Innovation in Motion

TSUBAKI

KABELSCHLEPP

GENERAL CATALOG



CABLE CARRIER SYSTEMS MADE OF PLASTIC

CABLE CARRIER SYSTEMS MADE OF STEEL

TRAXLINE CABLES FOR MOTION

GUIDEWAY PROTECTION SYSTEMS

CONVEYOR SYSTEMS

Contents












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Cable carriers made of plastic

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BASIC-LINE / BASIC-LINE*PLUS*
Plastic cable carriers with fixed chain widths

VARIO-LINE
Cable carriers with variable chain widths

TUBE-SERIES
Covered cable carriers and flexible energy conduits

3D-LINE
Cable carriers for 3D movements

Cable carriers made of steel

STEEL-LINE
Steel cable carriers –
from light-weight and economical to extremely robust and stable

TRAXLINE Cables for Motion

2

Cables for cable carriers
Control cables · Power cables · Data cables
BUS-/LWL-/Coaxial cables · System cables
USB / CAT5 · Signal cables

TOTALTRAX Complete Systems

Cable carrier, cable and connector – connection-ready

Guideway Protection and Conveyor Systems

3

Conveyor systems
Hinged belt conveyors
Scraper conveyors · Belt conveyors

Guideway protection systems
Telescopic covers · Way wipers · Link apron covers
Bellows · Conical spring covers · Roll-up covers

Protective devices
PROTECT-PANEL machine housings



Only with energy can you get things moving

TSUBAKI KABELSCHLEPP is a long standing global player in the field of cable and hose carrier systems. The story of our success began in 1953 with the invention of the steel cable carrier. A world market has since grown out of our idea and we have continued to set standards in the market with our innovative solutions.

Our cable carrier systems can be found in use worldwide, ranging from standard applications like machine tools, cranes, car-wash systems and medical and laboratory technologies, to more complex applications such as industrial robots, offshore oil rigs and even aerospace.

Alongside a comprehensive selection of standard solutions, which are immediately available ex-stock from our warehouse, we can also offer customized solutions developed specifically to meet your individual needs.

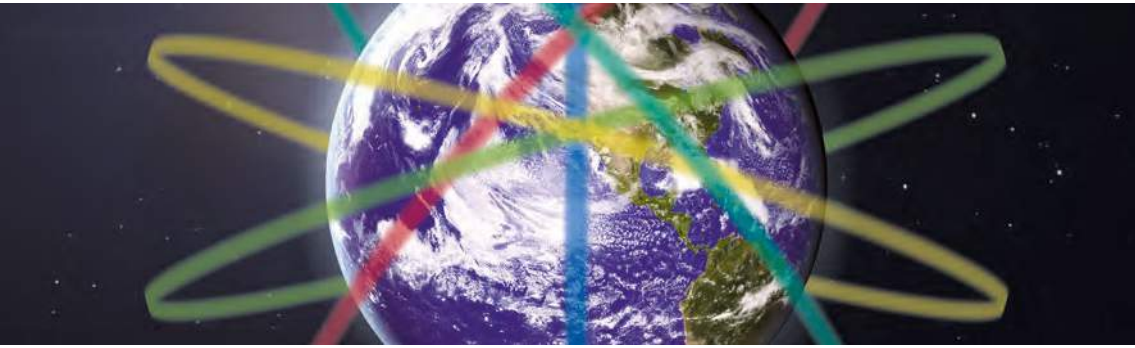
Always the right cable carrier – made of steel or plastic – available in standard widths or customized to the exact mm to fit any application. As a total solution provider, TSUBAKI KABELSCHLEPP can also supply fully harnessed systems with cables and connectors pre-installed.

KABELSCHLEPP and TSUBAKI – together what fits together.

TSUBAKI KABELSCHLEPP is integrated into the TSUBAKI Group and made responsible for managing the worldwide Cable Carrier Systems business. For more than 40 years, both companies have been close cooperative partners. With this integration, we will leverage our successful working relationship in one strategic enterprise.

This global enterprise offers numerous advantages:

- An even larger product portfolio to select from
- Global yet locally supported – vast network of more than 40 international subsidiaries
- Global manufacturing operations allow for shorter delivery times
- Combined R&D resources allow for quick and innovative product development



KABELSCHLEPP + TSUBAKI = MORE

MORE Product Solutions

An expanded product portfolio of TSUBAKI products and KABELSCHLEPP cable carrier systems.

MORE Innovations

A combined global R&D with even more resources ensures a quicker response to our customer's needs.

MORE Regional Service

A combined TSUBAKI and KABELSCHLEPP sales force provides added local support. KABELSCHLEPP products are also now available through the TSUBAKI network of distributors.

MORE Global Support

A unified global sales and support network extends to over 70 countries around the world, providing service and support when and where you need it most.

MORE Value

Together we will continue to prove our reputation as one of the industry's "Best Value" supplier in the industry.

TSUBAKI KABELSCHLEPP is a provider of solutions, e.g.:

TOTALTRAX – connection-ready and “just-in-time”

Reduce costs and planning time and effort. Our specialists will support you from the very start. From the planning to installation. Cable carriers, cables and connectors – matched components, ready to install and with a warranty for the entire system.



“Just-in-time” delivery and service from a single source

With TOTALTRAX complete systems you save storage costs – we deliver “just in time” in accordance with your production cycles. Upon request, we will configure the entire system according to your construction plans, including assembly plates and fastening elements For us, special transport frames or packaging to suit your needs go without saying.



TOTALTRAX Complete System with assembly plates



Ready-to-install system with cable carrier, cables and connectors



Complete assembly and commissioning with system guarantee

Subject to change.

TSUBAKI KABELSCHLEPP is a provider of solutions, e.g.:

Emergency Cable Carrier – Security for long travel lengths

Blockages in the travel lengths of cable carriers in large systems can destroy the entire cable carrier system. This results in high costs and downtime for the entire system. The new ECC – Emergency Cable Carrier minimizes downtimes and avoids repair costs.



Emergency Cable Carrier System with additional emergency stop system

During use in harsh environments, objects can enter the carrier's path of travel, thus blocking it. ECC detects this and switches the system off safely. In addition to the Emergency Stop function, ECC also offers a bridging safeguard for the braking distance. Areas of application: Applications with long travel lengths, e.g. crane, port, compost or coal conveyor systems, steel works and raw materials systems.



Bridging safeguard of the braking distance in both directions of travel



Automatic emergency cutout with decoupling of the cable carrier



Simply couple again; the system is ready for operation again immediately

Subject to change.

TSUBAKI KABELSCHLEPP is a provider of solutions, e.g.:

Conveyor systems – Disposal on production machines

Our scraper belt, hinged belt and belt conveyors embody more than 30 years of experience. Systematic further development of our products and adaptation of their functions for use with the latest generation of machines guarantees you the utmost level of reliability.



From standard to customized – we have a solution

Conveyors are often used on cutting machine tools. The variable dimensions and designs of our standard conveyors are often sufficient in order to cover the needs of your application. For special requirements we can also plan and manufacture special conveyors, and design complete chip disposal systems with machine cleaning, crushing, workshop cleaning and hopper storage.



Hinged belt conveyors – proven for a wide range of disposal tasks



Scraper conveyors – for disposal of small materials



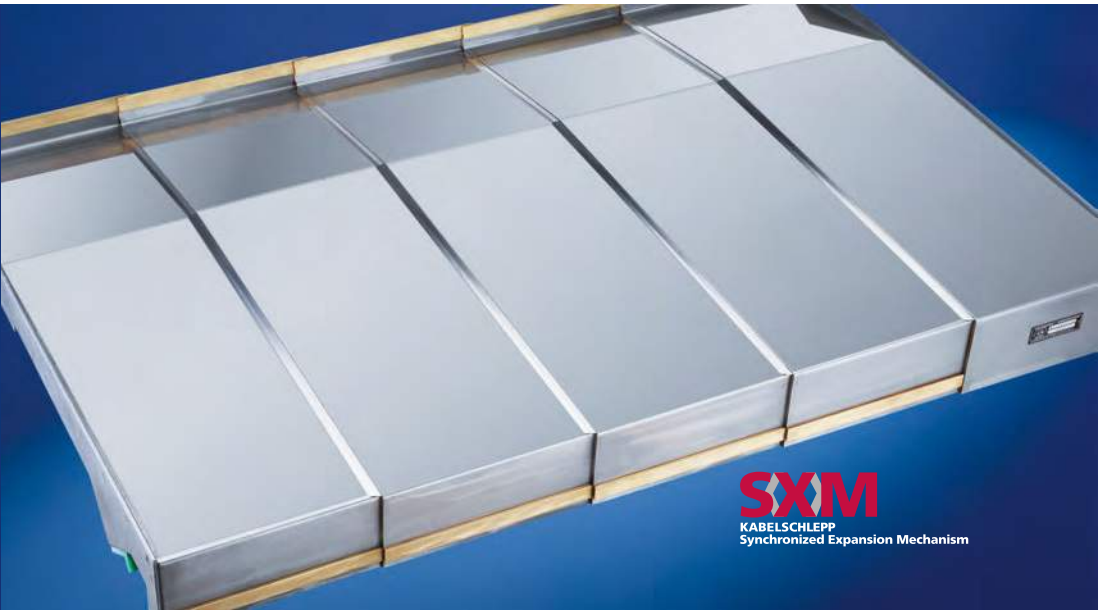
Belt conveyors – the all-rounders – also for parts with sharp edges

Subject to change.

TSUBAKI KABELSCHLEPP is a provider of solutions, e.g.:

Telescopic covers – perfect protection for guideways

Wherever guideways on machines have to be protected, we have a suitable solution. Our guideway protections systems boast a high degree of operational reliability, a long service life, and make use of innovative technical solutions – customized of your application.



Telescopic cover with harness mechanism

To ensure impact-free expansion / compression of telescopic covers, they are used with so-called synchronisers (harnesses). As a result, all of the cover boxes move evenly during expansion and compression.

The individual boxes move relative to each other only at a differential speed.



Harness mechanics for impact-free expansion or compression

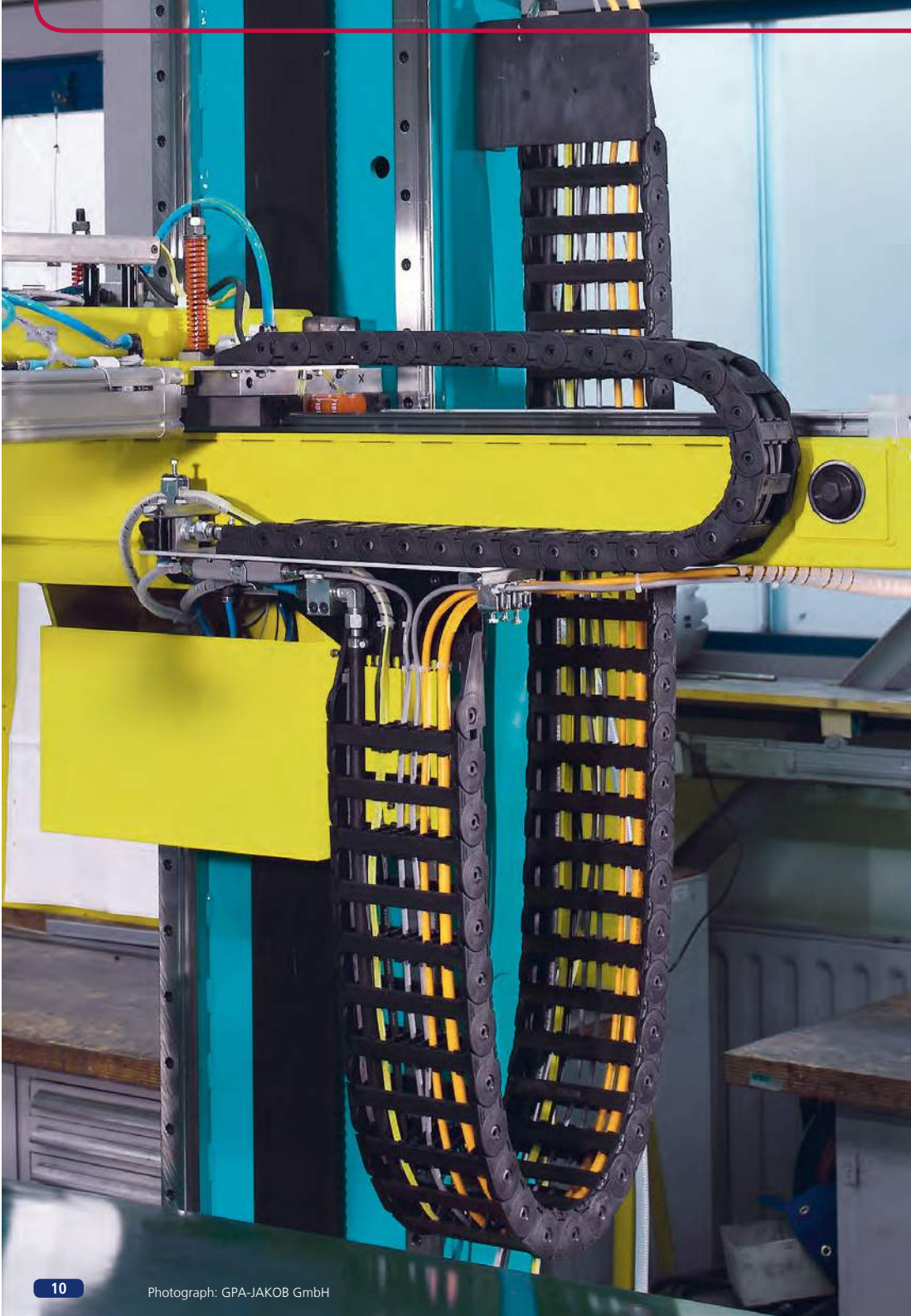


Solution with one harness for "small" machine tools



Maintenance-free harness with sliding bearings of high-performance plastic

Subject to change.



Photograph: GPA-JAKOB GmbH

1

Cable carriers made of plastic and steel



BASIC-LINE

BASIC-LINE*PLUS*

VARIO-LINE

TUBE SERIES

3D-LINE

STEEL-LINE

Accessories

Reduce costs and benefit at the same time from improved features and performance

Over many decades, TSUBAKI KABELSCHLEPP has become well-known for its award winning product innovation and continuous improvement of proven cable carrier technologies, all to the benefit of our customers and users worldwide. Whenever we replace one of our products, we strive to provide you with a technically superior design that also offers you significant cost benefits.

During your transition to a new and improved product, we are happy to assist you with the process of switching over.

Please contact us at:

better4less@kabelschlepp.de

or Fon: +49 (0)2762 4003-251

Everywhere you see this symbol, we recommend a switch to an improved product series:

NOTE:

UNIFLEX *Advanced* replaces MONO 0450/0625

+ improved design
+ more cost effective

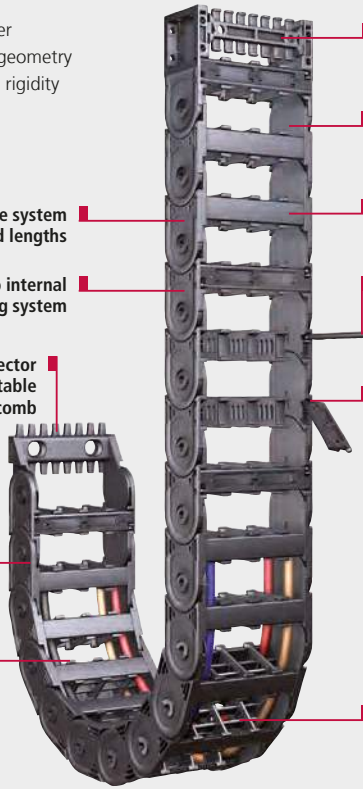
> from page 12

Product recommendation:

UNIFLEX *Advanced*

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

- Cost-effective cable carrier
- Weight-optimized chain geometry
- Particularly high torsional rigidity



Universal connectors (UMB) with integratable strain relief comb

Favorable ratio of inner to outer width

Single-part chain links (design 020)

Designs with inward or outward opening brackets

Extremely fast and easy to open due to ball joint mechanism



Many separation options for the cables

Robust, double stroke system for long unsupported lengths

Very quiet thanks to internal noise damping system

Single-part end connector with integratable strain relief comb

Lateral wear surfaces

Simple divider fastening

* Some features can be different for certain types for design reasons. Our specialists are happy to advise you.

Subject to change.

Make the easy switch – Quickfinder product cross-over

The following pages define which new products and advancements are recommended to replace older proven product types.

Recommendation for MONO 0450

MONO 0450

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Quickfinder product cross-over

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Subject to change.

Quickfinder product cross-over

Recommendation for UNIFLEX 0665

UNIFLEX 0665

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0665.040.250.140	1665.040.250.140	
0665.040.250.200	1665.040.250.200	
0665.040.250.250	1665.040.250.250	
0665.040.250.300	1665.040.250.300	

During your transition to a new and improved product, we are happy to assist you with the process of switching over.

Please contact us at:

better4less@kabelschlepp.de

or Fon: +49 (0)2762 4003-251

Everywhere you see this symbol, we recommend a switch to an improved product series:

NOTE:

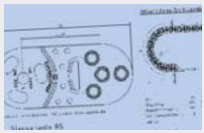
UNIFLEX *Advanced* replaces MONO 0450/0625

+ improved design

+ more cost effective

> from page 12

Overview cable carriers made of plastic and steel

Laying out
of cable carriers




BASIC-LINE

Solid plastic cable carriers
with fixed chain widths




BASIC-LINE*PLUS*

Solid plastic cable carriers
with fixed chain widths




VARIO-LINE

Cable carriers
with variable chain widths




TUBE SERIES

Covered cable carriers
and flexible energy conduits



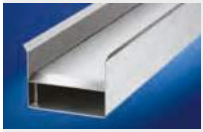
3D-LINE

Cable carriers
for 3D movements




STEEL-LINE

Steel cable carriers




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Application examples
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able of abbreviations on the back side,
ease open up.

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General abbreviations

Cable carriers made of plastic and steel

a_T = Distance from inside of side chain link up to the middle of the first/last divider

a_x = Divider center-to-center distance

h_{1-4} = Distance of the height division in the divider

B_{EF} = Total width of the cable carrier across the connection

$B_{EF'}$ = Total width of the cable carrier with sliding discs (K Series) and glide shoes (QUANTUM)

B_i = Inside width in the chain/hose cross-section

B_k = Width of the cable carrier

B_{St} = Stay width in case of hole stays

b_A = Distance between the connection holes

c = Distance between the holes in case of hole stays (c_{min} = 4 mm)

d = Cable outer diameter

d_R = Tube diameter in case of plastic-roller stays

D = Hole diameter

q_k = Weight of the cable carrier (without connection)

h_G = Chain link height

$h_{G'}$ = Chain link height including glide shoe

h_i = Inside height in the chain/hose cross-section

H = Connection height

H_i = Inside height in the top-mounted-frame stay

H_Z = Mounting height

KR = Bend radius of the cable carrier

l_A = Length of the connector

l_{1-4} = Connection dimensions

L_B = Bend length

L_D = Length with permitted sag

L_f = Unsupported length

L_k = Length of the cable carrier

L_{ES} = Length of the cable carrier conduit

L_S = Max. length of the travel path

L_V = Fixed point displacement

n_Z = Number of comb teeth (strain relief) on one comb side

q_z = Additional load

t = Pitch

s_T = Divider thickness

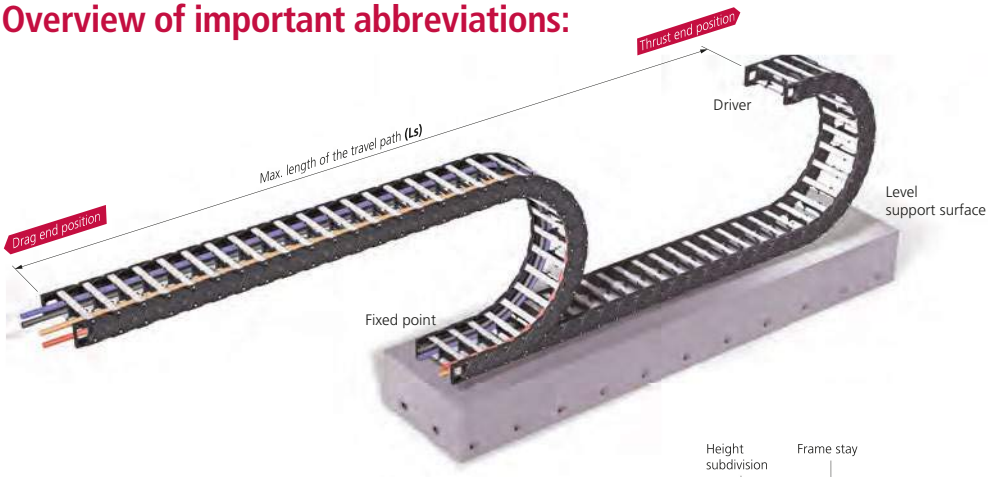
s_H = Thickness of the height division

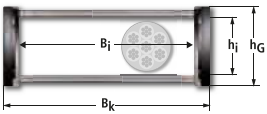
$Ü_B$ = Loop overhang (depot)

Guideway Protection and Conveyer Systems

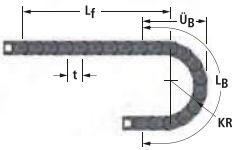
L_A = max. extended length of the telescopic cover

Overview of important abbreviations:

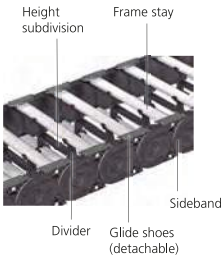




B_i = Inside width in the chain/ hose cross-section
B_k = Width of the cable carrier
h_i = Inside height in the chain/ hose cross-section
h_G = Chain link height



KR = Bend radius of the cable carrier
L_B = Bend length
L_f = Unsupported length
t = Pitch
$Ü_B$ = Loop overhang (Depot)



Cut down your construction times

2D and 3D data of our cable carriers on the World Wide Web



Accelerate your design processes with our 2D and 3D models from the CAD component libraries. Data for our cable carriers is available in the **CADENAS** and **TRACEPARTS** component libraries. The download of all product data in both libraries is free of charge. Native data and all common export formats are available for all common CAD systems.

CADENAS

- easy to connect to PDM and ERP systems
- the PARTsolutions catalog can be accessed easily using a button in Autodesk Inventor
- detailed chain models are available

TRACEPARTS

- most KABELSCHLEPP cable carriers are available
- worldwide, the only CAD library with "CAA" (CATIA) partner status
- also available on CD at no charge – please contact us

Subject to change.

With just **a few clicks of the mouse** to an **optimal TSUBAKI KABELSCHLEPP cable carrier system**

New Version: Online cable carrier configuration tool OnlineEngineer2.0

Using the **OnlineEngineer** you can **quickly, dependably and flexibly** design the TSUBAKI KABELSCHLEPP cable carrier system with the optimal price/performance ratio!

Laying out your cable carrier system with the OnlineEngineer.

Just input the parameters of your application and the OnlineEngineer will **automatically calculate** the TSUBAKI KABELSCHLEPP cable carrier system with the **optimal price/performance ratio**! Alternatively you can follow the **step-by-step** menus and individually design your desired cable carrier system. If you already know which TSUBAKI KABELSCHLEPP cable carrier system you would like to employ just enter the order specifications and you will receive all applicable information by mouse click.

The distribution of the cables within a chain cross-section can also be defined easily. With the click of the mouse you'll receive a to-scale **diagram in CAD format**. Any and all functions can be combined so that it will only be necessary for you to enter the required information once and so that you can remain flexible in your design. As soon as you have laid out your cable carrier you can **download** a corresponding **2D diagram or a 3D model**.





www.OnlineEngineer.de

- **economical due to optimal price/performance ratio in the design of TSUBAKI KABELSCHLEPP cable carrier system**
- **time savings through automatic layout function**
- **transparency: all information of the cable carrier system is displayed as a glance**
- **efficiency through linking with 2D & 3D data for download**
- **online price inquiry to TSUBAKI KABELSCHLEPP**

Subject to change.

Guideline for fast product selection

Series	Type	Inside height h_i in mm	Inside width B_i in mm		Bend radii in mm		Maximum travel length in m*	Dynamics of unsupported arrangement*	
								Travel speed v_{max}	Travel acceleration a_{max}
			from	to	min.	max.		m/s	m/s^2
BASIC-LINE									
MONO – cable carriers with simple design for standard applications									
	**MONO 0130**	10	6	40	20	37	40	10	50
	MONO 0132	10	6	40	20	37	40	10	50
	MONO 0180	15	10	40	28	50	70	10	50
	MONO 0182	15	10	40	28	50	70	10	50
	MONO 0202	11	6	20	18	50	70	10	50
	MONO 0320	19	13	37	37	100	80	10	50
QuickTrax – compact and cost-effective cable carriers in two-component technology									
	**QT 0320.030**	20	15	65	28	125	80	10	50
	QT 0320.040	20	15	65	28	125	80	10	50
UNIFLEX *Advanced* – light, quiet all-rounder with wide range of applications									
	**1320.020**	20	15	65	28	125	80	10	50
	1455.020	26	25	103	52	225	120	10	50
	1455.030	26	25	103	52	225	120	10	50
	1455.040	26	25	103	52	225	120	10	50
	1555.020	38	50	150	63	230	125	9	45
	1555.030	38	50	150	63	230	125	9	45
	1555.040	38	50	150	63	230	125	9	45
	1665.020	44	50	250	75	300	150	8	40
	1665.030	44	50	250	75	300	150	8	40
	1665.040	44	50	250	75	300	150	8	40
UNIFLEX – proven cable carrier with many opening and cover variants									
	**0250.030**	17.5	20	80	28	100	60	10	50
	0345.030	20	15	90	38	150	80	10	50
	0345.040	20	15	90	38	150	80	10	50
	0345.050	20	15	65	38	150	80	10	50
	0345.060	19.5	15	65	75	150	80	10	50
	0455.050	26	25	130	52	225	120	10	50
	0455.060	25	25	130	95	225	120	10	50
	0555.050	38	50	150	63	230	125	9	45
	0555.060	36	50	150	100	230	125	9	45
	0665.050	44	50	175	75	300	150	8	40
	0665.060	42	50	175	120	300	150	8	40
	0600.080	44	50	125	100	200	100	6	35
TKP35 – robust all-rounder with variable inner subdivision									
	**TKP35.030**	32	16	50	48	125	2.4	5	20
	TKP35.040	32	16	50	48	125	2.4	5	20

* Maximum values, subject to further application parameters. Our experts are happy to advise you.

Subject to change.

Cable carriers made of plastic

Opening options				Technical data see page	Type
Enclosed frame – not openable	Crossbars can be opened on the outside	Crossbars can be opened on the inside	Cover system – TUBES		
BASIC-LINE					
MONO – cable carriers with simple design for standard applications					
	■			62	MONO 0130
■				62	MONO 0132
	■			62	MONO 0180
■				62	MONO 0182
■				62	MONO 0202
■				63	MONO 0320
QuickTrax – compact and cost-effective cable carriers in two-component technology					
	■			76	QT 0320.030
		■		76	QT 0320.040
UNIFLEX *Advanced* – light, quiet all-rounder with wide range of applications					
■				84	1320.020
■				84	1455.020
	■			84	1455.030
		■		85	1455.040
■				84	1555.020
	■			84	1555.030
		■		85	1555.040
■				84	1665.020
	■			84	1665.030
		■		85	1665.040
UNIFLEX – proven cable carrier with many opening and cover variants					
	■			98	0250.030
	■			98	0345.030
		■		98	0345.040
		■	■	99	0345.050
			■	285	0345.060
		■	■	99	0455.050
			■	285	0455.060
		■	■	99	0555.050
			■	285	0555.060
		■	■	99	0665.050
			■	285	0665.060
			■	285	0600.080
TKP35 – robust all-rounder with variable inner subdivision					
	■			115	TKP35.030
		■		115	TKP35.040

Guideline for fast product selection

Series	Type	Inside height h_i in mm	Inside width B_i in mm		Bend radii in mm		Maximum travel length in m*	Dynamics of unsupported arrangement*	
			from	to	min.	max.		Travel speed v_{max}	Travel acceleration a_{max}
								m/s	m/s^2
BASIC-LINE*PLUS*									
EasyTrax – extremely quick cable laying thanks to flexible lamella crossbars									
	**ET 0115.040**	4.6	7	7	10	10	10	3	10
	ET 0320.030	18	15	65	28	125	80	10	50
	ET 0320.040	18	15	65	28	125	80	10	50
PROTUM – small, light cable carrier for unsupported applications									
	**P 0160**	15	15	30	18	48	–	–	–
	P 0240	20	20	40	27	72	–	–	–
TKZP – low-wear, design made from extruded profiles									
	**TKZP10**	13	10	15	–	–	1	1.66	5

* Maximum values, subject to further application parameters. Our experts are happy to advise you.

Subject to change.

Cable carriers made of plastic

Closed	Laying the cable: in the inner radius	Laying the cable: in the outer radius	Technical data see page	Type
BASIC-LINE*PLUS*				
EasyTrax – extremely quick cable laying thanks to flexible lamella crossbars				
	■		127	**ET 0115.040**
		■	130	**ET 0320.030**
	■		130	**ET 0320.040**
PROTUM – small, light cable carrier for unsupported applications				
		■	138	**P 0160**
		■	138	**P 0240**
TKZP – low-wear, design made from extruded profiles				
	■		147	**TKZP10**

Subject to change.

Guideline for fast product selection

Series	Type	Inside height h_i in mm	Inside width B_i in mm		Bend radii in mm		Maximum travel length in m*	Dynamics of unsupported arrangement*	
			from	to	min.	max.		Travel speed v_{max}	Travel acceleration a_{max}
								m/s	m/s^2
VARIO-LINE									
K Series – cost-effective, robust cable carrier also suitable for large additional loads									
	**KC 0650**	38	75	400	75	300	220	8	40
	KE 0650	42	68	260	75	300	220	8	40
	KC 0900	58	100	500	130	385	260	6	30
	KE 0900	58	81	561	130	385	260	6	30
MASTER Series – quiet and weight-optimized cable carriers									
	**HC 33**	33	50	400	60	300	60	10	50
	HC 46	46	50	400	75	350	80	8	40
	LC 60	60	75	600	135	500	7**	6	30
	LT 60	60	53	600	150	500	6.8**	6	30
	LC 80	80	100	800	150	500	8**	5	25
M Series – multivariable cable carrier with extensive accessories and stay variants									
	**MC 0320**	19	25	280	37	200	80	10	50
	ME 0320	19	25	149	37	200	80	10	50
	MK 0475	28	24	280	55	300	120	10	50
	MT 0475	26	24	280	75	300	100	10	40
	MC 0650	38	75	500	75	350	220	8	40
	ME 0650	42	50	266	75	350	220	8	40
	MK 0650	42	50	258	75	350	220	8	40
	MT 0650	38.5	50	500	95	350	170	8	35
	MC 0950	58	100	600	140	380	260	6	30
	ME 0950	58	45	557	140	380	260	6	30
	MK 0950	58	45	557	140	380	260	6	30
	MT 0950	54.5	100	600	140	380	230	6	25
	MC 1250	69/72	100	800	180	500	320	5	25
	ME 1250	72	71	551	180	500	320	5	25
	MK 1250	72	71	551	180	500	320	5	25
	MT 1250	68.5	150	800	220	500	270	5	20
	MC 1300	87	100	800	150	500	350	5	25
	MT 1300	87	100	800	240	500	300	5	20
TKP91 – easy to assemble, stable cable carriers with variable dimensions									
	**TKP 0910H56**	56	150	500	150	400	80	5	20
	TKC 0910H56	56	150	400	200	400	80	5	30
	TKP 0910H80	80	150	500	150	500	100	5	20
	TKC 0910H80	80	150	400	200	500	100	5	30

* Maximum values, subject to further application parameters. Our experts are happy to advise you.

** only unsupported

Stay variants / stay designs

RS/RSH – frame stay
For lightweight to medium loads – with quickly detachable aluminum stays

RV – frame stay, reinforced design
For medium to heavy loads – with quickly detachable aluminum stays

RM – frame stay, solid design
Aluminum stays screwed on – high stability, for maximum stay widths

RMF – frame stay, solid design with optional fixing strip
Aluminum stays easily screwed on – high stability

RMS – frame stay, solid design with ball joint
Aluminum stays with ball joint can be opened quickly and easily on both sides.

RMR – roller stay system
Aluminum stays screwed on – with plastic roller system

Subject to change.

Cable carriers made of plastic

Stay variants: Frame stay RS/RSH	Frame stay RV	Frame stay RM/RMF/RMS	Frame stay RMR	Frame stay RE	Frame stay RD	Frame stay RDD/RDL/RDH	Frame stay RMD/RML	Frame stay RMA	Hole stay LG	Technical data see page	Type
VARIO-LINE											
K Series – cost-effective, robust cable carrier also suitable for large additional loads											
■									■	156	**KC 0650**
				■						156	**KE 0650**
■	■								■	156	**KC 0900**
				■						156	**KE 0900**
MASTER Series – quiet and weight-optimized cable carriers											
■										172	**HC 33**
■										172	**HC 46**
■										172	**LC 60**
						■				294	**LT 60**
■										172	**LC 80**
M Series – multivariable cable carrier with extensive accessories and stay variants											
■										182	**MC 0320**
				■						182	**ME 0320**
					■					183	**MK 0475**
						■	■			300	**MT 0475**
■								■	■	182	**MC 0650**
				■						182	**ME 0650**
					■					183	**MK 0650**
						■	■			300	**MT 0650**
■	■	■	■					■	■	182	**MC 0950**
				■						182	**ME 0950**
					■					183	**MK 0950**
						■	■			300	**MT 0950**
	■	■	■					■	■	182	**MC 1250**
				■						182	**ME 1250**
					■					183	**MK 1250**
						■	■			300	**MT 1250**
		■							■	182	**MC 1300**
							■			300	**MT 1300**
TKP91 – easy to assemble, stable cable carriers with variable dimensions											
				■						204	**TKP 0910H56**
						■				310	**TKC 0910H56**
				■						204	**TKP 0910H80**
						■				310	**TKC 0910H80**

RE – frame stay
With quickly unscrewable plastic stays outside and inside

RD – frame stay
With quickly unfoldable/removable plastic stays outside or inside

RDD/RDH/RDL – frame stay, cover system – covered cable carrier
Plastic cover for opening inside and outside

RMD/RML – frame stay, cover system – covered cable carrier
Aluminum cover for opening inside and outside

RMA – mounting frame stay
For very large cable diameters such as with air hoses

LG – hole stay – split design
Optimum cable routing in the neutral bending line

Subject to change.

Guideline for fast product selection

Series	Type	Inside height h_i in mm	Inside width B_i in mm		Bend radii in mm		Maximum travel length in m*	Dynamics of unsupported arrangement*	
								Travel speed v_{max}	Travel acceleration a_{max}
			from	to	min.	max.		m/s	m/s²
VARIO-LINE									
XL Series – cable carrier with large inside height									
	**XLC 1650**	108	200	1000	250	550	350	4	25
	XLT 1650	105	200	1000	250	550	300	4	20
QUANTUM – link-free cable carrier – light, extremely quiet and low vibration for high speeds and accelerations									
	**Q 040**	28	28	284	60	180	100	40	300
	Q 060	42	38	500	100	300	150	30	160
	Q 080	58	50	600	170	500	180	25	100
	Q 100	72	70	600	180	600	200	20	70
TKR – extremely quiet and low-vibration for highly dynamic applications									
	**TKR 0150**	22	20	60	40	75	1.77	5	200**
	TKR 0200	28	40	120	55	150	2.76	5	200**
	TKR 0260	40	50	200	75	150	3.95	5	200**
	TKR 0280	52	50	200	75	200	4.94	5	200**

* Maximum values, subject to further application parameters. Our experts are happy to advise you.
** At values > 20 m/s² please contact us – we are happy to advise you.

Stay variants / stay designs

RS – frame stay
For lightweight to medium loads – with quickly detachable aluminum stays

RM – frame stay, solid design
Aluminum stays screwed on – high stability, for maximum stay widths

RE – frame stay
With quickly unscrewable plastic stays outside and inside

RV – frame stay, reinforced design
For medium to heavy loads – with quickly detachable aluminum stays

RMR – roller stay system
Aluminum stays screwed on – with plastic roller system

RD – frame stay
With quickly unfoldable/removable plastic stays outside or inside

Subject to change.

Cable carriers made of plastic

Stay variants									
Frame stay **RS**	Frame stay **RV**	Frame stay **RM**	Frame stay **RMR**	Frame stay **RE**	Frame stay **RMD**	Hole stay **LG**	**Technical data** see page	**Type**
VARIO-LINE								
XL Series – cable carrier with large inside height								
		■	■			■	212	**XLC 1650**
					■		316	**XLT 1650**
QUANTUM – link-free cable carrier – light, extremely quiet and low vibration for high speeds and accelerations								
				■			218	**Q 040**
■				■			218	**Q 060**
■	■			■			218	**Q 080**
■	■			■			218	**Q 100**
TKR – extremely quiet and low-vibration for highly dynamic applications								
							226	**TKR 0150**
							226	**TKR 0200**
							226	**TKR 0260**
							226	**TKR 0280**

RDD – frame stay, cover system – covered cable carrier
Plastic cover for opening inside and outside

RMD – frame stay, cover system – covered cable carrier
Aluminum cover for opening inside and outside

RMA – mounting frame stay
For very large cable diameters such as with air hoses

LG – hole stay – split design
Optimum cable routing in the neutral bending line

Subject to change.

Guideline for fast product selection

Series	Type	Inside height h_i in mm	Inside width B_i in mm		Bend radii in mm		Maximum travel length in m*	Dynamics of unsupported arrangement*		Technical data see page
			from	to	min.	max.		Travel speed v_{max}	Travel acceleration a_{max}	
								m/s	m/s²	
TUBE-SERIES										
TKA-Series – chip-tight right to the end										
	**TKA30**	20.5	15	65	55	180	–	–	–	239
	TKA38	26	25	130	70	230	–	–	–	247
	TKA45	36	50	150	82	230	125	9	45	257
	TKA55	45	50	250	100	300	150	8	40	267
CoverTrax – extreme cable protection in harsh environmental conditions										
	**CT 1555**	50	75	175	100	300	100	6	35	278
UNIFLEX TUBES – proven solid cable carriers with fixed carrier width										
	**0345.050**[1)]	20	15	65	38	150	80	10	50	274
	0345.060	19,5	15	65	75	150	80	10	50	275
	0455.050[1)]	26	25	130	52	225	120	10	50	274
	0455.060	25	25	130	95	225	120	10	50	275
	0555.050[1)]	38	50	150	63	230	125	9	45	274
	0555.060	36	50	150	100	230	125	9	45	275
	0665.050[1)]	44	50	175	75	300	150	8	40	274
	0665.060	42	50	175	120	300	150	8	40	275
	0600.080	44	50	125	100	200	100	6	35	275
MASTER TUBES – quiet and weight-optimized cable carriers										
	**LT 60 RDL**	60	53	300	150	500	6.8[2)]	6	30	294
MT-Series – multivariable cable carrier with extensive accessories										
	**MT 0475 RDD**	26	24	280	75	300	100	10	40	300
	MT 0650 RDD	38.5	50	258	95	350	170	8	35	300
	MT 0950 RDD	54.5	77	349	140	380	230	6	25	300
	MT 1250 RDD	68.5	103	359	220	500	270	5	20	300
	MT 0650 RMD	38.5	100	500	95	350	170	8	35	301
	MT 0950 RMD	54.5	100	600	140	380	230	6	25	301
	MT 1250 RMD	68.5	150	800	220	500	270	5	20	301
	MT 1300 RMD	87	100	800	240	500	300	5	20	301
TKC91 – easy to assemble, stable cable carriers with variable dimensions										
	**TKC 0910H56**	56	150	400	200	400	80	5	30	310
	TKC 0910H80	80	150	400	200	500	100	5	30	310
XLT-Series – cable carriers with large inside height										
	**XLT 1650**	105	200	1000	250	550	300	4	20	316

[1)] covered on one side (outside) [2)] only unsupported

Subject to change.

Cable carriers made of plastic or steel

Series	Type	Inside height h_i in mm	Inside width B_i in mm		Bend radii in mm		Maximum travel length in m*	Dynamics of unsupported arrangement*		Technical data see page
			from	to	min.	max.		Travel speed v_{max}	Travel acceleration a_{max}	
								m/s	m/s²	
TUBE-SERIES										
STEEL-TUBES – extremely robust and stable steel chains										
	**S/SX 0650 RMD**	30	70	400	75	300	6[3)]	60	a.A.	320
	S/SX 0950 RMD	44	125	600	125	410	9[3)]	60	a.A.	320
	S/SX 1250 RMD	69	130	800	145	1000	12[3)]	150	a.A.	320
	S/SX 1800 RMD	104	250	1000	265	1405	18[3)]	200	a.A.	320
CONDUFLEX – closed designer cable carrier										
	**CF 055**	25	45	–	65	150	3	10	20	321
	CF 060	40	36	–	100	–	3.5	10	20	321
	CF 085	38	73	–	100	250	4	8	18	321
	CF 115	52	102	–	140	300	5	8	16	321
	CF 120	70	100	–	155	200	5.5	6	15	321
	CF 175	72	162	–	185	350	6	6	12	321
	**MF 030.1**	24	26	–	80	–	2	10	20	322
	MF 050.1	24	45	–	75	150	3	10	20	322
	MF 050.2	44	45	–	110	200	3	10	20	322
	MF 080.1	40	80	–	100	200	3.5	10	18	322
	MF 080.2	54	80	–	150	250	3.5	10	18	322
	MF 080.3	78	80	–	200	–	3.5	10	18	322
	MF 110.1	53	109	–	150	250	4	6	15	322
	MF 110.2	73	109	–	200	350	4	6	15	322
	MF 110.3	108	109	–	300	–	4	6	15	322
	MF 170.1	72	170	–	190	350	5	6	12	322
	MF 170.2	102	170	–	250	400	5	6	12	322
	MF 170.3	167	170	–	365	–	5	6	12	322

[3)] Max. value for type S (unsupported); steel band covers are also available as alternatives to cover systems, see page 360

Series	Type	Inside height h_i in mm	Inside width B_i in mm	Standard bend radius in mm	Outer diameter in mm	Technical data see page
3D-LINE						
ROBOTRAX – cable carriers for 3D movements						
	**R 040**	10	27	80	40	325
	R 056	14	39	115	56	325
	R 075	22	52	145	75	325
	R 085	24	54	175	85	325
	R 100	31	64	195	100	325

* Maximum values, subject to further application parameters. Our experts are happy to advise you.

Subject to change.

Guideline for fast product selection

Series	Type	Clearance height[A] h_i in mm	Chain width[A] B_k in mm		Bend radii in mm		Maximum travel length[D] in m	Dynamics of unsupported arrangement	
								Travel speed[C] v_{max}	Travel acceleration a_{max}
			from	to	min.	max.		m/s	m/s²
STEEL-LINE									
LS/LSX Series – lightweight cable carriers with steel chain bands[B]									
	**LS/LSX 1050**	58	100	600	105	430	10	5[F]	10
S/SX Series – cable carriers with steel chain bands[B]									
	**S/SX 0650**	31	70	500	75	400	6	2.5	5
	S/SX 0950	46	125	600	125	600	9	2.5	5
	S/SX 1250	72	130	800	145	1000	12	2.5	5
	S/SX 1800	108	180	1000	265	1405	18	2	3
	S/SX 2500	183	250	1200	365	1395	24	2	3
	S/SX 3200	220	250	1500	470	1785	25	2	2.5
	S/SX 5000	150	150	1000	500	1200	12	2	3
	S/SX 6000	240	200	1200	700	1500	18	1.5	2
	S/SX 7000	370	300	1500	1100	2400	25	1	1
CONDUFLEX – closed designer cable carrier									
	**CF 055**	25	–	45	65	150	3	10	20
	CF 060	40	–	36	–	100	3.5	10	20
	CF 085	38	–	73	100	250	4.5	8	18
	CF 115	52	–	102	140	300	5	8	16
	CF 120	70	–	100	155	200	5.5	6	15
	CF 175	72	–	162	185	350	6	6	12
MOBIFLEX – enclosed cable carrier with flexible metal helical tube									
	**MF 030**	24	–	26	–	80	3	10	20
	MF 050	44	–	45	75	200	3	10	20
	MF 080	78	–	80	100	200	4	10	18
	MF 110	108	–	109	150	300	4	6	15
	MF 170	167	–	170	190	365	5	6	12

Stay variants / stay designs

RS 1 – frame stay, narrow version
Variant RS 1 – with quick-release aluminum stays on the outside or inside

RS 2 – frame stay, narrow version
Variante RS 2 – with bolted aluminum stays

RV – frame stay, reinforced version
Aluminum stays on the inside and outside bolted to the chain bands – high stiffness

RM – frame stay, solid version
Aluminum stays bolted on both sides – greatest stability, for maximum stay widths

RMR – roller stay system
Aluminum stays bolted on both sides – with plastic roller system

RMD – frame stay, cover system – covered cable carrier
Aluminum cover bolted on both the inside and outside to the chain bands

RMA – mounting frame stay
Stay variant for large cable diameter

RR – frame stay, tube version
Steel axles as connecting profiles with rotating metal tubes

LG – hole stay – split design
Aluminum stays – order-specific production – maximum degree of operating reliability

Subject to change.

Cable carriers made of steel

Variants of carrier/hose cross-section													
Closed frame	Frame stay **RS 2**	Frame stay **RS 1**	Frame stay **RV**	Frame stay **RM**	Frame stay **RMA**	Frame stay **RMR**	Frame stay **RR**	Hole stay **LG**	Frame stay **RMD**	**Cover with spring steel strip possible**	**Technical data** see page	**Type**
STEEL-LINE												
LS/LSX Series – lightweight cable carriers with steel chain bands[B)]												
	■		■		■		■	▲		on request	336	**LS/LSX 1050**
S/SX Series – cable carriers with steel chain bands[B)]												
	■	■			■		■	▲	■	■	344	**S/SX 0650**
	■	■		■		■	■	▲	■	■	344	**S/SX 0950**
	■	■	■	■	■		■	▲	■	■	344	**S/SX 1250**
				■			■	▲	■	■	344	**S/SX 1800**
				■			●	▲		■	345	**S/SX 2500**
							●	▲			345	**S/SX 3200**
							●	●			345	**S/SX 5000**
							●	●			345	**S/SX 6000**
							●	●			345	**S/SX 7000**
CONDUFLEX – closed designer cable carrier												
■										■E)	364	**CF 055**
■											364	**CF 060**
■										■E)	364	**CF 085**
■										■E)	364	**CF 115**
■											364	**CF 120**
■										■E)	364	**CF 175**
MOBIFLEX – enclosed cable carrier with flexible metal helical tube												
■											369	**MF 030**
■											369	**MF 050**
■											369	**MF 080**
■											369	**MF 110**
■											369	**MF 170**

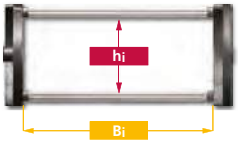
Reference:

- ■ Standard
- ▲ Customized standard products
- ● Special order as per customer specifications

A) Dependent on the stay variant
B) Multi-band chains for larger widths possible
C) Values for S and LS versions; values for SX / LSX versions reduced by 0.5 m/s
D) Values for S and LS versions; see load diagram of the respective type for values for SX versions
E) Cover with protective straps possible
F) Maximum value for fully-stayed design or design with central bolt

Subject to change.

Cable carriers made of plastic or steel – Overview of inside heights



	Inside height h_i (mm)	Inside width B_i (mm)	Type	Series	Page
up to 10 mm	4.6	7	ET 0115	EasyTrax 0115	127
	10	6-40	0130	MONO	62
	10	6-40	0132	MONO	62
	10	50	P 0240 GS	PROTUM OFFICE	140
	10	27	R 040	ROBOTRAX	327
11-15 mm	11	6-20	0202	MONO	62
	13	10-16	TKZP10H13	TKZP	147
	14	39	R 056	ROBOTRAX	327
	15	10-40	0180	MONO	62
	15	10-40	0182	MONO	62
	15	15-30	P 0160	PROTUM	138
17.5-20.5 mm	17.5	20-80	0250	UNIFLEX	98
	18	15-65	ET 0320	EasyTrax	130
	19	13-37	0320	MONO	62
	19	25-280	MC 0320	M Series	182
	19	25-149	ME 0320	M Series	182
	19.5	15-65	0345.060	UNIFLEX TUBES	285
	20	15-65	1320.020	UNIFLEX *Advanced*	84
	20	15-90	0345.030	UNIFLEX	98
	20	15-90	0345.040	UNIFLEX	98
	20	15-65	0345.050	UNIFLEX TUBES	284
	20	15-65	QT 0320	QuickTrax	76
	20	20-40	P 0240	PROTUM	138
	20.5	15-65	TKA30	TKA Series	239
22-30 mm	22	20-60	TKR 0150	TKR	226
	22	52	R 075	ROBOTRAX	327
	24	26	MF 030.1	MOBIFLEX TUBES	322
	24	45	MF 050.1	MOBIFLEX TUBES	322
	24	54	R 085	ROBOTRAX	327
	25	25-130	0455.060	UNIFLEX TUBES	285
	25	45	CF 055	CONDUFLEX TUBES	281
	26	25-103	1455.020	UNIFLEX *Advanced*	84
	26	25-103	1455.030	UNIFLEX *Advanced*	84
	26	25-103	1455.040	UNIFLEX *Advanced*	85
	26	25-130	0455.050	UNIFLEX TUBES	284
	26	25-130	TKA38	TKA Series	247
	26	24-280	MT 0475	M Series TUBES	300
	28	24-280	MK 0475	M Series	183
	28	28-284	Q 040	QUANTUM	218
	28	40-120	TKR 0200	TKR	226
	30	70-400	S/SX 0650	S/SX Series TUBES	320
31-40 mm	31	64	R 100	ROBOTRAX	327
	31	70-500	S/SX 0650	S/SX Series	344
	32	16-50	TKP35H32	TKP35	115
	33	50-400	HC 33	MASTER Series	172
	36	50-150	0555.060	UNIFLEX TUBES	285
	36	50-150	TKA45	TKA Series	257
	38	50-150	1555.020	UNIFLEX *Advanced*	84
	38	50-150	1555.030	UNIFLEX *Advanced*	84
	38	50-150	1555.040	UNIFLEX *Advanced*	85
	38	50-150	0555.050	UNIFLEX TUBES	274
	38	73	CF 085	CONDUFLEX TUBES	321
	38	75-400	KC 0650	K Series	156
	38	75-500	MC 0650	M Series	182
	38.5	50-258	MT 0650	M Series TUBES	300
	40	75-150	TKR 0260	TKR	226
	40	36	CF 060	CONDUFLEX TUBES	321
	40	80	MF 080.1	MOBIFLEX TUBES	322
42 mm	42	50-175	0665.060	UNIFLEX TUBES	284
	42	68-260	KE 0650	K Series	156
	42	50-266	ME 0650	M Series	182
	42	50-258	MK 0650	M Series	183
	42	38-500	Q 060	QUANTUM	218

Subject to change.

	Inside height h_i (mm)	Inside width B_i (mm)	Type	Series	Page
44-50 mm	44	50-175	1665.020	UNIFLEX *Advanced*	84
	44	50-175	1665.030	UNIFLEX *Advanced*	84
	44	50-175	1665.040	UNIFLEX *Advanced*	85
	44	50-175	0665.050	UNIFLEX TUBES	284
	44	50-125	0600.080	UNIFLEX TUBES	285
	44	45	MF 050.2	MOBIFLEX TUBES	322
	44	125-600	S/SX 0950	S/SX Series TUBES	320
	45	50-250	TKA55	TKA Series	267
	46	50-400	HC 46	MASTER Series	172
	46	125-600	S/SX 0950	S/SX Series	344
	50	75-175	CT 1555	CoverTrax	278
52-58 mm	52	75-150	TKR 0280	TKR	226
	52	102	CF 115	CONDUFLEX TUBES	321
	53	109	MF 110.1	MOBIFLEX TUBES	322
	54	80	MF 080.2	MOBIFLEX TUBES	322
	54.5	77-349	MT 0950	M Series TUBES	300
	56	150-500	TKP 0910H56	TKP91	204
	56	150-400	TKC 0910H56	TKC91	310
	58	100-500	KC 0900	K Series	156
	58	81-561	KE 0900	K Series	156
	58	100-600	LS/LSX 1050	LS/LSX Series	336
	58	100-600	MC 0950	M Series	182
	58	45-557	ME 0950	M Series	182
	58	45-557	MK 0950	M Series	183
	58	50-600	Q 080	QUANTUM	218
60-80 mm	60	75-600	LC 60	MASTER Series	172
	68.5	103-359	MT 1250	M Series TUBES	300
	69	130-800	S/SX 1250	S/SX Series TUBES	320
	70	100	CF 120	CONDUFLEX TUBES	321
	72	162	CF 175	CONDUFLEX TUBES	321
	72	100-800	MC 1250	M Series	182
	72	71-551	ME 1250	M Series	182
	72	170	MF 170.1	MOBIFLEX TUBES	322
	72	71-551	MK 1250	M Series	183
	72	70-600	Q 100	QUANTUM	218
	72	130-800	S/SX 1250	S/SX Series	344
	73	109	MF 110.2	MOBIFLEX TUBES	322
	78	80	MF 080.3	MOBIFLEX TUBES	322
	80	100-800	LC 80	MASTER Series	172
	80	150-500	TKP 0910H80	TKP91	204
	80	150-400	TKC 0910H80	TKC91	310
87-108 mm	87	100-800	MC 1300	M Series	182
	87	100-800	MT 1300	M Series TUBES	301
	102	170	MF 170.2	MOBIFLEX TUBES	322
	104	250-1000	S/SX 1800	S/SX Series TUBES	320
	105	200-1000	XLT 1650	XL Series TUBES	316
	108	109	MF 110.3	MOBIFLEX TUBES	322
	108	180-1000	S/SX 1800	S/SX Series	344
	108	200-1000	XLC 1650	XL Series	212
150-370 mm	150	150-1000	S/SX 5000	S/SX Series	345
	167	170	MF 170.3	MOBIFLEX TUBES	322
	183	250-1200	S/SX 2500	S/SX Series	345
	220	250-1500	S/SX 3200	S/SX Series	345
	240	200-1200	S/SX 6000	S/SX Series	345
	370	300-1500	S/SX 7000	S/SX Series	345

Subject to change.

Selection of the cable carrier

Step by step to the suitable cable carrier

Unsupported arrangements are used in most applications. Here, the driver connection of the cable carrier is fastened to the movable part of the plant and moves with it in a horizontal plane. The upper trough of the cable carrier does not have any sag worth mentioning and moves freely above the feed guide or the lower trough.

The steps necessary for designing a cable carrier for unsupported arrangements are shown in the following points.

Possible other movement sequences and arrangements can be found from page 389 onwards. When designing a cable carrier for these arrangements, other design parameters must be taken into consideration.



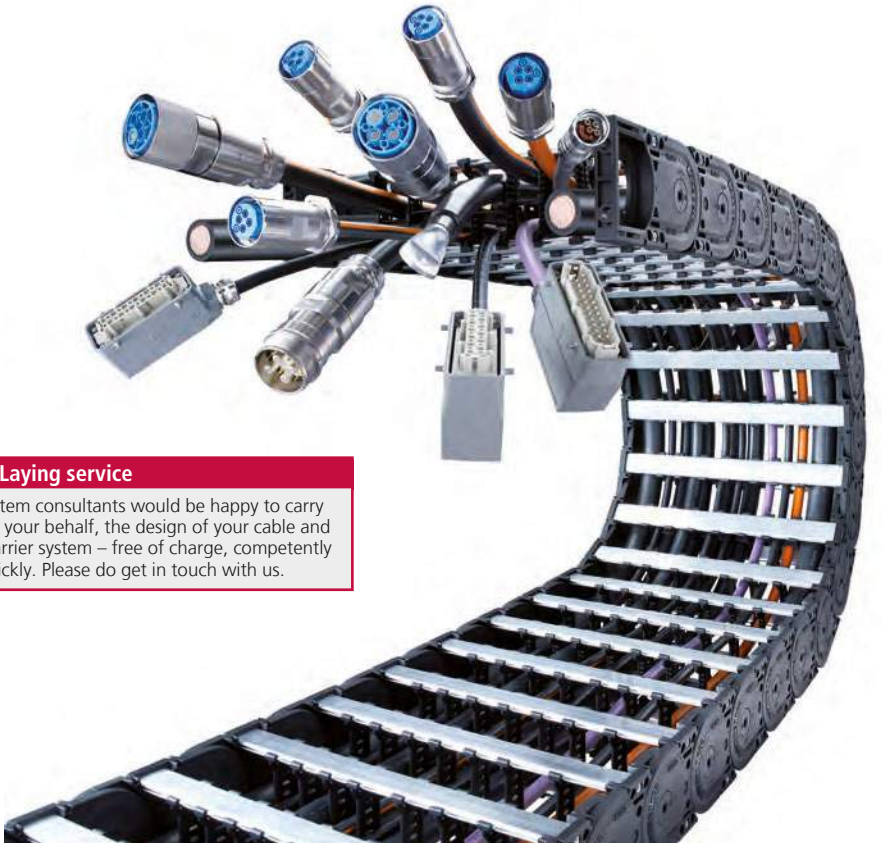












Note: Laying service

Our system consultants would be happy to carry out, on your behalf, the design of your cable and hose carrier system – free of charge, competently and quickly. Please do get in touch with us.

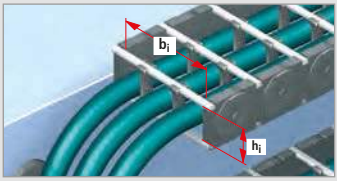
Subject to change.

An overview of the 5 most important design steps for unsupported applications

Detailed data can be found on the following pages. Depending on the ambient conditions, a decision must first be made as to whether a cable carrier system of steel or plastic should be used.

1 Determining the inner dimensions

taking into account the cables and hoses to be laid and the available installation space.



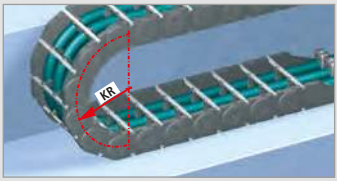
Covered cable carrier?

Check whether, owing to the ambient influences, a covered cable carrier should be used.

2 Determining the bend radius

The bend radius depends on the cables used. Here, the specifications of the cable manufacturer must be taken into account.

We recommend the use of KABELSCHLEPP cables that have been specially designed for use in cable carriers.

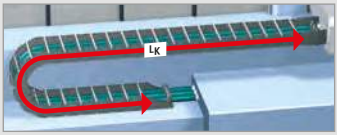


3 Selection of the product line and type

From our product overview, select the cable carrier suitable for your application, taking the application area, the size and the travel speed into consideration.



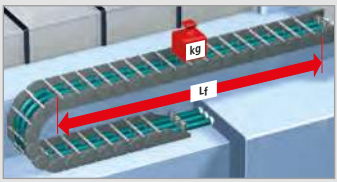
4 Calculation of the chain length



Calculation of the connection height



5 Checking the permissible unsupported length and if applicable, the further procedure



Subject to change.

Selection of the cable carrier

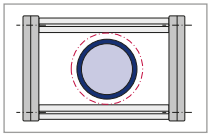
1 Determining the inner dimensions

The number, type and diameter of the cables to be laid determine the inner dimensions and the inner distribution of the cable carrier

The space required by the cables and hoses can be calculated taking into consideration the following design instructions. The installation conditions give the required clear height and the inside width of the cable carrier.

The cables and hoses must be able to move freely inside the cable carrier. The following are the guide values for the dimensions of the required free space:

for round cables: 10 % of the cable diameter
for flat cables: 10 % of the cable width/cable thickness
for hoses: 20 % of the hose diameter



! Basically, only such cables should be used, as are suitable for use in cable carriers, such as e.g. KABELSCHLEPP Cables for Motion.

Cables lying next to each other with greatly differing diameters should be separated by dividers.

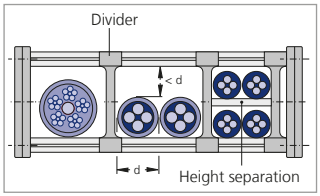
Cables of greatly differing diameters laying immediately next to each other must be avoided.

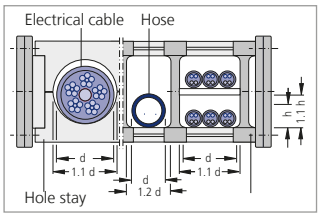
If laying several cables without separators is unavoidable, care should be taken that the remaining free passage height is lower than the smallest cable diameter. Only thus can the cables be prevented from getting wrapped around one another.

In case of multi-layer laying, we recommend providing a height separation between the individual layers.

Custom-made hole stays or separation by means of dividers prevent cables lying next to each other from rubbing against each other. In many cases, laying every cable in a separate chamber is advantageous.

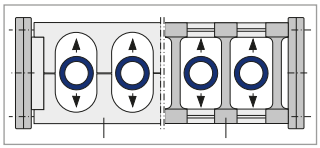
A height separation must always be provided between flat cables stacked in several layers.





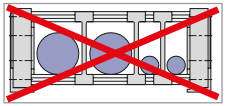
Pressure hoses lengthen or shorten under changing pressure stresses!

Shortening or lengthening of the hoses can only be compensated in the chain bend. Here, too, the calculated clear space must be retained.

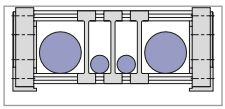


Weight distribution in case of cable laying

When laying the cables, please ensure that the cable weight is distributed symmetrically across the width of the cable carrier. The maximum life of the cable carrier can be achieved by uniform loading.



■ Unfavorable weight distribution



■ Favorable weight distribution

Subject to change.

Is a covered cable carrier (TUBE SERIES) necessary?

In case of applications subject to machining chips or serious contamination, covered or closed cable carriers of the TUBE SERIES should be used.



2 Calculation of the bend radius

The bend radius is determined by two factors:

1. The largest permissible bend radius of the cables gives the smallest permissible bend radius of the cable carrier (in case of a smaller bend radius, the cables would be bent to an impermissible extent). Generally, the thickest or the stiffest cable to be carried determines the largest permissible minimum bend radius.
2. The available installation space determines the possible bend radius of the cable carrier. This must be checked with the specifications of the cables.

Note: Life of cables

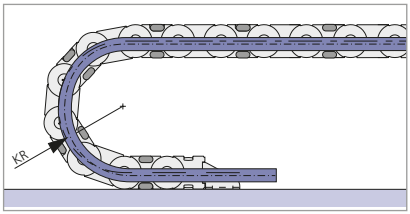
A greater bend radius of the cable carrier and hence a greater bend radius (than the permissible minimum bend radius) of the cables generally increases the life of the cables. Thus, if it is possible, preferably select a somewhat larger bend radius.

When using our KABELSCHLEPP cables, in many cases, a smaller bend radius can be selected.

Basically, it must be ensured that the cables can take the bend radius KR without any force being necessary.

They must be able to move freely in the longitudinal direction and must not exert any tensile forces on the cable carrier in the bend.

In case of multilayer laying, the cables must be drawn into the cable carrier in such a way that they have a corresponding clearance between one another even in the bend of the chain.



Subject to change.

Selection of the cable carrier

3 Selection of the product line and type

BASIC-LINE Solid plastic cable carriers with fixed chain widths

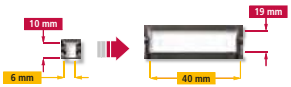
Economically priced solutions for standard applications · Types with fixed or openable brackets
Many types available immediately ex-stock worldwide

MONO Cable carriers with simple design for standard applications

from page 60



- Single unit chain links with the option of either fixed or openable brackets
- Simple and quick assembly
- End connector with integrated strain relief (at 0625 not illustrated)

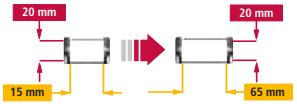


QuickTrax Compact and cost-effective cable carriers in two-component technology

from page 74



- Quick and easy to open
- Crossbars in opened condition also non-switched with the chain link
- Stable chain construction
- Designs with inward or outward opening crossbars
- Long unsupported lengths

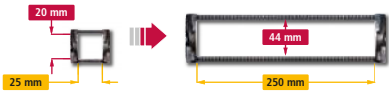


UNIFLEX *Advanced* Light, quiet all-rounder with wide range of applications

from page 82



- Noise-optimized for quiet operation
- Inward or outward opening or single unit
- Clamp system for fast opening
- Movable or fixed dividers
- Long unsupported lengths
- Many separation options for the cables



UNIFLEX Proven cable carriers with many opening and cover variants

from page 96

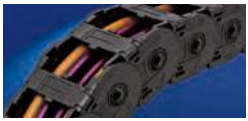


- Openable either inwards or outwards according to design
- Robust, double stroke system for long unsupported length
- Particularly high torsional rigidity
- Open, half-covered and completely covered designs
- Many separation options for the cables



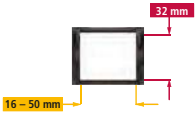
TKP35 Robust all-rounder with variable subdivision

from page 110



- Robust and extremely rigid stroke system for extensive unsupported sections
- Quiet operation due to internal dampening system
- Interior without sharp edges, design that protects the cable
- Vertical moveable dividers or with locking cams, can be attached at 2-mm increments*
- Easy to open versions, left or right

* not B_i 16



Subject to change.

BASIC-LINE*PLUS* Solid plastic cable carriers with fixed chain widths

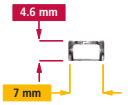
Fast laying by simply pressing in the cables · Ideal for short travel paths and high travel speeds

EasyTrax 0115 Extremely quick cable laying thanks to flexible lamella crossbars

from page 126



- Very fast cable laying by simply pressing in
- Very high utilization factor due to flexible crossbars swivelling in the direction of the carrier and not in the cable space

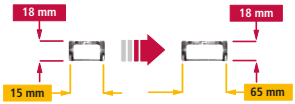


EasyTrax 0320 Extremely quick cable laying, extra-stable thanks to two-component technology

from page 129



- Very fast cable laying by simply pressing in
- Stable chain construction
- Extensive unsupported length
- Very quiet thanks to integrated noise damping system
- High travel speed possible



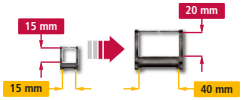
PROTUM Small, light cable carrier for unsupported applications

from page 136



- Very long life – no hinges and hence no hinge wear
- Very good ratio of usable space to outer dimensions
- Low vibration and quiet operation
- Optimum for short travel lengths and high travel speeds

PROTUM Office: Flexible cable carrier for office and workshop furniture



TKZP Low-wear, design made from extruded profiles

from page 142



- Easy cable routing due to folding structure
- Easy adaptation to the chain length
- Low weight, good ratio between interior and exterior width
- Quiet operation due to short partition and extruded profile
- Low dust generation, because there is no friction between the chain links
- Flexible, also for side movement



VARIO-LINE Cable carriers with variable chain widths

WIDTHSECTIONS 1 mm

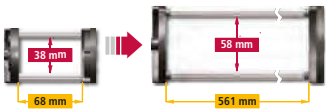
Aluminum or plastic stays · Aluminum stays in 1 mm width sections are available · Inside and outside easy and quick to open · Light, robust or link-free series – a suitable solution for every application

K Series Cost-effective, robust cable carrier also suitable for large additional loads

from page 154



- Robust, simple construction, even with large additional loads
- Optional glide discs for applications where the carrier is rotated through 90°
- Injection molded glide runners

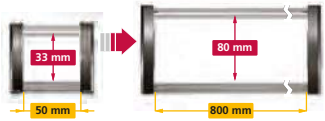


MASTER Series Quiet and weight-optimized cable carriers

from page 170



- Light design with weight-optimized sideband construction
- Excellent relationship between inside and outside height
- Customized bend radii can be supplied



Subject to change.

Selection of the cable carrier

3 Selection of the product line and type

VARIO-LINE Cable carriers with variable chain widths

WIDTHSECTIONS 1 mm

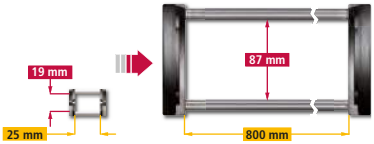
Aluminum or plastic stays · Aluminum stays in 1 mm width sections are available · Inside and outside easy and quick to open · Light, robust or link-free series – a suitable solution for every application

M Series Multivariable cable carrier with extensive accessories and stay variants

from page 180



- The robust all-rounder, various separation options, large selection of stay systems
- Ideal for fast, gliding applications: Replaceable glide shoes made of highly wear-resistant special plastic

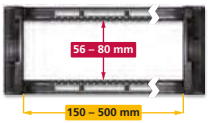


TKP91 Easy to assemble, stable cable carriers with variable dimensions

from page 202



- Robust, even with large additional loads
- Various separation options
- Replaceable glide shoes made of highly wear-resistant special plastic with very low friction coefficient for gliding applications

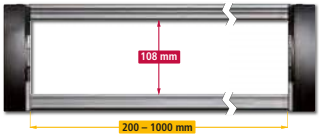


XL Series Cable carrier with large inside height

from page 210



- Large dimensions for cables with large cable diameter
- For unsupported and gliding applications
- Replaceable glide shoes made of highly wear-resistant special plastic

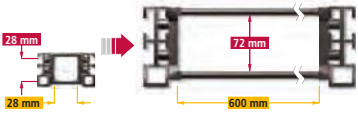


QUANTUM Light, quiet, low-vibration for high speeds and accelerations

from page 216



- **Suitable for clean rooms:** Clean room certification "Class 1" possible – no hinges, no link wear**
- Extremely quiet, 31 db (A)*
- For high accelerations up to 300 m/s²
- For travel speeds up to 40 m/s



- Long service life – no link wear at pin-hole joints
- Flexible design for 3D movements: the driver connection can move sideways and can be turned through up to ± 30 degrees
- Link-free: extruded sidebands

* Tested: Q060.100.100 by TÜV Rheinland. The measurement area sound pressure level was measured at a distance of 0.5 m for uniform and jerky movement.

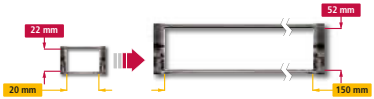
** Tested: Q040.77.RE-70-1000 by the Fraunhofer Institute, travel speed V1 = 0.2 m/s and V2 = 0.9 m/s

TKR Extremely quiet and low-vibration for highly dynamic applications

from page 224



- Extremely quiet and low-vibration operation
- Long service life
- Ideal for highly dynamic applications
- High lateral stability
- Suitable for clean rooms
- Can be open on the inside and outside easily and quickly
- Simple shortening and extension due to modular design



Subject to change.

TUBE SERIES Covered cable carriers

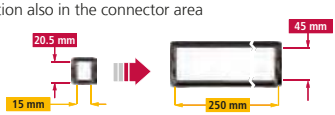
Covered types with plastic or aluminum cover system as well as completely closed cable carriers · Protection of the cables for applications where chips or severe contamination occur

TKA Series Chip-tight right to the end

from page 234



- Impermeable against chips, excellent cable protection also in the connector area
- TKA55: IP54 tested and verified (TÜV NORD)
- Quick routing of the cable, easy to open
- Versions available opening inwards and outwards
- Extensive unsupported sections due to 3-fold stroke system
- Integrated sliding surfaces for sliding applications
- Suppressed against vibration and noise using an internal damping system
- High torsion rigidity

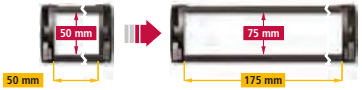


CoverTrax Extreme cable protection in harsh environmental conditions

from page 276



- Solid plastic
- Outstanding protection of the cables
- Large unsupported length
- For unsupported and gliding arrangements
- Various or fixed divider systems
- Integrated strain relief devices possible in the UMB-connection
- Very quiet thanks to internal noise damping system



UNIFLEX TUBES Proven solid cable carriers with fixed carrier width

from page 284



- Solid plastic
- Easy to open
- Robust, double stroke system for long unsupported lengths
- Particularly high torsional rigidity
- End connectors with integrated strain relief
- Economically priced standard types

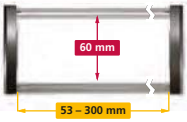


MASTER TUBES Quiet and weight-optimized cable carriers

from page 294



- Extremely quiet due to internal noise damping system
- Favorable ratio of inner to outer dimensions
- Standard bend radii, application-specific intermediate radii on request
- Variable pretension for many different applications possible
- Can be opened quickly on the inside and outside for cable laying
- Wide range of options for internal subdivision

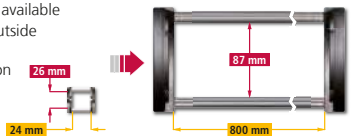


MT Series Multivariable cable carrier with extensive accessories

from page 300



- Aluminum cover system or plastic cover system available
- Can be opened quickly on the inside and the outside for cable laying
- Extremely robust due to stable plate construction
- Enclosed stroke system not sensitive to dirt/contamination
- Many possibilities of inner subdivision
- Highly wear-resistant, replaceable glide shoes available

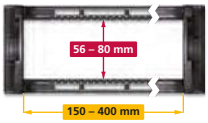


TKC91 Easy to assemble, stable cable carriers with variable dimensions

from page 310



- Robust, even with large additional loads
- Various separation options
- Replaceable glide shoes made of highly wear-resistant special plastic with very low friction coefficient for gliding applications



Subject to change.

Selection of the cable carrier

3 Selection of the product line and type

TUBE SERIES Covered cable carriers

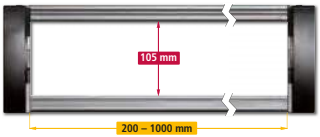
Covered types with plastic or aluminum cover system as well as completely closed cable carriers · Protection of the cables for applications where chips or severe contamination occur

XLT Series Cable carriers with large inside height

from page 316



- Large dimensions
- Can be quickly opened on the inside and outside for cable laying
- Highly wear-resistant, replaceable glide shoes available
- Different connection variants
- Different ways of separating the cables
- Optionally with strain relief

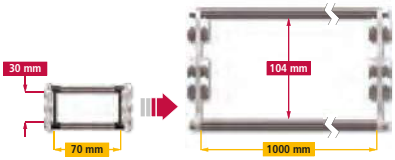


S/SX Series Extremely robust and stable steel chains

from page 320



- Available in 1 mm section widths
- Extremely robust stable steel chains for heavy mechanical loads and harsh environmental conditions
- Long unsupported lengths also for large additional loads
- Various types available in different dimensions
- Link design with special bolts for a long service life

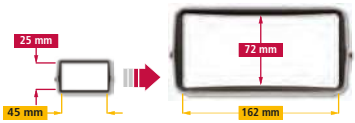


CONDUFLEX Closed designer cable carrier

from page 321



- Attractive appearance owing to high-grade steel brackets and fiberglass reinforced polyamide frame
- Very well sealed design
- With protective straps ideal for hot chips
- Quiet operation due to small pitch
- Easy replacement of the crossbars in the case of external damage is possible
- Easy to shorten or extend at a later date

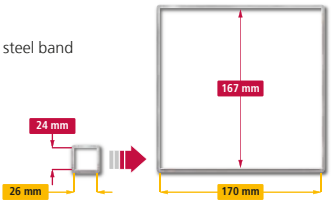


MOBIFLEX Enclosed cable carrier with flexible metal helical tube

from page 322



- Very well sealed design
- Ideal in case of hot metal chips
- Unsupported thanks to the inserted, pre-tensioned steel band



Subject to change.

3D-LINE Cable carriers for 3D-movements

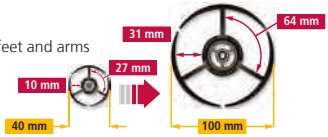
Ideal for use on jointed and swivel arm robots · Easy laying by simply pressing in the cables
With channel system, it is a universal solution for rotary applications

ROBOTRAX System Cable carriers for 3D movements

from page 324



- For three-dimensional movements
- Can be deployed on robots for swiveling and rotational movements: The same system for robot feet and arms
- Open design
  - Fast cable laying by simple pressing in of the cables – no threading through is necessary
  - Simple inspection of all the cables
- Optimum system for long service life of the cables:
  - The minimum bend radius can be maintained
  - The cables are cleanly isolated in three separate chambers
- Special plastic for long service life
- With channel system, it is a universal solution for rotary applications such as rotary tables and assembly equipment



STEEL-LINE Steel cable carriers – solutions for extreme applications

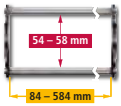
Robust design for heavy mechanical loads · High additional loads and long unsupported lengths possible
Best suited for extreme and particular environmental influences – heat resistant

LS/LSX Series Cost-effective steel chains with light design

from page 334



- Available in 1 mm width sections
- Improved, dynamic characteristic values due to weight-optimized design
- 40 % lighter than S 0950 with RS stay variant
- Long unsupported lengths for small to medium additional loads
- Chain belts made of specially coated steel or stainless steel
- Optional central bolt for applications with large loads
- A cover with steel band for protecting the cables is available on request

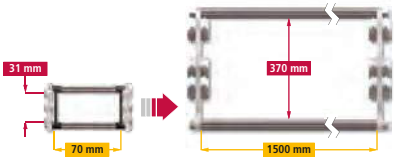


S/SX Series Extremely robust and stable steel chains

from page 342



- Available in 1 mm width sections
- Extremely robust and stable steel chains for heavy mechanical loads and harsh environmental conditions
- Very long unsupported lengths also for large additional loads
- Joint design with special bolts for a long service life
- Proven design with chain belts made of zinc plated steel or stainless steel
- Various types available in different dimensions
- Covers with aluminum cover system or steel strip possible for protection of the cables

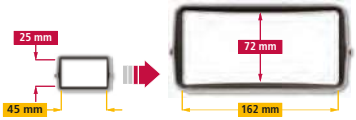


CONDUFLEX Closed designer cable carrier

from page 362

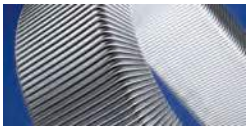


- Very well sealed design
- With protective straps ideal for hot chips
- High-grade steel brackets and fiberglass-reinforced polyamide frames
- Easy to shorten or extend at a later date

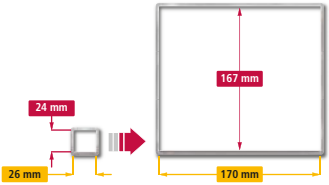


MOBIFLEX Enclosed cable carrier with flexible metal helical tube

from page 368



- Very well sealed design
- Ideal for hot metal chips
- Flexible metal helical tubes combined with special steel band
- Unsupported thanks to the inserted, pre-tensioned steel band



Subject to change.

Selection of the cable carrier

4 Calculation of the chain length and the connection height

Definition

In the case of a unsupported arrangement, the driver connection of the cable carrier is fastened to the movable part of the plant and moves with it in the horizontal direction.

The upper trough of the cable carrier does not have any sag worth mentioning and moves freely above the feed guide or the lower trough.



Calculation of the chain length

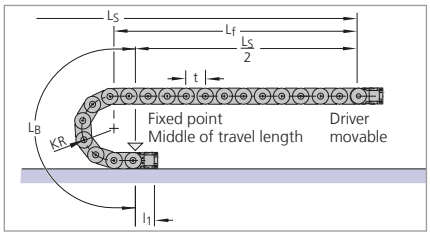
We recommend placing the fixed-point connection in the middle of the travel length. This gives the shortest connection between the fixed and movable driver point and hence the most economical chain length and cable length!

Fixed point in the middle of the travel path L_S:

Chain length L_k	Unsupported length L_f
$L_k \approx \frac{L_S}{2} + L_B$	$L_f \approx \frac{L_S}{2} + (1 \ldots 3) \times t$

Chain length L_k rounded off to pitch t

L_S = Maximum travel length of the application



Fixed point outside the middle of the travel path L_S:

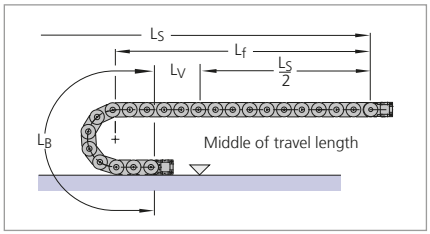
Chain length L_k
$L_k \approx \frac{L_S}{2} + L_B + L_V$

Chain length L_k rounded off to pitch t

Please take into consideration the greater unsupported length L_f!

L_V = Longitudinal offsets between cable carrier fixed point center of the travel length

L_S = Maximum travel length of the application



Calculation of the bend length

Bend length L_B	
Plastic cable carriers:	$L_B = KR \times \pi + 2 \times t$
Steel cable carriers:	$L_B = KR \times \pi + 4 \times t$
QUANTUM:	$L_B = KR \times \pi + 12 \times t$
TKR:	$L_B = KR \times \pi + 2 \times t$
PROFILE, CONDUFLEX:	$L_B = KR \times \pi + 9 \times t$
MOBIFLEX:	$L_B = KR \times \pi + KR$

Subject to change.

Selection of the cable carrier

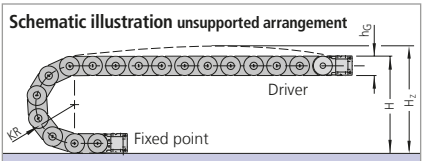
4 Calculation of the chain length and the connection height

Calculation of the connection height

Connection height H	
Plastic cable carriers*:	$H = 2\ KR + h_G$
MC 1300:	$H = 2\ KR + 1.5\ h_G$
QUANTUM:	$H = 2\ KR + \frac{4}{3} h_G$
TKR 0150:	$H = 2\ KR + 50$ mm
TKR 0200:	$H = 2\ KR + 82$ mm
TKR 0260:	$H = 2\ KR + 98$ mm
TKR 0280:	$H = 2\ KR + 112$ mm
PROFILE:	$h_G = h_M$
Steel cable carriers:	$H = 2\ KR + 1.5\ h_G$

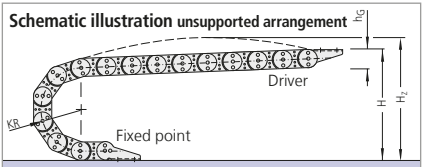
* except MC 1300

Schematic illustration unsupported arrangement



Plastic cable carriers

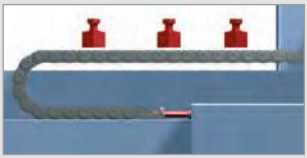
Schematic illustration unsupported arrangement



Steel cable carriers

Pretension and required installation height H_Z

To achieve a long unsupported length, KABELSCHLEPP cable carriers are made with pre-tensioning in the standard version. The pre-tensioning effects an elevation of the upper trough in the zone of the unsupported length. Please take the pre-tensioning into consideration when determining the required passage height H_Z.



■ Cable carrier with additional load (cables and hoses)



■ Cable carrier without additional load

UMB (Universal Mounting Brackets)

Universal mounting brackets for connecting above, below or at the front.



Subject to change.

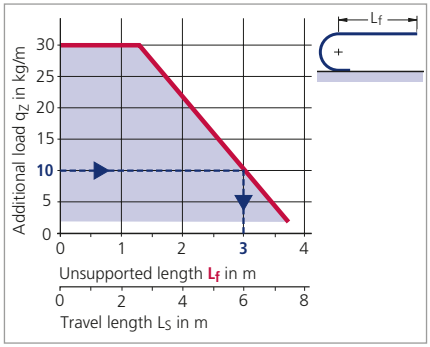
Selection of the cable carrier

5 Checking the permissible unsupported length

The load diagram marks the area of the unsupported length L_f, in which the cable carrier does not have any sag worth mentioning. If a greater additional load or a longer travel path is selected, the upper trough begins to sag (see below: Horizontal unsupported arrangement with permissible, desired sag).

The specified load diagrams are applicable to an average intrinsic chain weight (average chain width). Please note that with particularly large chain widths or when cover systems are used, a larger intrinsic chain weight and hence a smaller possible additional load is obtained. The following pages show an overview of the load diagrams of our cable carriers.

Detailed specifications can be found under the respective chain type.



Example: With an additional load of **10 kg** the maximum unsupported length L_f is **3 m**.

Further procedure, if the unsupported length determined in the load diagram is exceeded*

Accept the sag of the upper trough

By definition, the unsupported length L_f is the length at which the upper trough of the cable carrier does not show any sag worth mentioning. In case of a longer arrangement, or greater additional loads, the upper trough of the cable carrier sags. The cause of this is the elasticity of the material. Proper working of the cable carrier system continues to be guaranteed. Such an arrangement is called a horizontal unsupported arrangement with permissible sag.

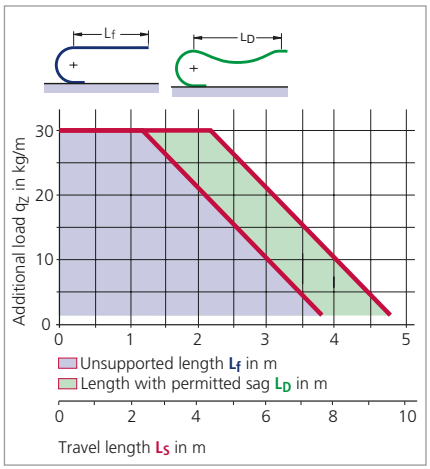
The length with permitted sag is designated as L_D.
It is somewhat greater than the unsupported length L_f.

Please ask us about the corresponding values.
We would be happy to advise you.

Please note that with this arrangement, no projecting plant parts should get run over. Maximum possible speed and acceleration are somewhat lower than with arrangements without sag.

Alternatively, there is the option:

- **To select a bigger cable carrier system**
- **To allow a cable carrier to "slide in a guide channel"** (see guide channels)
- **To use a steel cable carrier**



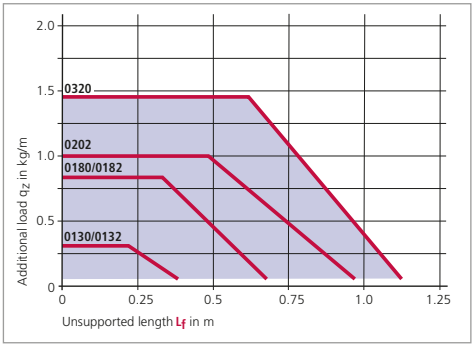
* only cable carriers made of plastic

Subject to change.

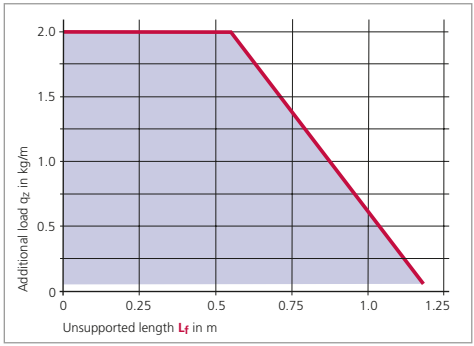
Load diagrams for unsupported applications

BASIC-LINE

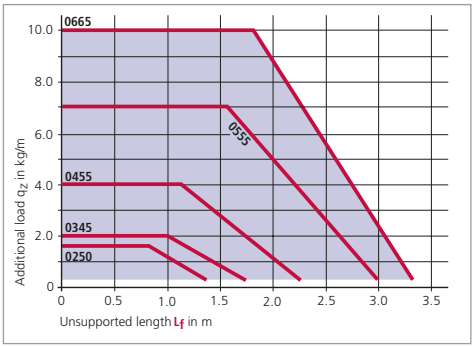
MONO



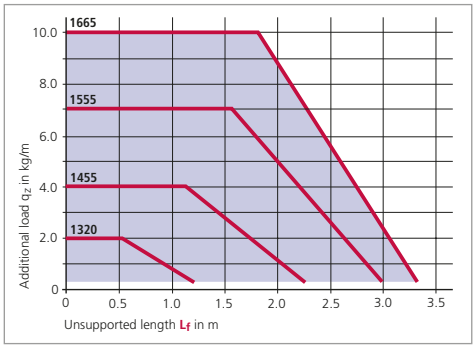
QuickTrax



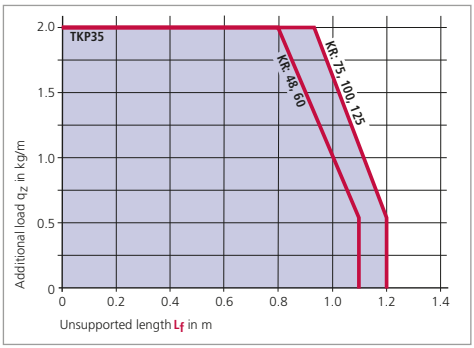
UNIFLEX



UNIFLEX *Advanced*



TKP35

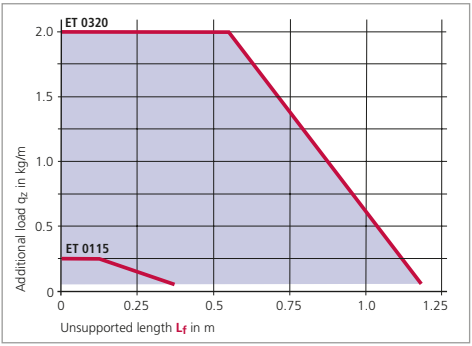


Subject to change.

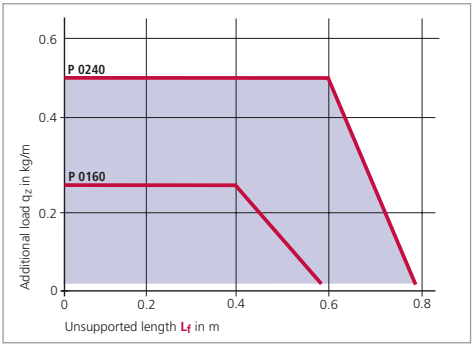
Load diagrams for unsupported applications

BASIC-LINE*PLUS*

EasyTrax

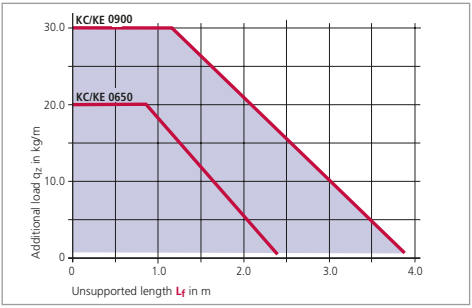


PROTUM

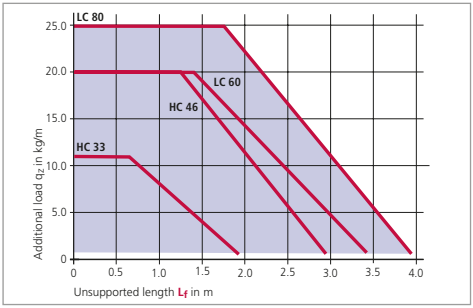


VARIO-LINE

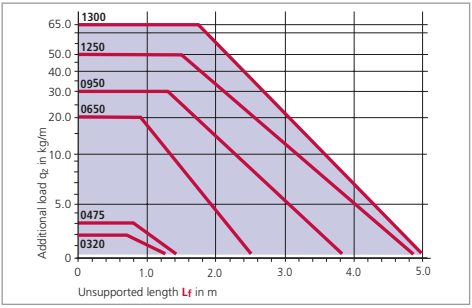
K Series



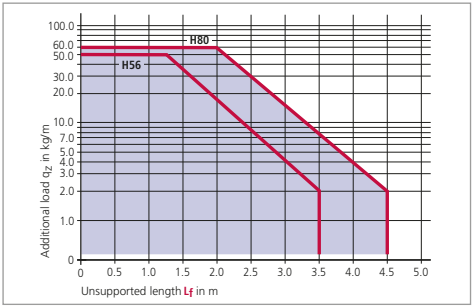
MASTER Series



M Series



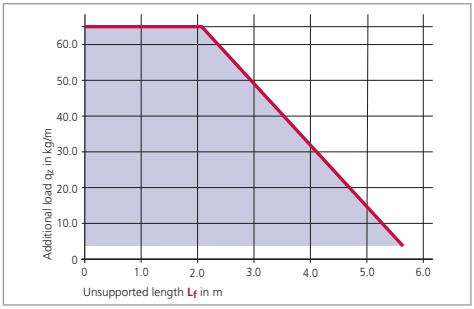
TKP91



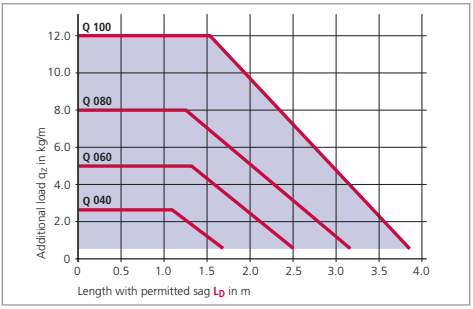
Subject to change.

