





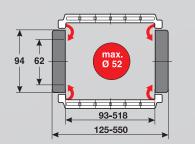




# MP 62.1



- PLASTIC OR ALUMINIUM VERSION
- FLEXIBLE CHAIN BRACKET



# **TECHNICAL DATA**

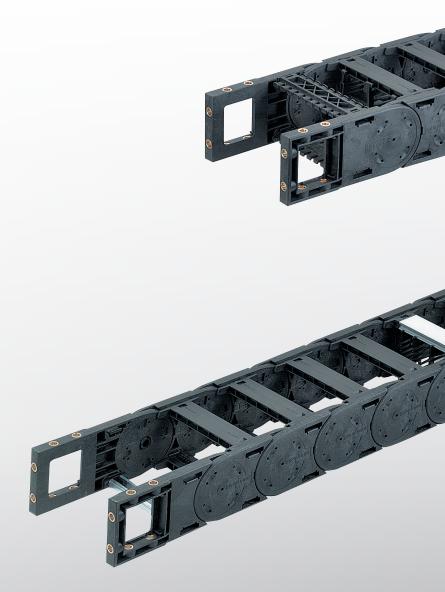


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**Available radii** 150.0 – 500.0 mm



**Pitch** T = 100.0 mm



**MP CLASSIC** 

# **TECHNICAL SPECIFICATIONS**

Travel distance gliding $L_a$ max.	150.0 m
Travel distance self-supporting L, max.	see diagram on page 5
Travel distance vertical, hanging L <sub>vh</sub> max.	65.0 m
Travel distance vertical, upright L <sub>vs</sub> max.	6.0 m
Rotated 90°, unsupported L <sub>sof</sub> max.	4.0 m
Speed, gliding V <sub>a</sub> max.	5.0 m/s
Speed, self-supporting V, max.	20.0 m/s
Acceleration, gliding a max.	25.0 m/s <sup>2</sup>
Acceleration, self-supporting a, max.	40.0 m/s <sup>2</sup>

Contact our engineering department to meet any higher requirements: efk@murrplastik.de

# **MATERIAL PROPERTIES**

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

Other material properties on request.

#### **SHELVING SYSTEM**



**CHAIN BRACKET** 





Chain bracket angle



Shelving system RS



Frame bridge connector RSV

# ACCESSORIES



Extender frame bridge



Lock button

#### **GUIDE CHANNELS**



VAW steel galvanized / stainless steel



VAW aluminium





RS-ZL frame rail



STF Steel Fix

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# **ORDERING KEY**

ORDERIN	IG KEY								_	Dimensions	in mm [US inch]
Type code	Variation	Inside width	Outside width	Inside width	Outside width	Radius		Rail variant		Material	Chain length
	Frame bridge on outside of radius	<b>093</b> [3.66]	<b>125</b> [4.92]	<b>468</b> [18.43]	<b>500</b> [19.69]	150		Plastic, full-ridged		Polyamide standard	
0621 30	Frame bridge on inside bend Opens on inside and outside of radius	<b>106</b> [4.17]	<b>138</b> [5.43]	<b>518</b> [20.39]	<b>550</b> [21.65]	[5.91]	0	with bias	0	(PA/black)	
		<b>118</b> [4.65]	<b>150</b> [5.91]			200	1	Plastic, full-ridged		Special version (on	
		<b>131</b> [5.16]	<b>163</b> [6.42]			[7.87]	Ŀ	without bias	9	request)	
		143 [5.63]	175 [6.89]			250	2	Plastic, half-ridged with bias			
		<b>156</b> [6.14]	<b>188</b> [7.40]			[9.84]		WITI Dids			
		168 [6.61]	200 [7.87]			<b>300</b> [11.81]	3	Plastic, half-ridged without bias			
		181 [7.13] 193	213 [8.39] 225			[]	_		_		
		[7.60]	[8.86]			<b>400</b> [15.75]	4	Aluminium full-ridged with bias			
		[8.11] <b>218</b>	[9.37] <b>250</b>				-		-		
		[8.58] <b>231</b>	[9.84] <b>263</b>			<b>500</b> [19.69]	5	Aluminium full-ridged without bias			
		<sup>[9.09]</sup> 243	[10.35] <b>275</b>				-		⊢		
		<sup>[9.57]</sup> <b>256</b>	[10.83] <b>288</b>				6	Aluminium half-ridged with bias			
		[10.08] <b>268</b>	[11.34] <b>300</b>						F		
		[10.55] <b>293</b> [11.54]	[11.81] <b>325</b> [12.80]				7	Aluminium half-ridged without bias			
		<b>318</b> [12.52]	<b>350</b> [13.78]					Special version (on			
		<b>343</b> [13.50]	<b>375</b> [14.76]				9	request)			
		<b>368</b> [14.49]	<b>400</b> [15.75]								
		<b>418</b> [16.46]	<b>450</b> [17.72]								
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ORDER SAMPLE: 0623 30 118 150 0 0 1600 -

