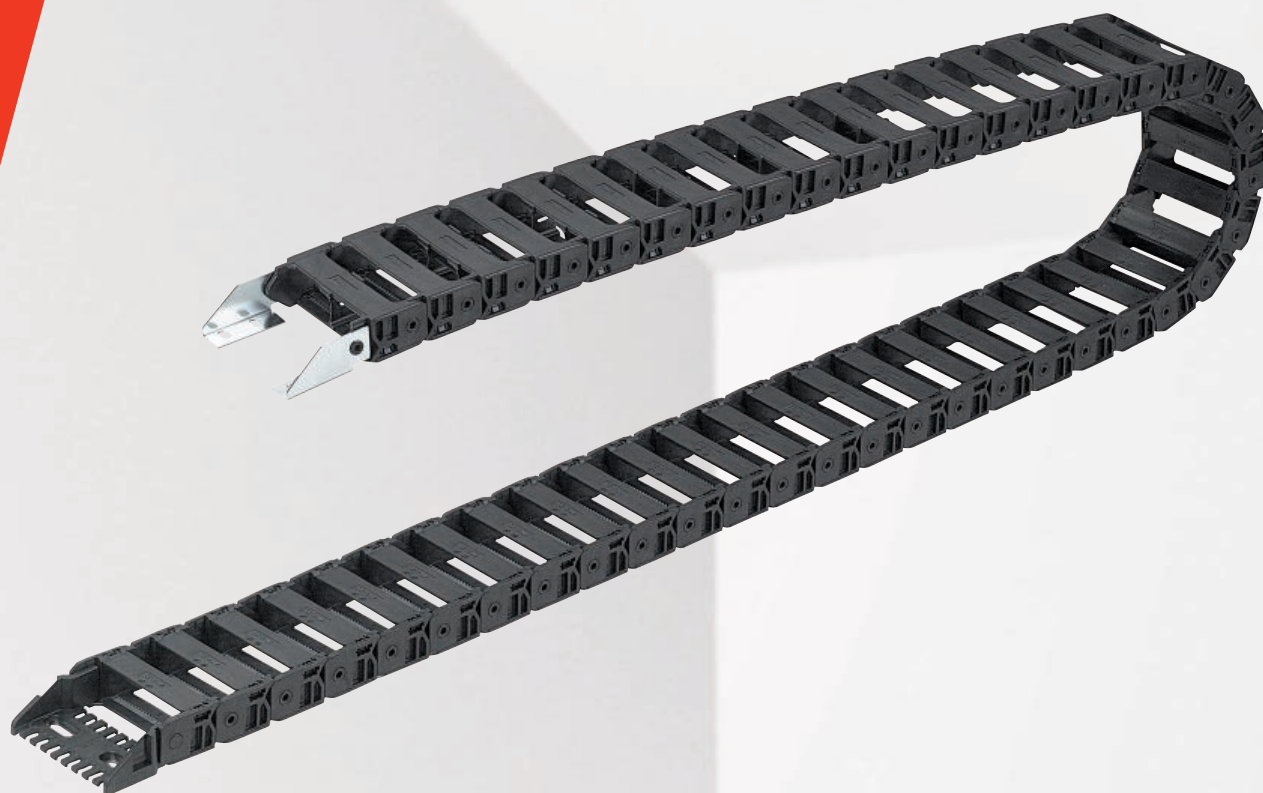


Data sheet

**MULTILINE**

**MP 3000**



**murrplastik**<sup>®</sup>  
Simply Smart Systems

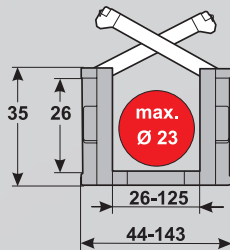


3000  
OPEN

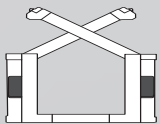


MULTILINE

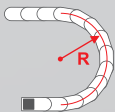
- LOW-COST VARIANT
- CHAIN BRACKET WITH STRAIN RELIEF



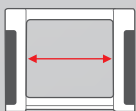
**TECHNICAL DATA**



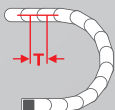
**Loading side**  
Inside bend



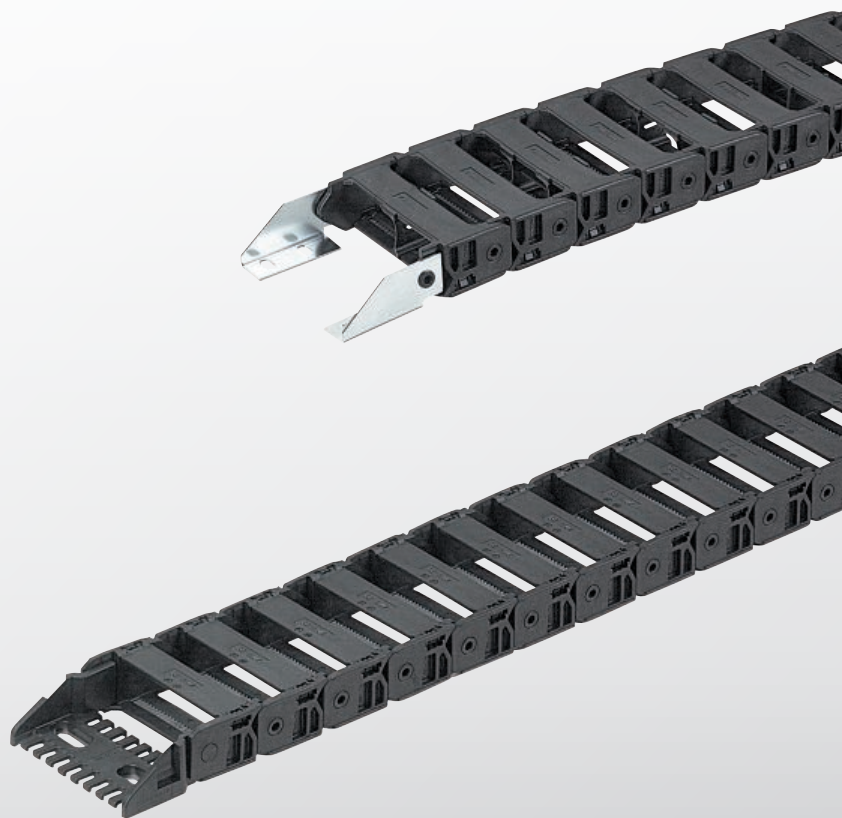
**Available radii**  
50.0 - 300.0 mm



**Available interior widths**  
With plastic crossbar  
26.0 - 125.0 mm



**Grid**  
T = 45.0 mm





**TECHNICAL SPECIFICATIONS**

Travel distance gliding $L_g$ max.	60.0 m
Travel distance self-supporting $L_T$ max.	see diagram on page 5
Travel distance vertical, hanging $L_{vh}$ max.	40.0 m
Travel distance vertical standing $L_{vs}$ max.	3.0 m
Rotated 90°, self-supporting $L_{90}$ max.	0.7 m
