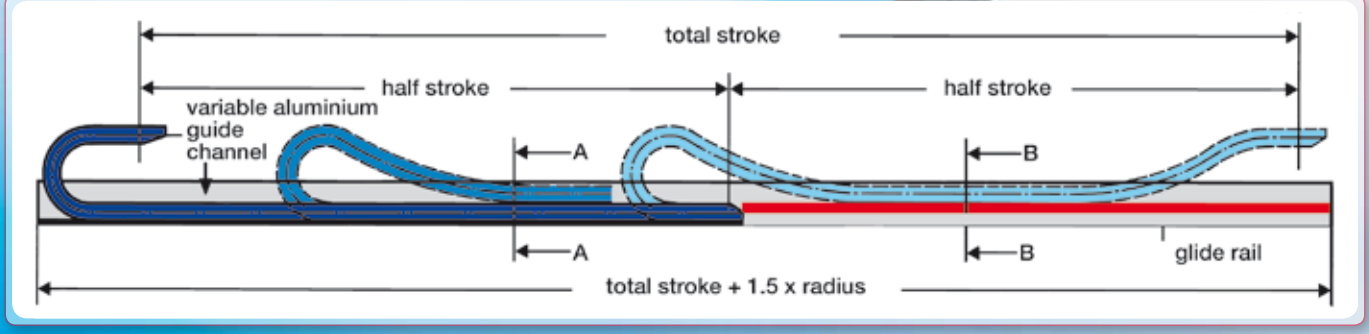
VAW Variable guide channel systems



All versions of our guide channel systems for cable drag chains are used as stacking for short travel distances and also as guide channels for long travel distances.

If a guide channel is not used, the chain links cannot be guaranteed to stack properly. This is especially true for large bend radii as the side guidance does not exist.

The combination of the individual VAW type aluminium channel sides, the integrated groove system and the glide rail sections forms an extremely variable guide channel system which provides a safe, stable and visually appealing chain guide system requiring few accessories. In combination with fixing elements on the inside, the VAW type makes installation highly space-saving.

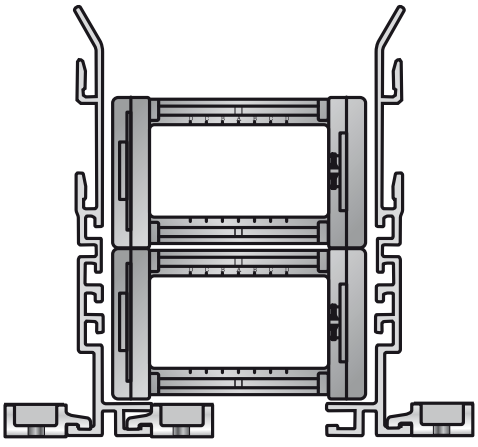
Our guide channels from steel (type VAW-Z) and stainless steel (type VAW-E) are an excellent choice for more demanding mechanical requirements. We can also supply V4a models on request for saltwater applications.

In most applications the cables enter the chain at a position central to the travel. This gives the shortest length of chain. In this case the chain is about half as long as the travel distance.
If the chain is moved to the left (see illustration below) it simply rolls in the channel.

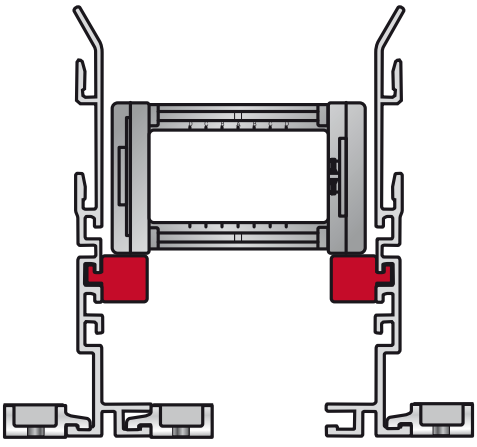
If it is moved to the right, then it stacks on top of itself once the unsupported length has been exceeded (see cross-section A-A).

If the travel veers further to the right, then the glide rail compensates for the height difference of the chain link, thus ensuring low friction (see cross-section B-B).

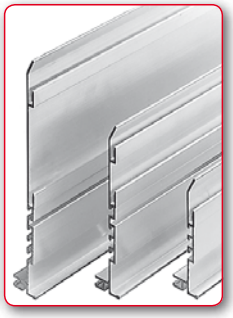
As such, optimal running of the cable drag chain is guaranteed at all times.



