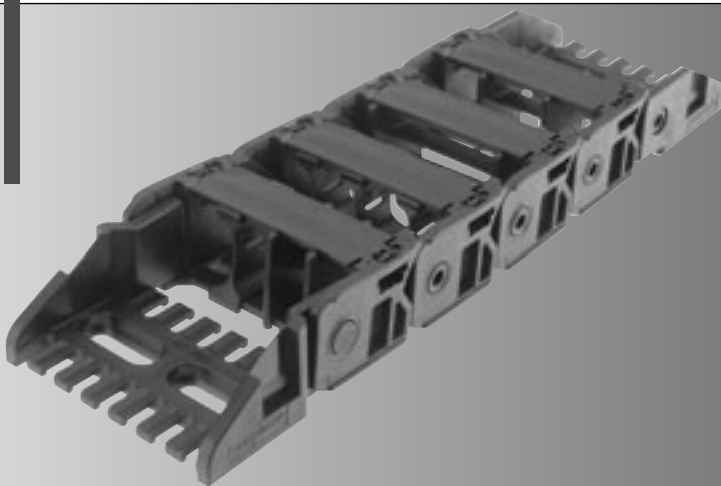


CABLE DRAG CHAIN SYSTEMS

MultiLine

MP 3000





MP 3000 - MultiLine

Order variants

Style (order code)						
Configuration (order code)						
Radius (order code)						
in mm						
Internal width (order code)						
in mm						
External width						
in mm						
MP3001	44	26	026	50	050	
MP3002	55	37	037	70	070	
MP3002.5	74	56	056	95	095	
MP3003	80	62	062	120	120	
MP3003.5	94	76	076	150	150	
MP3004	105	87	087	200	200	0
MP3005	119	101	101	300	300	1

Order number:	0300			0			0
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Configuration:

- 0 crossbar every link; w/bias
- 1 crossbar every link; w/o bias

Style:

- 0 Standard (PA)
- 7 ESD (PA)
- 9 Special version

Sample order

0300 026 050 0000

Inside width = 26 mm

Radius = 50 mm

Configuration = 0

Style = 0

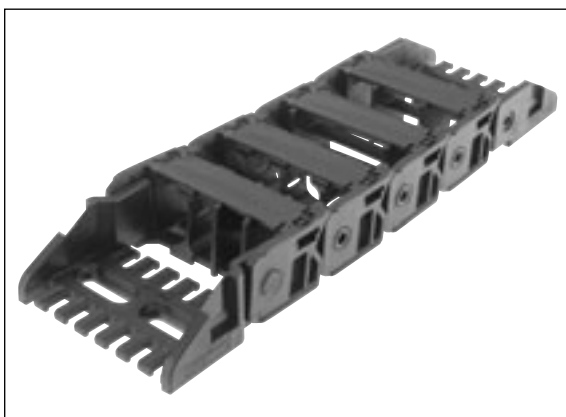
Ideal operating conditions

- Compact dimensions with opening cover in inside bend
- Quiet operation
- High stability
- Flexible internal separation
- Rotated 90°, unsupported
- Variant with bias (RV) for high unsupported lengths
- Variant without bias (RK) for gliding arrangements

Alternative chain type

- MP 26 greater widths
- MP 25 G closed series
- MP 32
- opens on both sides
- variable widths
- greater stresses
- flange connection (KA-F)
- back radii

Features



Radii with or without bias (RK/RV)