Speed, gliding $V_g$ max.	3.0 m/s
Speed, self-supporting $V_T$ max.	6.0 m/s
Acceleration, gliding $a_g$ max.	10.0 m/s <sup>2</sup>
Acceleration, self-supporting $a_T$ max.	15.0 m/s <sup>2</sup>

Contact our engineering department to meet any higher requirements: [efk@murrplastik.de](mailto:efk@murrplastik.de)

**MATERIAL PROPERTIES**

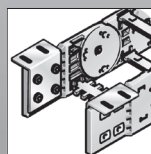
Standard material	Polyamide (PA) black
Service temperature	-30.0 - 120.0 °C (-76 to 176 °F)
Gliding friction factor	0.3
Static friction factor	0.45
Fire classification	UL 94 HB

Other material properties on request.

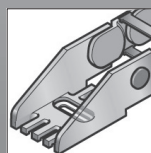
MP 3000 OPEN

**SHELVING SYSTEM**

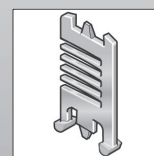
**CHAIN BRACKET**



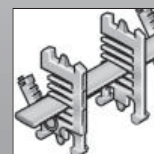
Chain bracket angle



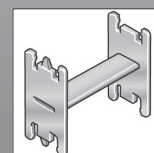
Chain bracket U-part



TR separator



RS shelving system



H-shaped shelving unit (RE)

