UNIFLEX *Advanced* series

Light, quiet all-rounder with a wide range of applications*

Fraunhofer IPA TESTED® DEVICE
KABELSCHLEPP GmbH
1455,030,058,052
Report No. KA 1008-531

Fraunhofer IPA TESTED® DEVICE
KABELSCHLEPP GmbH
1455,030,058,052 ESDn
Report No. KA 1008-531

TSUBAKI ECO LINK

* Some features can be different for certain types for design reasons.

Subject to change.

Inner heights
20 – 44 mm

Inner widths
15 – 250 mm

Pitch
32.0 – 66.5 mm

Additional load
up to 15 kg/m

Travel length unsupported
up to 7 m

Travel length gliding
up to 150 m

Travel speed
up to 10 m/s

Travel acceleration
up to 50 m/s²

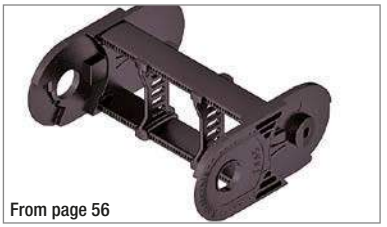
All technical data and features depend on application and type. Let us know your requirements – we are here to help!

Fon: +49 2762 4003-0 or
E-mail: technik@kabelschlepp.de

UA1665

Stay variants

Design 020

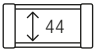


From page 56

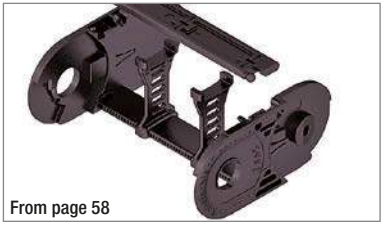
Closed frame

- Weight-optimized, closed plastic frame with particularly high torsional rigidity.

Opening options
inside/outside: Cannot be opened.



Design 030

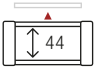


From page 58

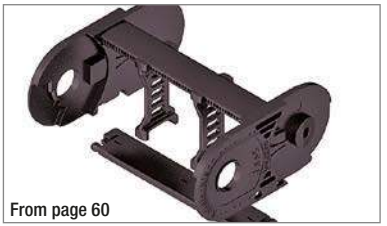
Frame with externally detachable crossbars

- Weight-optimized plastic frame with particularly high torsional rigidity.
- Swivable and detachable on both sides in any position.

Opening options
outside: Swivable and detachable.



Design 040

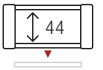


From page 60

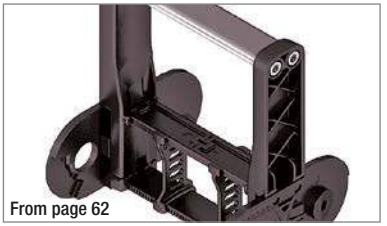
Frame with internally detachable crossbars

- Weight-optimized plastic frame with particularly high torsional rigidity.
- Swivable and detachable on both sides in any position.

Opening options
inside: Swivable and detachable.



Design RMA

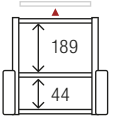


From page 62

Mounting frame stay

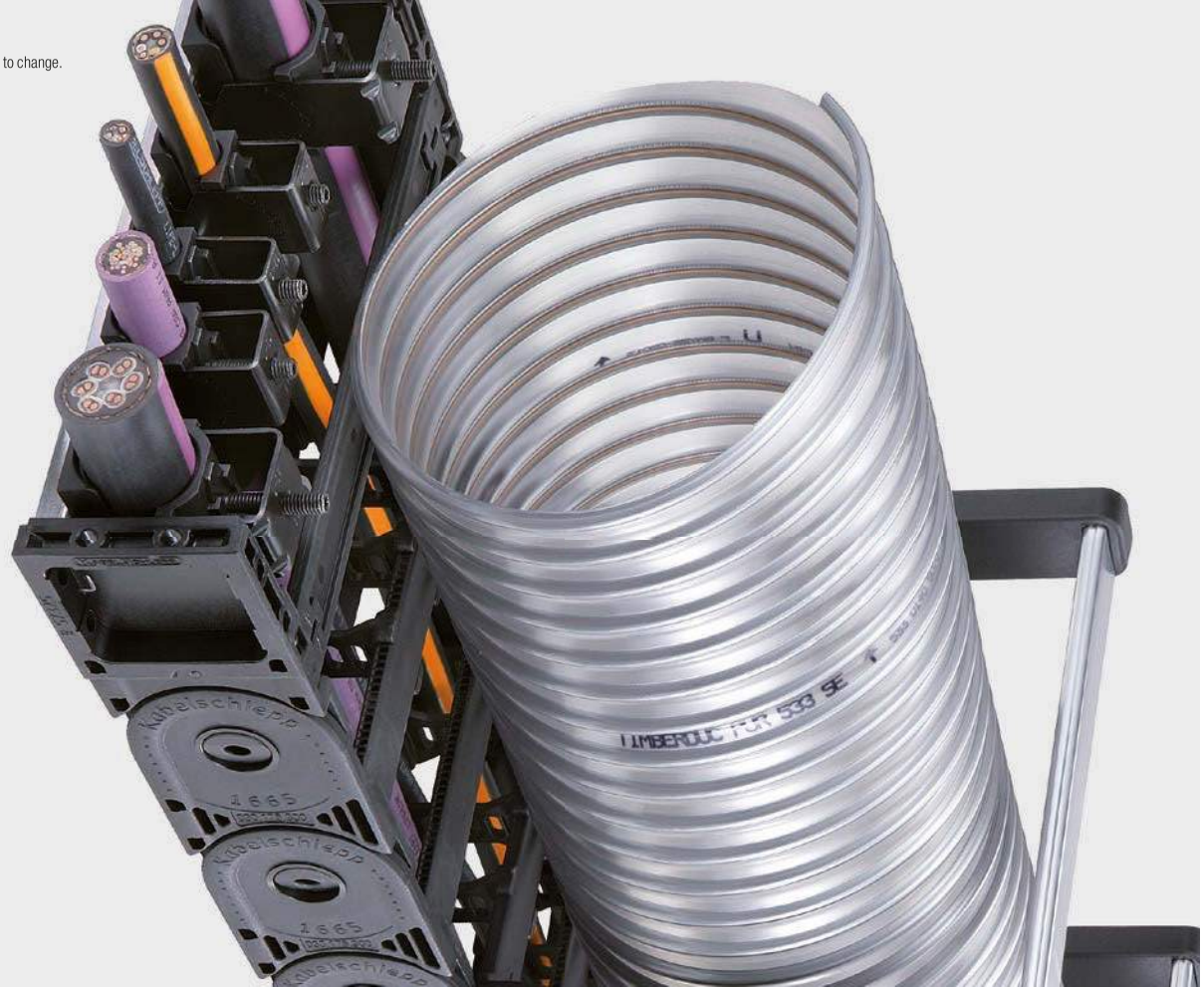
- Weight-optimized plastic frame with particularly high torsional rigidity.
- Plastic crossbars and aluminum profile bars with plastic mounting frame stays for guiding very large cable diameters.