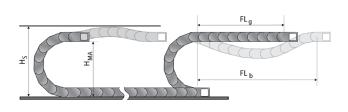
Frame bridge in outside bend, frame bridge in inside bend, can be opened from inside and outside bend

Inside width 118 mm; radius 150 mm Plastic bridge, full-ridged with bias, material black-coloured polyamide

Chain length 1600 mm (16 links)



# **SELF-SUPPORTING LENGTH**

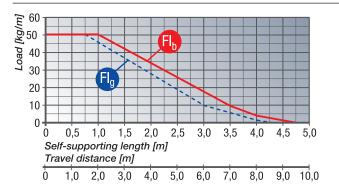


The self-supporting length is the distance between the chain bracket on the moving end and the start of the chain arch. The installation variant  $FL_g$  offers the lowest load and wear for the energy chain.

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 connection
- $FL_g$  = Self-supporting length, upper run straight
- $FL_{b}$  = Self-supporting length, upper run bent

# LOAD DIAGRAM FOR SELF-SUPPORTING APPLICATIONS



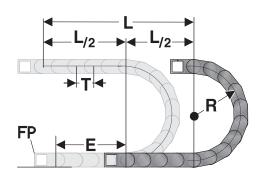
### ${\rm FL}_{\rm q}$ Self-supporting length, upper run straight

In the FL range, the chain upper run still has a bias, is straight or has a maximum sag of 80.0 mm.

#### FL<sub>b</sub> Self-supporting length, upper run bent

In the FL<sub>b</sub> range, the chain upper run has a sag of more than 80.0 mm, but this is still less than the maximum sag. Where the sag is greater than that permitted in the FL<sub>b</sub> 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 (FP) and the moving consumer and thus the most efficient chain length.

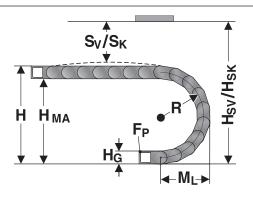
Chain length calculation =  $L/2 + \pi * R + E \approx 1$  m chain =10 qty. x100.0 mm.

E = distance between entry point and middle of travel distance

- L = travel distance
- R = radius
- P = Pitch100.0 mm



#### **EINBAUMASSE**



The moving end chain connection is to be screw fixed at height  $\mathrm{H}_{\mathrm{MA}}$  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

 $H_{sk}$  value has to be taken into account. If the chain links are equipped with a bias, the value "Installed height with bias  $H_{sv}$ " has to be taken into account.

