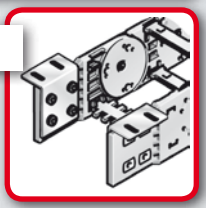
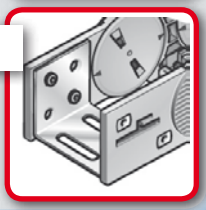
System overview

1 Chain bracket

Chain bracket angle

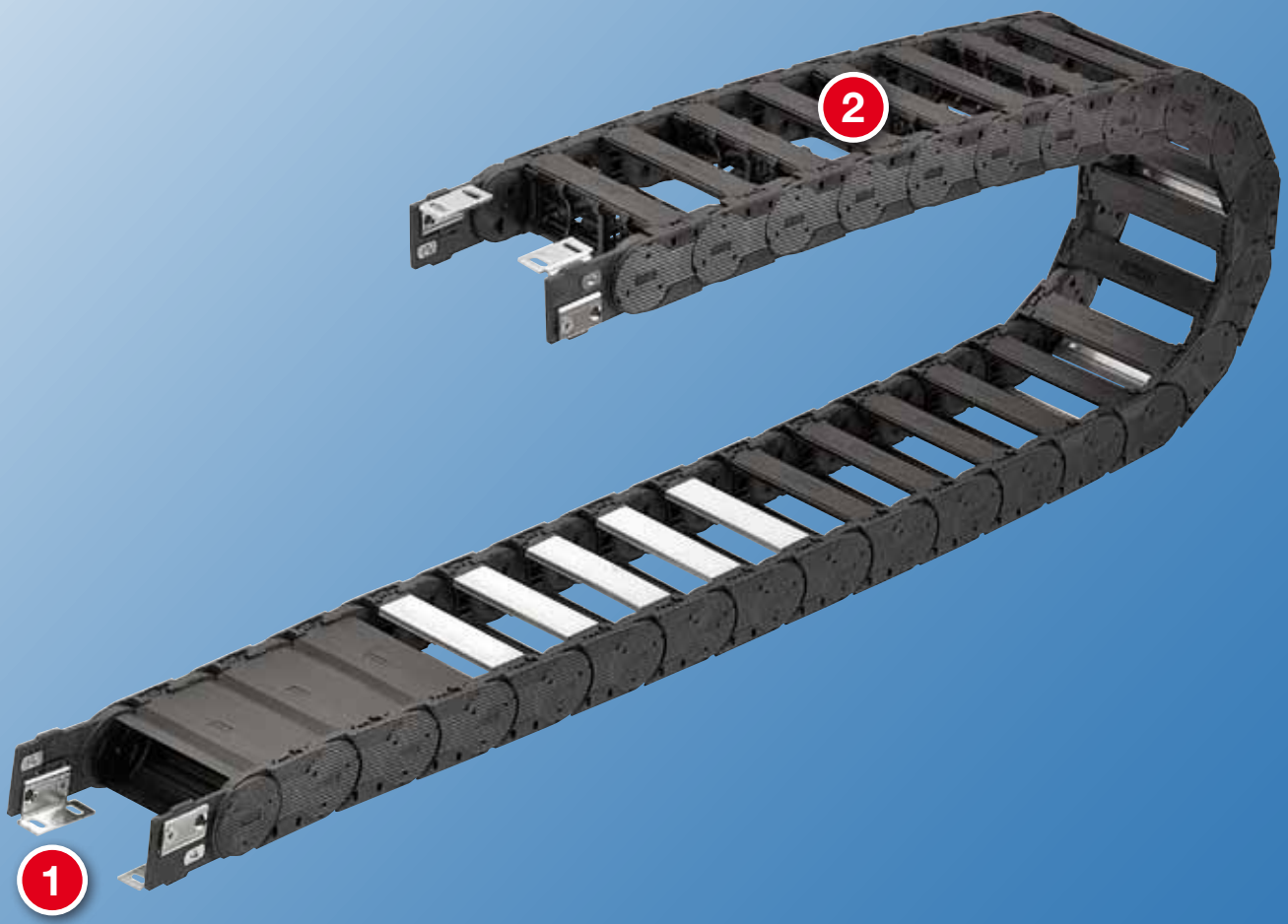


Chain bracket U-part



2 Shelving system

Separator TR

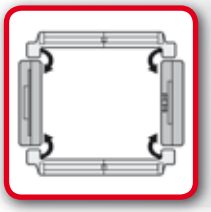


Guide channels

Aluminium VAW

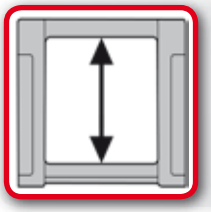
Stainless steel VAW-E

Technical data



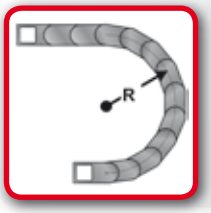
Loading side

inside and outside flexure curve



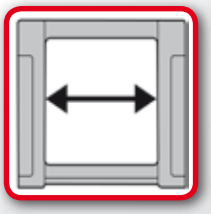
Available interior heights

40.0 mm



Available radii

90.0 – 250.0 mm



Available interior widths

45.0 – 182.0 mm

With aluminium frame bridge
70.0 – 600.0 mm

Ordering key

Type	Variation	Inside width mm	Outside width mm	Radius mm	Ridge version	Material	Chain length mm
0440	30	45 62 84 105 144 182	78 95 117 138 177 215	90 125 150 200 250	0 1 2 3 4 5 6 7 9	0 9	