Opening options
outside or inside: Screw connection of the aluminum profile bars is easy to release.



Technical data on p. 54

Subject to change.



Pitch
66.5 mm

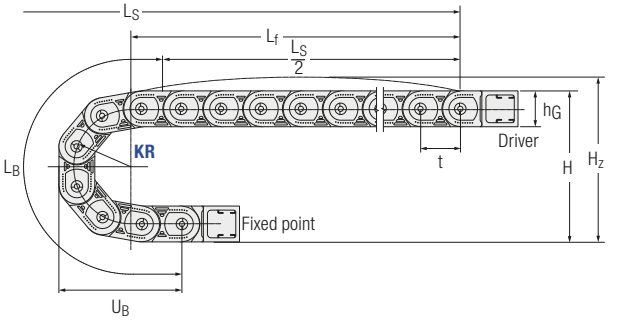
Height
44 mm

Width
50 – 250 mm

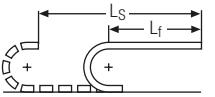
Bending radius
75 – 300 mm

UA1665 | Installation Dimensions | Unsupported

Unsupported arrangement



Unsupported length L_f



A sagging of the cable carrier is technically permitted for extended travel lengths, depending on the specific application.

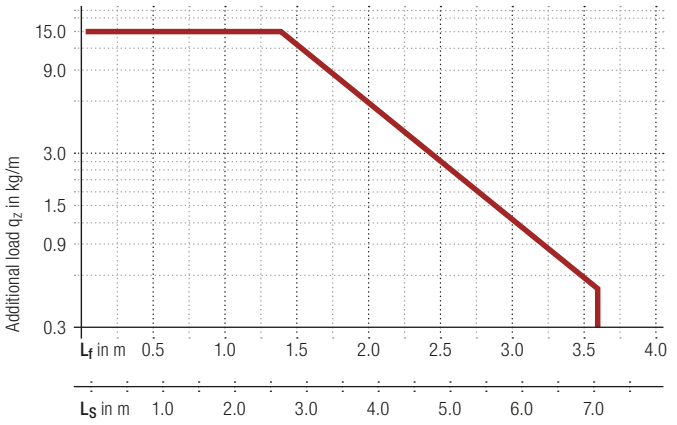
Dynamics of unsupported arrangement		t
v_{max} [m/s]	a_{max} [m/s^2]	[mm]
8	40	66.5

Installation dimensions unsupported

KR [mm]	H [mm]	H_z [mm]	L_B [mm]	U_B [mm]
75	210	245	369	172
100	260	295	448	197
120	300	335	511	217
140	340	375	574	237
200	460	495	762	297
250	560	595	919	347
300	660	695	1,076	397

Load diagram

for unsupported length depending on additional load



Intrinsic cable carrier weight q_k = 2.43 kg/m with B_i 200 mm.
For other inner widths the maximum additional load changes.

Calculating the cable carrier length

Cable carrier length L_k

$$L_k \approx \frac{L_S}{2} + L_B$$

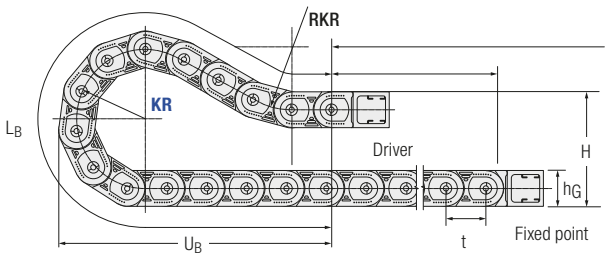
Cable carrier length L_k rounded to pitch t

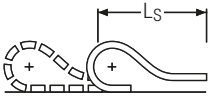
Unsupported length L_f

$$L_f = \frac{L_S}{2} + t$$

Fixed point offset L_v:
For off-center fixed point connections please contact us.

Gliding arrangement





For more information on gliding arrangement please contact us.

Only designs 020, 030 and RMA may be used for gliding arrangements.

Dynamics of gliding arrangement		t
v_{max} [m/s]	a_{max} [m/s²]	[mm]
3	15	66.5

Installation dimensions gliding with RKR links

KR [mm]	H [mm]	n_{RKR}	L_B [mm]	U_B [mm]
75	180	2	694	333
100	180	2	881	405
120	180	3	1,038	464
140	180	3	1,197	523
200	180	4	1,684	701
250	180	6	2,094	850
300	180	7	2,506	1,000

Connection height H is standard. Please contact us if you require other connection heights H. We will be happy to advise you. Optionally, the OnlineEngineer is always available for the calculation.

