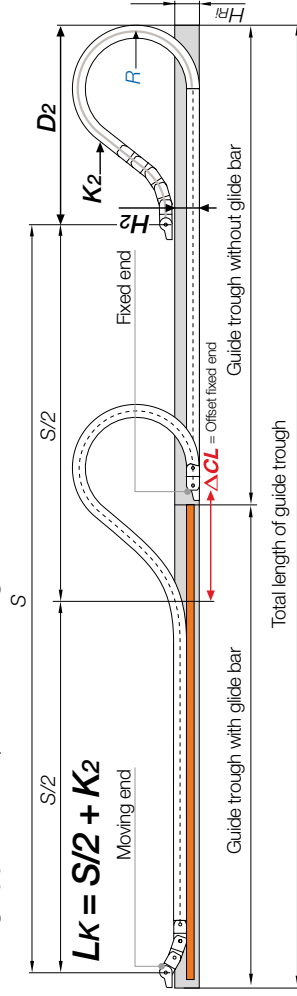
End radii		R68									
		[kg/m]									
50	175	200	225	250	300						≈ 1.90
50	175	200	225	250	300						≈ 2.18
50	175	200	225	250	300						≈ 2.46
50	175	200	225	250	300						≈ 2.63
50	175	200	225	250	300						≈ 2.77
50	175	200	225	250	300						≈ 3.05
50	175	200	225	250	300						≈ 3.36
50	175	200	225	250	300						≈ 3.64
50	175	200	225	250	300						≈ 3.92
50	175	200	225	250	300						≈ 4.23



R	100	125	150	175	200	225	250	300
H	264	314	364	414	464	514	564	664
D	186	211	236	261	286	311	336	386
K	390	465	545	625	705	780	860	1,015

The required clearance height: $H_F = H + 40\text{mm}$ (with 2.5kg/m fill weight)

Gliding applications | For travel lengths from 6m to max. 100m



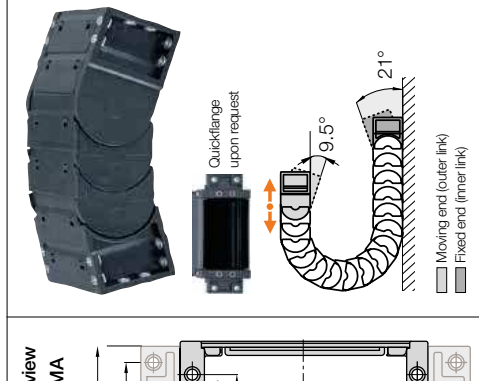
Note: We recommend the project planning of such a system to be carried out by igus®. In case of travels between 4 and 6m we recommend an e-tube with a longer unsupported length. If a gliding application is required for a long travel, please consult igus®.

R	100	125	150	175	200	225	250	300
H ₂	201	220	220	220	220	220	220	220
D ₂	200	370	440	540	650	700	850	1,050
K ₂	500	648	792	900	1,116	1,269	1,476	1,800
ΔCL	*	164	204	294	364	439	514	664

*Upon request



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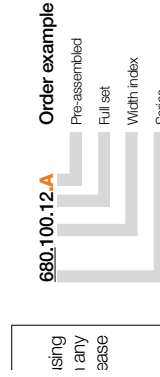


lications
and standing applications

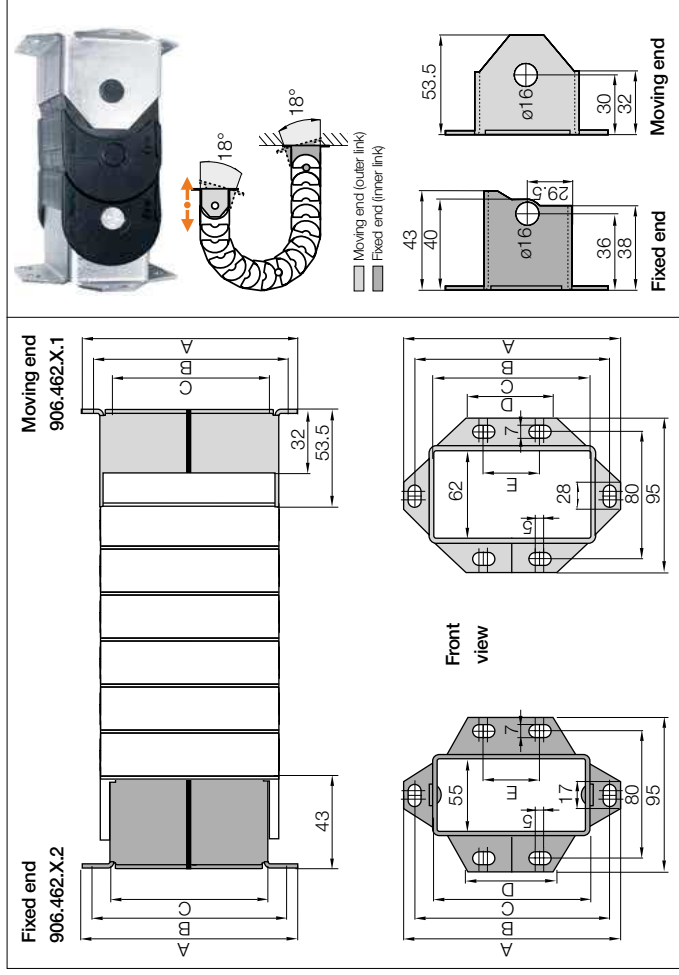
A	B	Bi
[mm]	[mm]	[mm]
62	74	50
87	99	75
112	124	100
127	139	115
137	149	125
162	174	150
187	199	175
212	224	200
237	249	225
262	274	250