VARIO-LINE

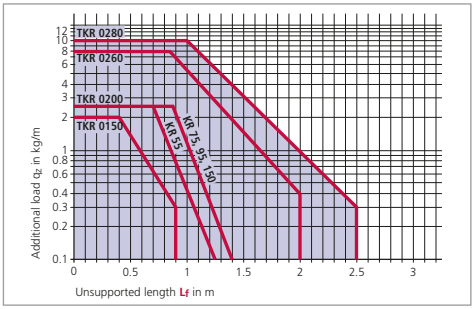
XL Series



QUANTUM

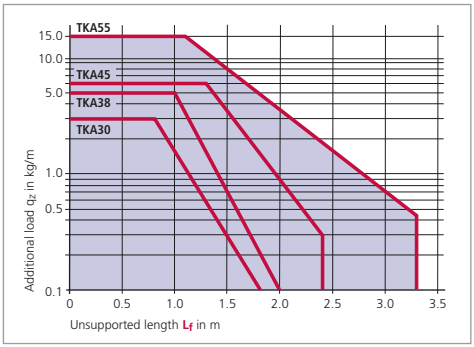


TKR

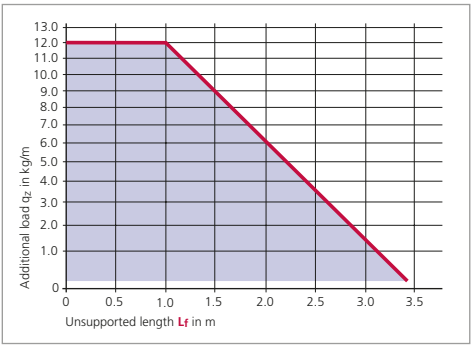


TUBE-SERIES

TKA Series



CoverTrax

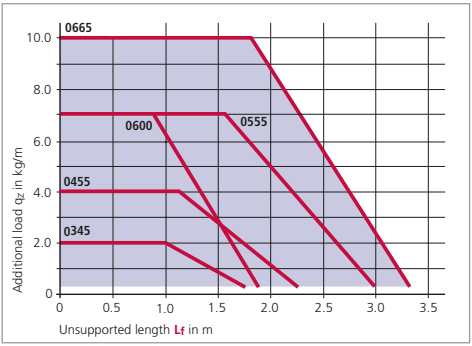


Subject to change.

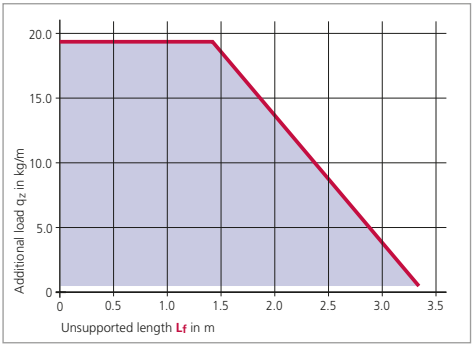
Load diagrams for unsupported applications

TUBE-SERIES

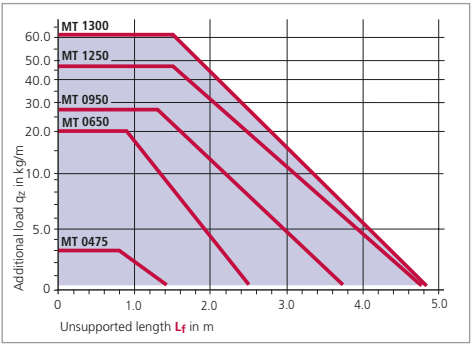
UNIFLEX TUBES



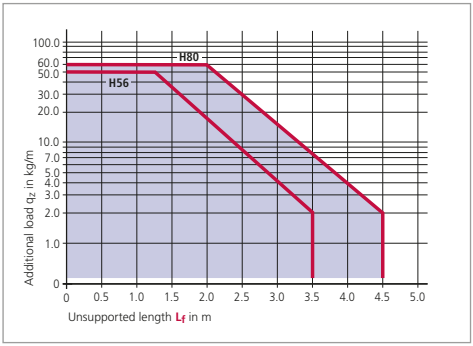
MASTER TUBES



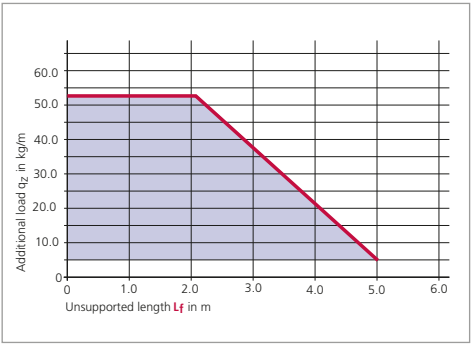
MT SERIES



TKC91



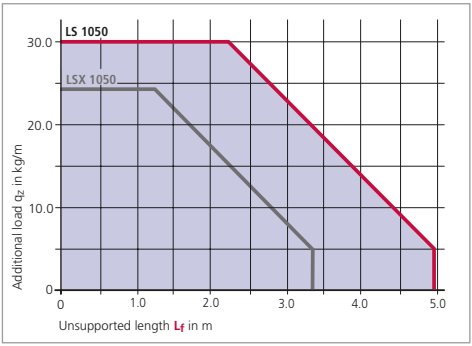
XLT Series



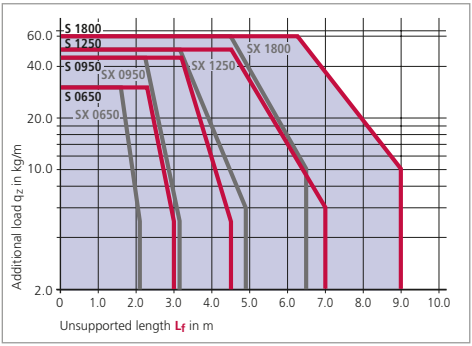
Subject to change.

STEEL-LINE

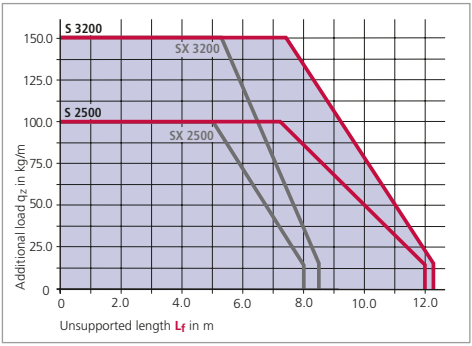
LS/LSX 1050



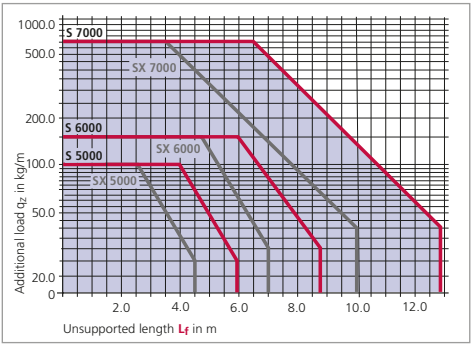
S/SX 0650, 0950, 1250, 1800



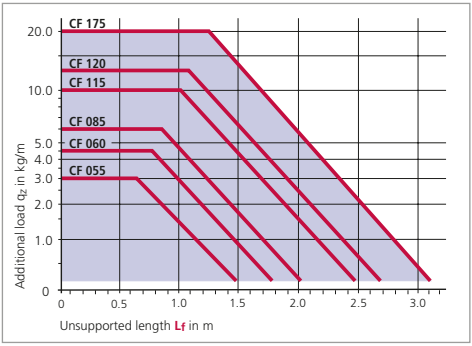
S/SX 2500, 3200



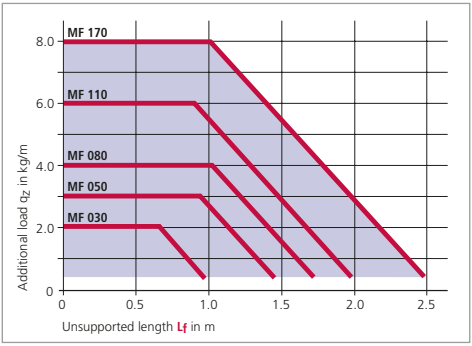
S/SX 5000, 6000, 7000



CONDUFLEX



MOBIFLEX



Subject to change.

Long service life of the cables

Frame stays made of aluminum

Low jacket wear is an essential requirement for a long service life of the cables in the cable and hose carrier system. As well as the jacket material, the stay material as cable support is also responsible for the jacket wear.

We have examined the wear of different cables depending on the stay material in extensive series of tests.

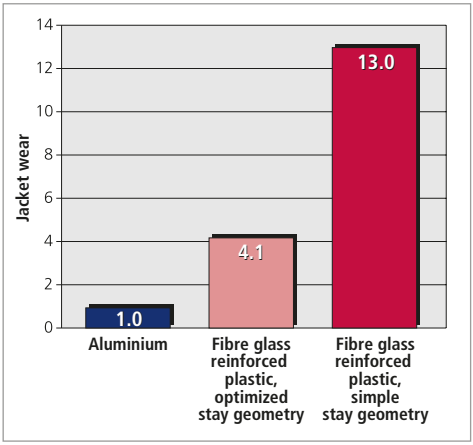
Thereby, already existing test results have been confirmed several times. Aluminum as a support is very gentle on the sheathing of cables. This result is independent of the cable manufacturer and applies to the most common jacket materials.

As well as the good abrasion index, aluminum is particularly suitable as stay material due to its **high strength for a low intrinsic weight**. Chain widths up to 1000 mm can be achieved without the chain being particularly stressed due to additional weight.

TIP: Jacket wear on aluminum stays

The jacket wear test shows up to 13 times greater jacket wear of PVC cables on plastic stays as compared with aluminum stays.

Save costs due to low jacket wear for cables



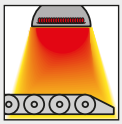
■ Jacket wear of PVC cables against stays scaled against aluminum



Cable carriers made of special materials

For special ambient conditions, there are cable carriers made of special materials available. Please do get in touch with us, we would be happy to advise you.

High-temperature-resistant cable carriers



Cold storage resistant cable carriers



Ex-protected cable carriers



ESD cable carriers



Subject to change.

2-shot-technology

Component 1: flexible – quick cable laying
Component 2: very stable – large unsupported length

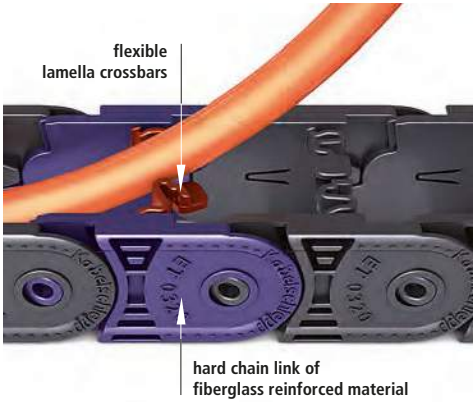
The 2-shot-technology of our new cable carriers makes it possible to unite seemingly non-integral characteristics: **Ruggedness and Flexibility**.

Cable carriers should be very rugged and have an extensive supporting length. At the same time they should afford quick and easy set-up.

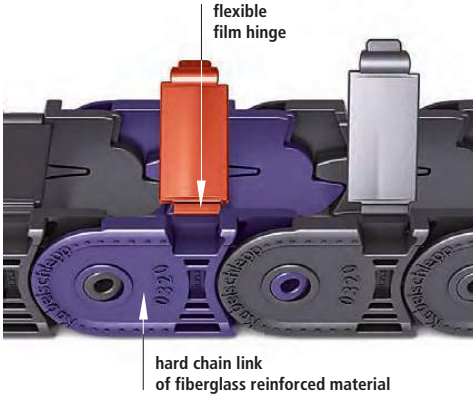
The new cable carriers **EasyTrax 0320** and **QuickTrax** unite these qualities through an innovative design and the materials combination of hard chain elements made of fiberglass reinforced material with lamella crossbars or film hinges made of specially formulated flexible synthetics/plastics.



EasyTrax 0320



QuickTrax 0320





■ Cables can pushed in quickly and easily thanks to flexible swivel joint



■ Hand opening – opening and closing even without tools.

Subject to change.

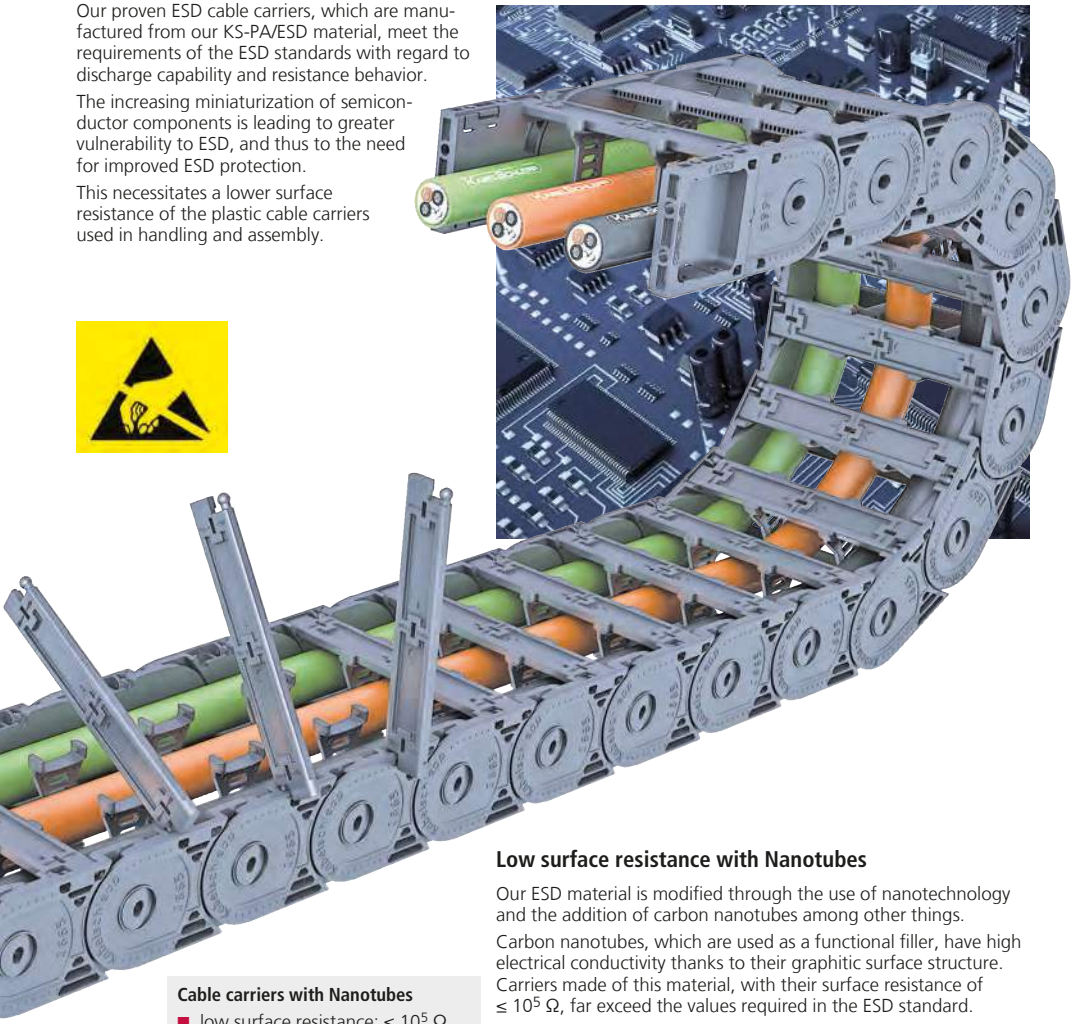
Conductive ESD cable carriers

Electrostatic discharges (ESD) represent a hazard for the manufacture and processing of electronic components. They cannot be processed without suitable protection. The requirements for materials, tools and thus also cable carriers are defined by the ESD standard DIN EN 61340.

Our proven ESD cable carriers, which are manufactured from our KS-PA/ESD material, meet the requirements of the ESD standards with regard to discharge capability and resistance behavior.

The increasing miniaturization of semiconductor components is leading to greater vulnerability to ESD, and thus to the need for improved ESD protection.

This necessitates a lower surface resistance of the plastic cable carriers used in handling and assembly.



Cable carriers with Nanotubes

- low surface resistance: ≤ 10^5 Ω
- significantly exceed the values required by the ESD standard
- areas of application: Chip handling, semiconductor production, electronics production, solar technology

Low surface resistance with Nanotubes

Our ESD material is modified through the use of nanotechnology and the addition of carbon nanotubes among other things.

Carbon nanotubes, which are used as a functional filler, have high electrical conductivity thanks to their graphitic surface structure. Carriers made of this material, with their surface resistance of ≤ 10^5 Ω, far exceed the values required in the ESD standard.

Carbon nanotubes have a diameter of a few nanometers and a length of up to several micro-meters.

Subject to change.

Quality with a test report

Each ESD cable carrier with Nanotubes technology comes with a KABELSCHLEPP test report.



FB Werkszeugnis 2.2
Seite 1 von 1

Werkszeugnis

Werkszeugnis Bescheinigung 2.2 nach DIN EN 10204

Mustermann GmbH
Am Schlossgraben
4711 Musterhausen

Bestätiger / Purchaser:
Max Mustermann

Bestell - Nr. / Order - Nr.:
181056

Unsere Lieferschein Nr.:/Our Order No.:
1623229

Unsere Auftrags - Nr. / Our Order No:
2732816

Erzeugnisform/Product:
Energieführungskette

Werkstoff/Quality
PA-ESD

Unsere Abteilung, Name, Tel./Our Department, Name, Phone:
QS - A. Schmidt - 02762/ 4003-0

Datum/Date:
02.04.2009

Lieferbedingungen und/oder amtliche Vorschriften/
Terms of Delivery and/or official Regulations
Oberflächen- und Durchgangswiderstand $\leq 10^8 \Omega$

Lfd.-Nr. Item No.	Merkmal, Dimension oder Spezifikation Characteristics, Dimension or Specification	Lieferumfang-Prüfergebnis Supplier Inspections-Results	Bemerkung / Remarks
1	Oberflächenwiderstand	$10^8 \Omega$	
2	Anzahl Kettenglieder	34	

Wir bestätigen, dass die Lieferungen den Vereinbarungen bei der Bestellung entsprechen.
We hereby certify that the material delivered above complies with the terms of the order/contract.

FB Werkszeugnis
Erstellt von: K.-U. Klepper

Stand: 2.5 vom 03.04.2006

Higher conductivity of the entire carrier

Thanks to the large specific surface and the extremely even distribution of the nanotubes in the material, a good conductivity is also achieved at the contact points between the chain links and thus over the entire length of the carrier.

Thus, with a 125 link (= 4000 mm) long KABELSCHLEPP cable carrier of type ET 0320.025.030.038 made of ESD material, a resistance of $\leq 10^5 \Omega$ was measured.





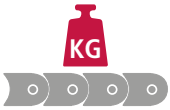
High stability

Modification of the fiberglass reinforced material with Nanotubes makes the cable carriers even more stable.

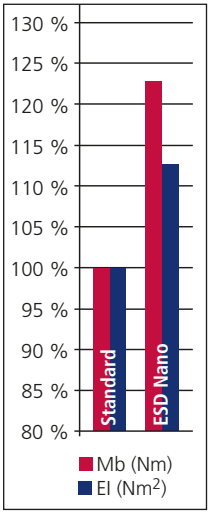
The Nanotubes have a multiple times higher tensile strength than steel, at a sixth of the weight.

This likewise increases the mechanical characteristics of cable carriers made of ESD material, while retaining high elasticity.

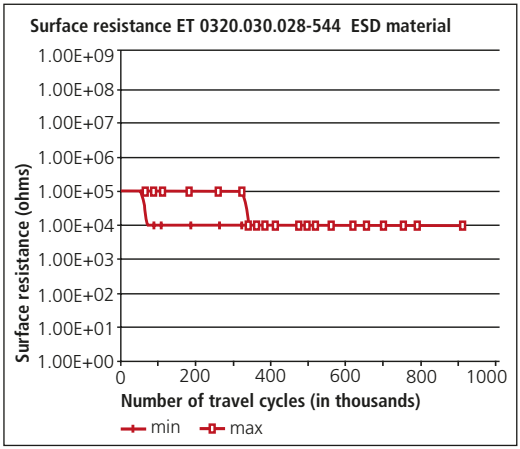
This effect is also used successfully in many types of sports equipment such as tennis rackets, bicycles and golf clubs.



high stability



High conductance even after hundreds of thousands of motion cycles



■ The test shows that the surface resistance of the entire cable carrier decreases during the run-off phase, and then remains constant at 10 k ohm.

Subject to change.



BASIC-LINE

Solid plastic cable carriers with fixed chain widths

- Economically priced solutions for standard applications
- Types with fixed or openable brackets
- Many types available immediately ex-stock world wide



MONO

Cable carriers with simple design for standard applications

page 60



QuickTrax

Compact and cost-effective cable carriers in two-component technology

page 74



UNIFLEX *Advanced*

Light, quiet all-rounder with wide range of applications

page 82



UNIFLEX

Proven cable carrier with many opening and cover variants

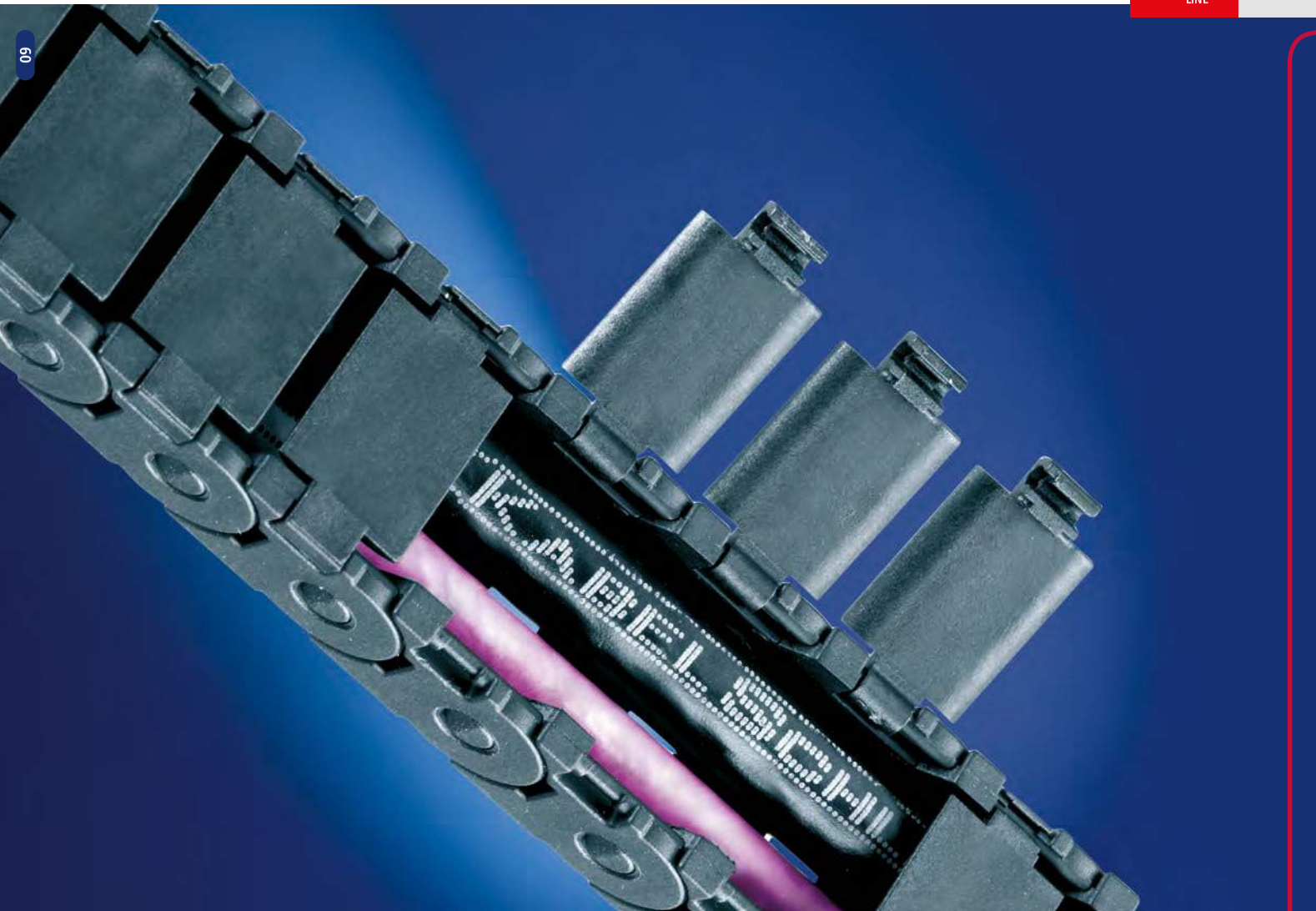
page 96



TKP35

Robust all-rounder with variable subdivision

page 110



MONO

Cable carriers with simple design for standard applications*

- Cost-effective cable carrier
- Simple and quick assembly
- Almost all types available immediately ex stock all around the world
- TÜV design approved in accordance with 2PfG 1036/10.97

NOTE:
UNIFLEX Advanced replaces MONO 0450/0625
+ improved design
+ more cost effective
> from page 12



Chain links made of plastic

Inside space is gentle on the cables – no interfering edges

Types with single-part chain links

Types with openable brackets

Connectors with integrated strain relief



Small types for restricted installation conditions



Fast shortening/extending due to simple connection of the chain links



Different connection options by simply changing the connectors

* Some features can be different for certain types for design reasons. Our specialists are happy to advise you.

Subject to change.

Inside heights
10 – 19

Inside widths
6 – 40

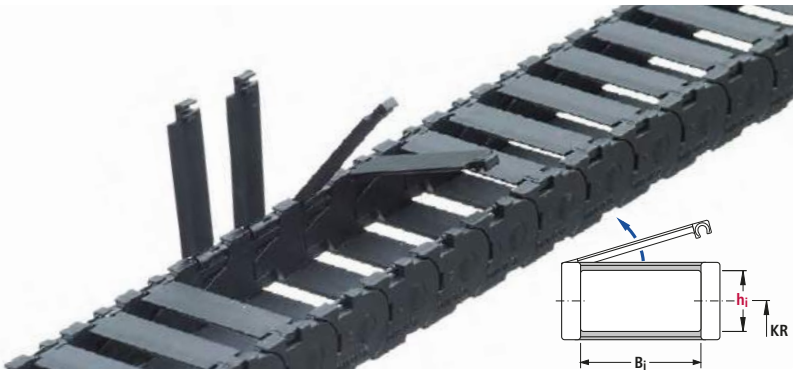
kabelschlepp.de

Fon:
+49 2762 4003-0

Use our free project planning service.

Overview MONO

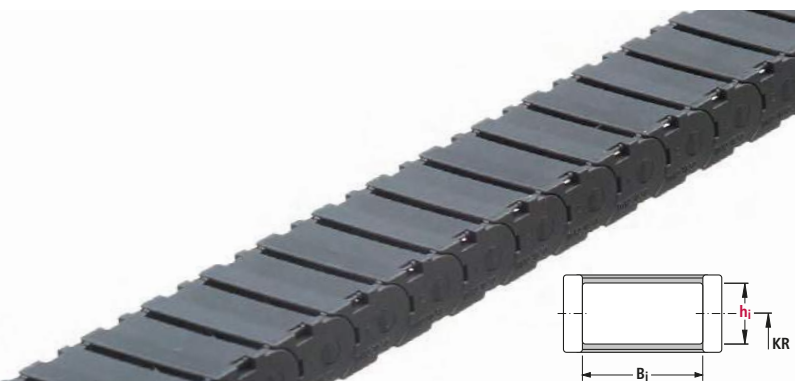
Types 0130, 0180 with hinged, openable brackets



Type	h_i	B_i	Maximum travel length in m	Dynamics of unsupported arrangement		Page
				Travel speed v_{max} in m/s	Travel acceleration a_{max} in m/s²	
0130	10	6-40	40	10	50	64
0180	15	10-40	70	10	50	66

Dimensions in mm

Types 0132, 0202, 0182 with fixed brackets



Type	h_i	B_i	Maximum travel length in m	Dynamics of unsupported arrangement		Page
				Travel speed v_{max} in m/s	Travel acceleration a_{max} in m/s²	
0132	10	6-40	40	10	50	64
0182	15	10-40	70	10	50	66
0202	11	6-20	70	10	50	68

Dimensions in mm

Subject to change.

Overview MONO

Type 0320 with fixed brackets



Type	h_i	B_i	Maximum travel length in m	Dynamics of unsupported arrangement		Page
				Travel speed v_{max} in m/s	Travel acceleration a_{max} in m/s²	
0320	19	13-37	80	10	50	70

Dimensions in mm

NOTE:

UNIFLEX Advanced replaces MONO 0450/0625

+ improved design
+ more cost effective

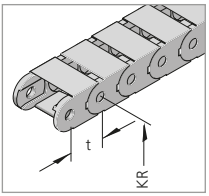
> from page 12

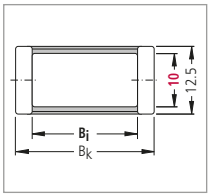
Subject to change.

Types 0132 and 0130

Type 0132

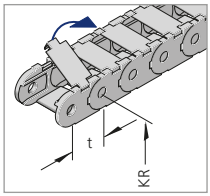
Inside/Outside: Not to be opened

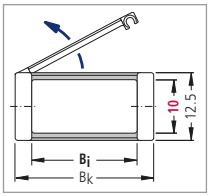




Type 0130

Outside: Hinged, openable brackets





Dimensions and intrinsic chain weight

Type	h_i mm	B_i mm	B_k mm	Intrinsic chain weight kg/m
0132.**06**	**10**	**6**	12	0.13
0132.**10**	**10**	**10**	16	0.14
0132.**15**	**10**	**15**	21	0.15
0132.**20**	**10**	**20**	26	0.16
0132.**30***	**10**	**30**	36	0.18
0132.**40**	**10**	**40**	46	0.20

Type	h_i mm	B_i mm	B_k mm	Intrinsic chain weight kg/m
0130.**06**	**10**	**6**	12	0.13
0130.**10**	**10**	**10**	16	0.14
0130.**15**	**10**	**15**	21	0.15
0130.**20**	**10**	**20**	26	0.16
0130.**40***	**10**	**40**	46	0.20

* on request

Bend radius and pitch

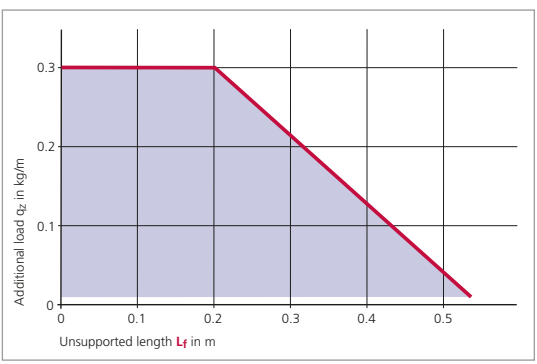
Types 0132 and 0130

Bend radii KR mm		
20	28	37

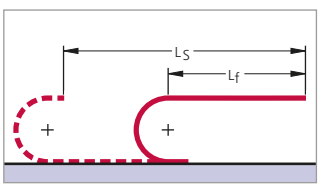
Pitch t = 13.0 mm

Load diagram

for unsupported length L_f depending on the additional load



Unsupported length L_f



In the case of longer travel lengths, sag of the cable carriers is technically permissible depending on the application.

In a gliding arrangement, even longer travel lengths are possible (see page 375).

We are at your service to advise on these applications.

Example of ordering

Cable carrier

0130	.	10	.	28	-	390	**Connection** FA/MA
Type		Inside width B_i in mm		Bend radius KR in mm		Chain length L_k in mm (without connection)	Connection Fixed point/ Driver

Inside height: 10

Inside widths: 6 – 40

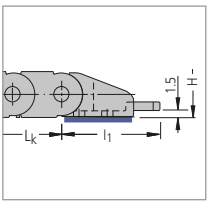
kabelschlepp.de
Fon: +49 2762 4003-0
Use our free project planning service.

Subject to change.

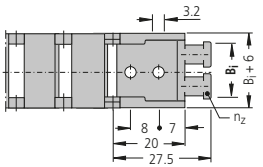
Types 0132 and 0130

Connection dimensions

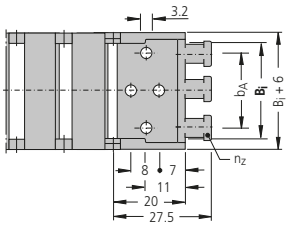
Plastic connectors
with integrated strain relief



Short connectors without strain relief are also available for restricted installation conditions. Please contact us.



For Type
0130.**06** / 0132.**06**
0130.**10** / 0132.**10**
0130.**15** / 0132.**15**
0130.**20** / 0132.**20**

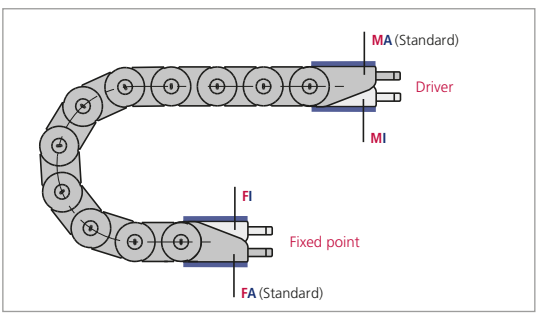


For Type
0132.**30**
0130.**40** / 0132.**40**

Type	B_i mm	B_k mm	b_A mm	n_z
0130.**06** / 0132.**06**	**6**	12	–	1
0130.**10** / 0132.**10**	**10**	16	–	1
0130.**15** / 0132.**15**	**15**	21	–	2
0130.**20** / 0132.**20**	**20**	26	–	2
0132.**30**	**30**	36	22	3
0130.**40** / 0132.**40**	**40**	46	32	4

The dimensions of the fixed point and driver connections are identical.

Connection variants



Connection point
M – Driver
F – Fixed point

Connection type
A – Threaded joint outside (standard)
I – Threaded joint inside

In the standard version, the connectors are mounted with the threaded joint outwards (**FA/MA**).

When ordering please specify the desired connection type (see ordering key on page 414).

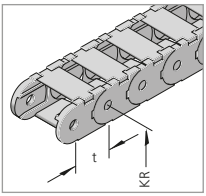
The connection type can subsequently be altered simply by varying the connectors.

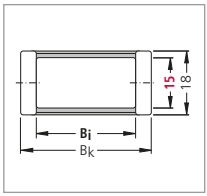
Subject to change.

Types 0182 and 0180

Type 0182

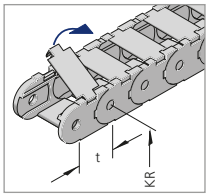
Inside/Outside: Not to be opened

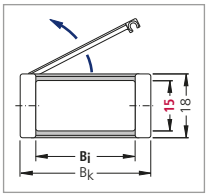




Type 0180

Outside: Hinged, openable brackets





Inside height

15

Inside widths

10 – 40

Dimensions and intrinsic chain weight

Type	h_i mm	B_i mm	B_k mm	Intrinsic chain weight kg/m
0182.**10**	15	**10**	18	0.23
0182.**15**	15	**15**	23	0.24
0182.**20**	15	**20**	28	0.25
0182.**30**	15	**30**	38	0.28
0182.**40**	15	**40**	48	0.30

Type	h_i mm	B_i mm	B_k mm	Intrinsic chain weight kg/m
0180.**10**	15	**10**	18	0.23
0180.**15**	15	**15**	23	0.24
0180.**20**	15	**20**	28	0.25
0180.**30**	15	**30**	38	0.28
0180.**40**	15	**40**	48	0.30

Bend radius and pitch

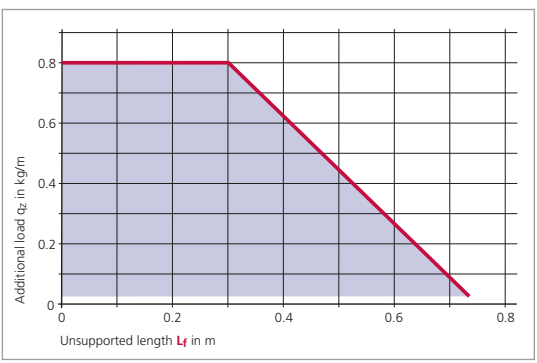
Types 0182 and 0180

Bend radii KR mm		
28	37	50

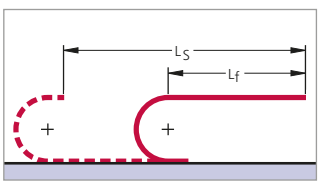
Pitch t = 18.0 mm

Load diagram

for unsupported length L_f depending on the additional load



Unsupported length L_f



In the case of longer travel lengths, sag of the cable carriers is technically permissible depending on the application.

In a gliding arrangement, even longer travel lengths are possible (see page 375).

We are at your service to advise on these applications.

Example of ordering

Cable carrier

0180	.	30	.	37	-	720	**Connection** FA/MA
Type		Inside width B_i in mm		Bend radius KR in mm		Chain length L_k in mm (without connection)	Connection Fixed point/ Driver

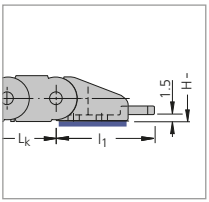
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Use our free project planning service.

Subject to change.

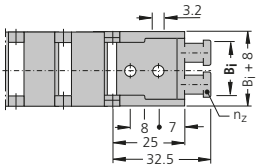
Types 0182 and 0180

Connection dimensions

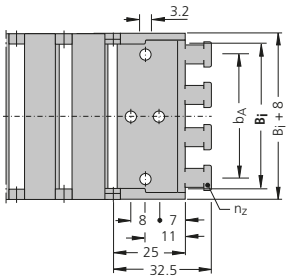
Plastic connectors
with integrated strain relief



Short connectors without strain relief are also available for restricted installation conditions. Please contact us.



For Type
0180.**10** / 0182.**10**
0180.**15** / 0182.**15**
0180.**20** / 0182.**20**

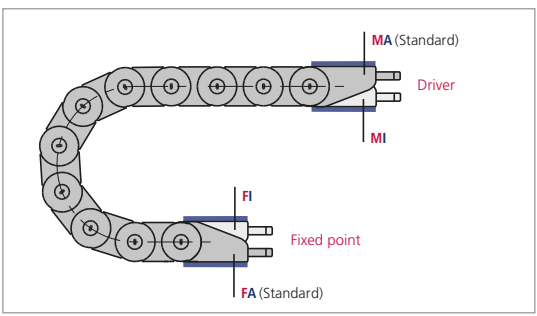


For Type
0180.**30** / 0182.**30**
0180.**40** / 0182.**40**

Type	B_i mm	B_k mm	b_A mm	n_z
0180.**10** / 0182.**10**	**10**	18	–	1
0180.**15** / 0182.**15**	**15**	23	–	2
0180.**20** / 0182.**20**	**20**	28	–	2
0180.**30** / 0182.**30**	**30**	38	22	3
0180.**40** / 0182.**40**	**40**	48	32	4

The dimensions of the fixed point and driver connections are identical.

Connection variants



Connection point
M – Driver
F – Fixed point

Connection type
A – Threaded joint outside (standard)
I – Threaded joint inside

In the standard version, the connectors are mounted with the threaded joint outwards (**FA/MA**).

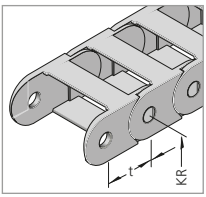
When ordering please specify the desired connection type (see ordering key on page 414).

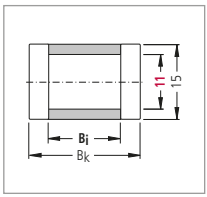
The connection type can subsequently be altered simply by varying the connectors.

Subject to change.

Type 0202

Inside/Outside: Not to be opened





Inside height

11

Inside widths

6 – 20

Dimensions and intrinsic chain weight

Type	h_i mm	B_i mm	B_k mm	Intrinsic chain weight kg/m
0202.**06**	11	**6**	13	0.14
0202.**10**	11	**10**	17	0.15
0202.**15**	11	**15**	22	0.16
0202.**20**	11	**20**	27	0.17

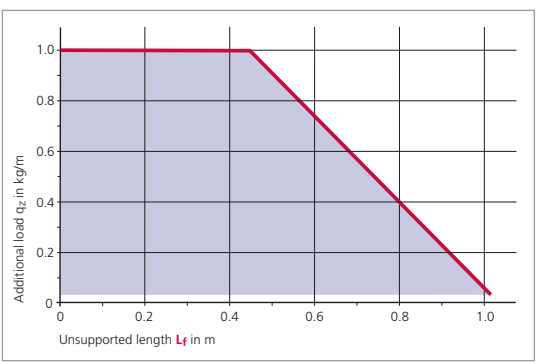
Bend radius and pitch

Bend radii KR mm			
18	28	38	50

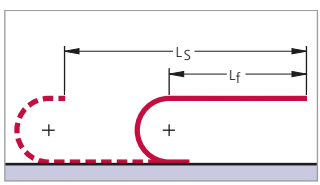
Pitch t = 20.0 mm

Load diagram

for unsupported length L_f depending on the additional load



Unsupported length L_f



In the case of longer travel lengths, sag of the cable carriers is technically permissible depending on the application.

In a gliding arrangement, even longer travel lengths are possible (see page 375).

We are at your service to advise on these applications.

Example of ordering

Cable carrier								Connection
0202	.	10	.	28	-	460		FA/MA
Type		Inside width B_i in mm		Bend radius KR in mm		Chain length L_k in mm (without connection)		Connection Fixed point/ Driver

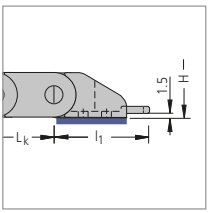
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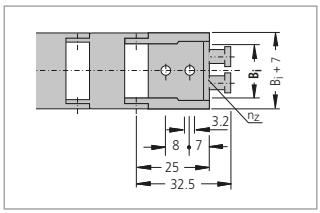
Subject to change.

Type 0202

Connection dimensions

Plastic connectors
with integrated strain relief

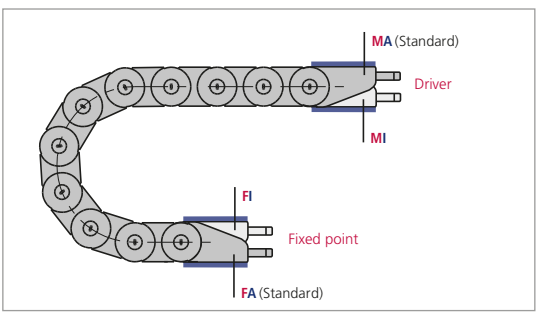




Type	B_i mm	B_k mm	n_z
0202.**06**	**6**	13	1
0202.**10**	**10**	17	1
0202.**15**	**15**	22	2
0202.**20**	**20**	27	2

The dimensions of the fixed point and driver connections are identical.

Connection variants



Connection point

M – Driver
F – Fixed point

Connection type

A – Threaded joint outside (standard)
I – Threaded joint inside

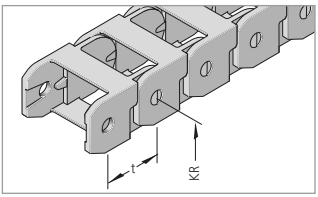
In the standard version, the connectors are mounted with the threaded joint outwards (**FA/MA**).

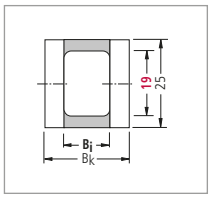
When ordering please specify the desired connection type (see ordering key on page 414).

The connection type can subsequently be altered simply by varying the connectors.

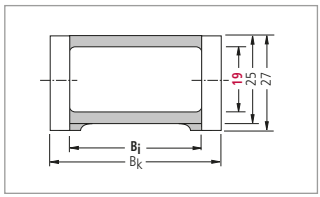
Type 0320

Inside/Outside: Not to be opened





Type 0320.20 / .30



Type 0320 / .42 / .52 / .62 – with glide runners

Dimensions and intrinsic chain weight

Type 0320.20 / .30

Type	h_i mm	B_i mm	B_k mm	Intrinsic chain weight kg/m
0320.**20**	19	**13**	24	0.32
0320.**30**	19	**19**	30	0.35

Type 0320 / .42 / .52 / .62

Type	h_i mm	B_i mm	B_k mm	Intrinsic chain weight kg/m
0320.**42**	19	**24**	35	0.39
0320.**52**	19	**29**	40	0.44
0320.**62**	19	**37**	48	0.47

Bend radius and pitch

Type 0320.20 / .30

Bend radii KR mm		
37	47	77

Pitch t = 32.0 mm

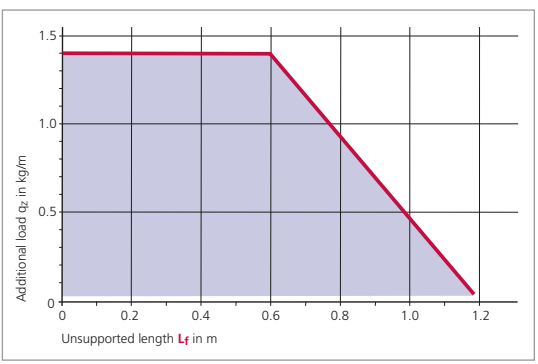
Type 0320 / .42 / .52 / .62

Bend radii KR mm			
37	47	77	100

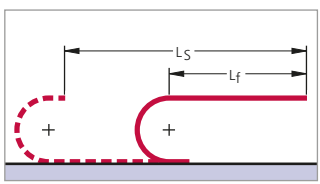
Pitch t = 32.0 mm

Load diagram

for unsupported length L_f depending on the additional load



Unsupported length L_f



In the case of longer travel lengths, sag of the cable carriers is technically permissible depending on the application.

In a gliding arrangement, even longer travel lengths are possible (see page 375).

We are at your service to advise on these applications.

Example of ordering

Cable carrier				Connection
0320.42	. 77	- 800		FA/MA
Chain type	Bend radius KR in mm	Chain length L_k in mm (without connection)		Connection Fixed point/ Driver

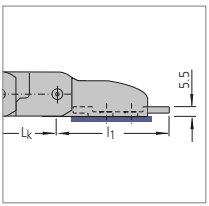
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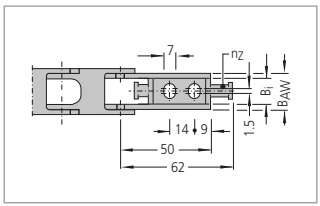
Subject to change.

Type 0320

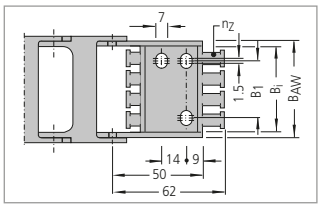
Connection dimensions

Plastic connectors
with integrated strain relief





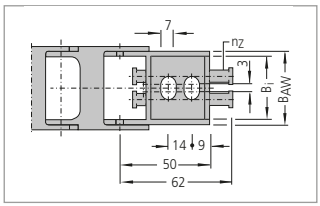
Type 0320.20



Type 0320.42 / .52 / .62

Connection dimensions at fixed point connection:
$B_{AW} = B_i + 5.5$
$B_1 = B_i - 12.5$

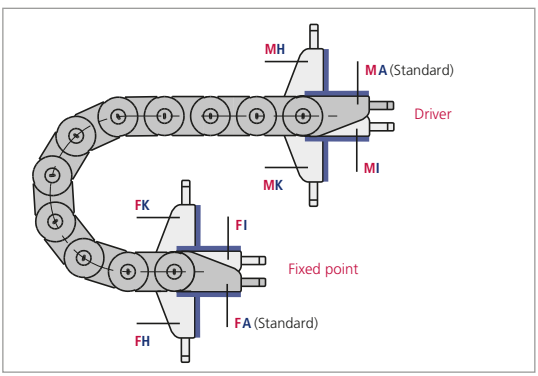
Connection dimensions at driver connection:
$B_{AW} = B_i + 11$
$B_1 = B_i - 10.5$



Type 0320.30

Type	B_i mm	B_k mm	n_z
0320.**20**	**13**	24	1
0320.**30**	**19**	30	2
0320.**42**	**24**	35	2
0320.**52**	**29**	40	3
0320.**62**	**37**	48	4

Connection variants



Connection point
M – Driver
F – Fixed point

Connection type
A – Threaded joint outside (standard)
I – Threaded joint inside
H – Threaded joint, rotated through 90° to the outside
K – Threaded joint, rotated through 90° to the inside

In the standard version, the connectors are mounted with the threaded joint outwards (**FA/MA**).

When ordering please specify the desired connection type (see ordering key on page 414).

The connection type can subsequently be altered simply by varying the connectors.

Subject to change.

Notes

Subject to change.

Notes

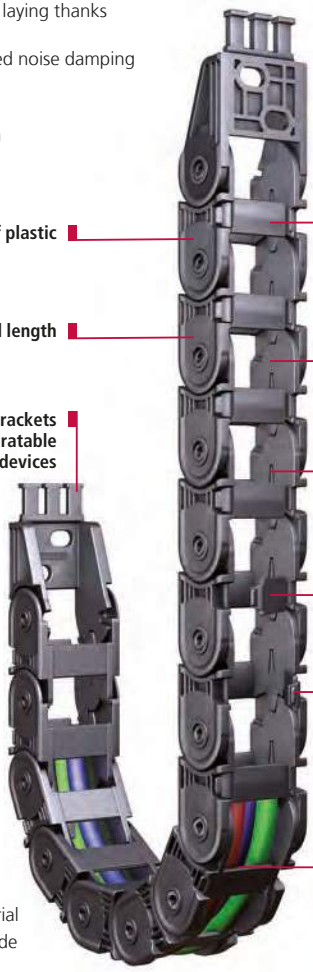
Subject to change.


TSUBAKI
ECO
LINK

QuickTrax

Compact and cost-effective cable carriers in two-component technology

- Extremely fast and easy cable laying thanks to crossbar with film hinge
- Very quiet thanks to integrated noise damping system
- Stable chain construction
- Extensive unsupported length
- High torsional rigidity



Chain links made of plastic

Extensive unsupported length

Single-part mounting brackets with integratable strain relief devices

Intelligent 2-shot-design: hard cable carrier body, soft crossbars

Gentle on the cables – interior space without projecting edges

Very quiet thanks to internal noise damping system

Quick and easy to open

Designs with inward or outward opening crossbars

Dividers and height separations for cable separation



Every chain link is made of two different materials:

- Hard cable carrier body made of fiberglass-reinforced material
- Crossbars with film hinge made of flexible special plastic



Easy to open





High side stability



Reliable cable separation

Inside height 20

Inside widths 15 – 65

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TSUBAKI KABELSCHLEPP
Cable Carrier Configurator

Subject to change.

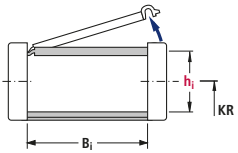
Overview QuickTrax

Design 030 with outward opening brackets

Inside height
20

Inside widths
15 – 65



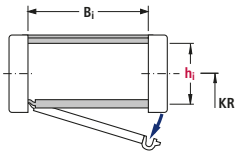


Type	h_i	B_i	Maximum travel length in m	Dynamics of unsupported arrangement		Page
				Travel speed v_{max} in m/s	Travel acceleration a_{max} in m/s²	
QT 0320.030	20	15-65	80	10	50	78

Dimensions in mm

Design 040 with inward opening brackets





Type	h_i	B_i	Maximum travel length in m	Dynamics of unsupported arrangement		Page
				Travel speed v_{max} in m/s	Travel acceleration a_{max} in m/s²	
QT 0320.040	20	15-65	80	10	50	78

Dimensions in mm

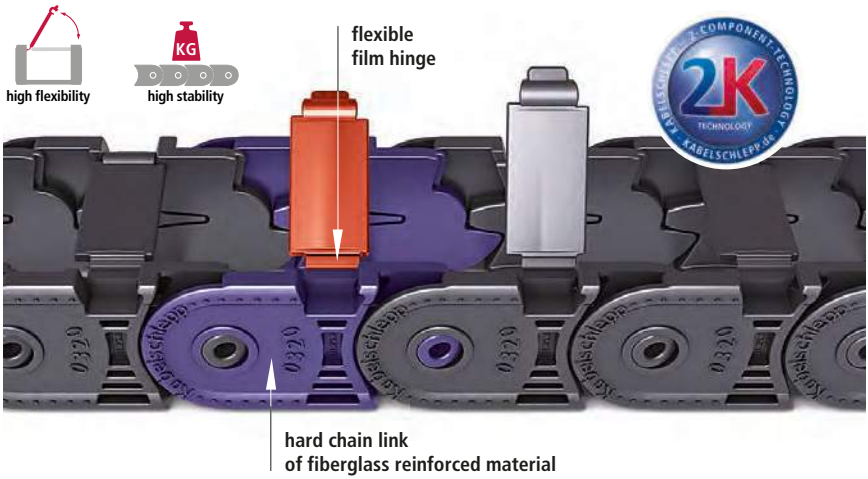
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Subject to change.

The 2-shot-technology of QuickTrax 0320

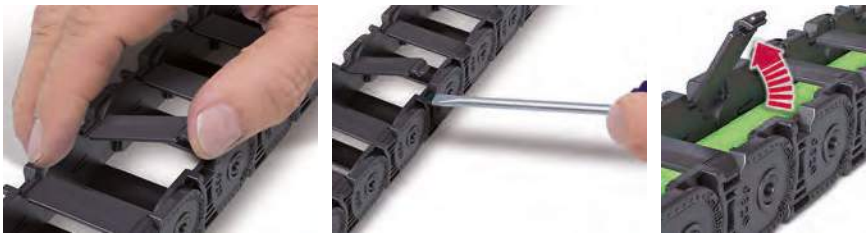
The 2-shot-technology of **QuickTrax 0320** makes it possible to unite seemingly non-integral characteristics: **Ruggedness and Flexibility**.

Cable carriers should be very rugged and have an extensive supporting length. At the same time they should afford quick and easy set-up. **QuickTrax 0320** unites these qualities through an innovative design and the materials combination of hard chain elements made of fiberglass reinforced material with crossbars with film hinges made of specially formulated flexible synthetics/plastics.



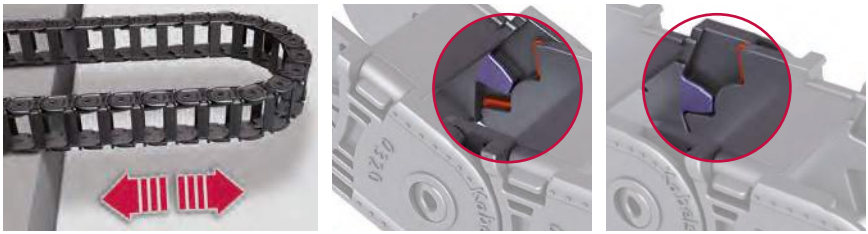
Hand opening – opening and closing even without tools

Thanks to their special shaping and flexible material, the crossbars can be **unlocked very easily by hand**. They can also be opened just as easily with a screwdriver. The crossbars are connected to the carrier by a film hinge so that they cannot be lost, and thus remain attached to the chain link even when they are open.



High side stability through locking in the stroke system

The stops are locked in the bend radius stop and pretension stop. This prevents snapping out in these areas and achieves very high lateral stability.

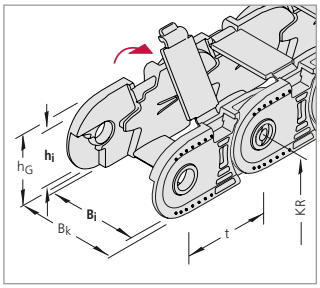


Subject to change.

Type QT 0320

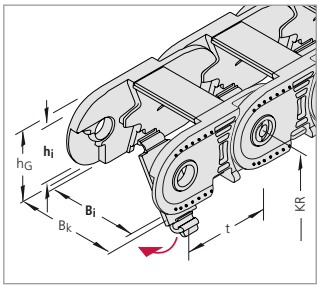
Design 030

Outside: Hinged, openable brackets



Design 040

Inside: Hinged, openable brackets



Inside height: 20

Inside widths: 15 – 65

Dimensions and intrinsic chain weight

Type	h_i	h_G	Inside widths B_i					B_k
			Intrinsic chain weight					
			15	25	38	50	65	
QT 0320	20	25.5	0.35	0.38	0.40	0.43	0.45	B_i + 12

Dimensions in mm/Weights in kg/m

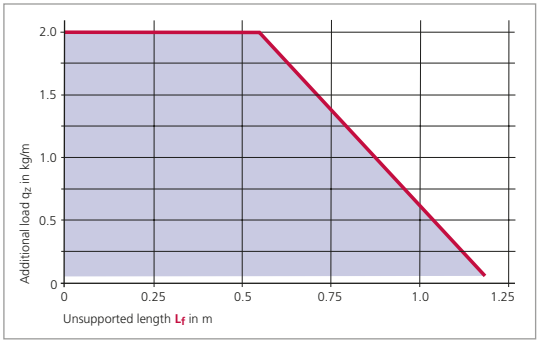
Bend radius and pitch

Bend radii KR mm					
28	38	48	75	100	125

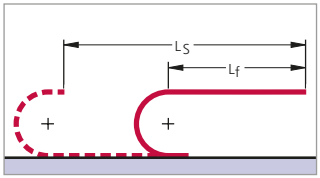
Pitch t = 32.0 mm

Load diagram

for unsupported length L_f depending on the additional load



Unsupported length L_f



In the case of longer travel lengths, sag of the cable carriers is technically permissible depending on the application.

In a gliding arrangement, even longer travel lengths are possible (see page 375).

We are at your service to advise on these applications.

Example of ordering

Cable carrier						Divider system		Connection
QT 0320	. 030	. 38	. 48	- 640		TS 0	/ 1	FA/MA
Type	Design	Inside width B_i in mm	Bend radius KR in mm	Chain length L_k in mm (without connection)		Divider system	Number of dividers n_T	Connection Fixed point/ Driver

Ordering divider systems:
Please state the designation of the divider system (TS 0, TS 1 ...) and the number of dividers. Possibly attach a sketch with the dimensions.

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Subject to change.

Type QT 0320

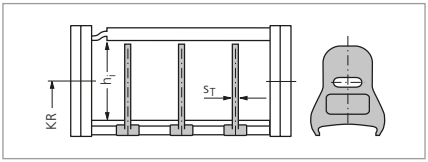
Divider system TS 0

Type	h_i mm	S_T mm
QT 0320	20	2

The dividers can be moved in the cross section.







In the standard version, the divider systems are mounted on every second chain link.

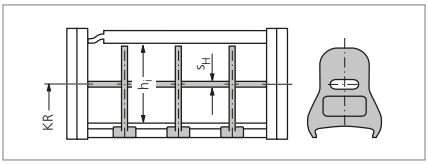
Divider system TS 1 with continuous height subdivision made of aluminum

Type	h_i mm	S_T mm	S_H mm
QT 0320	20	2	2.4

The dividers can be moved in the cross section.







In the standard version, the divider systems are mounted on every second chain link.

Inside height
20

Inside widths
15 – 65

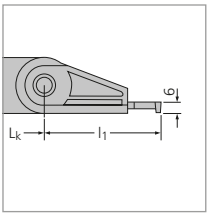
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Cable Carrier Configurator

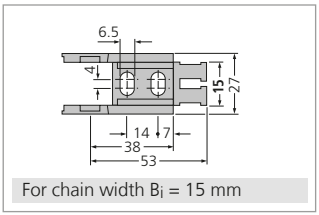
Subject to change.

Type QT 0320

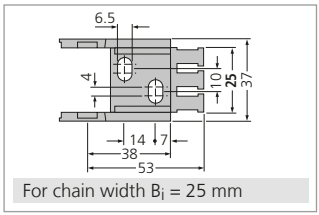
Connection dimensions

Plastic connectors with integrated strain relief

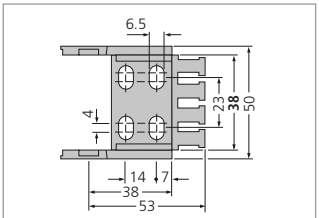




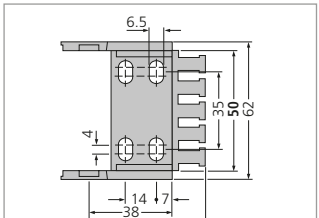
For chain width B_i = 15 mm



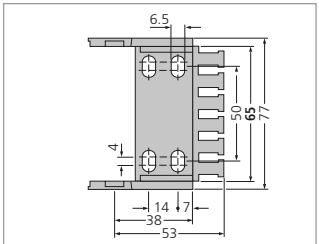
For chain width B_i = 25 mm



For chain width B_i = 38 mm



For chain width B_i = 50 mm



For chain width B_i = 65 mm

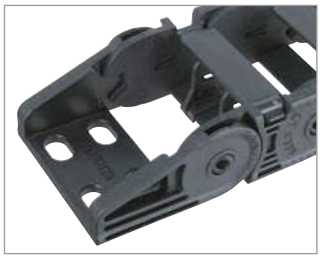
The dimensions of the fixed point and driver connections are identical.

Type	B_i	B_k	n_Z
QT 0320. … .15	15	27	2
QT 0320. … .25	25	37	3
QT 0320. … .38	38	50	4
QT 0320. … .50	50	62	5
QT 0320. … .65	65	77	6

Dimensions in mm

Mounting brackets without a strain relief comb are also available – please contact us.



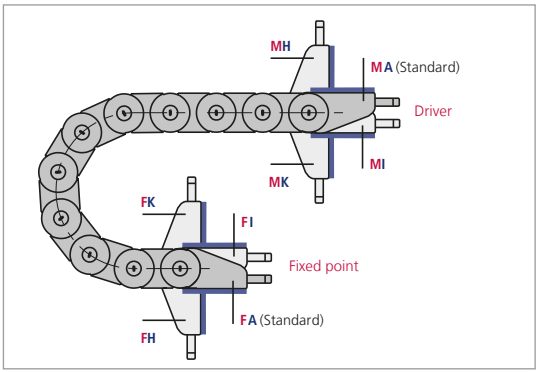


Subject to change.

Inside height
20
Inside widths
15 – 65
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Type QT 0320

Connection variants

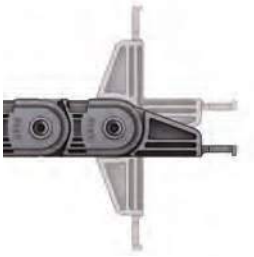


Connection point

M – Driver
F – Fixed point

Connection type

A – Threaded joint outside (standard)
I – Threaded joint inside
H – Threaded joint, rotated through 90° to the outside
K – Threaded joint, rotated through 90° to the inside

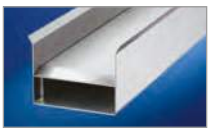


In the standard version, the connectors are mounted with the threaded joint outwards (**FA/MA**).

When ordering please specify the desired connection type (see ordering key on page 415).

The connection type can subsequently be altered simply by varying the connectors.

Guide channels
➤ from page 375



Strain relief devices
➤ from page 381



Cables for cable carrier systems
➤ from page 438



Subject to change.

Inside height
20

Inside widths
15 – 65

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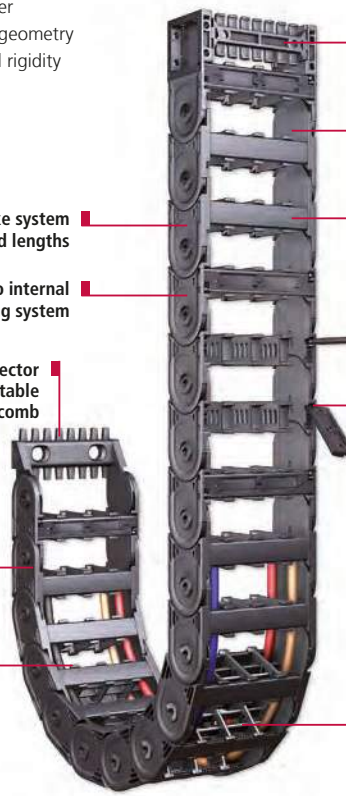
OnlineEngineer.de
TSUBAKI KABELSCHLEPP
Cable Carrier Configurator


TSUBAKI
ECO
LINK

UNIFLEX *Advanced*

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

- Cost-effective cable carrier
- Weight-optimized chain geometry
- Particularly high torsional rigidity



Universal connectors (UMB) with integratable strain relief comb

Favorable ratio of inner to outer width

Robust, double stroke system for long unsupported lengths

Single-part chain links (design 020)

Very quiet thanks to internal noise damping system

Designs with inward or outward opening brackets

Single-part end connector with integratable strain relief comb

Extremely fast and easy to open due to ball joint mechanism



Lateral wear surfaces

Simple divider fastening

Many separation options for the cables



UNIFLEX *Advanced* 1665 with mounting frame stay

The mounting frame stay can be used to reliably route cables with a very large diameter such as extraction hoses, which diameters are greater than the clearance height of the chain links can be routed.



Dividers can be fixed for installations where the carrier is rotated through 90° and applications with high transverse accelerations – no additional spacers are needed



Lateral wear surfaces – for long service life for applications where the carrier is rotated through 90°



Simple fixing of strain relief comb or C-Rail in the connector

* Some features can be different for certain types for design reasons. Our specialists are happy to advise you.

Subject to change.

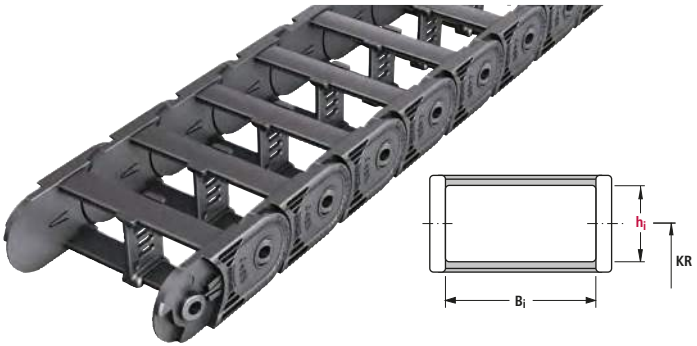
Inside heights
20 – 44

Inside widths
15 – 250

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Overview UNIFLEX *Advanced*

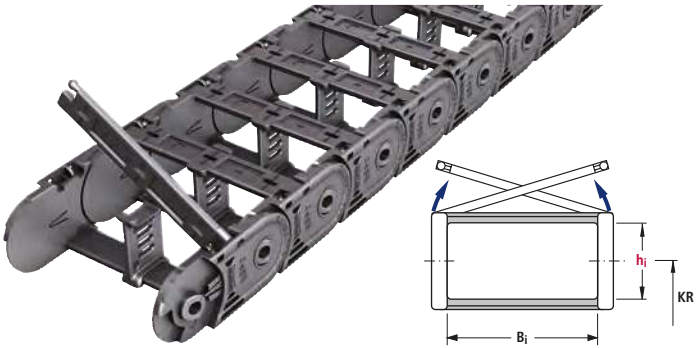
Design 020 with enclosed frame



Type	h_i	B_i	Maximum travel length in m	Dynamics of unsupported arrangement		Page
				Travel speed v_{max} in m/s	Travel acceleration a_{max} in m/s²	
1320.020	20	15-65	80	10	50	86
1455.020	26	25-103	120	10	50	86
1555.020	38	50-150	125	9	45	86
1665.020	44	50-250	150	8	40	86

Dimensions in mm

Design 030 with outward opening and detachable brackets



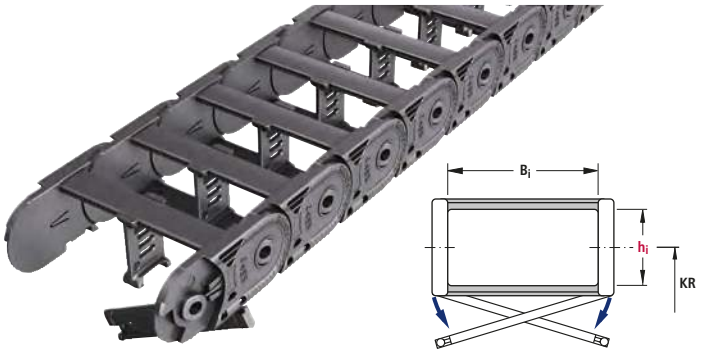
Type	h_i	B_i	Maximum travel length in m	Dynamics of unsupported arrangement		Page
				Travel speed v_{max} in m/s	Travel acceleration a_{max} in m/s²	
1455.030	26	25-103	120	10	50	86
1555.030	38	50-150	125	9	45	86
1665.030	44	50-250	150	8	40	86

Dimensions in mm

Subject to change.

Overview UNIFLEX *Advanced*

Design 040 with inward opening and detachable brackets

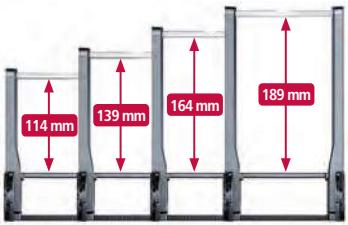


Type	h_i	B_i	Maximum travel length in m	Dynamics of unsupported arrangement		Page
				Travel speed v_{max} in m/s	Travel acceleration a_{max} in m/s²	
1455.040	**26**	25-103	120	10	50	86
1555.040	**38**	50-150	125	9	45	86
1665.040	**44**	50-250	150	8	40	86

Dimensions in mm

UNIFLEX *Advanced* 1665 with mounting frame stay

The mounting frame stay can be used to reliably route cables with a very large diameter, such as extraction hoses, which diameters are greater than the clearance height of the chain links can be routed.



■ Different inside heights for different cable diameters



Additional chambers for further cables

Routing of additional cables with small diameters such as electrical or hydraulic cables is possible in the chambers under the main chamber. Dividers can be used for additional separation of the cables.



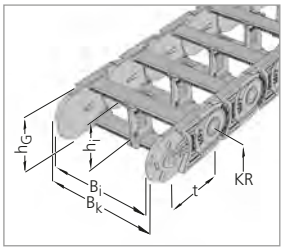
Do you need further information?
Please do get in touch with us, we will be pleased to help you.

Subject to change.

Types 1320, 1455, 1555 and 1665

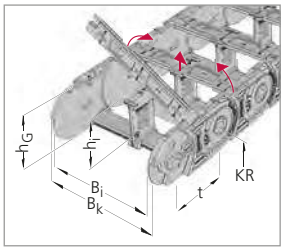
Design 020

Inside/Outside: Not to be opened



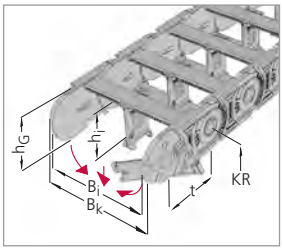
Design 030

Outside: Hinged, openable (on the right/left) and detachable brackets



Design 040

Inside: Hinged, openable (on the right/left) and detachable brackets



Inside heights: 20 – 44

Inside widths: 15 – 250

Dimensions and intrinsic chain weight

Type	h_i	h_G	Inside widths B_i									B_k
			Intrinsic chain weight									
1320	20	25.5	15	25	38	50	65	–	–	–	–	B_i + 12
			0.36	0.39	0.42	0.44	0.48	–	–	–	–	
1455	26	36	25	38	58	78	103	130	–	–	–	B_i + 16
			0.73	0.75	0.80	0.88	0.98	1.12	–	–	–	
1555	38	50	50	75	90*	100	125	150	–	–	–	B_i + 18
			1.13	1.23	1.29	1.32	1.42	1.51	–	–	–	
1665	44	60	50	75	100	125	150	175	200	225	250	B_i + 22
			1.67	1.80	1.92	2.06	2.18	2.31	2.43	2.57	2.70	

* only Design 030 / KR 100 available

Dimensions in mm/Weights in kg/m

Bend radius and pitch

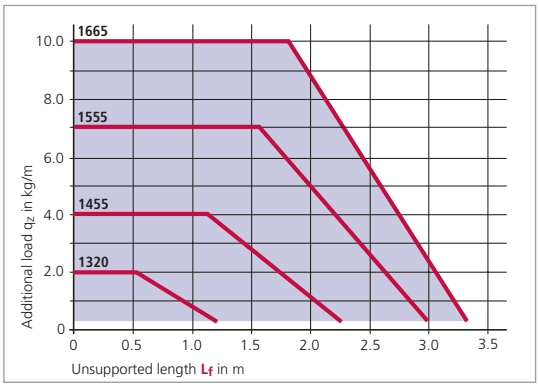
Type	Bend radii KR mm							
1320	28	38	48	75	100	125	–	–
1455	52	65	95	125	150	180	200	225*
1555	63	80	100	125	160	200	230**	–
1665	75	100	120	140	200	250	300	–

* on request ** B_i 50 mm on request

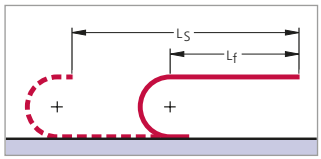
Pitch:
1320: t = 32.0 mm
1455: t = 45.5 mm
1555: t = 55.5 mm
1665: t = 66.5 mm

Load diagram

for unsupported length L_f depending on the additional load



Unsupported length L_f



In the case of longer travel lengths, sag of the cable carriers is technically permissible depending on the application.

In a gliding arrangement, even longer travel lengths are possible (see page 375). We are at your service to advise on these applications.

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Subject to change.

Types 1320, 1455, 1555 and 1665

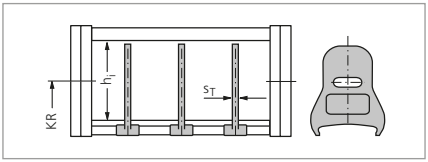
Divider system TS 0 (Type 1320)

Type	h_i mm	S_T mm
1320	20	2

The dividers can be moved in the cross section.







In the standard version, the divider systems are mounted on every second chain link.

Divider system TS 1 (Type 1320)

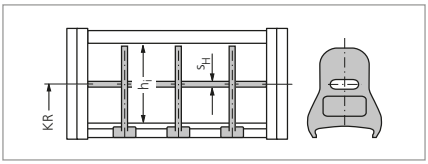
with continuous height subdivision made of aluminum

Type	hi mm	S_T mm	S_H mm
1320	20	2	2.4

The dividers can be moved in the cross section.







In the standard version, the divider systems are mounted on every second chain link.

Example of ordering

Cable carrier						Divider system		Connection
1555	. 030	. 100	. 125	- 1332		TS 0	/ 3	FU/MU
Type	Design	Inside width B_i in mm	Bend radius KR in mm	Chain length L_k in mm (without connection)		Divider system	Number of dividers n_T	Connection Fixed point/ Driver

Ordering divider systems:
Please state the designation of the divider system (TS 0, TS 1 ...) and the number of dividers. Possibly attach a sketch with the dimensions.

Subject to change.

Inside heights 20 – 44
Inside widths 15 – 250
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OnlineEngineer.de TSUBAKI KABELSCHLEPP Cable Carrier Configurator

Types 1320, 1455, 1555 and 1665

Fixing of the dividers (Types 1455, 1555 and 1665)

In the standard version, dividers or the complete divider system (dividers with height separation) can be moved in the cross section **(Version A).**

Fixed dividers are available for applications with transverse accelerations and where the carrier is rotated through 90° **(Version B)**.
If the fixed installation version is desired, please state this on the order.

Inside heights
20 – 44

Inside widths
15 – 250

Version A (Standard)

Divider movable



Version B

Divider fixed in **2.5 mm steps**
With fixed dividers, fixing is by means of arresting cams in the foot of the divider.



■ Locking profile in the crossbar

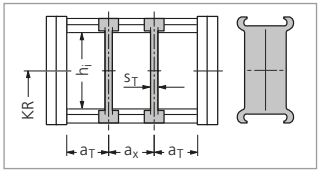


■ Divider with arresting cams

Divider system TS 0 (Types 1455, 1555 and 1665)

		Version A			Version B*			
Type	h_i mm	S_T mm	$a_{T\,min}$ mm	$a_{x\,min}$ mm	S_T mm	$a_{T\,min}$ mm	$a_{x\,min}$ mm	$a_{x\,section}$ mm
1455	26	2.0	3.5	7	2.0	4/5**	7.5	2.5
1555	38	2.5	5.0	10	2.5	5	10	2.5
1665	44	3.0	5.0	10	3.0	5	10	2.5

* not for Design 020
** $a_{T\,min}$ = 4 mm for B_i = 38, 58, 78, 103 $a_{T\,min}$ = 5 mm for B_i = 25





Amount of dividers for Design 020

Type 1455

B_i [mm]	25	38	58	78	103	130
$a_{TL}/a_{TR\,min}$ [mm] (Version B)*	5	4	4	4	4	5
$n_{T\,max}$ (Version A)	0	2	5	7	11	15

* not for Design 020

Type 1555

B_i [mm]	50	75	90	100	125	150
$n_{T\,max}$ (Version A)	2	4	6	7	9	12

Type 1665

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

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Subject to change.

Types 1320, 1455, 1555 and 1665

Divider system TS 1 (Types 1455, 1555 and 1665) for Design 030/040

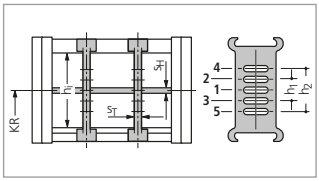
with continuous height subdivision made of aluminum

		Version A			Version B						
Type	h_i mm	S_T mm	$a_{T\,min}$ mm	$a_{x\,min}$ mm	S_T mm	$a_{T\,min}$ mm	$a_{x\,min}$ mm	$a_{x\,section}$ mm	S_H mm	h_1 mm	h_2 mm
1455	26	2.0	3.5	7	2.0	4/5*	7.5	2.5	2	10	–
1555	38	2.5	5	10	2.5	5	10	2.5	4	14	–
1665	44	3.0	5	10	3.0	5	10	2.5	4	14	28

* $a_{T\,min}$ = 4 mm for B_i = 38, 58, 78, 103 $a_{T\,min}$ = 5 mm for B_i = 25





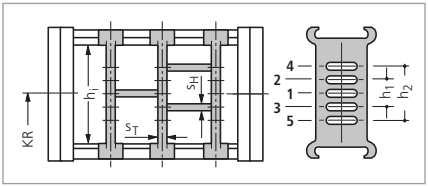


Divider system TS 3 (Types 1455, 1555 and 1665) for Design 030/040

with section subdivision, partitions made of plastic

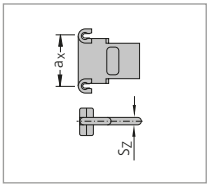
Type	h_i mm	S_T mm	$a_{T\,min}$ mm	$a_{x\,min}$ mm	S_H mm	h_1 mm	h_2
1455	26	5	3.5	7	2.4	10	–
1555	38	5	5	10	2.4	12	–
1665	44	8	5	10	4.0	14	28

The dividers are fixed by the partitions, the complete divider system is movable.



In the standard version, the divider systems are mounted on every second chain link.

Dimensions of the plastic partitions for TS 3



Types 1455 and 1555

S_Z	a_x (Center to center distance, dividers)									
2.4	15	20	25	30	35	40	45	55	65	75

Type 1665

S_Z	a_x (Center to center distance, dividers)									
4	16	18	23	28	32	33	38	43	48	58
	64	68	78	80	88	96	112	–	–	–

Dimensions in mm

For type 1665, aluminum partitions in 1 mm width sections are available.

Separation is also possible using a **twin divider**. Twin dividers are also suitable for retrofitting in the section subdivision system.

Subject to change.

Types 1320, 1455, 1555 and 1665

Strain relief devices for plastic connectors

Inside heights
20 – 44

Inside widths
15 – 250

ZLK – A

Connecting elements with integrated strain relief combs on both sides (ZLK – A)



ZLK – L

Connecting elements with screw-on type strain relief combs (ZLK – L)



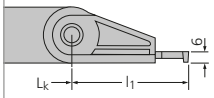
The strain relief combs are generally supplied with the connecting elements.

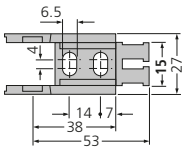
The combs are either clipped to the end connectors and bolted together with them, or screwed on at the desired intervals by using additional boreholes, behind the connecting elements.

Connection dimensions for Type 1320

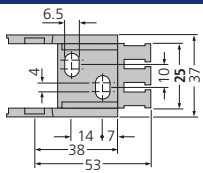
Connecting elements with strain relief combs on one side

ZLK – A
integrated strain relief combs

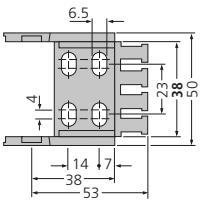




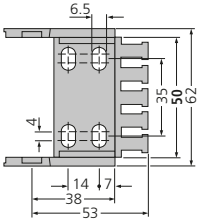
For chain width B_i = 15 mm



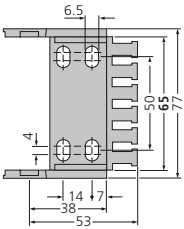
For chain width B_i = 25 mm



For chain width B_i = 38 mm



For chain width B_i = 50 mm



For chain width B_i = 65 mm

The dimensions of the fixed point and driver connections are identical.

Short connectors without strain relief are also available for restricted installation conditions. Please contact us.

Type	B_i	B_k	n_z
1320. ... .15	15	27	2
1320. ... .25	25	37	3
1320. ... .38	38	50	4
1320. ... .50	50	62	5
1320. ... .65	65	77	6

Dimensions in mm

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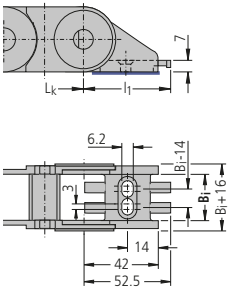
Subject to change.

Types 1320, 1455, 1555 and 1665

Connection dimensions for Type 1455

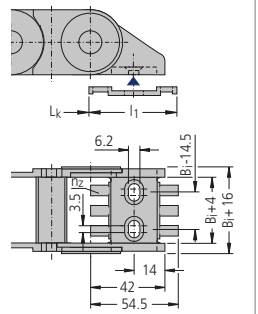
Connecting elements with strain relief combs on both sides

ZLK – A
integrated strain relief combs



For chain width
B_i = 25 mm

ZLK – L
screwable strain relief combs



For chain width
B_i = 38 – 103 mm

Type	B_i	B_k	n_z
1455. ... .25	25	41	2
1455. ... .38	38	54	3
1455. ... .58	58	74	4
1455. ... .78	78	94	6
1455. ... .103	103	119	8

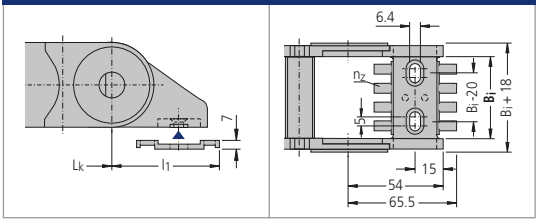
Dimensions in mm

The dimensions of the fixed point and driver connections are identical.

Connection dimensions for Type 1555

Connecting elements with strain relief combs on both sides

ZLK – L
screwable strain relief combs



Type	B_i	B_k	n_z
1555. ... .50	50	68	4
1555. ... .75	75	93	6
1555. ... .100	100	118	8
1555. ... .125	125	143	10
1555. ... .150	150	168	12

Dimensions in mm

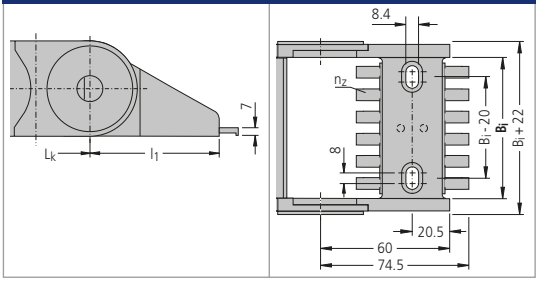
For chain width B_i 90 mm connectors made of steel are available.

The dimensions of the fixed point and driver connections are identical.

Connection dimensions for Type 1665

Connecting elements with strain relief combs on both sides

ZLK – L
screwable strain relief combs



Type	B_i	B_k	n_z
1665. ... .50	50	72	4
1665. ... .75	75	97	6
1665. ... .100	100	122	8
1665. ... .125	125	147	10
1665. ... .150	150	172	12
1665. ... .175	175	197	14
1665. ... .200	200	222	16
1665. ... .225	225	247	18
1665. ... .250	250	272	20

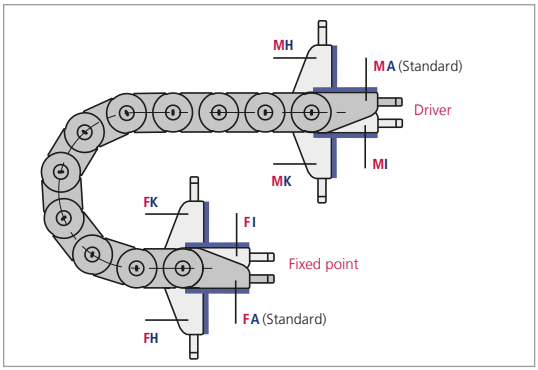
Dimensions in mm

The dimensions of the fixed point and driver connections are identical.

Subject to change.

Types 1320, 1455, 1555 and 1665

Connection variants



Connection point

M – Driver
F – Fixed point

Connection type

A – Threaded joint outside (standard)
I – Threaded joint inside
H – Threaded joint, rotated through 90° to the outside
K – Threaded joint, rotated through 90° to the inside

In the standard version, the connectors are mounted with the threaded joint outwards (**FA/MA**).
When ordering please specify the desired connection type (see ordering key on page 416).
The connection type can subsequently be altered simply by varying the connectors.

Gliding elements – the economical solution for gliding applications (Types 1455, 1555, 1665)

Replaceable glide shoes made of plastic*

To extend the life of cable carriers in gliding operations TSUBAKI KABELSCHLEPP supplies detachable, exchangeable glide shoes.

Replaceable glide shoes are a very economical solution. When wear occurs only the glide shoes are replaced, and not the complete cable carrier.

Glide shoes for are made of a highly wear-resistant special material.

* not for design 040



Chain height with glide shoes:

1455: $h_{G'} = h_G + 2.5 = 38.5$ mm
1555: $h_{G'} = h_G + 3.0 = 53.0$ mm
1665: $h_{G'} = h_G + 3.0 = 63.0$ mm

Minimum bend radii when using glide shoes:

1455: $KR_{min} =$ 65 mm
1555: $KR_{min} =$ 80 mm
1665: $KR_{min} =$ 100 mm

Chain width with glide shoes:

1455: $B_{EF'} = b_i + 19$ mm
1555: $B_{EF'} = b_i + 22$ mm
1665: $B_{EF'} = b_i + 27$ mm

! By means of a positive snap connection, the glide shoes sit firmly on the chain link.

External damper – reduce noises when uncoiling (Types 1455, 1555)

The external dampers effectively reduce the uncoiling noises of the UNIFLEX 1455/1555. The use of external dampers is particularly recommended for support trays and guide channels that are only attached at points and, thus, form a resonance body.



! Easy to install; the dampers are securely held against the crossbars

Subject to change.

Types 1320, 1455, 1555 and 1665

Universal mounting brackets

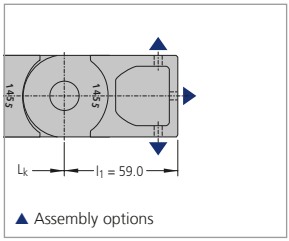
With plastic UMBs (Universal Mounting Brackets), you can easily connect the UNIFLEX **from above, from below, or at head height**.



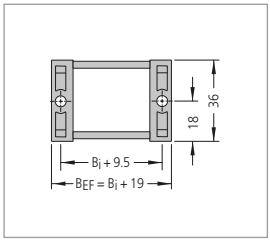
Inside heights
20 – 44

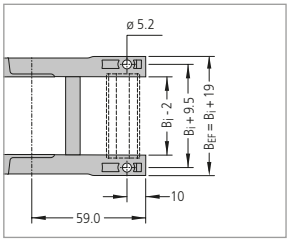
Inside widths
15 – 250

UNIFLEX 1455

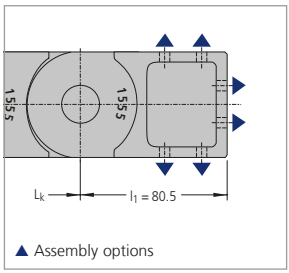


▲ Assembly options

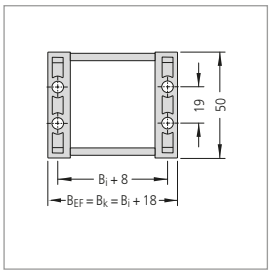


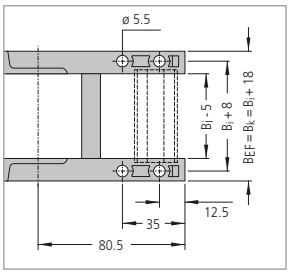


UNIFLEX 1555

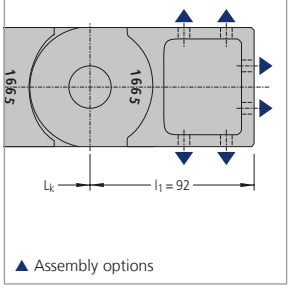


▲ Assembly options

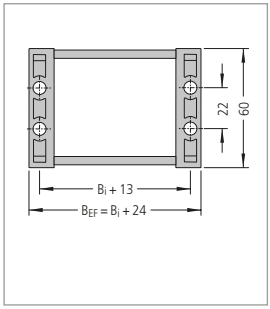


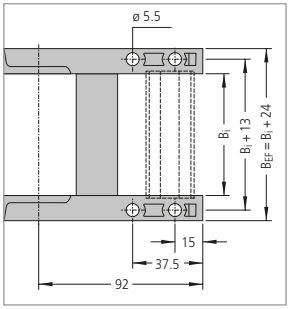


UNIFLEX 1665



▲ Assembly options





The dimensions of the fixed point and driver connections are identical.
When ordering please specify the connection type FU/MU (see ordering key on page 416).

Subject to change.

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TSUBAKI KABELSCHLEPP
Cable Carrier Configurator

Types 1320, 1455, 1555 and 1665

Strain relief devices

One-sided strain relief combs made of plastic (UNIFLEX 1455)

The cables can be fixed securely and simply using the **optional strain relief combs**.
The strain relief combs are installed between the UMBs, and do not need to be bolted on separately or mounted on a C-Rail.

Please state on the order whether strain relief combs are needed.



■ Universal mounting bracket with strain relief comb



■ One-sided strain relief comb



■ Fixing in the UMB

Type	B_i mm	n_Z
1455. ... .25	25	2
1455. ... .38	38	3
1455. ... .58	58	5
1455. ... .78	78	7
1455. ... .103	103	9

n_Z = Number of teeth

Both-sided strain relief combs made of plastic (UNIFLEX 1555/1665)

The cables can be fixed securely and simply using the **optional strain relief combs**.
The strain relief combs are installed between the UMBs, and do not need to be bolted on separately or mounted on a C-Rail.