Ordering key _ _ _ _ | _ _ | _ _ _ | _ _ _ | _ | _ | _ _ _ _ _ _ _

Note on configuration

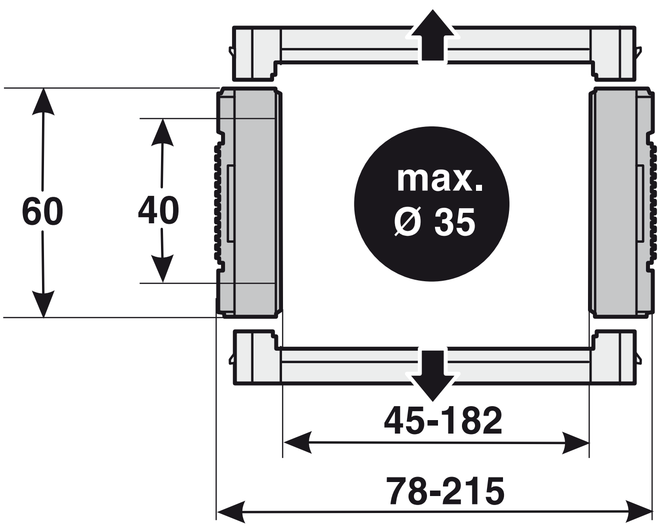
Frame bridges and cover from aluminium:
Aluminium frame bridges and covers can be supplied in 1 mm width sizes for inner widths from 70.0 mm – 600.0 mm.
If frame bridge strain relief plates (RS-ZL) are to be deployed, take standard widths into account.

Crossbar connector and frame bridge strain relief plate:
Once inner widths exceed 246 mm, we recommend the deployment of crossbar connectors (RSV). Crossbar connectors cannot be used in conjunction with covers made from plastic or aluminium. If frame bridge strain relief plates (RS-ZL) are to be placed in the chain brackets, take the standard widths that can be supplied into account.

For detailed information, please consult the corresponding product documentation.