Radius R	150	200	250	300	400	500
Outside height of chain link $(H_g)$	94	94	94	94	94	94
Height of bend (H)	424	524	624	724	924	1124
Height of moving end bracket (H <sub>MA</sub> )	330	430	530	630	830	1030
Safety margin with bias (S $_{\nu}$ )	50	50	50	50	50	50
Installation height with bias $(H_{sv})$	474	574	674	774	974	1174
Safety margin without bias $(S_{\kappa})$	20	20	20	20	20	20
Installation height without bias $(H_{sk})$	444	544	644	744	944	1144
Arc projection (M <sub>L</sub> )	312	362	412	462	562	662

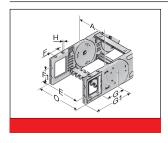
# **HEAVYLINE PLASTIC FRAME BRIDGE**



The frame bridges connect the two side runs of the energy chain. The frame bridge length is synonymous with the inside width of the energy chain.

Туре	Order No.	Designation	Inside width mm
RS 093-7	072009300000	Frame bridge	93.0
RS 106-7	072010600000	Frame bridge	106.0
RS 118-7	072011800000	Frame bridge	118.0
RS 131-7	072013100000	Frame bridge	131.0
RS 143-7	072014300000	Frame bridge	143.0
RS 156-7	072015600000	Frame bridge	156.0
RS 168-7	072016800000	Frame bridge	168.0
RS 181-7	072018100000	Frame bridge	181.0
RS 193-7	072019300000	Frame bridge	193.0
RS 206-7	072020600000	Frame bridge	206.0
RS 231-7	072023100000	Frame bridge	231.0
RS 243-7	072024300000	Frame bridge	243.0
RS 256-7	072025600000	Frame bridge	256.0
RS 268-7	072026800000	Frame bridge	268.0
RS 293-7	072029300000	Frame bridge	293.0
RS 318-7	072031800000	Frame bridge	318.0
RS 343-7	072034300000	Frame bridge	343.0
RS 368-7	072036800000	Frame bridge	368.0
RS 418-7	072041800000	Frame bridge	418.0
RS 468-7	072046800000	Frame bridge	468.0
RS 518-7	072051800000	Frame bridge	518.0

#### **KA 62.1 FLEXIBLE CHAIN BRACKET**



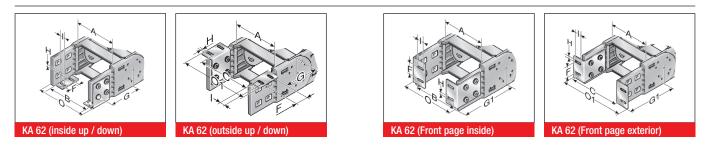
This chain bracket offers universal connection options (top, bottom and front) and is attached to the ends of the chain like a side link. This allows the chain to move right up to the bracket. Each chain requires one male and one female bracket. M8 screws are used to secure the brackets in place. Extrusion-coated metal bushes with either a through-hole (-FB) or a threaded hole (-FG) ensure the permanent, high-strength transmission of even extreme forces onto the cable drag chain.

Туре	Order No.	Material	Version	Inside width A	E	F	F1	G	G1	Н	HØ	Outside width KA O
				mm	mm	mm	mm	mm	mm		mm	mm
KA 62-FB Female end	0620000056	Plastic	with bush	93.0 - 518.0	A+17.0	35.0	45.0	107.0	171.5		8.5	A+36.0

#### **KA 62.1 FLEXIBLE CHAIN BRACKET**

Туре	Order No.	Material	Version	Inside width A mm	E mm	F mm	F1 mm	G mm	G1 mm	н	HØ mm	Outside width KA O mm
KA 62-FB male end	0620000057	Plastic	with bush	93.0 - 518.0	A+17.0	35.0	45.0	107.0	171.5		8.5	A+36.0
KA 62-FG Female end	0620000058	Plastic	with thread	93.0 - 518.0	A+17.0	35.0	45.0	107.0	171.5	M8		A+36.0
KA 62-FG male end	0620000059	Plastic	with thread	93.0 - 518.0	A+17.0	35.0	45.0	107.0	171.5	M8		A+36.0