Cross-section A–A: *The cable drag chain glides on itself.*

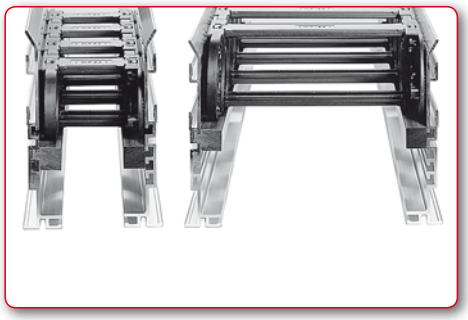


Cross-section B–B: *The cable drag chain runs on the glide rail section.*



Compatible profile

A variable guide channel system is required if the self-supporting length of a cable drag chain is exceeded. The system parts comprise a range of sections and materials. Each one is structurally tailored to the Murrplastik cable drag chain systems. The use of highly durable aluminium (VAW) or stainless steel (VAW-E) makes corrosion protection unnecessary.



Variable in the chain widths and heights

Our guide channel sections can be modified to fit a range of chain types and chain widths.

Minimal space requirements

The deployment of our variable aluminium guide channel systems requires very little space. If inside clamping is used, the complete system is barely wider than the cable drag chain itself.

Simple handling

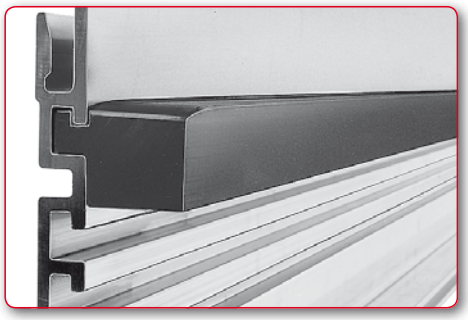
The glide rail is simply slid into the guide channel section. Optionally, the construction is then secured with a screw in the first and last guide rail.

Centre piece VAW-MT

If multiple cable drag chains need to be routed in parallel, past one another or separately from one another, then the guide channel centre piece is used for our aluminium models. It enables the secure, separated routing of cable drag chains past/next to one another and chains can also be of different dimensions.

Lower friction – less motive force

Low-friction glide rails support the cable drag chain outside the self-supporting area. Frictional forces can be lowered even further by deploying roller wheels (also available as an ATEX model). This can result in further reductions to the motive power required for the cable drag chain.

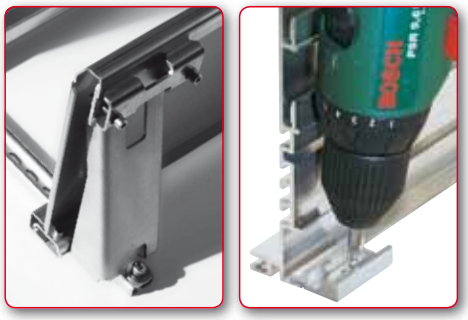


Low noise level

The glide rail's guide groove creates a level surface for the chain to run on. This guarantees snag-free gliding for the cable drag chains over the entire travel distance. The noise level is decreased. The integration of rubber dampening elements (available in two designs) on the cable drag chain's stacking surfaces can further reduce the noise level.

Accurate and snag-free alignment

No screwing or welding is required for the individual sections in our variable guide channel system. For aluminium channels, the channel sections are perfectly aligned thanks to special plastic connectors that are snap-fit into a specially-designed groove. For (stainless) steel and plastic channels, special channel brackets are used for this purpose.



Fast installation

The variable guide channel systems are fixed in place with special clamping pieces. When installing the aluminium models, the mounting holes of the clamping pieces can be used as drill templates.

Cost-effective

The use of standard components enables cost savings of up to 70% in comparison to conventional systems.