Chain link

Loading side: inside and outside flexure curve



Dimensions in mm

0	Standard (PA/black)
9	Special version

0	PA full-ridged with bias
1	PA full-ridged without bias
2	PA half-ridged with bias
3	PA half-ridged without bias
4	Aluminium full-ridged with bias
5	Aluminium full-ridged without bias
6	Aluminium half-ridged with bias
7	Aluminium half-ridged without bias
9	Special version

30	Frame bridge on outside of radius Frame bridge on inside of radius Opens on inside and outside of radius

Order sample: 0440 30 045 090 0 0 1359
Frame bridge in outside bend, frame bridge in inside bend, can be opened from inside and outside bend
Inside width 45 mm; radius 90 mm
Plastic bridge, full-ridged with bias, material black-coloured polyamide
Chain length 1359 mm (18 links)

Technical specifications

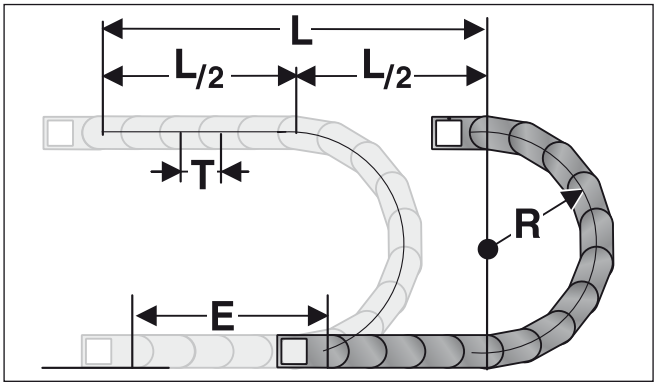
Travel distance gliding L_g max.:	50.0 m
Travel distance self-supporting L_f max.:	see diagram
Travel distance vertical, hanging L_{vh} max.:	40.0 m
Travel distance vertical, upright L_{vs} max.:	3.0 m
Rotated 90°, unsupported L_{90f} max.:	1.0 m
Speed, gliding V_g max.:	5.0 m/s
Speed, self-supporting V_f max.:	15.0 m/s
Acceleration, gliding a_g max.:	15.0 m/s²
Acceleration, self-supporting a_f max.:	20.0 m/s²

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:	Based on UL 94 HB

Other material properties on request.

Determining the chain length

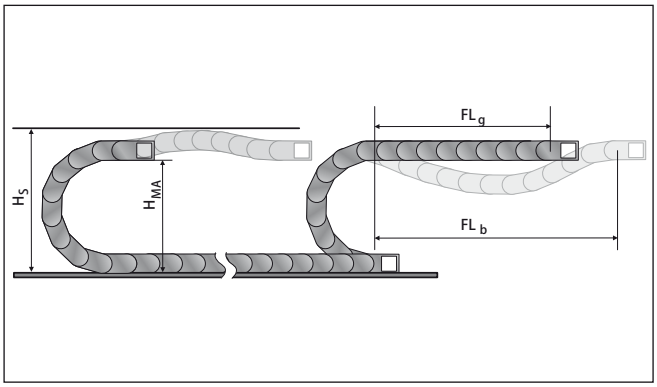


The fixed point of the cable drag chain should be connected in the middle of the travel distance.
This arrangement gives the shortest connection between the fixed point and the moving consumer and thus the most efficient chain length.

Chain length calculation = L/2 + π * R + E
≈ 1 m chain = 13 qty. x 75.5 mm links.

E = distance between entry point and middle of travel distance
L = travel distance
R = radius
P = Pitch

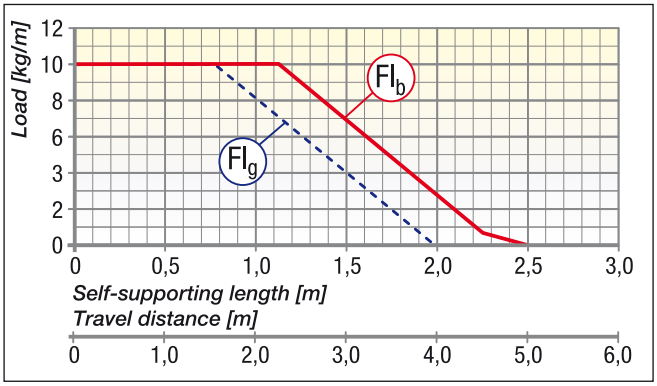
Self-supporting length



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 cable drag 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