Washer 5.3 DIN 125-ST ● Hexagon nut M5 DIN 934-8

!QF: Unassembled quickflange: Part No. 16800,QF



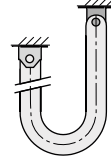
2
s are available from stock. The complete



Steel flange, pivoting | Recommended for unsupported applications

Width index	Hole pattern	Part No.	<i>B</i> / <i>I</i>	A	B	C	D	E
		Moving end	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
075, ▲	68.1	906.462.1.1	75	116	104	83.3	50	30
115, ▲	68.2	906.462.2.1	115	156	144	123.3	90	50
175, ▲	68.3	906.462.3.1	175	216	204	183.3	150	100

Width index	Hole pattern	Part No.	<i>Bi</i>	A	B	C	D	E
		Fixed end	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
075. $\blacktriangle$	68.1	906.462.1.2	75	116	104	83.4	38	30
115. $\blacktriangle$	68.2	906.462.2.2	115	156	144	123.4	78	50
175. $\blacktriangle$	68.3	906.462.3.2	175	216	204	183.4	138	100

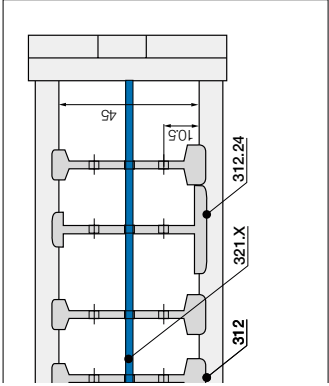


Metallic flange brackets with common hole patterns can easily replace alternatives, without having to alter the hole pattern. Flush attachment possibilities at both ends of the e-tube using flange mounting brackets made of steel.

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

iquis 3D CAD, configurators, service life calculation and more ► www.iquis.eu/E2R

513



Option 1 | Separators Standard separator

Simple vertical subdivision. Offers security due to its basic design, also when used with large cables or

flexible for bend radius **R 100!**

separator for radius **R 100**

select bend radius R 100 please use this separator for vertical subdivision.

Option 2 | Full-width shelves Standard separator

Full separation. The slot allows basic vertical and lateral shelving arrangements.

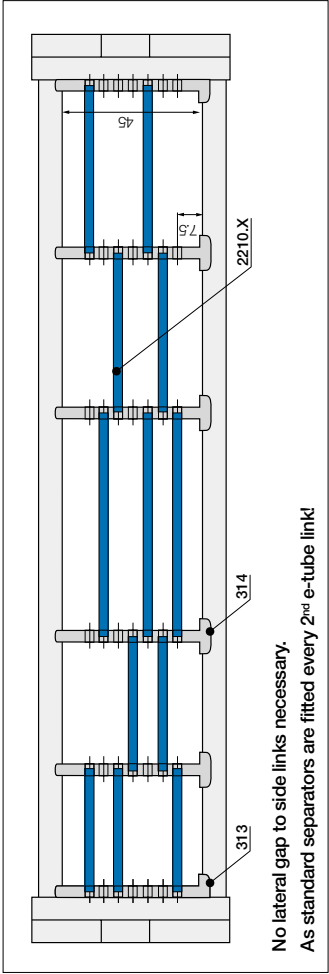
Standard separator, wide base

the space between the separators has to be kept or they have to be fixed in their position.

Width shelf

Option is for applications with many small cables with diameters. For full-width separation.

assembled	X [mm]	unassembled	assembled
321.150	250	320.250	321.250
321.175			
321.200			
321.225			



No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-tube link!

Option 3 | Partial shelves Slotted separator

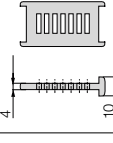
Allows modular shelving arrangements.

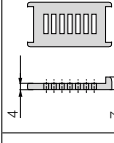
Slotted side plate

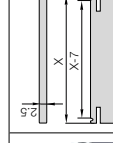
Allows modular shelving right up to the side links. No clearance required!

Shelf

For applications involving many cables with different diameters, shelves can be fitted at different heights.

	Slotted separator	X [mm]	unassembled	assembled
		043	2200.43	2210.43
		048	2200.48	2210.48
		058	2200.58	2210.58
		068	2200.68	2210.68
		073	2200.73	2210.73

	Slotted side plate	X [mm]	unassembled	assembled
		043	2200.43	2210.43
		048	2200.48	2210.48
		058	2200.58	2210.58
		068	2200.68	2210.68
		073	2200.73	2210.73

	Shelf for e-tubes	X [mm]	unassembled	assembled
		043	2200.43	2210.43
		048	2200.48	2210.48
		058	2200.58	2210.58
		068	2200.68	2210.68
		073	2200.73	2210.73

Shelves

Width = X [mm]



X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
018	2200.18	2210.18	088	2200.88	2210.88
023	2200.23	2210.23	099	2200.99	2210.99
028	2200.28	2210.28	124	2200.124	2210.124
033	2200.33	2210.33	149	2200.149	2210.149
038	2200.38	2210.38			