Please state on the order whether strain relief combs are needed.



■ Universal mounting bracket with strain relief comb



■ Both-sided strain relief comb



■ Fixing in the UMB

Type	B_i mm	n_Z
1555. ... .50	50	3
1555. ... .75	75	5
1555. ... .90	90	6
1555. ... .100	100	7
1555. ... .125	125	9
1555. ... .150	150	11

n_Z = Number of teeth on one side of the comb

* on request

Type	B_i mm	n_Z
1665. ... .50	50	3
1665. ... .75	75	5
1665. ... .100	100	7
1665. 125	125	9
1665. ... .150	150	11
1665. ... .175	175	13
1665. ... .200	200	16
1665. ... .225	225*	17
1665. ... .250	250*	19

Subject to change.

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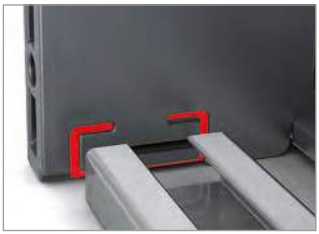
Types 1320, 1455, 1555 and 1665

Strain relief devices

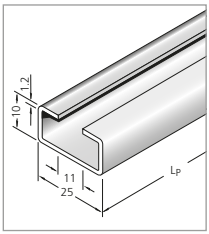
C-rails for LineFix bracket clamps, SZL strain reliefs and clamps (UNIFLEX 1555/1665)

The optional C-rails are fixed by means of the universal mounting brackets and do not have to be screwed separately.

Please state in your order whether C-rails are needed.



■ Universal mounting bracket with C-rail

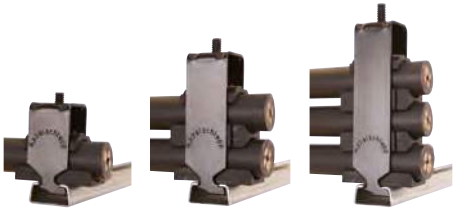


■ Integratable C-rail
25 x 10 mm,
slit width 11 mm,
material steel,
Item-No. 3931

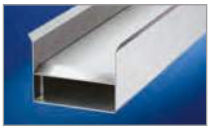
Our LineFix strain reliefs are optimally suited for the C-rails (LineFix bracket clamps and other strain relief devices – see Accessories chapter, from page 381 onwards).



■ C-rail with LineFix strain relief



Guide channels
➤ from page 375



Strain relief devices
➤ from page 381



Cables for cable carrier systems
➤ from page 438



Subject to change.



UNIFLEX

Proven cable carrier with many opening and cover variants*

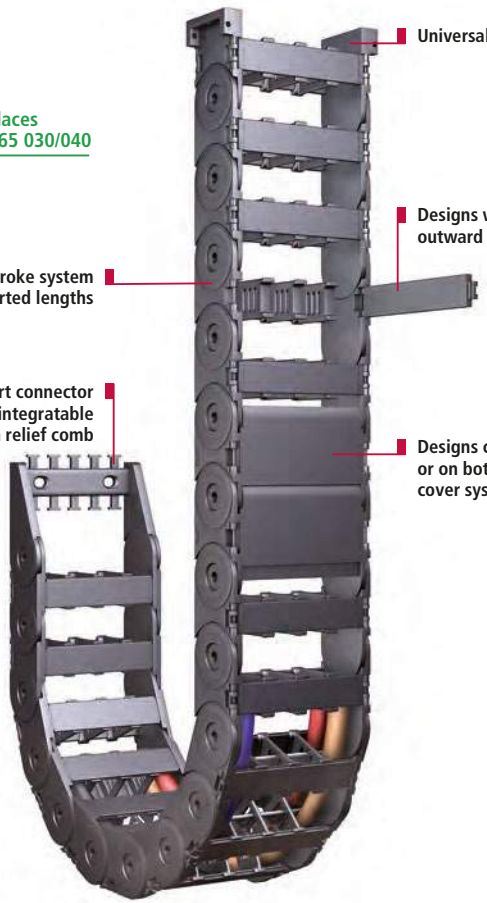
- Cost-effective cable carrier
- Particularly high torsional rigidity
- TÜV design approved in accordance with 2PfG 1036/10.97

NOTE:

UNIFLEX Advanced replaces UNIFLEX 0455/0555/0665 030/040

+ improved design
+ more cost effective

> from page 12



Universal connectors (UMB)

Designs with inward or outward opening brackets

Robust, double stroke system for long unsupported lengths

Single-part connector with integratable strain relief comb

Designs covered on one side or on both sides with plastic cover system



Design 030
with outward opening and detachable brackets



Design 040
with inward opening and detachable brackets



Design 050 –
covered on one side



Design 060/080 –
TUBE SERIES covered cable carriers

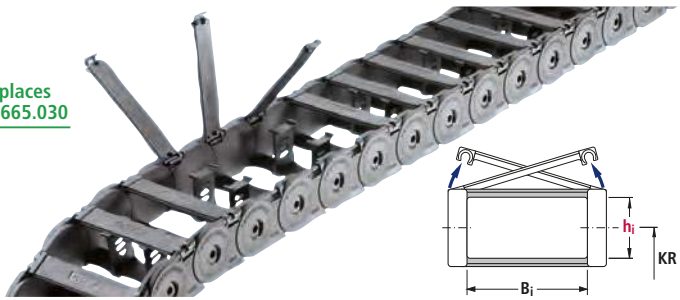
* Some features can be different for certain types for design reasons. Our specialists are happy to advise you.

Subject to change.

Overview UNIFLEX

Design 030 with outward opening and detachable brackets

NOTE:
UNIFLEX Advanced replaces UNIFLEX 0455/0555/0665.030
+ improved design
+ more cost effective
> from page 12

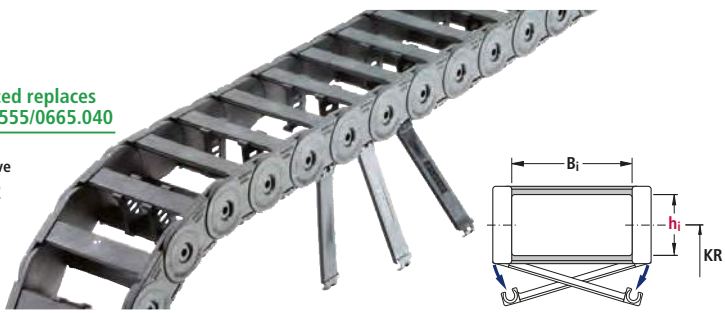


Type	h_i	B_i	Maximum travel length in m	Dynamics of unsupported arrangement		Page
				Travel speed v_{max} in m/s	Travel acceleration a_{max} in m/s²	
0250.030	17.5	20-80	60	10	50	100
0345.030	20	15-90	80	10	50	102

Dimensions in mm

Design 040 with inward opening and detachable brackets

NOTE:
UNIFLEX Advanced replaces UNIFLEX 0455/0555/0665.040
+ improved design
+ more cost effective
> from page 12



Type	h_i	B_i	Maximum travel length in m	Dynamics of unsupported arrangement		Page
				Travel speed v_{max} in m/s	Travel acceleration a_{max} in m/s²	
0345.040	20	15-90	80	10	50	102

Dimensions in mm

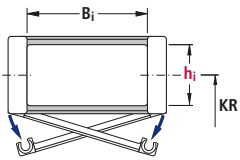
Inside heights 17.5 – 44
Inside widths 25 – 175
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Subject to change.

Overview UNIFLEX

Design 050 – covered on one side





Type	h_i	B_i	Maximum travel length in m	Dynamics of unsupported arrangement		Page
				Travel speed v_{max} in m/s	Travel acceleration a_{max} in m/s²	
0345.050	20	15-65	80	10	50	104
0455.050	26	25-130	120	10	50	104
0555.050	38	50-150	125	9	45	104
0665.050	44	50-175	150	8	40	104

Dimensions in mm

TUBE SERIES – covered cable carriers

Design 060 with plastic cover system

- Outside and inside: Covered
- Inside: Hinged, openable (on the right/left) and detachable cover

Design 080 – lightweight – with plastic cover system

- Outside: Detachable cover
- Inside: Covered



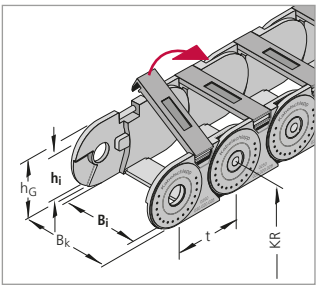
Detailed information can be found in the chapter TUBE SERIES – Covered Cable Carriers from page 284 onwards.

Subject to change.

Type 0250

Design 030

Outside: Hinged, openable and detachable brackets



Inside height 17.5

Inside widths 20 – 80

Dimensions and intrinsic chain weight

Type	h_i	h_G	Inside widths B_i Intrinsic chain weight						B_k
			20	30	40	50	65	80	
0250	17.5	23	0.26	0.31	0.33	0.35	0.38	0.41	B_i + 10

Dimensions in mm/Weights in kg/m

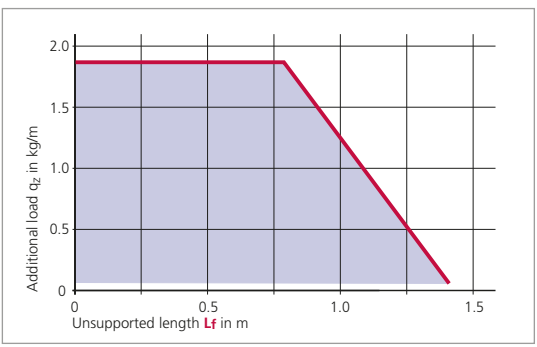
Bend radius and pitch

Bend radii KR mm					
28	38	45	60	75	100

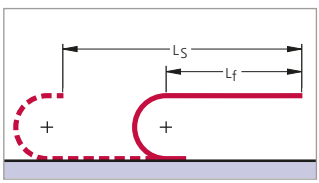
Pitch t = 25.0 mm

Load diagram

for unsupported length L_f depending on the additional load



Unsupported length L_f



In the case of longer travel lengths, sag of the cable carriers is technically permissible depending on the application.

In a gliding arrangement, even longer travel lengths are possible (see page 375).

We are at your service to advise on these applications.

Example of ordering

Cable carrier								Divider system		Connection
0250	.	030	.	40	.	45	- 650	TS 0	/ 2	FA/MA
Type		Design		Inside width B_i in mm		Bend radius KR in mm	Chain length L_k in mm (without connection)	Divider system	Number of dividers n_T	Connection Fixed point/ Driver

Ordering divider systems:
Please state the designation of the divider system (TS 0, TS 1 ...) and the number of dividers. Possibly attach a sketch with the dimensions.

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Subject to change.

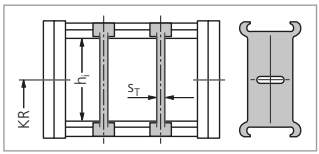
Type 0250

Divider system TS 0

Type	h_i mm	S_T mm
0250	17.5	2

The dividers can be moved in the cross section.

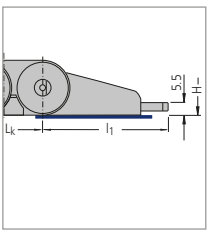
In the standard version, the divider systems are mounted on every second chain link.

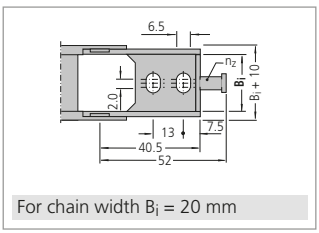


The divider system TS 1 with a **central** height subdivision (S_H = 2.4 mm) is also available for the type 0250.

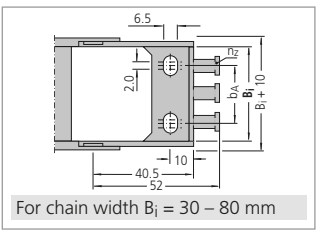
Connection dimensions

Plastic connectors with integrated strain relief





For chain width B_i = 20 mm



For chain width B_i = 30 – 80 mm

The dimensions of the fixed point and driver connections are identical.

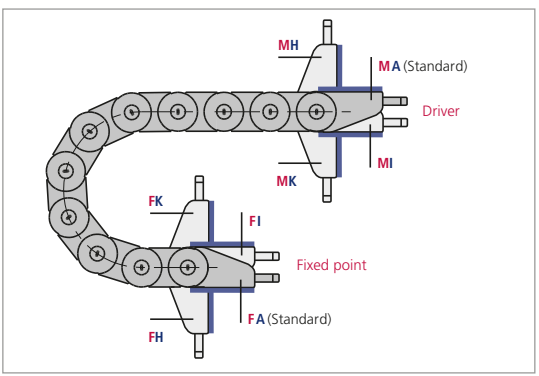
Table of dimensions

Plastic connecting elements with strain relief combs

Type	B_i	B_k	b_A	n_Z
0250	20	30	–	1
0250	30	40	15	2
0250	40	50	23	3
0250	50	60	33	4
0250	65	75	48	5
0250	80	90	63	6

Dimensions in mm

Connection variants



Connection point

M – Driver

F – Fixed point

Connection type

A – Threaded joint outside (standard)

I – Threaded joint inside

H – Threaded joint, rotated through 90° to the outside

K – Threaded joint, rotated through 90° to the inside

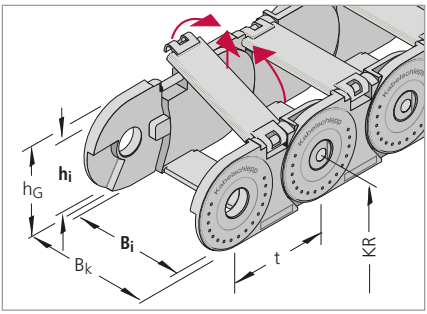
In the standard version, the connectors are mounted with the threaded joint outwards (**FA/MA**).
When ordering please specify the desired connection type (see ordering key on page 416).
The connection type can subsequently be altered simply by varying the connectors.

Subject to change.

Type 0345

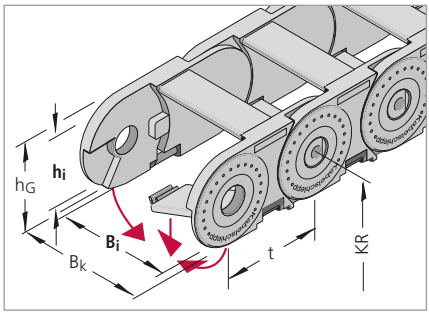
Design 030

Outside: Hinged, openable (on the right/left) and detachable brackets



Design 040

Inside: Hinged, openable (on the right/left) and detachable brackets



Dimensions and intrinsic chain weight

Type	h_i	h_G	Inside widths B_i									B_k
			Intrinsic chain weight									
			15	20	25	38	50	65	90	–	–	
0345	20	28	0.43	0.45	0.46	0.50	0.53	0.57	0.71	–	–	B_i + 13

Dimensions in mm/Weights in kg/m

Bend radius and pitch

Type	Bend radii KR mm							
0345	38	50	75	100	125	150	–	–

Pitch t = 34.5 mm

Example of ordering

Cable carrier										Divider system		Connection
0345	.	040	.	65	.	75	-	690		TS 0	/	2	FA/MA
Type		Design		Inside width B_i in mm		Bend radius KR in mm		Chain length L_k in mm (without connection)		Divider system		Number of dividers n_T	Connection Fixed point/ Driver

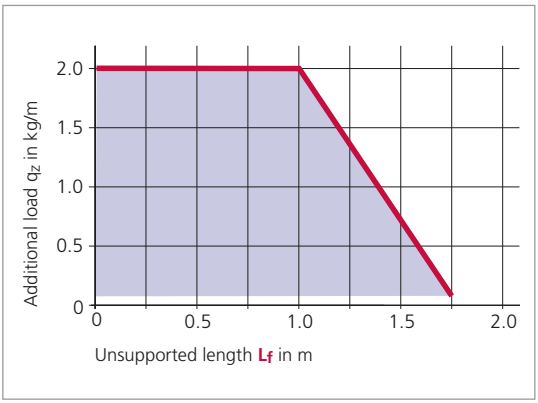
Ordering divider systems:
Please state the designation of the divider system (TS 0, TS 1 ...) and the number of dividers. Possibly attach a sketch with the dimensions.

Subject to change.

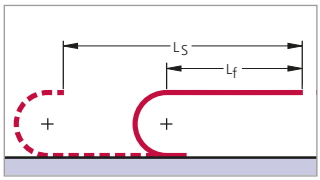
Type 0345

Load diagram

for unsupported length L_f depending on the additional load



Unsupported length L_f



In the case of longer travel lengths, sag of the cable carriers is technically permissible depending on the application.

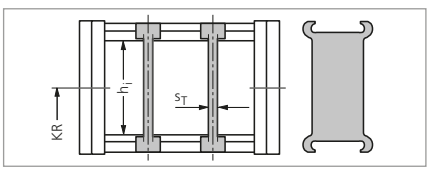
In a gliding arrangement, even longer travel lengths are possible (see page 375).

We are at your service to advise on these applications.

Divider system TS 0

Type	h_i mm	S_T mm
0345	20	2

The dividers can be moved in the cross section.

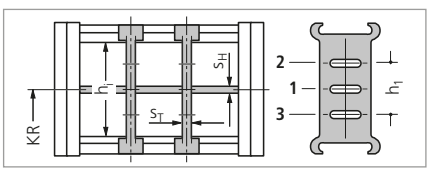


In the standard version, the divider systems are mounted on every second chain link.

Divider system TS 1 with continuous height subdivision made of aluminum

Type	h_i mm	S_T mm	S_H mm	h_1 mm
0345	20	2	2	10

The dividers can be moved in the cross section.

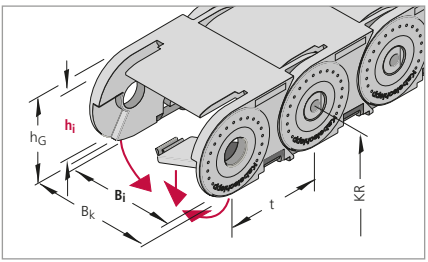


In the standard version, the divider systems are mounted on every second chain link.

Types 0345, 0455, 0555 and 0665

Design 050

Outside: Covered
Inside: Hinged, openable (on the right/left) and detachable brackets



Inside heights
20 – 44

Inside widths
15 – 175

Dimensions and intrinsic chain weight

Type	h_i	h_G	Inside widths B_i / Intrinsic chain weight						B_k
0345	20	28	15	20	25	38	50	65	B_i + 13
			0.46	0.49	0.52	0.59	0.66	0.75	
0455	26	36	25	38	58	78	103	130	B_i + 18
			0.89	0.97	1.10	1.22	1.40	1.58	
0555	38	50	50	75	100	125	150	–	B_i + 22
			1.64	1.81	1.98	2.16	2.33	–	
0665	44	60	50	75	100	125	150	175	B_i + 27
			2.26	2.53	2.79	3.06	3.33	3.60	

Dimensions in mm/Weights in kg/m

Bend radius and pitch

Type	Bend radii KR mm							
0345	38	50	75	100	125	150	–	–
0455	52	65	95	125	150	180	200	225
0555	63	80	100	125	160	200	230	–
0665	75	100	120	140	200	250	300	–

Pitch t:
Type 0345: 34.5 mm
Type 0455: 45.5 mm
Type 0555: 55.5 mm
Type 0665: 66.5 mm

Example of ordering

Cable carrier									Divider system		Connection
0555	.	050	.	100	.	125	-	1332	TS 0	/	3	FA/MA
Type		Design		Inside width B_i in mm		Bend radius KR in mm		Chain length L_k in mm (without connection)	Divider system		Number of dividers n_T	Connection Fixed point/ Driver

Ordering divider systems:
Please state the designation of the divider system (TS 0, TS 1 ...) and the number of dividers. Possibly attach a sketch with the dimensions.

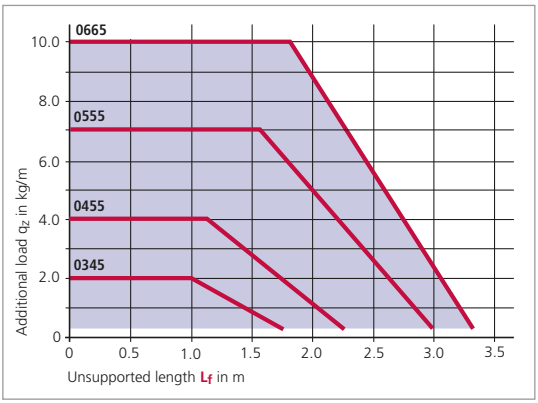
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Subject to change.

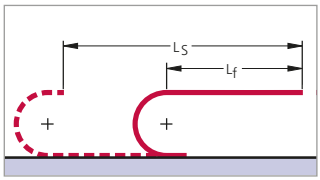
Types 0345, 0455, 0555 and 0665

Load diagram

for unsupported length L_f depending on the additional load



Unsupported length L_f



In the case of longer travel lengths, sag of the cable carriers is technically permissible depending on the application.

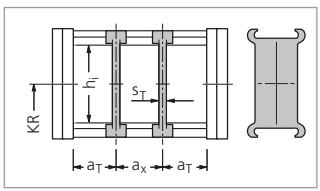
In a gliding arrangement, even longer travel lengths are possible (see page 375).

We are at your service to advise on these applications.

Divider system TS 0

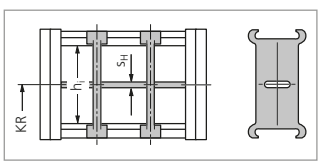
Type	h_i mm	S_T mm	a_x mm	B_i mm	$a_{T\,min}$ mm
0455	26	3	20	25	12.5
0455	26	3	20	38, 58, 78	19
0455	26	3	20	103	21.5
0455	26	3	20	130	25
0555	38	3	25	50 ... 150	25
0665	44	5	25	50 ... 175	25

The dividers are fixed at an interval of a_x .



In the standard version, the divider systems are mounted on every second chain link.

For Type 0665, the divider system TS 1 with a central height subdivision (S_H = 4 mm) is also available.



Subject to change.

Types 0345, 0455, 0555 and 0665

Strain relief devices for plastic connectors

Inside heights
20 – 44

Inside widths
15 – 175

ZLK – A

Connecting elements with integrated strain relief combs on both sides (ZLK – A)

ZLK – L

Connecting elements with screw-on type strain relief combs (ZLK – L)

The strain relief combs are generally supplied with the connecting elements.

The combs are either clipped to the end connectors and bolted together with them, or screwed on at the desired intervals by using additional boreholes, behind the connecting elements.



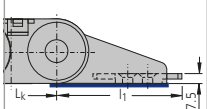


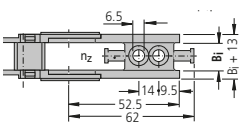
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Connection dimensions for Type 0345

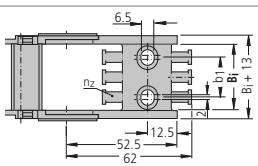
Connecting elements with integrated strain relief combs on both sides

ZLK – A





For chain width B_i = 15 – 20 mm



For chain width B_i = 25 – 65 mm

The dimensions of the fixed point and driver connections are identical.

Type	B_i	B_k	b_1	n_z
0345. … .15	15	28	–	1
0345. … .20	20	33	–	1
0345. … .25 *	25	38	13	2
0345. … .38	38	51	24	3
0345. … .50	50	63	36	4
0345. … .65	65	78	51	5

Dimensions in mm

* Type 0345. … .25 with 6.5 mm hole (not an elongated hole)

Connectors made of steel are available for carrier width B_i = 90 mm.

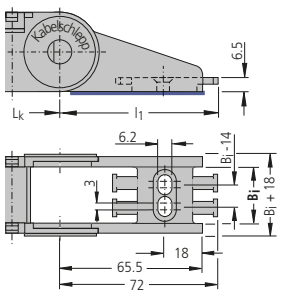
Subject to change.

Types 0345, 0455, 0555 and 0665

Connection dimensions for Type 0455

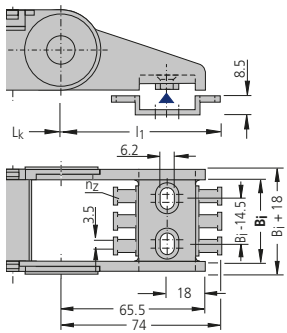
Connecting elements with strain relief combs on both sides

ZLK – A
integrated strain relief combs



For chain width B_i = 25 mm

ZLK – L
screwable strain relief combs



For chain width B_i = 38 – 130 mm

The dimensions of the fixed point and driver connections are identical.

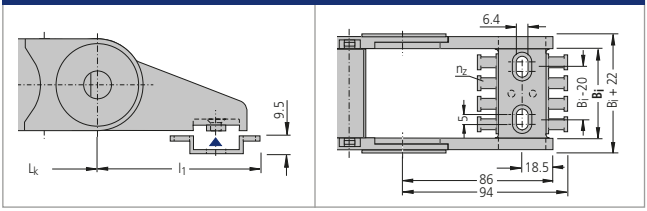
Type	B_i	B_k	n_z
0455. ... .25	25	43	2
0455. ... .38	38	56	3
0455. ... .58	58	76	4
0455. ... .78	78	96	6
0455. ... .103	103	121	8
0455. ... .130	130	148	10

Dimensions in mm

Connection dimensions for Type 0555

Connecting elements with strain relief combs on both sides

ZLK – L – screwable strain relief combs



The dimensions of the fixed point and driver connections are identical.

Type	B_i	B_k	n_z
0555. ... .50	50	72	4
0555. ... .75	75	97	6
0555. ... .100	100	122	8
0555. ... .125	125	147	10
0555. ... .150	150	172	12

Dimensions in mm

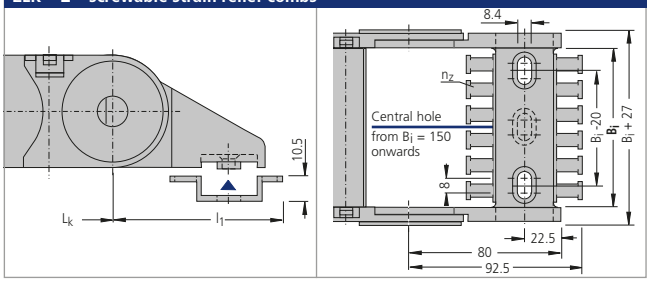
Subject to change.

Types 0345, 0455, 0555 and 0665

Connection dimensions for Type 0665

Connecting elements with strain relief combs on both sides

ZLK – L – screwable strain relief combs

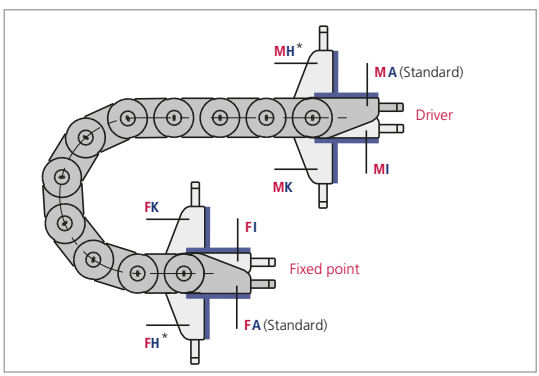


The dimensions of the fixed point and driver connections are identical.

Type	B_i	B_k	n_z
0665. ... .50	50	77	4
0665. ... .75	75	102	6
0665. ... .100	100	127	8
0665. ... .125	125	152	10
0665. ... .150	150	177	12
0665. ... .175	175	202	14

Dimensions in mm

Connection variants



Connection point

M – Driver

F – Fixed point

Connection type

A – Threaded joint outside (standard)

I – Threaded joint inside

H – Threaded joint, rotated through 90° to the outside

K – Threaded joint, rotated through 90° to the inside

In the standard version, the connectors are mounted with the threaded joint outwards (**FA/MA**).

When ordering please specify the desired connection type (see ordering key on page 416).

The connection type can subsequently be altered simply by varying the connectors.

* not in the case of UNIFLEX design 060

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Subject to change.

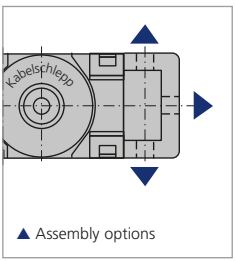
Types 0345, 0455, 0555 and 0665

Connection dimensions

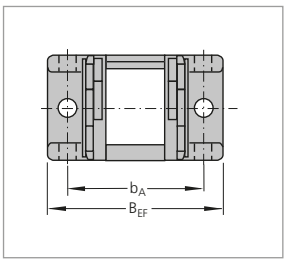
UMB (Universal Mounting Brackets) made of aluminum

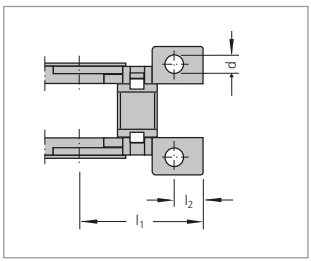


Universal connectors for connection above, below or at the front.



▲ Assembly options





The dimensions of the fixed point and driver connections are identical.

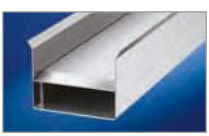
Type	B_{EF}	b_A	l_1	l_2	d
0345	B_i + 30	B_i + 20	36	9	5.5
0455	B_i + 30	B_i + 20	47	10.5	5.5
0555	B_i + 40	B_i + 28	57	13.5	6.5
0665	B_i + 44	B_i + 28	68	14.5	8.5

Dimensions in mm

Guide channels
➤ from page 375

Strain relief devices
➤ from page 381

Cables for cable carrier systems
➤ from page 438

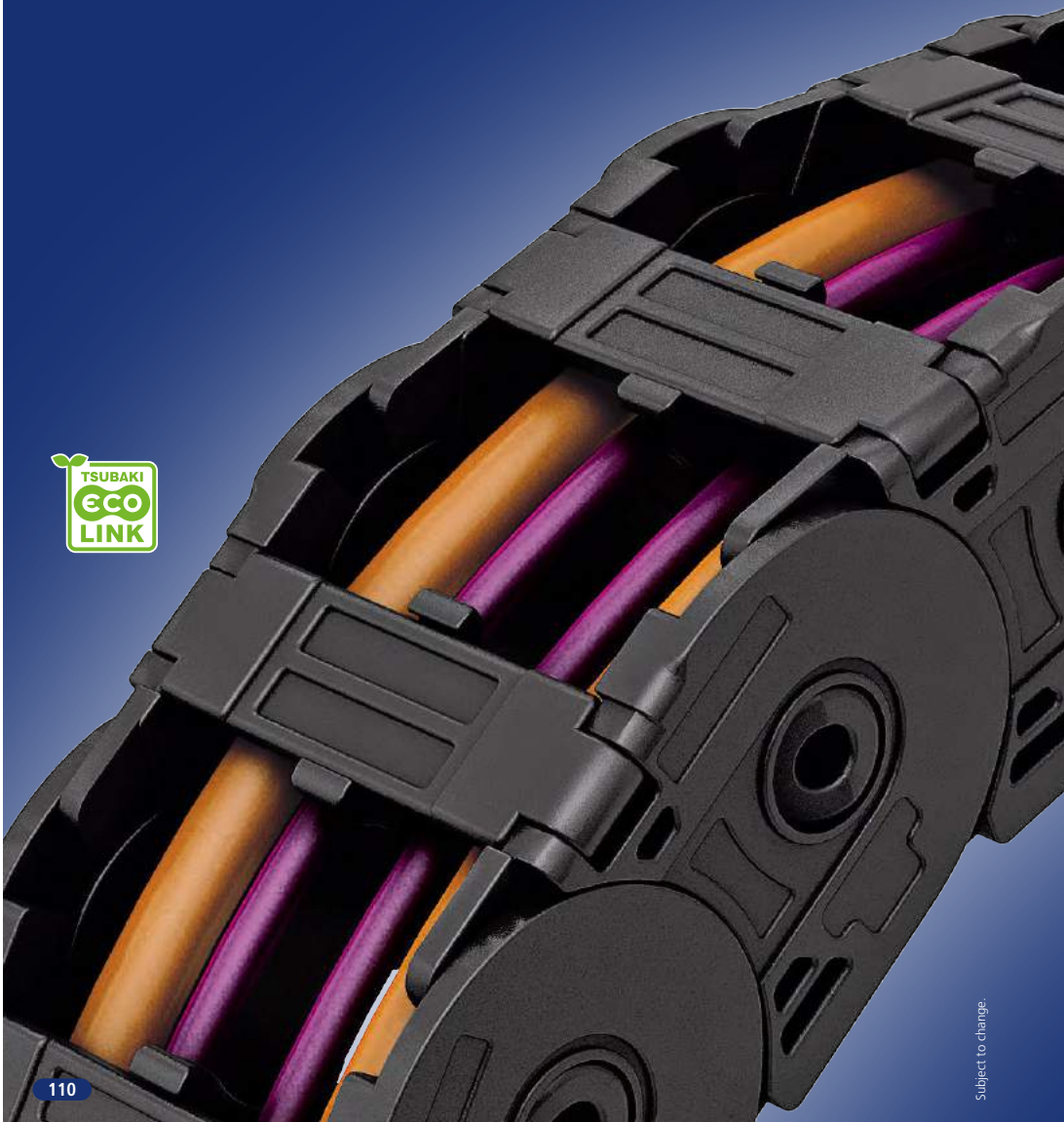




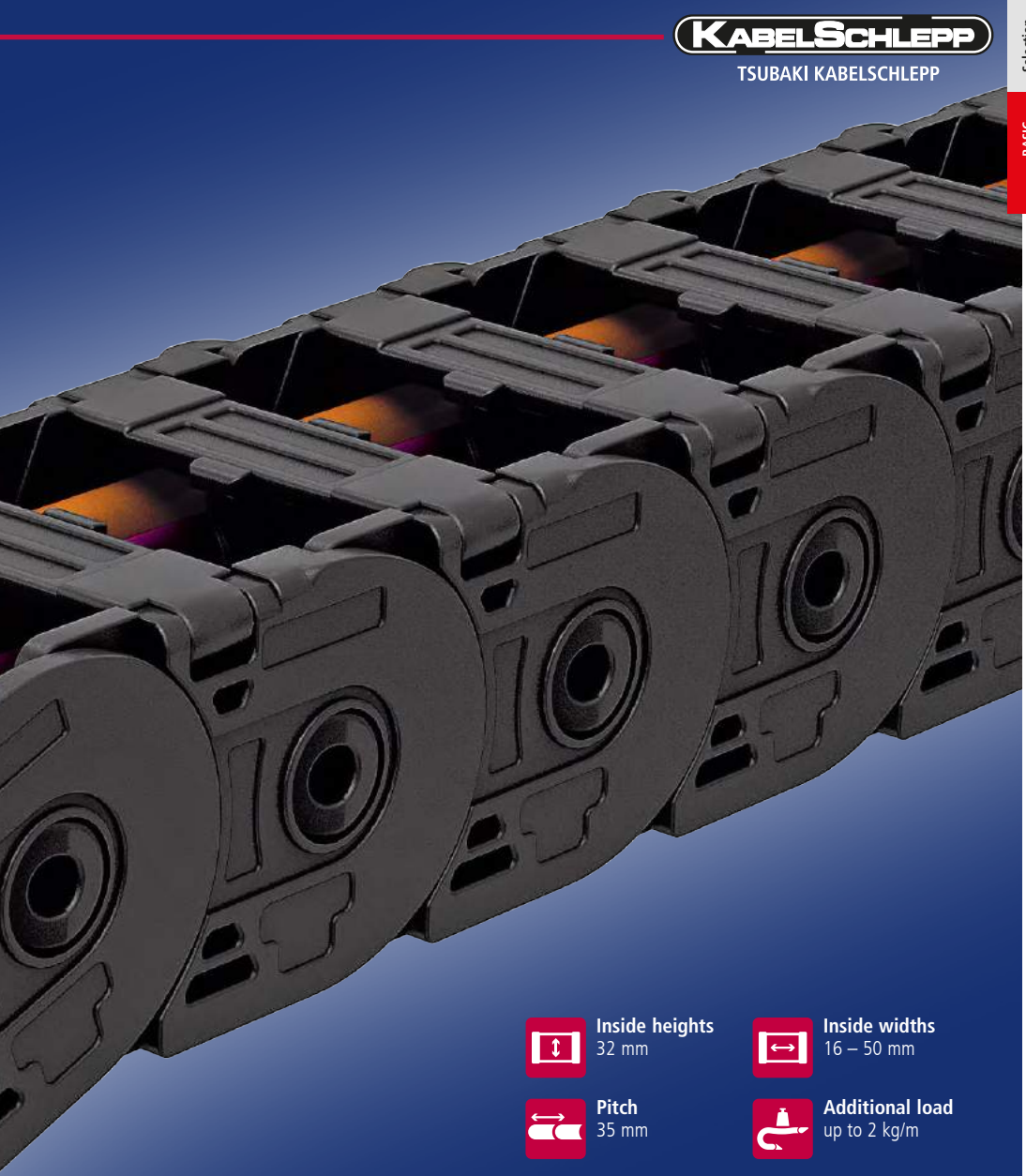


Subject to change.

TKP35



Subject to change.



Inside heights
32 mm

Inside widths
16 – 50 mm

Pitch
35 mm

Additional load
up to 2 kg/m

Travel length unsupported
up to 2.4 m

Travel speed
up to 5 m/s

Travel length gliding
up to 20 m/s²

All technical data and features are application and type-dependent.

Let us know your requirements – we are here to help!

Subject to change.

Inside heights

32

Inside widths

16 – 50

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BASIC LINE | **TKP35**



Features

- Robust and extremely rigid stroke system
- Extensive unsupported sections
- Quiet operation due to internal dampening system
- Weight-optimized chain geometry
- Interior without sharp edges, design that protects the cable
- Variable internal partitioning
- Vertical moveable dividers or with locking cams, can be attached at 2-mm increments (not B_i 16)
- Easy to open versions, left or right (not B_i 16)
- Very quick and easy to open
- Optional tension relief completely integrated into the connecting element



Safe cable separation using fixed dividers



Model 030 with outwardly hinged, detachable brackets on both sides



Model 040 with inwardly hinged, detachable brackets on both sides



Optimised utilisation of the interior space; vertical as well as horizontal internal division possible

Subject to change.



1. Dividers and height partitions for cable separation
2. Cable-friendly interior without sharp edges
3. Model types for internal/external opening
4. Quick and easy opening from an arbitrary position
5. Integrated noise damper
6. Connector pieces with optional strain relief



Example of cross section

Selection criteria for TKP35

- If a greater internal height is required for a narrower internal width
- If a smaller bend radius is required for a greater internal height
- If internal partitioning is required
- If divider attachment should be possible
- If very smooth operation of the cable carrier is required
- If no cover on the cable carrier is required
- If no sliding arrangement is required
- If no steel cable carrier is required (e.g. at extremely high temperatures)

Type	h_i [mm]	B_i [mm]	t [mm]	Page
TKP35	32	16 – 50	35	114

Subject to change.

TKP35

Pitch
35 mm

Height
32 mm

Width
16 – 50 mm

Stay variants

Stay variant 030

Outside: hinged and detachable brackets



Stay variant 040

Inside: hinged and detachable brackets

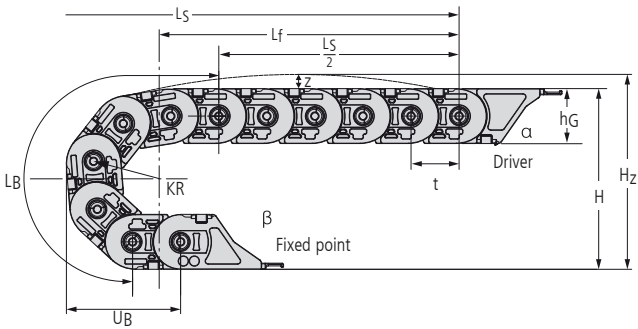


Spare parts list, installation instructions, etc.:
Receive additional info at **kabelschlepp.de**

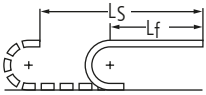
Subject to change.

BASIC LINE | **TKP35**

Unsupported arrangement



Unsupported length Lf



A sag of the cable carrier is technically permissible for extended movement ranges, depending on specific application.

LS max. [m]	**Dynamics**		**t** [mm]	**z** [mm/m]
	vmax [m/s]	**amax** [m/s]		
2.4	5	20	35	20

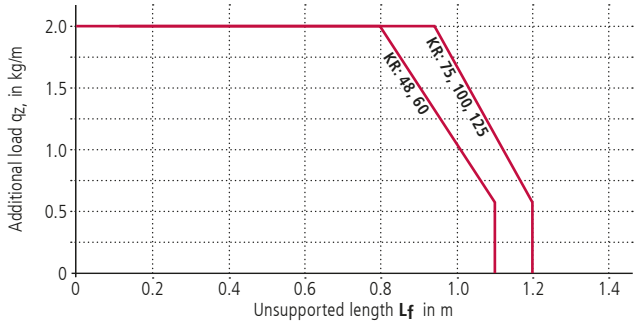
Installation measurements unsupported

KR [mm]	**H** [mm]	**Hz** [mm]	**LB** [mm]	**UB** [mm]	**α** [°]	**β** [°]
48	146	176	220	103	17 / 28*	25.7 / 27*
60	170	200	258	115	17 / 28*	16.9 / 27*
75	200	230	306	130	17 / 28*	9.9 / 27*
100	250	280	384	155	17 / 28*	3.1 / 27*
125	300	330	463	180	17 / 28*	0 / 27*

* only B_i 16

Load diagram

for unsupported length Lf depending on the additional load



Calculation of the chain length

Chain length Lk

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

Chain length L_k rounded off to pitch t

Unsupported length Lf

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

Note: For order example and notes for ordering, refer to Page 123.

Subject to change.

BASIC LINE | **TKP35**

Inside heights

32

Inside widths

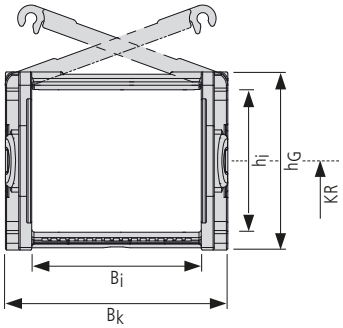
16 – 50

Stay variant 030 –
outward opening and detachable bracket



Pitch, inside height and chain link height

Type	t [mm]	h_i [mm]	h_G [mm]
TKP35.030	35	**32**	40



Inside/outside width and intrinsic chain weight

Type	B_i [mm]	B_k [mm]	q_k [kg/m]
TKP35.030	**16**	26	0.2
TKP35.030	**25**	37	0.6
TKP35.030	**38**	50	0.7
TKP35.030	**50**	62	0.8

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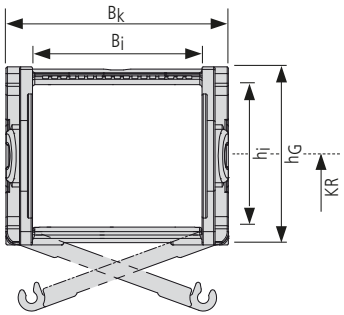
BASIC LINE | **TKP35**

Stay variant 040 –
inward opening and detachable bracket



Pitch, inside height and chain link height

Type	t [mm]	h_i [mm]	h_G [mm]
TKP35.040	35	**32**	40



Inside/outside width and intrinsic chain weight

Type	B_i [mm]	B_k [mm]	q_k [kg/m]
TKP35.040	**25**	37	0.6
TKP35.040	**38**	50	0.7
TKP35.040	**50**	62	0.8

Inside heights
32

Inside widths
16 – 50

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Cable Carrier Configurator

Subject to change.

BASIC LINE | **TKP35**

Inside heights

32

Inside widths

16 – 50

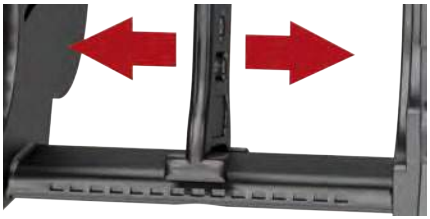
Divider systems

In the standard version, dividers or the complete divider system (dividers with subdivision) can be moved in the cross section **(Version A)**.

For applications with transverse accelerations and where the carrier is rotated through 90° the dividers can be fixed simply by turning them. This causes the arresting cams to engage in the locking profiles of the covers **(Version B)**.

Moveable divider

Version A (standard)



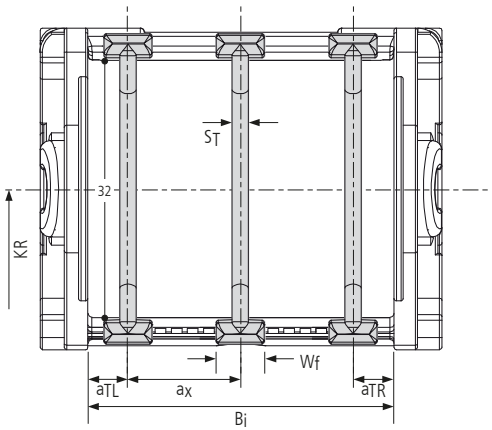
Fixable divider (2 mm grid)

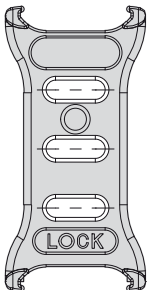
Version B



Divider system TS0 without subdivision

			Version A moveable		Version B fixable		
Bj [mm]	**ST** [mm]	**Wf** [mm]	**aTL/aTR min** [mm]	**ax min** [mm]	**aTL/aTR min** [mm]	**ax min** [mm]	**ax grid** [mm]
25	2	6	3	6	4.5	6	2
38	2	6	3	6	5	6	2
50	2	6	3	6	5	6	2





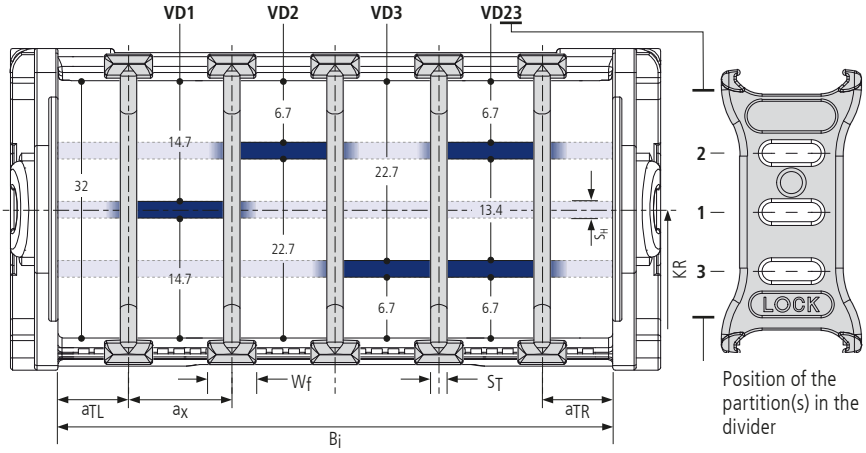
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Subject to change.

BASIC LINE | **TKP35**

Divider system TS1 with continuous subdivision made of aluminum

				Version A moveable			Version B fixable			
Bi [mm]	**ST** [mm]	**Wf** [mm]	**SH** [mm]	**aTL/aTR max** [mm]	**aTL/aTR min** [mm]	**ax min** [mm]	**aTL/aTR max** [mm]	**aTL/aTR min** [mm]	**ax min** [mm]	**ax grid** [mm]
25	2	6	2.6	16.0	3	6	14.5	4.5	6	2
38	2	6	2.6	21.0	3	6	21.0	5.0	6	2
50	2	6	2.6	21.0	3	6	21.0	5.0	6	2



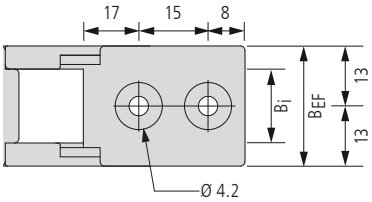
Position of the partition(s) in the divider

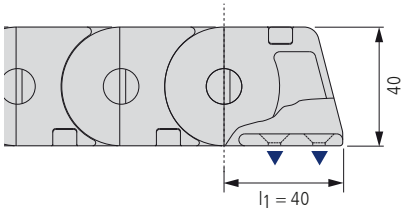
Note: For order example and notes for ordering, refer to Page 123.

BASIC LINE | **TKP35**

Connection elements made from plastic

Suitable for B_i 16



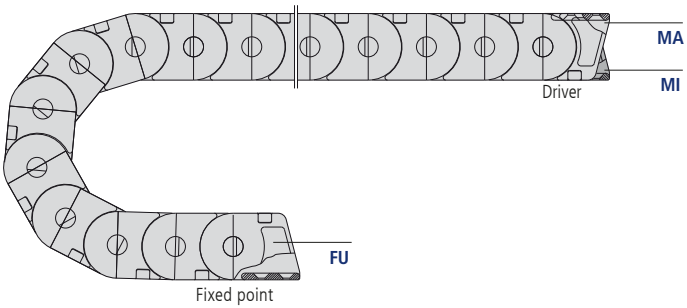


▲ Assembly options

Connection dimensions

B_i [mm]	B_{EF} [mm]
16	40

Connection variants



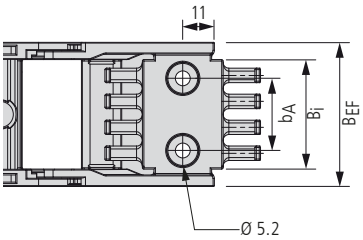
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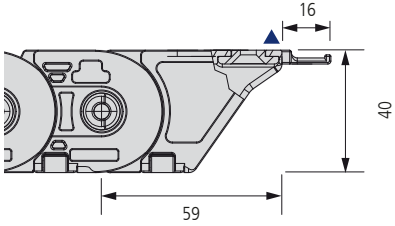
Subject to change.

BASIC LINE | **TKP35**

Connection elements made from plastic

Suitable for B_i 25, B_i 38 and B_i 50



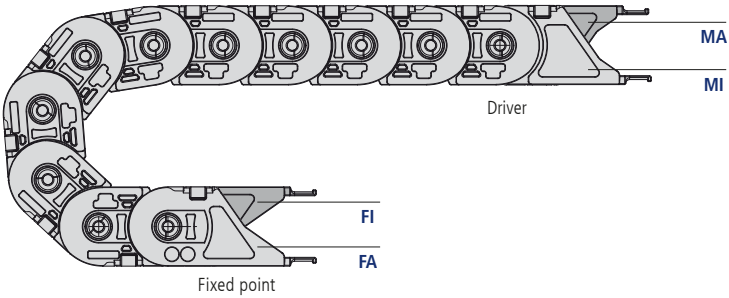


▲ Assembly options

Connection dimensions

B_i [mm]	B_{EF} [mm]	b_A [mm]
25	37	12
38	50	25
50	62	37

Connection variants



Subject to change.

BASIC LINE | **TKP35**

Both-sided strain relief combs made of plastic

Inside heights

32

Inside widths

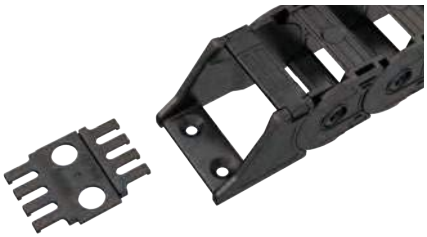
16 – 50

The strain relief combs are generally delivered with the connecting elements.

The combs are either clipped into the end connector and attached using this or attached using additional holes at an arbitrary distance at the rear of the connecting elements.

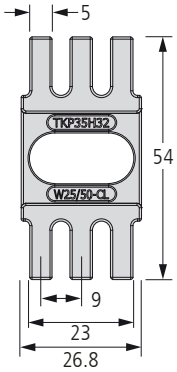
B_i [mm]	n_Z
25	3
38	4
50	6

n_Z = Number of teeth on one side of the comb

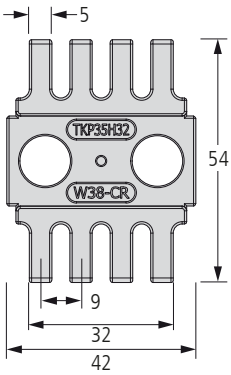


Connecting elements with attachable strain relief combs

Strain relief comb for B_i 25 / 50



Strain relief comb for B_i 38



For B_i = 50, two strain relief combs of Type W25/50-CL are used.

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Subject to change.

BASIC LINE | **TKP35**

Ordering

Ordering example cable carrier

Cable carrier

TKP35	.	040	.	38	.	75	-	700
Type		Stay variant		B_i [mm]		KR [mm]		L_K [mm]

Ordering example divider system

Divider system without subdivision

TS0	.	B	/	3
Divider system		Version		n_T

Divider system with subdivision

TS1	.	A	/	3	/	VD23
Divider system		Version		n_T		Height separation

Please state the designation of the divider system (TS0, TS1), the version and number of dividers required.

When ordering the fixed version (version B), please indicate the position of the dividers (sketch). Where a continuous subdivision is required (TS1), please also indicate their positions (e.g. VD23, or add a sketch).

Ordering example connection elements

Connection

FA	/	MA
Fixed point		Driver

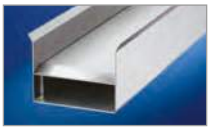
See online for additional product information

Spare parts list, installation instructions, etc.:
Receive additional info at **kabelschlepp.de**

Configure your custom cable carrier system:
onlineengineer.de



Guide channels
■ from page 375



Strain relief devices
■ from page 381



Cables for cable carrier systems
■ from page 438



Subject to change.



Photograph: Haworth Büroeinrichtungen GmbH

BASIC-LINE *PLUS*

Solid plastic cable carrier with fixed chain widths

- Fast cable laying by simply pulling/pressing the cables in
- Ideal for short travel paths and high travel speeds



EasyTrax

Extremely quick cable laying thanks to flexible lamella crossbars

page 126



PROTUM

Small, light cable carrier for unsupported applications

page 136

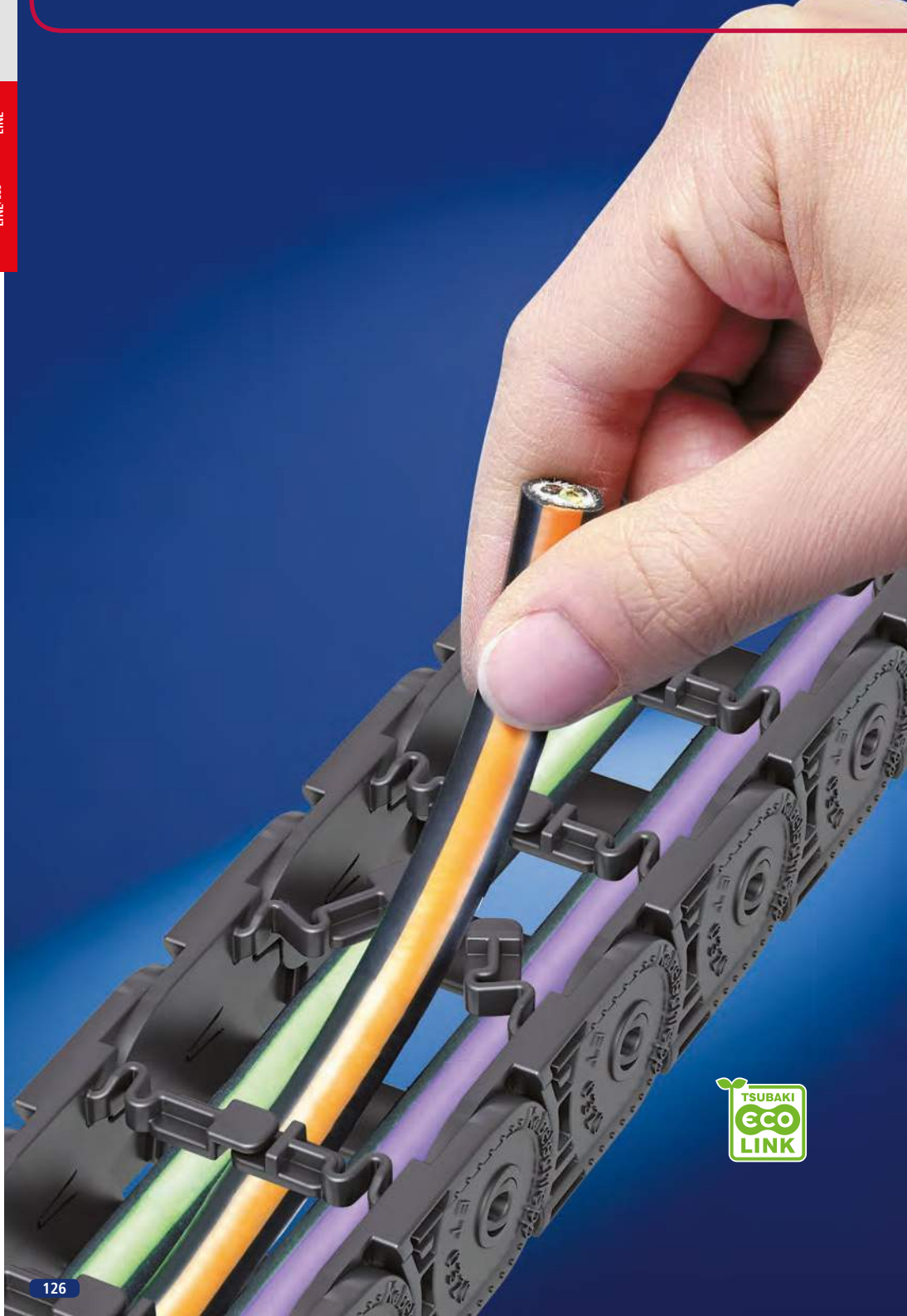


TKZP

Low-wear design made from extruded profiles

page 142

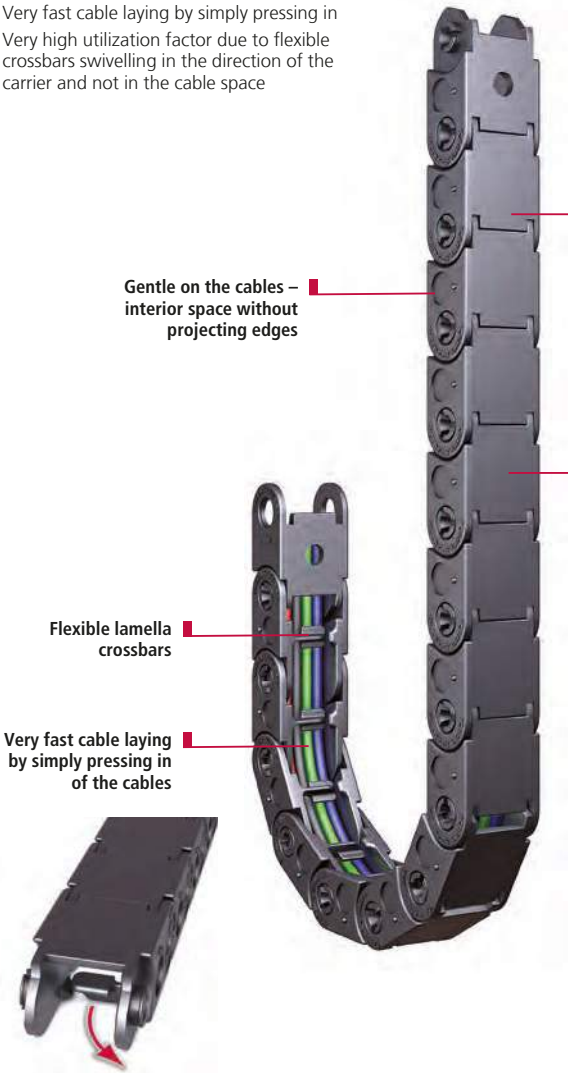
Subject to change.

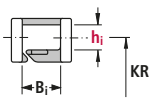

TSUBAKI
eco
LINK

EasyTrax 0115

Extremely quick cable laying thanks to flexible lamella crossbars

- Very fast cable laying by simply pressing in
- Very high utilization factor due to flexible crossbars swivelling in the direction of the carrier and not in the cable space





Type	h_i	B_i	Maximum travel length in m	Dynamics of unsupported arrangement		Page
				Travel speed v_{max} in m/s	Travel acceleration a_{max} in m/s²	
ET 0115.040	4.6	7	10	3	10	128

Dimensions in mm

Subject to change.

Inside height
4.6

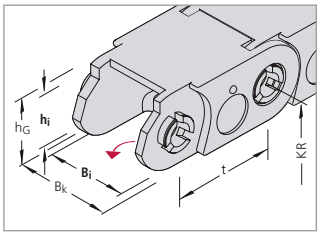
Inside widths
7

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Type ET 0115

Design 040

Inside: Simple pressing in of the cables



Dimensions and intrinsic chain weight

Type	h_i	h_G	Inside widths B_i	B_k
			Intrinsic chain weight	
ET 0115	4.6	8.0	7	B_i + 4
			0.044	

Dimensions in mm/Weights in kg/m

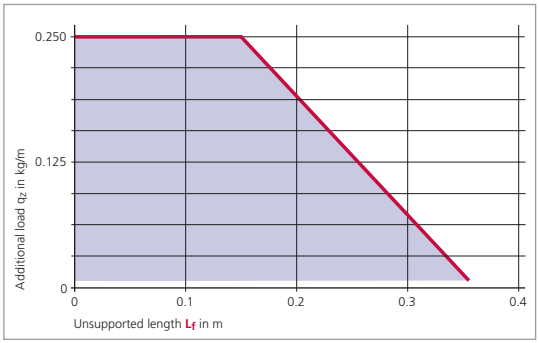
Bend radius and pitch

Bend radii KR mm
10

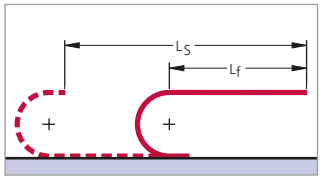
Pitch t = 11.5 mm

Load diagram

for unsupported length L_f depending on the additional load



Unsupported length L_f



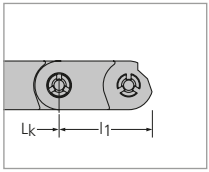
In the case of longer travel lengths, sag of the cable carriers is technically permissible depending on the application.

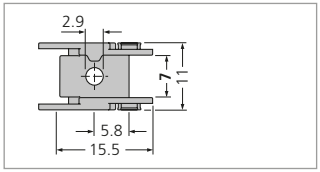
In a gliding arrangement, even longer travel lengths are possible (see page 375).

We are at your service to advise on these applications.

Connection dimensions

Plastic connectors





Example of ordering

Cable carrier

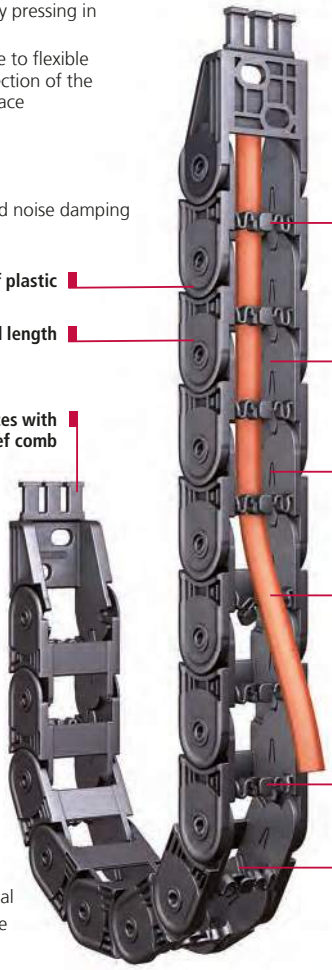
ET 0115	.	040	.	7	.	10	-	230
Type		Design		Inside width B_i in mm		Bend radius KR in mm		Chain length L_k in mm (without connection)

Subject to change.

EasyTrax 0320

Extremely quick cable laying, extra-stable thanks to two-component technology

- Very fast cable laying by simply pressing in the cables
- Very high utilization factor due to flexible crossbars swivelling in the direction of the carrier and not in the cable space
- Stable chain construction
- Extensive unsupported length
- High torsional rigidity
- Very quiet thanks to integrated noise damping system





Every chain link is made of two different materials:

- Hard cable carrier body made of fiberglass-reinforced material
- Flexible lamella crossbars made of flexible special plastic



Quick and easy cable laying



Very high utilization factor



High side stability



Divider systems for reliable cable separation

Inside height
18

Inside widths
15 – 65

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Cable Carrier Configurator

Subject to change.

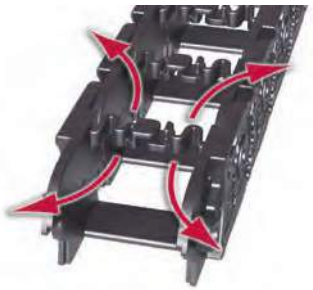
Inside height
18

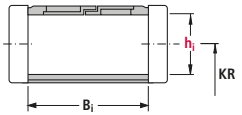
Inside widths
15 – 65

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Overview EasyTrax

Design 030:
Cables can be laid easily in the outer radius



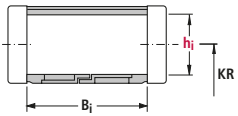


Type	h_i	B_i	Maximum travel length in m	Dynamics of unsupported arrangement		Page
				Travel speed v_{max} in m/s	Travel acceleration a_{max} in m/s²	
ET 0320.030	18	15-65	80	10	50	132

Dimensions in mm

Design 040:
Cables can be laid easily in the inner radius



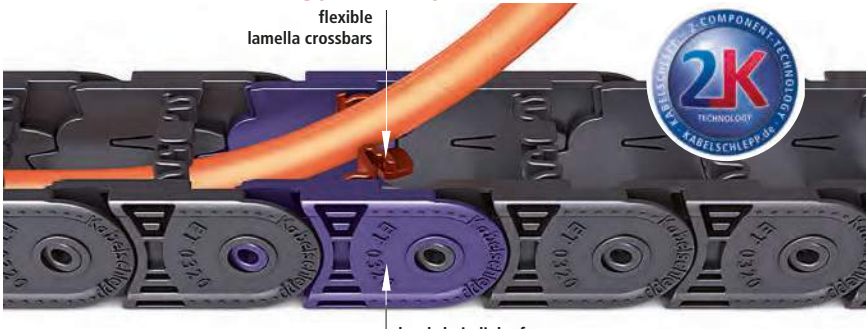


Type	h_i	B_i	Maximum travel length in m	Dynamics of unsupported arrangement		Page
				Travel speed v_{max} in m/s	Travel acceleration a_{max} in m/s²	
ET 0320.040	18	15-65	80	10	50	132

Dimensions in mm

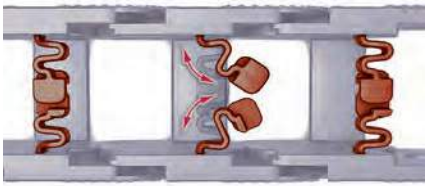
Subject to change.

The 2-shot-technology of EasyTrax 0320



Flexible lamella crossbar – simple pressing in of the cables

high flexibility



Fiberglass reinforced chain link – high stability

KG

high stability



High flexibility, high utillization factor – very quick cable laying thanks to simple pressing in of the cables.

The elastic material of the lamella crossbar significantly shortens the assembly times. The cable carrier is laid **simply by pressing the cables in**. The defined swivel direction in the direction of the cable allows a significantly **higher utilization factor** than in systems where cables are inserted into the cable space from above. The new crossbar design also allows the use of dividers for cable separation.

High stability – long unsupported lengths thanks to fiberglass-reinforced material.

The use of fiberglass reinforced special plastic in the supporting area of the cable carrier makes it possible to nearly double **the unsupported length** compared to designs manufactured entirely from non-reinforced materials.

EasyTrax – long unsupported lengths.



Designs completely made of non-reinforced material – long unsupported lengths can only be implemented with sag.





■ EasyTrax – very high utillization factor. Crossbar can be swiveled in the direction of the cable.

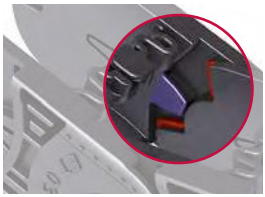


■ Unfavorable swivel direction of the crossbars in the cable space – cables already laid jam the crossbars.

Even greater side stability through locking in the stroke system

The stops are locked in the bend radius stop and pretension stop. This prevents snapping out in these areas and achieves very high lateral stability.







Subject to change.

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Inside height
18

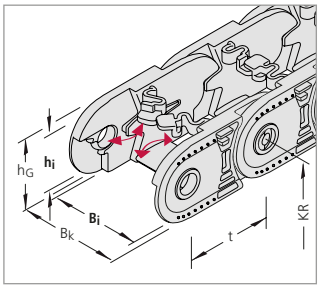
Inside widths
15 – 65

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Type ET 0320

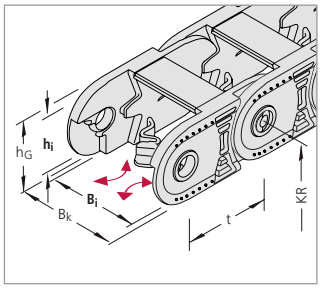
Design 030

Outside: Simple pressing in of the cables



Design 040

Inside: Simple pressing in of the cables



Dimensions and intrinsic chain weight

Type	h_i	h_G	Inside widths B_i					B_k
			Intrinsic chain weight					
			15	25	38	50	65	
ET 0320	18	25.5	0.35	0.38	0.40	0.43	0.45	B_i + 12

Dimensions in mm/Weights in kg/m

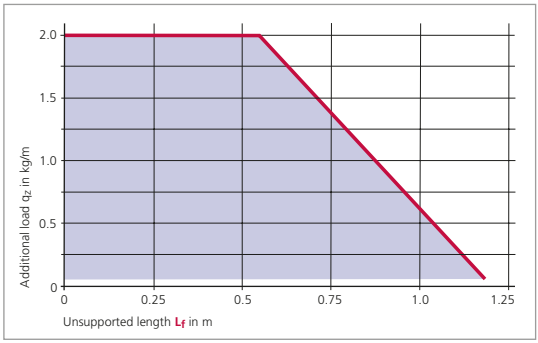
Bend radius and pitch

Bend radii KR mm					
28	38	48	75	100	125

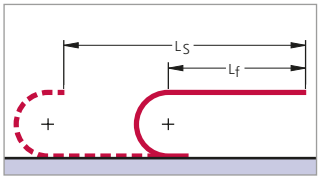
Pitch t = 32.0 mm

Load diagram

for unsupported length L_f depending on the additional load



Unsupported length L_f



In the case of longer travel lengths, sag of the cable carriers is technically permissible depending on the application.

In a gliding arrangement, even longer travel lengths are possible (see page 375).

We are at your service to advise on these applications.

Example of ordering

Cable carrier								Divider system		Connection
ET 0320	.	030	.	38	.	48	-	640	TS 0 /	1	FA/MA
Type		Design		Inside width B_i in mm		Bend radius KR in mm		Chain length L_k in mm (without connection)	Divider system	Number of dividers n_T	Connection Fixed point/ Driver

Ordering divider systems:
Please state the designation of the divider system (TS 0, TS 1 ...) and the number of dividers. Possibly attach a sketch with the dimensions.

Subject to change.

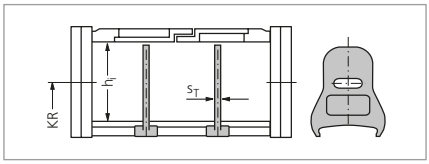
Type ET 0320

Divider system TS 0

Type	h_i mm	S_T mm
ET 0320	18	2

The dividers can be moved in the cross section.





In the standard version, the divider systems are mounted on every second chain link.



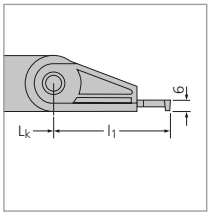
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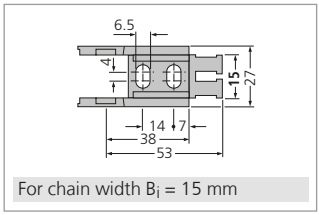
Subject to change.

Type ET 0320

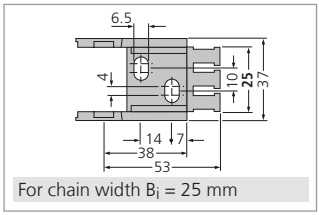
Connection dimensions

Plastic connectors with integrated strain relief

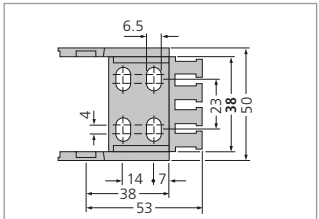




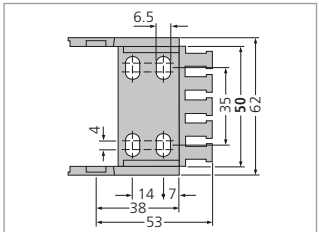
For chain width B_i = 15 mm



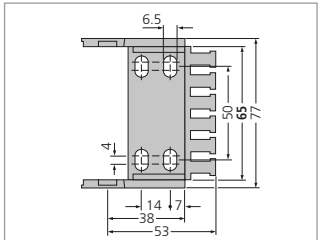
For chain width B_i = 25 mm



For chain width B_i = 38 mm



For chain width B_i = 50 mm



For chain width B_i = 65 mm

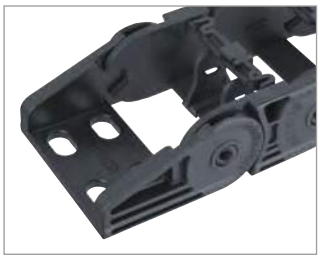
The dimensions of the fixed point and driver connections are identical.

Type	B_i	B_k	n_z
ET 0320. ... .15	15	27	2
ET 0320. ... .25	25	37	3
ET 0320. ... .38	38	50	4
ET 0320. ... .50	50	62	5
ET 0320. ... .65	65	77	6

Dimensions in mm

Mounting brackets without a strain relief comb are also available – please contact us.



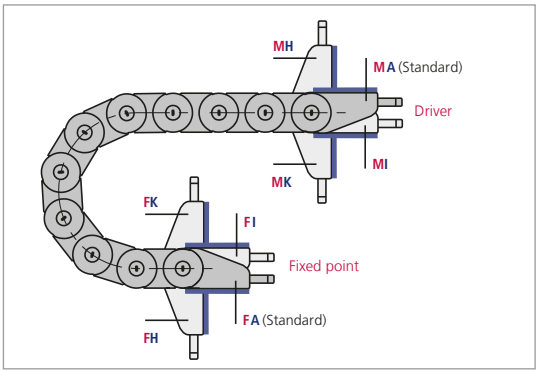


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Subject to change.

Type ET 0320

Connection variants

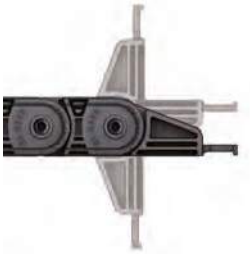


Connection point

M – Driver
F – Fixed point

Connection type

A – Threaded joint outside (standard)
I – Threaded joint inside
H – Threaded joint, rotated through 90° to the outside
K – Threaded joint, rotated through 90° to the inside

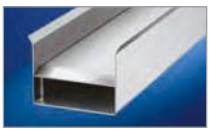


In the standard version, the connectors are mounted with the threaded joint outwards (**FA/MA**).

When ordering please specify the desired connection type (see ordering key on page 417).

The connection type can subsequently be altered simply by varying the connectors.

Guide channels
➤ **from page 375**



Strain relief devices
➤ **from page 381**



Cables for cable carrier systems
➤ **from page 438**



Subject to change.

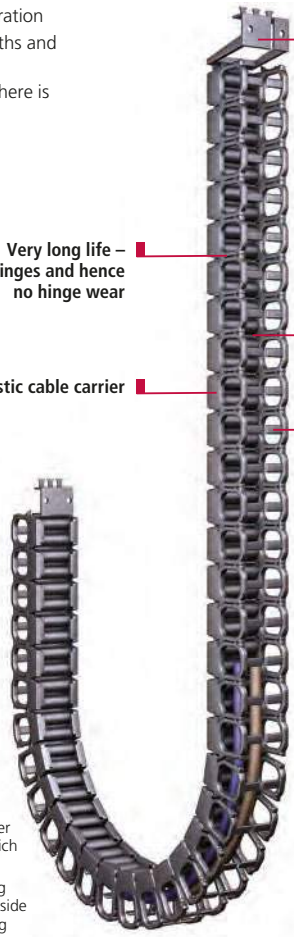
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Cable Carrier Configurator


KABELSCHLEPP
300/500V
E140404
AWM 2464

PROTUM

Small, light cable carrier for unsupported applications

- Low vibration and quiet operation
- Optimal for short travel lengths and high travel speeds
- Gentle on the cables, since there is almost no polygon effect



Connectors with strain relief comb



Very long life – no hinges and hence no hinge wear

Very good ratio of useful space to outer dimensions

Solid plastic cable carrier

Simple insertion of the cables



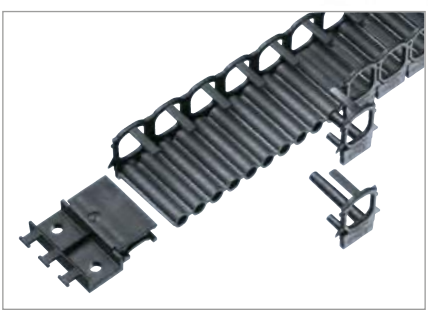
Less expense – lower costs thanks to simple cable laying

Even pre-assembled cables can simply be inserted. The cables can easily be changed during service and maintenance work. For you this means lower costs.

The basic construction

The basis of the PROTUM cable carrier system is an extruded band onto which lightweight side parts are attached.

It can easily be extended by attaching additional bands and corresponding side parts and shortened simply by cutting through the band with a knife.

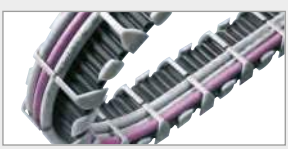


PROTUM OFFICE – P 0240 GS

Based upon the PROTUM cable carrier system, this variant has been adapted for use in office areas.

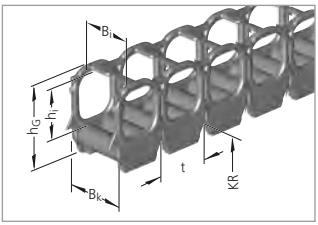
The inner width and the possibility of double occupancy provide sufficient space for cables in office areas, i.e. for telecommunications, energy and data cables.

The link-free construction also serves as a design feature, with silver-greay, elegant-looking side walls.



Subject to change.

Types P 0160 and P 0240



Dimensions and intrinsic chain weight

Type	h_i	h_G	Inside widths B_i			B_k	For cable-Ø
			Intrinsic chain weight				
P 0160	15	25	15	20	30	$B_i + 4$	10
			0.14	0.16	0.21		
P 0240	20	31	20	30	40	$B_i + 5$	15
			0.18	0.22	0.27		

Dimensions in mm/Weights in kg/m

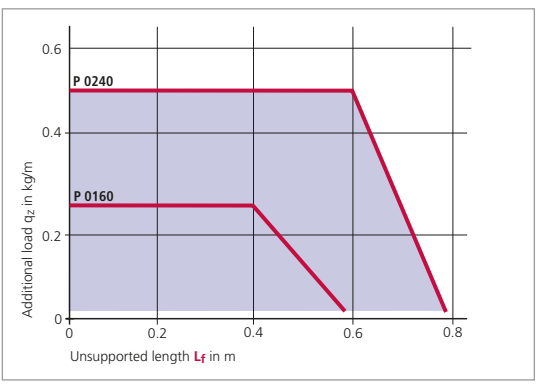
Bend radius and pitch

Type	Bend radii KR mm			
P 0160	18	28	38	48
P 0240	27	42	57	72

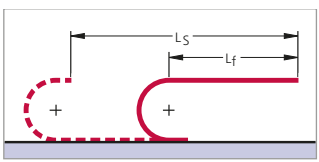
Pitch:
P 0160: t = 16 mm
P 0240: t = 24 mm

Load diagram

for unsupported length L_f depending on the additional load



Unsupported length L_f



In the case of longer travel lengths, sag of the cable carriers is technically permissible depending on the application.

We are at your service to advise on these applications.

Example of ordering

Cable carrier						Connection
P 0240	. 010	. 30	. 42	- 380		FA/MA
Type	Design*	Inside width B_i in mm	Bend radius KR in mm	Chain length L_k in mm (without connection)		Connection Fixed point/ Driver

* Design 010 (simple insertion of the cables)

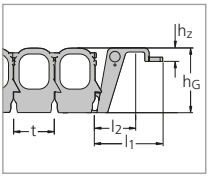
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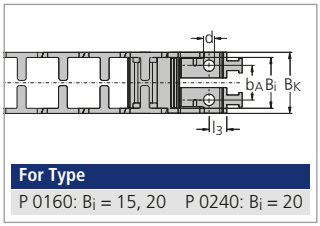
Types P 0160 and P 0240

Plastic connectors with integrated strain relief

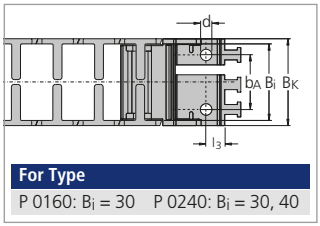
Connection dimensions – connection on the outside



The dimensions of the fixed point and driver connections are identical.



For Type
P 0160: B_i = 15, 20 P 0240: B_i = 20



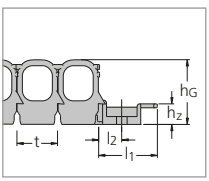
For Type
P 0160: B_i = 30 P 0240: B_i = 30, 40

Type	B_i	B_k	b_A	d	l_1	l_2	l_3	h_z	h_G
P 0160	15 20 30	B_i + 4	11 14 22	4.2	33.6	19.5	7.5	6.5	25
P 0240	20 30 40	B_i + 5	14 22 32	4.2	33.6	19.5	7.5	6.5	31

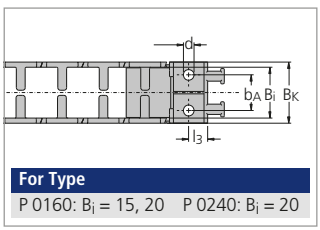
Plastic connecting elements with strain relief combs

Dimensions in mm

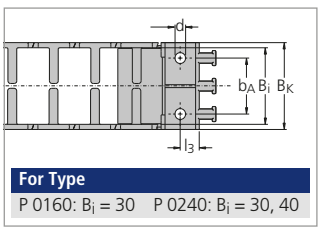
Connection dimensions – connection on the inside



The dimensions of the fixed point and driver connections are identical.



For Type
P 0160: B_i = 15, 20 P 0240: B_i = 20



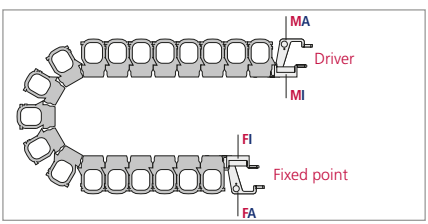
For Type
P 0160: B_i = 30 P 0240: B_i = 30, 40

Type	B_i	B_k	b_A	d	l_1	l_2	l_3	h_z	h_G
P 0160	15 20 30	B_i + 4	11 14 22	4.2	23	7.5	7.5	8	25
P 0240	20 30 40	B_i + 5	11 22 32	4.2	23	7.5	7.5	8	31

Plastic connecting elements with strain relief combs

Dimensions in mm

Connection variants



Connection point
- **M** – Driver
- **F** – Fixed point

Connection type
- **I** – Threaded joint, inside
- **A** – Threaded joint, outside

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Inside heights
15 – 20

Inside widths
15 – 40

PROTUM OFFICE – P 0240 GS

Based on the PROTUM cable carrier system, this variant has been adapted for use in office areas. The inside width and the possibility of double occupancy provide sufficient space for cables in office areas, i.e. for telecommunications, energy and data cables.
The link-free construction also serves as a design feature, with silver-grey, elegant-looking side walls.

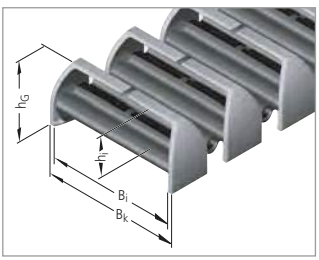


Dimensions and intrinsic chain weight

Type	h_i	h_G	B_i	B_k	For cable-Ø
P 0240 GS	10	23	50	54	3 – 9

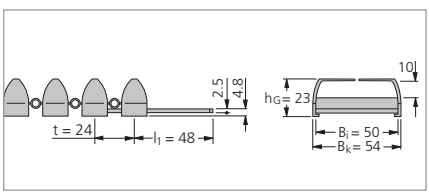
Dimensions in mm

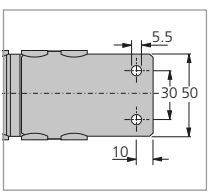




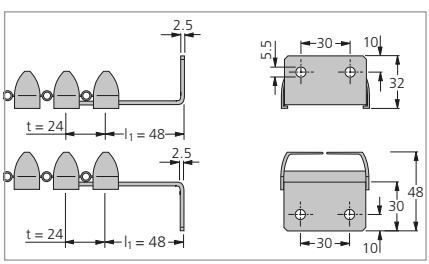
Connectors

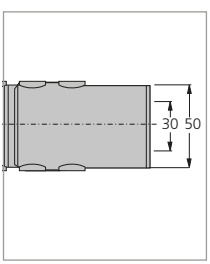












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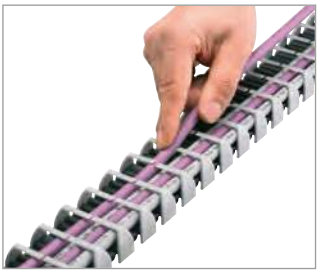
PROTUM OFFICE – P 0240 GS

Laying on both sides



■ Where more of space is needed, the take-up capacity can be doubled by laying the cables on both sides. In this case every second side-part is simply attached the other way round.

Fast laying



■ Simple insertion of the cables.

Application examples









■ Photographs: Haworth Büroeinrichtungen GmbH

Subject to change.

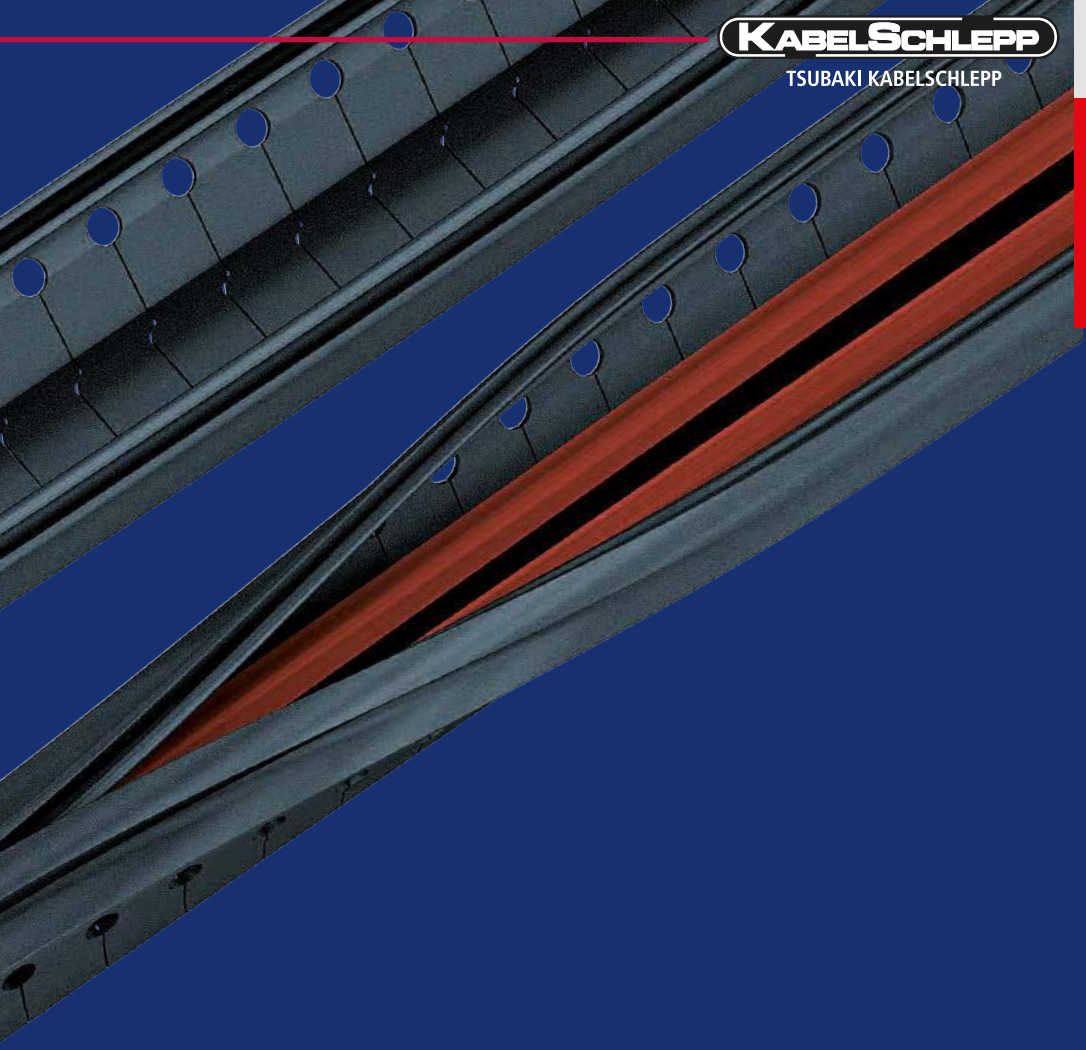
TKZP



TSUBAKI ECO LINK

TKZP
product design award
2014

Subject to change.



Inside heights
13 mm

Inside widths
10 – 15 mm

Pitch
10 mm

Additional load
up to 0.1 kg/m

Travel length unsupported
up to 1 m

Travel speed
up to 1.66 m/s

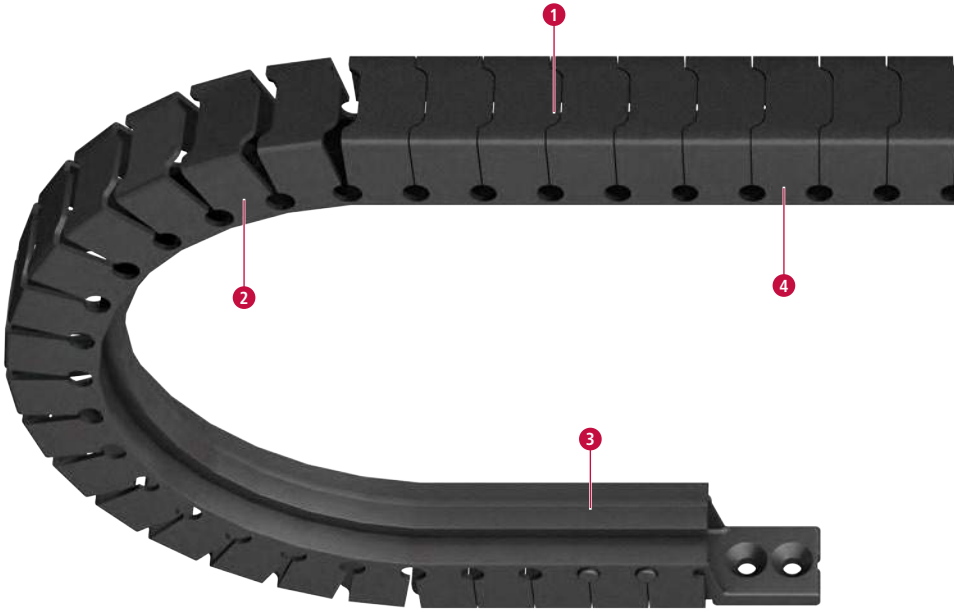
Travel acceleration
up to 5 m/s²

All technical data and features are application and type-dependent.