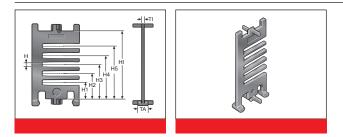
#### **CHAIN BRACKET ANGLE KA 62.1**



This chain bracket offers universal connection options (top, bottom and front) and is attached to the ends of the chain like a side link. This allows the chain to move right up to the bracket. Each chain requires one male and one female bracket. M8 screws are used to secure the brackets in place. Metal inserts (supplied) help to minimise the cold flow properties. This is an enormous advantage, guaranteeing the smooth transfer of high loads to the chain.

Туре	Order No.	Material	Inside width A	В	•	-	G	<b>.</b>	HØ	I	Outside width KA 0	01
KA 62 Female end	0620000050	Sheet steel	<b>mm</b> 93.0 – 518.0	<b>mm</b> A-12.0	<b>mm</b> A+44.0	<b>mm</b> 45.0	<b>mm</b> 102.0		<b>mm</b> 9.0		<b>mm</b> A+32.0	<b>mm</b> A+90.0
KA 62 Male end	0620000051	Sheet steel	93.0 - 518.0	A-12.0	A+44.0	45.0	102.0	171.5	9.0	15.0	A+32.0	A+90.0

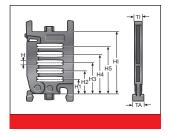
#### **SEPARATOR TR 62**



We recommend that separators be used if multiple round cables or conduits with differing diameters are to be installed.

Туре	Order No.	Designation	Version	TI mm	TA mm	H mm	H1 mm	H2 mm	H3 mm	H4 mm	H5 mm	HI mm
TR 62	062000009200	Separator	lockable	3.5	13.0	5.5	14.8	23.1	31.4	39.7	48.0	62.0

# **RTT 62 SHELF SUPPORT, DIVISIBLE**



In connection with two separable shelf supports (RTT) with at least one end-to-end shelf (RB) the shelf becomes an easy to fill shelving system. The additional levels prevent cables from criss-crossing and minimise the friction between them.

Туре	Order No.	Designation	Version	TI	TA	Н	H1	H2	H3	H4	H5	H6	H7	HI
				mm	mm	mm	mm	mm	mm	mm	mm			mm
RTT 62	100090622000	Shelf support, divisible	lockable	8.0	8.0	5.5	14.8	23.1	31.4	39.7	48.0			62.0

#### **RB-7 SHELF**



In connection with at least two separable shelf supports (RTT), the shelf becomes a shelving system. The additional levels prevent cables from criss-crossing and minimise the friction between them.

Туре	Order No.	Designation	Width mm	für Innenbreite mm
RB 056-7	10000005600	Shelf	56.0	93.0
RB 061-7	1000006107	Shelf	61.0	93.0
RB 066-7	10000006600	Shelf	66.0	93.0
RB 071-7	1000007107	Shelf	71.0	93.0
RB 076-7	1000007607	Shelf	76.0	93.0
RB 081-7	10000008100	Shelf	81.0	93.0
RB 086-7	1000008607	Shelf	86.0	93.0
RB 091-7	1000009107	Shelf	91.0	106.0
RB 096-7	1000009607	Shelf	96.0	106.0
RB 101-7	1000010107	Shelf	101.0	106.0
RB 106-7	10000010600	Shelf	106.0	106.0
RB 111-7	1000011107	Shelf	111.0	118.0
RB 116-7	100000011600	Shelf	116.0	118.0
RB 121-7	1000012107	Shelf	121.0	131.0
RB 126-7	1000012607	Shelf	126.0	131.0
RB 131-7	1000013107	Shelf	131.0	143.0
RB 136-7	1000013607	Shelf	136.0	143.0
RB 141-7	1000014107	Shelf	141.0	143.0
RB 146-7	1000014607	Shelf	146.0	156.0
RB 151-7	1000015107	Shelf	151.0	156.0
RB 156-7	1000015607	Shelf	156.0	156.0
RB 161-7	1000016107	Shelf	161.0	168.0