**GUIDE CHANNELS**



VAW steel galvanized / stainless steel

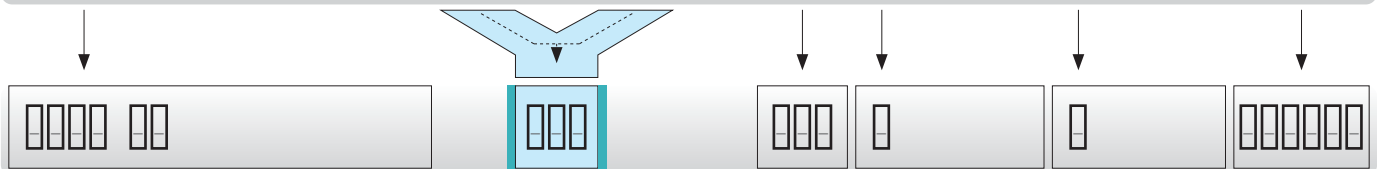


VAW aluminum

**ORDER KEY**

Dimensions in mm [US inch]

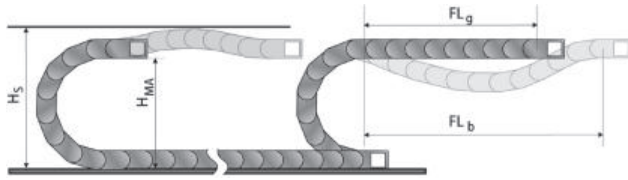
Type code	Variant	Inside width	Outside width	Inside width	Outside width	Radius	Crossbar variant	Material	Chain length																																																																								
0300 02	Crossbar in outside bend Crossbar in inside bend Opens on inside bend	026 [1.02]	044 [1.73]			050 [1.97]	0 Plastic, full-ridged with bias	0 Polyamide (PA): standard (PA/black)																																																																									
		037 [1.46]	055 [2.17]									056 [2.20]	074 [2.91]			070 [2.76]	1 Plastic, full-ridged without bias	1 UL94 / V0 (PA/oxide red) (upon request)				062 [2.44]	080 [3.15]					076 [2.99]	094 [3.70]			095 [3.74]		5 Polypropylene (PP/blue) (upon request)				087 [3.43]	105 [4.13]					101 [3.98]	119 [4.69]			120 [4.72]		7 ESD (PA/light gray) (upon request)				125 [4.92]	143 [5.63]									150 [5.91]		9 Special version (upon request)								200 [7.87]							
		056 [2.20]	074 [2.91]			070 [2.76]	1 Plastic, full-ridged without bias	1 UL94 / V0 (PA/oxide red) (upon request)																																																																									
		062 [2.44]	080 [3.15]									076 [2.99]	094 [3.70]			095 [3.74]		5 Polypropylene (PP/blue) (upon request)				087 [3.43]	105 [4.13]					101 [3.98]	119 [4.69]			120 [4.72]		7 ESD (PA/light gray) (upon request)				125 [4.92]	143 [5.63]									150 [5.91]		9 Special version (upon request)								200 [7.87]										300 [11.81]													
		076 [2.99]	094 [3.70]			095 [3.74]		5 Polypropylene (PP/blue) (upon request)																																																																									
		087 [3.43]	105 [4.13]									101 [3.98]	119 [4.69]			120 [4.72]		7 ESD (PA/light gray) (upon request)				125 [4.92]	143 [5.63]									150 [5.91]		9 Special version (upon request)								200 [7.87]										300 [11.81]																													
		101 [3.98]	119 [4.69]			120 [4.72]		7 ESD (PA/light gray) (upon request)																																																																									
		125 [4.92]	143 [5.63]													150 [5.91]		9 Special version (upon request)								200 [7.87]										300 [11.81]																																													
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						200 [7.87]																																																																											
						300 [11.81]																																																																											



**ORDERING EXAMPLE: 0300 02 026 050 0 0 1215**

Crossbar in outside bend, crossbar in inside bend, can be opened from inside bend  
 Inside width 26 mm; radius 50 mm  
 Plastic bridge, full-ridged with bias, material black-colored polyamide  
 Chain length 1215 mm (27 links)

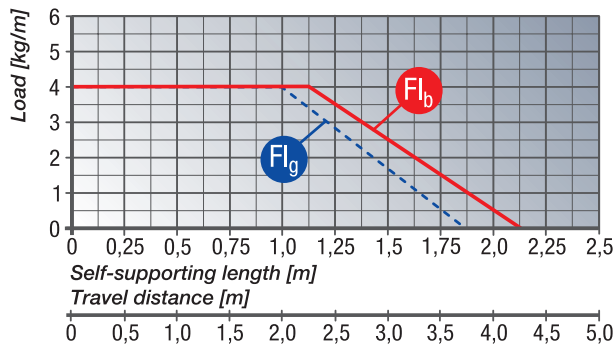
**SELF-SUPPORTING LENGTH**



The self-supporting length is the distance between the chain bracket on the moving end and the start of the chain arch.  
 The installation variant  $FL_g$  offers the lowest load and wear for the energy chain.  
 The maximum travel parameters (speed and acceleration) can be applied for this variant.