Let us know your requirements – we are here to help!

Subject to change.

BASIC LINE PLUS | **TKZP**



Inside heights
13

Inside widths
10 – 15

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Features

- Easy cable routing due to folding structure
- Routing of the cable also possible with cables assembled
- Easy adaptation to the chain length
- Low weight, good ratio between interior and exterior width
- Compact external dimensions for very restricted installation areas
- Quiet operation due to short partition and extruded profile
- Vibration-free process, also at high speeds and accelerations
- Low dust generation, because there is no friction between the chain links
- Flexible, also for side movement



Practically no polygon effect

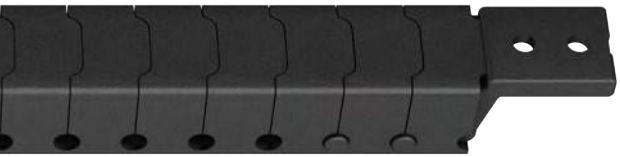


Quick opening and closing due to the design similar to a zip



Low-wear, design made from extruded profiles with no joints

Subject to change.



1. Vibration-free process due to extremely reduced polygon effect
2. Design with no joints
3. Quick opening and closing due to the design similar to a zip
4. Suitable for very restricted installation areas



Example of cross section

Selection criteria for TKZP

- If very quick opening of the zip-style opener is required
- If the installation area is very restricted
- If a smaller bend radius is required for a greater internal height
- If very smooth operation of the cable carrier is required
- If no cover on the cable carrier is required
- If no individual links should be hinged
- If no internal partitioning is required
- If no sliding arrangement is required

Type	h_i [mm]	B_i [mm]	t [mm]	Page
TKZP10	13	10, 15	10	146

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Inside heights
13

Inside widths
10 – 15

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TKZP

Pitch
10 mm

Height
13 mm

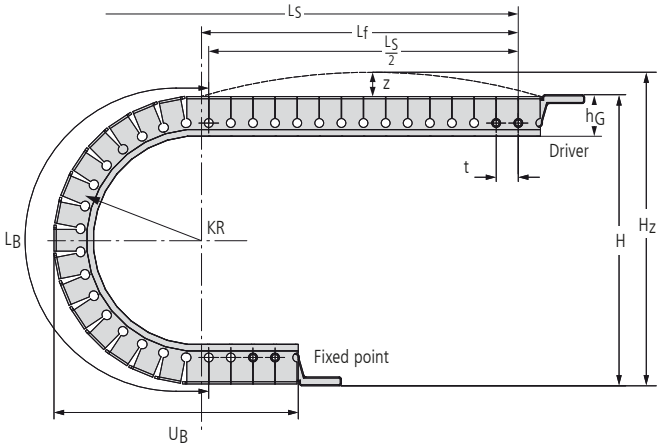
Width
10 – 15 mm

Spare parts list, installation instructions, etc.:
Receive additional info at **kabelschlepp.de**

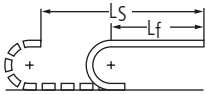
Subject to change.

BASIC LINE PLUS | **TKZP10**

Unsupported arrangement



Unsupported length Lf



A sag of the cable carrier is technically permissible for extended movement ranges, depending on specific application.

L_S max. [m]	Dynamics		t [mm]
	vmax [m/s]	**amax** [m/s]	
1	1.66	5	10

Installation measurements unsupported

H [mm]	H_Z [mm]	L_B [mm]	U_B [mm]
150	Depending on cable	218	111

Note: For order example and notes for ordering, refer to Page 150

BASIC LINE PLUS | **TKZP10**

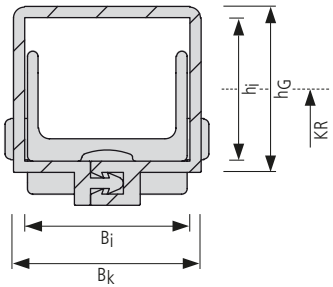
Stay variant

can be opened internally due to the design similar to a zip



Pitch, inside height and chain link height

Type	t [mm]	h_i [mm]	h_G [mm]
TKZP10	10	**13**	15



Inside/outside width and intrinsic chain weight

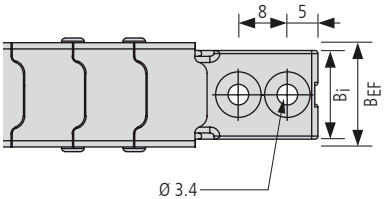
Type	B_i [mm]	B_k [mm]	q_k [kg/m]
TKZP10	**10**	12	0.06
TKZP10	**15**	17	0.07

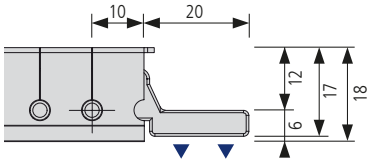
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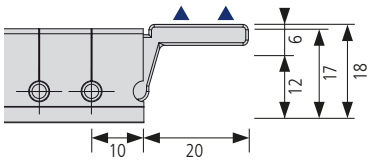
BASIC LINE PLUS | **TKZP10**

Connecting elements made from plastic





▲ Assembly options

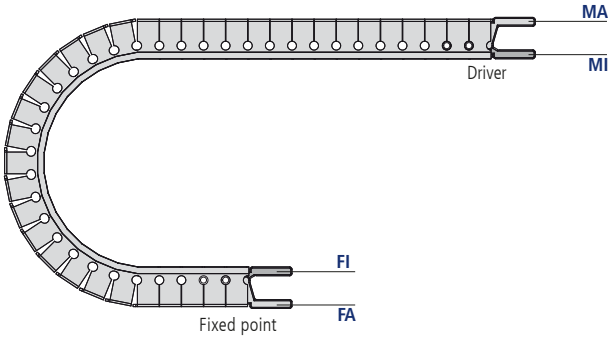


▲ Assembly options

Connection dimensions

B_i [mm]	B_{EF} [mm]
10	12
15	17

Connection variants



Note: The cable carrier is available by the metre. 1 VE = 10 m.
Connecting elements are available in the VE = 10 off.

Inside heights

13

Inside widths

10 – 15

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BASIC LINE PLUS | **TKZP**

Ordering

Ordering example cable carrier

Cable carrier

TKZP10	.	10	-	230
Type		B_i [mm]		L_K [mm]

Ordering example connection elements

Connection

FA	/	MA
Fixed point		Driver

Note: The cable carrier is available by the metre. 1 VE = 10 m.
Connecting elements are available in the VE = 10 off.

10 m

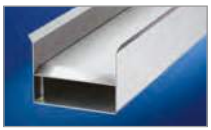
See online for additional product information

Spare parts list, installation instructions, etc.:
Receive additional info at **kabelschlepp.de**

Configure your custom cable carrier system:
onlineengineer.de



Guide channels
■ from page 375



Strain relief devices
■ from page 381



Cables for cable carrier systems
■ from page 438



Subject to change.

Notes

Subject to change.









VARIO-LINE

Cable carriers with variable chain widths

- Aluminum or plastic stays
- Inside and outside easy and quick to open
- Light, robust or link-free series – a suitable solution for every application



K Series

Cost-effective, robust cable carrier also suitable for large additional loads

page 154



MASTER Series

Quiet and weight-optimized cable carriers

page 170



M Series

Multivariable cable carrier with extensive accessories and stay variants

page 180



TKP91

Easy to assemble, stable cable carriers with variable dimensions

page 202



XL Series

Cable carrier with large inside height

page 210



QUANTUM

Link-free cable carrier – light, extremely quiet and low vibration for high speeds and accelerations

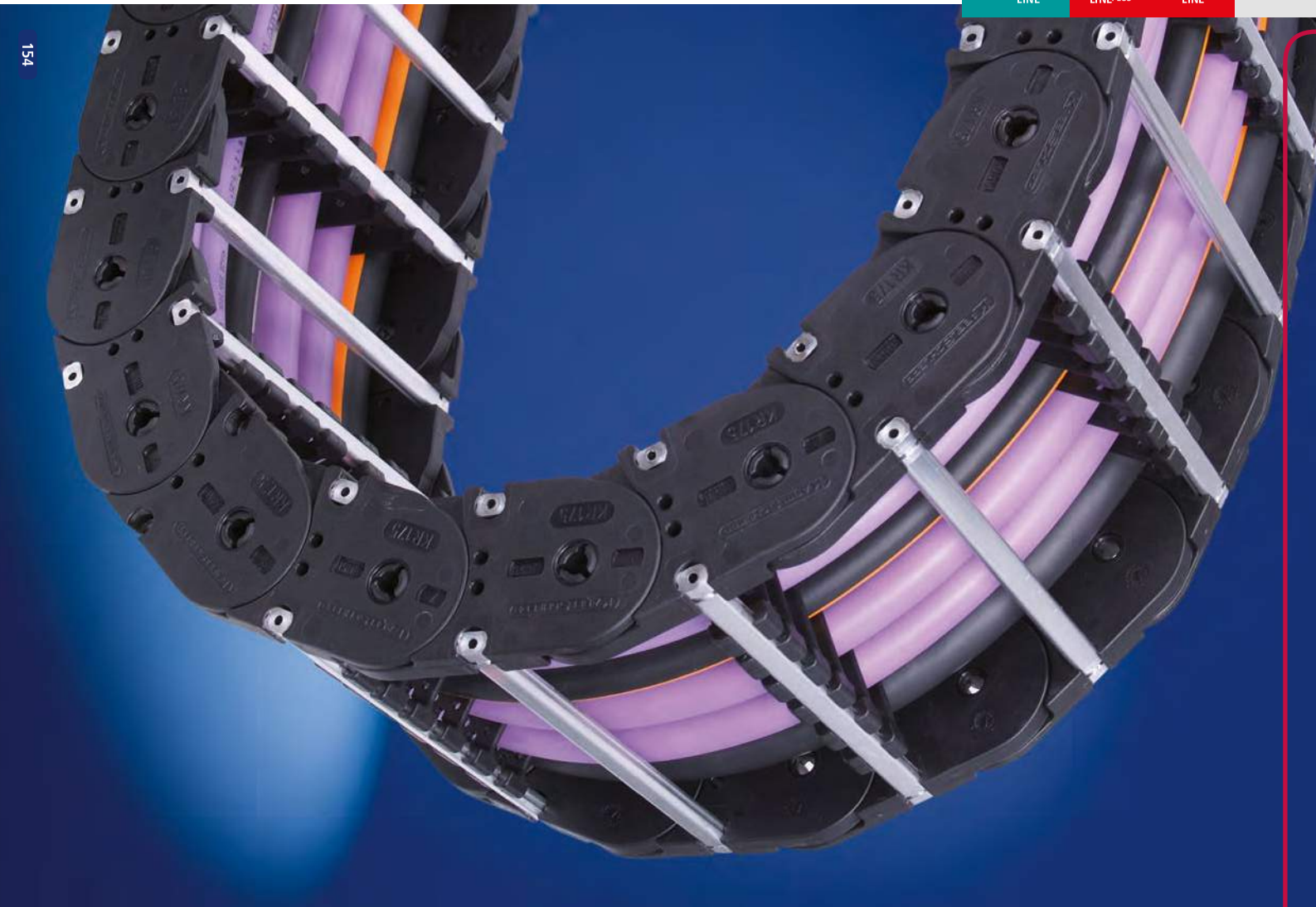
page 216



TKR

Extremely quiet and low-vibration for highly dynamic applications

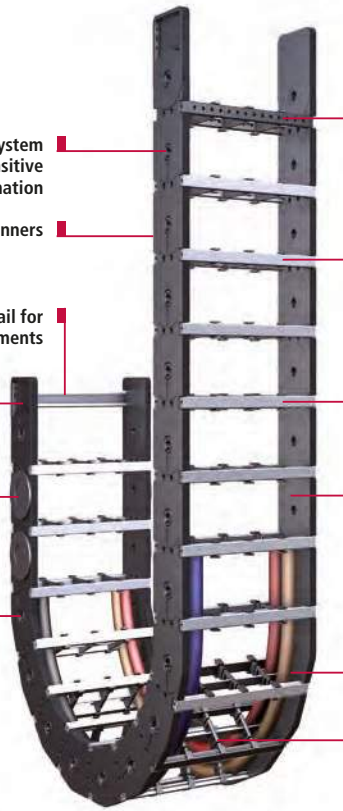
page 224



K Series

Cost-effective, robust cable carrier – also suitable for large additional loads

- TÜV design approved in accordance with 2PfG 1036/10.97



Enclosed stroke system not sensitive to dirt/contamination

Injection molded glide runners

C-Rail for strain relief elements

Universal connectors (UMB)

Glide discs

Minimized hinge wear owing to the "life extending 2 disc principle"

Plastic stays available in 8 or 16 mm width sections

Aluminum stays available in 1 mm width sections

WIDTHSECTIONS
1 mm

Can be opened quickly on the inside and outside for cable laying

Extremely robust owing to strong sideband construction

Many separation options for the cables

Dividers can be fixed



Minimized hinge wear owing to the "life extending 2 disc principle"



Glide discs for long service life for applications where the carrier is rotated through 90°



Injection molded glide runners for long service life in gliding arrangement



Many separation options for the cables

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Cable Carrier Configurator

Subject to change.

Inside heights
38 – 58

Inside widths
68 – 561

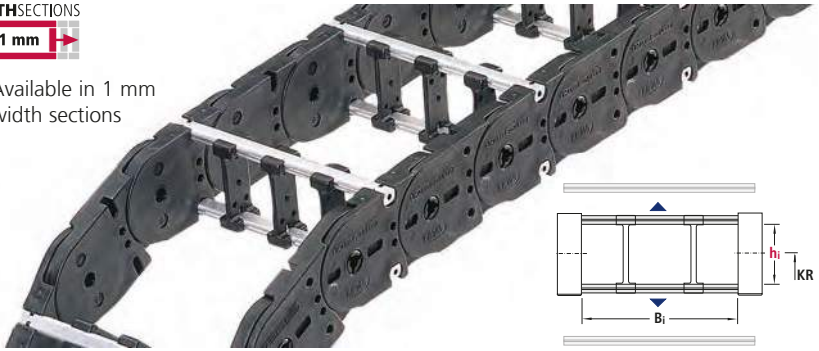
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Overview K Series

Type KC with aluminum stays

WIDTH SECTIONS
1 mm

- Available in 1 mm width sections

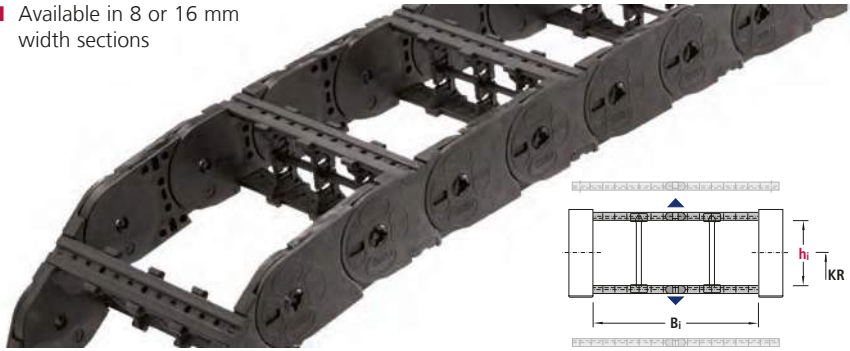


Type	h_i	B_i	Maximum travel length in m	Dynamics of unsupported arrangement		Page
				Travel speed v_{max} in m/s	Travel acceleration a_{max} in m/s²	
KC 0650	38	75-400	220	8	40	157
KC 0900	58	100-500	260	6	30	157

Dimensions in mm

Type KE with plastic stays

- Available in 8 or 16 mm width sections



Type	h_i	B_i	Maximum travel length in m	Dynamics of unsupported arrangement		Page
				Travel speed v_{max} in m/s	Travel acceleration a_{max} in m/s²	
KE 0650	42	68-260	220	8	40	164
KE 0900	58	81-561	260	6	30	164

Dimensions in mm

Subject to change.

Type KC

with aluminum stays

- Available in 1 mm width sections (standard widths available ex-stock)

WIDTHSECTIONS
1 mm

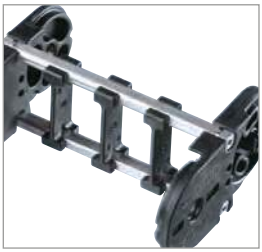


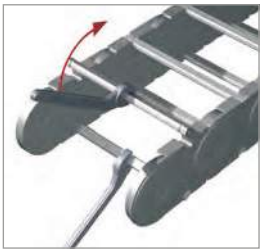
Stay variants

Frame stay RS

Standard design –
Types 0650 and 0900
For lightweight to medium loads.

Opening options:
Outside/inside: the cable carrier can be opened quickly and easily simply by rotating the stays through 90°.

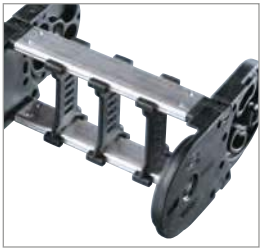




Frame stay RV

Reinforced design –
Type 0900
For medium to heavy loads and for large chain widths.

Opening options:
Outside/inside: the cable carrier can be opened quickly and easily simply by rotating the stays through 90°.





Stay arrangement

Standard: on every 2nd chain link
Stays can be fitted on every chain link, please specify when placing your order.

Additional stay variant:



Stay variant LG made of aluminum:
Optimum cable guidance in the neutral bending line

Subject to change.

Inside heights
38 – 58

Inside widths
75 – 500

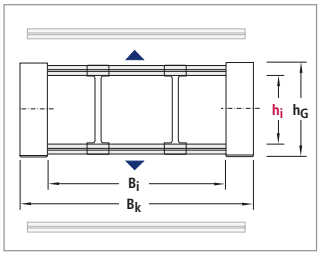
Types KC 0650 and 0900

Dimensions and intrinsic chain weight

Type	Stay variant	h_i	h_G	B_i min	q_k min	B_i max	q_k max	B_k
KC 0650	RS	38	57.5	75	1.87	400	3.60	$B_i + 28$
KC 0900	RS	58	78.5	100	2.80	400	5.80	$B_i + 31$
KC 0900	RV	58	78.5	100	3.20	500	7.00	$B_i + 31$

Dimensions in mm/Weights in kg/m

WIDTHSECTIONS 1 mm



Standard widths in 25 mm steps available **ex-stock**.
Type 0650: B_i = 75, 100, 125, 150 ... 400
Type 0900: B_i = 100, 125, 150, 175 ... 500

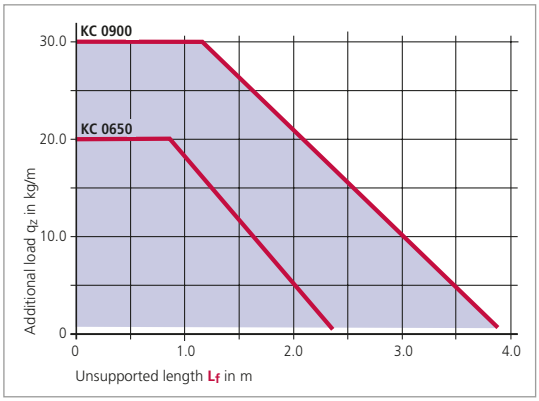
Bend radius and pitch

Type	Bend radii KR mm					
KC 0650	75	115	145	175	220	300
KC 0900	130	150	190	245	300	385

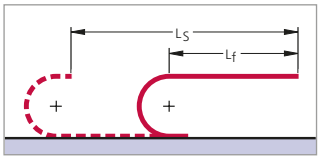
Pitch:
KC 0650: t = 65 mm
KC 0900: t = 90 mm

Load diagram

for unsupported length L_f depending on the additional load



Unsupported length L_f



In the case of longer travel lengths, sag of the cable carriers is technically permissible depending on the application.

In a gliding arrangement, even longer travel lengths are possible (see page 375).

We are at your service to advise on these applications.

Example of ordering

Cable carrier								Divider system		Connection
KC 0900	.	225	.	RV	.	150	-	1890	TS 0 /	4	FU/MU
Type		Inside width B_i in mm		Stay variant		Bend radius KR in mm		Chain length L_k in mm (without connection)	Divider system	Number of dividers n_T	Connection Fixed point/ Driver

Ordering divider systems:
Please state the designation of the divider system (TS 0, TS 1 ...) and the number of dividers. Possibly attach a sketch with the dimensions.

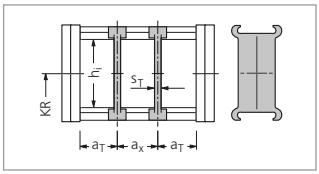
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Types KC 0650 and 0900

Divider system TS 0

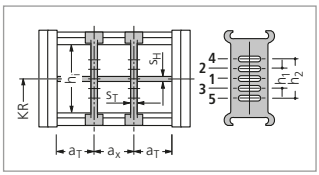
Type	Stay variant	h_i mm	S_T mm	$a_{T\,min}$ mm	$a_{x\,min}$ mm
KC 0650	RS	38	3	6.5	13
KC 0900	RS	58	4	7	14
KC 0900	RV	58	4	7	14



In the standard version, the divider systems are mounted on every second chain link.

Divider system TS 1 with continuous height subdivision made of aluminum

Type	Stay variant	h_i mm	S_T mm	$a_{T\,min}$ mm	$a_{x\,min}$ mm	S_H mm	h_1 mm	h_2 mm
KC 0650	RS	38	3	6.5	13	4	15	–
KC 0900	RS	58	4	7	14	4	30	–
KC 0900	RV	58	4	7	14	4	15	30



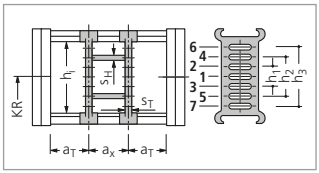
In the standard version, the divider systems are mounted on every second chain link.

Divider system TS 3 with section subdivision, partitions made of plastic

Type	Stay variant	h_i mm	S_T mm	$a_{T\,min}$ mm	$a_{x\,min}$ mm	S_H mm	h_1 mm	h_2 mm	h_3 mm
KC 0650	RS	38	8	4	16*	4	14	28	–
KC 0900	RV	58	8	4	16*	4	14	28	42

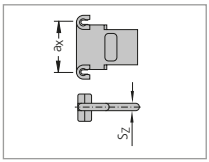
The dividers are fixed by the partitions, the complete divider system is movable.

* When using plastic partitions



In the standard version, the divider systems are mounted on every second chain link.

Dimensions of the plastic partitions for TS 3



Aluminum partitions in 1 mm width sections are also available.

S_Z	a_x (center-to-center dividers)									
4	16	18	23	28	32	33	38	43	48	58
	64	68	78	80	88	96	112	**128**	**144**	**160**
	176	**192**	**208**	–	–	–	–	–	–	–

Dimensions in mm

When using **partitions with a_x > 112 mm** there should be an additional central support with a **twin divider**.
Thickness of the twin dividers: KC 0650 S_T = 3 mm, KC 0900 S_T = 4 mm
Twin dividers are designed for subsequent fitting in the partition system.

Subject to change.

Inside heights
38 – 58

Inside widths
75 – 500

Types KC 0650 and 0900

Glide discs and injection molded glide runners

Glide discs

If the cable carrier is arranged rotated "through 90" (gliding on the outer side of the chain band), the glide discs attached to the side optimize the friction and wear conditions.



Determining the chain width with glide discs on both chain bands:

KC 0650: $B_{EF'} = B_i + 36$ mm
KC 0900: $B_{EF'} = B_i + 45$ mm

Injection molded glide runners

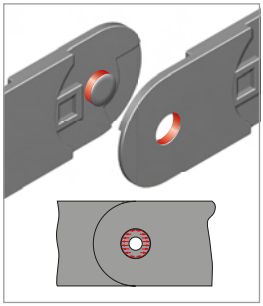
guarantee the long service life of the cable carrier in the case of long travel lengths and large additional loads.



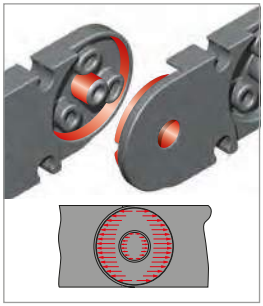
Minimized hinge wear owing to the "life extending 2 disc principle"

In the K Series, the push and pull forces are transmitted via the optimum link design for this purpose.

As a result link wear is reduced to a minimum and the life of the cable carrier is considerably lengthened.



■ Force transmission with a pin-hole joint



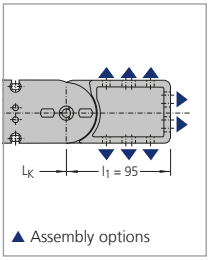
■ Force transmission with the "life extending 2 disc principle"

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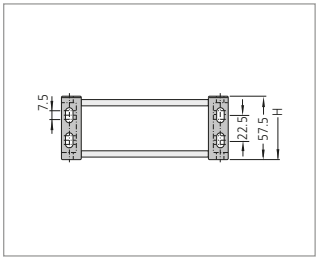
Subject to change.

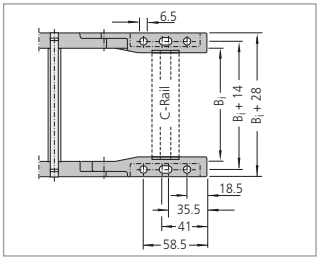
Types KC 0650 and 0900

UMB (Universal Mounting Brackets) made of plastic – Type KC 0650



▲ Assembly options

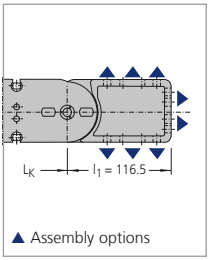




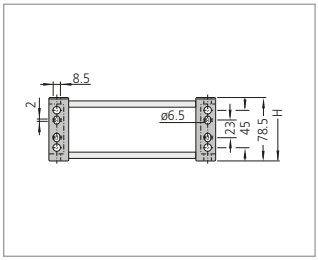
The dimensions of the fixed point and driver connections are identical.
End connectors made of steel plate available on request.
Optional C-rails and strain relief elements for cables can be found on the following pages.
When ordering please specify the connection type FU/MU (see ordering key on page 419).

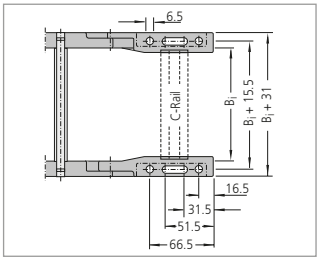


UMB (Universal Mounting Brackets) made of plastic – Type KC 0900



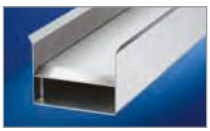
▲ Assembly options





The dimensions of the fixed point and driver connections are identical.
End connectors made of steel plate available on request.
Optional C-rails and strain relief elements for cables can be found on the following pages.
When ordering please specify the connection type FU/MU (see ordering key on page 419).

Guide channels
➤ from page 375



Strain relief devices
➤ from page 381



Cables for cable carrier systems
➤ from page 438



Subject to change.

Types KC 0650 and 0900

Strain relief devices

Strain relief combs made of plastic on both sides (KC 0650)

The cables can be fixed securely and simply using the **optional strain relief combs**.

The strain relief combs are installed between the UMBs, and do not need to be bolted on separately or mounted on a C-Rail.

Please state on the order whether strain relief combs are needed.



■ Universal mounting bracket with strain relief comb



■ Both-sided strain relief comb



■ Fixing in the UMB

Type	B_i mm	n_Z
KC 0650	78	5
KC 0650	83	5
KC 0650	103	7
KC 0650	108	7
KC 0650	123	8
KC 0650	128	9
KC 0650	133	9
KC 0650	153	11
KC 0650	158	11
KC 0650	178	13
KC 0650	183	13
KC 0650	203	15
KC 0650	208	15
KC 0650	233*	17
KC 0650	258*	19

n_Z = Number of teeth on one side of the comb

* on request

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Subject to change.

Types KC 0650 and 0900

Strain relief devices

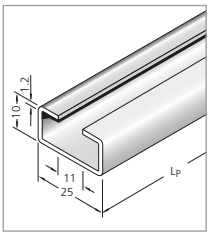
C-rails for LineFix bracket clamps, SZL strain reliefs and clamps

The optional C-rails are fixed by means of the universal mounting brackets and do not have to be screwed separately.

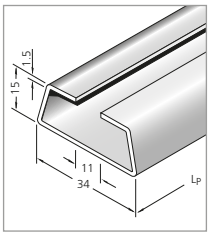
Please state in your order whether C-rails are needed.



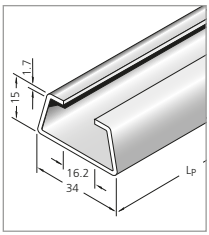
■ Universal mounting bracket with C-rail



■ **KC 0650:**
Integratable C-rail
25 x 10 mm,
slit width 11 mm,
material steel,
Item-No. 3931



■ **KC 0900:**
Integratable C-rail
34 x 15 mm,
slit width 11 mm,
material steel,
Item-No. 3935

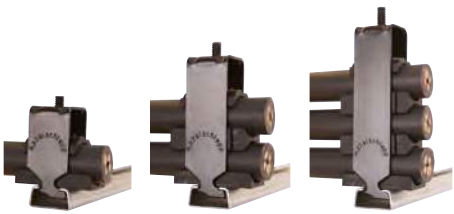


■ **KC 0900:**
Integratable C-rail
34 x 15 mm,
slit width 16 – 17 mm,
material steel,
Item-No. 3932

Our LineFix strain reliefs are optimally suited for the C-rails. (LineFix bracket clamps and other strain relief devices – see Accessories chapter, from page 381 onwards).



■ C-rail with LineFix strain relief

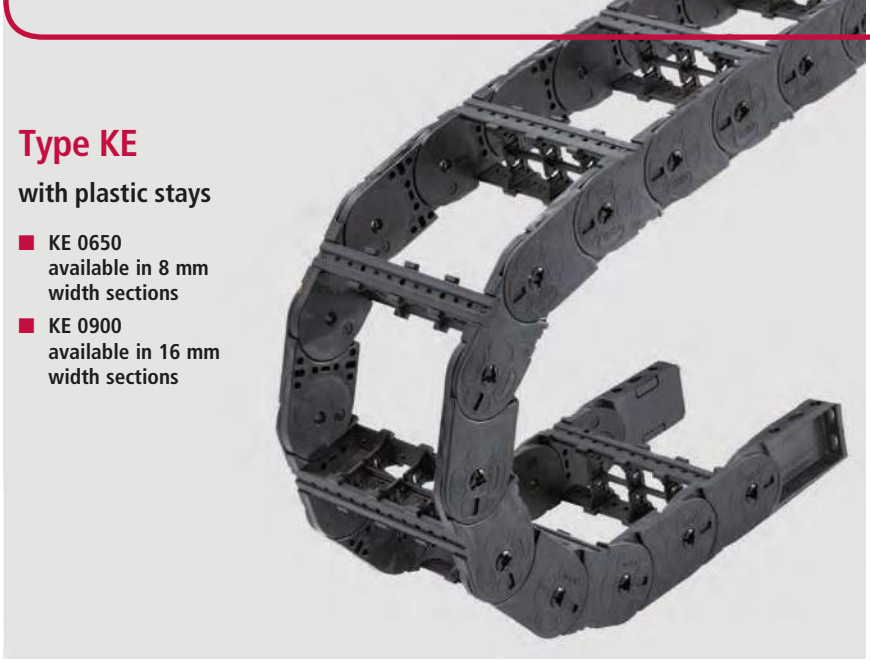


Subject to change.

Type KE

with plastic stays

- **KE 0650 available in 8 mm width sections**
- **KE 0900 available in 16 mm width sections**

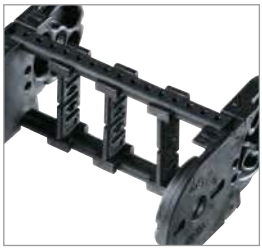


Stay variants

Frame stay RE

Standard design

Opening options:
Outside/inside: the cable carrier can be opened quickly and easily simply by rotating the stays through 90°.





Stay arrangement

Standard: on every 2nd chain link
Stays can be fitted on every chain link, please specify when placing your order (not for KE 0650).

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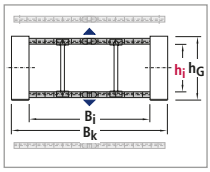
Subject to change.

Types KE 0650 and 0900

Dimensions and intrinsic chain weight

Type	Stay variant	h_i	h_G	B_i min	q_k min	B_i max	q_k max	B_k	Width sections
KE 0650	RE	42	57.5	68	1.75	260	2.71	$B_i + 28$	8
KE 0900	RE	58	78.5	81	2.95	561	5.95	$B_i + 31$	16

Dimensions in mm/Weights in kg/m



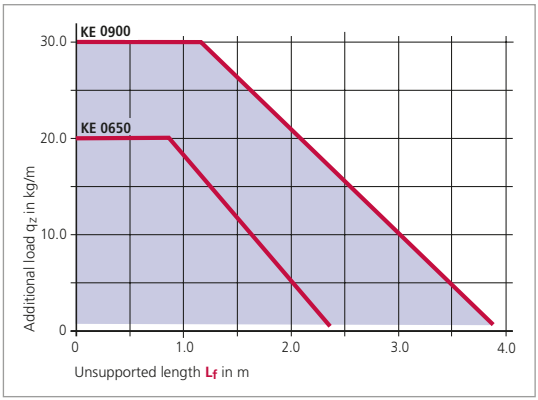
Bend radius and pitch

Type	Bend radii KR mm					
KE 0650	75	115	145	175	220	300
KE 0900	130	150	190	245	300	385

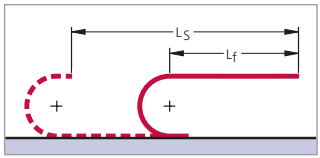
Pitch:
KE 0650: t = 65 mm
KE 0900: t = 90 mm

Load diagram

for unsupported length L_f depending on the additional load



Unsupported length L_f



In the case of longer travel lengths, sag of the cable carriers is technically permissible depending on the application.

In a gliding arrangement, even longer travel lengths are possible (see page 375).

We are at your service to advise on these applications.

Example of ordering

Cable carrier											Divider system		Connection
KE 0900	.	209	.	RE	.	190	-	2250			TS 0	/ 4	FU/MU
Type		Inside width B_i in mm		Stay variant		Bend radius KR in mm		Chain length L_k in mm (without connection)			Divider system	Number of dividers n_T	Connection Fixed point/ Driver

Ordering divider systems:
Please state the designation of the divider system (TS 0, TS 1 ...) and the number of dividers. Possibly attach a sketch with the dimensions.

Subject to change.

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Inside heights
42 – 58

Inside widths
68 – 561

Types KE 0650 and 0900

Fixing the dividers

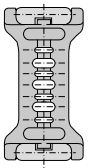
In the standard version, dividers or the complete divider system (dividers with height subdivisions) can be moved in the cross section (**Mounting version A**)

For divider systems TS 0 and TS 1 the dividers or complete divider systems (dividers with height subdivisions) can be fixed by turning the stays. (**Mounting version B**).

If the fixed mounting version is desired, please state this when placing your order.

Mounting version A (Standard)

Movable divider:
The arresting cam of the divider can move in the groove of the stay.

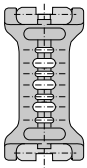




With a movable assembly of the dividers (mounting version A), the holes in the stay do not have any function and hence the dimension a_X-section has is meaningless.

Mounting version B

Fixed divider:
The arresting cam of the divider is fixed in the hole of the stay.





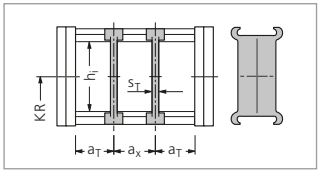
Please note that the dividers can only be fixed in positions at which there is a hole in the stay. The dimension a_X-section specifies the hole intervals in the stay.

Hole intervals = fixing positions of the dividers (a_X-sections)

Divider system TS 0

			Mounting version A			Mounting version B			
Type	Stay variant	h_i mm	S_T mm	$a_{T\ min}$ mm	$a_{X\ min}$ mm	S_T mm	$a_{T\ min}$ mm	$a_{X\ min}$ mm	$a_{X\ section}$ mm
KE 0650	RE	42	4.2	6.5	13.0	4.2	22.0	16	8
KE 0900	RE	58	6.0	7.5	14.5	6.0	8.5	16	16

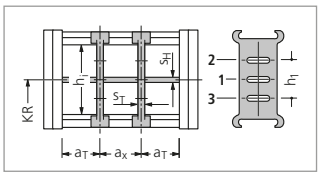
In the standard version, the divider systems are mounted on every second chain link.



Divider system TS 1 with continuous height subdivision made of aluminum

			Mounting version A			Mounting version B					
Type	Stay variant	h_i mm	S_T mm	$a_{T\ min}$ mm	$a_{X\ min}$ mm	S_T mm	$a_{T\ min}$ mm	$a_{X\ min}$ mm	$a_{X\ section}$ mm	S_H mm	h_1 mm
KE 0650	RE	42	4.2	6.5	13.0	4.2	22.0	16	8	4	22
KE 0900	RE	58	6.0	7.5	14.5	6.0	24.5	16	16	4	22

In the standard version, the divider systems are mounted on every second chain link.



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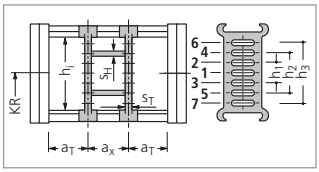
Subject to change.

Types KE 0650 and 0900

Divider system TS 3 with section subdivision, partitions made of plastic

Type	Stay variant	h_i mm	S_T mm	$a_{T\,min}$ mm	$a_{X\,min}$ mm	S_H mm	h_1 mm	h_2 mm	h_3 mm
KE 0650	RE	42	8	4	16*	4	14	28	–
KE 0900	RE	58	8	4	16*	4	14	28	42

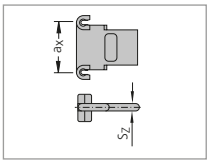
* When using plastic partitions



The dividers are fixed by the partitions, the complete divider system is movable.

In the standard version, the divider systems are mounted on every second chain link.

Dimensions of the plastic partitions for TS 3



Aluminum partitions in 1 mm width sections are also available.

S_Z	a_x (center-to-center distance, dividers)									
4	16	18	23	28	32	33	38	43	48	58
	64	68	78	80	88	96	112	**128**	**144**	**160**
	176	**192**	**208**	–	–	–	–	–	–	–

Dimensions in mm

When using **partitions with a_x > 112 mm** there should be an additional central support with a **twin divider**.
Thickness of the twin dividers: KE 0650 S_T = 3 mm, KE 0900 S_T = 4 mm
Twin dividers are designed for subsequent fitting in the partition system.

Glide discs and injection molded glide runners

Glide discs

If the cable carrier is arranged rotated "through 90" (gliding on the outer side of the chain band), the glide discs attached to the side optimize the friction and wear conditions.

Determining the chain width with glide discs on both chain bands:

KE 0650: $B_{EF'} = B_i + 36$ mm
KE 0900: $B_{EF'} = B_i + 45$ mm





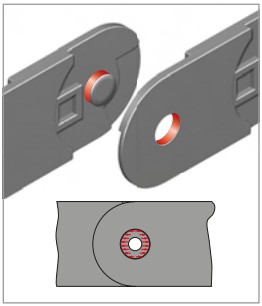
Injection molded glide runners

guarantee the long service life of the cable carrier in the case of long travel lengths and large additional loads.

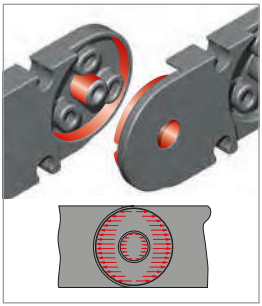
Minimized hinge wear owing to the "life extending 2 disc principle"

In the K Series, the push and pull forces are transmitted via the optimum link design for this purpose.

As a result link wear is reduced to a minimum and the life of the cable carrier is considerably lengthened.



■ Force transmission with a pin-hole joint

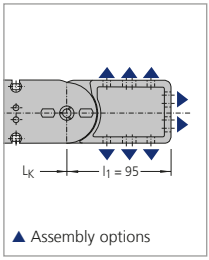


■ Force transmission with the "life extending 2 disc principle"

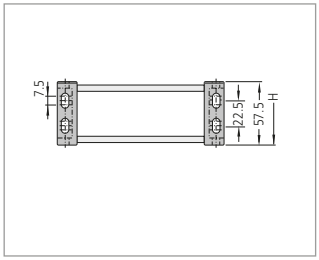
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TSUBAKI KABELSCHLEPP Cable Carrier Configurator
Subject to change.

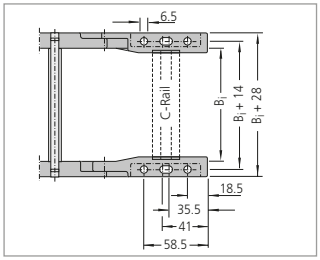
Types KE 0650 and 0900

UMB (Universal Mounting Brackets) made of plastic – Type KE 0650



▲ Assembly options

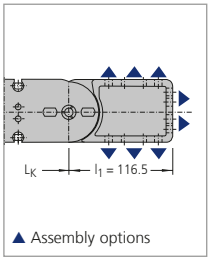




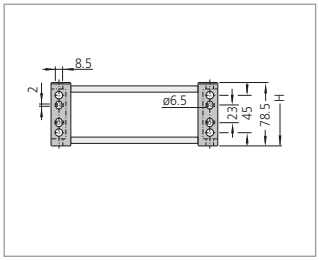
The dimensions of the fixed point and driver connections are identical.
End connectors made of steel plate available on request.
Optional C-rails and strain relief elements for cables can be found on the following pages.
When ordering please specify the connection type FU/MU (see ordering key on page 419).

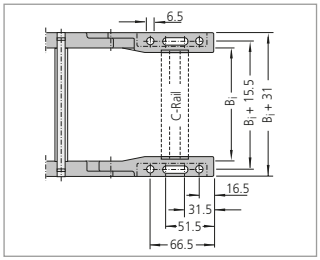


UMB (Universal Mounting Brackets) made of plastic – Type KE 0900



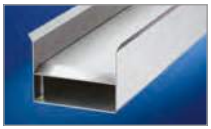
▲ Assembly options





The dimensions of the fixed point and driver connections are identical.
End connectors made of steel plate available on request.
Optional C-rails and strain relief elements for cables can be found on the following pages.
When ordering please specify the connection type FU/MU (see ordering key on page 419).

Guide channels
➤ **from page 375**



Strain relief devices
➤ **from page 381**



Cables for cable carrier systems
➤ **from page 438**



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Subject to change.

Types KE 0650 and 0900

Strain relief devices

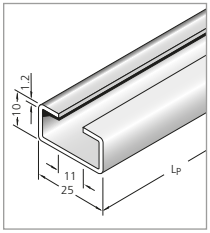
C-rails for LineFix bracket clamps, SZL strain reliefs and clamps

The optional C-rails are fixed by means of the universal mounting brackets and do not have to be screwed separately.

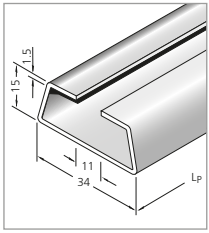
Please state in your order whether C-rails are needed.



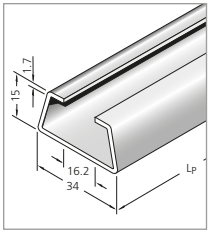
■ Universal mounting bracket with C-rail



■ **KE 0650:**
Integratable C-rail
25 x 10 mm,
slit width 11 mm,
material steel,
Item-No. 3931



■ **KE 0900:**
Integratable C-rail
34 x 15 mm,
slit width 11 mm,
material steel,
Item-No. 3935

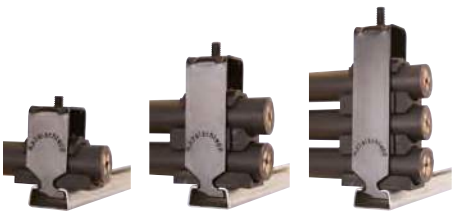


■ **KE 0900:**
Integratable C-rail
34 x 15 mm,
slit width 16 – 17 mm,
material steel,
Item-No. 3932

Our LineFix strain reliefs are optimally suited for the C-rails. (LineFix bracket clamps and other strain relief devices – see Accessories chapter, from page 381 onwards).



■ C-rail with LineFix strain relief



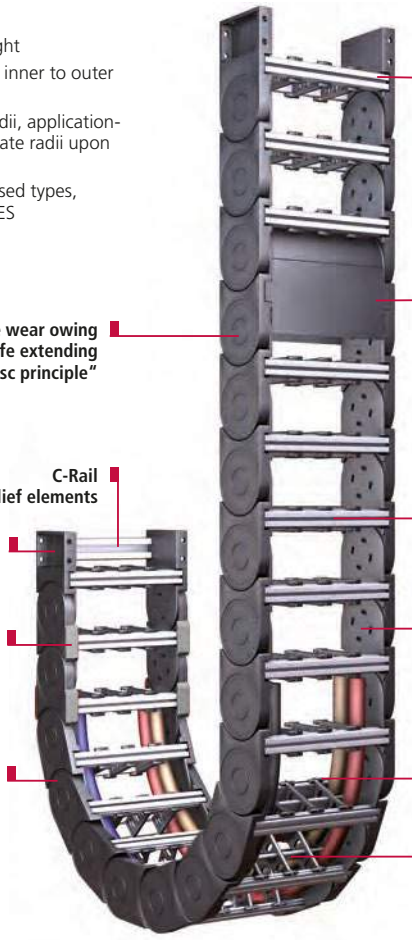
Subject to change.


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MASTER Series

Quiet and weight-optimized cable carriers*

- Low intrinsic weight
- Favorable ratio of inner to outer dimensions
- Standard bend radii, application-specific intermediate radii upon request
- Completely enclosed types, see MASTER TUBES



Aluminum stays available in 1 mm width sections

WIDTHSECTIONS 1 mm

Plastic cover available in 25 mm width sections (LT 60)

Minimized hinge wear owing to the "life extending 2 disc principle"

C-Rail for strain relief elements

Closed and open universal mounting brackets (UMBs)

Replaceable glide shoes (H Series)

Extremely quiet owing to internal damping system for pre-tension and radius strokes

Can be opened quickly on the inside and the outside for cable laying

Variable pre-tensioning for the most varied applications is possible

Dividers can be fixed

Many possibilities for internal subdivision



Minimized hinge wear owing to the "life extending 2 disc principle"



C-Rails integrated in the connector



Dividers can be fixed for installations where the carrier is rotated through 90° and applications with high transverse accelerations



Many separation options for the cables

* Some features can be different for certain types for design reasons. Our specialists are happy to advise you.

Subject to change.

Inside heights
33 – 80

Inside widths
50 – 800

Types MASTER HC/LC

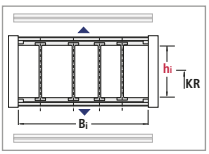
with aluminum stays

- Available in 1 mm width sections (standard widths in 25 mm steps available ex-stock)

WIDTHSECTIONS 1 mm



Type	h_i	B_i	Maximum travel length in m	Dynamics of unsupported arrangement		Page
				Travel speed v_{max} in m/s	Travel acceleration a_{max} in m/s²	
HC 33	33	50 – 400	60	10	50	173
HC 46	46	50 – 400	80	8	40	173
LC 60	60	75 – 600	7*	6	30	173
LC 80	80	100 – 800	8*	5	25	173



* only unsupported

Dimensions in mm

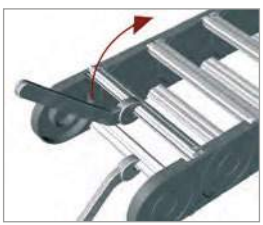
Stay variants

Frame stay RSH

Frame stay made of aluminum

Opening options:
Outside/inside: the cable carrier can be opened quickly and easily simply by rotating the stays.





Stay arrangement

Stays mounted on every chain link.







■ Put the tool in place, **turn it through 15°** and the chain is open.

TUBE SERIES – covered cable carriers

Types LT with plastic cover system



Detailed information can be found in the chapter TUBES – Covered Cable Carriers from page 294 onwards.

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Subject to change.

Types MASTER HC 33/46, LC 60/80

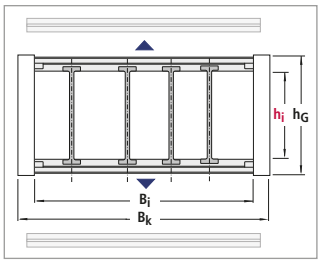
Dimensions and intrinsic chain weight

Type	Stay variant	h_i	h_G	B_i min*	q_k min	B_i max*	q_k max	B_k
HC 33	RSH	33	51	50	1.37	400	3.99	B_i + 22
HC 46	RSH	46	64	50	1.83	400	4.01	B_i + 26
LC 60	RSH	60	88	75	2.78	600	7.10	B_i + 28
LC 80	RSH	80	110	100	3.89	800	10.01	B_i + 32

* Standard widths in 25 mm steps

Dimensions in mm/Weights in kg/m

WIDTH SECTIONS 1 mm



Bend radius and pitch

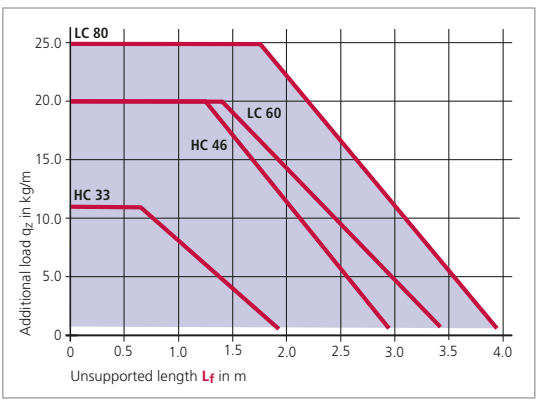
Type	Bend radii KR mm										
HC 33	60	75	100	125	150	175	200	220	250	300	–
HC 46	75	100	115	125	150	170	200	215	250	300	350
LC 60	135	150	200	250	300	350	400	500	–	–	–
LC 80	–	150	200	250	300	350	400	500	–	–	–

The listed values are standard bend radii.
For special applications it is also possible,
to set any desired intermediate radii at the production stage.
Please do get in touch with us, we would be happy to advise you.

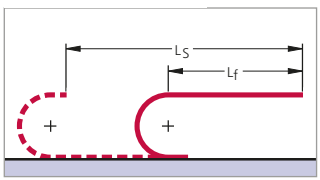
Pitch:
HC 33: t = 56 mm
HC 46: t = 67 mm
LC 60: t = 91 mm
LC 80: t = 111 mm

Load diagram

for unsupported length L_f depending on the additional load



Unsupported length L_f



In the case of longer travel lengths, sag of the cable carriers is technically permissible depending on the application.

In a gliding arrangement, even longer travel lengths are possible (see page 375).

We are at your service to advise on these applications.

Example of ordering

Cable carrier								Divider system		Connection
HC 46	.	200	.	RSH	.	170	-	2010	TS 0 /	4	FU/MU
Type		Inside width B_i in mm		Stay variant		Bend radius KR in mm		Chain length L_k in mm (without connection)	Divider system	Number of dividers n_T	Connection Fixed point/ Driver

Ordering divider systems:
Please state the designation of the divider system (TS 0, TS 1 ...) and the number of dividers. Possibly attach a sketch with the dimensions.

Subject to change.

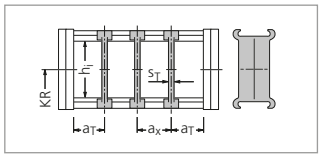
Inside heights
33 – 80

Inside widths
50 – 800

Types MASTER HC 33/46, LC 60/80

Divider system TS 0

Type	h_i mm	S_T mm	$a_{T\,min}$ mm	$a_{x\,min}$ mm
HC 33	33	3	7	13
HC 46	46	3	7	13
LC 60	60	4	9	16
LC 80	80	4	9	16



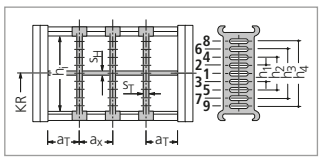
The dividers can be moved in the cross section.
In the standard version, the divider systems are mounted on every second chain link.

Dimensions in mms



Divider system TS 1 with continuous height subdivision made of aluminum

Type	h_i mm	S_T mm	$a_{T\,min}$ mm	$a_{x\,min}$ mm	S_H mm	h_1 mm	h_2 mm	h_3 mm	h_4 mm
HC 33	33	3	7	13	4	18	–	–	–
HC 46	46	3	7	13	4	20	–	–	–
LC 60	60	4	9	16	4	15	30	45	–
LC 80	80	4	9	16	4	15	30	45	60



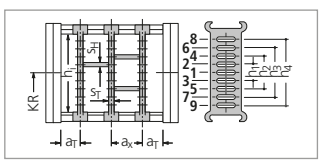
The dividers can be moved in the cross section.
In the standard version, the divider systems are mounted on every second chain link.

Dimensions in mm



Divider system TS 3 with section subdivision, partitions made of plastic

Type	h_i mm	S_T mm	$a_{T\,min}$ mm	$a_{x\,min}$ mm	S_H mm	h_1 mm	h_2 mm	h_3 mm	h_4 mm
HC 33	33	8	6	16*	4	14	–	–	–
HC 46	46	8	6	16*	4	14	28	–	–
LC 60	60	8	6	16*	4	14	28	–	–
LC 80	80	8	6	16*	4	14	28	42	56

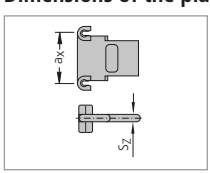


* When using plastic partitions
The dividers are fixed by the partitions, the complete divider system is movable.
In the standard version, the divider systems are mounted on every second chain link.

Dimensions in mm



Dimensions of the plastic partitions for TS 3



Aluminum partitions in 1 mm width sections are also available.

S_Z	a_x (center-to-center dividers)									
4	16	18	23	28	32	33	38	43	48	58
	64	68	78	80	88	96	112	**128**	**144**	**160**
	176	**192**	**208**	–	–	–	–	–	–	–

Dimensions in mm

When using **partitions with a_x > 112 mm** there should be an additional central support with a **twin divider**.
Twin dividers are designed for subsequent fitting in the partition system.

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Subject to change.

Types MASTER HC 33/46, LC 60/80

Fixing the dividers

In the standard version, dividers or the complete divider system (dividers with height subdivisions) can be moved in the cross section.

Fixing profiles can be used to fix the dividers or complete divider systems. Fixing in HC 33/46 and LC 60 in 2 mm steps, LC 80 in 3 mm steps.



■ Fixing on both sides ensures that the dividers have a secure hold.



■ Fixing of dividers with fixing profiles

If the fixed mounting version is desired, please state this when placing your order.

Glide shoes – the economical solution for gliding applications (HC 33/46)

Replaceable glide shoes made of plastic

To extend the life of cable carriers in gliding operations KABELSCHLEPP supplies detachable, exchangeable glide shoes.

Replaceable glide shoes are a very economical solution. When wear occurs only the glide shoes are replaced, and not the complete cable carrier.

Glide shoes for the H Series are made of a highly wear-resistant special material.



Chain height with glide shoes:

HC 33: $h_{G'} = h_G + 3.2 = 54.2$
HC 46: $h_{G'} = h_G + 3.2 = 67.2$

Dimensions in mm

Minimum bend radii when using glide shoes:

HC 33: KR_{min} = 100 mm
HC 46: KR_{min} = 100 mm

! By means of a positive snap connection, the glide shoes sit firmly on the chain link.

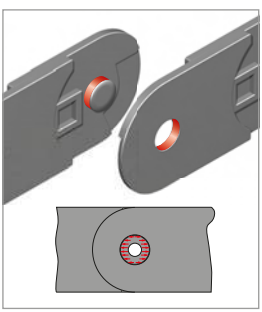
Minimized hinge wear owing to the "life extending 2 disc principle"

In the MASTER Series, the push and pull forces are transmitted via the optimum link design for this purpose.

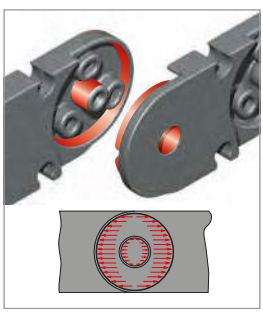
As a result link wear is reduced to a minimum and the life of the cable carrier is considerably lengthened.

The internal stopper and pre-tensioning dampers have a noise-muffling effect. This makes the chain particularly quiet.

Should your application require it, the pre-tensioning (in deviation from the standard pre-tensioning) can be adjusted at the time of production. We can produce a cable carrier with a pre-tension which is exactly suited to the load values of your application.



■ Force transmission with a pin-hole joint



■ Force transmission with the "life extending 2 disc principle"

Subject to change.

Types MASTER HC 33/46, LC 60/80

UMB (Universal Mounting Brackets) made of plastic

Various universal mounting brackets made of plastic provide a suitable connection for any assembly situation. Each type can be screwed from above, below or as a flange.



■ **Standard connector**

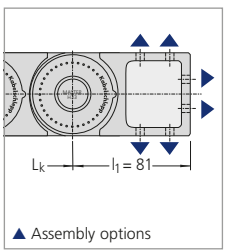


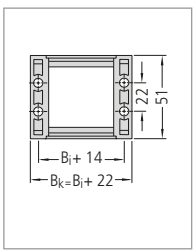
■ **Long, closed connector** for many of the hole patterns commercially available with **large hole intervals (only LC)**

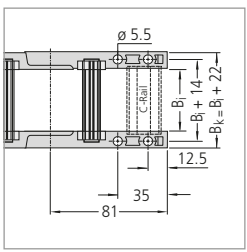


■ **Short, open connector,** easy assembly owing to optimal accessibility of the holes in **restricted installation conditions (only LC)**

Connection dimensions Type HC 33

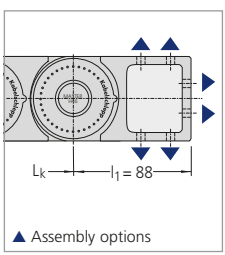


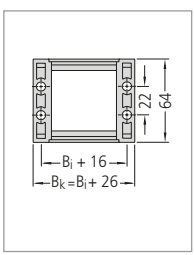


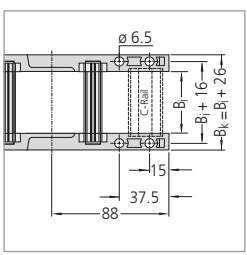


The dimensions of the fixed point and driver connections are identical!
Optional C-rails and strain relief elements for cables can be found on the following pages.
When ordering please specify the connection type FU/MU (see ordering key on page 419).

Connection dimensions Type HC 46







The dimensions of the fixed point and driver connections are identical!
Optional C-rails and strain relief elements for cables can be found on the following pages.
When ordering please specify the connection type FU/MU (see ordering key on page 419).

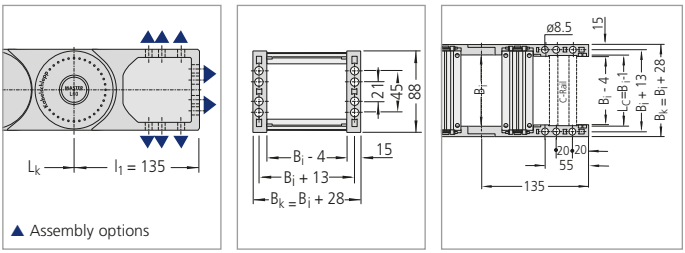
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Subject to change.

Types MASTER HC 33/46, LC 60/80

Connection dimensions Type LC 60

Standard connector and short, open connector

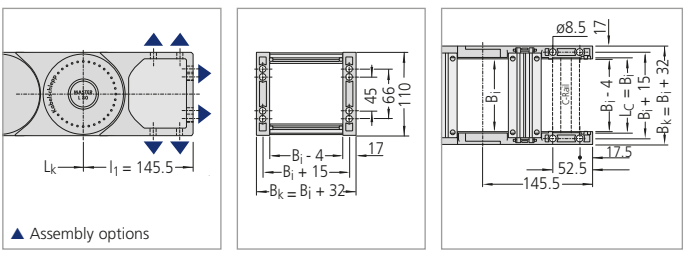


▲ Assembly options

The dimensions of the fixed point and driver connections are identical!
Optional C-rails and strain relief elements for cables can be found on the following pages.
When ordering please specify the connection type FU/MU (see ordering key on page 419).

Connection dimensions Type LC 80

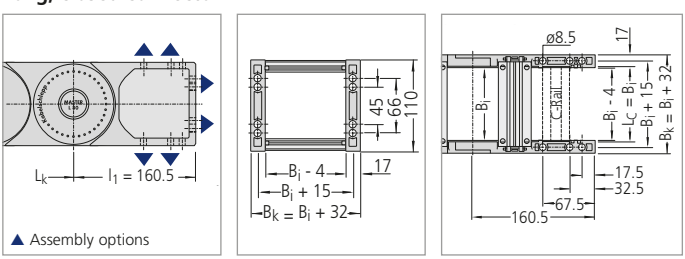
Standard connector and short, open connector



▲ Assembly options

The dimensions of the fixed point and driver connections are identical!
Optional C-rails and strain relief elements for cables can be found on the following pages.
When ordering please specify the connection type FU/MU (see ordering key on page 419).

Long, closed connector



▲ Assembly options

The dimensions of the fixed point and driver connections are identical!
Optional C-rails and strain relief elements for cables can be found on the following pages.
When ordering please specify the connection type FU/MU (see ordering key on page 419).

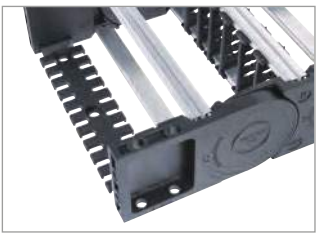
Subject to change.

Types MASTER HC 33/46, LC 60/80

Strain relief devices

Strain relief combs made of plastic on both sides for standard carrier widths (MASTER HC)

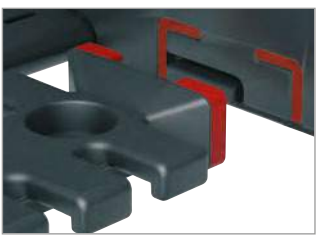
The cables can be fixed securely and simply using the **optional strain relief combs**.
The strain relief combs are installed between the UMBs, and do not need to be bolted on separately or mounted on a C-Rail.
Please state on the order whether strain relief combs are needed.



■ Universal mounting bracket with strain relief comb



■ Dual-sided strain relief comb



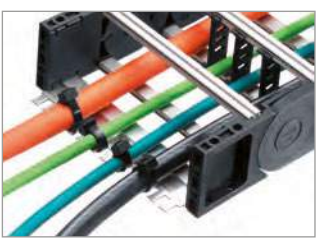
■ Fixing in the UMB.

Type	B_i mm	n_Z
HC 33/46	50	3
HC 33/46	75	5
HC 33/46	100	7
HC 33/46	125	9
HC 33/46	150	11
HC 33/46	175	13

n_Z = Number of teeth on one side of the comb
* on request

Strain relief comb made of aluminum on one side for individual carrier widths (MASTER HC)

The cables can be fixed securely and simply using the **optional strain relief combs**.
The strain relief combs are installed between the universal mounting brackets, and do not need to be bolted on separately or mounted on a C-Rail.
Please state on the order whether strain relief combs are needed.



■ Strain relief comb made of aluminum

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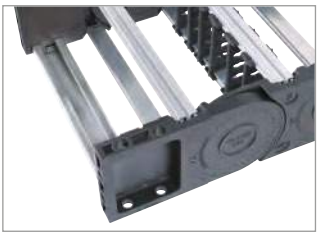
Types MASTER HC 33/46, LC 60/80

Strain relief devices

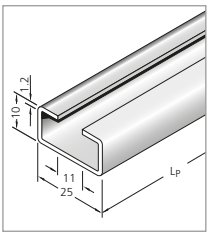
C-rails for LineFix bracket clamps, SZL strain reliefs and clamps

The optional C-rails are fixed by means of the universal mounting brackets and do not have to be screwed separately.

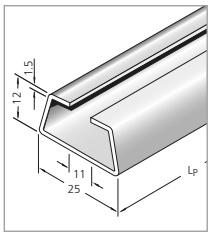
Please state in your order whether C-rails are needed.



■ Universal mounting bracket with C-rail



■ **MASTER HC:**
Integratable C-rail
25 x 10 mm,
slit width 11 mm,
material steel,
Item-No. 3931

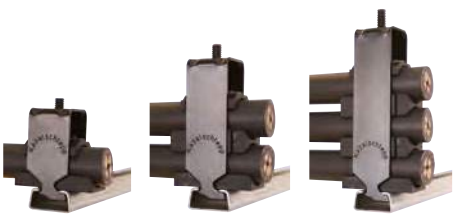


■ **MASTER LC:**
Integratable C-rail
25 x 12 mm,
slit width 11 mm,
material steel,
Item-No. 3934

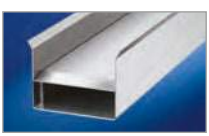
Our LineFix strain reliefs are optimally suited for the C-rails. (LineFix bracket clamps and other strain relief devices – see Accessories chapter, from page 381 onwards).



■ C-rail with LineFix strain relief



Guide channels
➤ from page 375



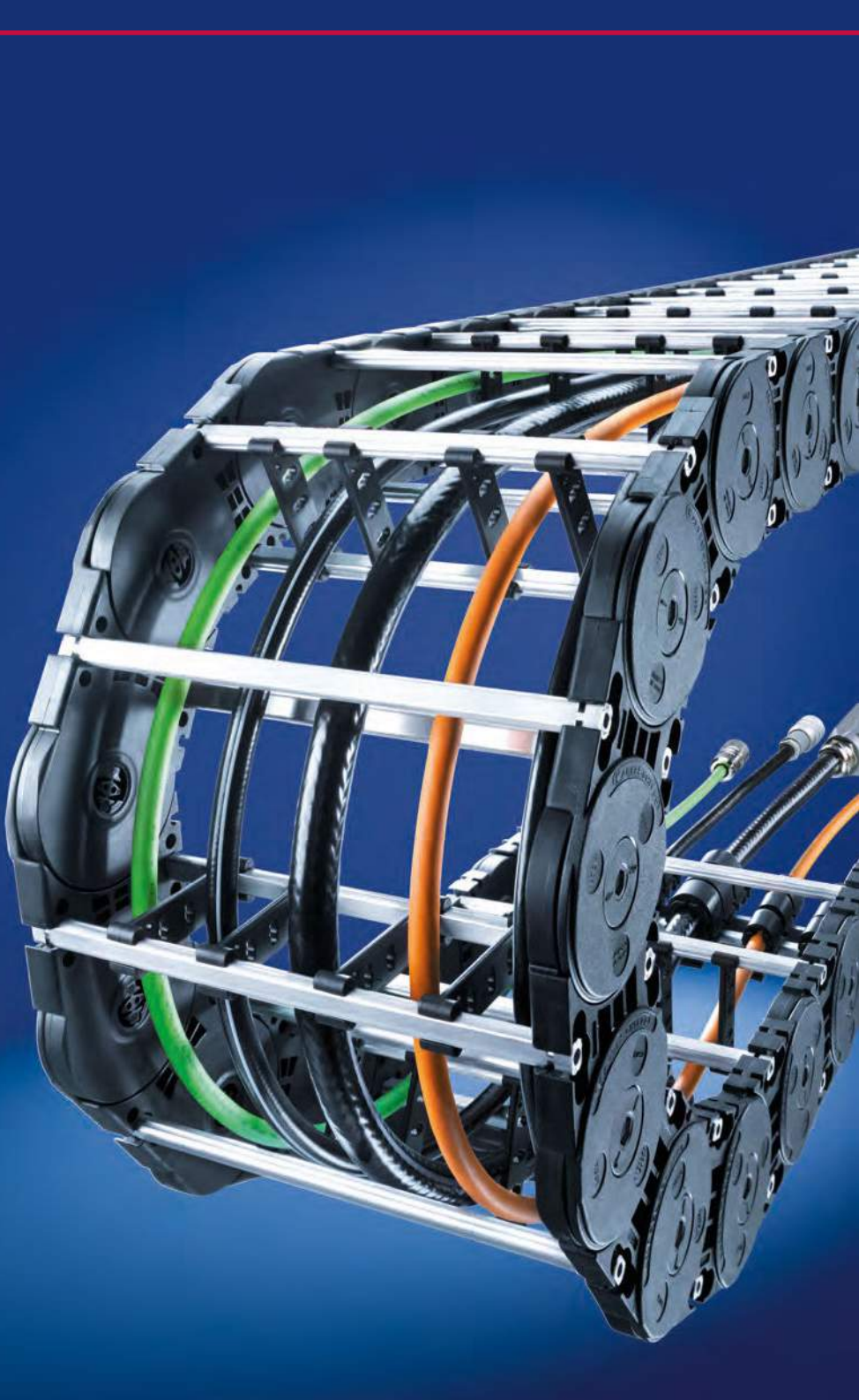
Strain relief devices
➤ from page 381



Cables for cable carrier systems
➤ from page 438



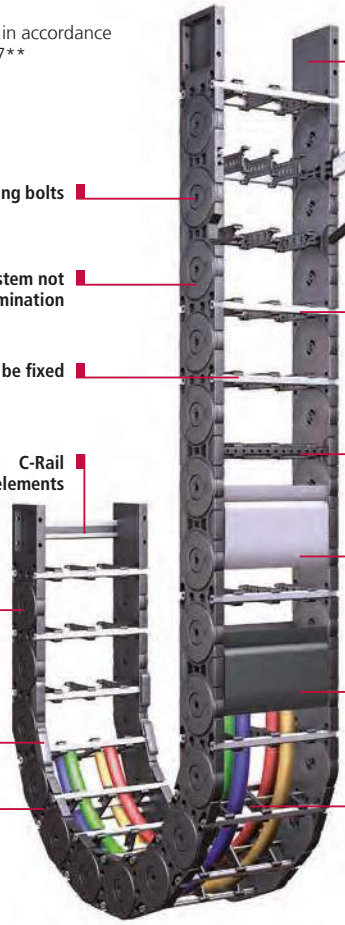
Subject to change.



M Series

Multivariable cable carrier with extensive accessories and stay variants*

- TÜV design approved in accordance with 2PfG 1036/10.97**



- Universal connectors (UMB)
- Aluminum stays with ball joint
- Locking bolts
- Can be opened quickly on the inside and the outside for cable laying
- Enclosed stop system not sensitive to dirt/contamination
- Aluminum stays available in 1 mm width sections WIDTHSECTIONS 1 mm
- Dividers can be fixed
- C-Rail for strain relief elements
- Plastic stays available in 4, 8 or 16 mm width sections
- Minimized hinge wear owing to the "life extending 2 disc principle"
- Aluminum cover available in 1 mm width sections WIDTHSECTIONS 1 mm
- Replaceable glide shoes
- Plastic cover available in 8 or 16 mm width sections
- Extremely robust due to stable plate construction
- Large choice of stay systems and ways of separating the cables





Minimized hinge wear owing to the "life extending 2 disc principle"



Solid plate construction, enclosed impact system



Easy to assemble thanks to locking bolt with Allen screw



Replaceable glide shoes for long service life for gliding applications

* Some features can be different for certain types for design reasons. Our specialists are happy to advise you.
** not MC 1300

Subject to change.

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TSUBAKI KABELSCHLEPP Cable Carrier Configurator

Inside heights
19 – 87

Inside widths
24 – 800

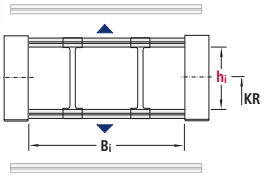
Overview M Series

Type MC with detachable aluminum stays

WIDTH SECTIONS
1 mm

- Available in 1 mm width sections



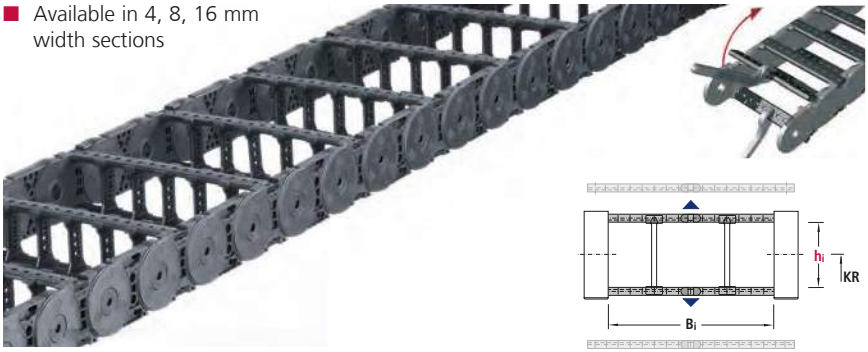


Type	h_i	B_i	Maximum travel length in m	Dynamics of unsupported arrangement		Page
				Travel speed v_{max} in m/s	Travel acceleration a_{max} in m/s²	
MC 0320	19	25-280	80	10	50	185
MC 0650	38	75-500	220	8	40	185
MC 0950	58	100-600	260	6	30	185
MC 1250	72	100-800	320	5	25	185
MC 1300	87	100-800	350	5	25	185

Dimensions in mm

Type ME with unscrewable plastic stays

- Available in 4, 8, 16 mm width sections



Type	h_i	B_i	Maximum travel length in m	Dynamics of unsupported arrangement		Page
				Travel speed v_{max} in m/s	Travel acceleration a_{max} in m/s²	
ME 0320	19	25-149	80	10	50	192
ME 0650	42	50-266	220	8	40	192
ME 0950	58	45-557	260	6	30	192
ME 1250	72	71-551	320	5	25	192

Dimensions in mm

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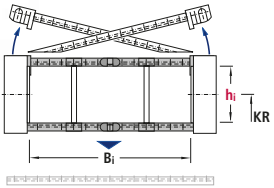
Overview M Series

Type MK with openable plastic stays

- Available in 8 or 16 mm width sections







Type	h_i	B_i	Maximum travel length in m	Dynamics of unsupported arrangement		Page
				Travel speed v_{max} in m/s	Travel acceleration a_{max} in m/s²	
MK 0475	**28**	24-280	120	10	50	192
MK 0650	**42**	50-258	220	8	40	192
MK 0950	**58**	45-557	260	6	30	192
MK 1250	**72**	71-551	320	5	25	192

Dimensions in mm

TUBE SERIES – covered cable carriers

Type MT with plastic or aluminum cover system

- Available types: MT 0475, 0650, 0950, 1250 and 1300



Detailed information can be found in the chapter TUBES – Covered Cable Carriers from page 300 onwards.

Subject to change.

Inside heights
19 – 87

Inside widths
25 – 800



Type MC

with aluminum stays

- Available in 1 mm width sections

WIDTH SECTIONS
1 mm

Stay variants

Frame stay RS

Standard design –
MC 0650 and 0950
For lightweight to medium loads.

Opening options:
Outside/Inside: the cable carrier can be opened quickly and easily simply by rotating the stays through 90°.




Frame stay RV

Reinforced design –
MC 0950 and 1250
For medium to heavy loads and for large chain widths.

Opening options:
Outside/Inside: the cable carrier can be opened quickly and easily simply by rotating the stays through 90°.




Frame stay RM

Solid design –
MC 0950 and 1250
Bolted, maximum stability, maximum chain widths possible.




Frame stay RMF

Solid design
with optional fixing strip –
Standard for MC 1300

Opening options:
Outside/Inside: Stays easily screwed on. Stays can be removed quickly on both sides for laying cables.




Frame stay RMS

Solid design
with ball joint – MC 1300

Opening options:
Outside/Inside: Stays with ball joint can be opened quickly and easily on both sides.




Additional stay variants:



Stay variant LG made of aluminum: Optimum cable guidance in the neutral bending line



Stay variant RMA: For very large cable diameters, such as e.g. with air hoses



Stay variant RMR: Gentle cable laying by means of rollers. Ideal when using hydraulic hoses with "soft" sheaths

Stay arrangement

MC 0320 – Stays mounted on every chain link.

MC 0650, 0950, 1250 and 1300 –
Standard: on every 2nd chain link
Stays can be fitted on every chain link, please specify when placing your order.

Opening options MC 0320
Opening option 02: Detachable stays on the outside (standard)
Opening option 01: Detachable stays on the inside.
If you require opening variant 01, please state this when placing your order.

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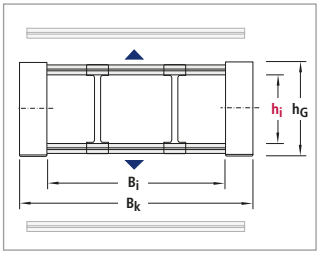
Types MC 0320, 0650, 0950, 1250, 1300

Dimensions and intrinsic chain weight

Type	Stay variant	h_i	h_G	B_i min	q_k min	B_i max	q_k max	B_k
MC 0320	RS	19	27.5	25	0.42	280	1.65	B_i + 11
MC 0650	RS	38	57	75	2.00	400	3.80	B_i + 34
MC 0950	RS	58	80	100	3.20	400	4.70	B_i + 39
MC 0950	RV	58	80	100	3.50	500	5.90	B_i + 39
MC 0950	RM	54	80	100	3.40	600	6.60	B_i + 39
MC 1250	RV	72	96	100	4.40	600	6.30	B_i + 45
MC 1250	RM	69	96	100	4.50	800	8.40	B_i + 45
MC 1300	RMF	87	120	100	6.10	800	9.20	B_i + 50
MC 1300	RMS	87	120	100	6.10	800	9.20	B_i + 50

Dimensions in mm/Weights in kg/m

WIDTHSECTIONS 1 mm



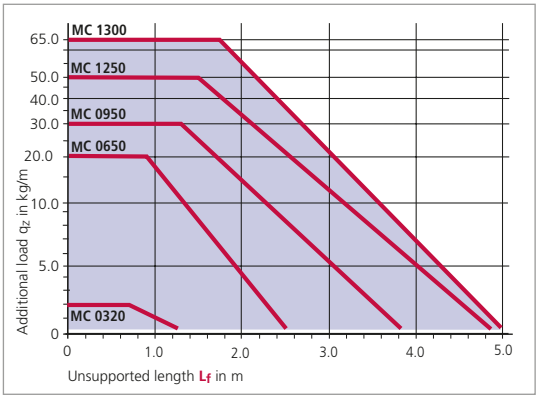
Dimensions and intrinsic chain weight

Type	Bend radii KR mm									
MC 0320	37	47	77	100	200	–	–	–	–	–
MC 0650	75	95	115	145	175	220	260	275	300	350
MC 0950	140	170	200	260	290	320	380	–	–	–
MC 1250	180	220	260	300	340	380	500	–	–	–
MC 1300	150	195	240	280	320	360	400	500	–	–

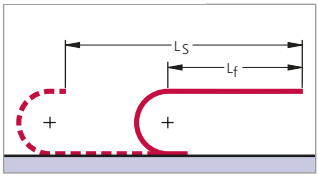
Pitch:
MC 0320: t = 32 mm
MC 0650: t = 65 mm
MC 0950: t = 95 mm
MC 1250: t = 125 mm
MC 1300: t = 130 mm

Load diagram

for unsupported length L_f depending on the additional load



Unsupported length L_f



In the case of longer travel lengths, sag of the cable carriers is technically permissible depending on the application.

In a gliding arrangement, even longer travel lengths are possible (see page 375).

We are at your service to advise on these applications.

Example of ordering

Cable carrier								Divider system		Connection
MC 1300	.	600	.	RMF	.	360	-	2600	TS 0 / 7	FU/MU
Type		Inside width B_i in mm		Stay variant		Bend radius KR in mm		Chain length L_k in mm (without connection)	Divider system / Number of dividers n_T	Connection Fixed point/ Driver

Ordering divider systems:
Please state the designation of the divider system (TS 0, TS 1 ...) and the number of dividers. Possibly attach a sketch with the dimensions.

Subject to change.

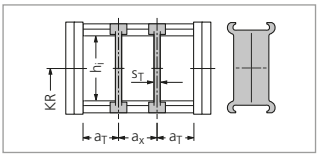
Types MC 0320, 0650, 0950, 1250, 1300

Divider system TS 0

Inside heights 19 – 87

Inside widths 25 – 800

Type	Stay variant	h_i mm	S_T mm	$a_{T\,min}$ mm	$a_{x\,min}$ mm
MC 0320	RS	19	2	3	6
MC 0650	RS	38	3	4.5	13
MC 0950	RS	58	4	4.5	14
MC 0950	RV	58	4	4.5	14
MC 0950	RM	54	4	7	14
MC 1250	RV	72	6	8	16
MC 1250	RM	69	5	10	20
MC 1300	RMF	87	5	7.5	15
MC 1300	RMS	87	5	15.5	15

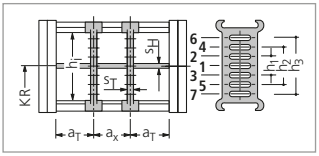


In the standard version, the divider systems are mounted on every second chain link.

The dividers can be moved in the cross section. Dimensions in mm
Fixed installation version for MC 1300 – see page 187

Divider system TS 1 with continuous height subdivision made of aluminum

Type	Stay variant	h_i mm	S_T mm	$a_{T\,min}$ mm	$a_{x\,min}$ mm	S_H mm	h_1 mm	h_2 mm	h_3 mm
MC 0320	RS	19	2	3	6	2	10	–	–
MC 0650	RS	38	3	4.5	13	4	15	–	–
MC 0950	RS	58	4	4.5	14	4	30	–	–
MC 0950	RV	58	4	4.5	14	4	15	30	–
MC 1250	RV	72	6	8	16	4	15	30	45
MC 1300	RMF	87	5	7.5	15	4	24	48	–
MC 1300	RMS	87	5	15.5	15	4	24	48	–

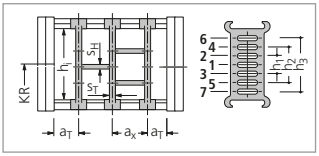


In the standard version, the divider systems are mounted on every second chain link.

The dividers can be moved in the cross section. Dimensions in mm
Fixed installation version for MC 1300 – see page 187

Divider system TS 2 with grid subdivision made of aluminum (1 mm grid)

Type	Stay variant	h_i mm	S_T mm	$a_{T\,min}$ mm	$a_{x\,min}$ mm	S_H mm	h_1 mm	h_2 mm	h_3 mm
MC 0950	RM	54	6	7	16	4	15	30	–
MC 1250	RM	69	6	7	16	4	15	30	45



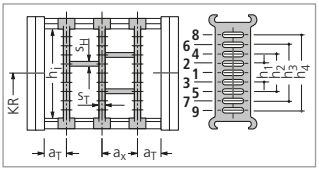
In the standard version, the divider systems are mounted on every second chain link.

The dividers can be moved in the cross section. Dimensions in mm
The complete divider system is movable.

Divider system TS 3

MC 0650, 0950, 1250 and 1300 with section subdivision, partitions made of plastic.
For these types, divider system TS 2 with grid subdivision made of aluminum (1 mm grid) is also available.

Type	Stay variant	h_i mm	S_T mm	$a_{T\,min}$ mm	$a_{x\,min}$ mm	S_H mm	h_1 mm	h_2 mm	h_3 mm	h_4 mm
MC 0650	RS	38	8	4	16*	4	14	28	–	–
MC 0950	RV	58	8	4	16*	4	14	28	42	–
MC 1250	RV	72	8	4	16*	4	14	28	42	56
MC 1300	RMF	87	8	7.5	16*	4	14	28	42	56
MC 1300	RMS	87	8	15.5	16*	4	14	28	42	56



In the standard version, the divider systems are mounted on every second chain link.

The dividers are fixed by the partitions, the complete divider system is movable.
Fixed installation version for MC 1300 – see page 187

Dimensions in mm

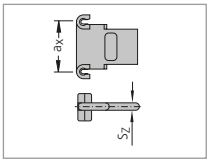
* When using plastic partitions

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Types MC 0320, 0650, 0950, 1250, 1300

Dimensions of the plastic partitions for TS 3



Aluminum partitions in 1 mm width sections are also available.

S_Z	a_x (center-to-center dividers)									
4	16	18	23	28	32	33	38	43	48	58
	64	68	78	80	88	96	112	**128**	**144**	**160**
	176	**192**	**208**	–	–	–	–	–	–	–

Dimensions in mm

When using **partitions with a_x > 112 mm** there should be an additional central support with a **twin divider**.
Thickness of the twin dividers: MC 0650 S_T = 3 mm, MC 0950, 1250, 1300 S_T = 4 mm
Twin dividers are designed for subsequent fitting in the partition system.

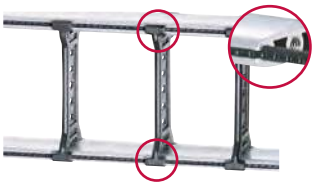
Fixing the dividers in 5 mm steps – Type MC 1300

In the standard version, dividers or the complete divider system (dividers with height separation) can be moved in the cross section.

Fixing profiles can be used to fix the dividers or complete divider systems.

Also best suited for applications where the carrier is rotated through 90° with extreme transverse accelerations (fixable dividers for stay variant RMF/RMS).

If the fixed installation version is required, please state this when placing your order.



- Secure seating of the dividers due to fixing on both sides.
- The fixing profiles are simply pushed into the stays (RMF).

Gliding elements – the economical solution for gliding applications

Replaceable glide shoes made of plastic*

To extend the life of cable carriers in gliding operations KABELSCHLEPP supplies detachable, exchangeable glide shoes.

Replaceable glide shoes are a very economical solution. When wear occurs only the glide shoes are replaced, and not the complete cable carrier. For travel speeds > 2.5 m/s and large additional loads, a highly wear-resistant special material is used.

For types MC 0950 and 1250 **OFFROAD glide shoes** with 80 % greater wear volumes are also available. We recommend their use in extreme environmental conditions (with particularly abrasive materials such as e.g. sand, dust, corundum).

* Not for MC 0320



Chain height with glide shoes:

MC 0650:	$h_{G'} = h_G + 3.2 =$	60.2
MC 0950:	$h_{G'} = h_G + 3.5 =$	83.5
MC 1250:	$h_{G'} = h_G + 3.5 =$	99.5
MC 1300:	$h_{G'} = h_G + 7.0 =$	127.0

Dimensions in mm

Minimum bend radii when using glide shoes:

MC 0650: KR_{min} = 95 mm
MC 0950: KR_{min} = 140 mm
MC 1250: KR_{min} = 180 mm
MC 1300: KR_{min} = 195 mm

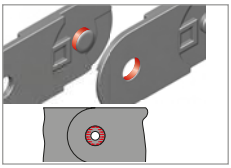
! By means of a positive snap connection, the glide shoes sit firmly on the chain link.

Minimized hinge wear owing to the "life extending 2 disc principle"

In the M Series*, the push and pull forces are transmitted via the optimum link design for this purpose.

As a result link wear is reduced to a minimum and the life of the cable carrier is considerably lengthened.

* not for type 0320



- Force transmission with a pin-hole joint



- Force transmission with the "life extending 2 disc principle"

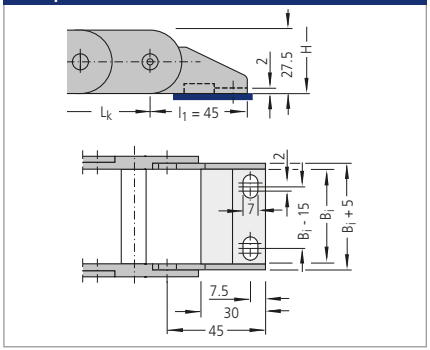
Subject to change.

Types MC 0320, 0650, 0950, 1250, 1300

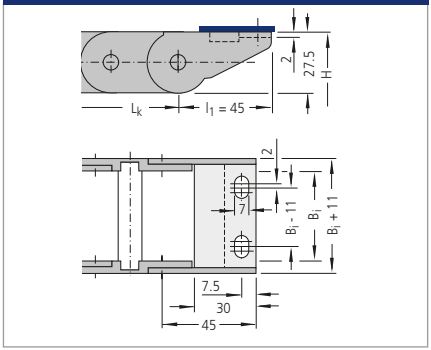
Connectors made of plastic/aluminum – Type MC 0320

Standard connectors without strain relief.
Connectors with strain relief available on request.

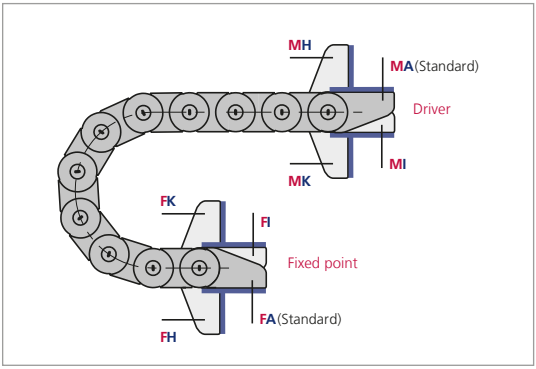
Fixed point connection



Driver connection



Connection variants – Type MC 0320



Connection point

- **M** – Driver
- **F** – Fixed point

Connection type

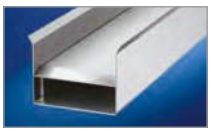
- **A** – Threaded joint outside (standard)
- **I** – Threaded joint inside
- **H** – Threaded joint, rotated through 90° to the outside
- **K** – Threaded joint, rotated through 90° to the inside

In the standard version, the connectors are mounted with the threaded joint outwards (**FA/MA**).

When ordering please specify the desired connection type (see ordering key on page 419).

The connection type can subsequently be altered simply by varying the connectors.

Guide channels
➤ from page 375



Strain relief devices
➤ from page 381



Cables for cable carrier systems
➤ from page 438

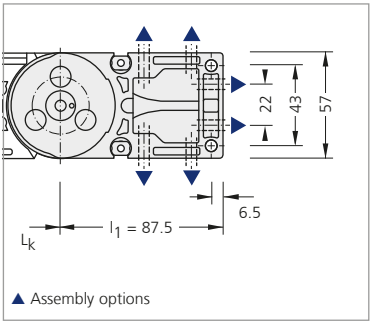


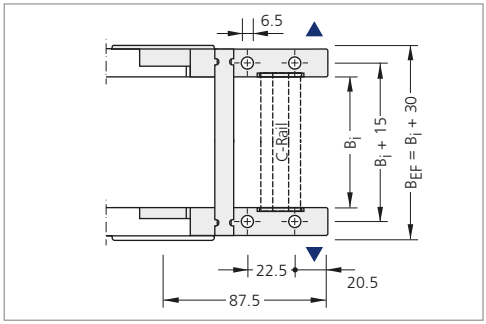
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Subject to change.

Types MC 0320, 0650, 0950, 1250, 1300

UMB (Universal Mounting Brackets) made of plastic – Type MC 0650

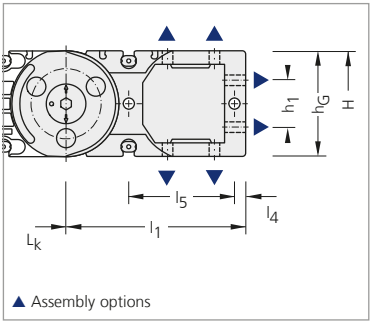


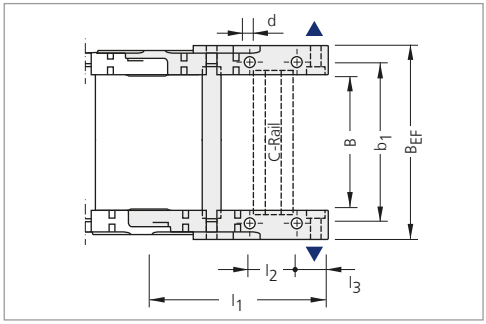


The dimensions of the fixed point and driver connections are identical.
End connectors made of steel plate available on request.
Optional C-rails and strain relief elements for cables can be found on the following pages.
When ordering please specify the connection type FU/MU (see ordering key on page 419).