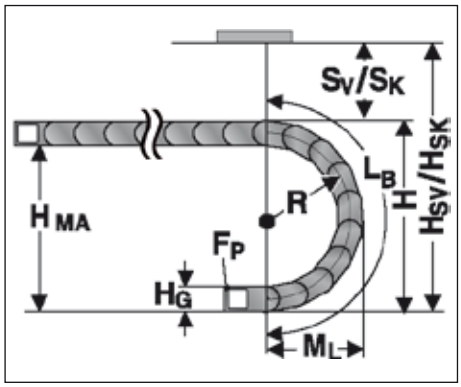
Load diagram for self-supporting applications



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

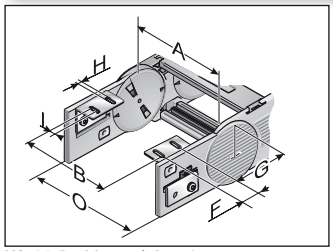
FL_b Self-supporting Length, upper run bent
In the FL_b range, the chain upper run has a sag of more than , but this is still less than the maximum sag.
Where the sag is greater than that permitted in the FL_b range, the application is critical and should be avoided. The self-supporting length can be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

Installation dimensions

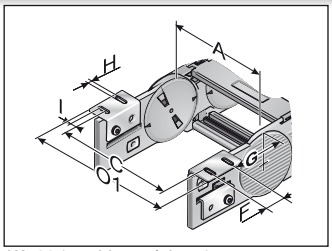


Radius R	90	125	150	200	250
Outside height of chain link (H_G)	60	60	60	60	60
Height of bend (H)	240	310	360	460	560
Height of moving end connection (H_{MA})	180	250	300	400	500
Safety margin with bias (S_V)	38	38	38	38	38
Installation height with bias (H_{SV})	278	348	398	498	598
Safety margin without bias (S_K)	13	13	13	13	13
Installation height without bias (H_{SK})	253	323	373	473	573
Arc projection (M_L)	196	231	256	306	356
Bend length (L_B)	452	562	641	798	955

Chain bracket angle



KA 44 (inside up / down)

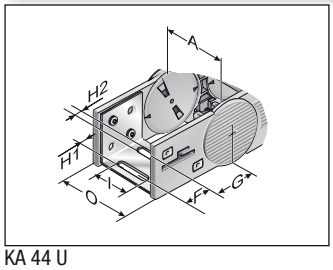


KA 44 (outside up / down)

There are several options regarding the chain bracket. The fixed-point bracket (inside/bottom) and the moving end bracket (inside/top) are supplied as standard. However, any other combination can be supplied upon request. The chain bracket is fastened at the end like a side link. This enables the chain to move right up to the bracket. Each chain requires two chain brackets. The brackets should be fastened with M6 screws.

Type	Order no.	Material	Inside width A mm	B mm	C mm	E mm	F mm	G mm	HØ mm	I mm	Outside width KA O mm	Outside width KA O1 mm
KA 44	0440000050	Sheet steel	62.0 – 182.0	A-14.5	A+38.5	A+32.0	32.0	43.2	6.5	12.5	A+33.0	A+64.0
KA 44	0440000052	Stainless steel 1.4301	62.0 – 182.0	A-14.5	A+38.5	A+32.0	32.0	43.2	6.5	12.5	A+33.0	A+64.0

Chain bracket U-part

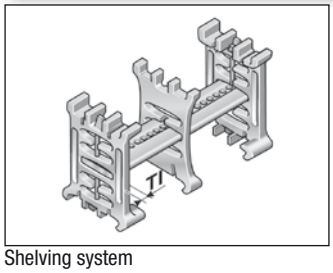


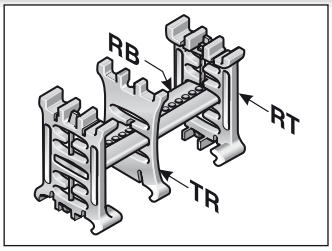
KA 44 U

As standard, this chain bracket is supplied in a width of 45 mm. Bracket can be mounted up or down.