- $H_s$  = Installation height plus safety
- $H_{MA}$  = Height of moving end bracket
- $FL_g$  = Self-supporting length, upper run straight
- $FL_b$  = Self-supporting length, upper run bent

**LOAD DIAGRAM FOR SELF-SUPPORTING APPLICATIONS**



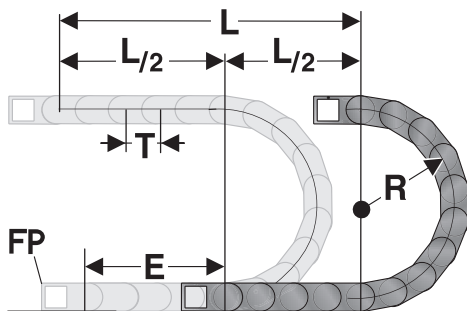
**$FL_g$  Self-supporting length, upper run straight**

In the  $FL_g$  range, the chain upper run still has a bias, is straight or has a maximum sag of 60.0 mm.

**$FL_b$  Self-supporting length, upper run bent**

In the  $FL_b$  range, the chain upper run has a sag of more than 60.0 mm, but this is still less than the maximum sag.  
 Where the sag is greater than that permitted in the  $FL_b$  range, the application is critical and should be avoided. The self-supporting length can be optimized by using a support for the upper run or a more stable energy chain.

**DETERMINING THE CHAIN LENGTH**



The fixed point of the energy chain should be connected in the middle of the travel distance.

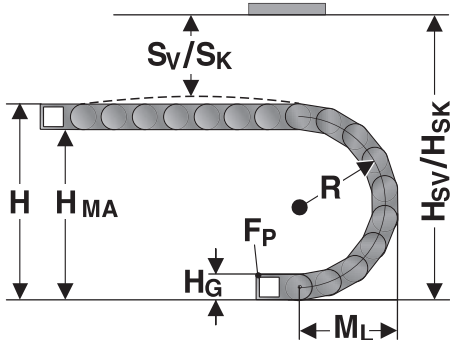
This arrangement gives the shortest connection between the fixed point and the moving bracket and thus the most efficient chain length.

Chain length calculation =  $L/2 + \pi * R + 2 * T + E$   
 $\approx 1 \text{ m chain} = 22 \text{ links, } 45.0 \text{ mm each}$

- E = Distance between entry point and middle of travel distance
- L = Travel distance
- R = Radius
- T = Grid 45.0 mm

MP 3000 OPEN

**INSTALLATION DIMENSIONS**



The moving end chain bracket is to be screw fixed at height  $H_{MA}$  for the respective radius.

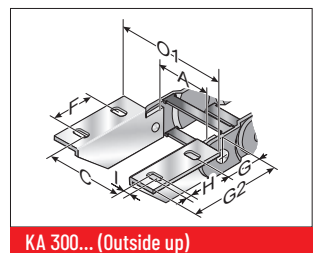
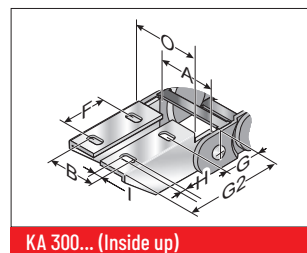
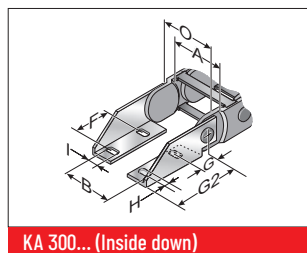
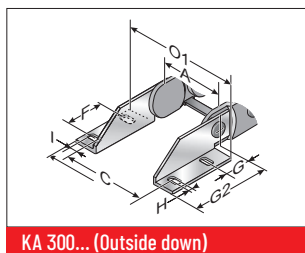
Concerning the installed dimensions, you must take into account whether the chain links are equipped with or without bias.