UMB (Universal Mounting Brackets) made of plastic – Types MC 0950, 1250 and 1300





The dimensions of the fixed point and driver connections are identical.
End connectors made of steel plate available on request.
Optional C-rails and strain relief elements for cables can be found on the following pages.
When ordering please specify the connection type FU/MU (see ordering key on page 419).



Type	B_{EF}	b_1	B	d	l_1	l_2	l_3	l_4	l_5	h_1	h_G
MC 0950	B_i + 41	B_i + 24.5	B_i + 5	8.5	136	35	24.5	8,5	80	45	80
MC 1250	B_i + 53	B_i + 33	B_i + 5	11	167.5	35	30.5	10.5	94.5	45	96
MC 1300	B_i + 50	B_i + 29	B_i	11	158	35	20	–	–	66	120

B_{EF} = Width of the cable carrier over connector

Dimensions in mm

Subject to change.

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Types MC 0320, 0650, 0950, 1250, 1300

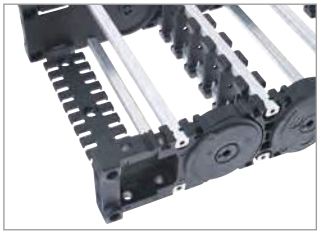
Strain relief devices

Both-sided strain relief combs made of plastic (MC 0650)

The cables can be fixed securely and simply using the **optional strain relief combs**.

The strain relief combs are installed between the UMBs, and do not need to be bolted on separately or mounted on a C-Rail.

Please state on the order whether strain relief combs are needed.



■ Universal mounting bracket with strain relief comb



■ Both-sided strain relief comb



■ Fixing in the UMB

Type	B_i mm	n_Z
MC 0650	75	5
MC 0650	95	7
MC 0650	100	7
MC 0650	115	8
MC 0650	120	9
MC 0650	125	9
MC 0650	145	11
MC 0650	150	11
MC 0650	170	13
MC 0650	175	13
MC 0650	195	15
MC 0650	200	15
MC 0650	225*	17
MC 0650	250*	19

n_Z = Number of teeth on one side of the comb

* on request

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Types MC 0320, 0650, 0950, 1250, 1300

Strain relief devices

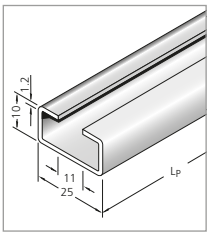
C-rails for LineFix bracket clamps, SZL strain reliefs and clamps

The optional C-rails are fixed by means of the universal mounting brackets and do not have to be screwed separately.

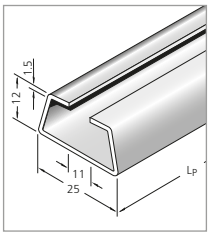
Please state in your order whether C-rails are needed.



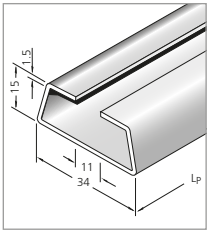
■ Universal mounting bracket with C-rail



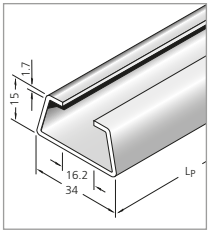
■ **MC 0650:**
Integratable C-rail
25 x 10 mm,
slit width 11 mm,
material steel,
Item-No. 3931



■ **MC 1300:**
Integratable C-rail
25 x 12 mm,
slit width 11 mm,
material steel,
Item-No. 3934



■ **MC 0950, 1250 and 1300:**
Integratable C-rail
34 x 15 mm,
slit width 11 mm,
material steel,
Item-No. 3935

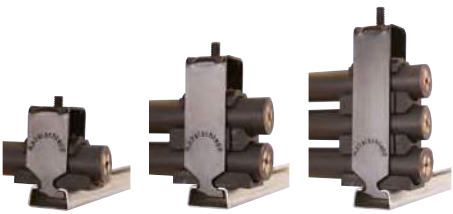


■ **MC 0950, 1250 and 1300:**
Integratable C-rail
34 x 15 mm,
slit width 16 – 17 mm,
material steel,
Item-No. 3932

Our LineFix strain reliefs are optimally suited for the C-rails. (LineFix bracket clamps and other strain relief devices – see Accessories chapter, from page 381 onwards).



■ C-rail with LineFix strain relief



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Type ME/MK

with plastic stays

- ME 0320
  available in 4 mm width sections
- MK 0475, ME/MK 0650
  available in 8 mm width sections
- ME/MK 0950/1250
  available in 16 mm
  width sections



Types ME 0320, 0650, 0950 and 1250

(Stay variant RE, unscrewable stays)

Opening options

Outside/Inside: simply by turning





Stay arrangement

ME 0320
Stays mounted on every chain link.

ME 0650, 0950 and 1250
Standard: on every 2nd chain link
Stays can be fitted on every chain link, please specify when placing your order.

Types MK 0475, 0650, 0950 and 1250

(Stay variant RD, opening stays)

Opening options

MK 0475

Opening variant 02 (Standard):
Outside: simply by levering open (right or left)
Inside: simply by turning

Opening variant 01:
Outside: simply by turning
Inside: simply by levering open (right or left). If you require opening variant 01, please state when placing your order.





MK 0650, 0950 and 1250

Outside: simply by levering open (right or left)
Inside: simply by turning

Stay arrangement

MK 0475
Stays mounted on every chain link.

MK 0650, 0950 and 1250
Standard: on every 2nd chain link
Stays can be fitted on every chain link, please specify when placing your order.

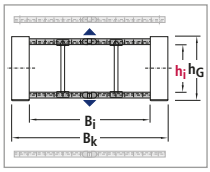
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Subject to change.

Types ME 0320, MK 0475, ME/MK 0650, 0950, 1250

Dimensions and intrinsic chain weight

Type	Stay variant	h_i	h_G	B_i min	q_k min	B_i max	q_k max	B_k	Width sections
ME 0320	RE	19	27.5	25	0.46	149	0.85	$B_i + 11$	4
MK 0475	RD	28	39	24	0.79	280	3.03	$B_i + 17$	8
ME 0650	RE	42	57	50	2.00	266	2.84	$B_i + 34$	8
MK 0650	RD	42	57	50	2.00	258	2.81	$B_i + 34$	8
ME/MK 0950	RE/RD	58	80	45	3.00	557	6.20	$B_i + 39$	16
ME/MK 1250	RE/RD	72	96	71	4.30	551	5.80	$B_i + 45$	16



Dimensions in mm/Weights in kg/m

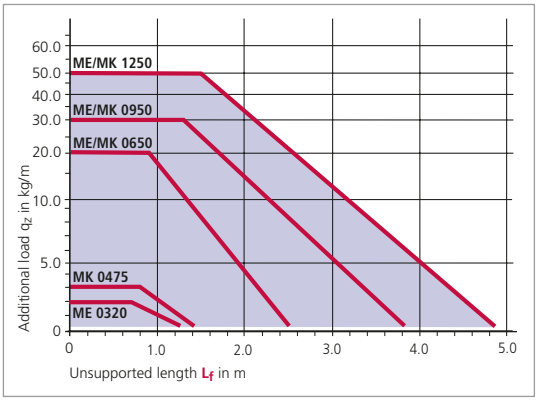
Bend radius and pitch

Type	Bend radii KR mm									
ME 0320	37	47	77	100	200	–	–	–	–	–
MK 0475	55	75	100	130	160	200	250	300	–	–
ME/MK 0650	75	95	115	145	175	220	260	275	300	350
ME/MK 0950	140	170	200	260	290	320	380	–	–	–
ME/MK 1250	180	220	260	300	340	380	500	–	–	–

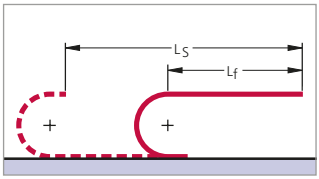
Pitch:
ME 0320: t = 32 mm
MK 0475: t = 47.5 mm
ME/MK 0650: t = 65 mm
ME/MK 0950: t = 95 mm
ME/MK 1250: t = 125 mm

Load diagram

for unsupported length L_f depending on the additional load



Unsupported length L_f



In the case of longer travel lengths, sag of the cable carriers is technically permissible depending on the application.

In a gliding arrangement, even longer travel lengths are possible (see page 375).

We are at your service to advise on these applications.

Example of ordering

Cable carrier						Divider system		Connection
ME 1250	. 407	. RE	. 340	- 2875		TS 0	/ 5	FU/MU
Type	Inside width B_i in mm	Stay variant	Bend radius KR in mm	Chain length L_k in mm (without connection)		Divider system	Number of dividers n_T	Connection Fixed point/ Driver

Ordering divider systems:
Please state the designation of the divider system (TS 0, TS 1 ...) and the number of dividers. Possibly attach a sketch with the dimensions.

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Types ME 0320, MK 0475, ME/MK 0650, 0950, 1250

Fixing the dividers

In the standard version, dividers or the complete divider system (dividers with height separation) can be moved in the cross section.
(**Mounting version A**)

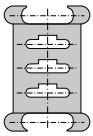
However, it is often also possible to fix dividers or complete divider systems (dividers with height separation) by turning the stays.
(**Mounting version B**).

If the fixed mounting version is desired, please state this when placing your order.

Types ME 0320

Mounting version A (standard)

Movable divider:
Divider without arresting cams



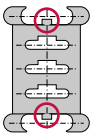


Caution: With type ME 0320, the stay does not have a groove. Different dividers are required for mounting versions A and B:

Version A: Dividers **without** arresting cams
Version B: Dividers **with** arresting cams

Mounting version B

Fixed divider:
Divider with arresting cams



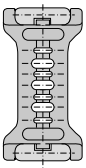


Thus, with type ME 0320, the mounting version A **cannot** be changed into mounting version B simply by turning the stay.

Types MK 0475, ME/MK 0650, 0950 and 1250

Mounting version A (standard)

Movable divider:
The arresting cam of the divider can move in the groove of the stay.

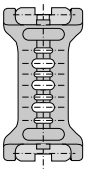




With a movable assembly of the dividers (mounting version A), the holes in the stay do not have any function and hence the dimension a_x-section is meaningless.

Mounting version B

Fixed divider:
The arresting cam of the divider is fixed in the borehole of the stay.





Please note that the dividers can only be fixed in positions at which there is a hole in the stay. The dimension a_x-section specifies the hole intervals in the stay.

Hole intervals = fixing positions of the dividers (a_x-sections)

By simply turning the stays, it is also possible at any subsequent time to switch between movable and fixed assembly of the dividers (not in case of ME 0320).

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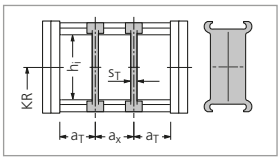
Subject to change.

Types ME 0320, MK 0475, ME/MK 0650, 0950, 1250

Divider system TS 0

			Mounting version A			Mounting version B			
Type	Stay variant	h_i mm	S_T mm	$a_{T\,min}$ mm	$a_{x\,min}$ mm	S_T mm	$a_{T\,min}$ mm	$a_{x\,min}$ mm	$a_{x\,section}$ mm
ME 0320	RE	19	2	3	6	2	4.5	8	4
MK 0475	RD	28	2.8	6	7.8	2.8	12	8	8
ME/MK 0650	RE/RD	42	4.2	6.5	13	4.2	13	16	8
ME/MK 0950	RE/RD	58	6	7.5	14.5	6	22.5	16	16
ME/MK 1250	RE/RD	72	8	5	14.5	8	19.5	16	16

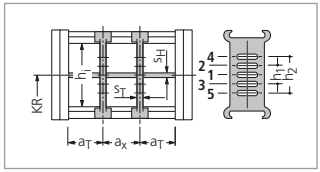
In the standard version, the divider systems are mounted on every second chain link.



Divider system TS 1 with continuous height subdivision made of aluminum

			Mounting version A			Mounting version B						
Type	Stay variant	h_i mm	S_T mm	$a_{T\,min}$ mm	$a_{x\,min}$ mm	S_T mm	$a_{T\,min}$ mm	$a_{x\,min}$ mm	$a_{x\,section}$ mm	S_H mm	h_1 mm	h_2 mm
ME 0320	RE	19	2	3	6	2	4.5	8	4	2	10	–
MK 0475	RD	28	2.8	6	7.8	2.8	12	8	8	2.4	15	–
ME/MK 0650	RE/RD	42	4.2	6.5	13	–	–	–	–	4	10	22
ME/MK 0950	RE/RD	58	6	7.25	14.5	6	22.5	16	16	4	22	–
ME/MK 1250	RE/RD	72	8	5	14.5	8	19.5	16	16	4	32	–

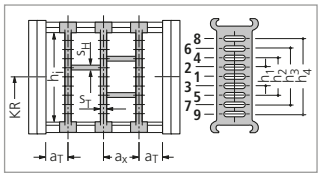
In the standard version, the divider systems are mounted on every second chain link.



Divider system TS 3

ME/MK 0650, 0950 and 1250 with section subdivision, partitions made of plastic
The dividers for divider system **TS 3** do not have any arresting cams. Thus, no mounting version B (fixed mounting) is possible.

Type	Stay variant	h_i mm	S_T mm	$a_{T\,min}$ mm	$a_{x\,min}$ mm	S_H mm	h_1 mm	h_2 mm	h_3 mm	h_4 mm
ME 0650	RE/RD	42	8	4	16*	4	14	28	–	–
ME 0950	RE/RD	58	8	4	16*	4	14	28	42	–
ME 1250	RE/RD	72	8	4	16*	4	14	28	42	56



* When using plastic partitions

The dividers are fixed by the partitions, the complete divider system is movable.

In the standard version, the divider systems are mounted on every second chain link.

Divider system **TS 2** with fixable dividers (mounting version B) and aluminum height subdivisions in 1 mm width sections is available. Please do get in touch with us.

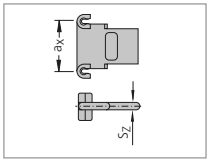
Dimensions of the plastic partitions for divider system TS 3, see next page.

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Types ME 0320, MK 0475, ME/MK 0650, 0950, 1250

Dimensions of the plastic partitions for TS 3



Aluminum partitions in 1 mm width sections are also available.

S_Z	a_x (center-to-center dividers)									
4	16	18	23	28	32	33	38	43	48	58
	64	68	78	80	88	96	112	**128**	**144**	**160**
	176	**192**	**208**	–	–	–	–	–	–	–

Dimensions in mm

When using **partitions with a_x > 112 mm** there should be an additional central support with a **twin divider**.
Thickness of the twin dividers: ME/MK 0650 S_T = 3 mm, ME/MK 0950, 1250 S_T = 4 mm

Twin dividers are designed for subsequent fitting in the partition system.

Gliding elements – the economical solution for gliding applications

Replaceable glide shoes made of plastic*

To extend the life of cable carriers in gliding operations KABELSCHLEPP supplies detachable, exchangeable glide shoes.

Replaceable glide shoes are a very economical solution. When wear occurs only the glide shoes are replaced, and not the complete cable carrier. For travel speeds > 2.5 m/s and large additional loads, a highly wear-resistant special material is used.

For types ME/MK 0950 and 1250 **OFFROAD glide shoes** with 80 % greater wear volumes are also available. We recommend their use in extreme environmental conditions (with particularly abrasive materials such as e.g. sand, dust, corundum).



* Not for ME 0320

Chain height with glide shoes:

MK 0475:	$h_{G'} = h_G + 2.5 = 41.5$
ME/MK 0650:	$h_{G'} = h_G + 3.2 = 60.2$
ME/MK 0950:	$h_{G'} = h_G + 3.5 = 83.5$
ME/MK 1250:	$h_{G'} = h_G + 3.5 = 99.5$

Dimensions in mm

Minimum bend radii when using glide shoes:

MK 0475:
KR_{min} = 100 mm
ME/MK 0650:
KR_{min} = 95 mm
ME/MK 0950:
KR_{min} = 140 mm
ME/MK 1250:
KR_{min} = 180 mm

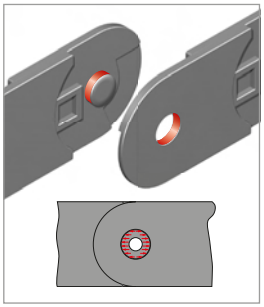
! By means of a positive snap connection, the glide shoes sit firmly on the chain link.

Minimized hinge wear owing to the "life extending 2 disc principle"

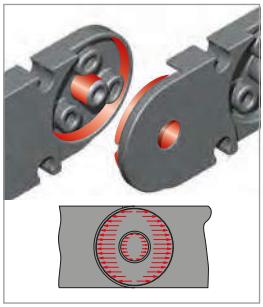
In the M Series*, the push and pull forces are transmitted via the optimum link design for this purpose.

As a result link wear is reduced to a minimum and the life of the cable carrier is considerably lengthened.

* not for type 0320



■ Force transmission with a pin-hole joint



■ Force transmission with the "life extending 2 disc principle"

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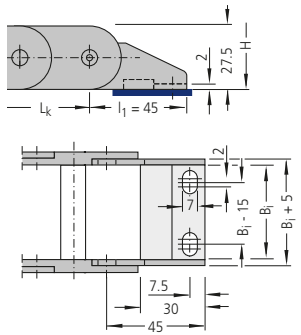
Subject to change.

Types ME 0320, MK 0475, ME/MK 0650, 0950, 1250

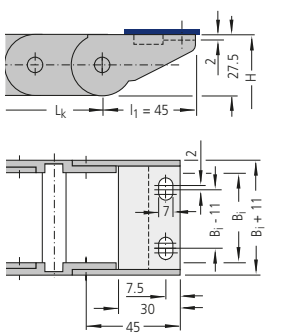
Connectors made of plastic/aluminum – Type ME 0320

Standard connectors without strain relief.
Connectors with strain relief available on request.

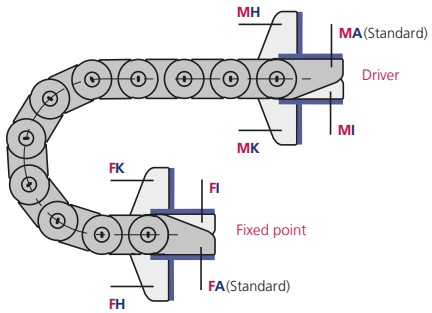
Fixed point connection



Driver connection



Connection variants – Type ME 0320



Connection point

M – Driver
F – Fixed point

Connection type

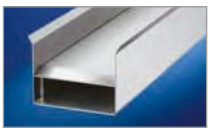
A – Threaded joint outside (standard)
I – Threaded joint inside
H – Threaded joint, rotated through 90° to the outside
K – Threaded joint, rotated through 90° to the inside

In the standard version, the connectors are mounted with the threaded joint outwards (**FA/MA**).

When ordering please specify the desired connection type (see ordering key on page 419).

The connection type can subsequently be altered simply by varying the connectors.

Guide channels
➤ from page 375



Strain relief devices
➤ from page 381



Cables for cable carrier systems
➤ from page 438

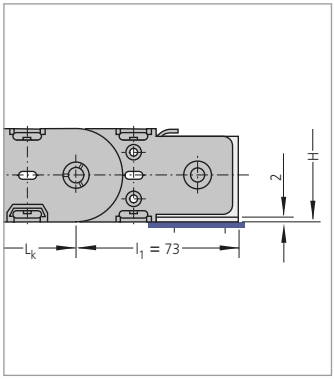


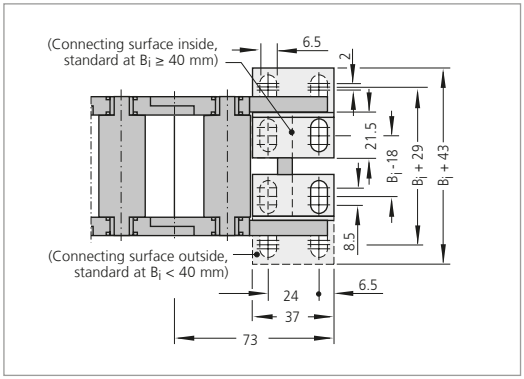
Subject to change.

Types ME 0320, MK 0475, ME/MK 0650, 0950, 1250

Connectors made of plastic/steel – Type MK 0475

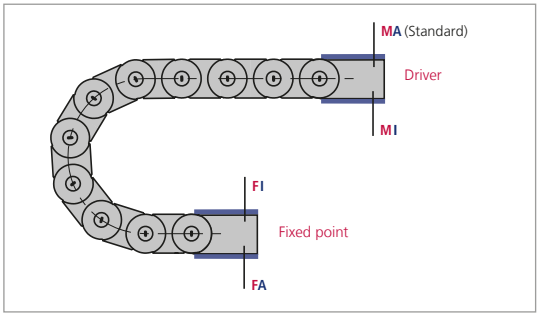
End connector made of steel plate.
Screwable strain relief made of aluminum on request.





The dimensions of the fixed point and driver connections are identical.

Connection variants – Type MK 0475



In the standard version, the connectors are mounted with the threaded joint outwards (**FA/MA**).

When ordering please specify the desired connection type (see ordering key on page 419).

The connection type can subsequently be altered simply by varying the connectors.

Connection point

M – Driver

F – Fixed point

Connection type

A – Threaded joint outside (standard)

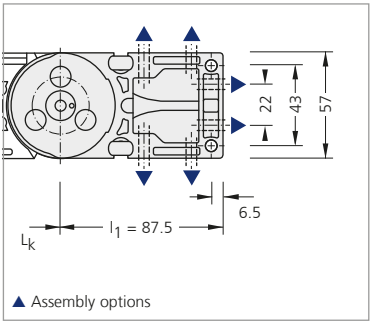
I – Threaded joint inside

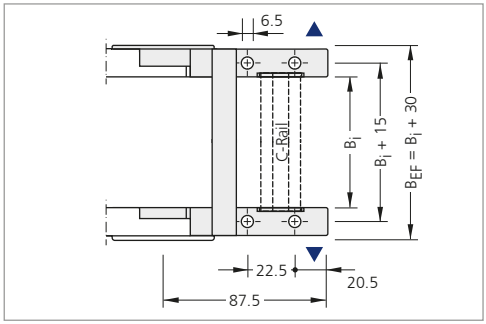
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Subject to change.

Types ME 0320, MK 0475, ME/MK 0650, 0950, 1250

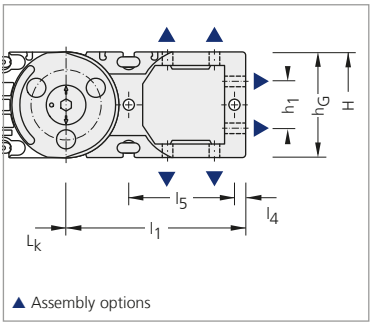
UMB (Universal Mounting Brackets) made of plastic – Type ME/MK 0650

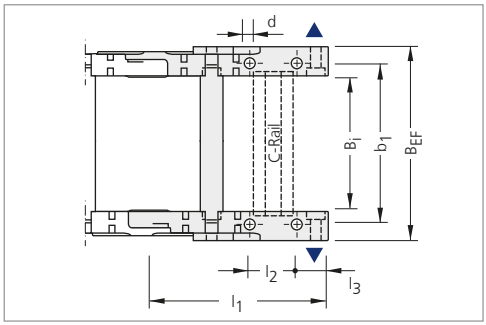




The dimensions of the fixed point and driver connections are identical.
End connectors made of steel plate available on request.
Optional C-rails and strain relief elements for cables can be found on the following pages.
When ordering please specify the connection type FU/MU (see ordering key on page 419).

UMB (Universal Mounting Brackets) made of plastic – Type ME/MK 0950 and 1250





The dimensions of the fixed point and driver connections are identical.
End connectors made of steel plate available on request.
Optional C-rails and strain relief elements for cables can be found on the following pages.
When ordering please specify the connection type FU/MU (see ordering key on page 419).

Type	B_{EF}	b_1	B	d	l_1	l_2	l_3	l_4	l_5	h_1	h_G
ME/MK 0950	B_i + 41	B_i + 24.5	B_i + 5	8.5	136	35	24.5	8.5	80	45	80
ME/MK 1250	B_i + 53	B_i + 33	B_i + 5	11	167.5	35	30.5	10.5	94.5	45	96

B_{EF} = Chain width over connector

Dimensions in mm

Subject to change.

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Types ME 0320, MK 0475, ME/MK 0650, 0950, 1250

Strain relief devices

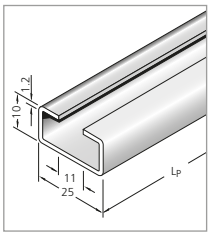
C-rails for LineFix bracket clamps, SZL strain reliefs and clamps

The optional C-rails are fixed by means of the universal mounting brackets and do not have to be screwed separately.

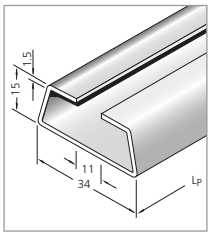
Please state in your order whether C-rails are needed.



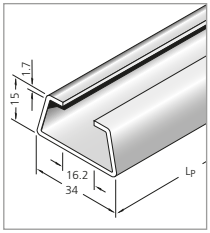
■ Universal mounting bracket with C-rail



■ **ME/MK 0650:**
Integratable C-rail
25 x 10 mm,
slit width 11 mm,
material steel,
Item-No. 3931

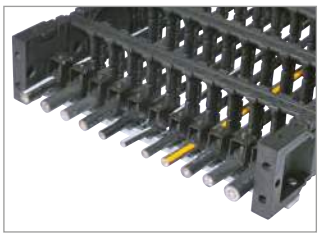


■ **ME/MK 0950 and 1250:**
Integratable C-rail
34 x 15 mm,
slit width 11 mm,
material steel,
Item-No. 3935

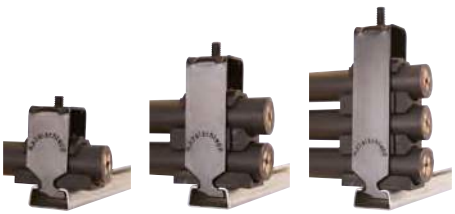


■ **ME/MK 0950 and 1250:**
Integratable C-rail
34 x 15 mm,
slit width 16 – 17 mm,
material steel,
Item-No. 3932

Our LineFix strain reliefs are optimally suited for the C-rails. (LineFix bracket clamps and other strain relief devices – see Accessories chapter, from page 381 onwards).



■ C-rail with LineFix strain relief



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Subject to change.

Notes

Subject to change.



TKP91

Easy to assemble, stable cable carriers with variable dimensions



Universal connectors (UMB)

Dividers can be fixed

Can be opened quickly on the inside and outside for cable laying

Plastic covers available in 50 mm width sections (TKC series)

Plastic stays available in 50 mm width sections

Replaceable glide shoes

Extremely robust due to stable plate construction

Many separation options for the cables



Universal connectors (UMB) for connection above, below or at the front



Dividers can be fixed for installations where the carrier is rotated through 90°



Many separation options for the cables



Replaceable glide shoes for long service life for gliding applications

Subject to change.

Inside heights
56 – 80

Inside widths
150 – 500

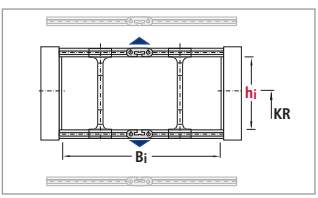
Type TKP91

with plastic stays



Type	h_i	B_i	Maximum travel length in m	Dynamics of unsupported arrangement		Page
				Travel speed v_{max} in m/s	Travel acceleration a_{max} in m/s²	
TKP 0910H56	56	150-500	80	5	20	205
TKP 0910H80	80	150-500	100	5	20	205

Dimensions in mm



TUBE SERIES – covered cable carriers

Type TKC91 with plastic cover system



Detailed information can be found in the chapter TUBES – Covered Cable Carriers from page 310 onwards.

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Type TKP91

Dimensions and intrinsic chain weight

Type	h_i	h_G	Inside widths B_i								B_k
			Intrinsic chain weight								
TKP 0910H56	56	84	150	200	250	300	350	400	450	500	B_i + 41
			4.3	4.6	5.0	5.4	5.7	6.1	6.5	6.8	
TKP 0910H80	80	108	150	200	250	300	350	400	450	500	B_i + 50
			6.7	7.0	7.4	7.7	8.1	8.5	8.8	9.2	

Dimensions in mm/Weights in kg/m

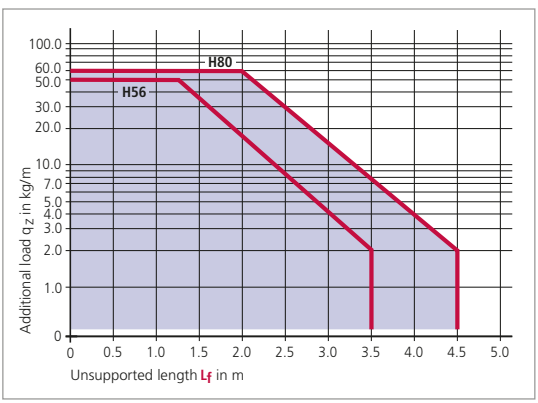
Bend radius and pitch

Type	Bend radii KR mm							
TKP 0910H56	150	200	250	300	350	400	–	–
TKP 0910H80	150	200	250	300	350	400	450	500

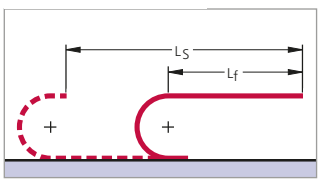
Pitch:
TKP 0910: t = 91 mm

Load diagram

for unsupported length L_f depending on the additional load



Unsupported length L_f



In the case of longer travel lengths, sag of the cable carriers is technically permissible depending on the application.

In a gliding arrangement, even longer travel lengths are possible (see page 375).

We are at your service to advise on these applications.

Example of ordering

Cable carrier						Divider system			Connection
TKP 0910H80	.	300	.	250	-	1820	TS 0	/	4	UMB
Type		Inside width B_i in mm		Bend radius KR in mm		Chain length L_k in mm (without connection)	Divider system		Number of dividers n_T	Connection Fixed point/ Driver

Ordering divider systems:
Please state the designation of the divider system (TS 0, TS 1 ...) and the number of dividers. Possibly attach a sketch with the dimensions.

Subject to change.

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Inside heights
56 – 80

Inside widths
150 – 500

Type TKP91

Fixing the dividers

In the standard version, dividers or the complete divider system (dividers with height separation) can be moved in the cross section.

(**Mounting version A**)

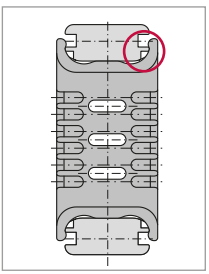
However, it is often also possible to fix dividers or complete divider systems (dividers with height separation).

(**Mounting version B**).

If the fixed mounting version is desired, please state this when placing your order.

Mounting version A (standard)

Movable divider

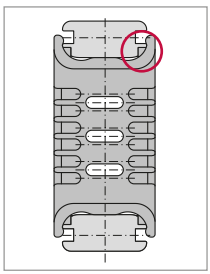




■ Divider without arresting cams

Mounting version B

Fixed divider



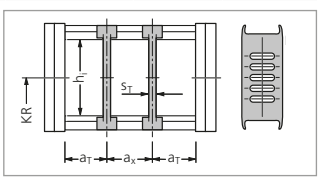


■ Divider with arresting cams

Divider system TS 0

Type	h_i mm	Version A S_T mm	Version A $a_{T\,min}$ mm	Version A $a_{x\,min}$ mm	Version B S_T mm	Version B $a_{T\,min}$ mm	Version B $a_{x\,min}$ mm	Version B $a_{x\,section}$ mm
TKP 0910H56	56	6	20	14	6	31/32/33*	18	6
TKP 0910H80	80	6	20	14	6	31/32/33*	18	6

* $a_{T\,min}$ = 31 mm for B_i = 200, 350, 500
$a_{T\,min}$ = 32 mm for B_i = 250, 400
$a_{T\,min}$ = 33 mm for B_i = 150, 300, 450



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Subject to change.

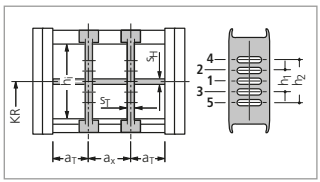
Type TKP91

Divider system TS 1

with continuous height subdivision made of aluminum

Type	h_i mm	Version A s_T mm	Version A $a_{T\,min}$ mm	Version A $a_{x\,min}$ mm	Version B s_T mm	Version B $a_{T\,min}$ mm	Version B $a_{x\,min}$ mm	Version B $a_{x\,section}$ mm	s_H mm	h_1 mm	h_2 mm
TKP 0910 H56	56	6	20	14	6	31/32/33*	18	6	4	24	–
TKP 0910 H80	80	6	20	14	6	31/32/33*	18	6	4	24	48

* $a_{T\,min}$ = 31 mm for B_i = 200, 350, 500
$a_{T\,min}$ = 32 mm for B_i = 250, 400
$a_{T\,min}$ = 33 mm for B_i = 150, 300, 450

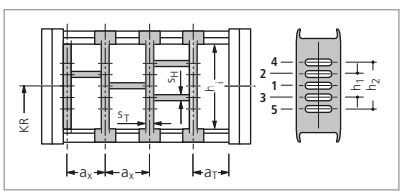


Divider system TS 3

with section subdivision, partitions made of aluminum

Type	h_i mm	Version A s_T mm	Version A $a_{T\,min}$ mm	Version A $a_{x\,min}$ mm	Version B s_T mm	Version B $a_{T\,min}$ mm	Version B $a_{x\,min}$ mm	Version B $a_{x\,section}$ mm	s_H mm	h_1 mm	h_2 mm
TKP 0910 H56	56	6	20	14	6	31/32/33*	18	6	4	24	–
TKP 0910 H80	80	6	20	14	6	31/32/33*	18	6	4	24	48

* $a_{T\,min}$ = 31 mm for B_i = 200, 350, 500
$a_{T\,min}$ = 32 mm for B_i = 250, 400
$a_{T\,min}$ = 33 mm for B_i = 150, 300, 450



In the standard version, the divider systems are mounted on every second chain link.

Gliding elements – the economical solution for gliding applications

Replaceable glide shoes made of plastic

To extend the life of cable carriers in gliding operations KABELSCHLEPP supplies detachable, exchangeable glide shoes. Replaceable glide shoes are a very economical solution. When wear occurs only the glide shoes are replaced, and not the complete cable carrier.

Chain height with glide shoes:

TKP 0910H56 $h_G' = h_G + 10 = 94$
TKP 0910H80 $h_G' = h_G + 10 = 118$

Dimensions in mm

Minimum bend radii when using glide shoes:

KR_{min} = 200 mm

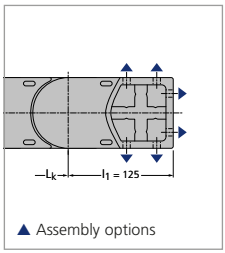


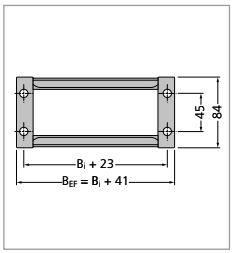
! By means of a positive snap connection, the glide shoes sit firmly on the chain link.

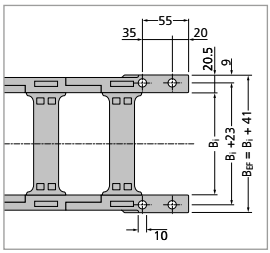
Type TKP91

UMB (Universal Mounting Brackets) made of plastic – TKP 0910H56

Universal connectors for connection above, below or at the front.



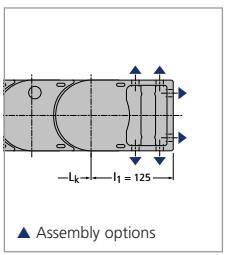


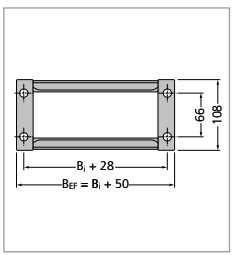


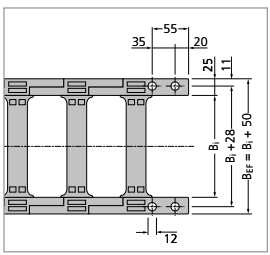
The dimensions of the fixed point and driver connections are identical.

UMB (Universal Mounting Brackets) made of plastic – TKP 0910H80

Universal connectors for connection above, below or at the front.







The dimensions of the fixed point and driver connections are identical.

Guide channels
➤ **from page 375**

Strain relief devices
➤ **from page 381**

Cables for cable carrier systems
➤ **from page 438**







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Subject to change.

Notes

Subject to change.



XL Series

Cable carrier with large inside height

- Large dimensions
- Low intrinsic weight
- TÜV design approved in accordance with 2PfG 1036/10.97



Stable end connector made of steel

Can be quickly opened on the inside and outside for cable laying

Bolted stays and cover systems

C-Rail for strain relief elements

Aluminum stays available in 1 mm width sections

WIDTHSECTIONS 1 mm

Aluminum cover available in 1 mm width sections

WIDTHSECTIONS 1 mm

Replaceable glide shoes

Large choice of stay systems and ways of separating the cables



Bolted stays and cover systems for maximum stability even with large carrier widths



Replaceable glide shoes for long service life for gliding applications



Stable end connector made of steel (different connection variants)



Many separation options for the cables

Subject to change.



Type XLC 1650

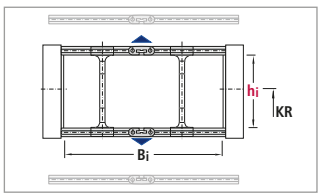
with aluminum stays

- Available in 1 mm width sections

WIDTHSECTIONS 1 mm

Type	h_i	B_i	Maximum travel length in m	Dynamics of unsupported arrangement		Page
				Travel speed v_{max} in m/s	Travel acceleration a_{max} in m/s²	
XLC 1650	108	200-1000	350	4	25	213

Dimensions in mm



Stay variants

Frame stay RM

Solid design

Bolted, maximum stability, maximum chain widths possible.



Stay arrangement

Standard: on every 2nd chain link

The stays can be mounted on every chain link, please specify when placing your order.



Additional stay variants:



Stay variant LG made of aluminum: Optimum cable routing in the neutral bending line



Stay variant RMR: Gentle cable laying by means of rollers. Ideal for hydraulics hoses with "soft" jackets

TUBE SERIES – covered cable carriers

Type XLT 1650 with aluminum cover system



Detailed information can be found in the chapter TUBE Series – Covered Cable Carriers from page 316 onwards.

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Subject to change.

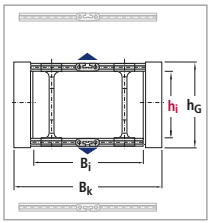
Type XLC 1650

Dimensions and intrinsic chain weight

Type	Stay variant	h_i	h_G	B_i min	q_k min	B_i max	q_k max	B_k
XLC 1650	RM	108	140	200	10.5	1000	15.3	B_i + 68

Dimensions in mm/Weights in kg/m

WIDTHSECTIONS 1 mm



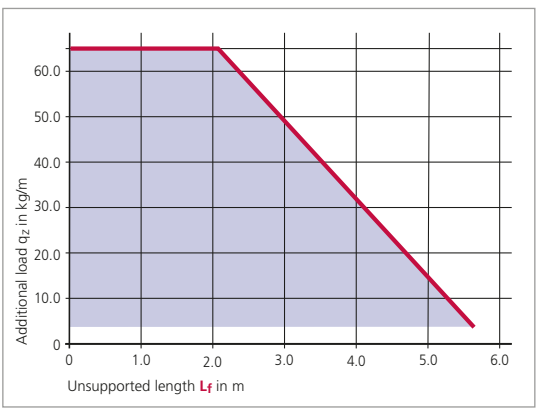
Bend radius and pitch

Type	Bend radii KR mm						
XLC 1650	250	300	350	400	450	500	550

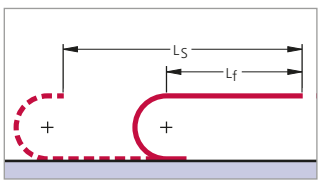
Pitch t = 165 mm

Load diagram

for unsupported length L_f depending on the additional load



Unsupported length L_f



In the case of longer travel lengths, sag of the cable carriers is technically permissible depending on the application.

In a gliding arrangement, even longer travel lengths are possible (see page 375).

We are at your service to advise on these applications.

Note: The calculated cable carrier length L_k always has to be rounded to an uneven number of chain links.

Example of ordering

Cable carrier						Divider system		Connection
XLC 1650	600	RM	350	-	4125	TS 0	/ 4	FA/MA
Type	Inside width B_i in mm	Stay variant	Bend radius KR in mm		Chain length* L_k in mm (without connection)	Divider system	Number of dividers n_T	Connection Fixed point/ Driver

Ordering divider systems:
Please state the designation of the divider system (TS 0, TS 1 ...) and the number of dividers. Possibly attach a sketch with the dimensions.

* The calculated chain length Lk **must** always be rounded to an odd number of chain links.

Subject to change.

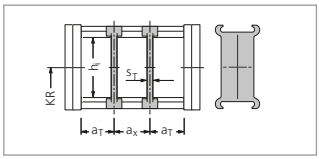
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OnlineEngineer.de
TSUBAKI KABELSCHLEPP Cable Carrier Configurator

Type XLC 1650

Divider system TS 0

Type	Stay variant	h_i mm	S_T mm	$a_{T\ min}$ mm	$a_{x\ min}$ mm
XLC 1650	RM	108	8	6	25

The dividers can be moved in the cross section.



In the standard version, the divider systems are mounted on every second chain link.

Inside height
108

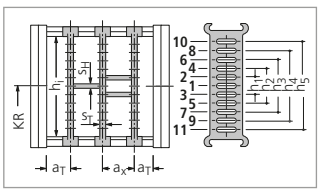
Inside widths
200 – 1000

Divider system TS 3 with section subdivision, partitions made of plastic

Type	Stay variant	h_i mm	S_T mm	$a_{T\ min}$ mm	$a_{x\ min}$ mm	S_H mm	h_1 mm	h_2 mm	h_3 mm	h_4 mm	h_5 mm
XLC 1650	RM	108	8	1	16*	4	14	28	42	56	70

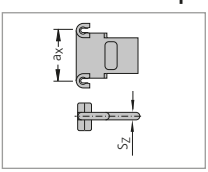
* When using plastic partitions

The dividers are fixed by the partitions, the complete divider system is movable.



In the standard version, the divider systems are mounted on every second chain link.

Dimensions of the plastic partitions for TS 3



Aluminum partitions in 1 mm width sections are also available.

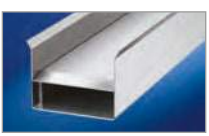
S_Z	a_x (center-to-center dividers)									
4	16	18	23	28	32	33	38	43	48	58
	64	68	78	80	88	96	112	**128**	**144**	**160**
	176	**192**	**208**	–	–	–	–	–	–	–

Dimensions in mm

When using **partitions with a_x > 112 mm** there should be an additional central support with a **twin divider** (S_T = 5 mm).

Twin dividers are designed for subsequent fitting in the partition system.

Guide channels
➤ from page 375



Strain relief devices
➤ from page 381



Cables for cable carrier systems
➤ from page 438



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Subject to change.

Type XLC 1650

Gliding elements – the economical solution for gliding applications

Replaceable glide shoes made of plastic

To extend the life of cable carriers in gliding operations KABELSCHLEPP supplies detachable, exchangeable glide shoes.

Replaceable glide shoes are a very economical solution. When wear occurs only the glide shoes are replaced, and not the complete cable carrier.

Chain height with glide shoes:

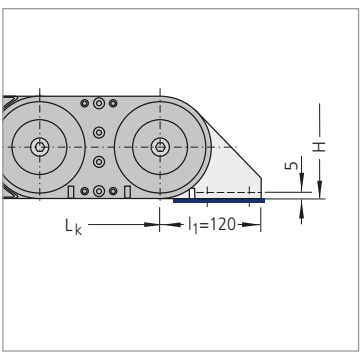
h_G' = 147 mm

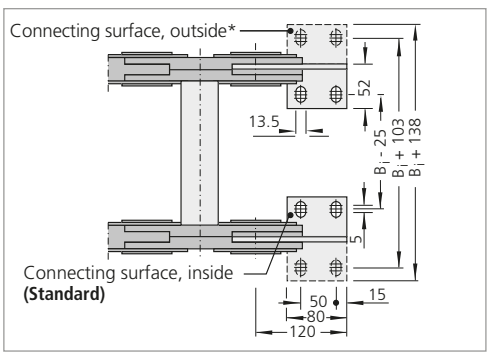


! By means of a positive snap connection, the glide shoes sit firmly on the chain link.

Connection dimensions

End connector made of steel plate

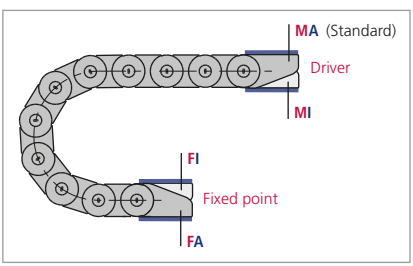


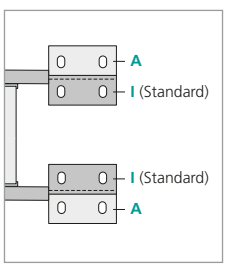


The dimensions of the fixed point and driver connections are identical.

* Please specify when ordering.

Connection variants





The connecting surfaces on the driver and fixed point can be be mounted on the outside or inside according to preference.

Connection point Connection type

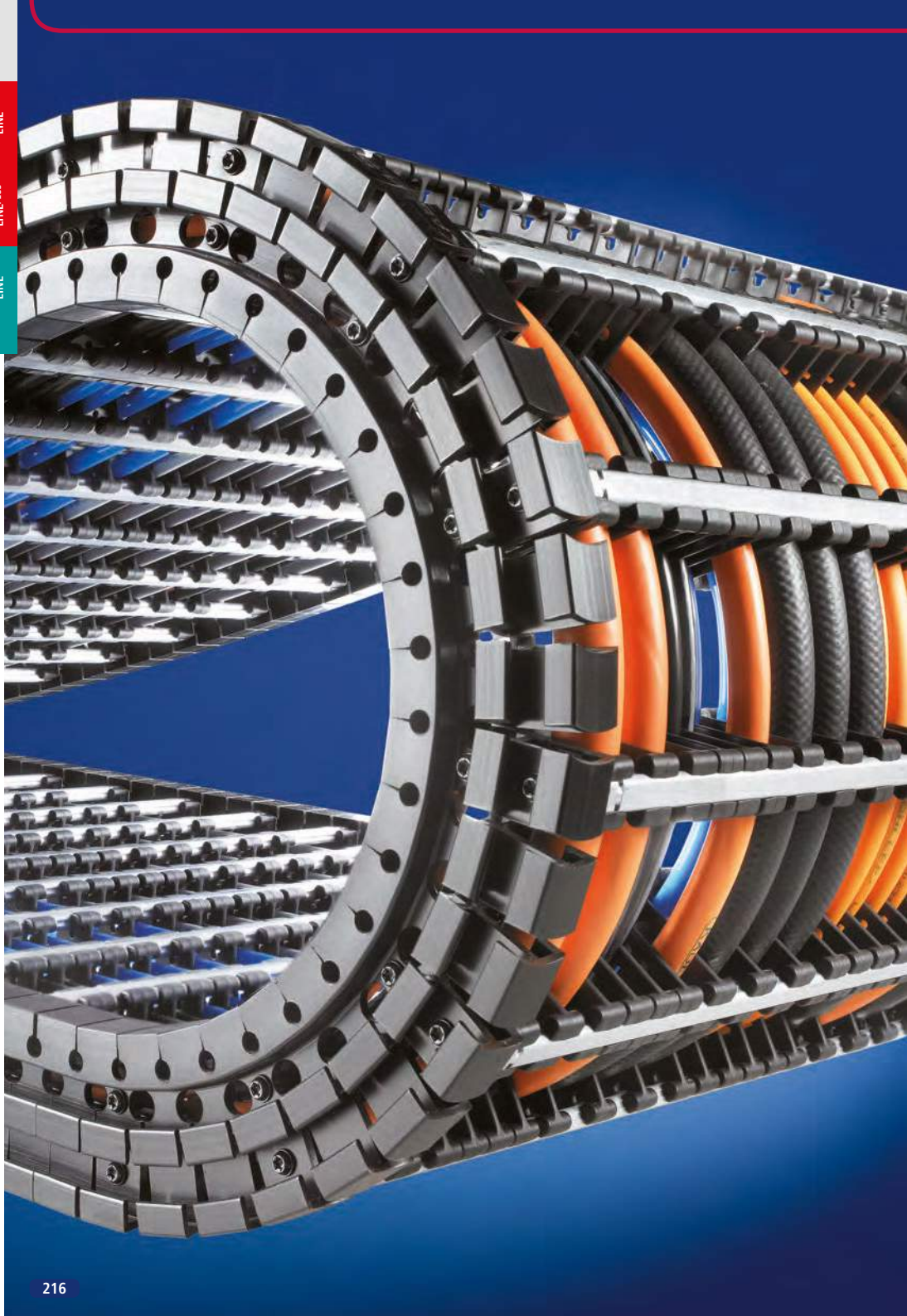
M – Driver
F – Fixed point
A – Threaded joint outside (standard)
I – Threaded joint, inside

Connecting surface

I – Connecting surface inside (< B_K)
A – Connecting surface outside (> B_K)

In the standard version, the end connectors are mounted with the threaded joint outwards (**FAI/MAI**).
When ordering please specify the desired connection type (see ordering key on page 419).

Subject to change.

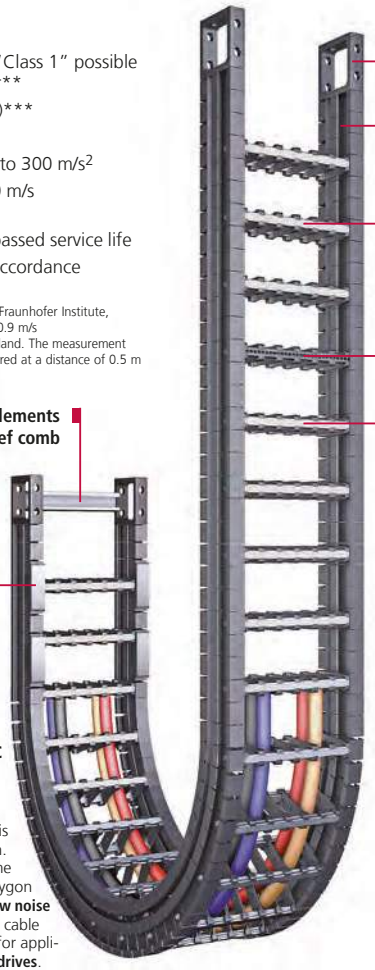


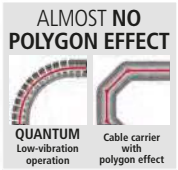
QUANTUM

Light, extremely quiet and low-vibration for high speeds and accelerations*

- **Suitable for clean rooms:** Clean room certification "Class 1" possible – no hinges, no link wear**
- Extremely quiet, 31 db (A)***
- Extremely lightweight
- For high accelerations up to 300 m/s²
- For travel speeds up to 40 m/s
- Very long service life: 25 million cycles = unsurpassed service life
- TÜV design approved in accordance with 2PfG 1036/10.97

** Tested: Q040.77.RE-70-1000 by the Fraunhofer Institute, travel speed V1 = 0.2 m/s and V2 = 0.9 m/s
*** Tested: Q060.100.100 by TÜV Rheinland. The measurement area sound pressure level was measured at a distance of 0.5 m for uniform and jerky movement.





Ideal for highly dynamic applications – extruded side bands

The operation of the QUANTUM is extremely quiet and low-vibration. Due to the link-free design and the very small pitch, the so-called polygon effect is minimized. Due to the **low noise** during operation, the QUANTUM cable carrier system is optimally suited for applications with **low-vibration linear drives**.

Suitable for clean rooms and long service life

Extruded sidebands are installed. In contrast to conventional pin-hole joints, there is almost no wear (link wear), and therefore QUANTUM is excellent for use in clean rooms.

Extremely long service life due to

- No link wear on pin-hole joints
- Special plastic and steel cables in the supporting base



Ideal for highly dynamic applications



3D movements: The driver connection can move sideways and can be turned through up to ± 30 degrees



Side bands made of extruded special plastic and steel cables in the supporting base for extremely long service life

*Some features can be different for certain types for design reasons. Our specialists are happy to advise you.

Subject to change.

Inside heights
28 – 72

Inside widths
28 – 600

Types Q 040, Q 060, Q 080 and Q 100

with plastic or aluminum stays

- Available in 1 mm width sections (aluminum stays)

WIDTH SECTIONS
1 mm

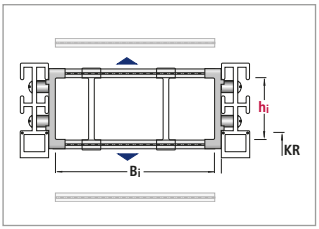
- Available in 8 or 16 mm width sections (plastic stays)



Type	h_i	B_i	Maximum travel length in m	Dynamics of unsupported arrangement		Page
				Travel speed v_{max} in m/s	Travel acceleration a_{max} in m/s²	
Q 040	28	28-284	100	40	300	219
Q 060	42*	38-500	150	30	160	219
Q 080	58	50-600	180	25	100	219
Q 100	72	70-600	200	20	70	219

* with stay variant RE

Dimensions in mm



Stay variants

Frame stay RS made of aluminum

Standard design – Q 060, Q 080, Q 100

For lightweight to medium loads.

Opening options:
Outside/Inside: can be opened quickly and easily simply by rotating the stays through 90°.





Frame stay RV made of aluminum

Reinforced design – Q 080, Q 100

For medium to heavy loads and for large chain widths.

Opening options:
Outside/Inside: can be opened quickly and easily simply by rotating the stays through 90°.





Frame stay RE made of plastic

Q 040, Q 060, Q 080, Q 100

Opening options:
Outside/Inside: simply by turning (through 90°).





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Subject to change.

Types Q 040, Q 060, Q 080 and Q 100

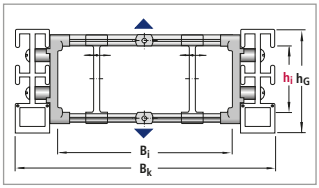
Dimensions and intrinsic weight

"Hybrid designs" with aluminum stay systems

WIDTHSECTIONS 1 mm

Type	Stay variant	h_i	h_G	B_i min	q_k min	B_i max	q_k max	B_k
Q 060	RS	38	60	38	1.25	500	2.40	B_i + 52
Q 080	RS	58	80	50	1.90	600	2.25	B_i + 72
Q 080	RV	58	80	50	2.10	600	2.90	B_i + 72
Q 100	RS	72	98	70	2.60	600	3.40	B_i + 82
Q 100	RV	72	98	70	2.80	600	4.60	B_i + 82

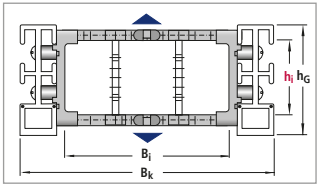
Dimensions in mm/Weights in kg/m



"Plastic designs"

Type	Stay variant	h_i	h_G	B_i min	q_k min	B_i max	q_k max	B_k	Width section
Q 040	RE	28	40	28	0.63	284	0.98	B_i + 40	8
Q 060	RE	42	60	68	1.16	276	1.54	B_i + 52	8
Q 080	RE	58	80	58	1.93	570	2.70	B_i + 72	16
Q 100	RE	72	98	74	2.74	570	3.67	B_i + 82	16

Dimensions in mm/Weights in kg/m



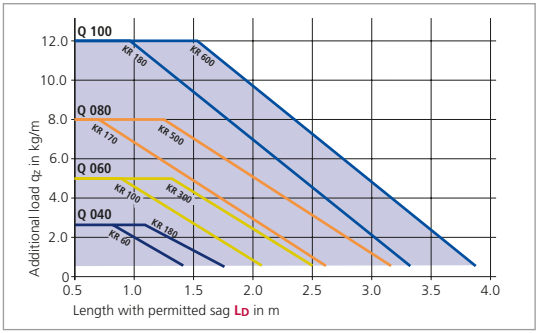
Bend radius and pitch

Type	Bend radii KR mm					
Q 040	60	75	90	110	150	180
Q 060	100	120	150	190	250	300
Q 080	170	200	250	320	420	500
Q 100	180	250	300	370	460	600

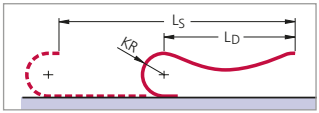
Pitch:
Q 040: t = 15 mm
Q 060: t = 20 mm
Q 080: t = 25 mm
Q 100: t = 30 mm

Load diagram

for length with permissible (desired) sag L_D
depending on the additional load



Length with permissible sag L_D and travel length L_S



In the case of long travel lengths, the cable carriers are placed in a guide channel with the upper trough gliding on the lower trough (see page 375).

We are at your service to advise on these applications.

Example of ordering

Cable Carrier								Divider system		Connection
Q 060	.	200	.	RS	.	150	- 1540	TS 0	/ 2	FU/MU
Type		Inside width B_i in mm		Stay variant		Bend radius KR in mm	Chain length L_K in mm (without connection)	Divider system	Number of dividers n_T	Connection Fixed point/ Driver

Ordering divider systems:
Please state the designation of the divider system (TS 0, TS 1 ...) and the number of dividers. Possibly attach a sketch with the dimensions.

Subject to change.

Inside heights
28 – 72

Inside widths
28 – 600

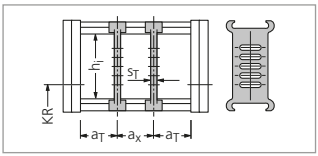
Types Q 040, Q 060, Q 080 and Q 100

Divider system TS 0

Type	Stay variant	h_i mm	S_T mm	$a_{T\ min}$ mm	$a_{x\ min}$ mm
Q 040	RE	28	2.8	8	8
Q 060	RS	38	3	13.5	13
Q 060	RE	42	4.2	14	13
Q 080	RS	58	4	11	14
Q 080	RV	58	4	11	14
Q 080	RE	58	6	12	14.5
Q 100	RS	72	5	11	14
Q 100	RV	72	6	13	16
Q 100	RE	72	8	12	14.5

In the standard version, the dividers are movable.

In the case of plastic stays (stay variant RE), the dividers can also be mounted fixed (note the mounting distances).



Standard mounting distances of the divider systems:

Q 040, Q 060: on every **6th** pitch division

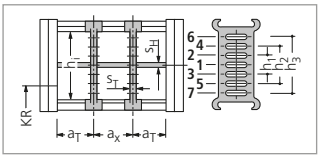
Q 080, Q 100: on every **8th** pitch division

Divider system TS 1 with continuous height subdivision made of aluminum

Type	Stay variant	h_i mm	S_T mm	$a_{T\ min}$ mm	$a_{x\ min}$ mm	S_H mm	h_1 mm	h_2 mm	h_3 mm
Q 040	RE	28	2.8	8	8	2.4	15	–	–
Q 060	RS	38	3	13.5	13	4	15	–	–
Q 060	RE	42	4.2	14	13	2	10	–	–
Q 080	RS	58	4	11	14	4	30	–	–
Q 080	RV	58	4	11	14	4	15	30	–
Q 080	RE	58	6	12	14.5	4	22	–	–
Q 100	RV	72	6	13	16	4	15	30	45
Q 100	RE	72	8	12	14.5	4	32	–	–

In the standard version, the dividers are movable.

In the case of plastic stays (stay variant RE), the dividers can also be mounted fixed (note the mounting distances).



Standard mounting distances of the divider systems:

Q 040, Q 060: on every **6th** pitch division

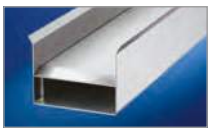
Q 080, Q 100: on every **8th** pitch division

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Guide channels
➤ from page 375

Strain relief devices
➤ from page 381

Cables for cable carrier systems
➤ from page 438







Subject to change.

Types Q 040, Q 060, Q 080 and Q 100

Divider systems TS 2 and TS 3

Q 040 with divider system TS 2 with grid subdivision made of aluminum
available in 8 mm section widths.

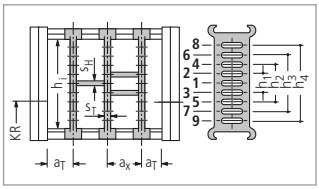
Q 060, Q 080 and Q 100 with divider system TS 3 with with section subdivision, partitions made of plastic
For these types, divider system TS 2 with grid subdivision made of aluminum (1 mm grid) is also available.

Type	Stay variant	h_i mm	S_T mm	$a_{T\,min}$ mm	$a_{x\,min}$ mm	S_H mm	h_1 mm	h_2 mm	h_3 mm	h_4 mm
Q 040 A)	RE	28	2.8	14	8	2.4	15	–	–	–
Q 060 B)	RS	38	8	11	16*	4	14	–	–	–
Q 060 B)	RE	42	8	11	16*	4	14	28	–	–
Q 080 B)	RV	58	8	8	16*	4	14	28	42	–
Q 080 B)	RE	58	8	8	16*	4	14	28	42	–
Q 100 B)	RV	72	8	8	16*	4	14	28	42	56

* When using plastic partitions

A) Only fixed mounting of the divider is possible, and at 8 mm intervals (also see mounting version B in Chapter ME/MK).

B) The dividers are fixed by the partitions, the complete divider system is movable.

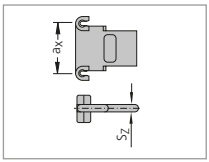


Standard mounting distances of the divider systems:

Q 040, Q 060: on every **6th** pitch division

Q 080, Q 100: on every **8th** pitch division

Dimensions of the plastic partitions for TS 3



Aluminum partitions in 1 mm width sections are also available.

S_Z	a_x (center-to-center distance, dividers)									
4	16	18	23	28	32	33	38	43	48	58
	64	68	78	80	88	96	112	**128**	**144**	**160**
	176	**192**	**208**	–	–	–	–	–	–	–

Dimensions in mm

When using **partitions with a_x > 112 mm** there should be an additional central support with a **twin divider**.

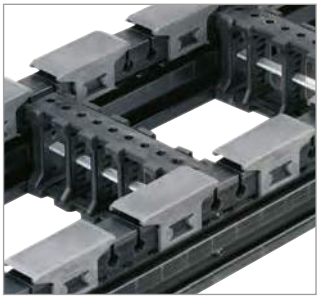
Twin dividers are designed for subsequent fitting in the partition system.

Gliding elements – the economical solution for gliding applications

Replaceable glide shoes made of plastic*

To extend the life of cable carriers in gliding operations KABELSCHLEPP supplies detachable, exchangeable glide shoes. Replaceable glide shoes are a very economical solution. When wear occurs only the glide shoes are replaced, and not the complete cable carrier.

* not for Q 040



Dimensions with glide shoe

Type	Height $h_{G'}$	Width $B_{EF'}$
Q 060	$h_{G'} = h_G + 6 = 66$	$B_i + 56.0$
Q 080	$h_{G'} = h_G + 8 = 88$	$B_i + 79.5$
Q 100	$h_{G'} = h_G + 10 = 108$	$B_i + 89.5$

Dimensions in mm

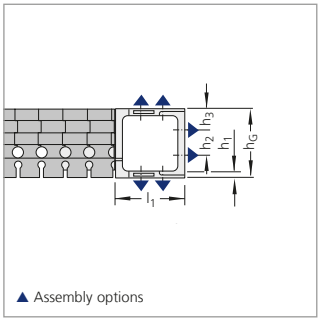
! By means of a positive snap connection, the glide shoes sit firmly on the profile.

Subject to change.

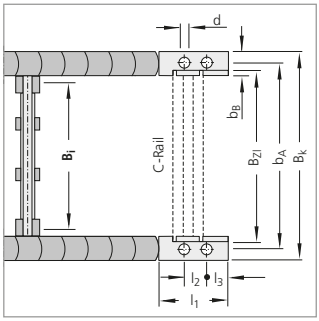
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Types Q 040, Q 060, Q 080 and Q 100

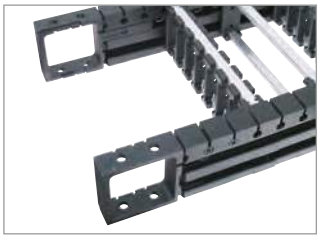
UMB (Universal Mounting Brackets) made of plastic (Q 040/060) or aluminum (Q 080/100)



▲ Assembly options



The dimensions of the fixed point and driver connections are identical.
The connecting elements make the the last 3 pitch divisions at both ends of each sideband immobile.
When ordering please specify the connection type FU/MU (see ordering key on page 419).



Connection dimensions:

Type	B_{ZL}	b_a	B_k	d	l_2	l_3	l_1	h_1	h_2	h_3	h_G	b_B
Q 040	B_i + 16	B_i + 26	B_i + 40	6.6	14	13.0	40	5	14	13.0	40	14
Q 060	B_i + 18	B_i + 32	B_i + 52	6.6	25	17.5	60	5	25	17.5	60	20
Q 080	B_i + 30	B_i + 47	B_i + 72	9	35	22.5	80	8	35	22.5	80	25
Q 100	B_i + 30	B_i + 52	B_i + 82	11	35	32.5	100	10	35	31.5	98	30

Dimensions in mm

Strain relief devices

Strain relief comb made of aluminum on one side (QUANTUM 040, 060)

The cables can be fixed securely and simply using the **optional strain relief combs**.
The strain relief combs are installed between the UMBs, and do not need to be bolted on separately or mounted on a C-Rail.
Please state on the order whether strain relief combs are needed.



■ Strain relief comb made of Aluminum

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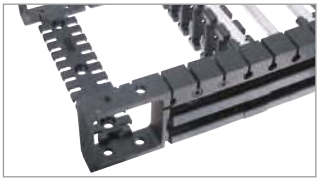
Types Q 040, Q 060, Q 080 and Q 100

Strain relief devices

Strain relief combs made of plastic on both sides (QUANTUM 060)

The cables can be fixed securely and simply using the **optional strain relief combs**.
The strain relief combs are installed between the UMBs, and do not need to be bolted on separately or mounted on a C-Rail.

Please state on the order whether strain relief combs are needed.



■ Universal mounting bracket with strain relief comb



■ Both-sided strain relief comb

Type	B_i mm	nz
Q 060	44	5
Q 060	49	5
Q 060	69	7
Q 060	74	7
Q 060	89	8
Q 060	94	9
Q 060	99	9
Q 060	119	11

Type	B_i mm	nz
Q 060	124	11
Q 060	144	13
Q 060	149	13
Q 060	169	15
Q 060	174	15
Q 060	199*	17
Q 060	224*	19

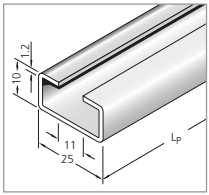
n_Z = Number of teeth on one side of the comb
* on request

C-rails for LineFix bracket clamps, SZL strain reliefs and clamps

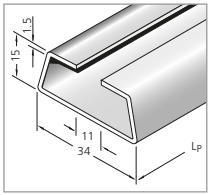
The optional C-rails are fixed by means of the universal mounting brackets and do not have to be screwed separately. **Please state in your order whether C-rails are needed.**



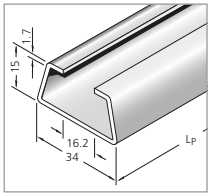
■ Universal mounting bracket with C-rail



■ **QUANTUM 060:**
Integratable C-rail
25 x 10 mm,
slit width 11 mm,
material steel,
Item-No. 3931



■ **QUANTUM 080, 100:**
Integratable C-rail
34 x 15 mm,
slit width 11 mm,
material steel,
Item-No. 3935

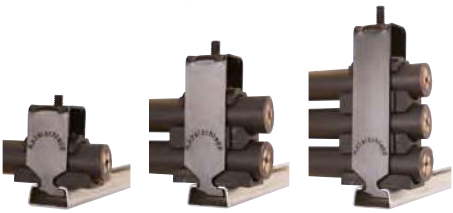


■ **QUANTUM 080, 100:**
Integratable C-rail
34 x 15 mm,
slit width 16 – 17 mm,
material steel,
Item-No. 3932

Our LineFix strain reliefs are optimally suited for the C-rails. (LineFix bracket clamps and other strain relief devices – see Accessories chapter, from page 381 onwards).



■ C-rail with LineFix strain relief



Subject to change.

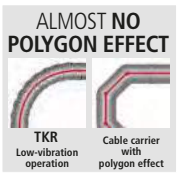

product
design
award
2006
TSUBAKI
ECO
LINK

TKR

Extremely quiet and low-vibration for highly dynamic applications*

- Long service life
- Ideal for highly dynamic applications
- High lateral stability
- Suitable for clean rooms
- Simple shortening and extension due to modular design





Ideal for highly dynamic applications

The operation of the TKR is extremely low-noise and low-vibration. The so-called polygon effect is minimized.

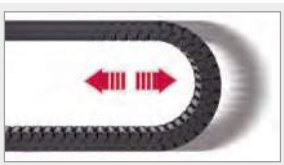
Optimum uses are especially handling and installation systems, robots, measuring equipment, automatic pick and place systems, printing and textile machines.

Due to their **low noise** during operation, the TKR types are optimally suitable for applications with **low-vibration linear drives**.

Suitable for clean rooms and long service life

The movable connecting elements are injection molded on the chain links. In contrast to conventional pin-hole joints, there is almost no wear (link wear), and therefore the TKR types are excellent for use in clean rooms.

The special shaping of the connecting elements also increases the service life of the system.


Ideal for highly dynamic applications


Universal connectors (UMB) for connection above, below or at the front


Injection molded connecting elements

* Some features can be different for certain types for design reasons. Our specialists are happy to advise you.

Inside height 22 – 52

Inside widths 20 – 200

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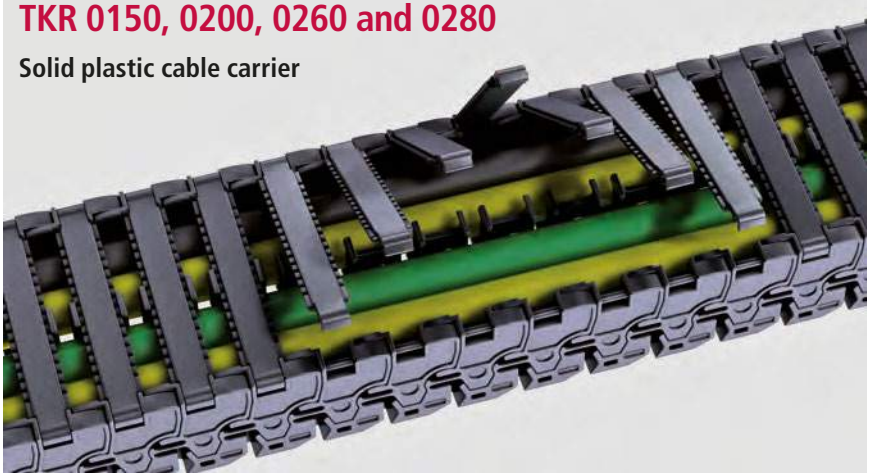
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Subject to change.

TKR 0150, 0200, 0260 and 0280

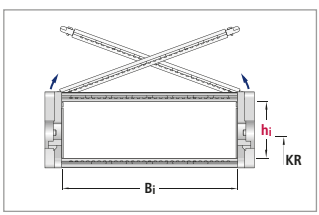
Solid plastic cable carrier

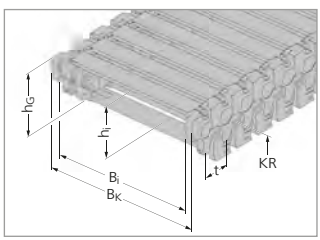


Type	h_i	B_i	Maximum travel length unsupported in m	Dynamics of unsupported arrangement		Page
				Travel speed* v_{max} in m/s	Travel acceleration* a_{max} in m/s²	
TKR 0150	22	20-60	1.77	5	200**	227
TKR 0200	28	40-120	2.76	5	200**	227
TKR 0260	40	50-200	3.95	5	200**	227
TKR 0280	52	50-200	4.94	5	200**	227

* Possible maximum values: Please contact us.
** At values > 20 m/s² please contact us – we are happy to advise you.

Dimensions in mm





Dimensions and intrinsic weight

Type	h_i	h_G	Inside width B_i / Intrinsic chain weight						B_k
TKR 0150	22	27,5	20	40	60	–	–	–	B_i + 14
			0,3	0,4	0,5	–	–	–	
TKR 0200	28	37,0	40	50	60	80	100	120	B_i + 16
			0,6	0,6	0,7	0,8	0,9	1,0	
TKR 0260	40	54,0	50	75	100	125	150	200	B_i + 26
			1,5	1,7	1,9	2,1	2,3	2,7	
TKR 0280	52	66,0	50	75	100	125	150	200	B_i + 30
			2,0	2,2	2,4	2,6	2,8	3,2	

Dimensions in mm/Weights in kg/m

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TKR 0150, 0200, 0260 and 0280

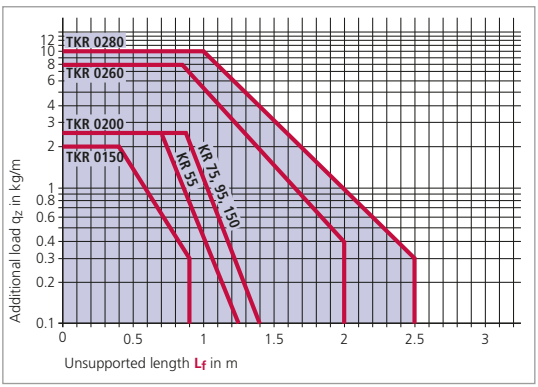
Bend radius and pitch

Type	Bend radii KR mm			
TKR 0150	40	50	75	–
TKR 0200	55	75	95	150
TKR 0260	75	100	125	150
TKR 0280	75	100	150	200

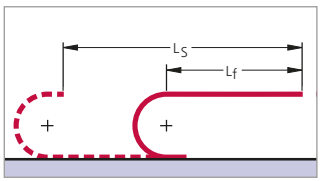
Pitch:
TKR 0150: t = 15 mm
TKR 0200: t = 20 mm
TKR 0260: t = 26 mm
TKR 0280: t = 28 mm

Load diagram

for unsupported length L_f depending on the additional load



Unsupported length L_f



In the case of longer travel lengths, sag of the cable carriers is technically permissible depending on the application.

We are at your service to advise on these applications.

Example of ordering

Cable Carrier								Divider system			Connection
TKR 0200	.	100	.	95	-	800		TS 0	/	3	FA/MA
Type		Inside width B_i in mm		Bend radius KR in mm		Chain length L_k in mm (without connection)		Divider system		Number of dividers n_T	Connection Fixed point/ Driver

TKR 0150: Chain links can only be ordered in even numbers.

Ordering divider systems:
Please state the designation of the divider system (TS 0, TS 1 ...) and the number of dividers. Possibly attach a sketch with the dimensions.

Subject to change.

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TKR 0150, 0200, 0260 and 0280

Fixing the dividers

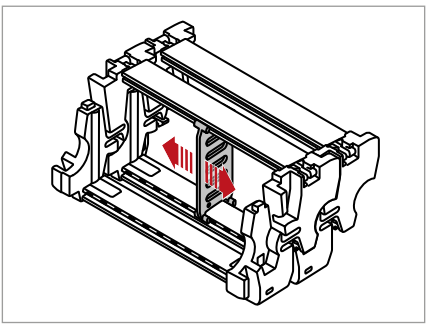
In the standard version, dividers or the complete divider system (dividers with height separation) can be moved in the cross section.
(**Mounting version A**)

Fixed dividers are available for applications with transverse accelerations and where the carrier is rotated through 90° **(Version B)**.

If the fixed installation version is desired, please state this on the order.

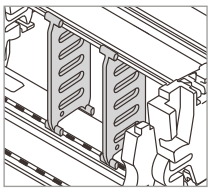
Version A (Standard)

Movable divider

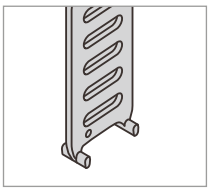


Version B

Fixed divider



■ Locking profile in the crossbar



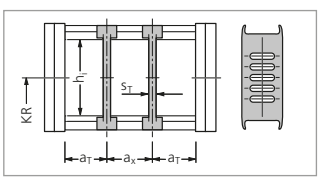
■ Divider with arresting cams

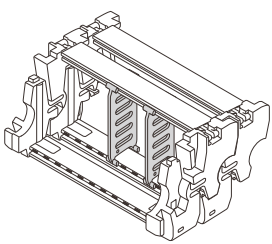
Divider system TS 0

		Version A			Version B			
Type	h_i mm	S_T mm	$a_{T\ min}$ mm	$a_{x\ min}$ mm	S_T mm	$a_{T\ min}$ mm	$a_{x\ min}$ mm	$a_{x\ section}$ mm
0150	22	2.0	5.0	6.0	2.0	6.0	6.0	2.0
0200	28	2.0	4.0	8.0	2.0	4.0/5.0/6.0*	8.0	4.0
0260	40	2.4	3.0	8.0	2.4	5.5/6.0/7.0**	8.0	4.0
0280	52	2.4	3.0	8.0	2.4	5.5/6.0/7.0**	8.0	4.0

* $a_{T\ min}$ = 4.0 mm for B_i = 40, 80
$a_{T\ min}$ = 5.0 mm for B_i = 50
$a_{T\ min}$ = 6.0 mm for B_i = 60, 100, 120

** $a_{T\ min}$ = 5.5 mm for B_i = 75
$a_{T\ min}$ = 6.0 mm for B_i = 100
$a_{T\ min}$ = 7.0 mm for B_i = 150







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Subject to change.

TKR 0150, 0200, 0260 and 0280

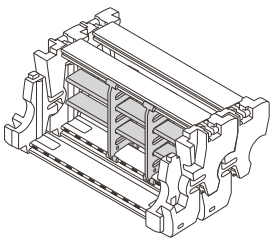
Divider system TS 1

with continuous height subdivision made of aluminum (TKR 0150, 0260, 0280) or plastic (TKR 0200)

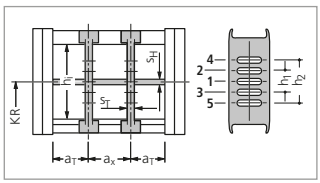
		Version A			Version B						
Type	h_i mm	S_T mm	$a_{T\,min}$ mm	$a_{x\,min}$ mm	S_T mm	$a_{T\,min}$ mm	$a_{x\,min}$ mm	$a_{x\,section}$ mm	S_H mm	h_1 mm	h_2 mm
0260	40	2.4	3.0	8.0	2.4	5.5/6.0/7.0**	8.0	4.0	2.6	14	28
0200	28	2,0	4.0	8.0	2.0	4.0/5.0/6.0*	8,0	4,0	2.6	11	–
0280	52	2.4	3.0	8.0	2.4	5.5/6.0/7.0**	8.0	4.0	2.6	18	36

* $a_{T\,min}$ = 4.0 mm for B_i = 40, 80
$a_{T\,min}$ = 5.0 mm for B_i = 50
$a_{T\,min}$ = 6.0 mm for B_i = 60, 100, 120

** $a_{T\,min}$ = 5.5 mm for B_i = 75
$a_{T\,min}$ = 6.0 mm for B_i = 100
$a_{T\,min}$ = 7.0 mm for B_i = 150







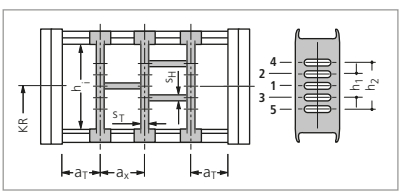
Divider system TS 3

with section subdivision, partitions made of aluminum

		Version A			Version B						
Type	h_i mm	S_T mm	$a_{T\,min}$ mm	$a_{x\,min}$ mm	S_T mm	$a_{T\,min}$ mm	$a_{x\,min}$ mm	$a_{x\,section}$ mm	S_H mm	h_1 mm	h_2 mm
0260	40	6.0	3.0	26.0	6.0	5.5/6.0/7.0*	28.0	4.0	4.0	14	28
0280	52	6.0	3.0	26.0	6.0	5.5/6.0/7.0*	28.0	4.0	4.0	18	36

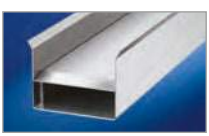
* $a_{T\,min}$ = 5.5 mm for B_i = 75
$a_{T\,min}$ = 7.0 mm for B_i = 150

$a_{T\,min}$ = 6.0 mm for B_i = 100



In the standard version, the divider systems are mounted on every second chain link.

Guide channels
➤ from page 375



Strain relief devices
➤ from page 381



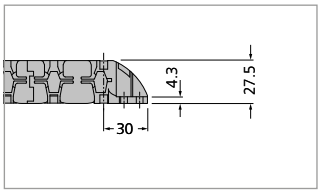
Cables for cable carrier systems
➤ from page 438

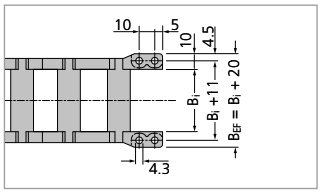


Subject to change.

TKR 0150, 0200, 0260 and 0280

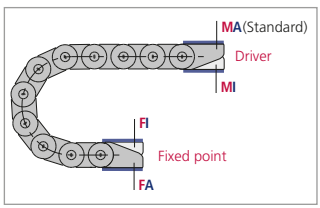
Plastic connectors (Type TKR 0150)





The dimensions of the fixed point and driver connections are identical.

Connection variants (Type TKR 0150)



Connection point

M – Driver

F – Fixed point

Connection type

A – Threaded joint outside (standard)

I – Threaded joint, inside

In the standard version, the connectors are mounted with the threaded joint outwards (**FA/MA**).

When ordering please specify the desired connection type (see ordering key on page 420).

The connection type can subsequently be altered simply by varying the connectors.

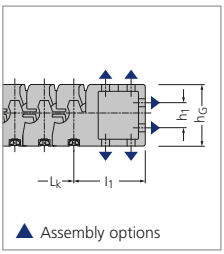
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Subject to change.

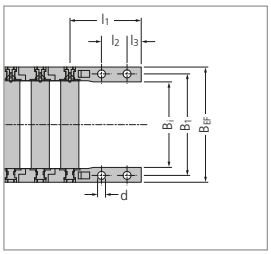
TKR 0150, 0200, 0260 and 0280

UMB (Universal Mounting Brackets) made of plastic (Types TKR 0200, 0260 and 0280)

Universal connectors for connection above, below or at the front.



▲ Assembly options



The dimensions of the fixed point and driver connections are identical.
End connectors made of steel plate available on request.
Optional C-rails and strain relief elements for cables can be found on the following pages.
When ordering please specify the connection type FU/MU (see ordering key on page 420).

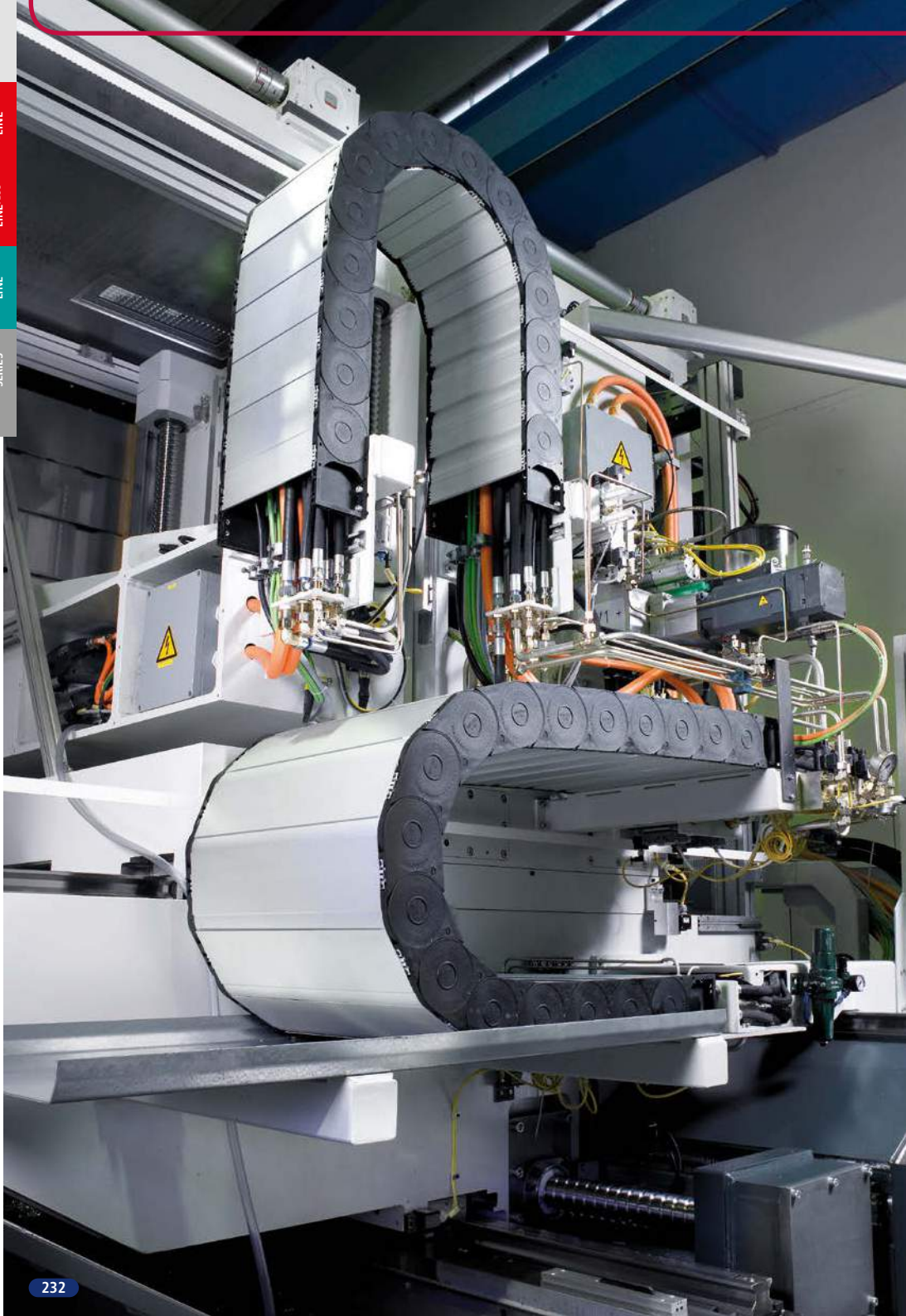
Type	B_{EF}	b_1	d	l_1	l_2	l_3	h_1	h_G
TKR 0200	**B_i + 20**	**B_i + 12**	4.3	50/53*	20.0	10.0	15	37
TKR 0260	**B_i + 26**	**B_i + 16**	7.0	63	22.5	12.5	22	54
TKR 0280	**B_i + 30**	**B_i + 16**	7.0	66/70**	22.5	15.0	22	66

B_{EF} = chain width over connecting piece

Dimensions in mm

* Fixed point = 50 mm, driver = 53 mm
** Fixed point = 66 mm, driver = 70 mm

Subject to change.



TUBE-SERIES

Covered Cable Carriers

- Covered cable and hose carriers with plastic or aluminum cover systems and completely enclosed carrier tubes
- For protection of the cables for applications where chips or severe contamination occur



TKA Series
Chip-tight right to the end

page 234



CoverTrax
Extreme cable protection in harsh environmental conditions

page 276



UNIFLEX TUBES
Proven solid cable carriers with fixed carrier widths

page 284



MASTER TUBES
Quiet and weight-optimized cable carriers

page 294



MT Series
Multivariable cable carrier with extensive accessories

page 300



TKC91
Easy to assemble, stable cable carriers with variable dimensions

page 310



XLT Series
Cable and hose carrier with large inside height

page 316



S/SX Series
Extremely robust and stable steel chains

page 320



CONDUFLEX
Closed designer cable carrier

page 321



MOBIFLEX
Enclosed cable carrier with flexible metal helical tube

page 322

TKA Series

Chip-tight right to the end



* Refers to type TKA55 with B_i 50 – 175. More information about certification can be found at: kabelschlepp.de/tka-ip54

Subject to change.



Inside heights
20.5 – 45 mm

Inside widths
15 – 250 mm

Pitch
30.5 – 55.5 mm

Additional load
up to 10 kg/m

Travel length unsupported
up to 6 m

Travel length gliding
up to 150 m

Travel speed
up to 9 m/s

Travel acceleration
up to 45 m/s²

All technical data and features are application and type-dependent.

Let us know your requirements – we are here to help!

Subject to change.

TUBE SERIES | **TKA Series**



Inside heights
20.5 – 45

Inside widths
15 – 250

Features

- Excellent cable protection also in the connection area
- Chips and dirt-resistant due to smooth surfaces
- Extensive unsupported length
- High torsional rigidity
- Good inside to outer width ratio
- Low internal noise emissions
- Optional: Special material with protection against chips up to 850° C
- Numerous custom material types for custom applications available
- Easy assembly
- Fast cable laying
- Easy-to-open cover with simultaneously high retention force on the chain link during operation
- Measurement scale for easy alignment of the dividers along the cover
- Strain relief can be completely integrated into connecting element
- TKA55: IP54 tested & attested*



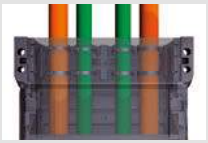
Optimized utilization of the interior space; vertical as well as horizontal subdivision possible



Easy-to-open cover from any vantage point, yet securely fastened



3-fold stroke system for extensive unsupported length

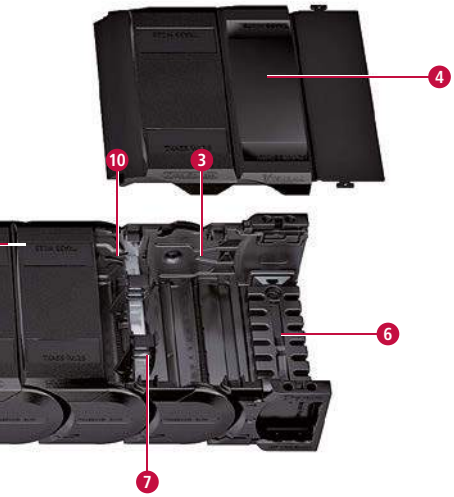


Universal mounting bracket with integrated strain relief elements

* Refers to type TKA55 with B_i 50 – 175. More information about certification can be found at: kabelschlepp.de/tka-ip54

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Example of cross section

1. Secure cover attachment even under severe stresses (e.g. due to hydraulic cables)
2. Designs with inward or outward opening covers
3. Cable-friendly interior space without sharp edges
4. Cover completely detachable on one side
5. Quick and easy opening from any vantage point
6. Connecting pieces with optional strain relief
7. Dividers and height separation for cables
8. Chain links made of glass fibre-reinforced plastic
9. Cover sheet for universal mounting bracket
10. Integrated noise damping system
11. Pin and bore connection and stroke system covered completely

Selection criteria for TKA series

- Where a tight cable carrier is a necessity
- Where easy one-sided cover opening from any vantage point is desirable (e.g. for cable inspections)
- Where inside subdivision is desirable
- Where fixed dividers should be available (e.g. for carriers lying on their side)
- Where a gliding arrangement should be possible
- Where the additional load does not exceed 15 kg/m
- Where a cable carrier that is openable on both sides is not required
- Where an aluminum cover is not a requirement
- Where a steel cable carrier is not a requirement (e.g. at extremely high temperatures)

Type	h_i [mm]	B_i [mm]	t [mm]	Page
TKA30	**20.5**	15 – 65	30.5	238
TKA38	**26**	25 – 130	38.5	246
TKA45	**36**	50 – 150	45.5	256
TKA55	**45**	50 – 250	55.5	266

Subject to change.