# **RB-7 SHELF**

Туре	Order No.	Designation	Width mm	für Innenbreite mm
RB 166-7	10000016600	Shelf	166.0	168.0
RB 171-7	1000017107	Shelf	171.0	181.0
RB 176-7	1000017607	Shelf	176.0	181.0
RB 181-7	1000018107	Shelf	181.0	193.0
RB 186-7	1000018607	Shelf	186.0	193.0
RB 191-7	1000019107	Shelf	191.0	193.0
RB 196-7	1000019607	Shelf	196.0	206.0
RB 201-7	1000020107	Shelf	201.0	206.0
RB 206-7	1000020607	Shelf	206.0	206.0
RB 211-7	1000021107	Shelf	211.0	218.0
RB 216-7	10000021600	Shelf	216.0	218.0

### **CROSSBAR CONNECTOR RSV 62**



For frame bridges wider than 246 mm, we recommend the use of crossbar connectors. These prevent deformation to the frame bridge under large amounts of additional weight of the chain assembly.

Туре	Order No.	Designation	TI
			mm
RSV 62	06200009600	Crossbar connector	8.0
RSV 62 Alu	06200009800	Crossbar connector for aluminium frame bridges	8.0

### **BS -5 BRACKET BAR**



Large-diameter conduits are routed securely by using a bracket bar (BS). Installation is done on the frame bridges or the covers of the energy chain.

The bracket bar can be installed on both the inside and outside bend.

The bracket bar support (BSH) is used to attach the bars to PowerLine series frame bridges. Two bracket bar supports are required for each bar.

Туре	Order No.	Designation	Conduit diameter max.	Installation height	Inner chain width min.
			mm	mm	mm
BS 120-5	052412000000	Extender frame bridge	115.0	140.0	164.0
BS 153-5	052415300000	Extender frame bridge	148.0	170.0	208.0
BS 187-5	052418700000	Extender frame bridge	182.0	205.0	233.0
mounting set extender frame bridge RS-5/RS-7	05240000001	Assembly set bracket bar			

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# **RS-ZL-7 FRAME RAIL TENSION RELIEF**

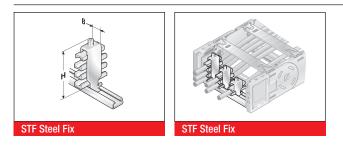


Fixed integrated frame bridge strain relief plates in the chain brackets. Accommodated to all widths of the frame bridges, up to 256 mm in size. May be assembled on the inside and outside flexure curves at both chain endings.

Туре	Order No.	Designation	für Innenbreite mm
RS-ZL 093-7	072009300010	Frame bridge strain relief plate	93.0
RS-ZL 106-7	072010600010	Frame bridge strain relief plate	106.0
RS-ZL 118-7	072011800010	Frame bridge strain relief plate	118.0
RS-ZL 131-7	072013100010	Frame bridge strain relief plate	131.0
RS-ZL 143-7	072014300010	Frame bridge strain relief plate	143.0
RS-ZL 156-7	072015600010	Frame bridge strain relief plate	156.0
RS-ZL 168-7	072016800010	Frame bridge strain relief plate	168.0
RS-ZL 181-7	072018100010	Frame bridge strain relief plate	181.0
RS-ZL 193-7	072019300010	Frame bridge strain relief plate	193.0
RS-ZL 206-7	072020600010	Frame bridge strain relief plate	206.0
RS-ZL 218-7	072021800010	Frame bridge strain relief plate	218.0
RS-ZL 231-7	072023100010	Frame bridge strain relief plate	231.0
RS-ZL 243-7	072024300010	Frame bridge strain relief plate	243.0
RS-ZL 256-7	072025600010	Frame bridge strain relief plate	256.0