The gliding cable carrier has to be routed in a channel.
Our engineers will be happy to help with project planning – please contact us.

Calculating the cable carrier length

Cable carrier length L_k

$$L_k \approx \frac{L_S}{2} + L_B$$

Cable carrier length L_k rounded to pitch t

Fixed point offset L_v:
For off-center fixed point connections please contact us.

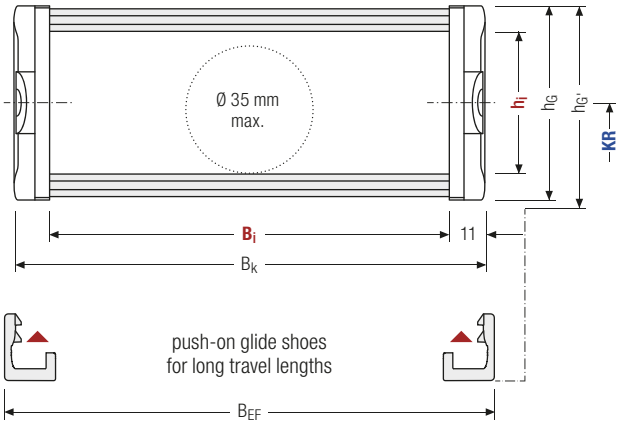
UA1665.020 | Overview

Stay variant 020 – closed frame

- Weight-optimized, closed plastic frame with particularly high torsional rigidity.
- **Opening options outside/inside:** Cannot be opened.

Stay arrangement on every chain link **(VS)**

B_i from 50 – 250 mm



Calculating the cable carrier width

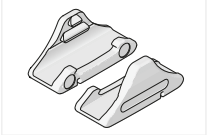
Outer width B_k

$B_k = B_i + 22$ mm

Total width B_{EF}

$B_{EF} = B_i + 27$ mm

The maximum cable diameter strongly depends on the bending radius and the desired cable type. Please contact us.



Replaceable glide shoes

Information on the inner distribution of the cable carrier can be found on page 64 f.

UA1665.020 | Dimensions · Technical Data

Pitch, inner height and chain link height

t [mm]	h_i [mm]	h_G [mm]	$h_{G'}$ [mm]
66.5	44	60	63

Bend radii

KR [mm]						
75	100	120	140	200	250	300

Inner/outer width and intrinsic cable carrier weight

B_i [mm]	B_k [mm]	B_{EF} [mm]	q_k [kg/m]
50	72	77	1.67
75	97	102	1.82
100	122	127	1.95
125	147	152	2.09
150	172	177	2.22
175	197	202	2.36
200	222	227	2.49
225	247	252	2.63
250	272	277	2.76

Order example

UA1665 .	020 .	125 .	140 -	2,660
Type	Stay variant	B_i [mm]	KR [mm]	L_K [mm]

Key for abbreviations on page 72
Assembly instructions on kabelschlepp.de/assembly
Order key on page 70

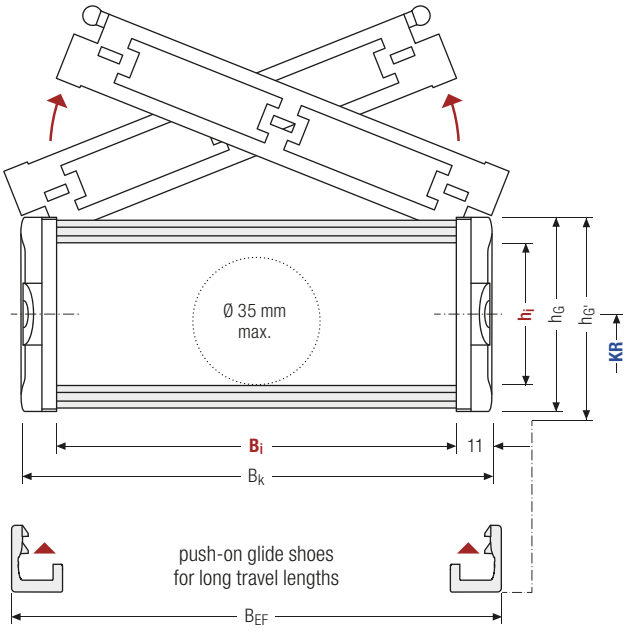
UA1665.030 | Overview

Stay variant 030 – with outside opening and detachable crossbars

- Weight-optimized plastic frame with particularly high torsional rigidity.
- Swivable and detachable on one side in any position.
- **Opening options**
  outside: Swivable and detachable.

Stay arrangement on every chain link **(VS)**

B_i from 50 – 250 mm



Calculating the cable carrier width

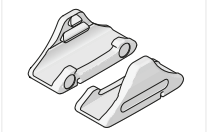
Outer width B_k

$B_k = B_i + 22$ mm

Total width B_{EF}

$B_{EF} = B_i + 27$ mm

The maximum cable diameter strongly depends on the bending radius and the desired cable type. Please contact us.



Replaceable glide shoes

Information on the inner distribution of the cable carrier can be found on page 64 f.