Type	Order no.	Material	Inside width A mm	F mm	G mm	H1 mm	H2 mm	I mm	Outside width KA O mm
KA 44 U	0440000054	Sheet steel	45.0	28.0	45.0	6.5	8.5	33.0	A+33.0

Shelving system



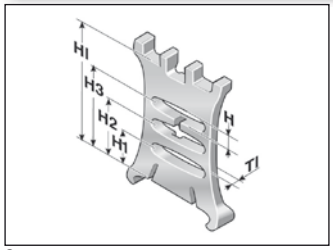


Shelving system

In connection with at least two shelf supports (RT) the shelf becomes a shelving system. The additional levels prevent cables from criss-crossing and therefore destroying each other, while also avoiding excessive friction. The shelving system may be pre-assembled on request.

Type	Order no.	Designation	Width mm	Pitch mm	TI mm
RB 031	100000003100	Shelf	31.0	1.6	
RB 048	100000004800	Shelf	48.0	1.6	
RB 070	100000007000	Shelf	70.0	1.6	
RB 092	100000009200	Shelf	92.0	1.6	
RB 100	100000010000	Shelf	100.0	1.6	
RB 128	100000012800	Shelf	128.0	1.6	
RB 167	100000016700	Shelf	167.0	1.6	
RT 44	1000902100	Shelf support		1.6	6.5

Separator

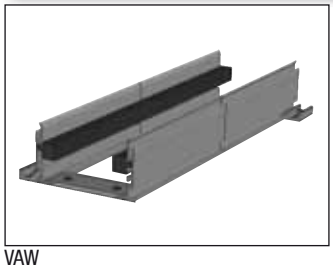


Separator

We recommend that separators be used if multiple round cables or conduits with differing diameters are to be installed. An offset configuration of the separators is advisable. The TL 44 should be used for applications with aluminium frame bridges or movable separators.

Type	Order no.	Designation	Pitch mm	TI mm	H mm	H1 mm	H2 mm	H3 mm	HI mm
TF 44	044000009400	RSV 32 Crossbar connector	1.6	4.0	4.4	15.0	22.4	29.4	40.0
TL 44	044000009200	RSV 32 Crossbar connector for aluminium frame bridges	1.6	4.0	4.4	15.2	22.3	29.4	40.0

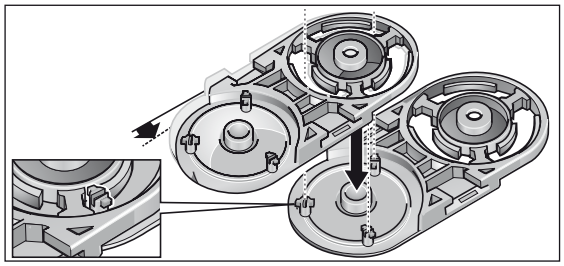
Guide channels (VAW)



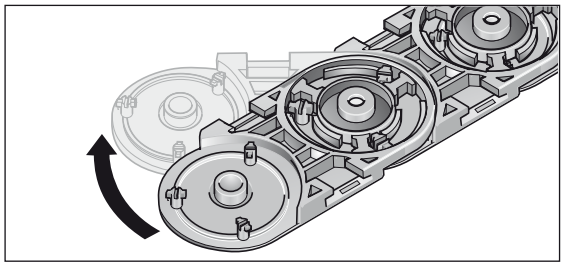
VAW

For this cable drag chain, a variable guide channel system is available, constructed from aluminium sections.
The variable guide channel ensures that the cable drag chain is supported and guided securely.
For help on choosing, please consult the chapter „Variable Guide Channel System“.