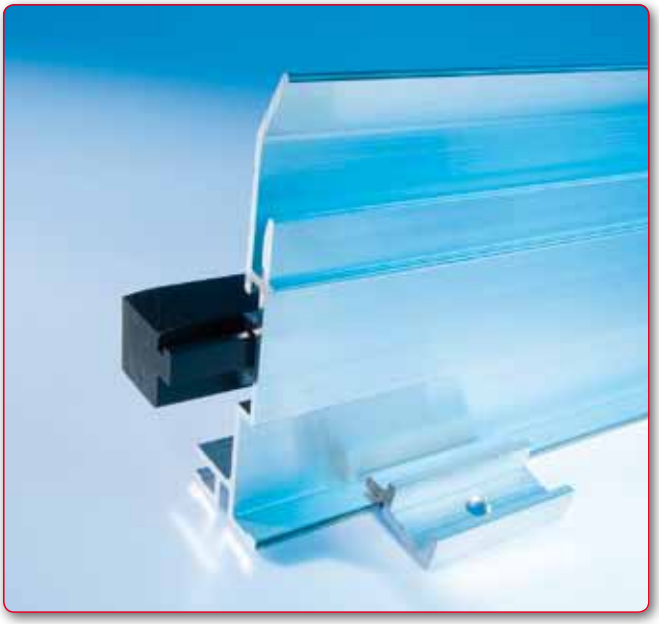
Selection criteria

Variable in the chain widths and heights

The basic idea in designing the VAW variable guide channel system has been to develop a profile that fits various types and widths of cable drag chains. In addition, the whole installation procedure was to be as simple as possible.

Each profile contains various grooves into which you may enter a gliding rail. The type of cable drag chain determines into which groove you must enter the gliding rail.

The tables given on the following pages provide a quick summary of the VAW guide channel system suitable for each type of cable drag chain.



Layout

Information on the following parameters is required for the correct layout of a variable guide channel system:

- Cable drag chain type (width, radius, installation)
- Travel distance
- Chain contents/weight per metre
- Speed of travel
- Acceleration/retardation
- Lateral acceleration yes/no
- Environmental influences

It is advisable to use a guide channel system for the entire travel distance.

If the cable entry is at the centre of the traverse, then a glide rail is required of a length equal to half of the travel distance.

Lowered fixing point

With longer travel distances, it may be advisable in some cases to lower the height of the moving end bracket.

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

Please contact our application engineers!

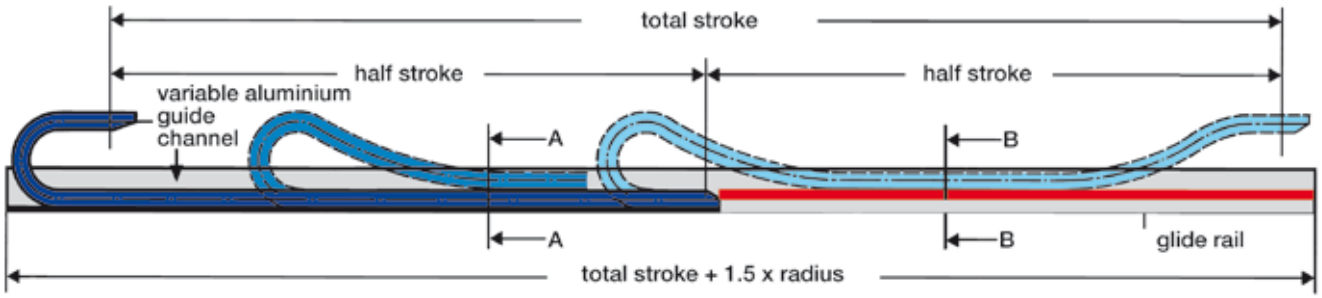
Sample calculation:

Travel distance:	20 m
Entry point:	At centre of travel distance
Chain type:	MP 35086 R 100 without bias with 176 links = 10.2 m

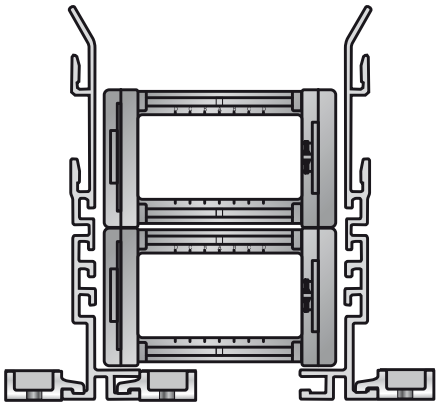
Suitable VAW system parts:

40 m guide channel VAW 80106 (20 m/side)
20 m glide rail GSP 20/20 (10 m/side)

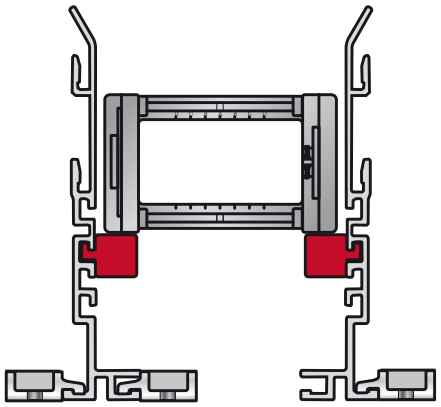
Design / structure



VAW longitudinal cross-section: *The gliding behaviour of the cable drag chain over the entire travel distance.*



Cross-section A–A: *The cable drag chain runs on itself.*



Cross-section B–B: *The cable drag chain runs on the glide rail.*

Guide to system design

To properly install the guide channel, a level support surface is required. The channel elements (standard length of 2 m) are arranged one after the other.