# **STRAIN RELIEF WITH STEEL FIX**

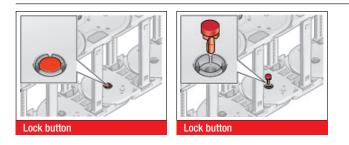


C-rails (galvanized) for permanent integration, for accommodating the Steel Fix bow clamps in the chain brackets. The bow clamps can take up to 3 cables and are suitable for C-rails with a groove width of 11 mm. Due to the design of the trough elements, a cable preserving cable guidance is ensured. May be assembled on the inside and outside bends at both chain endings. The overall height stated is a guide only. The actual height is, amongst other things, dependent on the diameter and the quality of the cable. A safety distance of 10 mm at the fixed point above the strain relief must be kept during gliding applications.

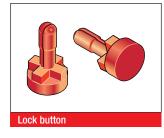
Туре	Order No.	Designation	Seats qty.	Cable Ø mm	Overall height (H) mm
Single clamp (for two ca	bles)				
STF 12-1 Steel Fix	81661801	Hooped clamp	1	6.0 - 12.0	55.0
STF 14-1 Steel Fix	81661802	Hooped clamp	1	12.0 - 14.0	52.0
STF 16-1 Steel Fix	81661803	Hooped clamp	1	14.0 - 16.0	54.0
STF 18-1 Steel Fix	81661804	Hooped clamp	1	16.0 - 18.0	56.0
STF 20-1 Steel Fix	81661805	Hooped clamp	1	18.0 - 20.0	59.0
STF 22-1 Steel Fix	81661806	Hooped clamp	1	20.0 - 22.0	61.0
STF 26-1 Steel Fix	81661807	Hooped clamp	1	22.0 - 26.0	70.0
STF 30-1 Steel Fix	81661808	Hooped clamp	1	26.0 - 30.0	74.0
STF 34-1 Steel Fix	81661809	Hooped clamp	1	30.0 - 34.0	78.0
STF 38-1 Steel Fix	81661810	Hooped clamp	1	34.0 - 38.0	82.0
STF 42-1 Steel Fix	81661811	Hooped clamp	1	38.0 - 42.0	91.0
Double clamp (for two ca	ables)				
STF 12-2 Steel Fix	81661821	Hooped clamp	2	6.0 - 12.0	73.0
STF 14-2 Steel Fix	81661822	Hooped clamp	2	12.0 - 14.0	74.0
STF 16-2 Steel Fix	81661823	Hooped clamp	2	14.0 - 16.0	82.0
STF 18-2 Steel Fix	81661824	Hooped clamp	2	16.0 - 18.0	86.0
STF 20-2 Steel Fix	81661825	Hooped clamp	2	18.0 - 20.0	91.0
STF 22-2 Steel Fix	81661826	Hooped clamp	2	20.0 - 22.0	95.0
STF 26-2 Steel Fix	81661827	Hooped clamp	2	22.0 - 26.0	108.0
STF 30-2 Steel Fix	81661828	Hooped clamp	2	26.0 - 30.0	121.0
STF 34-2 Steel Fix	81661829	Hooped clamp	2	30.0 - 34.0	129.0
Triple clamp (for three ca	ables)				
STF 12-3 Steel Fix	81661841	Hooped clamp	3	6.0 - 12.0	98.0
STF 14-3 Steel Fix	81661842	Hooped clamp	3	12.0 - 14.0	98.0
STF 16-3 Steel Fix	81661843	Hooped clamp	3	14.0 - 16.0	105.0
STF 18-3 Steel Fix	81661844	Hooped clamp	3	16.0 - 18.0	111.0
STF 20-3 Steel Fix	81661845	Hooped clamp	3	18.0 - 20.0	118.0
STF 22-3 Steel Fix	81661846	Hooped clamp	3	20.0 - 22.0	130.0

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#### **MP 52/62/72 LOCK BUTTON**



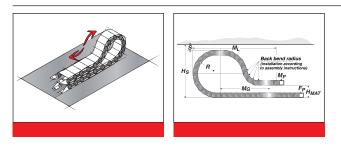
To increase the side stability, we recommend the use of lock buttons during strong lateral acceleration or when installed



"laying on the side (turned 90°) without support".