ESD cable drag chains for use in areas at risk of explosion



Back radius combinations



H-shelf for easy cable separation in the chain window



Integratable separator for cable separation



ESD cable drag chains for use in areas of electrostatic discharge



Chain bracket with metal inserts and strain relief



Frame ridges can be folded up on one side



Plug-in shelf system for reliable cable guidance

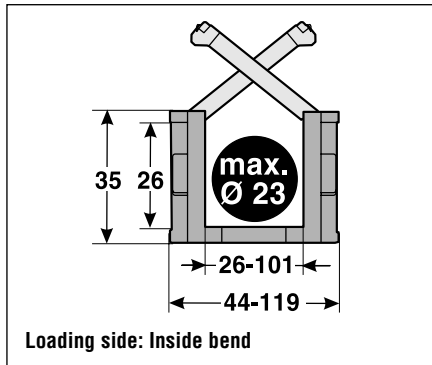


ZL strain relief plate

MP 3000 - MultiLine

Technical data

Chain link dimensions



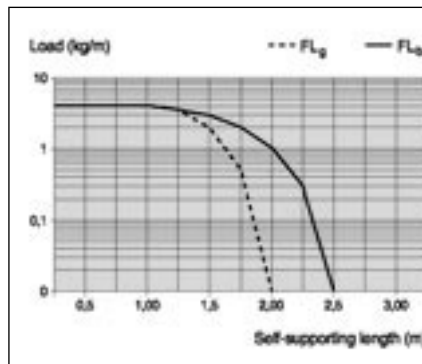
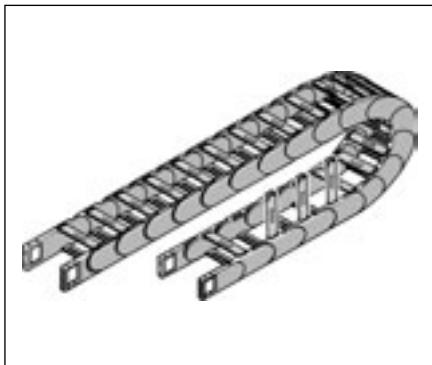
Material properties

Service temperature: -30 to +120 °C
 Gliding friction factor: 0.30
 Static friction factor: 0.45
 Fire classification: in conformity with UL94 HB
 ESD material: CE Ex II 2 GD
 Other material properties on request

Technical specifications

Travel distance, gliding, L_g : 60 m
 Travel distance, self-supporting, L_s : see diagram
 Travel distance, vertical, hanging, L_{vh} : 40 m
 Travel distance, vertical, upright, L_{vu} : 3 m
 Rotated 90°, self-supporting, L_{sg} : 0.7 m
 Speed, gliding, V_g : 3 m/s
 Speed, self-supporting, V_s : 6 m/s
 Acceleration, gliding, a_g : 10 m/s²
 Acceleration, self-supporting, a_s : 15 m/s²

Unsupported length

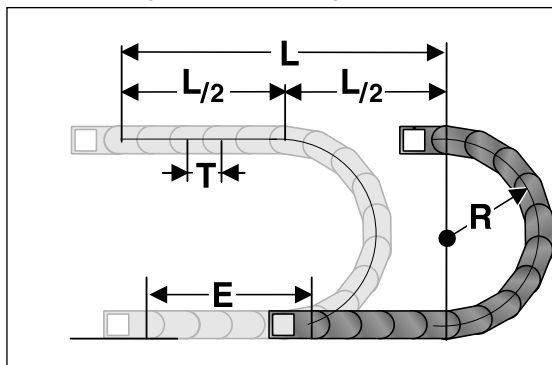


FL_g:
 Ideal installation situation for high stresses at the limit of the max. travel parameters. In this range the chain upper run is still biased, straight or has a max. sag of 10 – 50 mm depending on the type of chain.

FL_b:
 Satisfactory installation position for many applications working in the lower to middle range of the max. travel parameters. Depending on the chain type, the sag of the chain upper run is > 10 – 50 mm but less than the max. sag.

If the sag is greater than FL_b , the arrangement is unsuitable and should be avoided. Please choose a more stable murrplastik cable drag chain.