The guide channels are connected to each other on the outside contour by means of longitudinal connectors. This eliminates any offset and impact. The method of assembly also prevents any inherent deformation of the channel.

The guide channel inside width should exceed the chain outside width by 3 to 12 mm, depending on chain type (see Channel Clearance Table, page 304).

Clamping pieces are used to secure the guide channel sections directly to the base construction (e. g. the ground or support arms) or to C-rails.

This clamping should occur from the inside or additionally from the outside if necessary. The holes in the clamping pieces are used as drill templates. They are easily accessible with a hand drill.

If the self-supporting length of the chain is exceeded, for the part of the guide channel where the upper run cannot glide on the lower, a glide rail must be used (see cross-section B-B).

The GSP glide rail does not require screws, apart from in the first and last rail. Depending on the type of chain, the glide rail section is inserted into the guide channel groove provided. The continuous guide groove provides an even surface. This enables the chain system to run smoothly , even at high travel speeds.

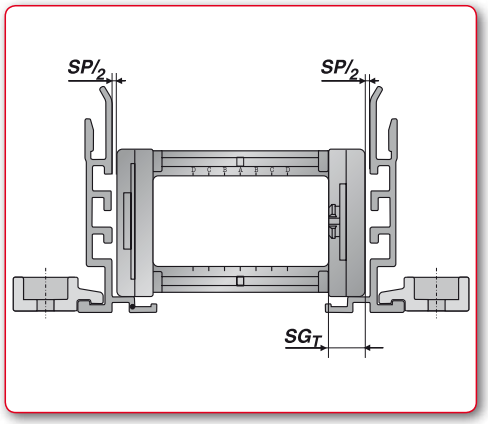
Channel clearance SP and temperature factors

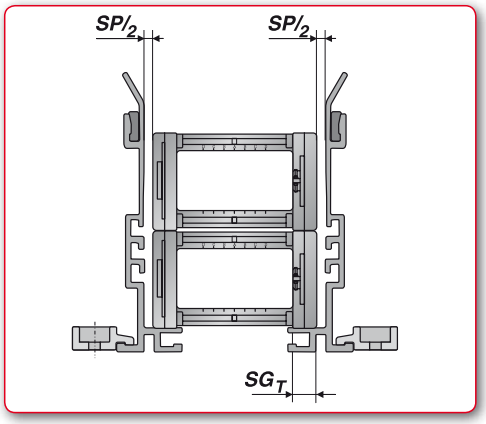
Chain type	Channel clearance SP
MP 10	3 mm
MP 14	3 mm
MP 15	3 mm
MP 18	3 mm
MP 25	4 mm
MP 25 G	4 mm
MP 30	4 mm
MP 32	6 mm
MP 32.2	6 mm
MP 32.3	6 mm
MP 35	4 mm
MP 36 G	4 mm
MP 41	8 mm
MP 41.2	8 mm
MP 41.3	8 mm
MP 43 G	8 mm
MP 44	8 mm
MP 52.1	8 mm
MP 52.2	8 mm
MP 52.3	8 mm
MP 62.1	8 mm
MP 62.2	8 mm
MP 62.3	8 mm
MP 65 G	8 mm
MP 66	8 mm
MP 72	8 mm
MP 82.2	12 mm
MP 82.3	12 mm
MP 102	12 mm
MP 3000	4 mm

Channel clearance

As a general rule, there must be enough clearance (SP) between the channel and the cable drag chain to prevent the chain ever jamming in the channel during the process cycle.

Possible consequences include shortened useful life through increased wear, plus increased running noise. Please consult the adjacent table for recommended values for your application.