UA1665.030 | Dimensions · Technical Data

Pitch, inner height and chain link height

t [mm]	h_i [mm]	h_G [mm]	$h_{G'}$ [mm]
66.5	44	60	63

Bend radii

KR [mm]						
75	100	120	140	200	250	300

Inner/outer width and intrinsic cable carrier weight

B_i [mm]	B_K [mm]	B_{EF} [mm]	q_K [kg/m]
50	72	77	1.67
75	97	102	1.80
100	122	127	1.92
125	147	152	2.06
150	172	177	2.18
175	197	202	2.31
200	222	227	2.43
225	247	252	2.57
250	272	277	2.70

Order example

UA1665 . 030 . 125 . 140 - 2,660
Type · Stay variant · B_i [mm] · KR [mm] · L_K [mm]

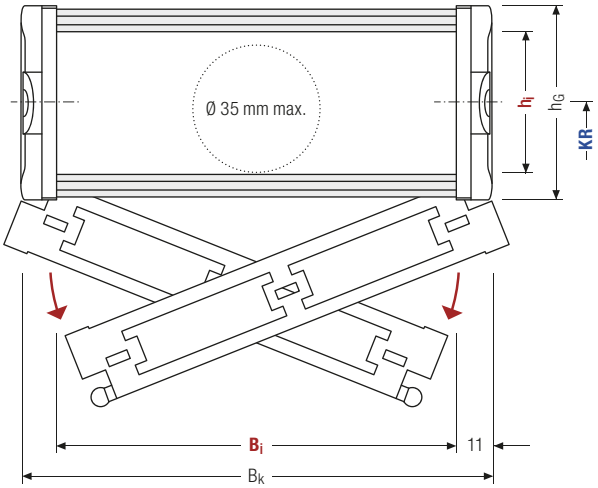
UA1665.040 | Overview

Stay variant 040 – with inside opening and detachable crossbars

- Weight-optimized plastic frame with particularly high torsional rigidity.
- Swivable and detachable on one side in any position.
- **Opening options inside:** Swivable and detachable.

Stay arrangement on every chain link **(VS)**

B_i from 50 – 250 mm



Calculating the cable carrier width

Outer width B_k

$B_k = B_i + 22$ mm

The maximum cable diameter strongly depends on the bending radius and the desired cable type. Please contact us.

Design 040 is not suitable for gliding arrangement.

Information on the inner distribution of the cable carrier can be found on page 64 f.

UA1665.040 | Dimensions · Technical Data

Pitch, inner height and chain link height

t [mm]	h_i [mm]	h_G [mm]
66.5	44	60

Bend radii

KR [mm]						
75	100	120	140	200	250	300

Inner/outer width and intrinsic cable carrier weight

B_i [mm]	B_K [mm]	q_k [kg/m]
50	72	1.67
75	97	1.80
100	122	1.92
125	147	2.06
150	172	2.18
175	197	2.31
200	222	2.43
225	247	2.57
250	272	2.70

Order example

UA1665	.	040	.	125	.	140	-	2,660
Type		Stay variant		B_i [mm]		KR [mm]		L_K [mm]

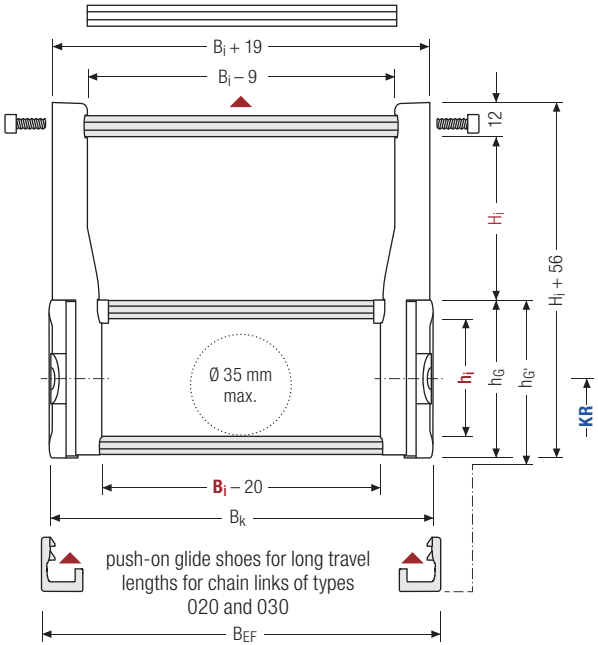
UA1665.RMA | Overview

Stay variant RMA – mounting frame stay

- Weight-optimized plastic frame with particularly high torsional rigidity.
- Plastic crossbars and aluminum profile bars with plastic mounting frame stays for guiding very large cable diameters.
- **Opening options outside or inside:** Screw connection of the aluminum profile bars is easy to release.

Stay arrangement on every chain link **(VS)**

B_i from 125 – 200 mm



Calculating the cable carrier width

Outer width B_k

$B_k = B_i + 22$ mm

Total width B_{EF}

$B_{EF} = B_i + 27$ mm

The maximum cable diameter strongly depends on the bending radius and the desired cable type. Please contact us.

Design 040 is not suitable for gliding arrangement.

Information on the inner distribution of the cable carrier can be found on page 64 f.

UA1665.RMA | Dimensions · Technical Data

Pitch, inner height and chain link height

t [mm]	h_i [mm]	h_G [mm]	$h_{G'}$ [mm]
66.5	44	60	63

Bend radii

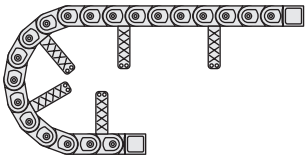
KR [mm]						
75	100	120	140	200	250	300

Inner/outer width and intrinsic cable carrier weight

B_i [mm]	B_K [mm]	B_{EF} [mm]	Locking bar [mm]	H_i [mm]	q_K (RVAI)* [kg/m]	q_K (RVAO)* [kg/m]
125	147	152	100	114	3.10	3.58
150	172	177	125	139	3.38	3.94
175	197	202	150	164	3.67	4.30
200	222	227	???	189	3.95	4.66

* indicated according to standard pitch

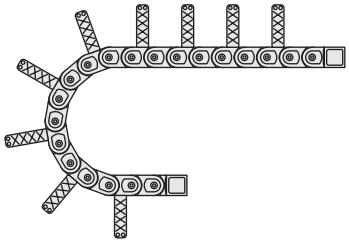
Assembly variants



RVAI – assembly to the inside:
standard pitch, mounting frame stay on every 4th stay, no screw fixing.