Determining the chain length



L = Travel distance
 R = Radius
 T = Pitch
 E = Distance between entry point and middle of travel distance

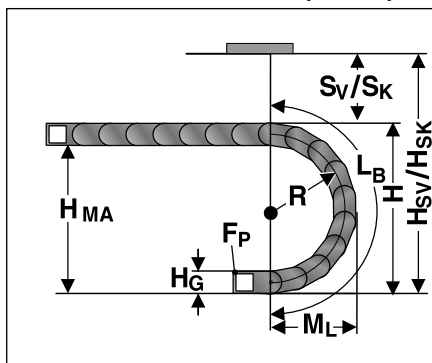
Determining the chain length

$$\text{Length} = \frac{L}{2} + \pi \times R + 2 \times T + E$$

≈ 1 m chain = 22 x 45 mm links

The fixed point of the cable drag chain should be connected in the middle of the travel distance. This arrangement gives the shortest connection between the fixed point and the moving consumer and thus the most efficient chain length.

Installation dimensions (in mm)

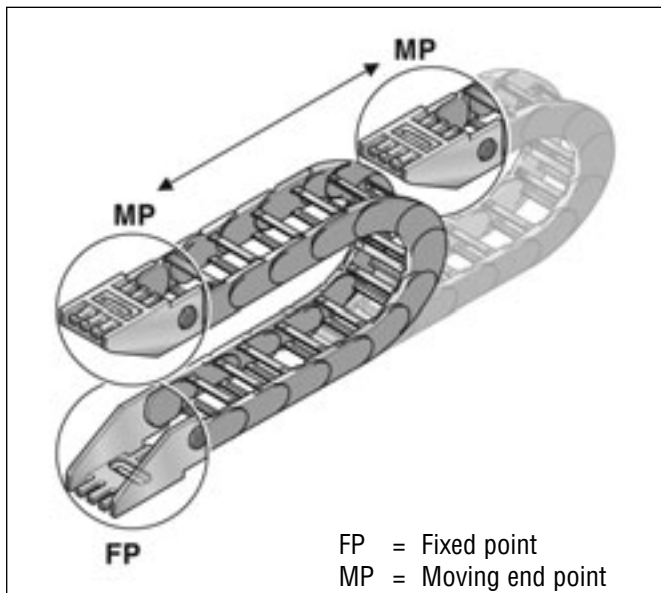


Radius R	50	70	95	120	150	200	300
Outside height of chain link (H_e)	35	35	35	35	35	35	35
Height of bend (H)	135	175	225	275	335	435	635
Height of moving end connection (H_{MA})	100	140	190	240	300	400	600
Safety margin with bias (S_v)	45	45	45	45	45	45	45
Installation height with bias (H_{sv})	180	220	270	320	380	480	680
Safety margin without bias (S_k)	10	10	10	10	10	10	10
Installation height without bias (H_{sk})	145	185	235	285	345	445	645
Arc projection (M_l)	113	133	158	183	213	163	363
Bend length (L_b)	257	320	398	477	571	728	1042