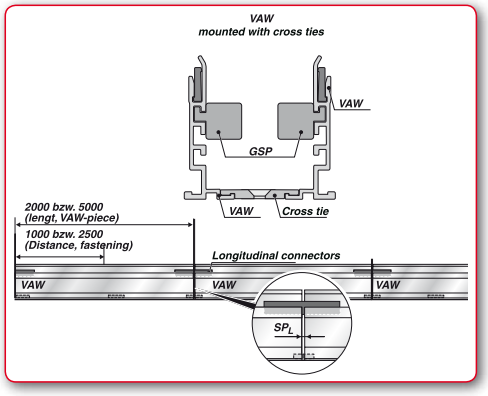


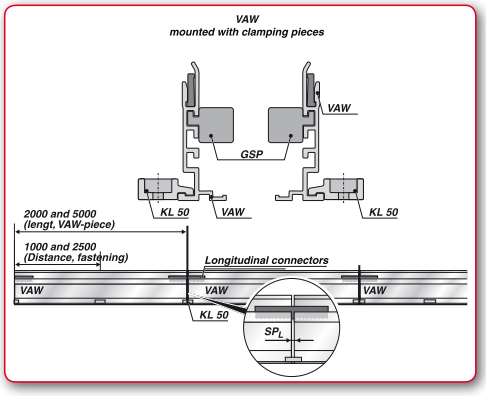


Temperature factors

Having the channel side sections "floating" by using a clamping piece (KL) or cross tie (DBP) compensates for possible longitudinal expansion caused by temperature fluctuations. The channel sections can move slightly in the longitudinal direction.

Accordingly, channel parts must be assembled using an expansion joint. The exact joint dimensions depend on the temperature fluctuations experienced during use and the length of the side sections used. Please contact our application engineers!





Selection of the matching VAW guide channel system

VAW selection for self-supporting applications

Chain type	Radius mm	VAW plastic from page		VAW aluminium from page		VAW-E stainless steel VAW-Z steel from page	
MP 10.1	– –	– –		– –		– –	
MP 14	25–75	VAWK-120	p. 308	VAW 25	p. 311	– –	
MP 15	25–75	VAWK-120	p. 308	VAW 25	p. 311	– –	
MP 18	28–78	VAWK-120	p. 308	VAW 25	p. 311	– –	
MP 25	50–300	VAWK-120	p. 308	VAW 35	p. 312	VAW-E 120/VAW-Z 120	p. 330
MP 25 G	60–250	VAWK-120	p. 308	VAW 35	p. 312	VAW-E 120/VAW-Z 120	p. 330
MP 30	60–300	VAWK-120	p. 308	VAW 35	p. 312	VAW-E 120/VAW-Z 120	p. 330
MP 32	80–250			VAW 106	p. 317	VAW-E 120/VAW-Z 120	p. 330
MP 32.2	80–250			VAW 106	p. 317	VAW-E 120/VAW-Z 120	p. 330
MP 32.3	120–250			VAW 106	p. 317	VAW-E 120/VAW-Z 120	p. 330
MP 35	70–300			VAW 35	p. 312	VAW-E 120/VAW-Z 120	p. 330
MP 36 G	80–200			VAW 35	p. 312	VAW-E 120/VAW-Z 120	p. 330
MP 41	80–600			VAW 122	p. 318	VAW-E 120/VAW-Z 120	p. 330
MP 41.2	80–600			VAW 122	p. 318	VAW-E 120/VAW-Z 120	p. 330
MP 41.3	96–600			VAW 122	p. 318	VAW-E 120/VAW-Z 120	p. 330
MP 43 G	125–250			VAW 122	p. 318	VAW-E 120/VAW-Z 120	p. 330
MP 44	70–600			VAW 122	p. 318	VAW-E 120/VAW-Z 120	p. 330
MP 52.1	100–350			VAW 122	p. 318	VAW-E 120/VAW-Z 120	p. 330
MP 52.2	100–350			VAW 122	p. 318	VAW-E 120/VAW-Z 120	p. 330
MP 52.3	150–350			VAW 122	p. 318	VAW-E 120/VAW-Z 120	p. 330
MP 62.1	150–500			VAW 122	p. 318	VAW-E 120/VAW-Z 120	p. 330
MP 62.2	150–500			VAW 122	p. 318	VAW-E 120/VAW-Z 120	p. 330
MP 62.3	200–500			VAW 122	p. 318	VAW-E 120/VAW-Z 120	p. 330
MP 65 G	200–350			VAW 122	p. 318	VAW-E 120/VAW-Z 120	p. 330
MP 66	150–350			VAW 122	p. 318	VAW-E 120/VAW-Z 120	p. 330
MP 66	150–350			VAW 122	p. 318	VAW-E 120/VAW-Z 120	p. 330
MP 72	150–500			VAW 122	p. 318	VAW-E 120/VAW-Z 120	p. 330
MP 82.2	150–500			VAW 150	p. 320	VAW-E 170/VAW-Z 170	p. 334
MP 82.3	200–500			VAW 150	p. 320	VAW-E 170/VAW-Z 170	p. 334
MP 102	250–500			VAW 150	p. 320	VAW-E 170/VAW-Z 170	p. 334
MP 3000	50-300	VAWK-120	p. 308	VAW 35	p. 312	VAW-E 120/VAW-Z 120	p. 330