Gliding application is not possible when using assembly version RVAI.

Observe minimum KR:
H_i = 114 mm: KR_{min} = 200 mm
H_i = 139 mm: KR_{min} = 250 mm
H_i = 164 mm: KR_{min} = 300 mm
H_i = 189 mm: KR_{min} = 300 mm



RVAO – assembly to the outside:
standard pitch, mounting frame stay on every 2nd stay, no screw fixing.

The cable carrier has to rest on the side bands and not on the stays.

Guiding in a **channel is required** for support. Please contact our technical support at technik@kabelschlepp.de to find the corresponding guide channel.

Please note the operating and installation height.

UA1665 | Inner Distribution | TS0

Divider systems

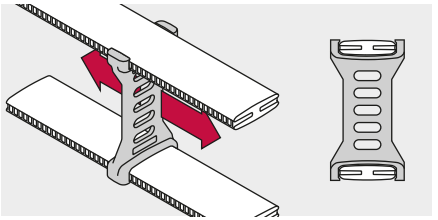
As standard, the divider system is assembled at every 2nd chain link.

As standard, dividers and the complete divider system (dividers with height separations) can be moved in the cross section **(version A).**

The dividers are easily attached to the stay for applications with transverse acceleration and for laterally recumbent applications by simply turning them. The locking cams click into place in the locking grids in the crossbars **(version B)**.

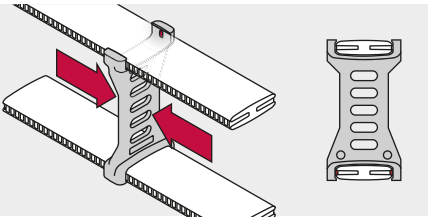
Movable divider

Version A (Standard)



Fixable divider (2.5 mm grid)

Version B

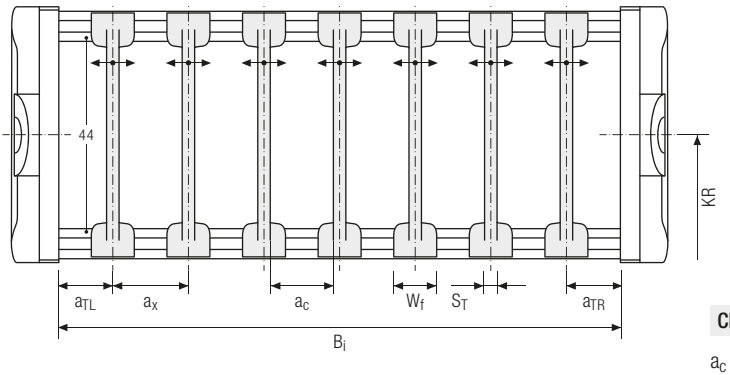


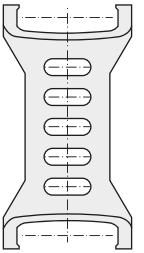
Divider system TS0 without height separation

S_T [mm]	W_f [mm]	$n_{T\,max}$ design 020	Version A $a_{TL}/a_{TR\,min}$ [mm]	Version A $a_{x\,min}$ [mm]	Version A $a_{c\,min}$ [mm]	Version B** $a_{TL}/a_{TR\,min}$ [mm]	Version B** $a_{x\,min}$ [mm]	Version B** $a_{c\,min}$ [mm]	Version B** $a_{x\,grid}$ [mm]
3	10		5	10	7	5	10	7	2.5

B_i [mm]	50	75	100	125	150	175	200	225	250
$n_{T\,max}$ design 020	0	4	6	9	11	14	16	19	21

** not design 020





Chamber width a_c

$a_c = a_x - S_T$

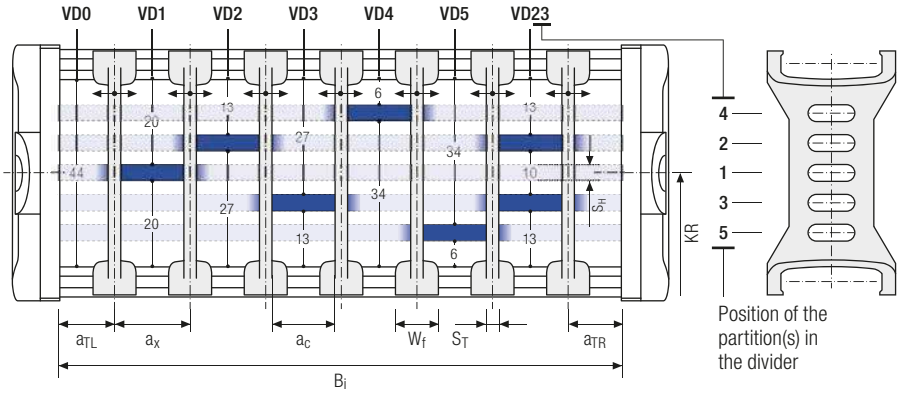
Information on the connection dimensions for the cable carrier can be found on page 67 f.