For chain links without bias, the "installed height without bias  $H_{SK}$ " has to be taken into account.

If the chain links are equipped with a bias, the "installed height with bias  $H_{SV}$ " has to be taken into account.

Radius R	50	70	95	120	150	200	300
Outside height of chain link ( $H_G$ )	35	35	35	35	35	35	35
Height of bend (H)	135	175	225	275	335	435	635
Height of moving end bracket ( $H_{MA}$ )	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	263	363

**KA 3000 ANGLE CHAIN BRACKET**

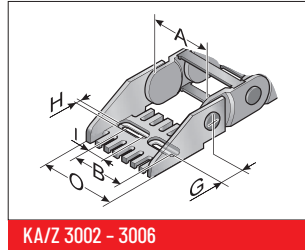
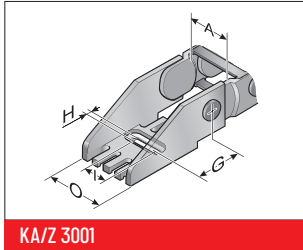


The chain bracket can be supplied either in galvanized sheet steel or stainless steel. To secure an cable drag chain, you will need two angle brackets (left and right) with drilled holes and two angle brackets (left

and right) with bolts. The order numbers given below each comprise a left and right angle bracket.

Type	Order No.	Material	Inside width								Outside width KA	
			A mm	B mm	C mm	F mm	G mm	G2 mm	HØ mm	I mm	O mm	O1 mm
KA 3008 female	0300000052	Sheet steel	26.0 - 125.0	A-8.5	A+22.5	25.0	21.0	58.0	6.5	4.5	A+18.0	A+40.0
KA 3008 male	0300000053	Sheet steel	26.0 - 125.0	A-3.5	A+31.0	25.0	21.0	58.0	6.5	4.5	A+9.0	A+40.0
KA 3009 female	0300000054	Stainless steel 1.4301	26.0 - 125.0	A-8.5	A+22.5	25.0	21.0	58.0	6.5	4.5	A+18.0	A+40.0
KA 3009 male	0300000055	Stainless steel 1.4301	26.0 - 125.0	A-3.5	A+31.0	25.0	21.0	58.0	6.5	4.5	A+9.0	A+40.0

**KA 3000 U-PART CHAIN BRACKET**

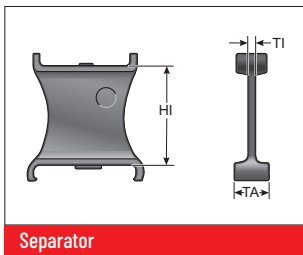


The chain bracket, type KA/Z 3001 – 3006, is a plastic part with extrusion-coated metal insert. The bracket is precisely adjusted to the respective chain width and only needs to be snapped in at the chain link. Please order one male and one female end bracket for each chain. The brackets should be fastened with M6 screws. The cables or conduits may be fastened with cable ties at the integrated strain relief of the chain bracket.