VAW selection for gliding applications

Chain type	Radius mm	VAW plastic from page		VAW aluminium from page		VAW-E stainless steel VAW-Z steel from page	
MP 10.1	– –	– –		– –		– –	
MP 14	25–75	VAWK-120	p. 308	– –		– –	
MP 15	25–75	VAWK-120	p. 308	– –		– –	
MP 18	28–78	VAWK-120	p. 308	VAW 80	p. 314	VAW-E 120/VAW-Z 120	p. 330
MP 25	50–75			VAW 80	p. 314	VAW-E 120/VAW-Z 120	p. 330
	100–125			VAW 122	p. 318	VAW-E 120/VAW-Z 120	p. 330
	150			VAW 150	p. 320	VAW-E 170/VAW-Z 170	p. 334
	200			VAW 177	p. 322	VAW-E 170/VAW-Z 170	p. 334
	250–300			VAW 248	p. 326	VAW-E 220/VAW-Z 220	p. 338
MP 25 G	60–100			VAW 80	p. 314	VAW-E 120/VAW-Z 120	p. 330
	125–150			VAW 122	p. 318	VAW-E 120/VAW-Z 120	p. 330
	200			VAW 150	p. 320	VAW-E 170/VAW-Z 170	p. 334
	250			VAW 177	p. 322	VAW-E 170/VAW-Z 170	p. 334
MP 30	60–75			VAW 80	p. 314	VAW-E 120/VAW-Z 120	p. 330
	100–125			VAW 122	p. 318	VAW-E 120/VAW-Z 120	p. 330
	150			VAW 150	p. 320	VAW-E 170/VAW-Z 170	p. 334
	200			VAW 177	p. 322	VAW-E 170/VAW-Z 170	p. 334
	250–300			VAW 248	p. 326	VAW-E 220/VAW-Z 220	p. 338
MP 32	80–150			VAW 122	p. 318	VAW-E 120/VAW-Z 120	p. 330
	200–250			VAW 177	p. 322	VAW-E 170/VAW-Z 170	p. 334
MP 32.2	80–150			VAW 122	p. 318	VAW-E 120/VAW-Z 120	p. 330
	200–250			VAW 177	p. 322	VAW-E 170/VAW-Z 170	p. 334
MP 32.3	120–150			VAW 122	p. 318	VAW-E 120/VAW-Z 120	p. 330
MP 35	70–100			VAW 80	p. 314	VAW-E 120/VAW-Z 120	p. 330
	150			VAW 122	p. 318	VAW-E 120/VAW-Z 120	p. 330
	200			VAW 150	p. 320	VAW-E 170/VAW-Z 170	p. 334
	300			VAW 248	p. 326	VAW-E 220/VAW-Z 220	p. 338
MP 36 G	80–100			VAW 80	p. 314	VAW-E 120/VAW-Z 120	p. 330
	150			VAW 122	p. 318	VAW-E 120/VAW-Z 120	p. 330
	200			VAW 150	p. 320	VAW-E 170/VAW-Z 170	p. 334
MP 41	80–150			VAW 122	p. 318	VAW-E 120/VAW-Z 120	p. 330

(Continued on the next page)