TKA30

Pitch
30.5 mm

Height
20.5 mm

Width
15 – 65 mm

Stay variants

Stay variant 060

Inside: Quick-to-open cover



Stay variant 080

Outside: Quick-to-open cover





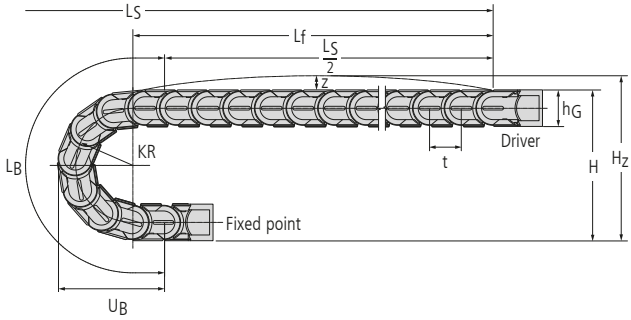
Spare parts list, installation instructions, etc.:
Receive additional info at **kabelschlepp.de**

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TUBE SERIES | **TKA30**

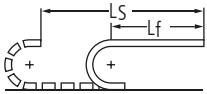
Unsupported arrangement



t = 30.5 mm

z = 17 mm/m

Unsupported length Lf



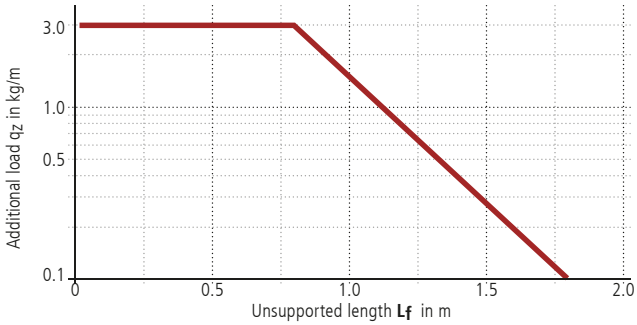
A sag of the cable carrier is technically permissible for extended movement ranges, depending on specific application.

Installation measurements unsupported

KR [mm]	H [mm]	Hz [mm]	LB [mm]	UB [mm]
55	139	164	234	100
75	179	204	297	120
95	219	244	359	140
125	279	304	454	170
145	319	344	516	190
180	389	414	626	225

Load diagram

for unsupported length Lf depending on the additional load



Calculation of the chain length

Chain length Lk

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

Chain length Lk rounded off to pitch t

Unsupported length Lf

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

Note: For order example and notes for ordering, refer to page 275.

Subject to change.

Inside heights
20.5

Inside widths
15 – 65

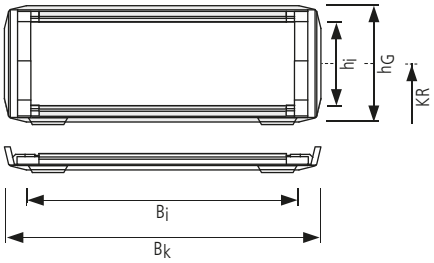
TUBE SERIES | **TKA30**

Stay variant 060 –
covered on both sides with detachable covers on the inside



Pitch, inside height and chain link height

Type	t [mm]	h_i [mm]	h_G [mm]
TKA30.060	30.5	**20.5**	28.5



Inside/outside width and intrinsic chain weight

Type	B_i [mm]	B_k [mm]	q_k [kg/m]
TKA30.060	**15**	28	0.48
TKA30.060	**20**	33	0.51
TKA30.060	**25**	38	0.54
TKA30.060	**38**	51	0.61
TKA30.060	**50**	63	0.67
TKA30.060	**65**	78	0.76

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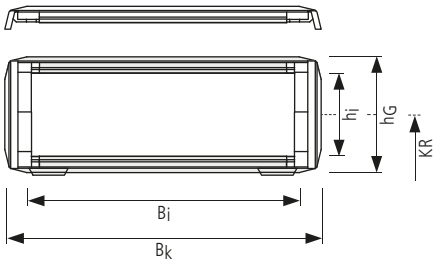
TUBE SERIES | **TKA30**

Stay variant 080 –
covered on both sides with detachable covers on the outside



Pitch, inside height and chain link height

Type	t [mm]	h_i [mm]	h_G [mm]
TKA30.080	30.5	**20.5**	28.5



Inside/outside width and intrinsic chain weight

Type	B_i [mm]	B_k [mm]	q_k [kg/m]
TKA30.080	**15**	28	0.48
TKA30.080	**20**	33	0.51
TKA30.080	**25**	38	0.54
TKA30.080	**38**	51	0.61
TKA30.080	**50**	63	0.67
TKA30.080	**65**	78	0.76

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TSUBAKI KABELSCHLEPP
Cable Carrier Configurator

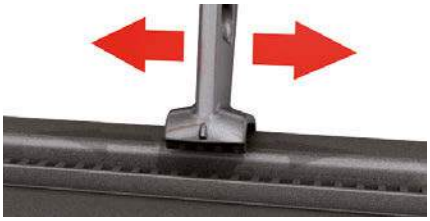
TUBE SERIES | **TKA30**

Divider systems

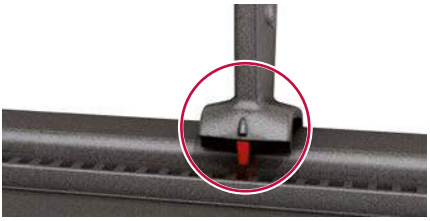
In the standard version, dividers or the complete divider system (dividers with height separation) can be moved in the cross section **(Version A)**.

For applications with transverse accelerations and where the carrier is rotated through 90° the dividers can be fixed simply by turning them. This causes the arresting cams to engage in the locking profiles of the covers **(Version B)**.

Moveable divider
Version A (standard)



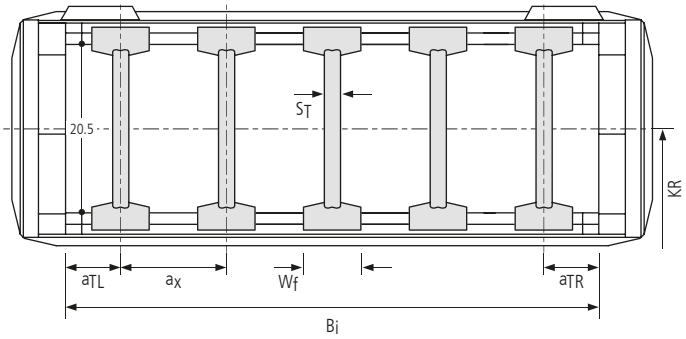
Fixable divider (2 mm grid)
Version B



Divider system TS0 without height separation

		Version A moveable		Version B fixable		
s_T [mm]	W_f [mm]	a_{TL}/a_{TR} min [mm]	a_X min [mm]	a_{TL}/a_{TR} min [mm]	a_X min [mm]	a_X grid [mm]
2	7	3.5	7		8	2

B_i [mm]	15	20	25	38	50	65
a_{TL}/a_{TR} min [mm]	7.5	8	8.5	9	9	8.5





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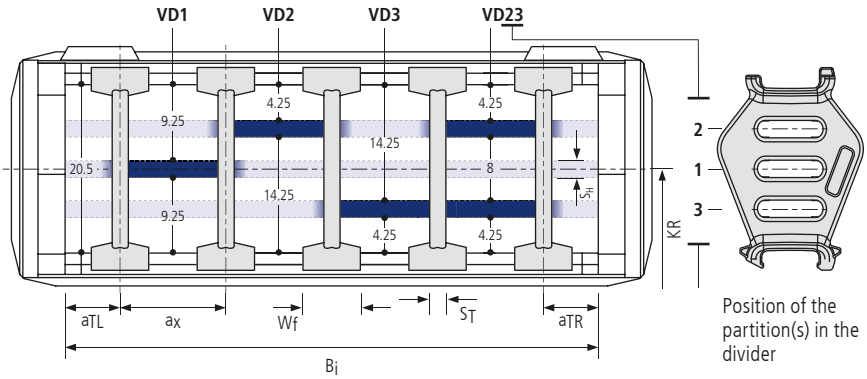
Subject to change.

TUBE SERIES | **TKA30**

Divider system TS1 with continuous height separation made of aluminum

				Version A moveable		Version B fixable		
ST [mm]	**Wf** [mm]	**SH** [mm]	**aTL/aTR max** [mm]	**aTL/aTR min** [mm]	**ax min** [mm]	**aTL/aTR min** [mm]	**ax min** [mm]	**ax grid** [mm]
2	7	2	20	3.5	7		8	2

Bi [mm]	**15**	**20**	**25**	**38**	**50**	**65**
aTL/aTR min [mm]	7.5	8	8.5	9	9	8.5



Position of the partition(s) in the divider

Note: For order example and notes for ordering, refer to page 275.

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CableCarrier Configurator

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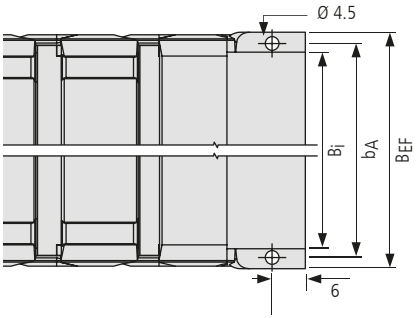
TUBE SERIES | **TKA30**

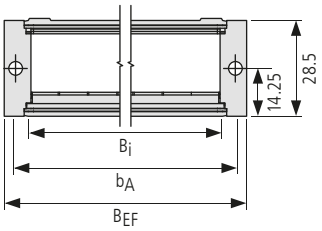
Universal mounting brackets (UMB)

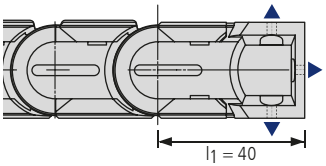
The universal mounting brackets (UMB) are made from plastic and can **be mounted from above, from below or at the front.**

Inside heights
20.5

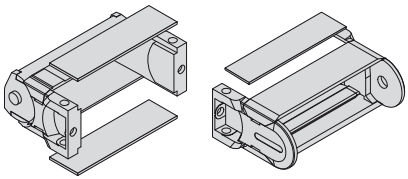
Inside widths
15 – 65







▲ Assembly options

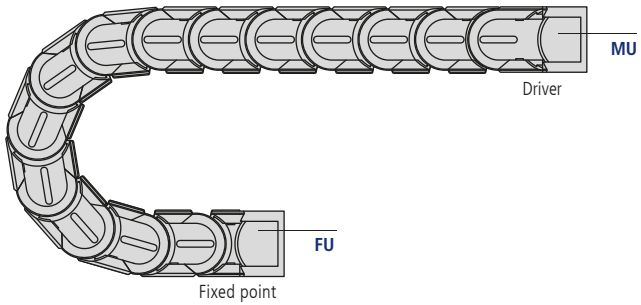


Note: The connecting elements are also available as an option **without** cover plate. Please state when ordering.

Connection dimensions

Bi [mm]	**bA** [mm]	**BEF** [mm]
15	24	31
20	29	36
25	34	41
38	47	54
50	59	66
65	74	81

The connection dimensions for fixed point and driver are identical.
When ordering, please specify the connection type (see order key on page 275).



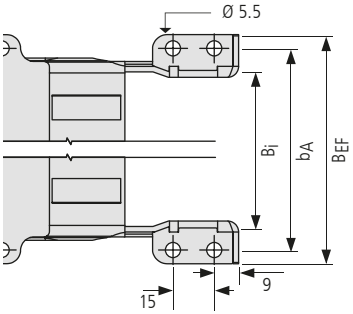
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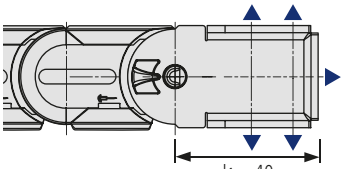
Subject to change.

TUBE SERIES | **TKA30**

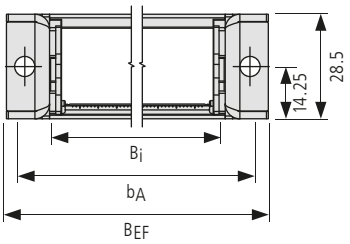
Universal mounting brackets St (UMB)

The universal mounting brackets (UMB) are made from zinc plated steel and can **be mounted from above, from below or at the front.**





▲ Assembly options

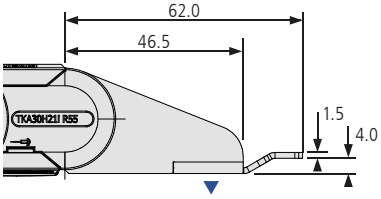


The connection dimensions for fixed point and driver are identical. When ordering, please specify the connection type (see order key on page 275).

Note: The connecting elements are also available as an option **with** cover plate. Please state when ordering.

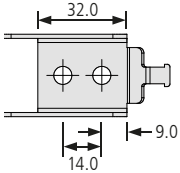
Connecting elements St

The connecting elements are made from zinc plated steel. Depending on the application the connection type **(above or below)** can be altered simply by turning them.

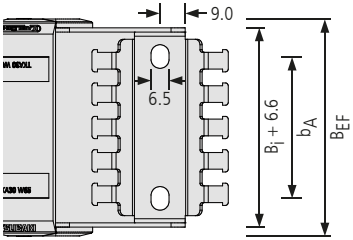


▲ Assembly options

Bi: 15 – 20



Bi: 25 – 50



Connection dimensions

Bi [mm]	St (UMB) bA [mm]	St (UMB) BEF [mm]	St bA [mm]	St BEF [mm]
15	35	45	1	28
20	40	50	6	33
25	45	55	11	38
38	58	68	24	51
50	70	80	36	63
65	85	95	51	78

Note: Connecting elements St (UMB) and St provide the same connecting dimensions as the previous model UNIFLEX 060. Order: Please contact us. We will willingly advise you.

TKA38

Pitch
38.5 mm

Height
26 mm

Width
25 – 130 mm

Stay variants

Stay variant 060

Inside: Quick-to-open cover



Stay variant 080

Outside: Quick-to-open cover





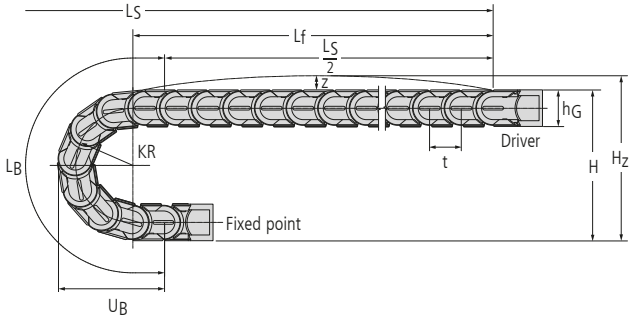
Spare parts list, installation instructions, etc.:
Receive additional info at **kabelschlepp.de**

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Subject to change.

TUBE SERIES | **TKA38**

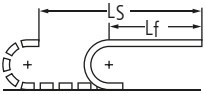
Unsupported arrangement



t = 38.5 mm

z = 17 mm/m

Unsupported length Lf



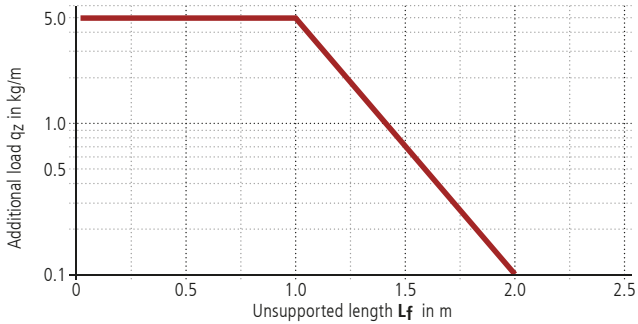
A sag of the cable carrier is technically permissible for extended movement ranges, depending on specific application.

Installation measurements unsupported

KR [mm]	H [mm]	Hz [mm]	LB [mm]	UB [mm]
70	176	201	297	127
95	226	251	375	152
120	276	301	454	177
145	326	351	532	202
170	376	401	611	227
195	426	451	689	252
230	496	521	799	287

Load diagram

for unsupported length Lf depending on the additional load



Calculation of the chain length

Chain length Lk

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

Chain length Lk rounded off to pitch t

Unsupported length Lf

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

Note: For order example and notes for ordering, refer to page 275.

Subject to change.

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TUBE SERIES | **TKA38**

Stay variant 060 –
covered on both sides with detachable covers on the inside

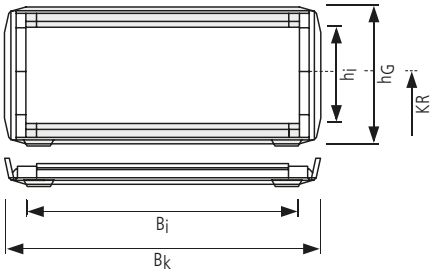
Inside heights
26

Inside widths
25 – 130



Pitch, inside height and chain link height

Type	t [mm]	h_i [mm]	h_G [mm]
TKA38.060	38.5	**26**	36



Inside/outside width and intrinsic chain weight

Type	B_i [mm]	B_k [mm]	q_k [kg/m]
TKA38.060	**25**	41	0.77
TKA38.060	**38**	54	0.86
TKA38.060	**58**	74	1.00
TKA38.060	**78**	94	1.13
TKA38.060	**103**	119	1.29
TKA38.060	**130**	143	1.47

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TUBE SERIES | **TKA38**

Stay variant 080 –
covered on both sides with detachable covers on the outside

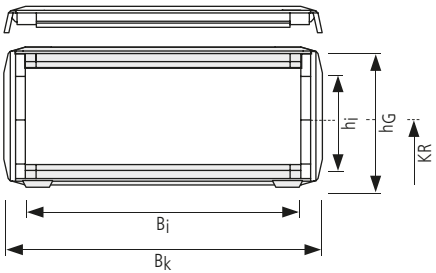


Inside heights
26

Inside widths
25 – 130

Pitch, inside height and chain link height

Type	t [mm]	h_i [mm]	h_G [mm]
TKA38.080	38.5	**26**	36



Inside/outside width and intrinsic chain weight

Type	B_i [mm]	B_k [mm]	q_k [kg/m]
TKA38.080	**25**	41	0.77
TKA38.080	**38**	54	0.86
TKA38.080	**58**	74	1.00
TKA38.080	**78**	94	1.13
TKA38.080	**103**	119	1.29
TKA38.080	**130**	143	1.47

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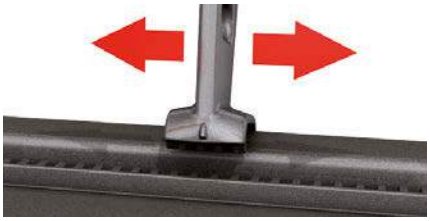
TUBE SERIES | **TKA38**

Divider systems

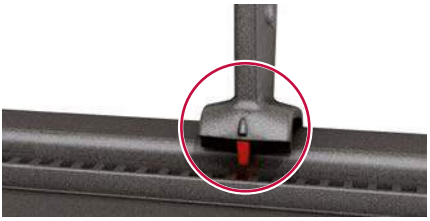
In the standard version, dividers or the complete divider system (dividers with height separation) can be moved in the cross section **(Version A)**.

For applications with transverse accelerations and where the carrier is rotated through 90° the dividers can be fixed simply by turning them. This causes the arresting cams to engage in the locking profiles of the covers **(Version B)**.

Moveable divider
Version A (standard)



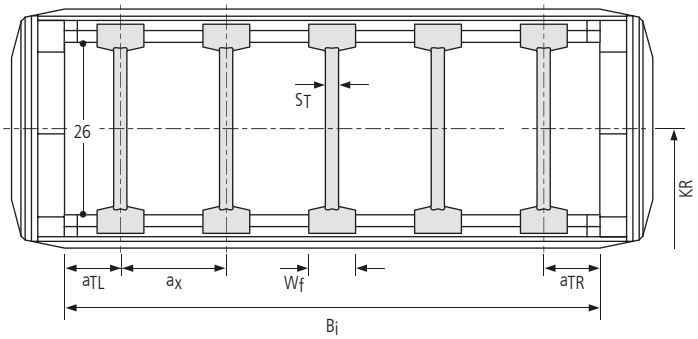
Fixable divider (2 mm grid)
Version B

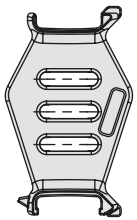


Divider system TS0 without height separation

		Version A moveable		Version B fixable		
s_T [mm]	W_f [mm]	a_{TL}/a_{TR} min [mm]	a_X min [mm]	a_{TL}/a_{TR} min [mm]	a_X min [mm]	a_X grid [mm]
2.0	7	3.5	7		8	2

B_i [mm]	25	38	58	78	103	130
a_{TL}/a_{TR} min [mm]	8.5	9	9	9	7.5	9





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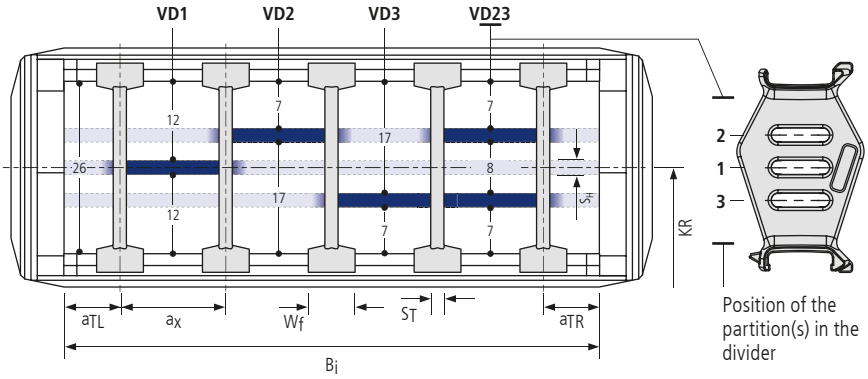
Subject to change.

TUBE SERIES | **TKA38**

Divider system TS1 with continuous height separation made of aluminum

				Version A moveable		Version B fixable		
s_T [mm]	W_f [mm]	s_H [mm]	a_{TL}/a_{TR} max [mm]	a_{TL}/a_{TR} min [mm]	a_x min [mm]	a_{TL}/a_{TR} min [mm]	a_x min [mm]	a_x grid [mm]
2.0	7	2	20	3.5	7		8	2

B_i [mm]	25	38	58	78	103	130
a_{TL}/a_{TR} min [mm]	8.5	9	9	9	7.5	9



Position of the partition(s) in the divider

Note: For order example and notes for ordering, refer to page 275.

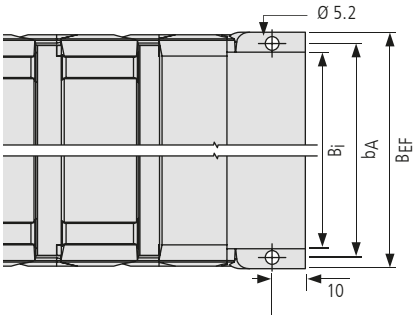
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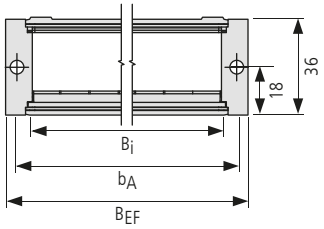
Subject to change.

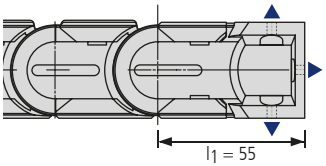
TUBE SERIES | **TKA38**

Universal mounting brackets (UMB)

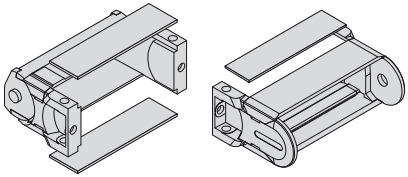
The universal mounting brackets (UMB) are made from plastic and can **be mounted from above, from below or at the front.**







▲ Assembly options

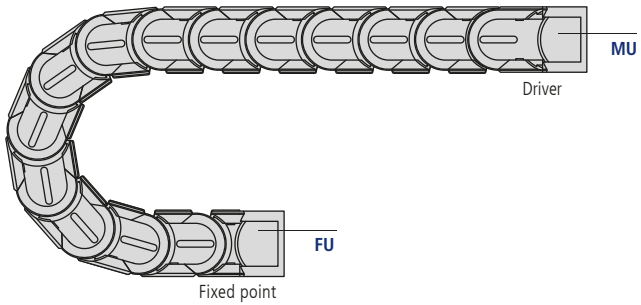


Note: The connecting elements are also available as an option **without** cover plate. Please state when ordering.

Connection dimensions

Bi [mm]	**bA** [mm]	**BEF** [mm]
25	34.5	43
38	47.5	56
58	67.5	76
78	87.5	96
103	112.5	121
130	139.5	148

The connection dimensions for fixed point and driver are identical.
When ordering, please specify the connection type (see order key on page 275).



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TUBE SERIES | **TKA38**

Plastic strain relief combs on one side

The **optional strain relief combs** allow quick and safe securing of the cables. The strain relief combs are mounted between the UMB brackets, and don't require separate screw connections or mounting on a C-rail. **When ordering, please state if strain relief combs are required.**

B_i [mm]	n_Z
25	2
38	3
58	5
78	7
103	9
130	13

n_Z = Number of teeth on one side of the comb



UMB connection piece with optional strain relief comb



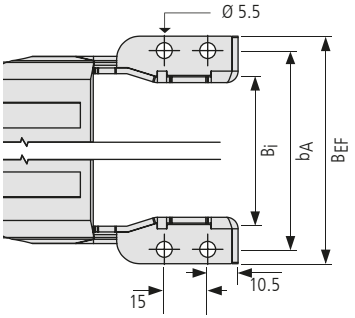
Fixing in the UMB

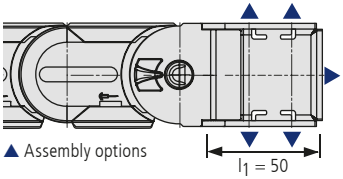
Subject to change.

TUBE SERIES | **TKA38**

Universal mounting brackets St (UMB)

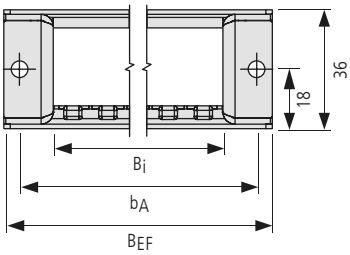
The universal mounting brackets (UMB) are made from zinc plated steel and can **be mounted from above, from below or at the front.**





▲ Assembly options

$l_1 = 50$



The connection dimensions for fixed point and driver are identical. When ordering, please specify the connection type (see order key on page 275).

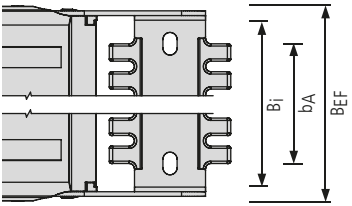
Note: The connecting elements are also available as an option **with** cover plate. Please state when ordering.

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Connecting elements St

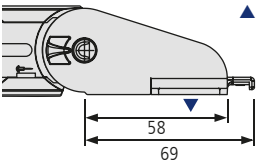
The connecting elements are made from zinc plated steel. Depending on the application the connection type **(above or below)** can be altered simply by turning them.



B_i [mm]	n_z
25	2 × 2
38	2 × 3
58	2 × 4
78	2 × 6
103	2 × 8
130	2 × 10

n_z = Number of teeth on one side of the comb

▲ Assembly options



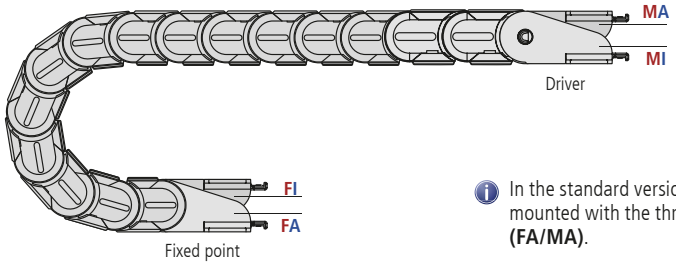
The end connectors St are delivered with a plastic strain relief comb as a standard. On B_i 25, the strain relief comb is already integrated.

Connection dimensions

	St (UMB)		St			St (UMB)		St	
B_i [mm]	b_A [mm]	B_{EF} [mm]	b_A [mm]	B_{EF} [mm]	B_i [mm]	b_A [mm]	B_{EF} [mm]	b_A [mm]	B_{EF} [mm]
25	45	55	11.5	42	**78**	98	108	63.5	94
38	58	68	23.5	54	**103**	123	133	88.5	119
58	78	88	43.5	74	**130**	150	160	115.5	146

Note: Connecting elements St (UMB) and St provide the same connecting dimensions as the previous model UNIFLEX 060. Order: Please contact us. We will willingly advise you.

Connection variants



In the standard version, the connectors are mounted with the threaded joint outwards **(FA/MA)**.

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Subject to change.

Inside heights
36

Inside widths
50 – 150

TKA45

Pitch
45.5 mm

Height
36 mm

Width
50 – 150 mm

Stay variants

Stay variant 060

Inside: Quick-to-open cover



Stay variant 080

Outside: Quick-to-open cover





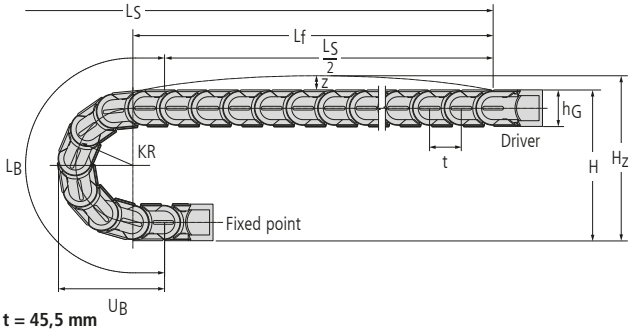
Spare parts list, installation instructions, etc.:
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Subject to change.

TUBE SERIES | **TKA45**

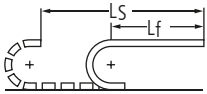
Unsupported arrangement



t = 45,5 mm

z = 17 mm/m

Unsupported length Lf



A sag of the cable carrier is technically permissible for extended movement ranges, depending on specific application.

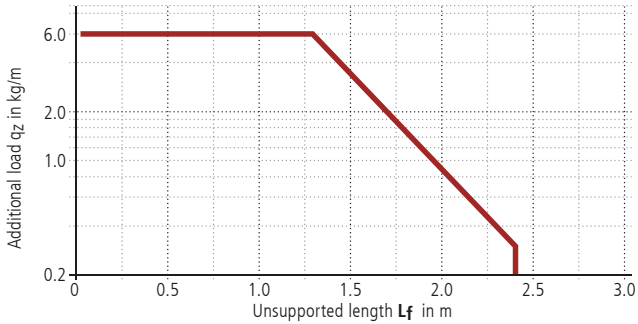
LS max. [m]	Dynamics			
	vmax [m/s]		amax [m/s]	
	unsupported	gliding	unsupported	gliding
125	9	3	45	20

Installation measurements unsupported

KR [mm]	H [mm]	Hz [mm]	LB [mm]	UB [mm]
82	214	249	348	153
95	240	275	389	166
125	300	335	483	196
145	340	375	546	216
170	390	425	625	241
200	450	485	719	271
230	520	555	814	301

Load diagram

for unsupported length Lf depending on the additional load



Calculation of the chain length

Chain length Lk

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

Chain length Lk rounded off to pitch t

Unsupported length Lf

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

Note: For order example and notes for ordering, refer to page 275.

Subject to change.

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TUBE SERIES | **TKA45**

Stay variant 060 –
covered on both sides with detachable covers on the inside

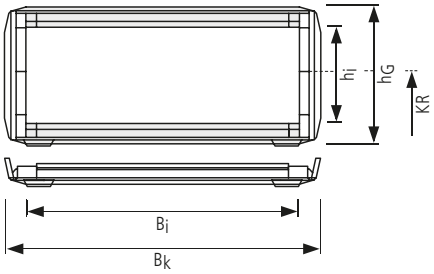
Inside heights
36

Inside widths
50 – 150



Pitch, inside height and chain link height

Type	t [mm]	h_i [mm]	h_G [mm]
TKA45.060	45.5	**36**	50



Inside/outside width and intrinsic chain weight

Type	B_i [mm]	B_k [mm]	q_k [kg/m]
TKA45.060	**50**	66	1.34
TKA45.060	**75**	91	1.56
TKA45.060	**100**	116	1.75
TKA45.060	**125**	141	2.05
TKA45.060	**150**	166	2.29

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Subject to change.

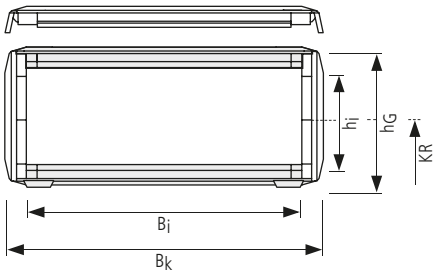
TUBE SERIES | **TKA45**

Stay variant 080 –
covered on both sides with detachable covers on the outside



Pitch, inside height and chain link height

Type	t [mm]	h_i [mm]	h_G [mm]
TKA45.080	45.5	**36**	50



Inside/outside width and intrinsic chain weight

Type	B_i [mm]	B_k [mm]	q_k [kg/m]
TKA45.080	**50**	66	1.34
TKA45.080	**75**	91	1.56
TKA45.080	**100**	116	1.75
TKA45.080	**125**	141	2.05
TKA45.080	**150**	166	2.29

Subject to change.

TUBE SERIES | **TKA45**

Divider systems

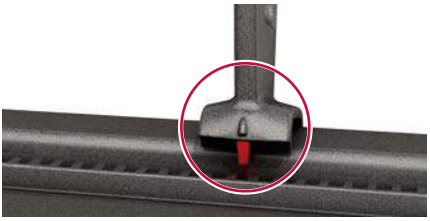
In the standard version, dividers or the complete divider system (dividers with height separation) can be moved in the cross section **(Version A)**.

For applications with transverse accelerations and where the carrier is rotated through 90° the dividers can be fixed simply by turning them. This causes the arresting cams to engage in the locking profiles of the covers **(Version B)**.

Moveable divider
Version A (standard)



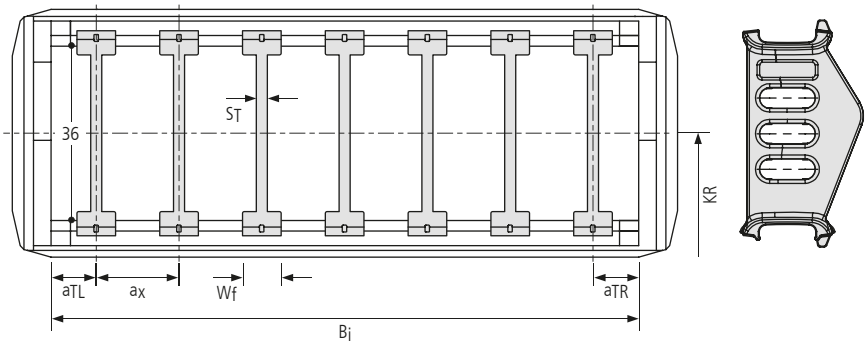
Fixable divider (2 mm grid)
Version B



Divider system TS0 without height separation

		Version A moveable		Version B fixable		
s_T [mm]	W_f [mm]	a_{TL}/a_{TR} min [mm]	a_x min [mm]	a_{TL}/a_{TR} min [mm]	a_x min [mm]	a_x grid [mm]
2.5	8	4	8		8	2

B_i [mm]	50	75	100	125	150
a_{TL}/a_{TR} min [mm]	11	11.5	12	12.5	11



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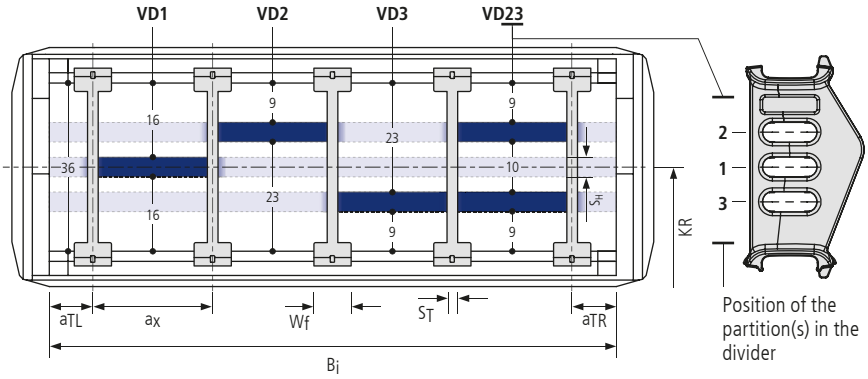
Subject to change.

TUBE SERIES | **TKA45**

Divider system TS1 with continuous height separation made of aluminum

				Version A mobile		Version B fixe		
S_T [mm]	W_f [mm]	S_H [mm]	a_{TL}/a_{TR} max [mm]	a_{TL}/a_{TR} min [mm]	a_X min [mm]	a_{TL}/a_{TR} min [mm]	a_X min [mm]	Cran a_X [mm]
2,5	8	4	40	4	8		8	2

B_i [mm]	50	75	100	125	150
a_{TL}/a_{TR} min [mm]	11	11.5	12	12.5	11



Position of the partition(s) in the divider

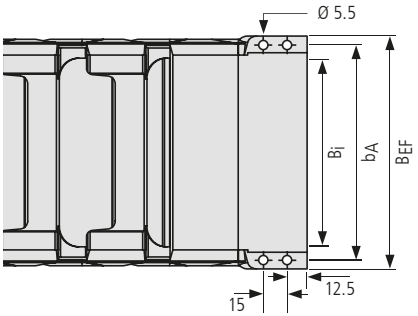
Note: For order example and notes for ordering, refer to page 275.

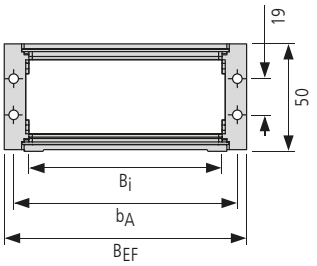
Subject to change.

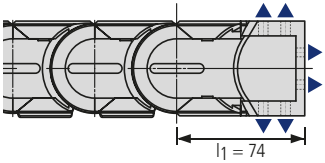
TUBE SERIES | **TKA45**

Universal mounting brackets (UMB)

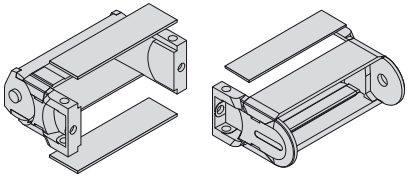
The universal mounting brackets (UMB) are made from plastic and can **be mounted from above, from below or at the front.**







▲ Assembly options

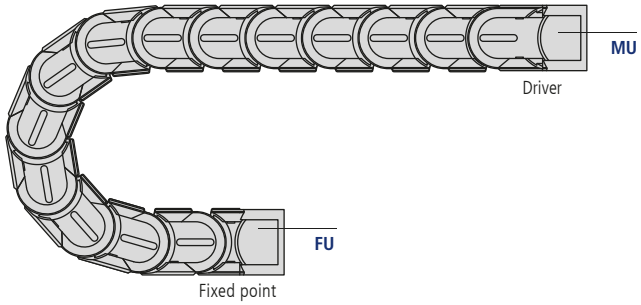


Note: The connecting elements are also available as an option **without** cover plate. Please state when ordering.

Connection dimensions

Bi [mm]	**bA** [mm]	**BEF** [mm]
50	60	70
75	85	95
100	110	120
125	135	145
150	160	170

The connection dimensions for fixed point and driver are identical.
When ordering, please specify the connection type (see order key on page 275).



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Subject to change.

TUBE SERIES | **TKA45**

Both-sided strain relief combs made of plastic

The cables can be fixed securely and simply using the **optional strain relief combs.** The strain relief combs are installed between the UMBs, and do not need to be bolted on separately or mounted on a C-rail. **When ordering, please state if strain relief combs are required.**

B_i [mm]	n_Z
50	3
75	5
100	7
125	9
150	11

n_Z = Number of teeth on one side of the comb



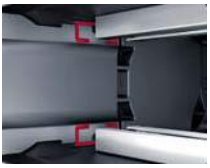
UMB connection piece with optional strain relief comb



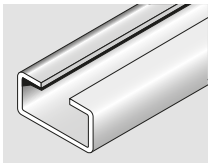
Fixing in the UMB

C-rails for LineFix bracket clamps, SZL strain reliefs and clamps

The optional C-rails are fixed by means of the universal mounting brackets and do not have to be screwed separately. **When ordering, please state if C-rails are required.**



UMB with C-rails. The UMB connections have receptacles at the top and bottom for attachment of the C-rail.



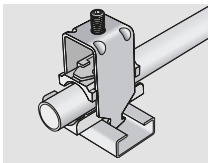
Integrated C-rail. 25 x 10 mm, slot width 11 mm, material steel, Item No. 3931

Our LineFix strain reliefs are very well suited for the C-rails (LineFix bow clamps and other strain reliefs – refer to Chapter Accessories, from Page 381).

Note: LineFix strain reliefs can only be used in the connecting elements without cover plate.



C-rail with LineFix strain relief

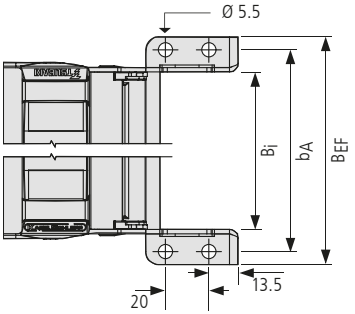


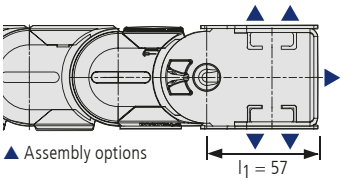
Subject to change.

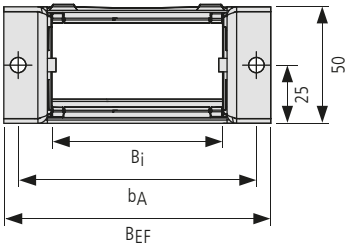
TUBE SERIES | **TKA45**

Universal mounting brackets St (UMB)

The universal mounting brackets (UMB) are made from zinc plated steel and can **be mounted from above, from below or at the front.**







The connection dimensions for fixed point and driver are identical. When ordering, please specify the connection type (see order key on page 275).

Note: The connecting elements are also available as an option **with** cover plate. Please state when ordering.

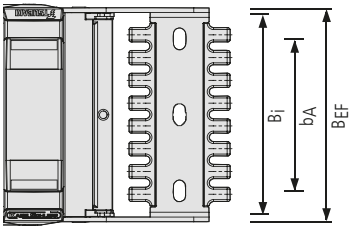
Note: Information about plastic strain relief combs can be found on page 263.

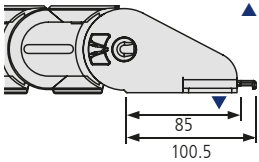
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Subject to change.

Connecting elements St

The connecting elements are made from zinc plated steel. Depending on the application the connection type **(above or below)** can be altered simply by turning them.





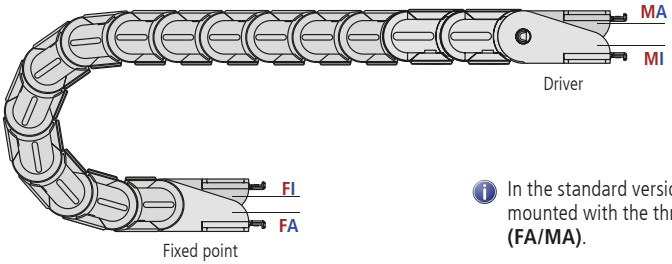
The connecting element St are delivered as standard with strain relief comb made from plastic.

Dimensions de raccord

	Pièces de raccord universelles St (UMB)		Pièces de raccord St	
B_i [mm]	b_A [mm]	B_{EF} [mm]	b_A [mm]	B_{EF} [mm]
50	78	90	30	66
75	103	115	55	91
100	128	140	80	116
125	153	165	105	141
150	178	190	130	166

Note: Connecting elements St (UMB) and St provide the same connecting dimensions as the previous model UNIFLEX 060. Order: Please contact us. We will willingly advise you.

Connection variants



In the standard version, the connectors are mounted with the threaded joint outwards **(FA/MA)**.

TKA55

Pitch
55.5 mm

Height
45 mm

Width
50 – 250 mm

Stay variants

Stay variant 060

Inside: Quick-to-open cover



Stay variant 080

Outside: Quick-to-open cover





Spare parts list, installation instructions, etc.:
Receive additional info at **kabelschlepp.de**

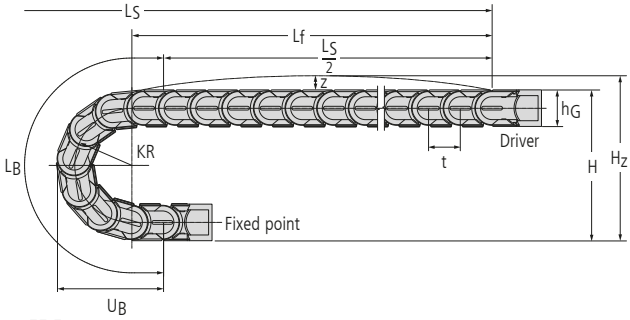
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* Refers to type TKA55 with B_i 50 – 175. More information about certification can be found at: kabelschlepp.de/tka-ip54

Subject to change.

TUBE SERIES | **TKA55**

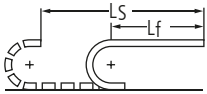
Unsupported arrangement



t = 55.5 mm

z = 17 mm/m

Unsupported length Lf



A sag of the cable carrier is technically permissible for extended movement ranges, depending on specific application.

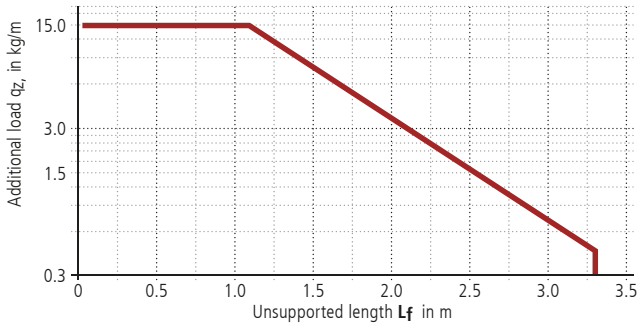
LS max. [m]	Dynamics			
	vmax [m/s]		amax [m/s]	
	unsupported	gliding	unsupported	gliding
150	8	3	40	15

Installation measurements unsupported

KR [mm]	H [mm]	Hz [mm]	LB [mm]	UB [mm]
100	264	304	425	188
120	304	344	488	208
140	344	384	551	228
170	414	454	645	258
195	454	494	725	283
225	514	554	818	313
250	564	604	896	338
300	664	704	1211	388

Load diagram

for unsupported length Lf depending on the additional load



Calculation of the chain length

Chain length Lk

$$Lk \approx \frac{Ls}{2} + LB$$

Chain length Lk rounded off to pitch t

Unsupported length Lf

$$Lf = \frac{Ls}{2} + t$$

Note: For order example and notes for ordering, refer to page 275.

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TUBE SERIES | **TKA55**

Stay variant 060 –
covered on both sides with detachable covers on the inside

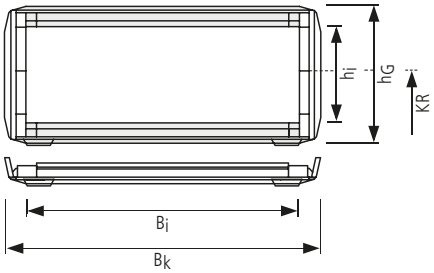
Inside heights
45

Inside widths
50 – 250



Pitch, inside height and chain link height

Type	t [mm]	h_i [mm]	h_G [mm]
TKA55.060	55.5	**45**	64



Inside/outside width and intrinsic chain weight

Type	B_i [mm]	B_k [mm]	q_k [kg/m]
TKA55.060	**50**	71	1.95
TKA55.060	**75**	96	2.22
TKA55.060	**100**	121	2.51
TKA55.060	**125**	146	2.78
TKA55.060	**150**	171	3.10
TKA55.060	**175**	196	3.46
TKA55.060	**200**	221	3.65
TKA55.060	**225**	246	3.93
TKA55.060	**250**	271	4.28

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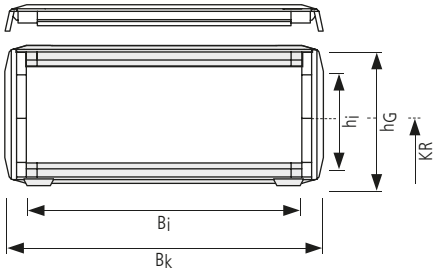
TUBE SERIES | **TKA55**

Stay variant 080 –
covered on both sides with detachable covers on the outside



Pitch, inside height and chain link height

Type	t [mm]	h_i [mm]	h_G [mm]
TKA55.080	55.5	**45**	64



Inside/outside width and intrinsic chain weight

Type	B_i [mm]	B_k [mm]	q_k [kg/m]
TKA55.080	**50**	71	1.95
TKA55.080	**75**	96	2.22
TKA55.080	**100**	121	2.51
TKA55.080	**125**	146	2.78
TKA55.080	**150**	171	3.10
TKA55.080	**175**	196	3.46
TKA55.080	**200**	221	3.65
TKA55.080	**225**	246	3.93
TKA55.080	**250**	271	4.28

Subject to change.

TUBE SERIES | **TKA55**

Inside heights
45

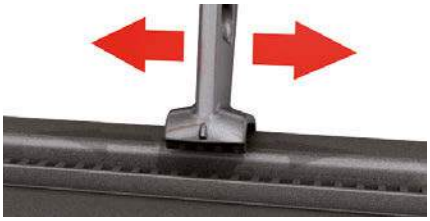
Inside widths
50 – 250

Divider systems

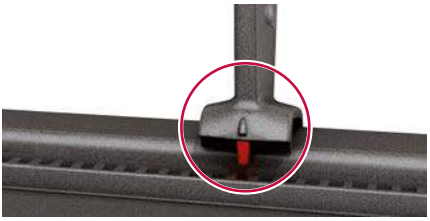
In the standard version, dividers or the complete divider system (dividers with height separation) can be moved in the cross section **(Version A)**.

For applications with transverse accelerations and where the carrier is rotated through 90° the dividers can be fixed simply by turning them. This causes the arresting cams to engage in the locking profiles of the covers **(Version B)**.

Moveable divider
Version A (standard)



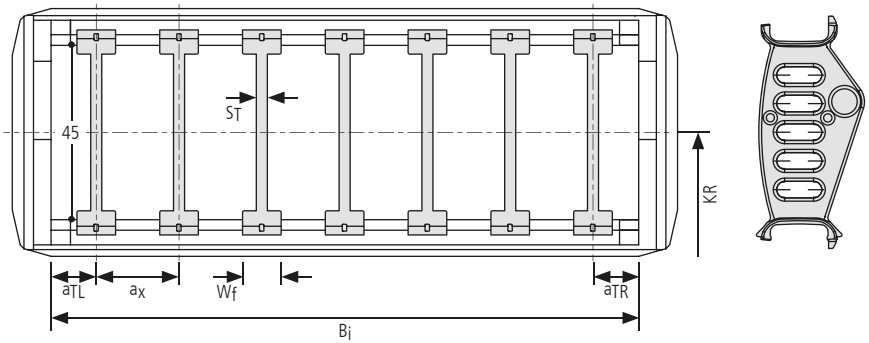
Fixable divider (2 mm grid)
Version B



Divider system TS0 without height separation

		Version A moveable		Version B fixable		
S_T [mm]	W_f [mm]	a_{TL}/a_{TR} min [mm]	a_X min [mm]	a_{TL}/a_{TR} min [mm]	a_X min [mm]	a_X grid [mm]
3	10	45	10		10	2

B_i [mm]	50	75	100	125	150	175	200	225	250
a_{TL}/a_{TR} min [mm]	13	11.5	12	12.5	13	11.5	12	12.5	13



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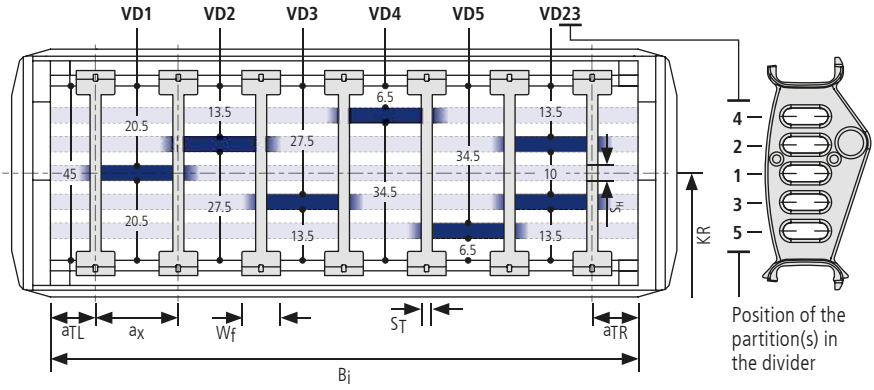
Subject to change.

TUBE SERIES | **TKA55**

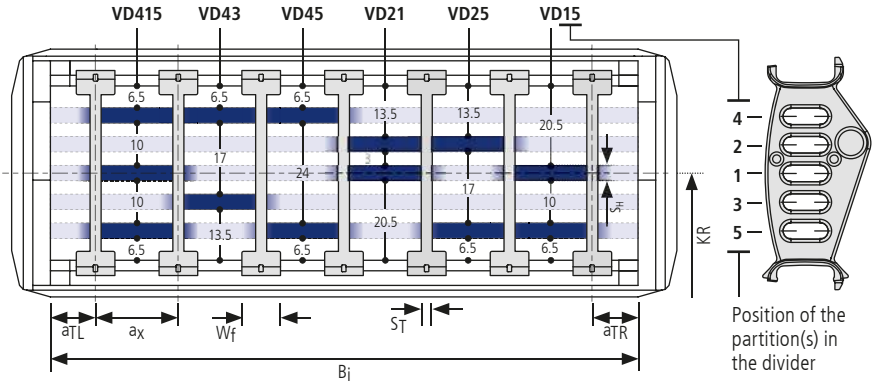
Divider system TS1 with continuous height separation made of aluminum

				Version A moveable		Version B fixable		
S_T [mm]	W_f [mm]	S_H [mm]	a_{TL}/a_{TR} max [mm]	a_{TL}/a_{TR} min [mm]	a_X min [mm]	a_{TL}/a_{TR} min [mm]	a_X min [mm]	a_X grid [mm]
3	10	4	40	5	10		10	2

B_i [mm]	50	75	100	125	150	175	200	225	250
a_{TL}/a_{TR} min [mm]	13	11.5	12	12.5	13	11.5	12	12.5	13



Position of the partition(s) in the divider



Position of the partition(s) in the divider

Note: For order example and notes for ordering, refer to page 275.

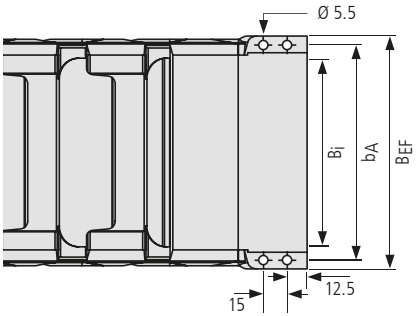
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TSUBAKI KABELSCHLEPP
Cable Carrier Configurator

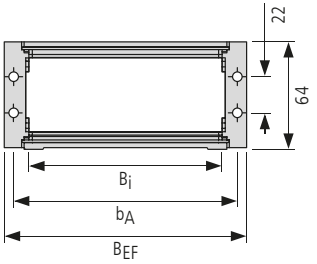
Subject to change.

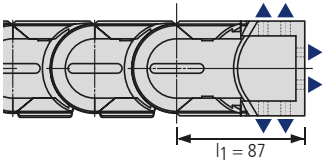
TUBE SERIES | **TKA55**

Universal mounting brackets (UMB)

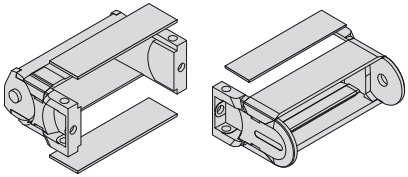
The universal mounting brackets (UMB) are made from plastic and can **be mounted from above, from below or at the front.**







▲ Assembly options



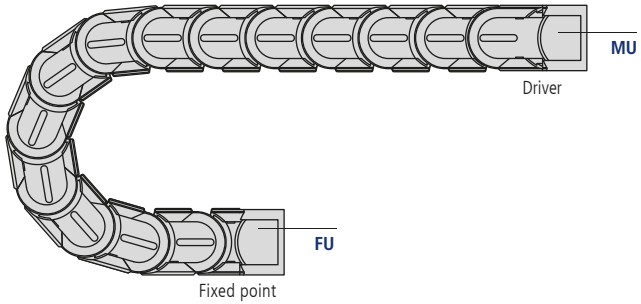
Note: The connecting elements are also available as an option **without** cover plate. Please state when ordering.

Connection dimensions

Bi [mm]	bA [mm]	BEF [mm]
50	64	75
75	89	100
100	114	125
125	139	150
150	164	175

Bi [mm]	bA [mm]	BEF [mm]
175	189	200
200	214	225
225	239	250
250	264	275

The connection dimensions for fixed point and driver are identical.
When ordering, please specify the connection type (see order key on page 275).



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TUBE SERIES | **TKA55**

Both-sided strain relief combs made of plastic

The cables can be fixed securely and simply using the **optional strain relief combs.** The strain relief combs are installed between the UMBs, and do not need to be bolted on separately or mounted on a C-rail. **When ordering, please state if strain relief combs are required.**

B_i [mm]	n_Z
50	3
75	5
100	7
125	9
150	11
175	13

n_Z = Number of teeth on one side of the comb



UMB connection piece with optional strain relief comb

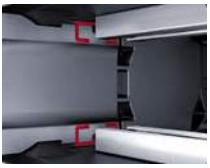


Fixing in the UMB

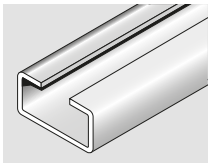
Note: From B_i 200, strain relief is possible through C-rail (mat.: 3931)!

C-rails for LineFix bracket clamps, SZL strain reliefs and clamps

The optional C-rails are fixed by means of the universal mounting brackets and do not have to be screwed separately. **When ordering, please state if C-rails are required.**



UMB with C-rails. The UMB connections have receptacles at the top and bottom for attachment of the C-rail.



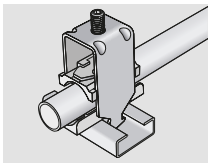
Integrated C-rail. 25 x 10 mm, slot width 11 mm, material steel, Item No. 3931

Our LineFix strain reliefs are very well suited for the C-rails (LineFix bow clamps and other strain reliefs – refer to Chapter Accessories, from Page 381).

Note: LineFix strain reliefs can only be used in the connecting elements without cover plate.



C-rail with LineFix strain relief

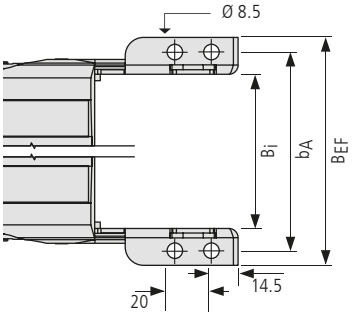


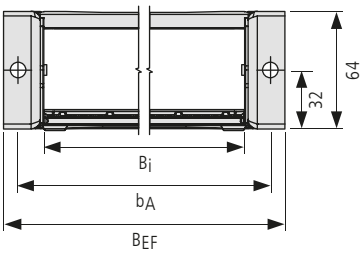
Subject to change.

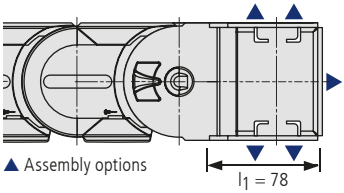
TUBE SERIES | **TKA55**

Universal mounting brackets St (UMB)

The universal mounting brackets (UMB) are made from zinc plated steel and can **be mounted from above, from below or at the front.**







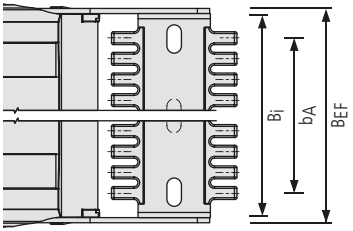
The connection dimensions for fixed point and driver are identical. When ordering, please specify the connection type (see order key on page 275).

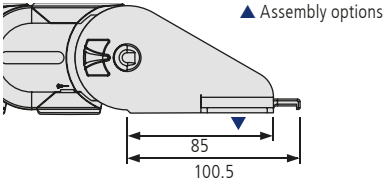
Note: The connecting elements are also available as an option **with** cover plate. Please state when ordering.

Note: Information about plastic strain relief combs can be found on page 273.

Connecting elements St

The connecting elements are made from zinc plated steel. Depending on the application the connection type **(above or below)** can be altered simply by turning them.





The connecting element St are delivered as standard with strain relief comb made from plastic.

	St (UMB)		St	
Bi [mm]	bA [mm]	BEF [mm]	bA [mm]	BEF [mm]
50	79	95	31	71
75	104	120	56	96
100	129	145	81	121
125	154	170	106	146
150	179	195	131	171

	St (UMB)		St	
Bi [mm]	bA [mm]	BEF [mm]	bA [mm]	BEF [mm]
175	204	220	156	196
200	229	245	181	221
225	254	270	206	246
250	279	295	231	271

Note: Connecting elements St (UMB) and St provide the same connecting dimensions as the previous model UNIFLEX 060. Order: Please contact us. We will willingly advise you.

Note: Connection variants are identical to those of TKA45 (see p. 265

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Subject to change.

TUBE SERIES | **TKA Series**

Ordering

Ordering example cable carrier

Cable carrier

TKA45	.	080	.	125	.	140	-	1110
Type		Stay variant		B_i [mm]		KR [mm]		L_K [mm]

Ordering example divider system

Divider system without height separation

TS0	.	B	/	3
Divider system		Version		n_T

Divider system with height separation

TS1	.	A	/	3	/	VD23
Divider system		Version		n_T		Height separation

Please state the designation of the divider system (TS0, TS1), the version and number of dividers required.

When ordering the fixed version (version B), please indicate the position of the dividers (sketch). Where a continuous height separations is required (TS1), please also indicate their positions (e.g. VD23, or add a sketch).

Ordering example connection elements

Connection

FU	/	MU
Fixed point		Driver

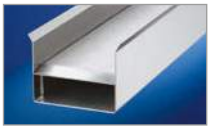
See online for additional product information

Spare parts list, installation instructions, etc.:
Receive additional info at **kabelschlepp.de**

Configure your custom cable carrier system:
onlineengineer.de



Guide channels
■ from page 375



Strain relief devices
■ from page 381



Cables for cable carrier systems
■ from page 438



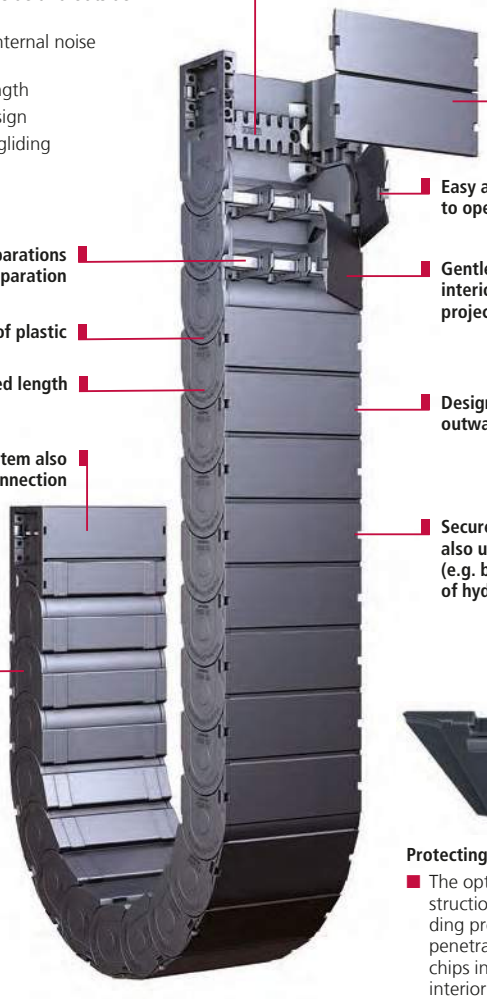
Subject to change.


GT 1555
GT 1555
GT 1555

CoverTrax

Extreme cable protection in harsh environmental conditions

- outstanding protection for the cables
- quick cable laying – inside and outside opening designs
- very quiet thanks to internal noise damping system
- large unsupported length
- high-quality visual design
- for unsupported and gliding arrangements





Protecting cables effectively:

- The optimized cover construction provides outstanding protection against penetration of dirt and chips into the carrier interior.



Simply unlock cover with a screwdriver



Detach the cover from the chain link



Divider system TS 1



Optional strain relief comb – also placed on top of one another

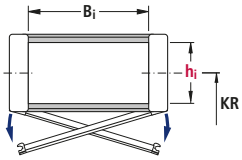
* On request – please contact us.

Subject to change.

Overview CoverTrax

Design 060 with a cover that can be levered open to the inside*



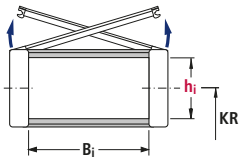


Type	h_i	B_i	Maximum travel length in m	Dynamics of unsupported arrangement		Page
				Travel speed v_{max} in m/s	Travel acceleration a_{max} in m/s²	
CT1555.060	50	75-175	100	6	35	280

Dimensions in mm

Design 080 with a cover that can be levered open to the outside





Type	h_i	B_i	Maximum travel length in m	Dynamics of unsupported arrangement		Page
				Travel speed v_{max} in m/s	Travel acceleration a_{max} in m/s²	
CT1555.080	50	75-175	100	6	35	280

Dimensions in mm

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* On request – please contact us.

Subject to change.

Extreme cable protection – CoverTrax 1555

The CoverTrax cable carrier provides outstanding protection for the routed cables and hoses. It has been developed for harsh environmental conditions with chips, dirt and dust and effectively prevents foreign bodies from entering the cable space. The optimized geometry of the chain links makes the carrier very stable, with a large unsupported length. The integrated damping system makes it very quiet. The new CoverTrax 1555 is not just remarkable for its technical attributes, but also for its new visual design, with its impressive style and functionality. For example, the almost completely smooth side band contour of the individual chain links presents hardly any gap through which foreign bodies could penetrate.





Protecting cables effectively:

- The optimized cover construction provides outstanding protection against penetration of dirt and chips into the carrier interior.

Optimized geometry

The protection for the routed cables has been optimized by means of design features. Extremely small gap dimensions and the new geometry effectively prevent the penetration of foreign bodies.



- The reinforced contour of the new cover provides extremely small gap dimensions even with large carrier widths.



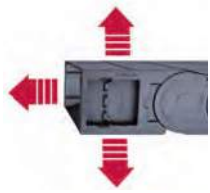
- The openable covers reach above the side band and deflect dirt off to the side.



- Smooth side band contour with encapsulated stroke system.

Easy connection – optionally with strain relief comb

With the UMB connectors you can connect the CoverTrax easily from **above**, from **below** or at **the front**. The **optional C-rails** and **LineFix saddle-type clamps** allow the cables to be fixed securely and simply. C-rails and strain relief combs are fixed with the UMB connectors and do not have to be screwed separately.



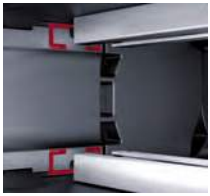
- UMB connector



- Optional strain relief comb



- Connection with LineFix on C-rail



- The UMB connectors have mounts above and below for fixing a C-rail or strain relief comb.

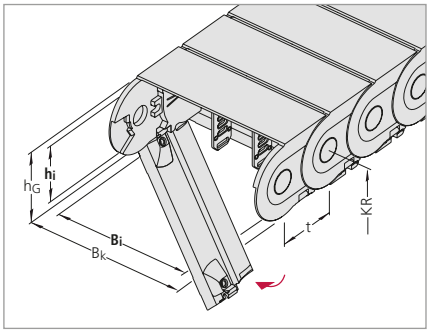
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TSUBAKI KABELSCHLEPP
Cable Carrier Configurator

Subject to change.

Type CT 1555

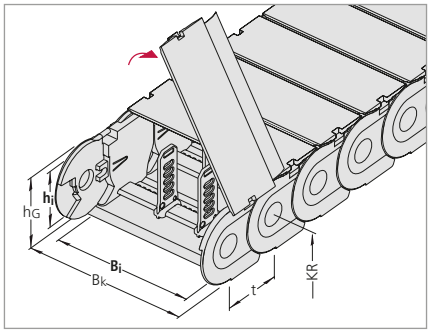
Design 060*

Inside: Hinged, openable (on the right/left) and detachable covers



Design 080

Inside: Hinged, openable (on the right/left) and detachable covers



Dimensions and intrinsic chain weight

Type	h_i	h_G	Inside widths B_i			B_k
			Intrinsic chain weight			
			75	125	175	
CT 1555	50	69	2.43	2.94	3.44	B_i + 21

Dimensions in mm/Weights in kg/m

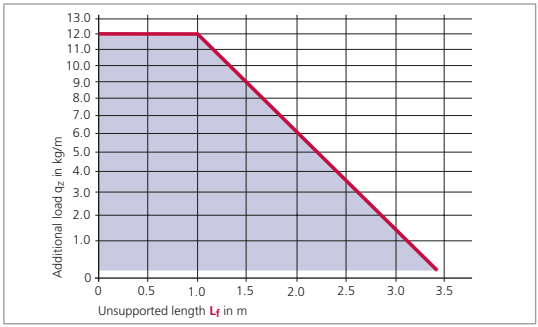
Bend radius and pitch

Bend radii KR mm							
100	125	150	175	200	225	250	300

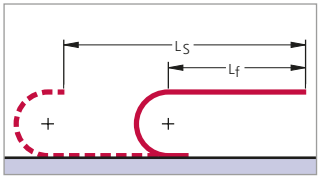
Pitch t = 55.5 mm

Bend radius and pitch

for unsupported length L_f depending on the additional load



Unsupported length L_f



In the case of longer travel lengths, sagof the cable carriers is technically per-missible depending on the application.In a gliding arrangement, even longer travel lengths are possible (see page 375).

We are at your service to advise onthese applications.

Example of ordering

Cable carrier						Divider system		Connection
CT 1555	080	175	150	1110		TS 0	1	FU/MU
Type	Design	Inside width B_i in mm	Bend radius KR in mm	Chain length L_k in mm (without connection)		Divider systemm	Number of dividers n_T	Connection-Fixed point/ Driver

Ordering divider systems:
Please state the designation of the divider system (TS 0, TS 1 ...) and the number of dividers. Possibly attach a sketch with the dimensions.

* On request – please contact us.

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Subject to change.

Type CT 1555

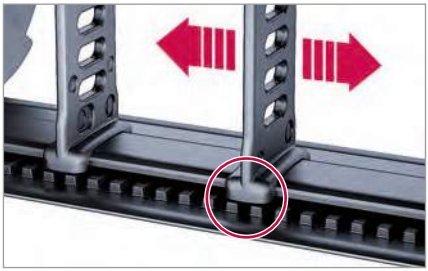
Fixing the dividers

In the standard version, dividers or the complete divider system (dividers with height separation) can be moved in the cross section.
(**Mounting version A**)

For applications with transverse accelerations and where the carrier is rotated through 90° the dividers can be fixed simply by turning them. This causes the arresting cams to engage in the locking profiles of the covers **(Version B)**.
If the fixed installation version is desired, please state this on the order.

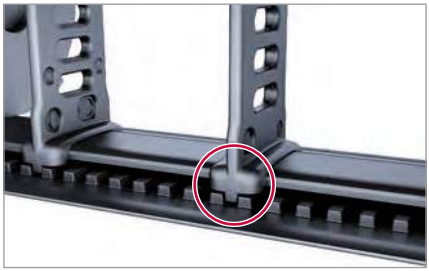
Version A (standard)

Movable divider



Version B

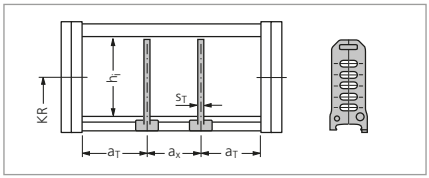
Divider fixed in **5 mm steps**.



Divider system TS 0

		Version A			Version B			
Type	h_i mm	S_T mm	$a_{T\,min}$ mm	$a_{x\,min}$ mm	S_T mm	$a_{T\,min}$ mm	$a_{x\,min}$ mm	$a_{x\,section}$ mm
CT 1555	50	3	5	10	3	7.5	10	5



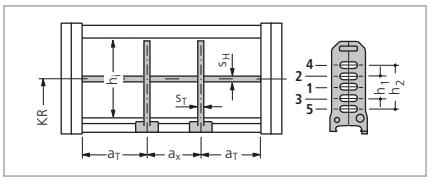


Divider system TS 1

with continuous height subdivision made of aluminum

		Version A			Version B						
Type	h_i mm	S_T mm	$a_{T\,min}$ mm	$a_{x\,min}$ mm	S_T mm	$a_{T\,min}$ mm	$a_{x\,min}$ mm	$a_{x\,section}$ mm	S_H mm	h_1 mm	h_2 mm
CT 1555	50	3	5	10	3	7.5	10	5	4	14	28





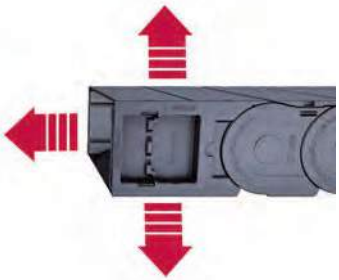
Subject to change.

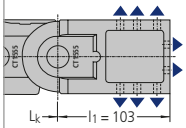
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Cable Carrier Configurator

Type CT 1555

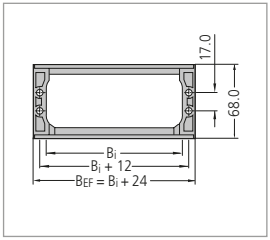
Universal mounting brackets

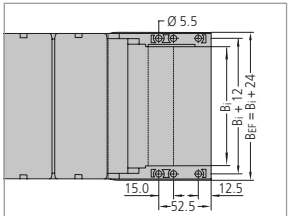
With plastic UMBs (Universal Mounting Brackets), you can easily connect the CoverTrax **from above, from below, or at head height.**





▲ Assembly options





The dimensions of the fixed point and driver connections are identical.

When ordering please specify the connection type FU/MU (see ordering key on page 422).

Both-sided strain relief combs made of plastic

The cables can be fixed securely and simply using the **optional strain relief combs**.

The strain relief combs are installed between the UMBs, and do not need to be bolted on separately or mounted on a C-Rail.

Please state on the order whether strain relief combs are needed.



■ Universal mounting bracket with optional strain relief comb



■ Fixing in the UMB

Type	B_i mm	nz
CT 1555. ... .75	75	5
CT 1555. ... .125	125	9
CT 1555. ... .175	175	13

n_Z = Number of teeth on one side of the comb

Strain relief comb made of aluminum on one side

The cables can be fixed securely and simply using the **optional strain relief combs**.

The strain relief combs are installed between the UMBs, and do not need to be bolted on separately or mounted on a C-Rail.

Please state on the order whether strain relief combs are needed.



■ Strain relief comb made of aluminum

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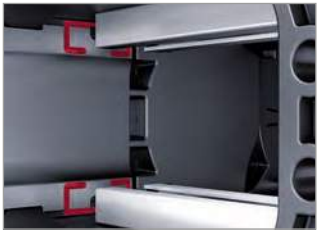
Type CT 1555

Strain relief devices

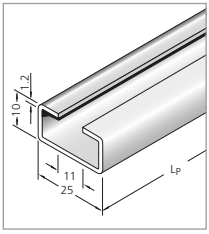
C-rails for LineFix bracket clamps, SZL strain reliefs and clamps

The optional C-rails are fixed by means of the universal mounting brackets and do not have to be screwed separately.

Please state in your order whether C-rails are needed.



■ Universal mounting bracket with C-rail. The UMB connectors have mounts **above and below** for fixing a C-rail

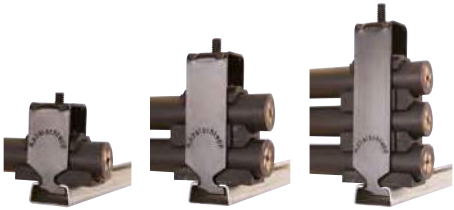


■ Integratable C-rail 25 x 10 mm, slit width 11 mm, material steel, Item-No. 3931

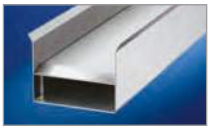
Our LineFix strain reliefs are optimally suited for the C-rails. (LineFix bracket clamps and other strain relief devices – see Accessories chapter, from page 381 onwards).



■ C-rail with LineFix strain relief



Guide channels
➤ from page 375



Strain relief devices
➤ from page 381



Cables for cable carrier systems
➤ from page 438



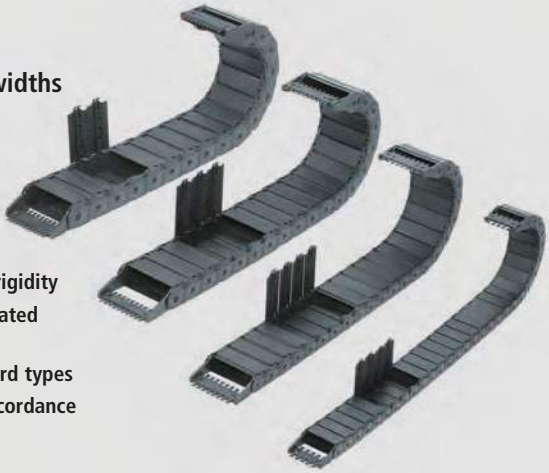
Subject to change.

Inside heights
19.5 – 44

Inside widths
15 – 175

UNIFLEX

TUBES with fixed chain widths



- Solid plastic
- Easy to open
- Robust, double stroke system for long unsupported lengths
- Particularly high torsional rigidity
- End connectors with integrated strain relief
- Economically priced standard types
- TÜV design approved in accordance with 2PfG 1036/10.97

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Design 050 – covered on one side

- Outside: Covered
- Inside: Hinged, openable (on the right/left) and detachable brackets



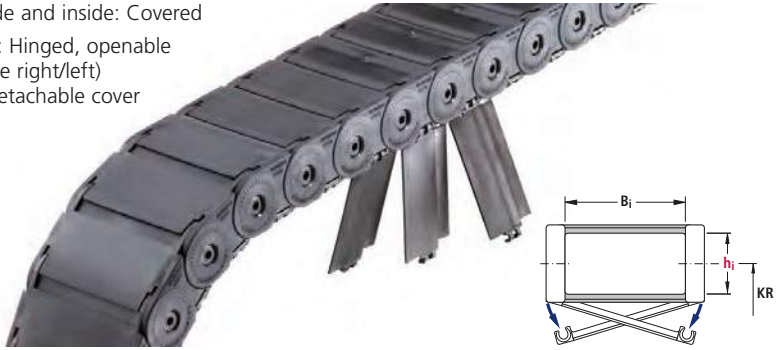
Type	h_i	B_i	Maximum travel length in m	Dynamics of unsupported arrangement		Page
				Travel speed v_{max} in m/s	Travel acceleration a_{max} in m/s²	
0345.050	20	15-65	80	10	50	104
0455.050	26	25-130	120	10	50	104
0555.050	38	50-150	125	9	45	104
0665.050	44	50-175	150	8	40	104

Dimensions in mm

Subject to change.

Design 060 – covered on both sides

- Outside and inside: Covered
- Inside: Hinged, openable (on the right/left) and detachable cover



Type	h_i	B_i	Maximum travel length in m	Dynamics of unsupported arrangement		Page
				Travel speed v_{max} in m/s	Travel acceleration a_{max} in m/s²	
0345.060	**19.5**	15-65	80	10	50	286
0455.060	**25**	25-130	120	10	50	286
0555.060	**36**	50-150	125	9	45	286
0665.060	**42**	50-175	150	8	40	286

Dimensions in mm

Design 080 – covered on both sides

- Outside and inside: Covered
- Outside: Detachable cover



Type	h_i	B_i	Maximum travel length in m	Dynamics of unsupported arrangement		Page
				Travel speed v_{max} in m/s	Travel acceleration a_{max} in m/s²	
0600.080	**44**	50-125	100	6	35	292

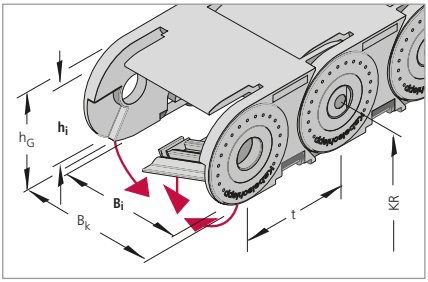
Dimensions in mm

Subject to change.

UNIFLEX – Types 0345, 0455, 0555 and 0665

Design 060 – cable carriers covered on both sides

Outside and inside: Covered
Inside: Hinged, openable (on the right/left) and detachable covers



Dimensions and intrinsic chain weight

Type	h_i	h_G	Inside widths B_i / Intrinsic chain weight						B_k
0345	19.5	28	15	20	25	38	50	65	B_i + 13
			0.48	0.52	0.56	0.65	0.74	0.85	
0455	25	36	25	38	58	78	103	130	B_i + 18
			0.92	1.01	1.16	1.31	1.51	1.72	
0555	36	50	50	75	100	125	150	–	B_i + 22
			1.72	1.95	2.17	2.39	2.61	–	
0665	42	60	50	75	100	125	150	175	B_i + 27
			2.36	2.69	3.00	3.32	3.64	3.95	

Dimensions in mm/Weights in kg/m

Bend radius and pitch

Type	Bend radii KR mm					
0345	75	100	125	150	–	–
0455	95	125	150	180	200	225
0555	100	125	160	200	230	–
0665	120	140	200	250	300	–

Pitch t:
Type 0345: 34.5 mm
Type 0455: 45.5 mm
Type 0555: 55.5 mm
Type 0665: 66.5 mm

Example of ordering

Cable carrier							Divider system		Connection
0555	. 060	. 125	. 160	- 1665			TS 0	/ 3	FU/MU
Type	Design	Inside width B_i in mm	Bend radius KR in mm	Chain length Lk in mm (without connection)			Divider system	Number of dividers n_T	Connection Fixed point/ Driver

Ordering divider systems:
Please state the designation of the divider system (TS 0, TS 1 ...) and the number of dividers. Possibly attach a sketch with the dimensions.

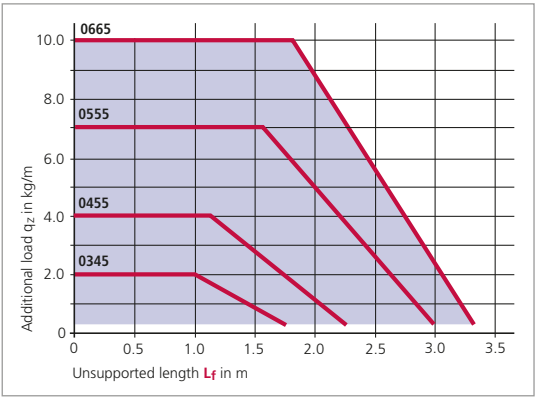
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Subject to change.

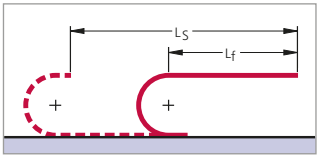
UNIFLEX – Types 0345, 0455, 0555 and 0665

Load diagram

for unsupported length L_f depending on the additional load



Unsupported length L_f



In the case of longer travel lengths, sag of the cable carriers is technically permissible depending on the application.

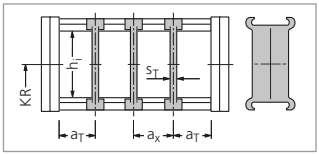
In a gliding arrangement, even longer travel lengths are possible (see page 375).

We are at your service to advise on these applications.

Divider system TS 0

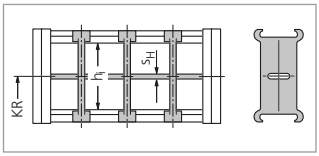
Type	h_i mm	S_T mm	a_x mm	B_i mm	$a_{T\,min}$ mm
0455	25	3	20	25	12.5
0455	25	3	20	38, 58, 78	19
0455	25	3	20	103	21.5
0455	25	3	20	130	25
0555	36	3	25	50 ... 150	25
0665	42	5	25	50 ... 175	25

The dividers are fixed at an interval of a_x.



In the standard version, the divider systems are mounted on every second chain link.

For type 0665, the divider system TS 1 with a central height subdivision (S_H = 4 mm) is also available.



Subject to change.

UNIFLEX – Types 0345, 0455, 0555 and 0665

Strain relief devices for plastic connectors

ZLK – A

Connecting elements with integrated, strain relief combs on both sides (ZLK – A)

ZLK – L

Connecting elements with screw-on type strain relief combs (ZLK – L)

The strain relief combs are generally supplied with the connecting elements.

The combs are either clipped to the end connectors and bolted together with them, or screwed on at the desired intervals by using additional boreholes, behind the connecting elements.



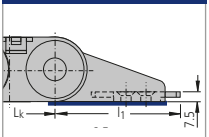


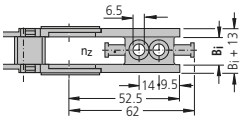
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Connecting elements Type 0345

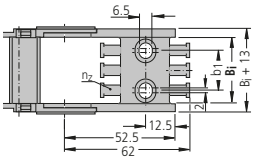
Connecting elements with integrated strain relief combs on both sides

ZLK – A





For chain width B_i = 15 – 20 mm



For chain width B_i = 25 – 65 mm

The dimensions of the fixed point and driver connections are identical.

Type	B_i	B_k	b_1	n_z
0345. … .15	15	28	–	1
0345. … .20	20	33	–	1
0345. … .25*	25	38	13	2
0345. … .38	38	51	24	3
0345. … .50	50	63	36	4
0345. … .65	65	78	51	5

* Type 0345. … .25 with 6.5 mm hole (not an elongated hole)

Dimensions in mm

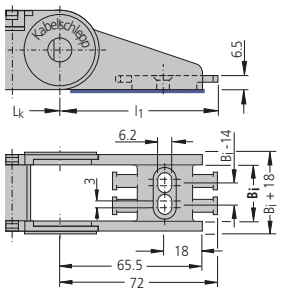
Subject to change.

UNIFLEX – Types 0345, 0455, 0555 and 0665

Connecting elements Type 0455

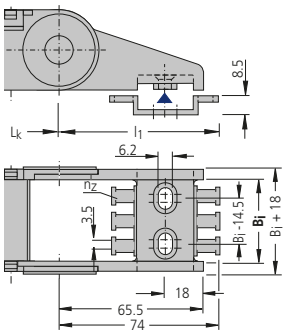
Connecting elements with strain relief combs on both sides

ZLK – A
integrated strain relief combs



For chain width B_i = 25 mm

ZLK – L
screwable strain relief combs



For chain width B_i = 38 – 130 mm

The dimensions of the fixed point and driver connections are identical.

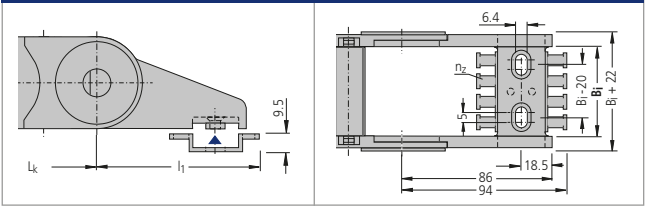
Type	B_i	B_k	n_z
0455. ... .25	25	43	2
0455. ... .38	38	56	3
0455. ... .58	58	76	4
0455. ... .78	78	96	6
0455. ... .103	103	121	8
0455. ... .130	130	148	10

Dimensions in mm

Connecting elements Type 0555

Connecting elements with strain relief combs on both sides

ZLK – L – screwable strain relief combs



The dimensions of the fixed point and driver connections are identical.

Type	B_i	B_k	n_z
0555. ... .50	50	72	4
0555. ... .75	75	97	6
0555. ... .100	100	122	8
0555. ... .125	125	147	10
0555. ... .150	150	172	12

Dimensions in mm

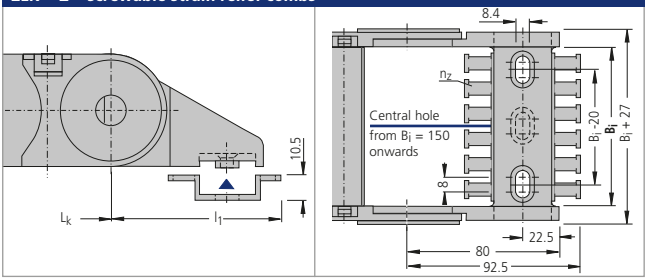
Subject to change.

UNIFLEX – Types 0345, 0455, 0555 and 0665

Connecting elements Type 0665

Connecting elements with strain relief combs on both sides

ZLK – L – screwable strain relief combs

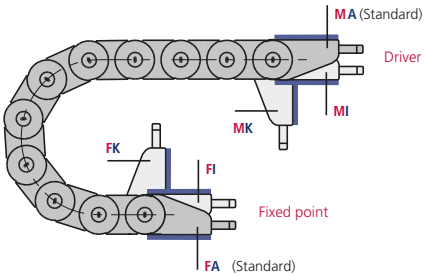


The dimensions of the fixed point and driver connections are identical.

Type	B_i	B_k	n_Z
0665. ... .50	50	77	4
0665. ... .75	75	102	6
0665. ... .100	100	127	8
0665. ... .125	125	152	10
0665. ... .150	150	177	12
0665. ... .175	175	202	14

Dimensions in mm

Connection variants for design 060



Connection point

M – Driver

F – Fixed point

Connection type

A – Threaded joint outside (standard)

I – Threaded joint inside

H – Threaded joint, rotated through 90° to the outside

K – Threaded joint, rotated through 90° to the inside

In the standard version, the connectors are mounted with the threaded joint outwards (**FA/MA**).

When ordering please specify the desired connection type (see ordering key on page 416).

The connection type can subsequently be altered simply by varying the connectors.

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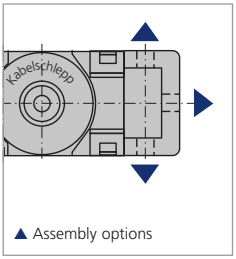
Subject to change.

UNIFLEX – Types 0345, 0455, 0555 and 0665

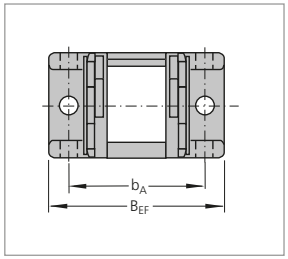
UMB (Universal Mounting Brackets) made of aluminum

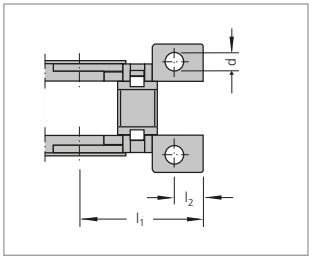


Universal connectors for connection above, below or at the front.