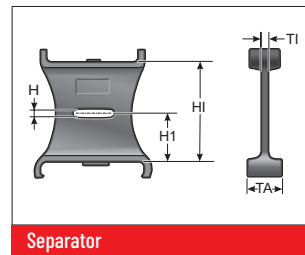
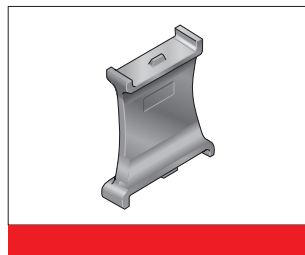
Type	Order No.	Material	Inside width					Outside width KA O mm	
			A mm	B mm	G mm	G1 mm	HØ mm		I mm
KA/Z 3001 Female end	030000008000	Plastic with metal inserts	26.0		31.5	57.0	6.5	18.5	A+18.0
KA/Z 3001 Male end	030000008100	Plastic with metal inserts	26.0		31.5	57.0	6.5	18.5	A+18.0
KA/Z 3002 Female end	030000008200	Plastic with metal inserts	37.0	A-7.0	31.5	57.0	6.5	7.5	A+18.0
KA/Z 3002 Male end	030000008300	Plastic with metal inserts	37.0	A-7.0	31.5	57.0	6.5	7.5	A+18.0
KA/Z 3002.5 Female end	030000007600	Plastic with metal inserts	56.0	A-8.0	31.5	57.0	6.5	7.5	A+18.0
KA/Z 3002.5 Male end	030000007700	Plastic with metal inserts	56.0	A-8.0	31.5	57.0	6.5	7.5	A+18.0
KA/Z 3003 Female end	030000008400	Plastic with metal inserts	62.0	A-7.0	31.5	57.0	6.5	18.5	A+18.0
KA/Z 3003 Male end	030000008500	Plastic with metal inserts	62.0	A-7.0	31.5	57.0	6.5	18.5	A+18.0
KA/Z 3003.5 Female end	030000007800	Plastic with metal inserts	76.0	A-8.0	31.5	57.0	6.5	18.5	A+18.0
KA/Z 3003.5 Male end	030000007900	Plastic with metal inserts	76.0	A-8.0	31.5	57.0	6.5	18.5	A+18.0
KA/Z 3004 Female end	030000008600	Plastic with metal inserts	87.0	A-7.0	31.5	57.0	6.5	18.5	A+18.0
KA/Z 3004 Male end	030000008700	Plastic with metal inserts	87.0	A-7.0	31.5	57.0	6.5	18.5	A+18.0
KA/Z 3005 Female end	030000008800	Plastic with metal inserts	101.0	A-7.0	31.5	57.0	6.5	18.5	A+18.0
KA/Z 3005 Male end	030000008900	Plastic with metal inserts	101.0	A-7.0	31.5	57.0	6.5	18.5	A+18.0
KA/Z 3006 Female end	030000009300	Plastic with metal inserts	125.0	A-6.5	31.5	57.0	6.5	18.5	A+18.0
KA/Z 3006 Male end	030000009400	Plastic with metal inserts	125.0	A-6.5	31.5	57.0	6.5	18.5	A+18.0

MP 3000 OPEN

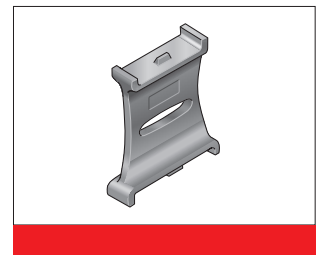
**TR 3000 SEPARATOR**



Separator



Separator

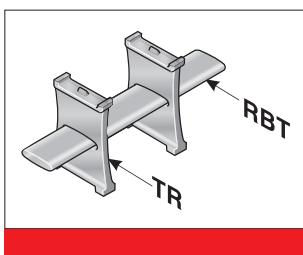


We recommend that separators be used if multiple round cables or conduits with differing diameters are to be installed. The lockable (unmovable) separator must be used for energy chains that need to

be side mounted.

Type	Order No.	Description	Version	TI mm	TA mm	H mm	H1 mm	H2 mm	HI mm
TR 3000	030000009000	Separator	movable	1.5	13.0	2.5	12.9	12.9	26.0
TR 3001	030000009200	Separator	lockable	1.5	13.0	2.5	12.9	12.9	26.0
TR 3002	030000009500	Separator, closed	lockable	1.5	13.0				26.0

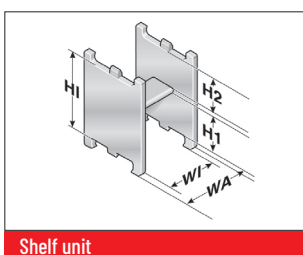
**SHELVING SYSTEM MP 3000**



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 minimize the friction between them. The shelves are matched to the available chain widths.

Type	Order No.	Description	Width mm	Grid mm
RBT 037	100000003700	Shelf	37.0	3.0
RBT 062	100000006200	Shelf	62.0	3.0
RBT 086	100000008600	Shelf	86.0	3.0
RBT 101	100000010100	Shelf	101.0	3.0
RBT 125	100000012500	Shelf	125.0	3.0

**RE 26 H-SHAPED SHELF UNIT**



Shelf unit

One-piece shelving system, the shelf cannot be varied in height.