Selection of the matching VAW guide channel system

VAW selection for gliding applications

Chain type	Radius mm	VAW plastic from page		VAW aluminium from page		VAW-E stainless steel VAW-Z steel from page	
MP 41	200	VAW 150	p. 320	VAW-E 170/VAW-Z 170	p. 334		
	250	VAW 177	p. 322	VAW-E 170/VAW-Z 170	p. 334		
	300	VAW 248	p. 326	VAW-E 220/VAW-Z 220	p. 338		
MP 41.2	80–150	VAW 122	p. 318	VAW-E 120/VAW-Z 120	p. 330		
	200	VAW 150	p. 320	VAW-E 170/VAW-Z 170	p. 334		
	250	VAW 177	p. 322	VAW-E 170/VAW-Z 170	p. 334		
MP 41.2	300	VAW 248	p. 326	VAW-E 220/VAW-Z 220	p. 338		
MP 41.3	96–150	VAW 122	p. 318	VAW-E 120/VAW-Z 120	p. 330		
	200	VAW 150	p. 320	VAW-E 170/VAW-Z 170	p. 334		
	250	VAW 177	p. 322	VAW-E 170/VAW-Z 170	p. 334		
	300	VAW 248	p. 326	VAW-E 220/VAW-Z 220	p. 338		
MP 43 G	125–150	VAW 122	p. 318	VAW-E 120/VAW-Z 120	p. 330		
	200	VAW 150	p. 320	VAW-E 170/VAW-Z 170	p. 334		
	250	VAW 177	p. 322	VAW-E 170/VAW-Z 170	p. 334		
MP 44	70–150	VAW 80	p. 314	VAW-E 120/VAW-Z 120	p. 330		
	200	VAW 150	p. 320	VAW-E 170/VAW-Z 170	p. 334		
	250	VAW 177	p. 322	VAW-E 170/VAW-Z 170	p. 334		
MP 52.1	100–150	VAW 122	p. 318	VAW-E 120/VAW-Z 120	p. 330		
	200–250	VAW 177	p. 322	VAW-E 170/VAW-Z 170	p. 334		
	300	VAW 248	p. 326	VAW-E 220/VAW-Z 220	p. 338		
MP 52.2	100–150	VAW 122	p. 318	VAW-E 120/VAW-Z 120	p. 330		
	200–250	VAW 177	p. 322	VAW-E 170/VAW-Z 170	p. 334		
	300	VAW 248	p. 326	VAW-E 220/VAW-Z 220	p. 338		
MP 52.3	150	VAW 122	p. 318	VAW-E 120/VAW-Z 120	p. 330		
	200–250	VAW 177	p. 322	VAW-E 170/VAW-Z 170	p. 334		
	300	VAW 248	p. 326	VAW-E 220/VAW-Z 220	p. 338		
MP 62.1	150–250	VAW 177	p. 322	VAW-E 170/VAW-Z 170	p. 334		
	300–500	VAW 248	p. 326	VAW-E 220/VAW-Z 220	p. 338		
MP 62.2	150–250	VAW 177	p. 322	VAW-E 170/VAW-Z 170	p. 334		
	300–500	VAW 248	p. 326	VAW-E 220/VAW-Z 220	p. 338		
MP 62.3	200–250	VAW 177	p. 322	VAW-E 170/VAW-Z 170	p. 334		

(Continued on the next page)

Which VAW guide channel system matches my cable drag chain?

VAW selection for gliding applications

Chain type	Radius mm	VAW plastic from page		VAW aluminium from page		VAW-E stainless steel VAW-Z steel from page	
	300–500			VAW 248	p. 326	VAW-E 220/VAW-Z 220	p. 338
MP 65 G	200–240			VAW 177	p. 322	VAW-E 170/VAW-Z 170	p. 334
	280–350			VAW 248	p. 326	VAW-E 220/VAW-Z 220	p. 338
MP 66	150–240			VAW 177	p. 322	VAW-E 170/VAW-Z 170	p. 334
	280–350			VAW 248	p. 326	VAW-E 220/VAW-Z 220	p. 338
MP 72	150–500			VAW 248	p. 326	VAW-E 220/VAW-Z 220	p. 338
MP 82.2	150–500			VAW 248	p. 326	VAW-E 220/VAW-Z 220	p. 338
MP 82.3	200–500			VAW 248	p. 326	VAW-E 220/VAW-Z 220	p. 338
MP 102	250–500			VAW 248	p. 326	VAW-E 220/VAW-Z 220	p. 338
MP 3000	50–95	VAWK-120	p. 308	VAW 80	p. 314	VAW-E 120/VAW-Z 120	p. 330
	120–150	VAWK-120	p. 308	VAW 122	p. 318	VAW-E 120/VAW-Z 120	p. 330
	200			VAW 150	p. 320	VAW-E 170/VAW-Z 170	p. 334
	300			VAW 248	p. 326	VAW-E 220/VAW-Z 220	p. 338