▲ Assembly options





The dimensions of the fixed point and driver connections are identical.
When ordering please specify the connection type FU/MU (see ordering key on page 416).

Type	B_{EF}	b_A	l_1	l_2	d
0345	B_i + 30	B_i + 20	36	9	5.5
0455	B_i + 30	B_i + 20	47	10.5	5.5
0555	B_i + 40	B_i + 28	57	13.5	6.5
0665	B_i + 44	B_i + 28	68	14.5	8.5

Dimensions in mm

Guide channels
➤ from page 375



Strain relief devices
➤ from page 381



Cables for cable carrier systems
➤ from page 438



Subject to change.

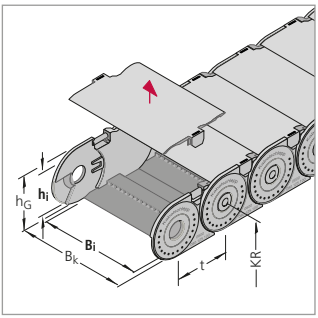
Innen-höhe
44

Inside widths
50 – 125

UNIFLEX – Type 0600 Tube, lightweight construction

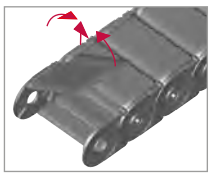
Design 080 – cable carriers covered on both sides

Outside and inside: Covered
Outside: Detachable cover



Cable carrier covered on both sides in a **lightweight design**.
Can be opened on the outside for fast cable laying.

Provides particularly good protection for the cables from all types of contamination, machining chips and moisture.



Also available with hinged cover – please contact us.

Dimensions and intrinsic chain weight

Type	h_i	h_G	Inside widths B_i				B_k
			Intrinsic chain weight				
			50	75	100	125	
0600	44	61	1.60	1.88	2.15	2.42	B_i + 18

Dimensions in mm/Weights in kg/m

Bend radius and pitch

Bend radii KR mm				
100	125	150	175	200

Pitch t = 60.0 mm

Example of ordering

Cable carrier										Divider system		Connection
0600	.	080	.	125	.	175	-	1800		TS 0	/	3		FU/MU
Type		Design		Inside width B_i in mm		Bend radius KR in mm		Chain length Lk in mm (without connection)		Divider system		Number of dividers n_T		Connection Fixed point/ Driver

Ordering divider systems:
Please state the designation of the divider system (TS 0, TS 1 ...) and the number of dividers. Possibly attach a sketch with the dimensions.

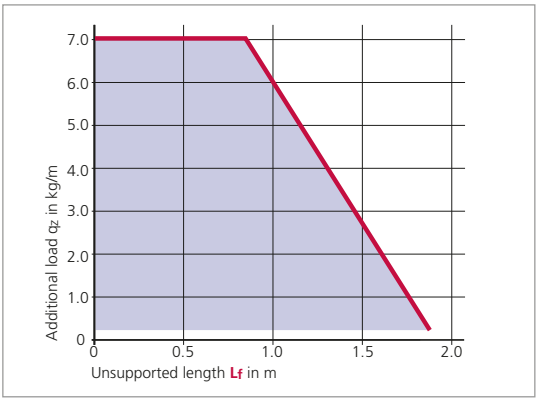
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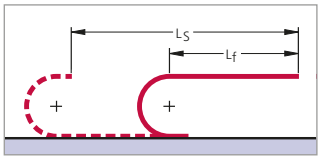
UNIFLEX – Type 0600 Tube, lightweight construction

Load diagram

for unsupported length L_f depending on the additional load



Unsupported length L_f



In the case of longer travel lengths, sag of the cable carriers is technically permissible depending on the application.

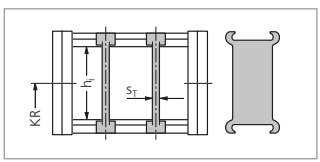
In a gliding arrangement, even longer travel lengths are possible (see page 375).

We are at your service to advise on these applications.

Divider system TS 0

Type	h_i mm	S_T mm
0600	44	3

In the standard version, the dividers can be moved in the cross section. The dividers can be fixed in 10 mm sections simply by re-attaching.

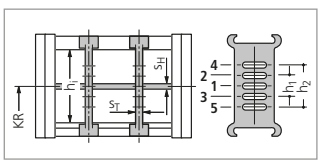


In the standard version, the divider systems are mounted on every second chain link.

Divider system TS 1 with continuous height subdivision

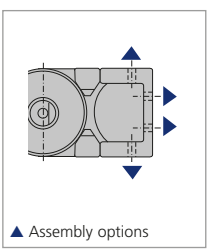
Type	h_i mm	S_T mm	S_H mm	h_1 mm	h_2 mm
0600	44	3	4	14	28

In the standard version, the dividers can be moved in the cross section. The dividers can be fixed in 10 mm sections simply by re-attaching.

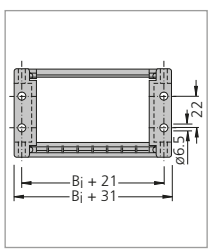


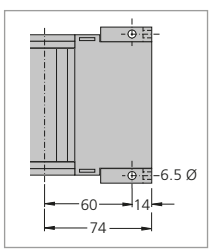
In the standard version, the divider systems are mounted on every second chain link.

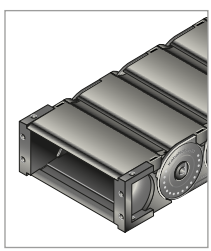
UMB (Universal Mounting Brackets) made of aluminum



▲ Assembly options







The dimensions of the fixed point and driver connections are identical.

When ordering please specify the connection type FU/MU (see ordering key on page 416).

Subject to change.

Types MASTER LT

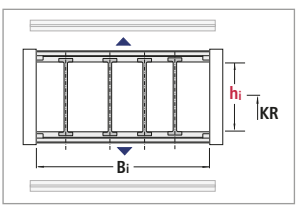
Quiet and weight-optimized cable carriers

- Extremely quiet due to internal noise damping system
- Favorable ratio of inner to outer dimensions
- Standard bend radii, application-specific intermediate radii on request
- Variable pretension for many different applications possible
- Can be opened quickly on the inside and outside for cable laying
- Transmission of forces (tensile and thrust forces) over a large area – optimized link design – "life extending 2 disc principle"
- Wide range of options for internal subdivision
- Closed and open UMBs
- Various strain relief systems optionally available



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Type LT
with plastic cover system (stay variant RDL)



Type	h_i	B_i	Maximum travel length in m	Dynamics of unsupported arrangement		Page
				Travel speed v_{max} in m/s	Travel acceleration a_{max} in m/s²	
LT 60	60	53 – 300	6.8*	6	30	295

* only unsupported

Dimensions in mm

Carrier construction and cover system

Available in **25 mm width sections**.

Opening options:
Outside/Inside: Unscrewable cover







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Subject to change.

Types MASTER LT 60

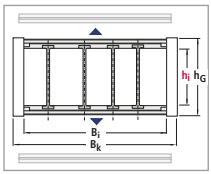
Dimensions and intrinsic chain weight

Plastic cover system (stay variant RDL)

Type	Stay variant	h_i	h_G	B_i min*	q_k min	B_i max	q_k max	B_k	Widths section
LT 60	RDL	60	88	75	3.21	300	6.07	B_i + 28	25

* also B_i 53 mm available

Dimensions in mm/Weights in kg/m



Bend radius and pitch

Type	Bend radii KR mm								
LT 60	150	200	250	300	350	400	500	–	–

Pitch:
LT 60: t = 91 mm

The listed values are standard bend radii. For special applications it is also possible, to set any desired intermediate radii at the production stage.

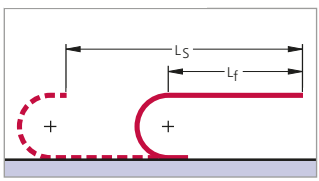
Please do get in touch with us, we would be happy to advise you.

Load diagram

for unsupported length L_f depending on the additional load*



Unsupported length L_f



In the case of longer travel lengths, sag of the cable carriers is technically permissible depending on the application.

In a gliding arrangement, even longer travel lengths are possible (see page 375).

We are at your service to advise on these applications.

Determining the length of the cable carrier see page 46.

* Load diagram for intrinsic chain weight q_k of 4.0 kg/m (L 60).
If the chain intrinsic weight exceeds these values, the permissible additional load is reduced by the difference.

Example of ordering

Cable carrier							Divider system		Connection
LT 60	. 300	. RDL	. 300	- 1820			TS 0	/ 3	FU/MU
Type	Inside width B_i in mm	Stay variant	Bend radius KR in mm	Chain length Lk in mm (without connection)			Divider system	Number of dividers n_T	Connection* Fixed point/ Driver

Ordering divider systems:
Please state the designation of the divider system (TS 0, TS 1 ...) and the number of dividers. Possibly attach a sketch with the dimensions.

* If the standard connector is not required, please state this on the order.

Subject to change.

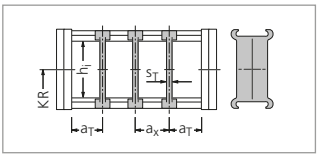
Types MASTER LT 60

Divider system TS 0

Type	h_i mm	S_T mm	$a_{T\,min}$ mm	$a_{x\,min}$ mm
LT 60	60	4	9	16

The dividers can be moved in the cross section.
In the standard version, the divider systems are mounted on every second chain link.

Dimensions in mm

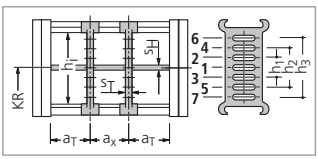


Divider system TS 1 with continuous height subdivision made of aluminum

Type	h_i mm	S_T mm	$a_{T\,min}$ mm	$a_{x\,min}$ mm	S_H mm	h_1 mm	h_2 mm	h_3 mm
LT 60	60	4	9	16	4	15	30	45

The dividers can be moved in the cross section.
In the standard version, the divider systems are mounted on every second chain link.

Dimensions in mm



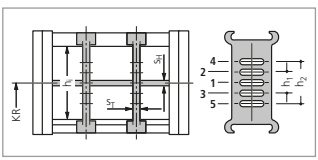
Divider system TS 3 with section subdivision, partitions made of plastic

Type	h_i mm	S_T mm	$a_{T\,min}$ mm	$a_{x\,min}$ mm	S_H mm	h_1 mm	h_2 mm
LT 60	60	8	6	16*	4	14	28

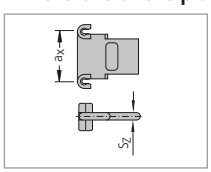
* When using plastic partitions

The dividers are fixed by the partitions, the complete divider system is movable.
In the standard version, the divider systems are mounted on every second chain link.

Dimensions in mm



Dimensions of the plastic partitions for TS 3



Aluminum partitions in 1 mm width sections are also available.

S_Z	a_x (center-to-center dividers)									
4	16	18	23	28	32	33	38	43	48	58
	64	68	78	80	88	96	112	**128**	**144**	**160**
	176	**192**	**208**	–	–	–	–	–	–	–

Dimensions in mm

When using **partitions with a_x > 112 mm** there should be an additional central support with a **twin divider**.
Twin dividers are designed for subsequent fitting in the partition system.

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Subject to change.

Types MASTER LT 60

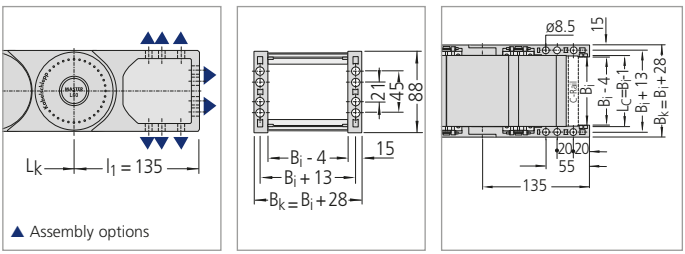
UMB (Universal Mounting Brackets) made of plastic

Various universal mounting brackets made of plastic provide a suitable connection for any assembly situation. Each type can be screwed from above, below or as a flange.



Connection dimensions

Standard connector and short, open connector



The dimensions of the fixed point and driver connections are identical.

Optional C-rails and strain relief elements for cables can be found on the following pages.

When ordering please specify the connection type FU/MU (see ordering key on page 419).

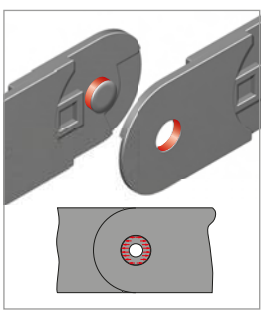
Minimized hinge wear owing to the "life extending 2 disc principle"

In the MASTER Series, the push and pull forces are transmitted via the optimum link design for this purpose.

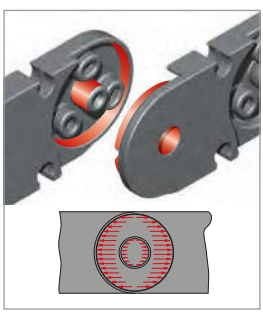
As a result link wear is reduced to a minimum and the life of the cable carrier is considerably lengthened.

The internal stopper and pre-tensioning dampers have a noise-muffling effect. This makes the chain particularly quiet.

Should your application require it, the pre-tensioning (in deviation from the standard pre-tensioning) can be adjusted at the time of production. We can produce a cable carrier with a pre-tension which is exactly suited to the load values of your application.



■ Force transmission with a pin-hole joint



■ Force transmission with the "life extending 2 disc principle"

Subject to change.

Types MASTER LT 60

Strain relief devices

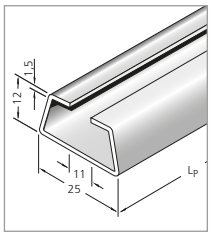
C-rails for LineFix bracket clamps, SZL strain reliefs and clamps

The optional C-rails are fixed by means of the universal mounting brackets and do not have to be screwed separately.

Please state in your order whether C-rails are needed.



■ Universal mounting bracket with C-rail

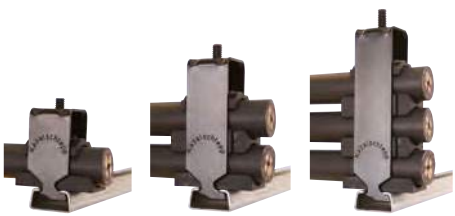


■ **MASTER LT:**
Integratable C-rail
25 x 12 mm,
slit width 11 mm,
material steel,
Item-No. 3934

Our LineFix strain reliefs are optimally suited for the C-rails. (LineFix bracket clamps and other strain relief devices – see Accessories chapter, from page 381 onwards).

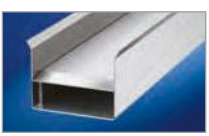


■ C-rail with LineFix strain relief



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Guide channels
➤ **from page 375**



Strain relief devices
➤ **from page 381**



Cables for cable carrier systems
➤ **from page 438**



Subject to change.

Notes

Subject to change.

Inside heights
26 – 87

Inside widths
24 – 800

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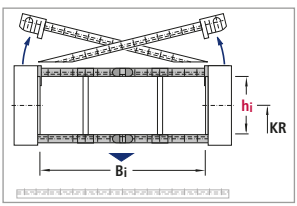
MT Series

Multivariable cable carrier with plastic or aluminum cover system

- Aluminum cover system in 1 mm width sections, plastic cover system in 8 or 16 mm width sections available
- Can be opened quickly on the inside and the outside for cable laying
- Extremely robust due to stable plate construction
- Enclosed stroke system not sensitive to dirt/contamination
- Transmission of forces (tensile and shearing forces) over a large surface areavia the optimum link design – according to the "life extending 2 disc principle"
- Standard universal mounting brackets (UMBs)
- Many separation options for the cables
- Highly wear-resistant, replaceable glide shoes available – resulting in minimal wear at high speeds, sliding in the guide channel
- Optionally available with different strain relief systems
- TÜV design approved in accordance with 2PfG 1036/10.97



Type MT with plastic cover system (stay variant RDD)



Type	h_i	B_i	Maximum travel length in m	Dynamics of unsupported arrangement		Page
				Travel speed v_{max} in m/s	Travel acceleration a_{max} in m/s²	
MT 0475	26	24-280	100	10	40	302
MT 0650	38.5	50-258	170	8	35	302
MT 0950	54.5	77-349	230	6	25	302
MT 1250	68.5	103-359	270	5	20	302

Dimensions in mm

Carrier construction and cover system

MT 0475, 0650:
Available in **8 mm width sections**.

MT 0950, 1250:
Available in **16 mm width sections**.

Opening options
Outside: Simply by levering the cover open (on the right or left). Cover can also be removed
Inside: Simply by turning the cover

MT 0475 is available with a cover that can be levered open to the inside. Please specify when ordering.

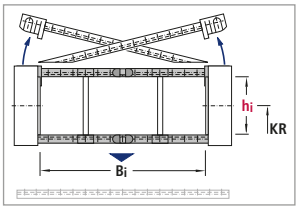




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Subject to change.

Type MT
with aluminum cover system
(stay variant RMD)



Type	h_i	B_i	Maximum travel length in m	Dynamics of unsupported arrangement		Page
				Travel speed v_{max} in m/s	Travel acceleration a_{max} in m/s²	
MT 0650	38.5	100-500	170	8	35	302
MT 0950	54.5	100-600	230	6	25	302
MT 1250	68.5	150-800	270	5	20	302
MT 1300	87	100-800	300	5	20	302

Dimensions in mm

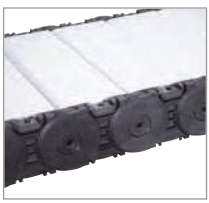
Carrier construction and cover system

WIDTHSECTIONS
1 mm

Available in **1 mm width sections**.

Opening options (MT 0650, 0950, 1250)
Outside: Simply by levering the cover open (on the right or left). Cover can also be removed
Inside: Simply by turning the cover

Opening options (MT 1300)
Inside/Outside: Bolted cover for maximum stability

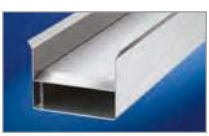


■ Cover openable (MT 0650, 0950, 1250)



■ Cover bolted (MT 1300)

Guide channels
➤ from page 375



Strain relief devices
➤ from page 381



Cables for cable carrier systems
➤ from page 438



Subject to change.

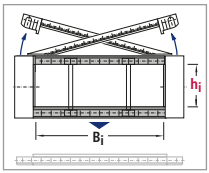
Types MT 0475, 0650, 0950, 1250 and 1300

Dimensions and intrinsic chain weight

Plastic cover systems (stay variant RDD)

Type	Stay variant	h_i	h_G	B_i min	q_k min	B_i max	q_k max	B_k	Width section
MT 0475	RDD	26	39	24	0.9	280	4.4	B_i + 17	8
MT 0650	RDD	38.5	57	50	2.4	258	3.7	B_i + 34	8
MT 0950	RDD	54.5	80	77	4.3	349	7.7	B_i + 39	16
MT 1250	RDD	68.5	96	103	5.7	359	8.9	B_i + 45	16

Dimensions in mm/Weights in kg/m

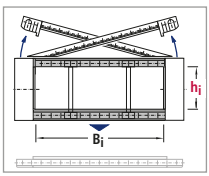


Aluminum cover systems (stay variant RMD)

Type	Stay variant	h_i	h_G	B_i min	q_k min	B_i max	q_k max	B_k
MT 0475	RMD	26	39	24	0.9	180	4.5	B_i + 17
MT 0650	RMD	38.5	57	100	3.3	500	9.7	B_i + 34
MT 0950	RMD	54.5	80	100	5.5	600	16.2	B_i + 39
MT 1250	RMD	68.5	96	150	9.0	800	26.0	B_i + 45
MT 1300	RMD	87	120	100	8.8	800	27.4	B_i + 50

WIDTH SECTIONS 1 mm

Dimensions in mm/Weights in kg/m



Bend radius and pitch

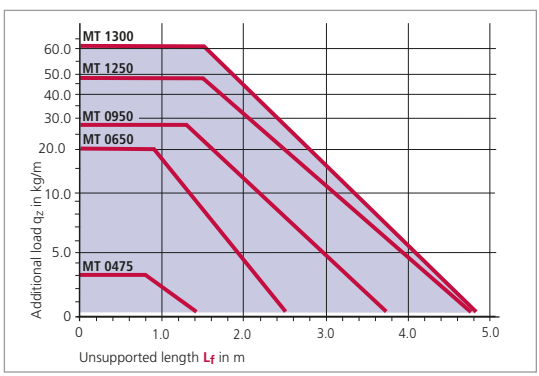
Type	Bend radii KR mm								
MT 0475	75	100	130	160	200	250	300	–	–
MT 0650	95*	115	145	175	220	260	275	300	350
MT 0950	140*	170*	200	260	290	320	380	–	–
MT 1250	220*	260	300	340	380	500	–	–	–
MT 1300	240	280	320	360	400	500	–	–	–

* not for aluminum cover system RMD

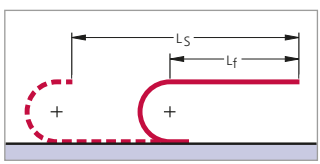
Pitch:
MT 0475: t = 47.5 mm
MT 0650: t = 65 mm
MT 0950: t = 95 mm
MT 1250: t = 125 mm
MT 1300: t = 130 mm

Load diagram

for unsupported length L_f depending on the additional load



Unsupported length L_f



In the case of longer travel lengths, sag of the cable carriers is technically permissible depending on the application.

In a gliding arrangement, even longer travel lengths are possible (see page 375).

We are at your service to advise on these applications.

Example of ordering

Cable carrier									Divider system		Connection
MT 0950	.	450	.	RMD	.	290	-	2850	TS 0	/ 4	FU/MU
Type		Inside width B_i in mm		Stay variant		Bend radius KR in mm		Chain length Lk in mm (without connection)	Divider system	Number of dividers n_T	Connection Fixed point/ Driver

Ordering divider systems:
Please state the designation of the divider system (TS 0, TS 1 ...) and the number of dividers. Possibly attach a sketch with the dimensions.

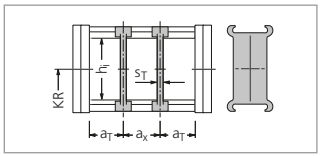
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Subject to change.

Types MT 0475, 0650, 0950, 1250 and 1300

Divider system TS 0

Type	Stay variant	h_i mm	S_T mm	$a_{T\ min}$ mm	$a_{x\ min}$ mm	$a_{x\ section}$ mm
MT 0475	RDD	26	2.8	12	8	8
MT 0650	RDD	38.5	4.2	13	16	8
MT 0650	RMD	38.5	3	16	13	–
MT 0950	RDD	54.5	6	22.5	16	16
MT 0950	RMD	54.5	4	7	14	–
MT 1250	RDD	68.5	8	19.5	16	16
MT 1250	RMD	68.5	5	10	20	–
MT 1300	RMD	87	5	7.5	15	5



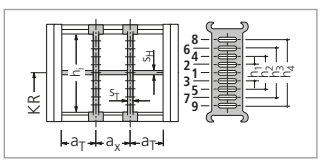
In the standard version, the divider systems are mounted on every second chain link.

With plastic cover systems (RDD), the dividers are fixed in the cross-section (at intervals of a_x-section). With aluminum cover systems (RMD), the dividers can be moved.

Divider system TS 1 with continuous height subdivision made of aluminum

Type	Stay variant	h_i mm	S_T mm	$a_{T\ min}$ mm	$a_{x\ min}$ mm	$a_{x\ section}$ mm	S_H mm	h_1 mm	h_2 mm	h_3 mm	h_4 mm
MT 0475	RDD	26	2.8	12	8	8	2.4	15	–	–	–
MT 0650	RDD	38.5	4.2	13	16	8	4	10	22	–	–
MT 0650	RMD	38.5	3	16	13	–	4	–	–	–	–
MT 0950	RDD	54.5	6	22.5	16	16	4	22	–	–	–
MT 1250	RDD	68.5	8	19.5	32	16	4	32	–	–	–
MT 1300	RMD	87	5	7.5	15	–	4	14	28	42	56

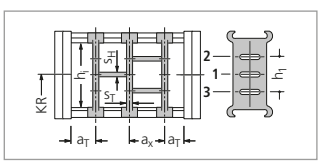
With plastic cover systems (RDD), the dividers are fixed in the cross-section (at intervals of a_x-section). With aluminum cover systems (RMD), the dividers can be moved.



In the standard version, the divider systems are mounted on every second chain link.

Divider system TS 2 with grid subdivision made of aluminum (1 mm grid)

Type	Stay-variant	h_i mm	S_T mm	$a_{T\ min}$ mm	$a_{x\ min}$ mm	$a_{x\ section}$ mm	S_H mm	h_1 mm	h_2 mm	h_3 mm
MT 0475	RDD	26	2,8	12	8	8	2,4	15	–	–
MT 0650	RDD	38,5	4,2	13	16	8	4	10	–	–
MT 0950	RMD	54	6	7	16	–	4	15	30	–
MT 1250	RMD	69	6	7	16	–	4	15	30	45



In the standard version, the divider systems are mounted on every second chain link.

With plastic cover systems (RDD), the dividers are fixed in the cross-section (at intervals of a_x-section). With aluminum cover systems (RMD), the dividers are fixed by the partitions, the complete divider system is movable.

Divider system TS 3 can be found on the following page.

Subject to change.

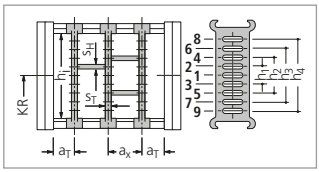
Inside heights
26 – 87

Inside widths
24 – 800

Types MT 0475, 0650, 0950, 1250 and 1300

Divider system TS 3 with section subdivision, partitions made of plastic

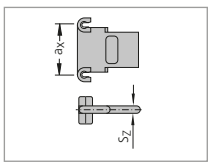
Type	Stay variant	h_i mm	S_T mm	$a_{T\,min}$ mm	$a_{x\,min}$ mm	S_H mm	h_1 mm	h_2 mm	h_3 mm	h_4 mm
MT 0950	RDD	54.5	8	6.5	16*	4	14	28	42	–
MT 1250	RDD	68.5	8	4	16*	4	14	28	42	56
MT 1300	RMD	87	8	7.5	16*	4	14	28	42	56



* When using plastic partitions

With plastic cover systems (RDD), the dividers are fixed in the cross-section In the standard version, the divider systems are mounted on every second chain link.

Dimensions of plastic partitions for TS 3



Aluminum partitions in 1 mm width sections are also available.

S_Z	a_x (center-to-center distance, dividers)									
4	16	18*	23*	28*	32	33*	38*	43*	48	58*
	64	68*	78*	80	88*	96	112	**128**	**144**	**160**
	176	**192**	**208**	–	–	–	–	–	–	–

* only MT 1300

Dimensions in mm

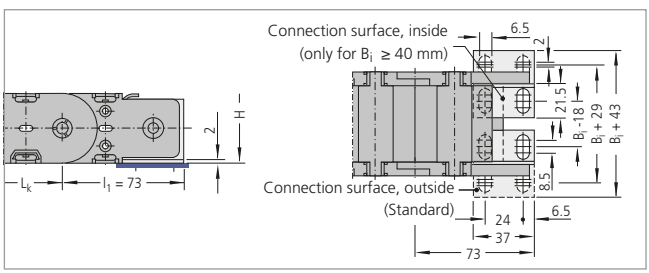
When using **partitions with a_x > 112 mm** there should be an additional central support with a **twin divider** (S_T = 4 mm).

Twin dividers are designed for subsequent fitting in the partition system.

Connectors of plastic/steel – Type MT 0475

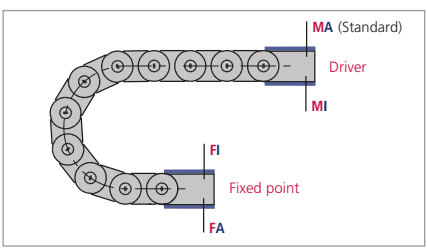
End connector of steel plate

Screwable strain relief of aluminum on inquiry.



The dimensions of the fixed point and driver connections are identical.

Connection variants – Type MT 0475



Connection point

M – Driver

F – Fixed point

Connection type

A – Threaded joint outside (standard)

I – Threaded joint inside

In the standard version, the connectors are mounted with the threaded joint outwards (**FA/MA**).

When ordering please specify the desired connection type (see ordering key on page 419).

The connection type can subsequently be altered.

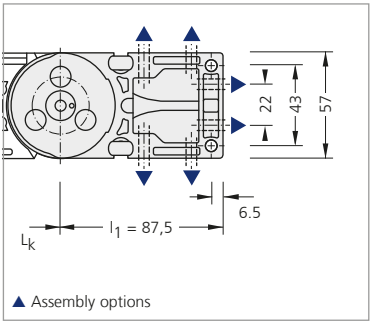
Glide shoes and "life extending 2 disc principle" – see page 308.

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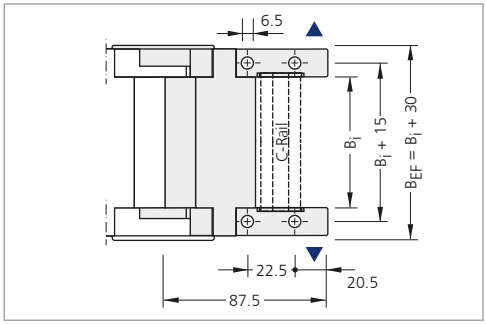
Subject to change.

Types MT 0475, 0650, 0950, 1250 and 1300

UMB (Universal Mounting Brackets) made of plastic – Type MT 0650



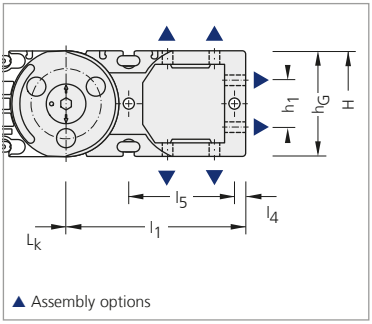
▲ Assembly options



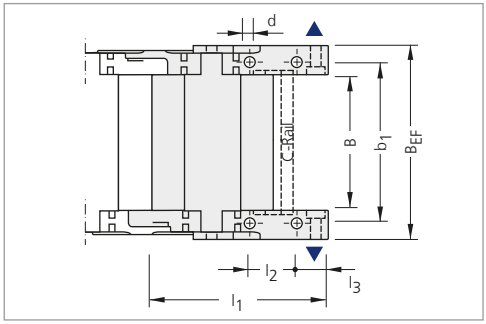
The dimensions of the fixed point and driver connections are identical.
End connectors made of steel plate available on request.
Optional C-rails and strain relief elements for cables can be found on the following pages.
When ordering please specify the connection type FU/MU (see ordering key on page 419).



UMB (Universal Mounting Brackets) made of plastic – Types MT 0950, 1250 and 1300



▲ Assembly options



The dimensions of the fixed point and driver connections are identical.
End connectors made of steel plate available on request.
Optional C-rails and strain relief elements for cables can be found on the following pages.
When ordering please specify the connection type FU/MU (see ordering key on page 419).

Type	B_{EF}	b_1	B	d	l_1	l_2	l_3	l_4	l_5	h_1	h_G
MT 0950	B_i + 41	B_i + 24.5	B_i + 5	8.5	136	35	24.5	8.5	80	45	80
MT 1250	B_i + 53	B_i + 33	B_i + 5	11	167.5	35	30.5	10.5	94.5	45	96
MT 1300	B_i + 50	B_i + 29	B_i	11	158	35	20	–	–	66	120

B_{EF} = Chain width over connector

Dimensions in mm

Subject to change.

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Types MT 0475, 0650, 0950, 1250 and 1300

Strain relief devices

Both-sided strain relief combs made of plastic (MT 0650)

The cables can be fixed securely and simply using the **optional strain relief combs**.

The strain relief combs are installed between the UMBs, and do not need to be bolted on separately or mounted on a C-Rail.

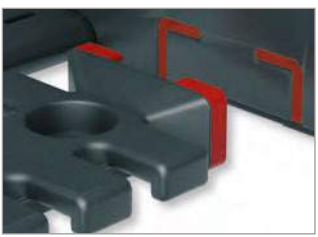
Please state on the order whether strain relief combs are needed.



■ Universal mounting bracket with strain relief comb



■ Both-sided strain relief comb



■ Fixing in the UMB.

Type	B_i mm	n_Z
MT 0650	50	3
MT 0650	75	5
MT 0650	95	7
MT 0650	100	7
MT 0650	115	8
MT 0650	120	9
MT 0650	125	9
MT 0650	145	11
MT 0650	150	11
MT 0650	170	13
MT 0650	175	13
MT 0650	195	15
MT 0650	200	15
MT 0650	225*	17
MT 0650	250*	19

n_Z = Number of teeth on one side of the comb

* on request

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Subject to change.

Types MT 0475, 0650, 0950, 1250 and 1300

Strain relief devices

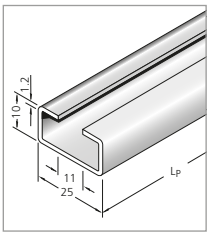
C-rails for LineFix bracket clamps, SZL strain reliefs and clamps

The optional C-rails are fixed by means of the universal mounting brackets and do not have to be screwed separately.

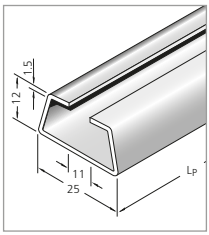
Please state in your order whether C-rails are needed.



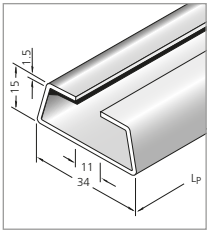
■ Universal mounting bracket with C-rail



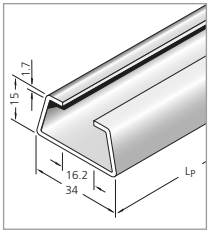
■ **MT 0650:**
Integratable C-rail
25 x 10 mm,
slit width 11 mm,
material steel,
Item-No. 3931



■ **MT 1300:**
Integratable C-rail
25 x 12 mm,
slit width11 mm,
material steel,
Item-No. 3934



■ **MT 0950, 1250 and 1300:**
Integratable C-rail
34 x 15 mm,
slit width 11 mm,
material steel,
Item-No. 3935

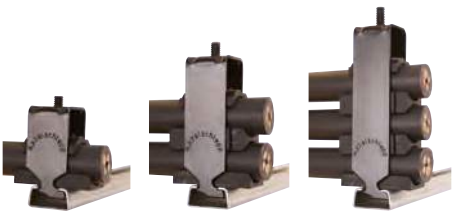


■ **MT 0950, 1250 and 1300:**
Integratable C-rail
34 x 15 mm,
slit width 16 – 17 mm,
material steel,
Item-No. 3932

Our LineFix strain reliefs are optimally suited for the C-rails. (LineFix bracket clamps and other strain relief devices – see Accessories chapter, from page 381 onwards).



■ C-rail with LineFix strain relief



Types MT 0475, 0650, 0950, 1250 and 1300

Fixing the dividers in 5 mm steps – Type MT 1300

Inside heights
26 – 87

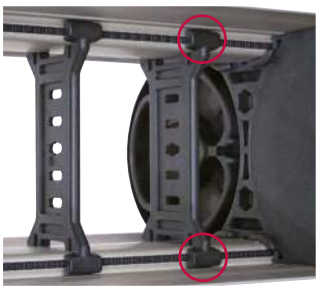
Inside widths
24 – 800

In the standard version, dividers or the complete divider system (dividers with height separation) can be moved in the cross section.

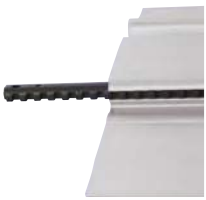
Fixing profiles can be used to fix the dividers or complete divider systems.

Also best suited for applications where the carrier is rotated through 90° with extreme transverse accelerations (fixable dividers for stay variant RMD).

If the fixed installation version is required, please state this when placing your order.



■ Secure seating of the dividers due to fixing on both sides.



■ The fixing profiles are simply pushed into the cover (RMD).

Gliding elements – the economical solution for gliding applications

Replaceable glide shoes made of plastic

To extend the life of cable carriers in gliding operations KABELSCHLEPP supplies detachable, exchangeable glide shoes.

Replaceable glide shoes are a very economical solution. When wear occurs only the glide shoes are replaced, and not the complete cable carrier. For travel speeds > 2.5 m/s and large additional loads, a highly wear-resistant special material is used.

For types MT 0950 and MT 1250 **OFFROAD glide shoes** with 80 % greater wear volumes are also available. We recommend their use in extreme environmental conditions (with particularly abrasive materials such as e. g. sand, dust, corundum).



! By means of a positive snap connection, the glide shoes sit firmly on the chain link.

Chain height with glide shoes:

MT 0475:	$h_{G'}$	=	h_G	+ 2.5	=	41.5
MT 0650:	$h_{G'}$	=	h_G	+ 3.2	=	60.2
MT 0950:	$h_{G'}$	=	h_G	+ 3.5	=	83.5
MT 1250:	$h_{G'}$	=	h_G	+ 3.5	=	99.5
MT 1300:	$h_{G'}$	=	h_G	+ 7.0	=	127.0

Dimensions in mm

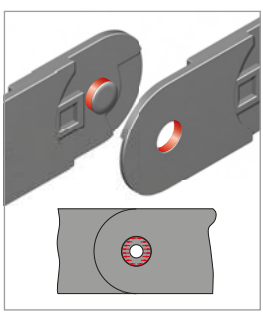
In the case of the type MT 0475, with the bend radius KR = 75 mm no glide shoes can be used.

Minimized hinge wear owing to the "life extending 2 disc principle"

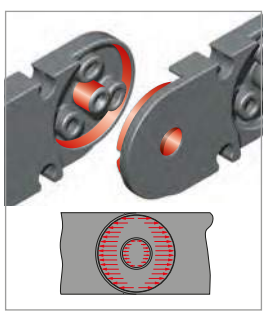
In the M Series*, the push and pull forces are transmitted via the optimum link design for this purpose.

As a result link wear is reduced to a minimum and the life of the cable carrier is considerably lengthened.

* not for type 0320



■ Force transmission with a pin-hole joint



■ Force transmission with the "life extending 2 disc principle"

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Subject to change.

Notes

Subject to change.

Inside heights
56 – 80

Inside widths
150 – 400

Type TKC91

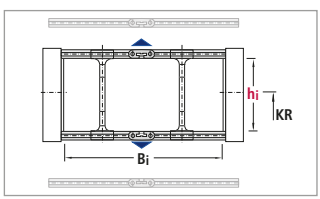
Easy to assemble, stable cable carriers with variable dimensions

- Plastic covers available in 50 mm width sections
- Can be opened quickly on the inside and outside for cable laying
- Extremely robust due to stable plate construction
- Universal connectors (UMB)
- Many separation options for the cables
- Replaceable glide shoes for long service life for gliding applications



Type	h_i	B_i	Maximum travel length in m	Dynamics of unsupported arrangement		Page
				Travel speed v_{max} in m/s	Travel acceleration a_{max} in m/s²	
TKC 0910H56	56	150-400	80	5	30	311
TKC 0910H80	80	150-400	100	5	30	311

Dimensions in mm



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Type TKC91

Dimensions and intrinsic chain weight

Type	h_i	h_G	Inside widths B_i						B_k
			Intrinsic chain weight						
			150	200	250	300	350	400	
TKC 0910H56	56	84	5.4	6.2	7.0	7.7	8.5	9.2	B_i + 41
TKC 0910H80	80	108	7.8	8.6	9.3	10.1	10.8	11.6	B_i + 50

Dimensions in mm/Weights in kg/m

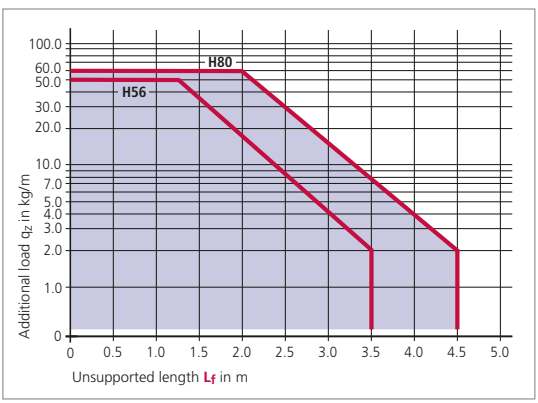
Bend radius and pitch

Type	Bend radii KR mm							
TKC 0910H56	200	250	300	350	400	–	–	–
TKC 0910H80	150	200	250	300	350	400	450	500

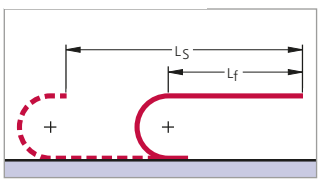
Pitch:
TKC 0910: t = 91 mm

Load diagram

for unsupported length L_f depending on the additional load



Unsupported length L_f



In the case of longer travel lengths, sag of the cable carriers is technically permissible depending on the application.

In a gliding arrangement, even longer travel lengths are possible (see page 375).

We are at your service to advise on these applications.

Example of ordering

Cable carrier						Divider system		Connection
TKC 0910H80	.	300	.	250	-	1820	TS 0 / 4	UMB
Type		Inside width B_i in mm		Bend radius KR in mm		Chain length L_k in mm (without connection)	Divider system / Number of dividers n_T	Connection Fixed point/ Driver

Ordering divider systems:
Please state the designation of the divider system (TS 0, TS 1 ...) and the number of dividers. Possibly attach a sketch with the dimensions.

Subject to change.

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Type TKC91

Fixing the dividers

In the standard version, dividers or the complete divider system (dividers with height separation) can be moved in the cross section.

(**Mounting version A**)

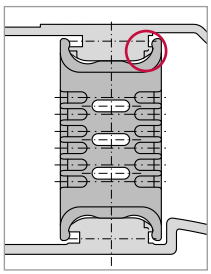
However, it is often also possible to fix dividers or complete divider systems (dividers with height separation).

(**Mounting version B**).

If the fixed mounting version is desired, please state this when placing your order.

Mounting version A (standard)

Movable divider

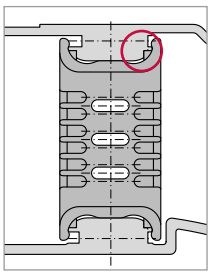




■ Divider without arresting cams

Mounting version B

Fixed divider



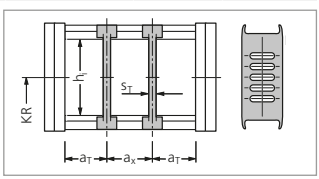


■ Divider with arresting cams

Divider system TS 0

Type	h_i mm	Version A S_T mm	Version A $a_{T\,min}$ mm	Version A $a_{x\,min}$ mm	Version B S_T mm	Version B $a_{T\,min}$ mm	Version B $a_{x\,min}$ mm	Version B $a_{x\,section}$ mm
TKC 0910H56	56	6	20	14	6	31/32/33*	18	6
TKC 0910H80	80	6	20	14	6	31/32/33*	18	6

* $a_{T\,min}$ = 31 mm for B_i = 200, 350, 500
$a_{T\,min}$ = 32 mm for B_i = 250, 400
$a_{T\,min}$ = 33 mm for B_i = 150, 300, 450



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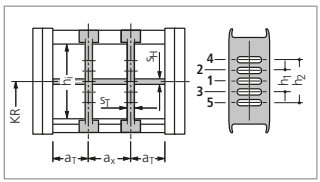
Type TKC91

Divider system TS 1

with continuous height subdivision made of aluminum

Type	h_i mm	Version A S_T mm	Version A $a_{T\,min}$ mm	Version A $a_{x\,min}$ mm	Version B S_T mm	Version B $a_{T\,min}$ mm	Version B $a_{x\,min}$ mm	Version B $a_{x\,section}$ mm	S_H mm	h_1 mm	h_2 mm
TKC 0910 H56	56	6	20	14	6	31/32/33*	18	6	4	24	–
TKC 0910 H80	80	6	20	14	6	31/32/33*	18	6	4	24	48

* $a_{T\,min}$ = 31 mm for B_i = 200, 350, 500
$a_{T\,min}$ = 32 mm for B_i = 250, 400
$a_{T\,min}$ = 33 mm for B_i = 150, 300, 450

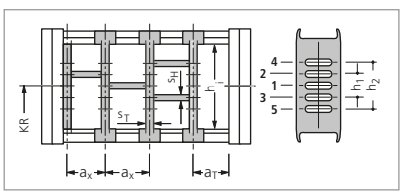


Divider system TS 3

with section subdivision, partitions made of aluminum

Type	h_i mm	Version A S_T mm	Version A $a_{T\,min}$ mm	Version A $a_{x\,min}$ mm	Version B S_T mm	Version B $a_{T\,min}$ mm	Version B $a_{x\,min}$ mm	Version B $a_{x\,section}$ mm	S_H mm	h_1 mm	h_2 mm
TKC 0910 H56	56	6	20	14	6	31/32/33*	18	6	4	24	–
TKC 0910 H80	80	6	20	14	6	31/32/33*	18	6	4	24	48

* $a_{T\,min}$ = 31 mm for B_i = 200, 350, 500
$a_{T\,min}$ = 32 mm for B_i = 250, 400
$a_{T\,min}$ = 33 mm for B_i = 150, 300, 450



In the standard version, the divider systems are mounted on every second chain link.

Gliding elements – the economical solution for gliding applications

Replaceable glide shoes made of plastic

To extend the life of cable carriers in gliding operations KABELSCHLEPP supplies detachable, exchangeable glide shoes. Replaceable glide shoes are a very economical solution. When wear occurs only the glide shoes are replaced, and not the complete cable carrier.

Chain height with glide shoes:

TKC 0910H56 $h_G' = h_G + 10 = 94$
TKC 0910H80 $h_G' = h_G + 10 = 118$

Dimensions in mm

Minimum bend radii when using glide shoes:

KR_{min} = 200 mm



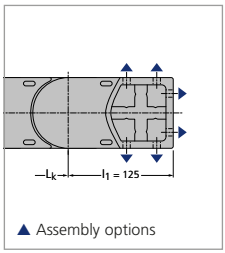
! By means of a positive snap connection, the glide shoes sit firmly on the chain link.

Subject to change.

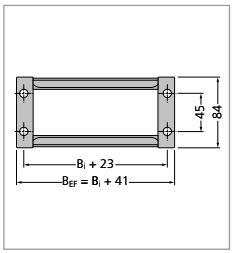
Type TKC91

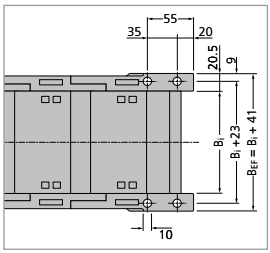
UMB (Universal Mounting Brackets) made of plastic – TKC 0910H56

Universal connectors for connection above, below or at the front.



▲ Assembly options

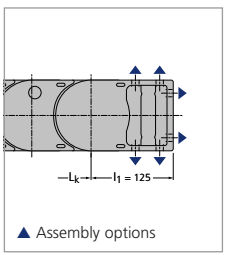




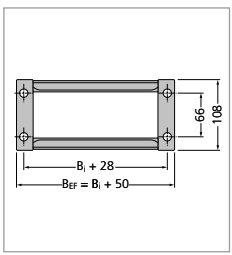
The dimensions of the fixed point and driver connections are identical.

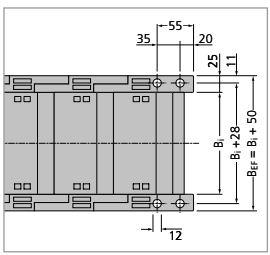
UMB (Universal Mounting Brackets) made of plastic – TKC 0910H80

Universal connectors for connection above, below or at the front.



▲ Assembly options





The dimensions of the fixed point and driver connections are identical.

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Guide channels
➤ from page 375

Strain relief devices
➤ from page 381

Cables for cable carrier systems
➤ from page 438







Subject to change.

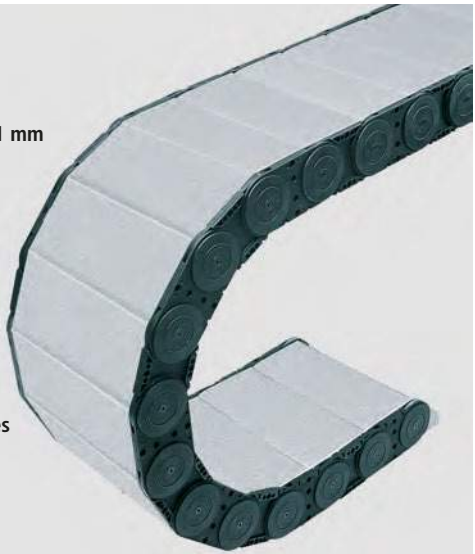
Notes

Subject to change.

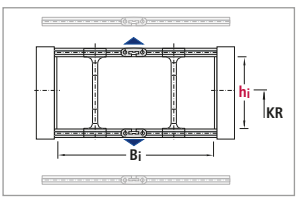
XLT Series

TUBES with variable chain widths

- Aluminum cover systems available in 1 mm width sections
- Large dimensions
- Can be quickly opened on the inside and outside for cable laying
- Highly wear-resistant, replaceable glide shoes available – resulting in minimal wear at high speeds, sliding in the guide channel
- Different connection variants
- Different ways of separating the cables
- Optionally with strain relief
- TÜV design approved in accordance with 2PfG 1036/10.97



Type XLT with aluminum cover system (stay variant RMD)



Type	h_i	B_i	Maximum travel length in m	Dynamics of unsupported arrangement		Page
				Travel speed v_{max} in m/s	Travel acceleration a_{max} in m/s²	
XLT 1650	105	200-1000	300	4	20	317

Dimensions in mm

Carrier construction and cover system

WIDTHSECTIONS
1 mm

Available in **1 mm width sections**.

RMD cover system made of aluminum – solid version
Bolted, high stability, large carrier widths



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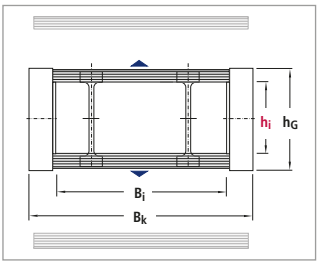
Subject to change.

Type XLT 1650

Dimensions and intrinsic chain weight

Type	Stay variant	h_i	h_G	B_i min	q_k min	B_i max	q_k max	B_k
XLT 1650	RMD	105	140	200	17	1000	50	B_i + 68

Dimensions in mm



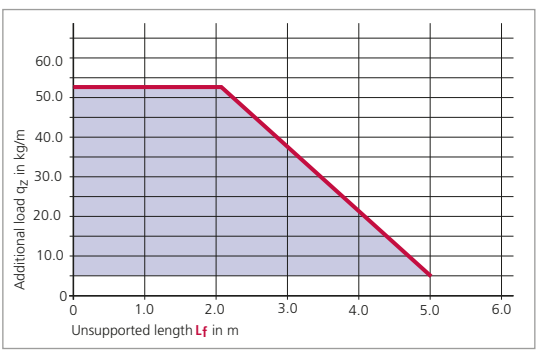
Bend radius and pitch

Type	Bend radii KR mm					
XLT 1650	300	350	400	450	500	550

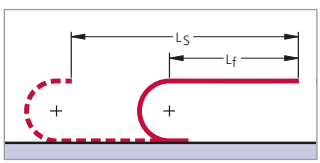
Pitch t = 165 mm

Load diagram

for unsupported length L_f depending on the additional load



Unsupported length L_f



In the case of longer travel lengths, sag of the cable carriers is technically permissible depending on the application.

In a gliding arrangement, even longer travel lengths are possible (see page 375).

We are at your service to advise on these applications.

Note: The calculated cable carrier length L_k always has to be rounded to an uneven number of chain links.

Example of ordering

Cable carrier							Divider system		Connection
XLT 1650	.	700	.	RMD	.	400	- 4950	TS 0 /	4	FA/MA
Type		Inside width B_i in mm		Stay variant		Bend radius KR in mm	Chain length* L_k in mm (without connection)	Divider system	Number of dividers n_T	Connection Fixed point/ Driver

Ordering divider systems:
Please state the designation of the divider system (TS 0, TS 1 ...) and the number of dividers. Possibly attach a sketch with the dimensions.

* The calculated chain length L_k **must** always be rounded to an odd number of chain links.

Subject to change.

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Inside height
105

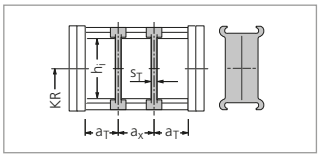
Inside widths
200 – 1000

Type XLT 1650

Divider system TS 0

Type	Stay variant	h_i mm	S_T mm	$a_{T\,min}$ mm	$a_{x\,min}$ mm
XLT 1650	RMD	105	8	6	25

The dividers can be moved in the cross section.



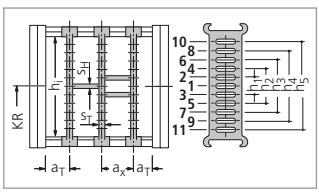
In the standard version, the divider systems are mounted on every second chain link.

Divider system TS 3 with section subdivision, partitions made of plastic

Type	Stay variant	h_i mm	S_T mm	$a_{T\,min}$ mm	$a_{x\,min}$ mm	S_H mm	h_1 mm	h_2 mm	h_3 mm	h_4 mm	h_5 mm
XLT 1650	RMD	105	8	1	16*	4	14	28	42	56	70

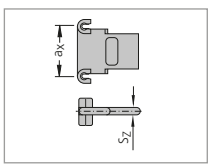
* When using plastic partitions

The dividers are fixed by the partitions, the complete divider system is movable.



In the standard version, the divider systems are mounted on every second chain link.

Dimensions of the plastic partitions for TS 3



Aluminum partitions in 1 mm width sections are also available.

S_Z	a_x (center-to-center dividers)									
4	16	18	23	28	32	33	38	43	48	58
	64	68	78	80	88	96	112	128	144	160
	176	192	208	–	–	–	–	–	–	–

Dimensions in mm

When using **partitions with a_x > 112 mm** there should be an additional central support with a **twin divider** (S_T = 5 mm).

Twin dividers are designed for subsequent fitting in the partition system.

Gliding elements – the economical solution for gliding applications

Replaceable glide shoes made of plastic

To extend the life of cable carriers in gliding operations KABELSCHLEPP supplies detachable, exchangeable glide shoes.

Replaceable glide shoes are a very economical solution. When wear occurs only the glide shoes are replaced, and not the complete cable carrier.

Chain height with glide shoes:

$h_{G'}$ = 147 mm



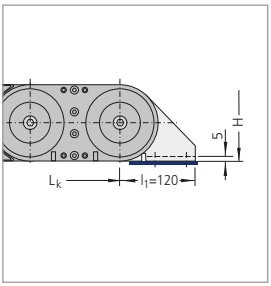
! By means of a positive snap connection, the glide shoes sit firmly on the chain link.

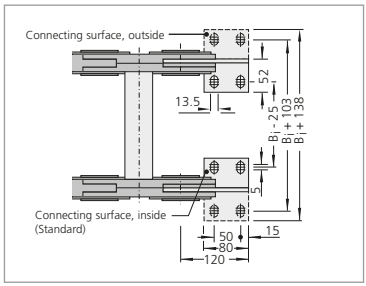
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Subject to change.

Type XLT 1650

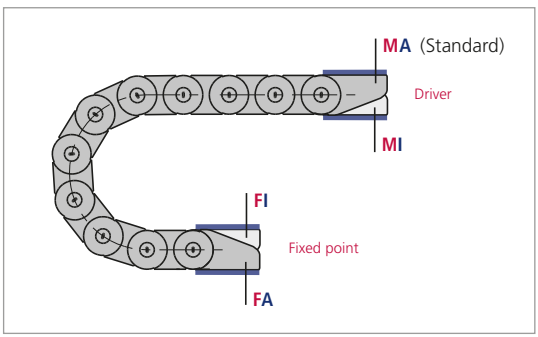
Connectors made of steel plate





The dimensions of the fixed point and driver connections are identical.

Connection variants



Connection point

M – Driver

F – Fixed point

Connection type

A – Threaded joint (standard)

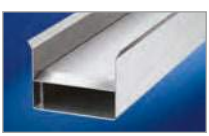
I – Threaded joint, inside

In the standard version, the connectors are mounted with the threaded joint outwards (**FA/MA**).

When ordering please specify the desired connection type (see ordering key on page 419).

The connection type can subsequently be altered.

Guide channels
➤ from page 375



Strain relief devices
➤ from page 381



Cables for cable carrier systems
➤ from page 438



Subject to change.

Steel Cable Carriers – STEEL TUBES

The solution for extreme applications. Cable carriers with chainbands made of zinc plated steel and of high-grade stainless steel



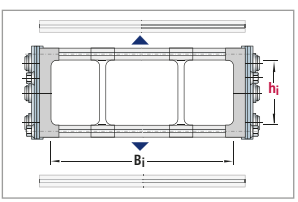
- Available in 1 mm section widths
- Extremely robust stable steel chains for heavy mechanical loads and harsh environmental conditions
- Long unsupported lengths also for large additional loads
- Various types available in different dimensions
- Link design with special bolts for a long service life

Types S/SX 0650, 0950, 1250, 1800

Type	h_i	B_i	Bend radii in mm		Travel length L_S in m	
			min.	max.	Unsupported arrangement*	Maximum travel length
S/SX 0650	30	70-400	75	300	6	60
S/SX 0950	44	125-600	125	410	9	60
S/SX 1250	69	130-800	145	1000	12	150
S/SX 1800	104	250-1000	265	1405	18	200

* Max. value for type S

Dimensions in mm



Detailed information on STEEL TUBES can be found on page 349 onwards.

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CONDUFLEX

Designer TUBES

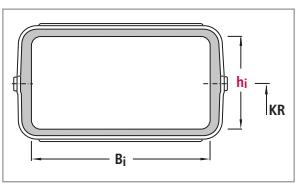
- Attractive appearance owing to high-grade steel brackets and fiberglass reinforced polyamide frame
- Very well sealed design
- With protective straps ideal for hot chips
- Optimum protection for cables and hoses
- Quiet operation due to small pitch
- Easy replacement of the crossbars in the case of external damage is possible
- Easy to shorten or extend at a later date
- TÜV type tested in accordance with 2 PfG 1036/10.97



Types CF 055, 060, 085, 115, 120, 175

Type	h_i	B_i	Maximum travel length in m	Dynamics of unsupported arrangement	
				Travel speed v_{max} in m/s	Travel acceleration a_{max} in m/s²
CF 055	25	45	3.0	10	20
CF 060	40	36	3.5	10	20
CF 085	38	73	4.0	8	18
CF 115	52	102	5.0	8	16
CF 120	70	100	5.5	6	15
CF 175	72	162	6.0	6	12

Dimensions in mm



Detailed information on designer TUBES CONDUFLEX can be found on page 362 onwards.

Subject to change.

Inside heights
24 – 167

Inside widths
26 – 170

MOBIFLEX

Flexible metal helical TUBES

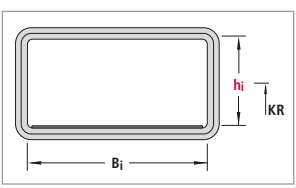
- Very well sealed design
- Ideal in case of hot metal chips
- Optimum protection for cables and hoses
- Unsupported thanks to the inserted, pre-tensioned steel band



Types MF 030, 050, 080, 110, 170

Type	h_i	B_i	Maximum travel length in m	Dynamics of unsupported arrangement	
				Travel speed v_{max} in m/s	Travel acceleration a_{max} in m/s²
MF 030.1	24	26	2.0	10	20
MF 050.1	24	45	3.0	10	20
MF 050.2	44	45	3.0	10	20
MF 080.1	40	80	3.5	10	18
MF 080.2	54	80	3.5	10	18
MF 080.3	78	80	3.5	10	18
MF 110.1	53	109	4.0	6	15
MF 110.2	73	109	4.0	6	15
MF 110.3	108	109	4.0	6	15
MF 170.1	72	170	5.0	6	12
MF 170.2	102	170	5.0	6	12
MF 170.3	167	170	5.0	6	12

Dimensions in mm



Detailed information on enclosed solid metal TUBES MOBIFLEX can be found on page 368 onwards.

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Subject to change.

Notes

Subject to change.


product
design
award
2006

ROBOTRAX System

Cable carriers for 3D movements

- For three-dimensional movements
- Can be deployed on robots for swiveling and rotational movements:
  The same system for robot feet and arms
- With channel system, it is a universal solution for rotary applications
- Also ideally suited for rotary tables
- Optimum system for long service life of the cables:
  – The minimum bend radius can be maintained
  – The cables are cleanly isolated in three separate chambers



Steel cable for transmission of extremely large tensile forces

Open design
– **Fast cable laying by simple pressing in of the cables – no threading through is necessary**
– **Simple inspection of all the cables**

Special plastic for long service life

Easy fastening on every chain link with quick-opening mounting bracket possible

Protective covers or heat shields made of different materials are available for different environmental conditions

ROBOTRAX system components



Protector



Chucking device



LineFix saddle-type clamps for strain relief*



Quick-opening bracket on a rotary plate



Quick-opening bracket on a helical spring

* for types R075, R085 and R100

Subject to change.

Inside heights
10 – 31

Inside widths
27 – 64

ROBOTRAX System – cable carrier for 3D movements

Design principle



Chain links

The basic structure of ROBOTRAX consists of plastic links.

These have ball and socket style snap-together connectors on both sides. The individual links can thus be snapped together to form a cable carrier.

Internal bend radius stoppers ensure that the minimum bend radius is maintained in all directions.

Radial link rotation movement is also possible (see table).



Steel wire and shim bolts

When the robot arms are moving quickly, high accelerations occur, exerting high pulling forces on the cable carrier.

To be able to transmit these pulling forces ROBOTRAX has a hole in the middle of every chain link, through which a steel wire is drawn. This steel wire adopts the role of force transmission. The steel wire has a shim bolt attached to each end. As a result ROBOTRAX can achieve accelerations up to 10 g and higher.

Long service life of the cables and hoses:
The forces are transmitted by the cable carrier and not by the cables and hoses.



Quick-opening mounting brackets

The fixing and further guidance of the ROBOTRAX (on the arms of the robot) is achieved by means of quick-opening mounting brackets, fastened with two screws.

The quick-opening mounting brackets fit any chain link. The fastening points can therefore be individually matched to the movement sequence of the robot.







Quickly opened:
Simply unlock the lynch pin, pull it out and open the quick-opening mounting bracket.

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Subject to change.

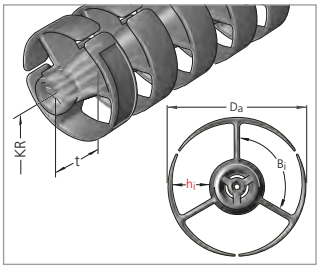
ROBOTRAX System – cable carrier for 3D movements

Dimensions

Dimensions of ROBOTRAX cable carrier

Type	R 040	R 056	R 075	R 085	R 100
For cable-Ø	2 – 8.5	2 – 11	3 – 18	3 – 20	3 – 27
Bend radius	80	115	145	175	195
Radial link rotation over 1 m length	± 450°	± 300°	± 215°	± 215°	± 215°
D_a	40	56	75	85	100
B_i	27	39	52	54	64
h_i	10	14	22	24	31
t	21.5	32	40	40	40

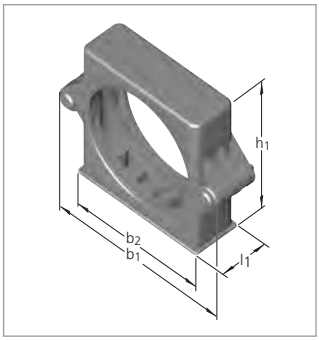
Dimensions in mm

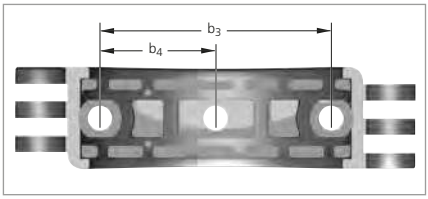


Dimensions of ROBOTRAX quick-opening bracket

Type	R 040	R 056	R 075	R 085	R 100
h_1	54	70	86	105	120
l_1	15	22	28	30	32
b_1	82	86	110	133	150
b_2	50	63	82	96	112
b_3	36	48	64	72	70
b_4	18	24	32	36	35

Dimensions in mm





Screwing of the quick-opening bracket:

R 040, R 056 with M4 hexagonal screws
R 075 with M6 hexagonal screws
R 085, R 100 with M8 hexagonal screws

Example of ordering

Cable carrier

R 075	.	010	.	145	-	1000
Type		Design*		Bend radius KR in mm		Chain length L_K in mm (without connection)

* Design 010 (simple insertion of the cables)

Ordering system components: please state separately.

Subject to change.

ROBOTRAX – system components



Heat shield/Protective sleeve

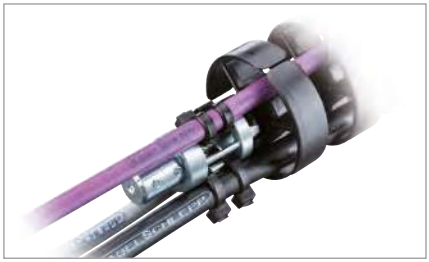
Heat shield: The heat shield, made of aluminum-coated textile fiber, protects the cable carrier and the cables within from flying sparks. A heat shield is recommended where there are flying sparks.

Protective sleeve: The protective sleeve made of layered polyester offers protection against aggressive cutting and hydraulic oils as well as from fine dusts and paint sprays (not illustrated).



Chucking device

This can be used to set the steel wire to the desired tension quickly and easily, and can be readjusted at any time.



Strain relief

For securing the cables and hoses.

(A strain relief device cannot be used on the same end of the ROBOTRAX as a chucking device.)



Strain relief with LineFix saddle-type clamps LFR

(for types R075, R085 and R100)

For secure and gentle cable fixing.

Multilayer strain relief with double and triple clamps possible. Multiple systems can also be mounted one behind the other.

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Subject to change.

ROBOTRAX – system components



Active pull back mechanism

Rapid, repetitive movements of relatively long cable carrier systems in large operating envelopes, constantly hitting the robot arm, are to blame for reducing the service life of the carrier and installed cables. This can lead to a failure of the overall robotic system with expensive downtime and production outages – system failure must be prevented.



Guidance holder

The cable carrier glides back and forth through holding device, preventing potential system failure due to the cable carrier striking the robot. The guidance holder is an easy and time saving solution for assembly and disassembly. The carrier can be quickly and easily opened or closed for fast cable installation and can be used in combination with the standard holder. The guidance holder is available for all ROBOTRAX sizes.



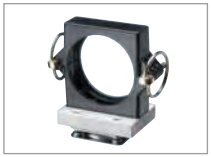
Protector

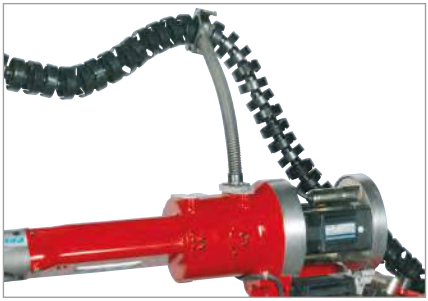
The service life of the cable carriers and cables is significantly reduced through impacts when moving quickly and large operating areas. The protector protects the cable carrier from hard impacts, excessive abrasion and premature wear and, simultaneously, provides limiting of the smallest bend radius. Down times are minimized. The complete cable carrier must not be replaced, but only the Protector.



Quick-opening bracket mounted on a rotary plate

Yet one more degree of freedom on the fastening points. The quick-opening mounting bracket can also rotate on a rotary plate, thus providing greater flexibility when the robot is performing complex movements.





Quick-opening bracket on a helical spring

If the bracket is mounted on a helical spring, it can give elastically in all directions, swivel, swing out in 3 dimensions and spring back into place again.



Subject to change.

ROBOTRAX System – cable carrier for 3D movements

Part numbers for ordering



Mounted chain links

Type	R 040	R 056	R 075	R 085	R 100
Bend radius	80	115	145	175	195
Number of links	47	31	25	25	25
Part no.	60301	60401	60501	60601	60701



Quick-opening bracket for ROBOTRAX

Type	R 040	R 056	R 075	R 085	R 100
Part no.	260410	260510	260110	260210	260310



Shim bolts – 2 pieces (one pair)

Type	R 040	R 056	R 075	R 085	R 100
Part no.	260420	260520	260220	260220	260320



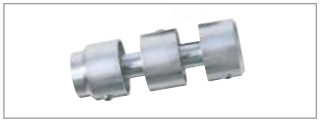
Steel wire – Please specify total length or partial lengths

Type	R 040	R 056	R 075	R 085	R 100
Ø	1.8	2.5	3.0	3.0	4.0
Part no.	60583	60584	60580	60580	60581



Strain relief – 1 piece

Type	R 040	R 056	R 075	R 085	R 100
Part no.	60658	60657	60659	60659	60659



Locating bolt for LineFix strain relief LFR – 1 piece

Type	R 075	R 085	R 100
Part no.	60669	60669	60669

LineFix strain relief – see page 382.



Chucking device set – 1 chucking device and 1 shim bolt

Type	R 040	R 056	R 075	R 085	R 100
Part no.	260430	260530	260230	260230	260330



Impact protection

Type	R 075	R 085	R 100
Part no.	260120	260240	260340

Packing unit: 5 complete items
consisting of: 10 semi-circular shells and 5 cable ties

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ROBOTRAX System – cable carrier for 3D movements

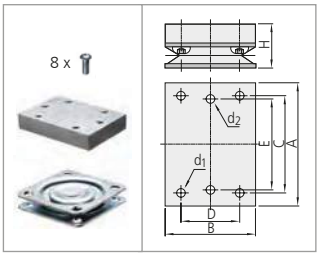
Part numbers for ordering



Heat shield/Protective sleeve

Type	R 040	R 056	R 075	R 085	R 100
Heat shield	60801	60802	60803	60804	60805
Protective sleeve (not illustrated)	60806	60807	60808	60809	60810

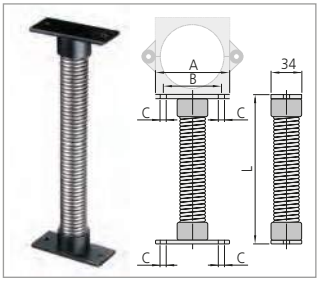
Please specify total length or partial lengths.



Rotary plate for quick-opening bracket

Type	R 040	R 056	R 075	R 085	R 100
A	57	65	82	96	112
B	57	57	57	70	70
C	43	43	43	75	75
D	43	43	43	45	45
E	36	48	64	72	70
H	25	25	25	34	34
d_1	M6	M6	M6	M6	M6
d_2	M4	M4	M6	M8	M8
Part no.	260580	260590	260550	260560	260570

Appropriate screws are supplied with the rotary plate. Dimensions in mm



Helical spring for quick-opening bracket

Type	R 040	R 056	R 075	R 085	R 100
A	52	64	82	96	112
B	36	48	64	72	70
C	5	5	6.5	8.5	8.5
Length L = 110 mm Part no.	260600	260620	–	–	–
Length L = 150 mm Part no.	260610	260630	–	–	–
Length L = 165 mm Part no.	–	–	60816	60820	60824
Length L = 190 mm Part no.	–	260640	–	–	–
Length L = 230 mm Part no.	–	–	60817	60821	60825
Length L = 315 mm Part no.	–	–	60818	60822	60826
Length L = 465 mm Part no.	–	–	60819	60823	60827

Dimensions in mm



STEEL-LINE

Steel cable carriers – solutions for extreme applications

- Robust design for heavy mechanical loads
- High additional loads and long unsupported lengths possible
- Best suited for extreme and particular environmental influences
- Heat-resistant



LS/LSX Series

Cost-effective steel chains with light design

page 334



S/SX Series

Extremely robust and stable steel chains

page 342



CONDUFLEX

Closed designer cable carrier

page 362



MOBIFLEX

Enclosed cable carrier with flexible metal helical tube

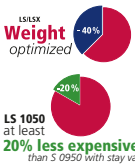
page 368

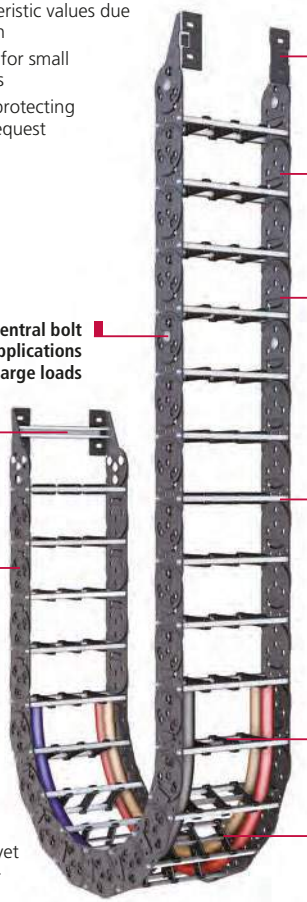


LS/LSX Series

Cost-effective steel chains with light design

- Improved dynamic characteristic values due to weight-optimized design
- Long unsupported lengths for small to medium additional loads
- Cover with steel band for protecting the cables is available on request





End connectors for different connection variants

Favorable ratio of inner to outer width – no peripheral divider necessary

Weight-optimized chain bands – specially coated or stainless steel

STEEL SPECIAL COATED

STAINLESS STEEL RUST-FREE

Different stay variants available in 1 mm width sections

WIDTHSECTIONS 1 mm

Optional central bolt for applications with large loads

C-rail for strain relief elements

Strokes are integrated in the chain link plate – no additional bolts are needed

Dividers made of plastic or steel

Various cable separation options

The design

The chains are very light and yet very stable due to the weight-optimized link plate design. The unsupported length for the LS series is significantly higher as compared with plastic chains of the same size.



Weight-optimized link plates only consist of one plate – the stroke system is integrated



Light sidebands without additional bolts – special coating or stainless steel



Optional: Central bolt and locking ring for applications involving large loads



Optional: C-Rail for strain relief elements fixed in the connection

Subject to change.

Type LS/LSX 1050

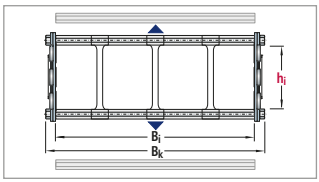
- **Type LS:**
  Chain bands made of specially coated steel
  Type LSX:
  High-grade stainless steel chainbands
- **Available in 1 mm width sections**

WIDTHSECTIONS 1 mm



Type	h_i	B_k	Maximum travel length[A] in m	Dynamics of unsupported arrangement	
				Travel speed[B] v_{max} in m/s	Travel acceleration a_{max} in m/s²
LS/LSX 1050	58	100-600	10	5[C]	10

Design guidelines for central bolts and stay arrangement: Dimensions in mm
– Chain length > 4 m:
central bolts **or** stay arrangement on every chain link necessary
– Chain width B_{St} > 400 mm:
central bolts **or** stay arrangement on every chain link necessary
– Travel speed > 2,5 m/s:
Central bolt **or** fully-stayed arrangement necessary
– Use of support rollers:
central bolts **and** stay arrangement on every chain link necessary



The values h_i and B_k are dependent on the stay variant.
[A] Values LS versions;
LSX versions see load diagram
[B] Values for LSX versions reduced by 0.5 m/s
[C] Maximum value

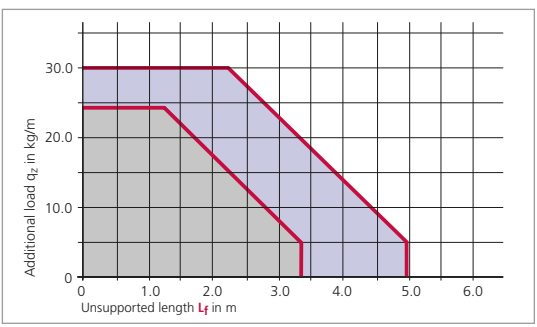
Bend radius and pitch

Type	Bend radii KR mm								
LS/LSX 1050	105	125	155	195	260	295	325	365	430

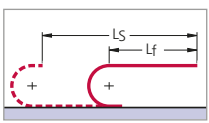
Pitch: t = 105 mm

Load diagram

for unsupported length L_f depending on the additional load*



Unsupported length L_f



Determining the length of the cable carrier see page 46.

* Load diagram for stay variant RS for medium carrier widths. The possible additional load for large carrier widths and heavy stay variants (e.g. RR) is smaller due to the increased intrinsic chain weight.

- With black special coating
- Material **ER 1**, **ER 1S** and **LS 1050** with zinc plated surface

Example of ordering

Cable carrier							Divider system		Connection
LS 1050	. 180	. RS 2	. 125	. Sb	- 2415		TS 0	/ 4	FA/MA
Type	Stay width B_{St} in mm	Stay variant	Bend radius KR in mm	Chain band material	Chain length L_k in mm (without connection)		Divider system	Number of dividers n_T	Connection Fixed point/ Driver

Chain band materials: Sb = Steel specially coated / ER 1 = Stainless steel / ER 1S = Stainless steel, sea water resistant. Please contact us for further information about the chain band materials.

Ordering divider systems: Please state the designation of the divider system (TS 0, TS 1 ...) and the number of dividers. Possibly attach a sketch with the dimensions.

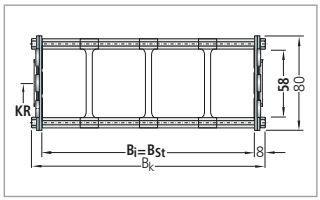
Subject to change.

Type LS/LSX 1050

Stay variant RS 2 – with bolted stays

- frame stay RS made of aluminum – standard design
- for lightweight to medium loads
- **Standard stay arrangement:** on every 2nd chain link. Stays can be fitted on every chain link, please specify when placing your order.
- bolted stays for maximum stability





Dimensions and intrinsic chain weight

Type	Stay variant	h_i	h_G	B_k min	q_k min	B_k max	q_k max	B_i	B_{St}
LS/LSX 1050	RS 2	58	80	100	3.7	400	4.2	B_k – 16	B_{St} = B_i

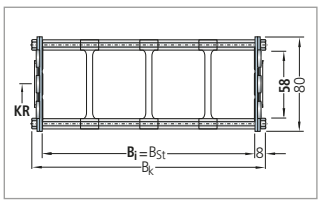
WIDTHSECTIONS 1 mm

Dimensions in mm/Weights in kg/m

Stay variant RV – frame stay, reinforced design

- frame stay RV made of aluminum – reinforced design
- for medium to heavy loads and for large chain width
- **Standard stay arrangement:** on every 2nd chain link. Stays can be fitted on every chain link, please specify when placing your order.
- bolted stays for maximum stability





Dimensions and intrinsic chain weight

Type	Stay variant	h_i	h_G	B_k min	q_k min	B_k max	q_k max	B_i	B_{St}
LS/LSX 1050	RV	58	80	100	4.0	600	5.9	B_k – 16	B_{St} = B_i

WIDTHSECTIONS 1 mm

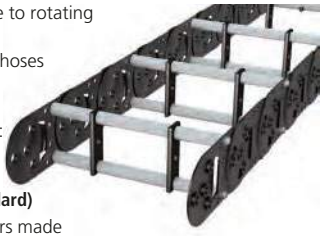
Dimensions in mm/Weights in kg/m

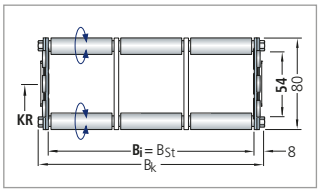
Subject to change.

Type LS/LSX 1050

Stay variant RR – frame stay, tube design

- gentle cable support due to rotating metal tubes
- ideal when using media hoses with "soft" sheaths
- possible materials of the axles, tubes and dividers:
  - axles, tubes and dividers made of zinc plated steel **(standard)**
  - axles, tubes and dividers made of stainless steel ER 1
- **Standard stay arrangement:** on every 2nd chain link. Stays can be fitted on every chain link, please specify when placing your order.
- bolted stays for maximum stability





Dimensions and intrinsic chain weight

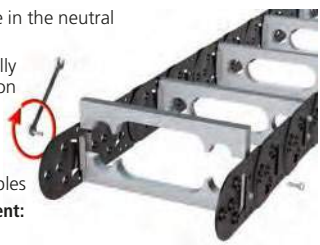
Type	Stay variant	h_i	h_G	B_k min	q_k min	B_k max	q_k max	B_i	B_{St}
LS/LSX 1050	RR	54	80	100	4.3	500	8.0	$B_k - 16$	$B_{St} = B_i$

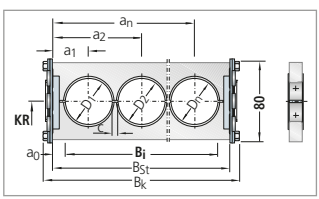
WIDTHSECTIONS 1 mm

Dimensions in mm/Weights in kg/m

Stay variant LG – hole stay made of aluminum, split design

- optimum cable guidance in the neutral bending line is possible
- drilling pattern individually adapted to the application
- high stability due to solid construction
- split design as standard for easy laying of the cables
- **Standard stay arrangement:** on every 2nd chain link. Stays can be fitted on every chain link, please specify when placing your order.
- bolted stays for maximum stability – also available not split





Dimensions and intrinsic chain weight

Type	Stay variant	D max	h_G	B_k min	q_k min*	B_k max	q_k max*	a_0 min	B_i	B_{St}
LS/LSX 1050	LG	48	80	100	4.1	600	8.1	14	$B_{St} - 2\ a_0$	$B_k - 18$

WIDTHSECTIONS 1 mm

* Listed weights assume that the hole area is approx. 50 % of the stay

Dimensions in mm/Weights in kg/m

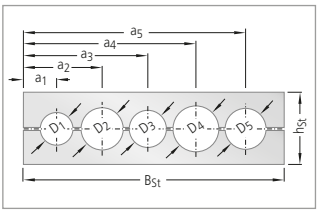
See next page for examples of hole patterns.

Subject to change.

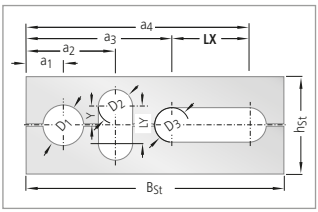
Type LS/LSX 1050

Examples of hole patterns:

Split hole stay with individual holes



Split hole stay with horizontal and vertical elongated holes*

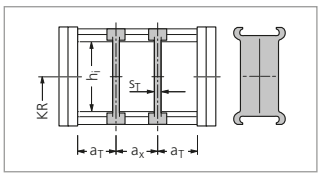


*) With an off-center arrangement of the holes, the cables are subject to a relative movement when the carrier is in motion.

Divider system TS 0 without height subdivision

Type	Stay variant	h_i mm	S_T mm	$a_{T\,min}$ mm	$a_{x\,min}$ mm
LS/LSX 1050	RS 2	58	4	7	14
LS/LSX 1050	RV	58	4	7	14
LS/LSX 1050	RR	54	4	20	20

The dividers can be moved in the cross section (not for stay variant RR).

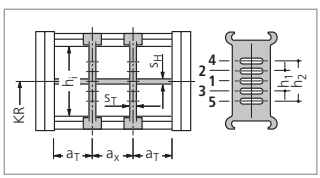


In the standard version, the divider systems are mounted on every second chain link.

Divider system TS 1 with continuous height subdivision made of aluminum

Type	Stay variant	h_i mm	S_T mm	$a_{T\,min}$ mm	$a_{x\,min}$ mm	S_H mm	h_1 mm	h_2 mm
LS/LSX 1050	RS 2	58	4	7	14	4	30	–
LS/LSX 1050	RV	58	4	7	14	4	15	30
LS/LSX 1050	RR	54	4	20	20	8	–	–

The dividers can be moved in the cross section (not for stay variant RR).

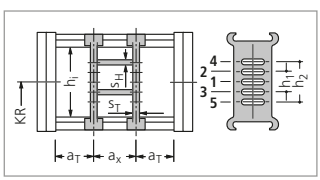


In the standard version, the divider systems are mounted on every second chain link.

Divider system TS 2 with grid subdivision made of aluminum (1 mm grid)

Type	Stay variant	h_i mm	S_T mm	$a_{T\,min}$ mm	$a_{x\,min}$ mm	S_H mm	h_1 mm	h_2 mm
LS/LSX 1050	RS 2	58	4	7	20	4	30	–
LS/LSX 1050	RV	58	6	7	20	4	15	30

The dividers can be moved in the cross section



In the standard version, the divider systems are mounted on every second chain link.

Subject to change.

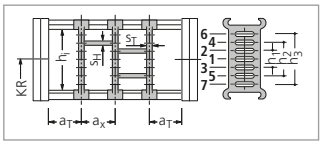
Type LS/LSX 1050

Divider system TS 3 with section subdivision, partitions made of plastic

Type	Stay variant	h_i mm	S_T mm	$a_{T\,min}$ mm	$a_{X\,min}$ mm	S_H mm	h_1 mm	h_2 mm	h_3 mm
LS/LSX 1050	RV	58	8	4	16*	4	14	28	42

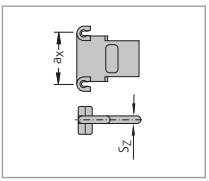
* When using plastic partitions

The dividers are fixed by the partitions, the complete divider system is movable.



In the standard version, the divider systems are mounted on every second chain link.

Dimensions of the plastic partitions for TS 3



Aluminum partitions in 1 mm width sections are also available.

S_Z	a_X (center-to-center distance, dividers)									
4	16	18	23	28	32	33	38	43	48	58
	64	68	78	80	88	96	112	**128**	**144**	**160**
	176	**192**	**208**	–	–	–	–	–	–	–

Dimensions in mm

When using **partitions with a_X > 112 mm**, there should be an additional central support with a **twin divider** (S_T = 4 mm).

Twin dividers are designed for subsequent fitting in the partition system.

Strain relief devices

The C-Rails are fixed together with the end connectors and thus do not have to be bolted separately.

Length of the C-Rail L_P:
Fixed point: $L_P = B_i$
Driver: $L_P = B_i + 4$ mm

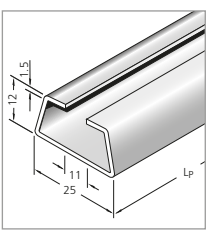


■ C-rail fixed in the end connector.



■ Linefix bracket clamp in C-rail

Integratable C-Rail



Suitable for all commercially available brackets (slot width 11 mm)

Material	Item-No.
Steel	3934

See also Accessories chapter, page 373.



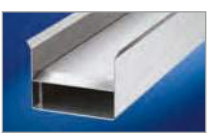


■ Inserting the C-rail in the end connector.

Guide channels
➤ from page 375

Strain relief devices
➤ from page 381

Cables for cable carrier systems
➤ from page 438







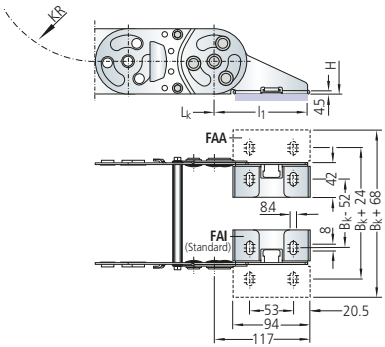
Subject to change.

Type LS/LSX 1050

End connectors

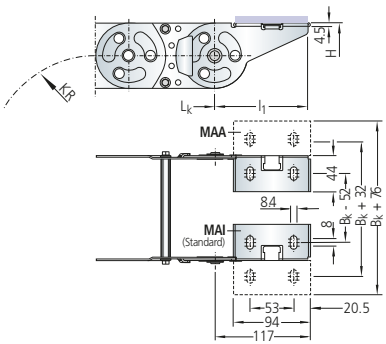
Fixed point connection

Connection variant FA

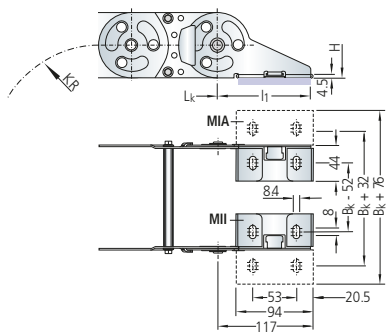


Driver connection

Connection variant MA



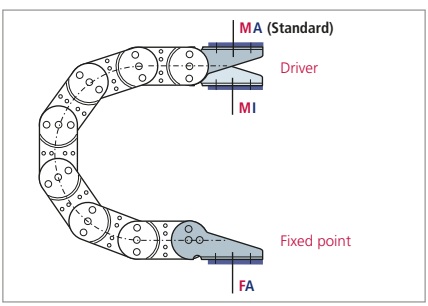
Connection variant MI

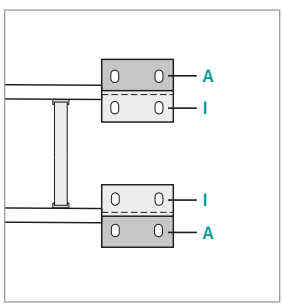


Different connection variants for fixed point and driver are possible according to the drawing information. Different end connectors are needed for different connection variants.

Please state the desired connection variant according to the ordering key.

Connection variants





Connection point

M – Driver

F – Fixed point

Connecting surface

I – Connecting surface inside (< B_k)

A – Connecting surface outside (> B_k)

Connection type

A – Threaded joint outside (standard)

I – Threaded joint, inside

Subject to change.



* Only S/SX 1252B and S/SX 1802B

S/SX Series

Extremely robust and stable steel chains*

- Extremely robust and stable steel chains for heavy mechanical loads and harsh environmental conditions
- Very long unsupported lengths also for large additional loads
- Various types available in different dimensions
- Covers with aluminium cover system or steel strip possible for protection of the cables



End connectors for different connection variants

Extremely robust chain bands zinc plated or made of stainless steel

STEEL ZINC-PLATED

STAINLESS STEEL RUST-FREE

Different stay variants available in 1 mm width sections

WIDTH SECTIONS 1 mm

Aluminum cover available in 1 mm width sections

WIDTH SECTIONS 1 mm

Link design with special bolts for a long service life

Dividers made of plastic or steel

Various cable separation options

The design

Steel cable carriers proven over many years with extremely stable chain link plates and a link design with multiple stroke system and special bolts. Large unsupported lengths and high additional loads are possible due to the extremely stable design.



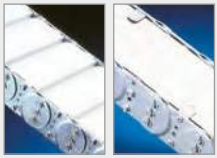
Sandwich design: Chain link plates consist of two plates welded together



Glide shoes for gliding applications are available



Stroke system with special bolts and locking rings



Also available as covered variants with cover system or steel band covering

* Some features can be different for certain types for design reasons. Our specialists are happy to advise you.

Overview S/SX Series

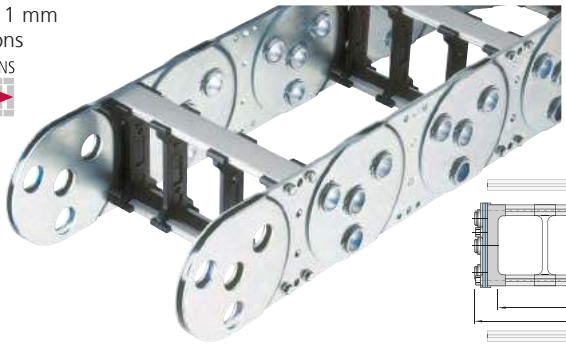
Types S/SX 0650, 0950, 1250, 1800

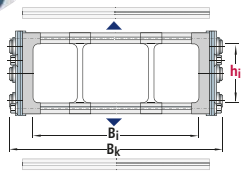
- Available in 1 mm width sections

WIDTH SECTIONS 1 mm

Inside heights 31 – 370

Chain widths 70 – 1800





Type	h_i	B_k	Maximum travel length unsupported arrangement[A] in m	Dynamics of unsupported arrangement		Page
				Travel speed[B] v_{max} in m/s	Travel acceleration a_{max} in m/s²	
S/SX 0650	31	70-500	6	2.5	5.0	346
S/SX 0950	46	125-600	9	2.5	5.0	346
S/SX 1250	72	130-800	12	2.5	5.0	346
S/SX 1800	108	180-1000	18	2.0	3.0	346

A) Values S versions; SX versions see load diagram of the respective type
B) Values for SX versions reduced by 0.5 m/s
The values h_i and B_k are dependent on the stay variant.