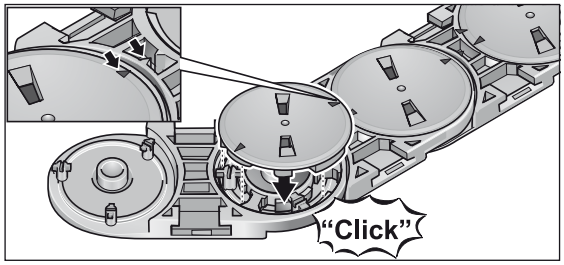
Assembly



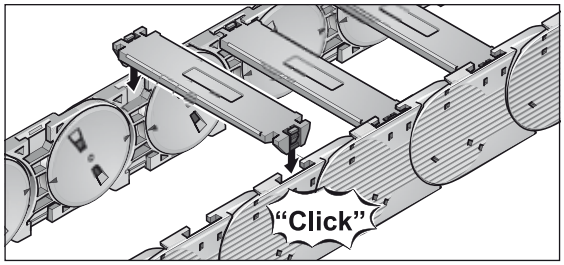
Step 1



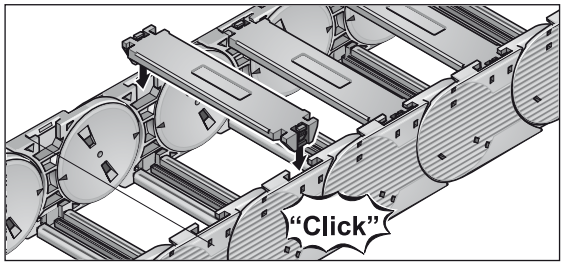
Step 2



Step 3

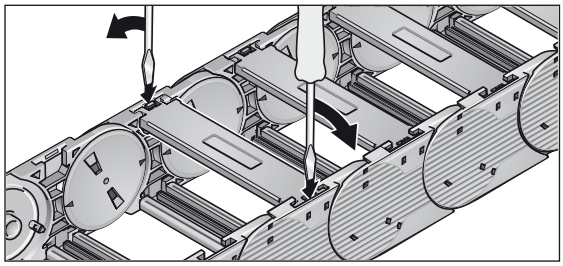


Step 4

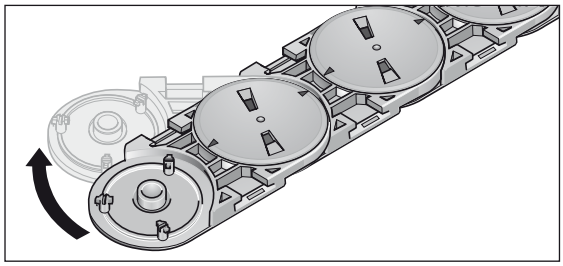


Step 5

Disassembly



Step 1



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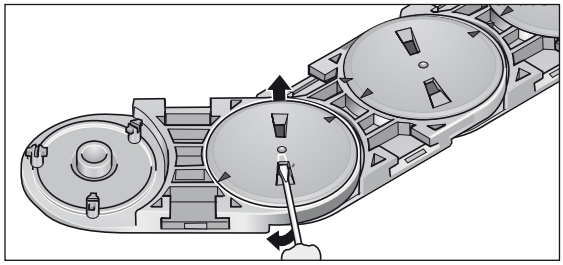
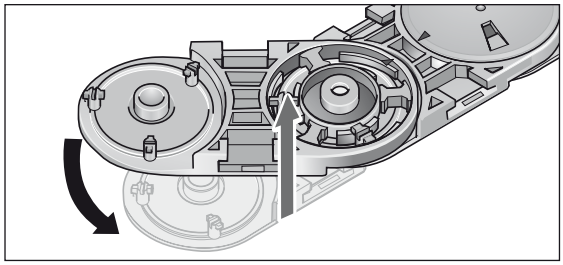


Step 3



Step 4