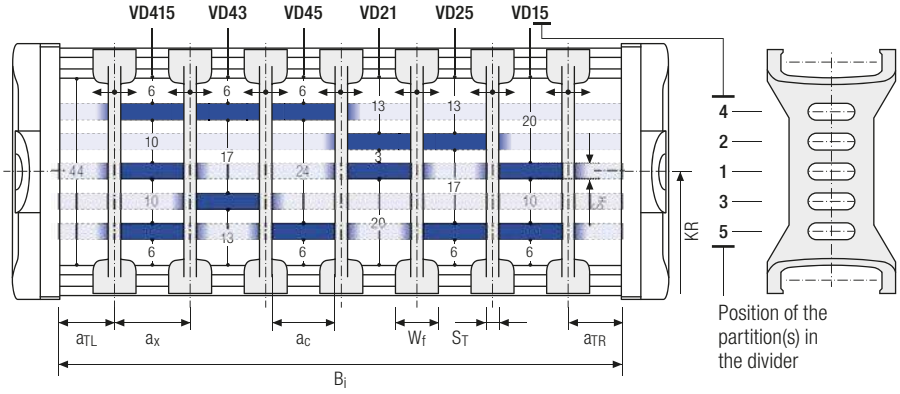
UA1665 | Inner Distribution | TS1

Divider system TS1 with continuous height separation*

					Version A			Version B			
S_T [mm]	W_f [mm]	S_H [mm]	$n_{T\ min}$	$a_{T\ max}$ [mm]	$a_{T\ min}$ [mm]	$a_{x\ min}$ [mm]	$a_{C\ min}$ [mm]	$a_{T\ min}$ [mm]	$a_{x\ min}$ [mm]	$a_{C\ min}$ [mm]	$a_{x\ grid}$ [mm]
3	10	4	2	20	5	10	10	5	10	7	2.5

* not design 020





Standard height separation with **aluminum profile 11 × 4 mm**.

Chamber width a_C

$a_C = a_x - S_T$

Information on the connection dimensions for the cable carrier can be found on page 67 f.

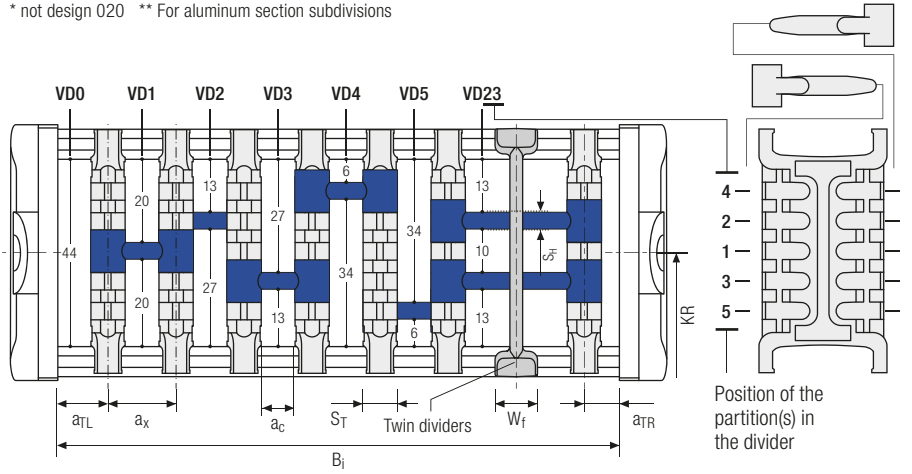
Inner heights 44
Inner widths 50 – 250
Key for abbreviations on page 72
Assembly instructions on kabelschlepp.de/assembly
Order key on page 70

UA1665 | Inner Distribution | TS3

Divider system TS3 with height separation made of plastic section subdivisions*

Version A						
S_T [mm]	W_f [mm]	S_H [mm]	$a_{TL}/a_{TR\ min}$ [mm]	$a_{x\ min}$ [mm]	$a_{c\ min}$ [mm]	$n_{T\ min}$
8	10	4	4	16/40**	8	2

* not design 020 ** For aluminum section subdivisions



Position of the partition(s) in the divider

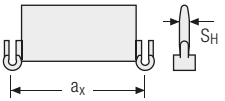
The dividers are fixed by the partitions, the complete divider system is movable in the cross section. Movable twin dividers are optionally available. Twin dividers are also suitable for retrofitting in the section subdivision system.

Chamber width a_c

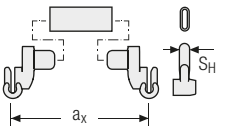
$a_c = a_x - S_T$

a_x (center distance of dividers) [mm]														
a_c (nominal width of inner chamber) [mm]														
16	**18**	**23**	**28**	**32**	**33**	**38**	**43**	**48**	**58**	**64**	**68**	**78**	**80**	**88**
8	10	15	20	24	25	30	35	40	50	56	60	70	72	80
96	**112**	**128**	**144**	**160**	**176**	**192**	**208**							
88	104	120	136	152	168	184	200							

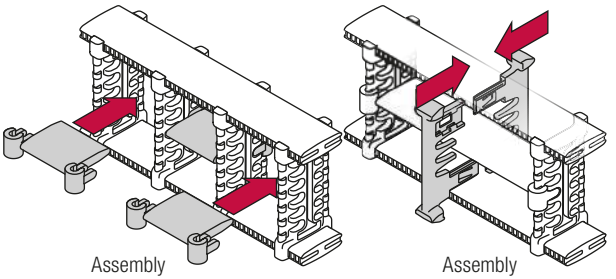
Plastic section subdivisions in a_x increments



Aluminum section subdivisions with plastic adapters in 1 mm increments



When using **section subdivisions with a_x > 112 mm** we recommend an additional center support with a **twin divider.**
When using twin dividers, the height separations VD4 and VD5 are not possible. Aluminum section subdivisions are only available with **a_x > 40 mm**.