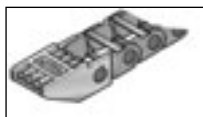


MP 3000 - MultiLine

Chain bracket



Chain bracket U-part



Top



Bottom

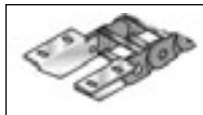
Chain bracket elbow fitting



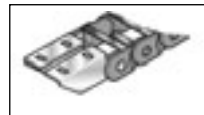
Bottom / Outside



Top / Inside

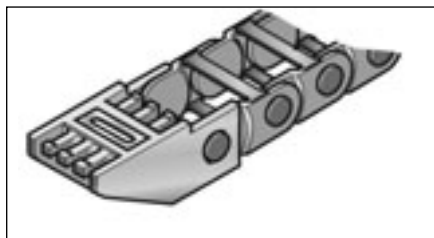


Top / Outside



Top / Inside

Chain bracket U-part

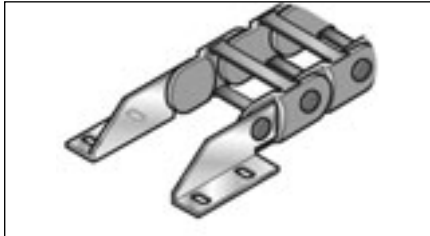


Type	Order no.		Pack
KA/Z 3001 Female end	03000008000	for inside width 26 mm	1
KA/Z 3001 Male end	03000008100	for inside width 26 mm	1
KA/Z 3002 Female end	03000008200	for inside width 37 mm	1
KA/Z 3002 Male end	03000008300	for inside width 37 mm	1
KA/Z 3002.5 Female end	03000007600	for inside width 56 mm	1
KA/Z 3002.5 Male end	03000007700	for inside width 56 mm	1
KA/Z 3003 Female end	03000008400	for inside width 62 mm	1
KA/Z 3003 Male end	03000008500	for inside width 62 mm	1
KA/Z 3003.5 Female end	03000007800	for inside width 76 mm	1
KA/Z 3003.5 Male end	03000007900	for inside width 76 mm	1
KA/Z 3004 Female end	03000008600	for inside width 87 mm	1
KA/Z 3004 Male end	03000008700	for inside width 87 mm	1
KA/Z 3005 Female end	03000008800	for inside width 101 mm	1
KA/Z 3005 Male end	03000008900	for inside width 101 mm	1

The chain bracket, type KA/Z 3001 - 3005, is an all plastics part with extrusion coated metal insert. The bracket is precisely adjusted to the respective chain width and only needs to be snapped in at the chain link. Please order one male and one female end bracket for each chain. The brackets should be fastened with M6 screws. The cables or conduits should be fastened with cable ties on the integrated strain relief of the chain bracket.

MP 3000 - MultiLine

Chain bracket elbow fitting

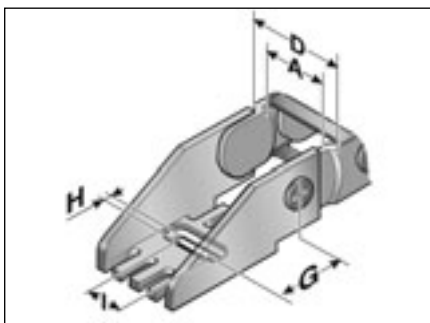


Type	Order no.	Material	Pack
KA 3008 Female end	0300000052	Steel plate	1
KA 3008 Male end	0300000053	Steel plate	1
KA 3009 Female end	0300000054	Stainless steel 1.4301	1
KA 3009 Male end	0300000055	Stainless steel 1.4301	1

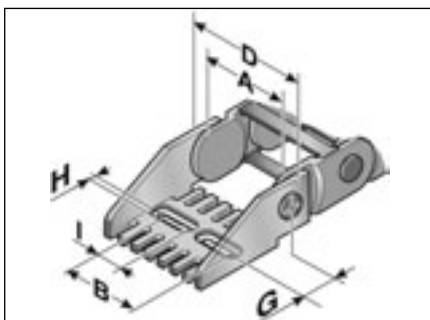
Please order one female end (left hole + right hole) and one male end (left bolt + right bolt) for each chain.

Chain bracket U-part

Dimensions in mm



Type	A	D	G	H Ø	I
KA/Z 3001	26.00	44.00	31.50	6.50	18.50



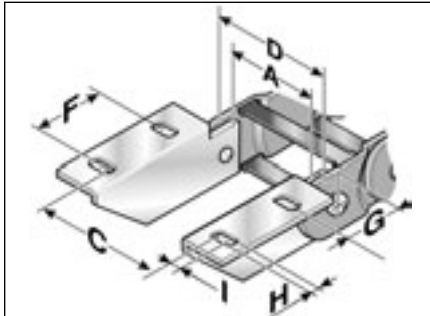
Type	A	B	D	G	H Ø	I
KA/Z 3002	37.00	30.00	55.00	31.50	6.50	7.50
KA/Z 3002.5	56.00	48.00	74.00	31.50	6.50	7.50
KA/Z 3003	62.00	55.00	80.00	31.50	6.50	18.50
KA/Z 3003.5	76.00	68.00	94.00	31.50	6.50	18.50
KA/Z 3004	87.00	80.00	105.00	31.50	6.50	18.50
KA/Z 3005	101.00	94.00	119.00	31.50	6.50	18.50