Туре	Order No.
MP52/62/72 lock button	052000080

# **LOWERED FIXING POINT MP 62**



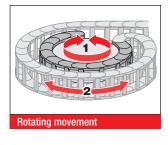
It is sometimes necessary to lower the height of the moving attachment point.

In such cases, modifications to the chain layout should be noted (e.g. extension of chain).

Please contact our application engineers.

Radius R mm	Height of moving end bracket (H <sub>MA</sub> ) mm	Safety margin (S) mm	Installation height incl. safety (H <sub>s</sub> ) mm	Projection (M <sub>L</sub> ) mm	Additional links qty.	of which additional back chain links qty.
200.0	230.0	60.0	564.0	850.0	11	2
250.0	270.0	60.0	664.0	990.0	12	2
300.0	320.0	60.0	764.0	1060.0	12	3
400.0	380.0	90.0	694.0	1060.0	14	3
500.0	440.0	60.0	1164.0	1520.0	17	3

### **REAR-FACING MP 62.1**



Side links with rearward radius allow movements in both directions. This is intended for rotating movements and lowered chain brackets. Note: This type of chain has different chain links for the left or right side! Rotation movements are only possible with open variants.

Туре	Order No.	Radius mm	Rear-facing radius mm
SR 62.1 (RÜ300/R300) left	062100030060	300.0	300.0
SR 62.1 (RÜ300/R300) right	062100030062	300.0	300.0

### **GUIDE CHANNEL VAW (ALUMINIUM / STAINLESS STEEL)**

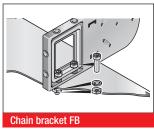


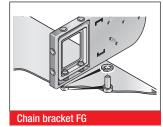
A range of variable guide channel systems, constructed from aluminium or stainless steel sections, are available for this energy chain.

The variable guide channel ensures that the energy chain is supported and guided securely.

For help on choosing, please consult the chapter "Variable Guide Channel System".

# ASSEMBLY INSTRUCTION FLEXIBLE CHAIN BRACKET FB/FG





Brass bushes guarantee long-lasting fastening without cold flow in the plastic.

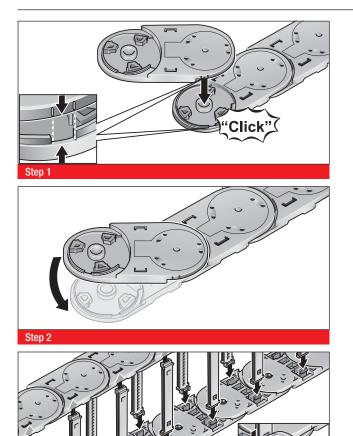
#### Version KA-FB:

Integrated through-hole fastened down using screw and nut. **Version KA-FG:** 

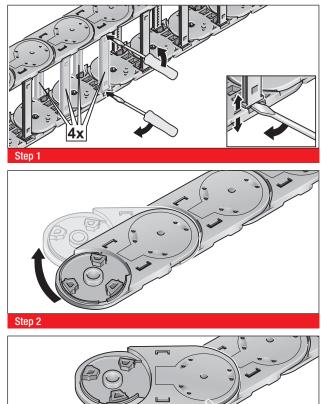
Built-in threads allow for quick and easy on-site mounting, since a screw, including a retaining washer where necessary, is sufficient.

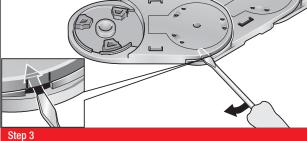
# ASSEMBLY

Step 3



# DISASSEMBLY







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