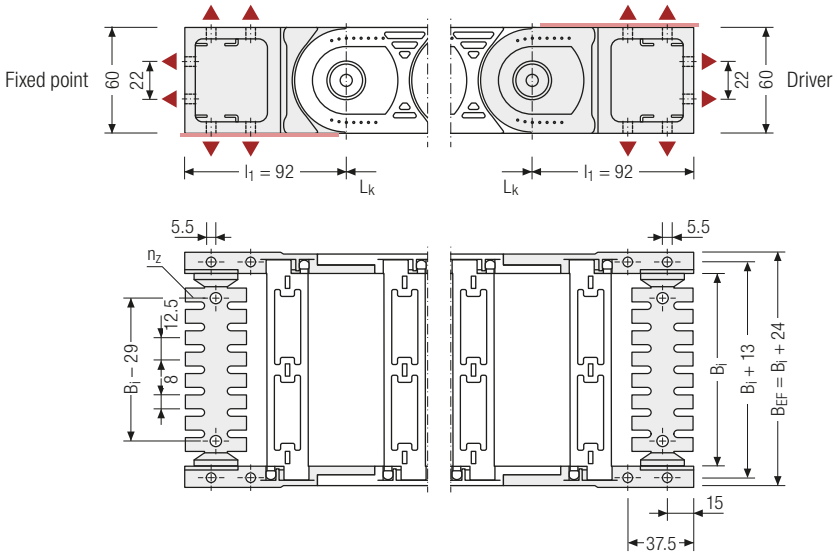


Assembly section subdivision

Assembly twin divider

Universal end connectors UMB – plastic (standard)

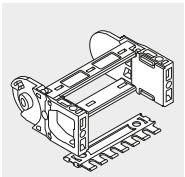
The universal mounting brackets (UMB) are made from plastic and can **be mounted from the top, from the bottom, or face on**.



▲ Assembly options

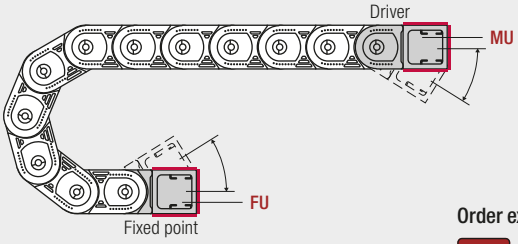
B_i [mm]	B_{EF} [mm]	n_z
50	74	2 x 3
75	99	2 x 5
100	124	2 x 7
125	149	2 x 9
150	174	2 x 11
175	199	2 x 13

Recommended tightening torque:
5 Nm for screws M5 - 8.8



The end connectors are optionally also available **without** strain relief comb or **with** C-rail (1 per side) for clamps. Please state when ordering.

Connection variants



Connection point
F – fixed point
M – driver

Connection type
U – universal mounting bracket

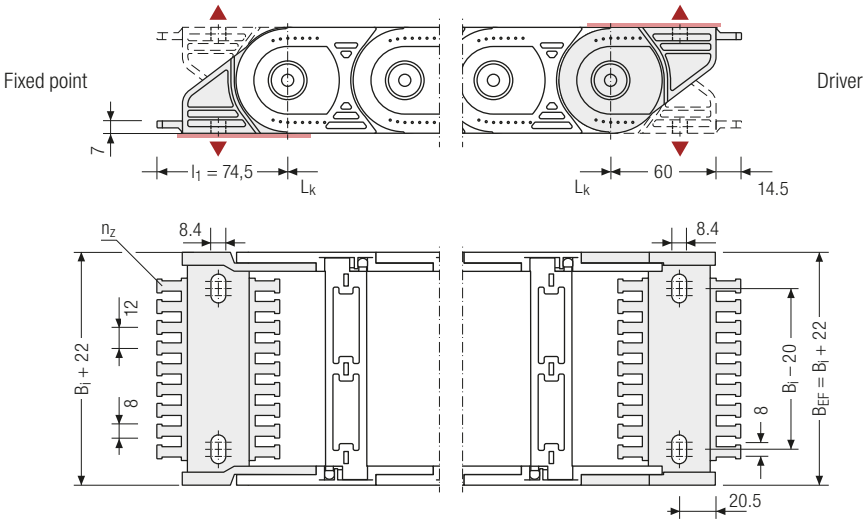
The universal end connectors UMB can be swiveled in KR direction.

Order example

UMB	.	F U
UMB	.	M U

One part end connectors – plastic

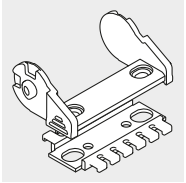
The plastic end connectors can be **connected from above and below**. The connection type can be changed by reconnecting the end connector.



▲ Assembly options

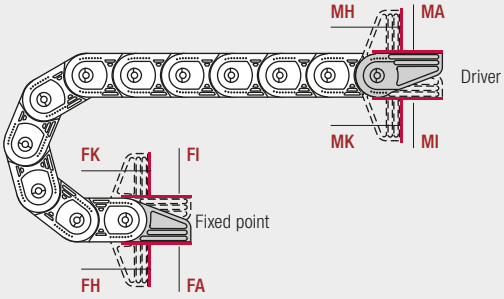
B_i [mm]	B_{EF} [mm]	n_z
50	72	2 x 4
75	97	2 x 6
100	122	2 x 8
125	147	2 x 10
150	172	2 x 12
175	197	2 x 14
200	222	2 x 16
225	247	2 x 18
250	272	2 x 20

Recommended tightening torque:
15 Nm for screws M8 - 8.8



The end connectors are also available as an option **without** strain relief comb.
Please state when ordering.