MP 3000 - MultiLine

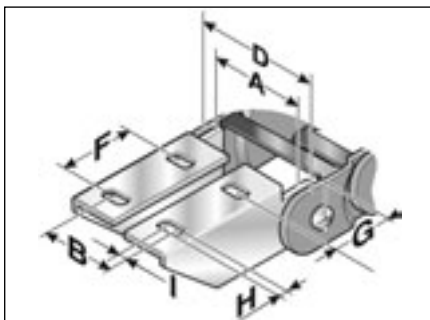
Chain bracket elbow fitting

Dimensions in mm



Bottom and top / outside

Type	A	C	D	F	G	H Ø	I
KA 3008 Female end	26.00	48.50	44.00	25.00	21.00	6.50	4.50
KA 3008 Male end	26.00	57.00	44.00	25.00	21.00	6.50	4.50
KA 3008 Female end	37.00	59.50	55.00	25.00	21.00	6.50	4.50
KA 3008 Male end	37.00	68.00	55.00	25.00	21.00	6.50	4.50
KA 3008 Female end	56.00	78.50	74.00	25.00	21.00	6.50	4.50
KA 3008 Male end	56.00	87.00	74.50	25.00	21.00	6.50	4.50
KA 3008 Female end	62.00	84.50	80.00	25.00	21.00	6.50	4.50
KA 3008 Male end	62.00	93.00	80.00	25.00	21.00	6.50	4.50
KA 3008 Female end	76.00	98.50	94.00	25.00	21.00	6.50	4.50
KA 3008 Male end	76.00	107.00	94.00	25.00	21.00	6.50	4.50
KA 3008 Female end	87.00	109.50	105.50	25.00	21.00	6.50	4.50
KA 3008 Male end	87.00	118.00	105.00	25.00	21.00	6.50	4.50
KA 3008 Female end	101.00	123.50	119.50	25.00	21.00	6.50	4.50
KA 3008 Male end	101.00	132.00	119.00	25.00	21.00	6.50	4.50



Bottom and top / inside

Type	A	B	D	F	G	H Ø	I
KA 3008 Female end	37.00	28.50	55.00	25.00	21.00	6.50	4.50
KA 3008 Male end	37.00	33.50	55.00	25.00	21.00	6.50	4.50
KA 3008 Female end	56.00	47.50	74.00	25.00	21.00	6.50	4.50
KA 3008 Male end	56.00	52.50	74.00	25.00	21.00	6.50	4.50
KA 3008 Female end	62.00	53.50	80.00	25.00	21.00	6.50	4.50
KA 3008 Male end	62.00	58.50	80.00	25.00	21.00	6.50	4.50
KA 3008 Female end	76.00	67.50	94.00	25.00	21.00	6.50	4.50
KA 3008 Male end	76.00	72.50	94.00	25.00	21.00	6.50	4.50
KA 3008 Female end	87.00	78.50	105.00	25.00	21.00	6.50	4.50
KA 3008 Male end	87.00	83.50	105.00	25.00	21.00	6.50	4.50
KA 3008 Female end	101.00	92.50	119.00	25.00	21.00	6.50	4.50
KA 3008 Male end	101.00	97.50	119.00	25.00	21.00	6.50	4.50

MP 3000 - Accessories

Separator



Separator

Type	Order no.	Description	Pack
TR 3000	030000009000	Separator movable	1
TR 3001	030000009200	Separator lockable	1

Lock grid spacing 3.00 mm

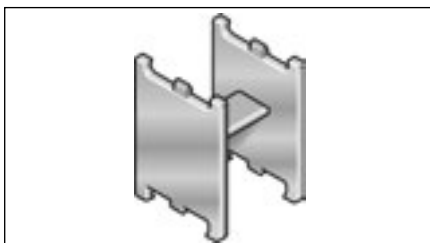
We recommend that separators are used if multiple round cables or conduits with differing diameters are to be installed. An offset configuration of the separators is advisable. The fixed lockable separator must be used for side-mounted cable drag chains to prevent the separator from slipping down.