Type	Order No.	Description	WA mm	WI mm	H1 mm	H2 mm	HI mm
RE 26/15	100000261510	H-shaped shelf unit	17.5	12.5	13.7	9.6	26.0
RE 26/27	100000262710	H-shaped shelf unit	29.5	24.5	13.7	9.6	26.0
RE 26/51	100000265110	H-shaped shelf unit	53.5	48.5	13.7	9.6	26.0



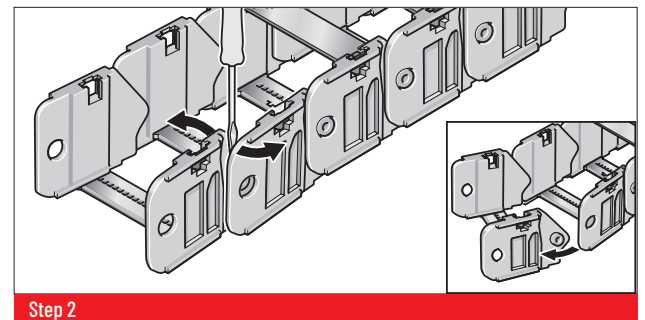
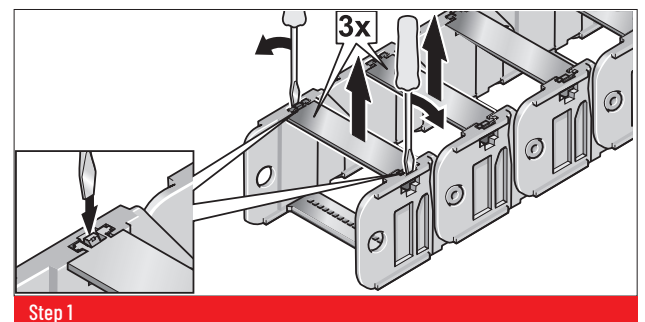
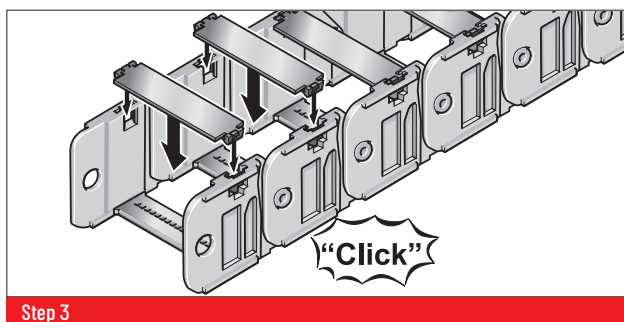
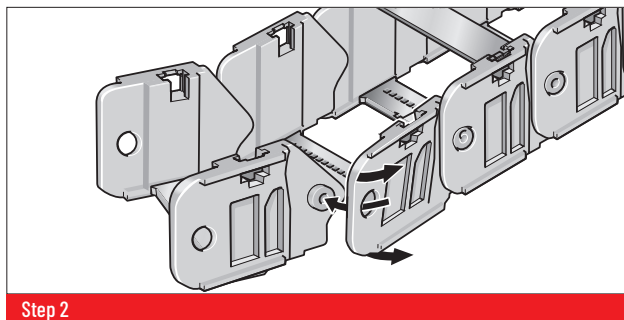
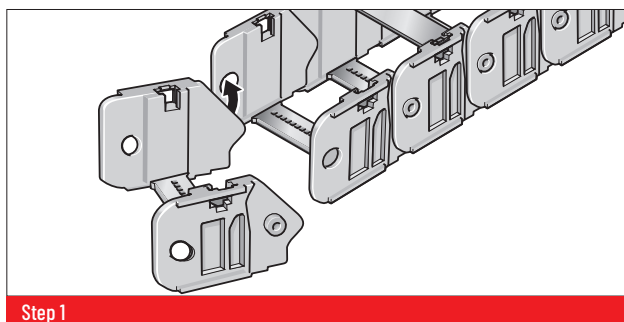
**VAW GUIDE CHANNEL (ALUMINUM / STAINLESS STEEL)**



A range of variable guide channel systems, constructed from aluminum or stainless steel sections, is available for this energy chain. The variable guide channel ensures that the energy chain is supported and guided securely.

**ASSEMBLY**

**DISASSEMBLY**



MP 3000 OPEN

All details given in our sales brochures and catalogs, as well as the information available online, are based on our current knowledge of the products described.  
 The electronic data and files made available by murrplastik, particularly CAD files are based on our current knowledge of the products described.  
 A legally binding assurance of certain properties or the suitability for a certain purpose can not be determined from this information.  
 All information with respect to the chemical and physical properties of Murrplastik products, as well as application advice given verbally, in writing or by tests, is given to the best of our knowledge.  
 They do not release the buyer from the obligation to carry out his own tests and trials in order to determine the concrete suitability of the products for the intended purpose.  
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 Our General Terms and Conditions apply.



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