Connection variants

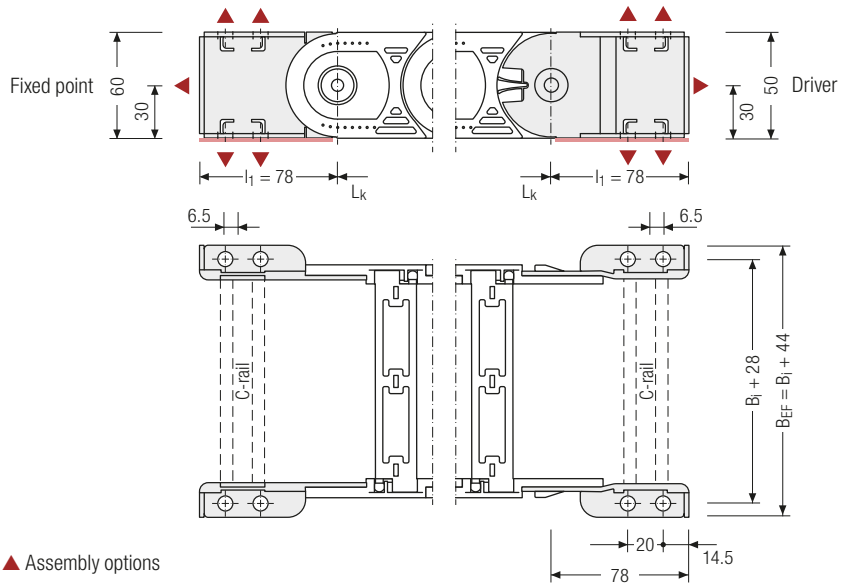


Connection point
- F – fixed point
- M – driver

Connection type
- A – threaded joint outside (standard)
- I – threaded joint inside
- H – threaded joint outside rotated by 90°
- K – threaded joint inside rotated by 90°

Universal end connectors UMB-St – steel

The universal mounting brackets (UMB) are made from steel and can **be mounted from the top, from the bottom or face on**.



▲ Assembly options

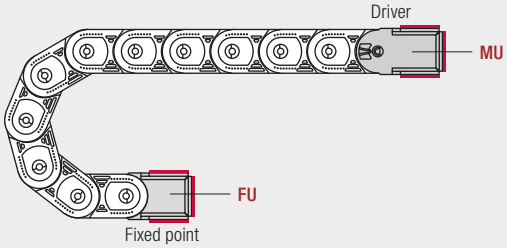
B_i [mm]	B_{EF} [mm]
50	94
75	119
100	144
125	169
150	194
175	219
200	244
225	269
250	294

The end connectors are also available as an option **with** C-rail for clamps.
Please state when ordering.

Order example

UMB-St	.	F U
UMB-St	.	M U

Connection variants



Connection point
F – fixed point
M – driver

Connection type
U – universal mounting bracket

Note: The end connectors UMB-St offer the same connection dimensions as the previous universal end connectors UMB from UNIFLEX 0665.

UA1665 | Order Key

Order

Cable carrier

Type	Stay variant	B_i [mm]	KR [mm]	L_K [mm]
		50		
		75		
		100	75	
		125	100	
		150	120	
	020	175	140	
	030	200	200	
	030	225	250	
UA1665	RMA	250	300	

UA1665	.	030	.	150	.	200	-	3,990
Type		Stay variant		B_i [mm]		KR [mm]		L_K [mm]

International order specification INTOK: Information about the International Order Key can be found in the chapter "International Order Key" from page 1.

Divider system

Divider system	Version	n_T	Chamber	a_x [mm]	Height separation (not for TS0)
TS0			K1		VD0
TS1	A	min. 2	K2	min. 7.0	VD1
TS3	B	…	…	…	…

TS3	.	A	.	3	.	K1	.	34	-	VD1
						⋮		⋮		⋮
					.	K5	.	38	-	VD3
Divider system		Version		n_T		Chamber		a_x		Height separation

Please state the designation of the divider system **(TS0, TS1 …)**, version and number of dividers per cross section [n_T]. Additionally, please enter the chambers [K] from left to right (driver view).

If using divider systems with height separation **(TS1 and TS3)**, please also state the positions [e.g. VD23] as viewed from the driver. If using the divider system **TS3**, please also state the required twin dividers. You are welcome to add a sketch to your order.

Connection variant

End connector	Connection point	Connection type
		U
		A
UMB		I
End connector	F	H
UMB-St	M	K

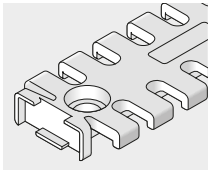
UMB	.	F	U
UMB	.	M	U

Please state the desired connection variant as well as the desired strain relief type for the fixed point and for the driver.

Accessories

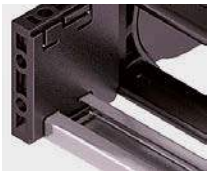
Single-sided strain relief combs

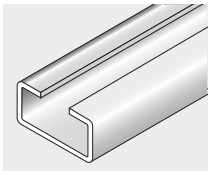
The optional plastic strain relief combs are assembled between the UMB end connectors and require no separate screw fixing.



C-rails for strain relief elements

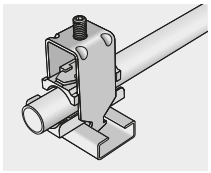
The optional C-rails are secured by the UMB end connectors and do not require separate screw connections.





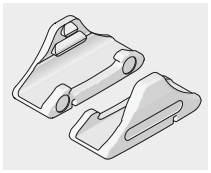
LineFix® clamps

LineFix® clamps are fixed to the C-rail. The serve as a separate strain relief or separate attachment of the cables outside the cable carrier.



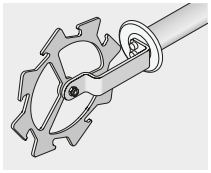
Gliding elements

The optional glide shoes ensure a substantially longer service life of the cable carrier in gliding operation.



Quick opening tool

Opening tools can be used to open cable carriers quickly and gently for installation and inspection of cables and hoses.



Guide channels

The cable carrier always has to be guided in a channel for gliding applications. This prevents the upper and lower run from slipping.