Separator

Type	Dimensions in mm			
	Tl	H	H1	H2
TR 3000	1.50	2.50	12.90	12.90
TR 3001	1.50	2.50	12.90	12.90

H-shaped shelf unit

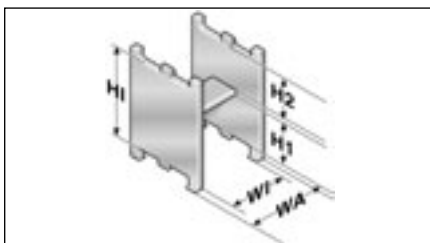


H-shaped shelf unit

Type	Order no.	Description	Pack
RE 2615	100000261510	RE 2615 Shelf unit, H-shaped 1	
RE 2627	100000262710	RE 2627 Shelf unit, H-shaped 1	
RE 2651	100000265110	RE 2651 Shelf unit, H-shaped 1	

Lock grid spacing 3.00 mm

Insert to obtain additional levels in pre-defined distances.




H-shaped shelf unit

Type	Dimensions in mm				
	WA	WI	H1	H2	HI
RE 2615	17.50	12.50	13.70	9.60	26.00
RE 2627	29.50	24.50	13.70	9.60	26.00
RE 2651	53.50	48.50	13.70	9.60	26.00



MP 3000 - Accessories

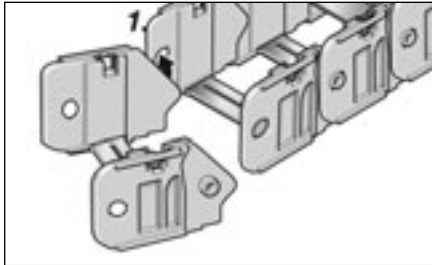
Shelving system	Type	Order no.	Description	Width in mm	Pack
	RBT 037	100000003700	RBT 037 Shelf	37	1
	RBT 062	100000006200	RBT 062 Shelf	62	1
	RBT 086	100000008600	RBT 086 Shelf	86	1
	RBT 101	100000010100	RBT 101 Shelf	101	1
Lock grid spacing 3.00 mm					

Shelving system

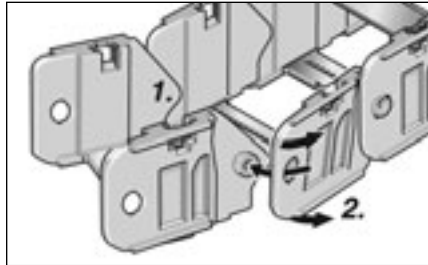
The shelf must be used with a minimum of two separators to create a shelving system. The additional levels prevent cables from criss-crossing and therefore destroying each other, whilst also avoiding excessive friction. The shelves are matched to the available chain widths.

MP 3000 - MultiLine

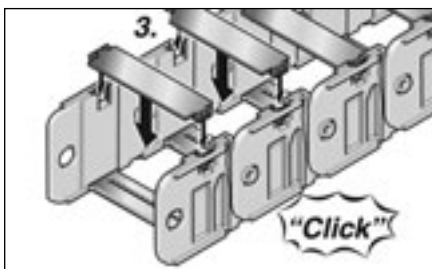
Assembly



Step 1

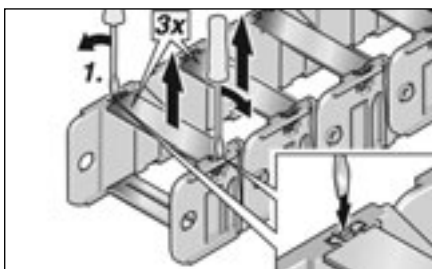


Step 2

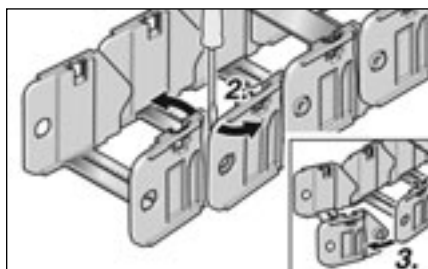


Step 3

Disassembly



Step 1



Step 2