Dimensions in mm

STEEL TUBES – Types S/SX 0650 – 1800

- Aluminum cover system
- Available in 1 mm width sections

WIDTH SECTIONS 1 mm



Detailed information for the stay variant RMD can be found on page 349.

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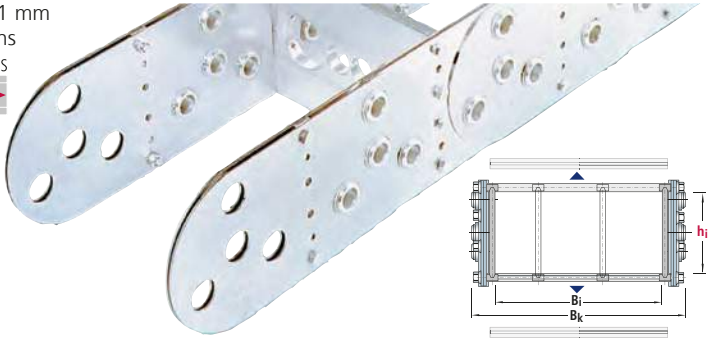
Subject to change.

Overview S/SX Series

Types S/SX 2500 and 3200

- Available in 1 mm width sections

WIDTHSECTIONS
1 mm



Type	h_i	B_k	Maximum travel length unsupported arrangement[A] in m	Dynamics of unsupported arrangement		Page
				Travel speed[B] v_{max} in m/s	Travel acceleration a_{max} in m/s²	
S/SX 2500	183	250-1200	24	2.0	3.0	354
S/SX 3200	220	250-1500	25	2.0	2.5	354

A) Values S versions; SX versions see load diagram of the respective type
B) Values for SX versions reduced by 0.5 m/s
The values h_i and B_k are dependent on the stay variant.

Dimensions in mm

Types S/SX 5000 to 7000

- Available in 1 mm width sections

WIDTHSECTIONS
1 mm

For applications with extremely large additional loads and very large carrier dimensions. Cable and hose carriers of the types 5000 / 6000 / 7000 are usually special designs for special applications such as in the offshore area for example





Type	h_i	B_k	Maximum travel length unsupported arrangement[A] in m	Dynamics of unsupported arrangement		Page
				Travel speed[B] v_{max} in m/s	Travel acceleration a_{max} in m/s²	
S/SX 5000	150	150-1000	12	2.0	3.0	358
S/SX 6000	240	200-1200	18	1.5	2.0	358
S/SX 7000	370	350-1800	25	1.0	1.0	358

A) Values S versions; SX versions see load diagram of the respective type
B) Values for SX versions reduced by 0.5 m/s

Dimensions in mm

Subject to change.

Types S/SX 0650, 0950, 1250, 1800

- **Type S:**
  Chainbands made of zinc plated
  Type SX:
  Chainbands made of high-grade stainless steel
- **Available in 1 mm width sections**

WIDTHSECTIONS
1 mm



Bend radius and pitch

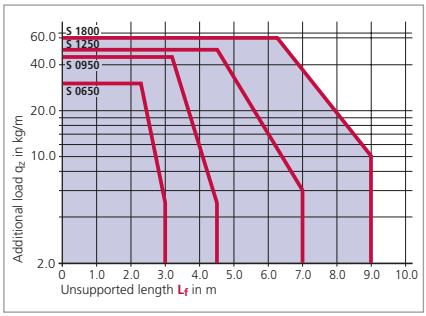
Type	Bend radii KR mm												
S/SX 0650	75	95	115	125	135	145	155	175	200	250	300	400	–
S/SX 0950	125	140	170	200	260	290	320	350	410	600	–	–	–
S/SX 1250	145	200	220	260	300	340	380	420	460	500	540	600	1000
S/SX 1800	265	320	375	435	490	605	720	890	1175	1405	–	–	–

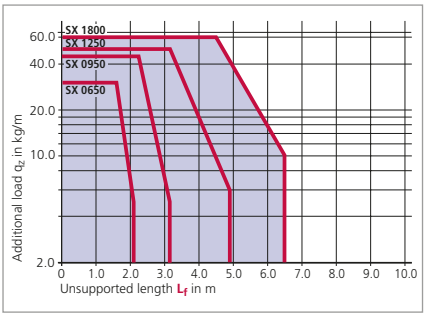
Intermediate radii upon request.

Pitch:
S/SX 0650: t = 65 mm
S/SX 0950: t = 95 mm
S/SX 1250: t = 125 mm
S/SX 1800: t = 180 mm

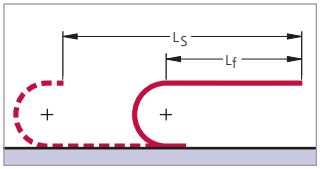
Load diagrams

for unsupported length L_f depending on the additional load*





Unsupported length L_f



Determining the length of the cable carrier see page 46.

* Load diagram for stay variant RV for medium carrier widths. The possible additional load for large carrier widths and heavy stay variants (e.g. RMD) is smaller due to the increased intrinsic chain weight.

Example of ordering

Cable carrier									Divider system		Connection
S 0950	.	300	.	RS 1	.	200	.	St	- 2375	TS 0 /	4	FA/MA
Type		Stay width B_{St} in mm		Stay variant		Bend radius KR in mm		Chain band material	Chain length L_k in mm (without connection)	Divider system	Number of dividers n_T	Connection Fixed point/ Driver

Chain band materials: St = Zinc plated steel / ER 1 = Stainless steel / ER 1S = Stainless steel, sea water resistant / ER 2 = High-strength stainless steel. Please contact us for further information about the chain band materials.
Ordering divider systems: Please state the designation of the divider system (TS 0, TS 1 ...) and the number of dividers. Possibly attach a sketch with the dimensions.

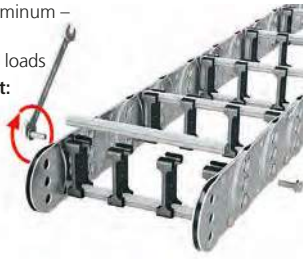
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Use our free project planning service.

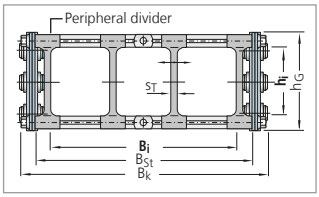
Subject to change.

Type S/SX 0650, 0950, 1250, 1800

Stay variant RS 2 – with bolted stays

- frame stay RS made of aluminum – standard design
- for lightweight to medium loads
- **Standard stay arrangement:** on every 2nd chain link. Stays can be fitted on every chain link, please specify when placing your order.
- bolted stays for maximum stability





Dimensions and intrinsic chain weight

Type	Stay variant	h_i	h_G	B_k min	q_k min	B_k max	q_k max	B_i	B_{St}
S/SX 0650	RS 2	31	50	100	3.9	400	5.2	$B_k - 31$	$B_i + 16$
S/SX 0950	RS 2	46	68	150	7.5	400	8.2	$B_k - 37$	$B_i + 18$
S/SX 1250	RS 2	72	94	200	12.9	500	13.7	$B_k - 44$	$B_i + 20$

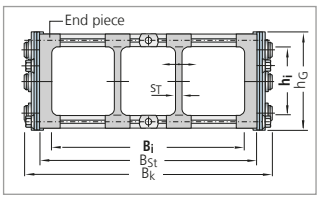
WIDTHSECTIONS 1 mm

Dimensions in mm/Weights in kg/m

Stay variant RS 1 – with a detachable stay

- frame stay RS made of aluminum – solid design
- for lightweight to medium loads
- **Standard opening options:**
  Outside: The cable carrier can be opened quickly and easily simply by rotating the stays through 90°.
  Inside: Screwed stays
  Optional: Bolted on the outside and opening inwards, please state when ordering.
- **Standard stay arrangement:** on every 2nd chain link. Stays can be fitted on every chain link, please specify when placing your order.





Dimensions and intrinsic chain weight

Type	Stay variant	h_i	h_G	B_k min	q_k min	B_k max	q_k max	B_i	B_{St}
S/SX 0650	RS 1	31	50	100	3.9	300	4.8	$B_k - 35$	$B_i + 20$
S/SX 0950	RS 1	46	68	150	7.5	300	8.0	$B_k - 43$	$B_i + 24$
S/SX 1250	RS 1	72	94	200	12.9	400	13.5	$B_k - 48$	$B_i + 24$

WIDTHSECTIONS 1 mm

Dimensions in mm/Weights in kg/m

The illustrations on this page show the design principle.
The design of individual types can be different.

Subject to change.

Inside heights
43 – 108

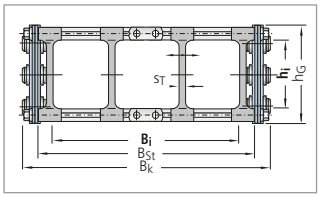
Chain widths
125 – 1000

Types S/SX 0650, 0950, 1250, 1800

Stay variant RV – frame stay, reinforced design

- frame stay RV made of aluminum – reinforced design
- for medium to heavy loads and for large chain width
- **Standard stay arrangement:** on every 2nd chain link. Stays can be fitted on every chain link, please specify when placing your order.
- bolted stays for maximum stability





Dimensions and intrinsic chain weight

Type	Stay variant	h_i	h_G	B_k min	q_k min	B_k max	q_k max	B_i	B_{St}
S/SX 1250	RV	72	94	200	13.6	600	17.0	$B_k - 46$	$B_i + 22$

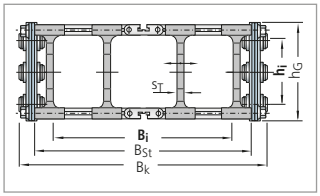
WIDTHSECTIONS 1 mm

Dimensions in mm/Weights in kg/m

Stay variant RM – frame stay, solid design

- frame stay RM made of aluminum – solid design
- for heavy loads – maximum chain widths possible
- **Standard stay arrangement:** on every 2nd chain link. Stays can be fitted on every chain link, please specify when placing your order.
- bolted stays for maximum stability





Dimensions and intrinsic chain weight

Type	Stay variant	h_i	h_G	B_k min	q_k min	B_k max	q_k max	B_i	B_{St}
S/SX 0950	RM	43	68	125	7.9	600	10.7	$B_k - 37$	$B_i + 18$
S/SX 1250	RM	69	94	200	13.4	800	17.0	$B_k - 49$	$B_i + 25$
S/SX 1800	RM	108	140	250	24.0	1000	28.5	$B_k - 62$	$B_i + 33$

WIDTHSECTIONS 1 mm

Dimensions in mm/Weights in kg/m

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The illustrations on this page show the design principle.
The design of individual types can be different.

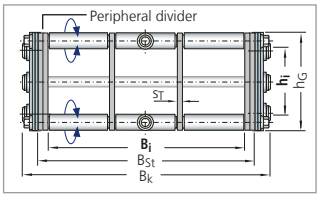
Subject to change.

Types S/SX 0650, 0950, 1250, 1800

Stay variant RR – frame stay, tube design



- gentle cable support due to rotating metal tubes
- ideal when using media hoses with "soft" sheaths
- possible materials of the axles, tubes and dividers:
  - – axles and tubes, zinc plated steel with plastic dividers **(Standard)**
  - – axles, tubes and dividers made of zinc plated steel
  - – axles, tubes and dividers made of stainless steel ER 1, ER 1S
- **Standard stay arrangement:** on every 2nd chain link. Stays can be fitted on every chain link, please specify when placing your order.
- bolted stays for maximum stability

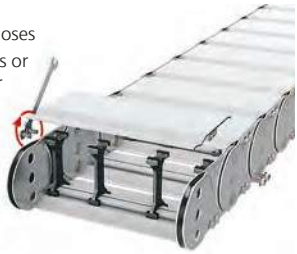


Dimensions and intrinsic chain weight

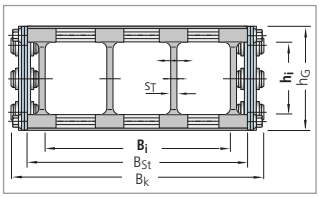
Type	Stay variant	h_i	h_G	B_k min	q_k min	B_k max	q_k max	B_i	B_{St}
S/SX 0650	RR	26	50	100	4.8	400	8.7	$B_k - 31$	$B_i + 16$
S/SX 0950	RR	42	68	150	8.4	500	11.8	$B_k - 35$	$B_i + 16$
S/SX 1250	RR	66	94	200	13.8	600	17.3	$B_k - 40$	$B_i + 16$
S/SX 1800	RR	104	140	250	26.5	800	36.0	$B_k - 49$	$B_i + 20$

Dimensions in mm/Weights in kg/m

Stay variant RMD – covered cable carrier, STEEL TUBE



- **aluminum cover system** for protecting the cables and hoses
- for applications where chips or severe contamination occur
- bolted aluminum cover for maximum stability



Steel band covers are also available as light-weight, economically priced alternatives to covering with the aluminum cover system, see page 360.



Dimensions and intrinsic chain weight

Type	Stay variant	h_i	h_G	B_k min	q_k min	B_k max	q_k max	B_i	B_{St}	KR_{min}
S/SX 0650	RMD	30	50	100	4.8	500	10.5	$B_k - 35$	$B_i + 20$	115
S/SX 0950	RMD	44	68	125	10.2	600	22.0	$B_k - 37$	$B_i + 18$	170
S/SX 1250	RMD	69	94	150	15.4	800	32.4	$B_k - 49$	$B_i + 25$	200
S/SX 1800	RMD	104	140	250	26.5	1000	46.5	$B_k - 62$	$B_i + 33$	320

WIDTHSECTIONS 1 mm

Dimensions in mm/Weights in kg/m

The illustrations on this page show the design principle.
The design of individual types can be different.

Subject to change.

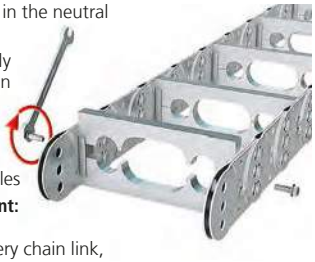
Types S/SX 0650, 0950, 1250, 1800

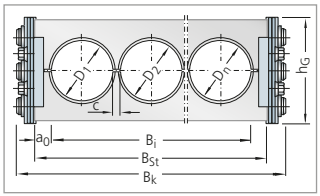
Stay variant LG – hole stay made of aluminum, split design

Inside heights 40 – 110

Chain widths 70 – 1000

- optimum cable guidance in the neutral bending line is possible
- drilling pattern individually adapted to the application
- high stability due to solid construction
- split design as standard for easy laying of the cables
- **Standard stay arrangement:** on every 2nd chain link. Stays can be fitted on every chain link, please specify when placing your order.
- bolted stays for maximum stability – also available not split





Dimensions and intrinsic chain weight

Type	Stay variant	D max	h_G	B_k min	q_k min*	B_k max	q_k max*	a_0 min	B_i	B_{St}
S/SX 0650	LG	40	50	70	4.0	500	6.4	9.0	B_{St} – 18	B_k – 17
S/SX 0950	LG	48	68	125	8.1	600	11.8	11.0	B_{St} – 22	B_k – 21
S/SX 1250	LG	74	94	130	13.2	800	18.2	11.0	B_{St} – 22	B_k – 26
S/SX 1800	LG	110	140	180	24.8	1000	33.0	13.5	B_{St} – 27	B_k – 32

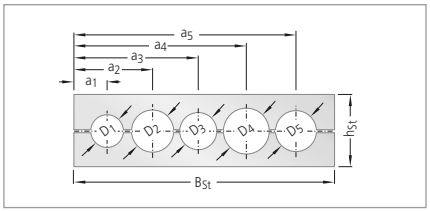
WIDTHSECTIONS 1 mm

* Listed weights assume that the hole area is approx. 50 % of the stay.

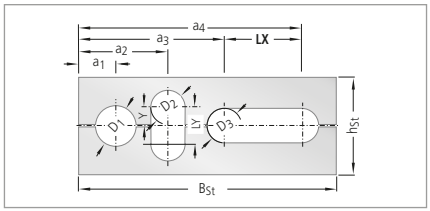
Dimensions in mm/Weights in kg/m

Selection of some hole patterns:

Split hole stay with individual holes



Split hole stay with horizontal and vertical elongated holes*



*) With an off-center arrangement of the holes, the cables are subject to a relative movement when the carrier is in motion.

Stay variant LG with the modular hole stay system



Modular hole stay system – split design

The plastic modular hole stay system enables you to create your own customized hole stay quickly and easily.

Hole stay inserts are available for Series S 1250 and SX 1250. Available hole diameters: 10, 15, 20, 25, 30, 40, 50

Please do get in touch with us, we would be happy to advise you.

The illustrations on this page show the design principle. The design of individual types can be different.

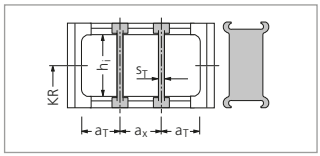
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Subject to change.

Types S/SX 0650, 0950, 1250, 1800

Divider system TS 0 without height subdivision

Type	Stay variant	h_i mm	S_T mm	$a_{T\,min}$ mm	$a_{x\,min}$ mm
S/SX 0650	RS 1/2	31	3	11.5	13
S/SX 0650	RMD	30	3	11.5	13
S/SX 0650	RR	26	4	20.0	25
S/SX 0950	RS 1/2	46	4	12.0	14
S/SX 0950	RM	43	4	10.0	14
S/SX 0950	RMD	44	4	12.0	14
S/SX 0950	RR	42	4	20.0	20
S/SX 1250	RS 1/2	72	5	12.5	15
S/SX 1250	RV	72	6	13.0	16
S/SX 1250	RM	69	5	17.5	20
S/SX 1250	RMD	69	5	17.5	20
S/SX 1250	RR	66	4	30.0	30
S/SX 1800	RM	108	7.5	21.5	25
S/SX 1800	RMD	104	7.5	21.5	25
S/SX 1800	RR	104	5	45.0	45



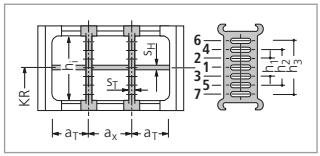
In the standard version, the divider systems are mounted on every second chain link.

The dividers can be moved in the cross section.

Divider system TS 1 with continuous height subdivision made of aluminum

Type	Stay variant	h_i mm	S_T mm	$a_{T\,min}$ mm	$a_{x\,min}$ mm	S_H mm	h_1 mm	h_2 mm	h_3 mm
S/SX 1250	RV	72	6	13	16	4	15	30	45

The dividers can be moved in the cross section.



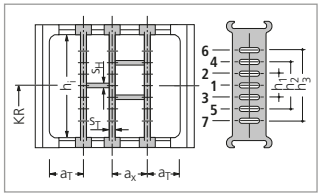
In the standard version, the divider systems are mounted on every second chain link.

Divider system TS 2 with grid subdivision made of aluminum (1 mm grid)

Type	Stay variant	h_i mm	S_T mm	$a_{T\,min}$ mm	$a_{x\,min}$ mm	S_H mm	h_1 mm	h_2 mm	h_3 mm
S/SX 1250	RV	72	6	13	20	4	15	30	45
S/SX 1250	RM	72	6	14.5*	20	4	15	30	45
S/SX 1250	RMD	72	6	14.5*	20	4	15	30	45

The dividers are fixed by the partitions, the complete divider system is movable.

* If the height separation is carried out up to the end divider, the dimension $a_{T\,min}$ changes to 11 mm.



In the standard version, the divider systems are mounted on every second chain link.

Inside heights
31 – 108

Chain widths
70 – 1000

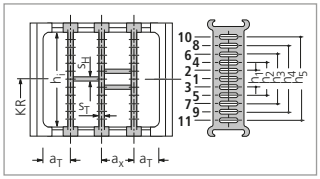
Types S/SX 0650, 0950, 1250, 1800

Divider system TS 3 with section subdivision, partitions made of plastic

Type	Stay variant	h_i mm	S_T mm	$a_{T\,min}$ mm	$a_{x\,min}$ mm	S_H mm	h_1 mm	h_2 mm	h_3 mm	h_4 mm	h_5 mm
S/SX 1800	RM	108	8	11.5	16*	4	14	28	42	56	70

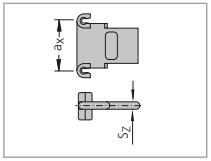
* When using plastic partitions

The dividers are fixed by the partitions, the complete divider system is movable.



In the standard version, the divider systems are mounted on every second chain link.

Dimensions of the plastic partitions for TS 3



Aluminum partitions in 1 mm width sections are also available.

S_Z	a_x (center-to-center distance, dividers)									
4	16	18	23	28	32	33	38	43	48	58
	64	68	78	80	88	96	112	**128**	**144**	**160**
	176	**192**	**208**	–	–	–	–	–	–	–

Dimensions in mm

When using **partitions with a_x > 112 mm**, there should be an additional central support with a **twin divider** (S_T = 4 mm).

Twin dividers are designed for subsequent fitting in the partition system.

Glide shoes – the economical solution for gliding applications (S/SX 0650, 0950, 1250)

Replaceable glide shoes made of plastic

To extend the life of cable carriers in gliding operations KABELSCHLEPP supplies exchangeable glide shoes.

Replaceable glide shoes are a very economical solution. When wear occurs only the glide shoes are replaced, and not the complete cable carrier. Glide shoes are made of a highly wear-resistant special material.



Chain height with glide shoes:

S/SX 0650: $h_{G'} = h_G + 6 = 56$ mm
S/SX 0950: $h_{G'} = h_G + 5 = 73$ mm
S/SX 1250: $h_{G'} = h_G + 5 = 99$ mm

Minimum bend radii when using glide shoes:

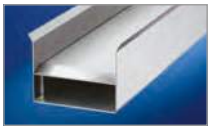
S/SX 0650: KR = 95 mm
S/SX 0950: KR_{min} = 140 mm
S/SX 1250: KR_{min} = 200 mm

Chain width with glide shoes:

S/SX 0650: $B_{EF'} = B_k + 5.2$ mm
S/SX 0950: $B_{EF'} = B_k + 9.0$ mm
S/SX 1250: $B_{EF'} = B_k + 6.0$ mm

! By means of a screwed connection, the glide shoes sit firmly on the chain link.

Guide channels
➤ from page 375



Strain relief devices
➤ from page 381



Cables for cable carrier systems
➤ from page 438



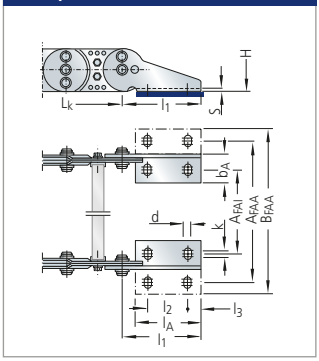
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Subject to change.

Types S/SX 0650, 0950, 1250, 1800

End connectors made of steel (types S) or high-grade steel (types SX)

Fixed point connection



Driver connection

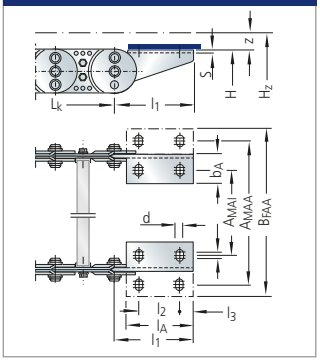
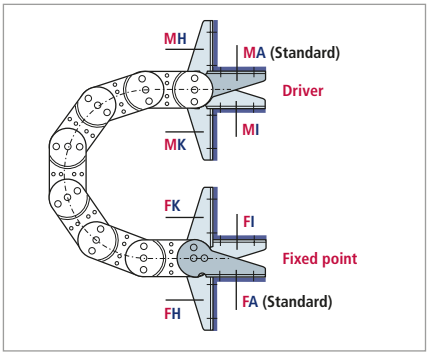


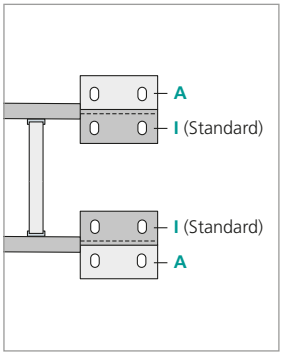
Table of dimensions:

Type	l_1	l_2	l_3	l_A	b_A	d	k	s	A_{FAI}	A_{FAA}	B_{FAA}	A_{MAI}	A_{MAA}	B_{MAA}
S/SX 0650	95	45	15	75	30	6.4	5	3	B_k-37	B_k+25	B_k+51	B_k-43	B_k+19	B_k+45
S/SX 0950	125	65	20	105	55	8.4	10	4	B_k-63	B_k+49	B_k+99	B_k-71	B_k+41	B_k+91
S/SX 1250	155	80	25	130	55	10.5	10	5	B_k-64	B_k+46	B_k+96	B_k-74	B_k+36	B_k+86
S/SX 1800	210	115	30	175	60	13	10	5	B_k-77	B_k+53	B_k+103	B_k-88	B_k+41	B_k+91

Dimensions in mm

Connection variants





Connection point

M – Driver

F – Fixed point

Connection type

A – Threaded joint outside (standard)

I – Threaded joint, inside

H – Threaded joint, rotated through 90° to the outside

K – Threaded joint, rotated through 90° to the inside

Connecting surface

I – Connecting surface inside (< B_k)

A – Connecting surface outside (> B_k)

On the driver and the fixed point, the connecting surfaces can be be mounted on the outside or the inside according to preference.

The connection type can easily be altered at a later date.

In the standard version, the connectors are mounted with the bolting to the outside and the connecting surface to the inside (**FAI**/**MAI**). When ordering please specify the desired connection type.

Subject to change.

Types S/SX 2500 and 3200

- **Type S:**
  Chainbands made of zinc plated steel
  Type SX:
  Chainbands made of high-grade stainless steel
- **Available in 1 mm width sections**

WIDTHSECTIONS 1 mm





Side plate construction for types S/SX 2500



Side plate construction for types S/SX 3200

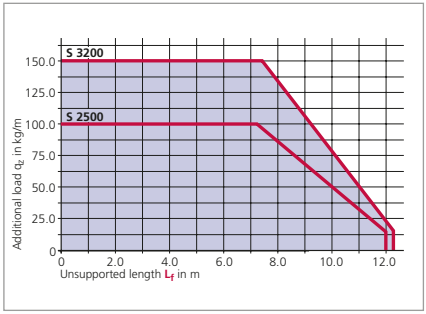
Bend radius and pitch

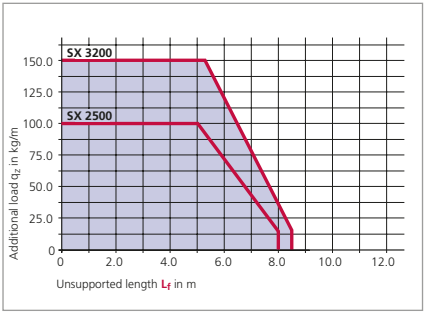
Type	Bend radii KR mm							
S/SX 2500	365	445	600	760	920	1075	1235	1395
S/SX 3200	–	470	670	870	1075	1275	1480	1785

Pitch:
S/SX 2500: t = 250 mm
S/SX 3200: t = 320 mm

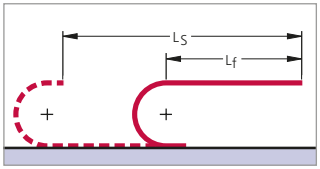
Load diagrams

for unsupported length L_f depending on the additional load*





Unsupported length L_f



Determining the length of the cable carrier see page 46.

* Load diagrams for medium intrinsic chain weight. The possible additional load for large carrier widths is smaller due to the increased intrinsic chain weight.

Note: The calculated cable carrier length L_k always has to be rounded to an uneven number of chain links.

Example of ordering

Cable carrier									Divider system		Connection
S 2500	.	850	.	LG	.	760	.	ER 1	-	9250	TS 0 / 4		FA/MA
Type		Stay width B_{St} in mm		Stay variant		Bend radius KR in mm		Chain band material		Chain length L_k in mm (without connection)	Divider system	Number of dividers n_T	Connection Fixed point/ Driver

Chain band materials: St = Zinc plated steel / ER 1 = Stainless steel / ER 1S = Stainless steel, sea water resistant / ER 2 = High-strength stainless steel. Please contact us for further information about the chain band materials.

Ordering divider systems: Please state the designation of the divider system (TS 0, TS 1 ...) and the number of dividers. Possibly attach a sketch with the dimensions.

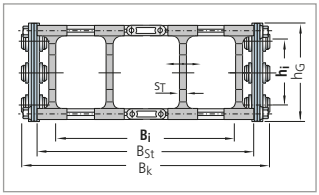
Subject to change.

Type S/SX 2500

Stay variant RM – frame stay, solid design

- frame stay RM made of aluminum – solid design
- for heavy loads – maximum chain widths possible
- **Standard stay arrangement:** on every 2nd chain link. Stays can be fitted on every chain link, please specify when placing your order.
- bolted stays for maximum stability





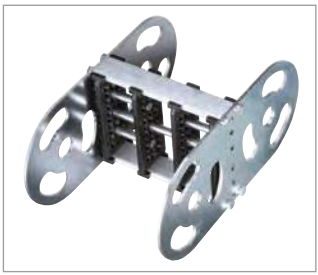
Dimensions and intrinsic chain weight

Type	Stay variant	h_i	h_G	B_k min	q_k min	B_k max	q_k max	B_i	B_{St}
S/SX 2500	RM	183	220	250	39	1200	44	$B_k - 75$	$B_i + 43$

WIDTHSECTIONS 1 mm

Dimensions in mm/Weights in kg/m

Standard divider for different separation options



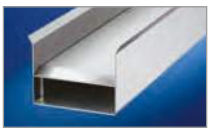
Dividers are available for stay variant RM which enable different height subdivisions of the steel tube to be achieved.

Please do get in touch with us. We would be happy to advise you.

Guide channels
➤ from page 375

Strain relief devices
➤ from page 381

Cables for cable carrier systems
➤ from page 438







Subject to change.

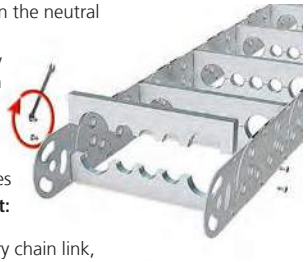
Inside height
180 – 220

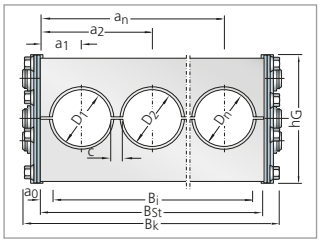
Chain widths
250 – 1500

Types S/SX 2500 and 3200

Stay variant LG – hole stay made of aluminum, split design

- optimum cable guidance in the neutral bending line is possible
- drilling pattern individually adapted to the application
- high stability due to solid construction
- split design as standard for easy laying of the cables
- **Standard stay arrangement:** on every 2nd chain link. Stays can be fitted on every chain link, please specify when placing your order.
- bolted stays for maximum stability – also available not split





Dimensions and intrinsic chain weight

Type	Stay variant	D max	h_G	B_k min	q_k min*	B_k max	q_k max*	a_0 min	B_i	B_{St}
S/SX 2500	LG	180	220	250	36.5	1200	48.5	22	$B_{St} - 44$	$B_k - 32$
S/SX 3200	LG	220	300	250	57.5	1500	72.5	22	$B_{St} - 44$	$B_k - 40$

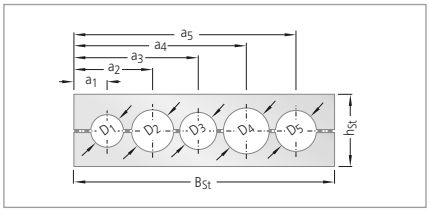
WIDTHSECTIONS 1 mm

* Listed weights assume that the hole area is approx. 50 % of the stay.

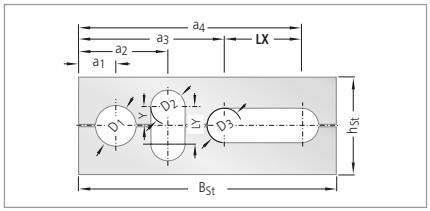
Dimensions in mm/Weights in kg/m

Selection of some hole patterns:

Split hole stay with individual holes



Split hole stay with horizontal and vertical elongated holes*

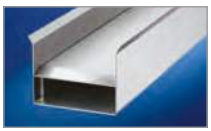


*) With an off-center arrangement of the holes, the cables are subject to a relative movement when the carrier is in motion.

Guide channels
➤ from page 375

Strain relief devices
➤ from page 381

Cables for cable carrier systems
➤ from page 438







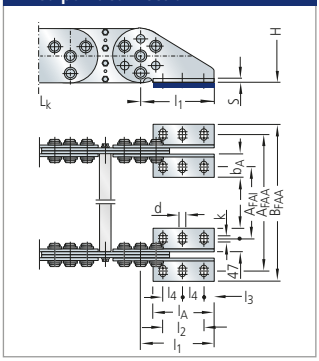
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Subject to change.

Types S/SX 2500 and 3200

End connectors made of steel (types S) or high-grade steel (types SX)

Fixed point connection



Driver connection

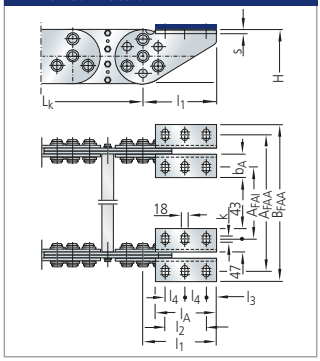
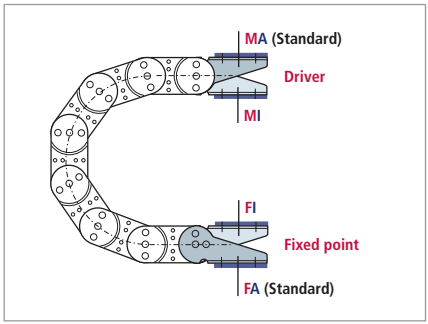


Table of dimensions:

Type	l_1	l_2	l_3	l_4	l_A	b_A	d	k	s	A_{FAI}	A_{FAA}	B_{FAA}	A_{MAI}	A_{MAA}	B_{MAA}
S/SX 2500	300	170	40	85	250	90	18	15	6	B_k-126	B_k+74	B_k+160	B_k-126	B_k+74	B_k+160
S/SX 3200	350	200	50	100	300	110	22	20	6	B_k-154	B_k+90	B_k+196	B_k-154	B_k+90	B_k+196

Dimensions in mm

Connection variants



Connection point

M – Driver

F – Fixed point

Connection type

A – Threaded joint outside (standard)

I – Threaded joint, inside

In the standard version, the end connectors are mounted with the threaded joint outwards (**MA/FA**).
When ordering please specify the desired connection type (see ordering key on page 424).

Types S/SX 5000, 6000, 7000

- **Type S:**
  Chainbands made of zinc plated steel
  Type SX:
  Chainbands made of high-grade stainless steel
- **Available in 1 mm width sections**

WIDTHSECTIONS
1 mm



Dimensions and intrinsic chain weight

Type	$h_{i\ max}$	h_G	$B_{k\ min}$	$B_{k\ max}$
S/SX 5000	150	200	250	1200
S/SX 6000	240	300	300	1500
S/SX 7000	370	450	350	1800

Larger dimensions and special designs are available on request.

Dimensions in mm

Bend radius and pitch

Type	Bend radii KR mm				
S/SX 5000	500	600	800	1000	1200
S/SX 6000	700	900	1100	1300	1500
S/SX 7000	1100	1250	1500	1800	2400

Pitch:
S/SX 5000: t = 200 mm
S/SX 6000: t = 320 mm
S/SX 7000: t = 450 mm





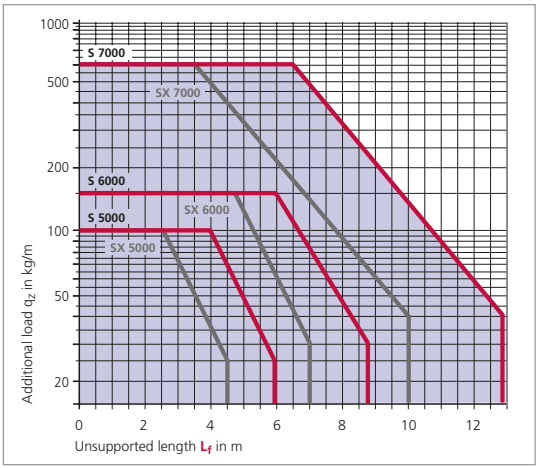
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Subject to change.

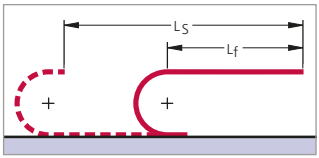
Types S/SX 5000, 6000, 7000

Load diagram

for unsupported length L_f depending on the additional load



Unsupported length L_f



Determining the length of the cable carrier see page 46.









Design and ordering

Please contact us, we would be happy to advise you.

Subject to change.

Steel band covers



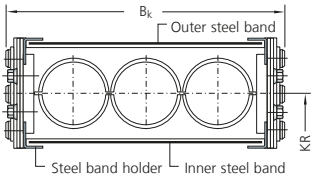
Cable carriers made of rust and acid resistant spring steel strip can be supplied for protection of the cables against flying sparks, radiant heat and chips.

- **Economically priced cover variant for half-stay version**
- Made of rust and acid resistant spring band steel
- Maximum steel band width: 1000 mm



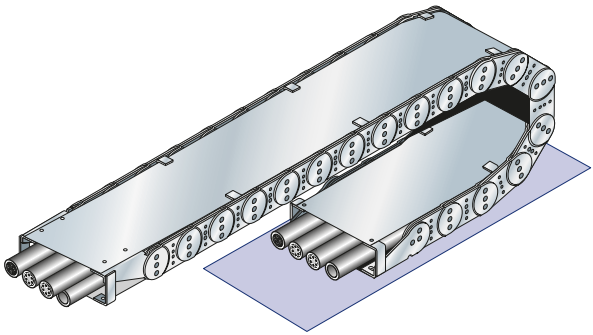
Table of dimensions

Type	Steel band length		Steel band width
	Outside steel band	Inside steel band	
S/SX 0650	L_k + 280	L_k + 130	B_k – 22
S/SX 0950	L_k + 360	L_k + 150	B_k – 27
S/SX 1250	L_k + 470	L_k + 170	B_k – 34
S/SX 1800	L_k + 640	L_k + 200	B_k – 40
S/SX 2500	L_k + 945	L_k + 255	B_k – 48



Steel band covers for the other series are available on request!

Dimensions in mm



Fastening the steel band



■ Steel band holder on the sidebands.



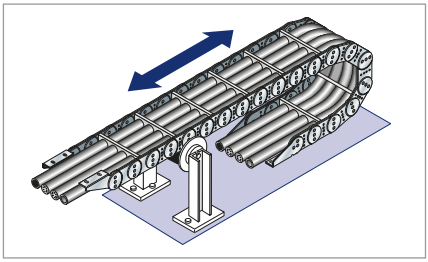


■ Fastening to the chain connection with special end connector.

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Subject to change.

Support rollers – horizontal arrangement "with support"



- If the unsupported length of the cable carrier is exceeded, the upper trough can be supported by rollers.
- Instead of using a KABELSCHLEPP cable carrier with supports, we recommend that you use the next size up, provided that the installation conditions allow this.

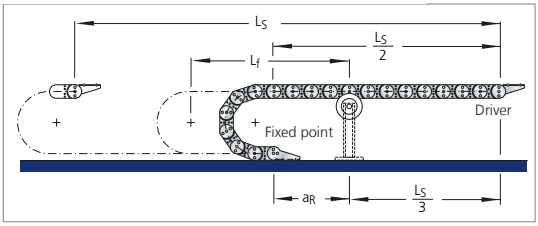
Arrangement of the support

Arrangement with a support roller:

when $L_S < 3\ L_f$ $\quad a_R = \frac{L_S}{6}$

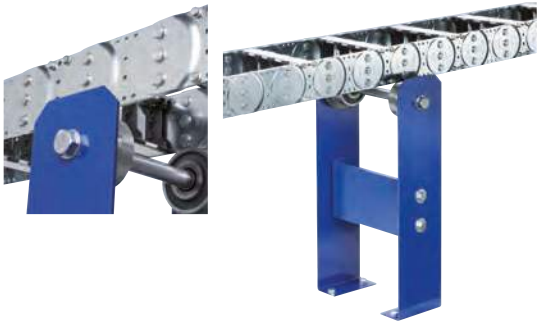
The distance of the support to the fixed point in this arrangement is approx 1/6 of the total travel length!

Schematic illustration



Standard support rollers for Types LS/LSX 1050, S/SX 0650, 0950, 1250, 1800

- Economically priced standard support rollers in light-weight design
- Long service life due to ball-bearing rollers
- Optimized installation width
- Only for use with two-band chains



Support rollers with reinforced design for Types LS/LSX 1050, S/SX 0650, 0950, 1250 and 1800

- Solid design for extreme loads
- Long service life due to ball-bearing roller
- Also suitable for multi-band chains
- With hard manganese wear protection for type S/SX and applications with high loads
- Also available in stainless steel version



Subject to change.

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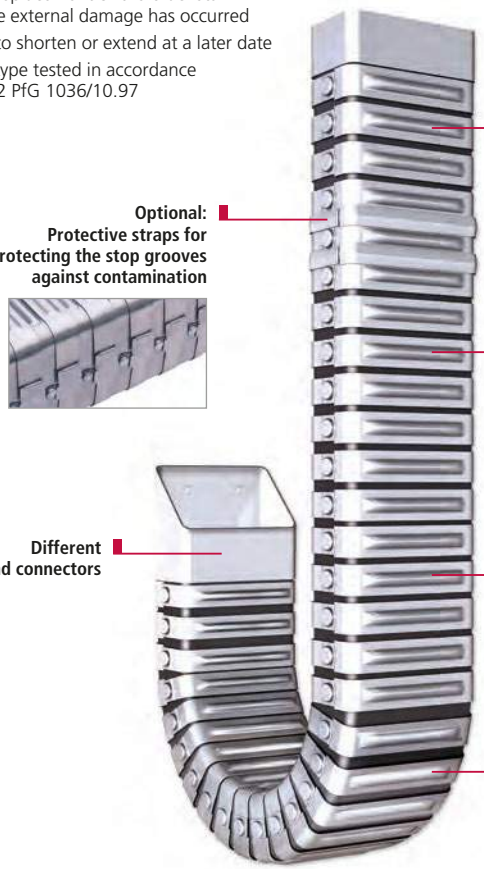
OnlineEngineer.de
TSUBAKI KABELSCHLEPP
Cable Carrier Configurator



CONDUFLEX

Closed designer cable carrier

- Very well sealed design
- With protective straps ideal for hot chips
- Easy replacement of the brackets where external damage has occurred
- Easy to shorten or extend at a later date
- TÜV type tested in accordance with 2 PfG 1036/10.97



Completely enclosed cable carriers in a sophisticated design

Optional: Protective straps for protecting the stop grooves against contamination

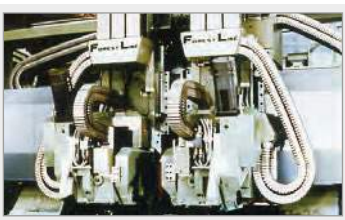
Attractive appearance due to stainless steel crossbars and frame made of fiberglass reinforced polyamide

Different end connectors

Optimum protection for cables and hoses

Quiet operation due to small pitch







CONDUFLEX – Designer cable carrier in use

Subject to change.

Inside heights
25 – 72

Inside widths
45 – 162

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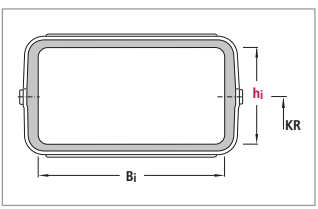
Types CF 055, 060, 085, 115, 120, 175

■ Closed cable carriers (TUBES)



Type	h_i	B_k	Maximum travel length in m	Dynamics of unsupported arrangement		Page
				Travel speed v_{max} in m/s	Travel acceleration a_{max} in m/s²	
CF 055	25	45	3.0	10	20	365
CF 060	40	36	3.5	10	20	365
CF 085	38	73	4.0	8	18	365
CF 115	52	102	5.0	8	16	365
CF 120	70	100	5.5	6	15	365
CF 175	72	162	6.0	6	12	365

Dimensions in mm



Example of ordering

Cable carrier					Connection
CF 120	.	140	-	1200	FSFI/MQF
CONDUFLEX Type		Bend radius KR in mm		Conduit length L_{ES} in mm (without connection)	Connection Fixed point/ Driver

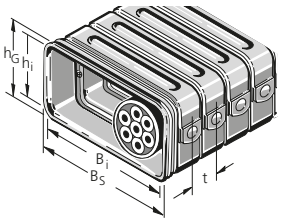
Subject to change.

Types CF 055, 060, 085, 115, 120, 175

Dimensions and intrinsic hose weight

Type	h_i mm	h_G mm	B_i mm	B_S mm	Intrinsic hose weight kg/m
CF 055*	25	38	45	62	1.25
CF 060	40	52	36	60	1.60
CF 085*	38	52	73	92	1.90
CF 115*	52	67	102	123	2.60
CF 120	70	86	100	127	3.80
CF 175*	72	94	162	190	5.20

*) KABELSCHLEPP CONDUFLEX TUBES CF 055, CF 085, CF 115 and CF 175 can be fitted with **protective straps**, to shield the impact slots of the plastic frame from contamination.





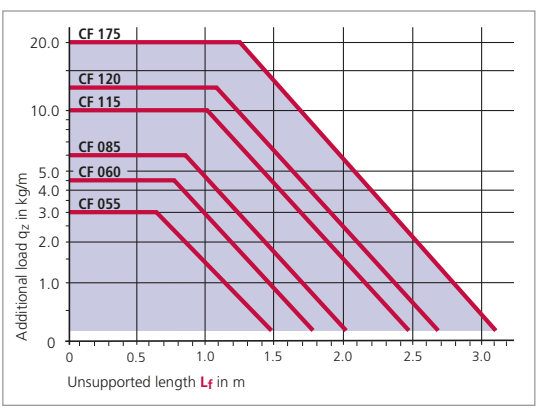
Bend radius and pitch

Type	Bend radii KR mm			
CF 055	65	100	150	–
CF 060	100	–	–	–
CF 085	100	150	200	250
CF 115	140	225	300	–
CF 120	155	200	–	–
CF 175	185	250	350	–

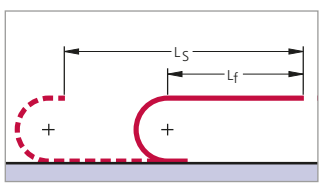
Pitch:
Typ CF 055: t = 20 mm
Typ CF 060: t = 20 mm
Typ CF 085: t = 20 mm
Typ CF 115: t = 25 mm
Typ CF 120: t = 25 mm
Typ CF 175: t = 30 mm

Load diagram

for unsupported length L_f depending on the additional load



Unsupported length L_f



Subject to change.

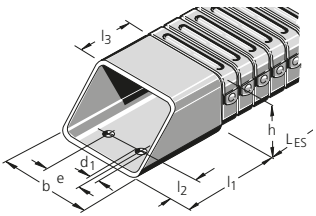
Types CF 055, 060, 085, 115, 120, 175

Connection dimensions

Inside heights
25 – 72

Inside widths
45 – 162

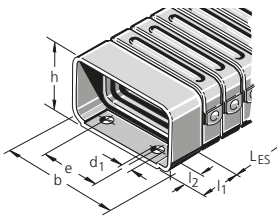
Diagonal flange connector – SF



CONDUFLEX Type	b	h	e	d_1	l_1	l_2	l_3
CF 055	55	36	22	6.5	44	12.5	20
CF 060	55	52	22	6.5	44	12.5	20
CF 085	85	50	50	6.5	70	15.0	32
CF 115	117	66	70	8.5	84	17.5	34
CF 120	120	84	70	8.5	82	17.5	38
CF 175	182	92	100	10.5	100	22.5	45

Dimensions in mm

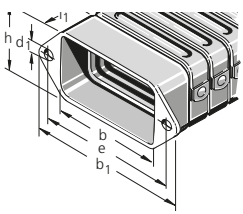
Standard connector bracket – ST



CONDUFLEX Type	b	h	e	d_1	l_1	l_2
CF 055	55	36	22	6.5	20	8.5
CF 060	–	–	–	–	–	–
CF 085	85	52	50	6.5	25	10.0
CF 115	116	68	65-70	8.5	35	10.0
CF 120	120	84	70	8.5	35	12.5
CF 175	182	92	100	10.5	40	15.0

Dimensions in mm

Cross flange connector bracket – QF



CONDUFLEX Type	b	h	b_1	e	d_1	l_1
CF 055	55	35	90	75	6.5	20
CF 060	–	–	–	–	–	–
CF 085	85	50	120	105	6.5	25
CF 115	116	64	160	140	8.5	35
CF 120	–	–	–	–	–	–
CF 175	182	90	226	200	10.5	40

Dimensions in mm

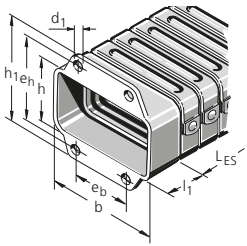
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Subject to change.

Types CF 055, 060, 085, 115, 120, 175

Connection dimensions

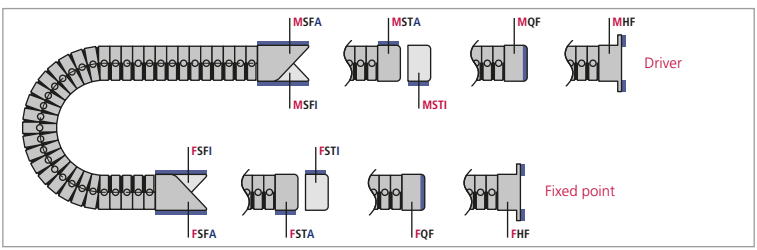
High flange bracket – HF



CONDUFLEX Type	b	h	h_1	e_b	e_h	d_1	l_1
CF 055	55	35	70	18	55	6.5	20
CF 060	–	–	–	–	–	–	–
CF 085	85	50	85	45	70	6.5	25
CF 115	116	64	110	60	90	8.5	35
CF 120	–	–	–	–	–	–	–
CF 175	182	90	136	95	110	10.5	40

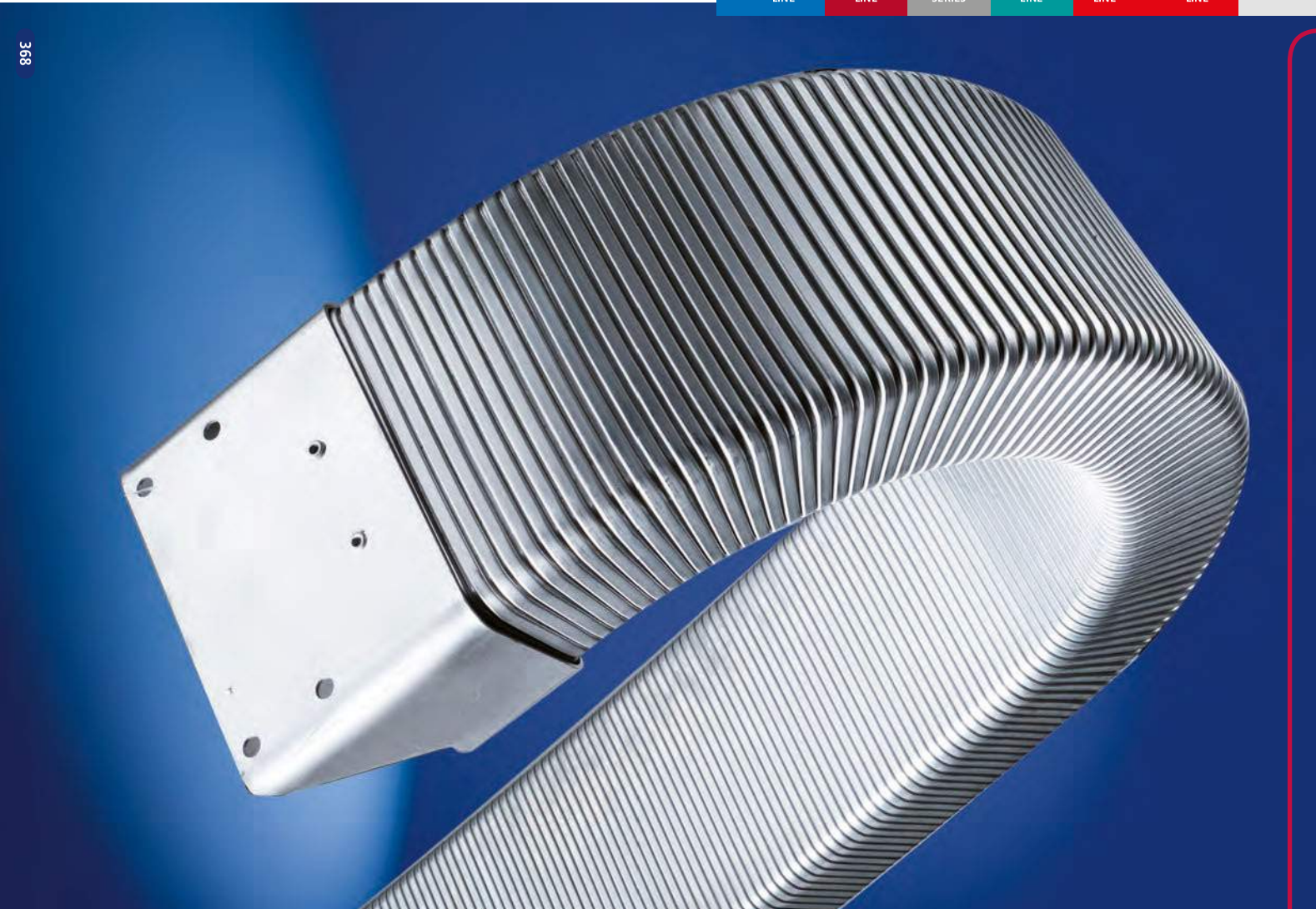
Dimensions in mm

Connection variants



The connectors SF, ST, QF and HF can be combined.

When ordering please specify the desired connection type (see ordering key on page 425).

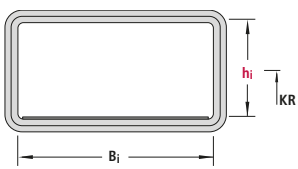


MOBIFLEX

Enclosed cable carrier with flexible metal helical tube

- Very well sealed design
- Ideal in case of hot metal chips
- Unsupported thanks to the inserted, pre-tensioned steel band





Type	h_i	B_k	Maximum travel length in m	Dynamics of unsupported arrangement		Page
				Travel speed v_{max} in m/s	Travel acceleration a_{max} in m/s²	
MF 030.1	24	26	2.0	10	20	370
MF 050.1	24	45	3.0	10	20	370
MF 050.2	44	45	3.0	10	20	370
MF 080.1	40	80	3.5	10	18	370
MF 080.2	54	80	3.5	10	18	370
MF 080.3	78	80	3.5	10	18	370
MF 110.1	53	109	4.0	6	15	370
MF 110.2	73	109	4.0	6	15	370
MF 110.3	108	109	4.0	6	15	370
MF 170.1	72	170	5.0	6	12	370
MF 170.2	102	170	5.0	6	12	370
MF 170.3	167	170	5.0	6	12	370

Dimensions in mm

Subject to change.

Inside heights
24 – 167

Inside widths
26 – 170

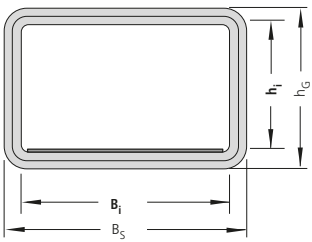
Types MF 030, 050, 080, 110, 170

Dimensions, intrinsic weight and bend radius

MOBIFLEX Type	B_S	B_i	h_G	h_i	Available bend radii KR				Weight G_S	Shortening L_{VK}
MF 030.1	30	26	30	24	80	–	–	–	1.2	45
MF 050.1	50	45	30	24	75	100	–	150	2.0	45
MF 050.2	50	45	50	44	110	150	–	200	2.5	80
MF 080.1	85	80	45	40	100	150	–	200	3.0	70
MF 080.2	85	80	60	54	150	200	–	250	3.5	95
MF 080.3	85	80	85	78	200	–	–	–	5.1	135
MF 110.1	115	109	60	53	150	200	–	250	4.8	95
MF 110.2	115	109	80	73	200	250	–	350	5.3	125
MF 110.3	115	109	115	108	300	–	–	–	6.6	180
MF 170.1	175	170	80	72	190	250	–	350	7.2	125
MF 170.2	175	170	110	102	250	300	–	400	8.2	175
MF 170.3	175	170	175	167	365	–	–	–	9.2	275

Dimensions in mm / Weight in kg/m

Stated bend radii = KR_{max}
Tolerances specified by manufacturer: -20 to -30 mm



Hose length (with loop):

$$L_{ES} \approx \frac{L_S}{2} + L_B$$

Bend length
$L_B = KR \cdot \pi$ + Reserve (KR)

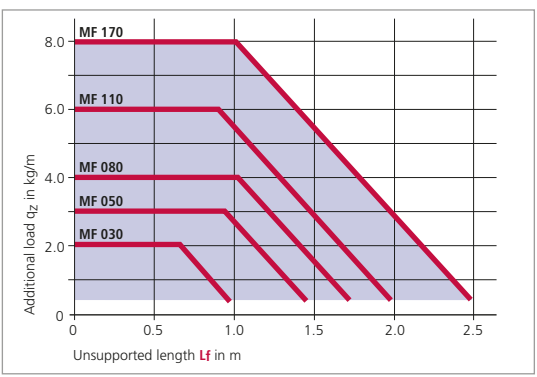
Stretched hose length:

$$L_{gestr.} = L_{ES} - L_{VK}$$

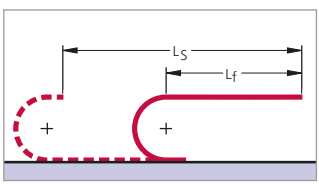
Hose shortening
$L_{VK} = h_G/2 \cdot \pi$

Load diagram

for unsupported length L_f depending on the additional load



Unsupported length L_f



Example of ordering

Cable carrier					Connection
MF 170.1	.	250	-	980	FSFI/MQF
MOBIFLEX Type		Bend radius KR in mm		Conduit length L_{ES} in mm (without connection)	Connection Fixed point/ Driver

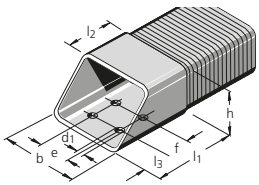
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Subject to change.

Types MF 030, 050, 080, 110, 170

Connection dimensions

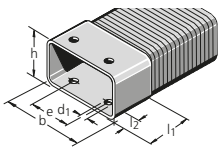
Diagonal flange connector – SF



Type	b	h	e	f	d	l_1	l_2	l_3
MF 030.1	34	34	–	40	9	120	60	10
MF 050.1	54	34	20	40	9	120	60	10
MF 050.2	54	54	20	40	9	120	60	10
MF 080.1	90	50	50	40	9	120	60	10
MF 080.2	90	65	50	40	9	120	60	10
MF 080.3	90	90	50	40	9	120	60	10
MF 110.1	120	65	80	40	9	120	60	10
MF 110.2	120	85	80	40	9	120	60	10
MF 110.3	120	120	80	40	9	120	60	10
MF 170.1	180	85	140	40	9	120	60	10
MF 170.2	180	115	140	40	9	120	60	10
MF 170.3	180	180	140	40	9	120	60	10

Dimensions in mm

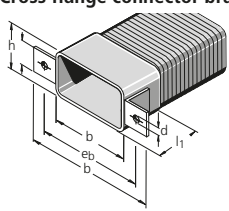
Standard connector bracket – ST



Type	b	h	e	e_b	e_h	d	l_1	l_2	b_w	b_1	h_1
MF 030.1	34	34	–	56	56	9	60	20	20	74	74
MF 050.1	54	34	20	76	56	9	60	20	20	94	74
MF 050.2	54	54	20	76	76	9	60	20	20	94	94
MF 080.1	89	49	50	111	71	9	75	20	20	129	89
MF 080.2	89	64	50	111	86	9	75	20	20	129	104
MF 080.3	89	89	50	111	111	9	75	20	20	129	129
MF 110.1	119	64	80	141	86	9	95	20	20	159	104
MF 110.2	119	84	80	141	106	9	95	20	20	159	124
MF 110.3	119	119	80	141	141	9	95	20	20	159	159
MF 170.1	179	84	140	201	106	9	95	20	20	219	124
MF 170.2	179	114	140	201	136	9	95	20	20	219	154
MF 170.3	179	179	140	201	201	9	95	20	20	219	219

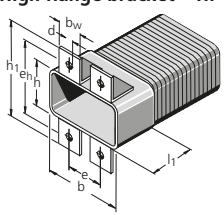
Dimensions in mm

Cross flange connector bracket – QF

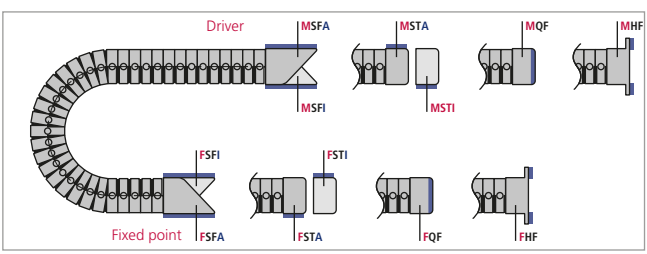


Front flange connectors can be supplied in accordance with customer drawings.

High flange bracket – HF



Connection variants



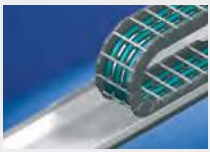
The connectors SF, ST, QF and HF can be combined.

When ordering please specify the desired connection type (see ordering key on page 425).

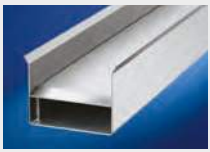
Subject to change.


Soudronic

Accessories for cable carriers



Support trays page 374



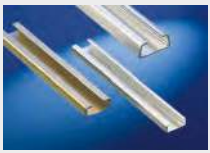
Guide channels page 375



RCC – Rail Cable Carrier page 379
ECC – Emergency Cable Carrier page 380



Strain relief devices page 381



Assembly profile bars page 387

Support trays

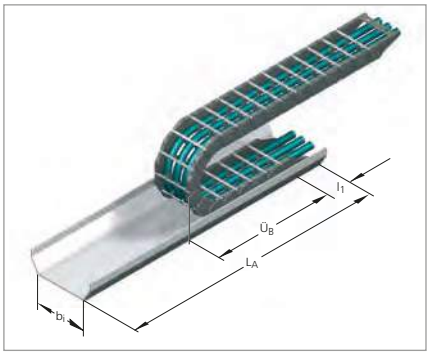
A flat surface is required for the safe operation of the cable carrier. If this is not available on site, a support tray must be provided.

The standard supply length is 2 m. Special lengths are available on request.





Single-part design





Materials: Zinc plated steel plate
Stainless steel plate
Aluminum plate

Should you require a support tray in a split design, please contact us. We would be happy to advise you.

Inside width (with standard connection)

$b_{1\ min} \approx B_k + 15\ mm$

Length (with standard connection)

$$L_A = \frac{L_S}{2} + Ü_B + l_1$$

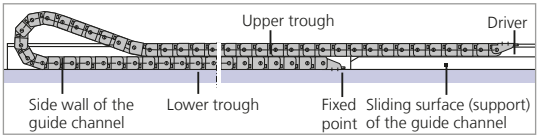
$Ü_B$ – loop overhang
l_1 – connection length
Where there is a strain relief device at the fixed point, the length of the support tray must be increased accordingly.

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Guide channels

In the case of long travel lengths the upper trough of the cable carrier **glides** on its lower trough. Beyond the fixed point the cable carrier glides on the sliding surface (support) of the guide channel.

The guide channels prevent the upper trough from slipping off the lower trough and ensure quiet, low-wear operation.

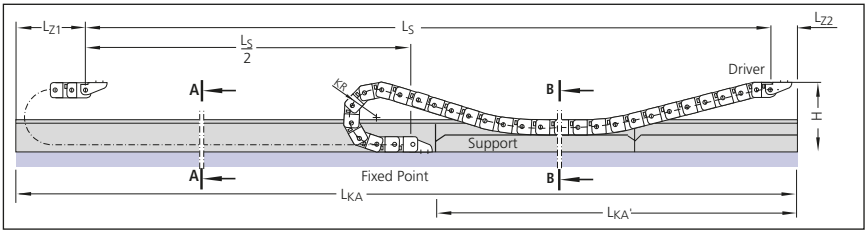




The economical solution: We recommend that the fixed point be placed in the middle of the travel length (central feed). This will result in the shortest lengths for the cable carrier, cables and guide channel.

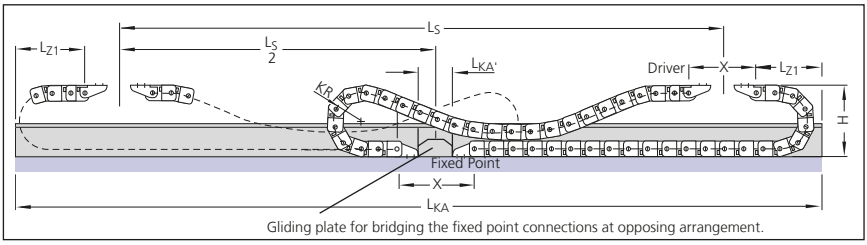
One-sided cable carrier arrangement (standard connection)

$L_{KA} = L_S + L_{Z1} + L_{Z2}$



Opposing cable carrier arrangement (standard connections)

$L_{KA} = L_S + 2\,L_{Z1} + X$



Explanation of terms – guide channels

L_S = Travel length of cable carrier

L_{KA} = Channel length

$L_{KA'}$ = Channel length with support
($\triangleq L_S/2$) with one-sided arrangement
($\triangleq X - 2\,l_1$) with opposing arrangement

L_{Z1} = Additional measurement for loop overhang ($\triangleq \ddot{U}_B + 50$ mm) with standard connection

L_{Z2} = Additional measurement for connection ($\triangleq l_1 + 50$ mm)

X = Connection distance with an opposing arrangement

Depending on the chain size, the channel inner width is 4-5 mm greater than the width of the guided cable carrier. Depending on the length of travel, the cable carrier connection heights should be reduced.

Do get in touch with us! We would be happy to calculate the dimensions of the guide channel to suit your application.

Guide channels made of steel plate – standard design

We also manufacture guide channels made of steel plate, customized for your application. In so doing, we can accommodate almost any wish as far as the special shape and fastening options are concerned. To reduce the gliding resistance and wear between the cable carrier and support, a special gliding plate can be glued on. We recommend the use of special gliding plates at speeds > 0.5 m/s and with frequent travel cycles.

- very easy and universal assembly – there is no alignment of the channel side walls with each other as there are no loose channel side walls
- large support widths due to stable U construction
- easy fixing options:
  – standard angle brackets
  – direct welding on-site
  – various special solutions with retaining bracket
- optionally as corrosion-resistant, sea water resistant version



Materials: Zinc plated steel plate/ stainless steel

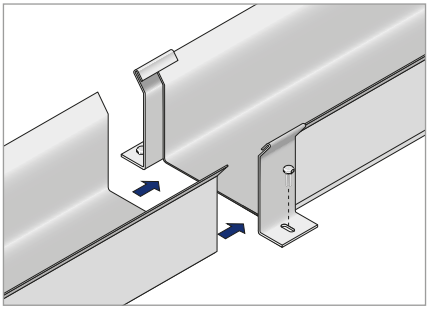
Delivery length: Standard length 2 m/ special lengths on request

Optional standard fixing with angle brackets

An angle bracket is mounted on the adjoining points and as well as fixing the channel to the floor also guarantees an exact connection of the adjoining points.

- optimum alignment of the adjoining points
- reduced installation times
- minimal number of threaded connections
- secure hold, also in harsh conditions

Please state the channel system when ordering if angle brackets will be needed.

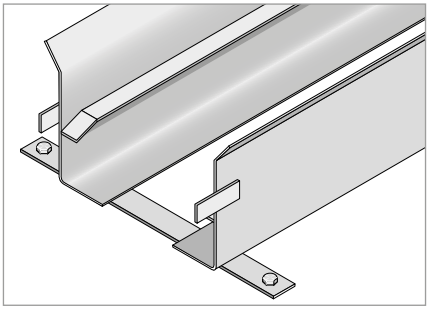


Examples of guide channels special solutions in steel plate design

Bottom open channel

- for fine-grain dirt particles, water, etc. ...
- dust and dirt can drop through the open design below
- application area in washing plants, the woodworking industry, composting plants ...

With KABELSCHLEPP guide channels, you have various different options for fixing them to the ground or on a support structure as well as the standard fixing. Also here, no adjoining point offset of the individual channel elements must occur at the connection points, i.e. sidewalls and floor must form a smooth surface.



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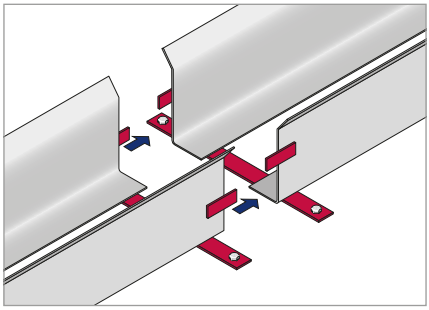
Subject to change.

Guide channels made of steel plate – standard design

Examples of guide channels special solutions in steel plate design

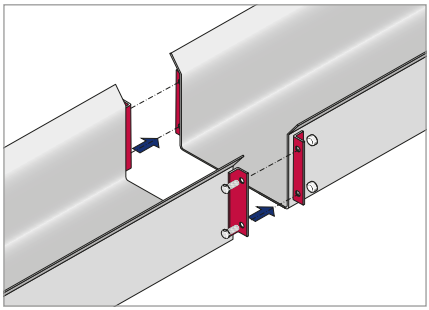
Attachment straps with flat profile

- very easy and universal assembly – there is no alignment of the channel side walls with each other as there are no loose channel side walls
- optimum alignment of the adjoining points
- reduced installation times
- minimal number of threaded connections
- plug-in system



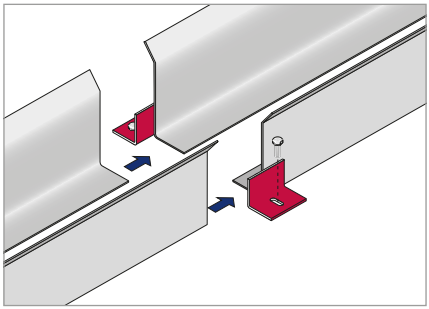
Unsupported connection points

- unsupported adjoining points without support (self-supporting) using flange connections
- secure, fixed connection to adjoining points also for extreme vibrations or in unsupported channel arrangements.



Fixing with fixing brackets

- easy alignment of the adjoining points
- reduced installation times
- minimized number of threaded connections



Subject to change.

Modular guide channel system made of aluminum profile bars

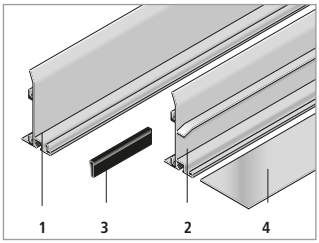
- Simple installation
- No joint bolting, simple alignment via double clamp connection with plastic clamping profiles.
- Can be supplied with a continuous floor plate if required.
- Easy handling
- Low intrinsic weight
- Single-part channel side walls
- Channel side wall profiles with support with bevels on both sides





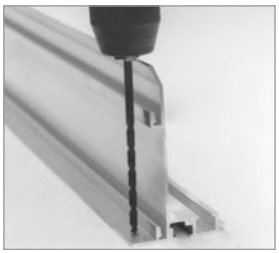


Standard lengths

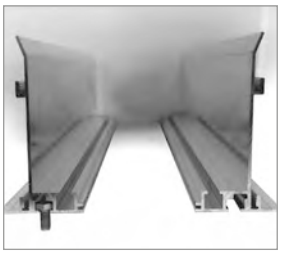


Part 1 channel side wall profile bar without support 1000 mm + 2000 mm
Part 2 channel side wall profile bar with support 1000 mm + 2000 mm
Part 3 plastic clamping profile 130 mm
Part 4 floor plate – available on request

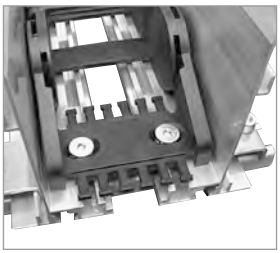
Examples of fastening options



Screwed on from the "outside"
Fastening screws are used for this purpose. A marking groove simplifies the alignment and drilling.



Screwed on from the "inside"
Recesses are provided in the channel profiles to accommodate hexagonal screws. The screws can be pushed along to the required place.



Attached with a clamp
Simple alignment with assembly on a C-Rail.

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Rail Cable Carrier – RCC

500 m travel length and more without sag

RCC
KABELSCHLEPP
Rail Cable Carrier



■ Rail Cable Carrier with proven cable and hose carrier MC 1250.

90%
less push/pull forces in comparison with gliding arrangement

For extremely long travel lengths

Rolling instead of gliding – the proven principle for less friction.

Due to the substantial friction, it is nearly impossible to realise travel lengths greater than 200 m. With the rail cable carrier, the upper trough does not glide on the bottom trough, it glides on guide rails. Rollers are mounted on ball bearings at the side of the carrier. The guide rails come in the standard connection height. The carrier does not sag. The **tension and thrust** is **90% less** in comparison to gliding arrangements.

Quiet and low-vibration operation

The rollers run on the guide rail and do not contact other rollers. Ball bearings and a polyurethane roller surface additionally contribute to quite and smooth operation.

Rail Cable Carrier

- suitable for very long travel lengths
- 90 % less tension and thrust than with a gliding arrangement, thus requiring substantially less driving power
- low-noise and low-vibration operation
- less space required and cost-optimised with a shorter loop overhang – minimum turnaround length
- no impacting of the rollers against one another
- long service life – low maintenance
- minimum stress on the cable and hose carrier and cables
- less push/pull forces
- high travel speeds up to 10 m/s possible
- possible additional load (cable weight) of more than 50 kg/m
- use of proven standard cable carriers
- the carrier cannot climb





Subject to change.

ECC – Emergency Cable Carrier

Safety for long travel lengths

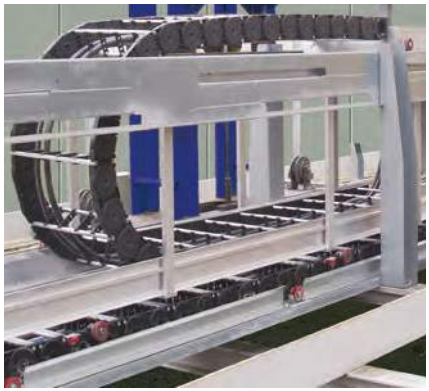
KABELSCHLEPP Emergency Cable Carrier

Blockages in the travel lengths of cable carriers in large systems can destroy the entire cable carrier system. This results in high costs and downtime for the entire system. The **ECC – Emergency Cable Carrier minimizes downtimes** and **avoids repair costs**.

The **Emergency Cable Carrier System with additional emergency stop system** has been developed especially for systems with long travel lengths.

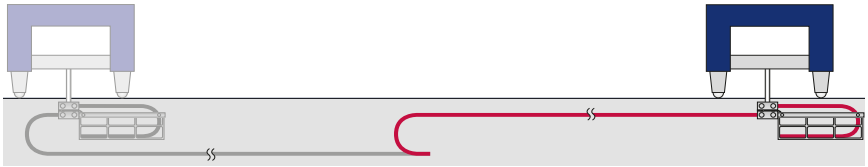
In applications in harsh environmental conditions it often happens that an object gets into the travel length of the carrier and blocks it. What is needed here is a system that detects such blockages and switches the system off. However, in large systems the moving mass is very large, which means that the moving unit continues to move for several meters even after braking is initiated. This leads to defects in the carrier, a complete failure of the system and extensive repair work. Our decoupling system for cable carriers offers, in addition to the emergency stop function, also a **bridging safeguard for the braking distance**.

Possible areas of application: all applications with long travel lengths, e.g.: crane, port, compost or coal conveyor systems, steel works and raw materials systems.

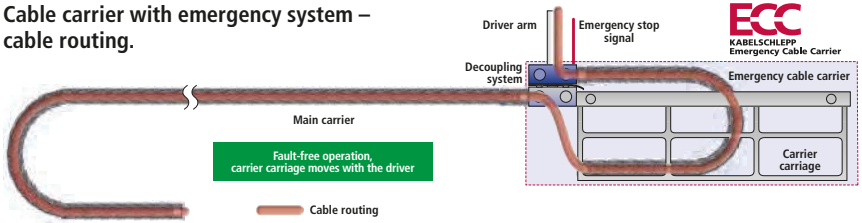


Emergency Cable Carrier on a Rail Cable Carrier. The system can also be adapted for gliding arrangements.

Emergency Cable Carrier System – a possible installation situation



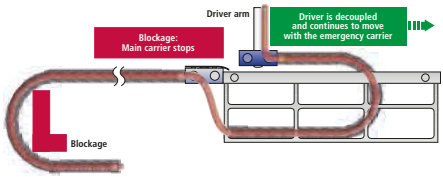
Cable carrier with emergency system – cable routing.



Decoupling system with automatic emergency cutout

Our Emergency Cable Carrier System offers, in addition to a bridging safeguard for the braking distance with an emergency carrier also an integrated emergency stop system.

The system is switched off if the preset maximum force on the driver of the main cable carrier is exceeded.

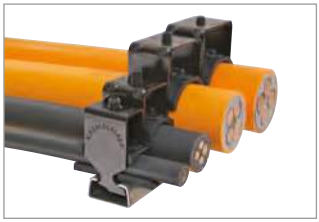


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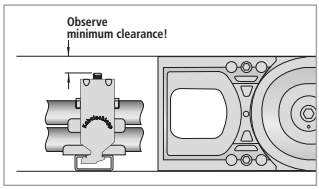
Subject to change.

Strain relief devices

The strain relief of the cables depends on the type of cable, the length of the cable carrier and the installation position.



In the case of cable carriers with upper and lower trough sliding on each other (installation variant EBV 05), the installation height of the strain relief must not be higher than the chain link height.



Overview strain relief elements

LineFix saddle-type clamps

- optimized base geometry for secure seating in C-rail
- for one cable and two or three cables on top of each other
- for C-rails with a slot width of 11 mm

See page 382.



Saddle-type clamps Type B

- for C-rails with a slot width of 16 – 17 mm

See page 383.



Strain relief comb strips

- higher fixing force than with a one-sided strain relief comb
- equal power transmission for both pulling and pushing

See page 384.



SZL strain relief devices

- gentle on the cable due to large surface area for enclosing the cables
- simple installation without tools

See page 385.



Block clamps

- for strain relief of hoses

See page 386.

Subject to change.

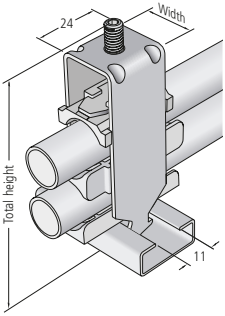
LineFix saddle-type clamps



- for C-rails with a slot width of 11 mm
- for one, two or three cables on top of each other
- optimized base geometry for secure seating in the C-profile
- high quality corrosion protection of the coated housing through cathode immersion painting
- pan design with retaining ribs for secure fixing of the cables
- rounded design of the pan elements is gentle on the cables
- **also available in stainless steel version**

LineFix Type	Desig-nation	Material no. for a complete LineFix	Material no. for a complete LineFix stain-less steel	Min. cable Ø	Max. cable Ø	Number of cables	Width	Total height with max. cable Ø incl. C-rail*
Single clamps 	LF 12-1	**13630**	**13731**	6	12	1	16	55
	LF 14-1	**13631**	**13732**	12	14	1	18	52
	LF 16-1	**13632**	**13733**	14	16	1	20	54
	LF 18-1	**13633**	**13734**	16	18	1	22	56
	LF 20-1	**13634**	**13735**	18	20	1	24	59
	LF 22-1	**13635**	**13736**	20	22	1	26	61
	LF 26-1	**13636**	**13737**	22	26	1	30	70
	LF 30-1	**13637**	**13738**	26	30	1	34	74
	LF 34-1	**13638**	**13739**	30	34	1	38	78
	LF 38-1	**13639**	**13740**	34	38	1	42	82
	LF 42-1	**13640**	**13741**	38	42	1	46	91
Double clamps 	LF 12-2	**13641**	**13742**	6	12	2	16	73
	LF 14-2	**13642**	**13743**	12	14	2	18	74
	LF 16-2	**13643**	**13744**	14	16	2	20	82
	LF 18-2	**13644**	**13745**	16	18	2	22	86
	LF 20-2	**13645**	**13746**	18	20	2	24	91
	LF 22-2	**13646**	**13747**	20	22	2	26	95
	LF 26-2	**13647**	**13748**	22	26	2	30	108
	LF 30-2	**13648**	**13749**	26	30	2	34	121
	LF 34-2	**13649**	**13750**	30	34	2	38	129
Triple clamps 	LF 12-3	**13650**	**13751**	6	12	3	16	98
	LF 14-3	**13651**	**13752**	12	14	3	18	98
	LF 16-3	**13652**	**13753**	14	16	3	20	105
	LF 18-3	**13653**	**13754**	16	18	3	22	111
	LF 20-3	**13654**	**13755**	18	20	3	24	118
	LF 22-3	**13655**	**13756**	20	22	3	26	130

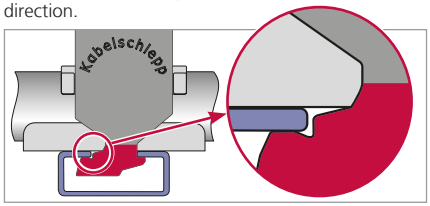
* Material No.: 3934



The total height specification is an approximate value. The actual height depends on the diameter and characteristics of the cables, among other things.

Secure seating and easy assembly.

The retaining lug fixes the base securely in the C-profile in the screwed-on state and prevents the clamp from rocking out in case of tensile and compressive loads, regardless of the installation direction.



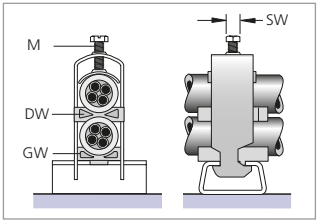
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Saddle-type clamps Type B

Saddle-type clamps with a large base

For all common commercial C-Profiles with a slot width of 16 – 17 mm



Single clamps for one cable

Type	Cable-Ø	Opposite sleeve	Double sleeve DW
B 12	6 – 12	GW 12	–
B 14	10 – 14	GW 14	–
B 16	12 – 16	GW 16	–
B 18	14 – 18	GW 18	–
B 22	18 – 22	GW 22	–
B 26	22 – 26	GW 26	–
B 30	26 – 30	GW 30	–
B 34	30 – 34	GW 34	–
B 38	34 – 38	GW 38	–
B 42	38 – 42	GW 42	–
B 46	42 – 46	GW 46	–
B 50	46 – 50	GW 45	–

Dimensions in mm

Double clamps for two cables, one above the other

Type	Cable-Ø	Opposite sleeve	Double sleeve DW
B 12/2	6 – 12	GW 12	DW 12
B 14/2	10 – 14	GW 14	DW 14
B 16/2	12 – 16	GW 16	DW 16
B 18/2	14 – 18	GW 18	DW 18
B 22/2	18 – 22	GW 22	DW 22
B 26/2	24 – 26	GW 22	DW 26
B 30/2	28 – 30	GW 22	DW 30
B 34/2	32 – 34	GW 22	DW 34
B 38/2	36 – 38	GW 22	DW 38
B 42/2	40 – 42	GW 22	DW 42

Dimensions in mm

Triple clamps for three cables one above another

Type	Cable-Ø	Opposite sleeve	Double sleeve DW
B 12/3	12	GW 12	DW 12
B 14/3	14	GW 14	DW 14
B 16/3	16	GW 16	DW 16
B 18/3	18	GW 18	DW 18
B 22/3	22	GW 22	DW 22
B 26/3	26	GW 26	DW 26
B 30/3	30	GW 30	DW 30

Dimensions in mm

Subject to change.

Strain relief comb strips

For separate strain relief or fastening the cables outside the cable carrier – suitable for all cable and hose carriers.

The strain relief combs have rows of teeth on both sides. So every cable can be fixed securely with two cable binders.

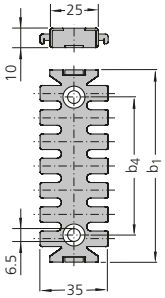
Rows of teeth on both sides for fixing cables

- secure fixing with two or four cable binders
- higher fixing force than for strain relief comb on one side
- even tensile and thrust force transmission
- minimized cable movement

Strain relief comb with C-profile connectors



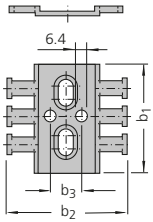
Ident-No.	b1 mm	b4 mm	No. of teeth
53654	49	21	3
53655	74	46	5
53656	99	71	7
53657	124	96	9
53658	149	121	11
53659	174	146	13
76550	54	21	3
76551	79	46	5
76552	104	71	7
76553	129	96	9
76554	154	121	11
76555	179	146	13



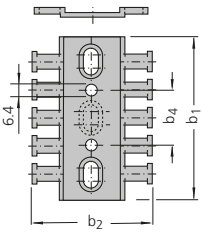
Strain relief comb



Ident-No.	b1 mm	b2 mm	b3 mm	No. of teeth
53983	50	53	14	3
53684	65	53	14	4
52490	70	70	20	4



Ident-No.	b1 mm	b2 mm	b4 mm	No. of teeth
53984	70	53	15	4
53985	90	53	35	6
53986	115	53	60	8
53987	142	53	87	10
53685	90	53	25	6
53686	115	53	50	8
53687	140	53	75	10
53688	165	53	100	12
52491	95	70	20	6
52492	120	70	40	8
52493	145	70	65	10
52494	170	70	90	12
52495	195	70	115	14
52496	220	70	140	16
52497	245	70	165	18
52498	270	70	190	20



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Subject to change.

SZL strain relief devices

- economically priced
- installation – easy, fast and without tools
- gentle on cables due to large surface area contact with the cables
- small installation height
- without screws and cable binders
- defined contact pressure exerted by spring clamps
- suitable for common commercially available support rails
- immune to vibration
- long service life for dynamic applications
- can also be used as strain relief in switch cabinets

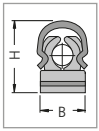


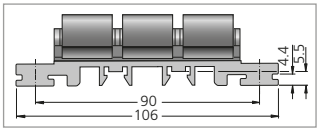


Available sizes

Type	Ident-No.	For cable-Ø	Width B at		Hight H
			Ø min	Ø max	
SZL 8	24989	> 5.0 - 8.0 mm	16	16	28
SZL 10	24990	> 8.0 - 10.5 mm	20	20	30
SZL 14	24991	>10.5 - 14.5 mm	23	26	35
SZL 18	24992	>14.5 - 18.0 mm	25	32	40
SZL 22	24993	>18.0 - 22.0 mm	30	36	44
SZL 27	24994	>22.0 - 27.0 mm	34	39	50
SZL 32	24995	>27.0 - 32.0 mm	39	44	56

Dimensions in mm





Fixing options



1. By clipping into C-Profiles.



2. By clipping onto cap bar.



3. By pushing into two C-Profile bars.



4. By directly screwing.

Solutions 3 and 4 make the transmission of large tensile forces possible and are therefore recommended as standard solutions.

Installation of the SZL strain relief device









Subject to change.

Block clamps

- for strain relief of hoses
- with clamping bolt(s) and mounting rail nut(s)



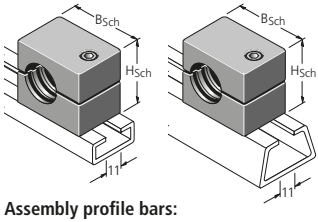
Single clamps – one cable

Type BS 0

Type	For cable Ø	Height H_{Sch}	Width B_{Sch}	Bolts M6 – DIN 6912		Item-No.
				Number	Length	
BS 0.06	6 mm	26	28	1	35	**16701**
BS 0.07	6.5 mm	26	28	1	35	**16702**
BS 0.08	8 mm	26	28	1	35	**16703**
BS 0.09	9.5 mm	26	28	1	35	**16704**
BS 0.10	10 mm	26	28	1	35	**16705**

Other sizes and designs available on request! Dimensions in mm

Type **BS 0.__**



Assembly profile bars:

Material: Steel
Item-No.: 3931

Material: Steel
Item-No.: 3934

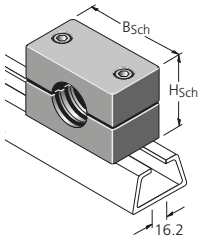
Type BS 1 – BS 5

Type	For cable Ø	Height H_{Sch}	Width B_{Sch}	Bolts M6 – DIN 6912		Item-No.
				Number	Length	
BS 1.06	6 mm	26	34	2	35	**16706**
BS 1.07	6.5 mm	26	34	2	35	**16707**
BS 1.08	8 mm	26	34	2	35	**16708**
BS 1.09	9.5 mm	26	34	2	35	**16709**
BS 1.10	10 mm	26	34	2	35	**16710**
BS 1.12	12 mm	26	34	2	35	**16711**
BS 2.14	14 mm	32	40	2	40	**16712**
BS 2.16	16 mm	32	40	2	40	**16713**
BS 2.18	18 mm	32	40	2	40	**16714**
BS 3.20	20 mm	36	48	2	45	**16715**
BS 3.22	22 mm	36	48	2	45	**16716**
BS 3.23	25 mm	36	48	2	45	**16717**
BS 3.25	25.5 mm	36	48	2	45	**16718**
BS 3.27	27 mm	36	48	2	45	**16719**
BS 3.30	30 mm	36	48	2	45	**16721**
BS 4.32	32 mm	56	69	2	65	**16722**
BS 4.34	34 mm	56	69	2	65	**16723**
BS 4.35	35 mm	56	69	2	65	**16724**
BS 4.38	38 mm	56	69	2	65	**16725**
BS 4.40	40 mm	56	69	2	65	**16726**
BS 4.42	42 mm	56	69	2	65	**16727**
BS 5.45	44.5 mm	65	85	2	75	**16728**
BS 5.48	48.5 mm	65	85	2	75	**16729**
BS 5.51	51 mm	65	85	2	75	**16731**

Other sizes and designs available on request! Dimensions in mm

Material of the clamping jaws: PP

Type **BS 1.__ - BS 5.__**



Assembly profile bars:

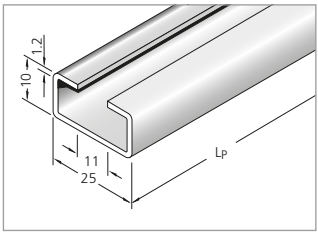
Material: Steel
Item-No.: 3932

Subject to change.

Assembly profile bars for strain relief devices



C-Profile 25 x 10 mm

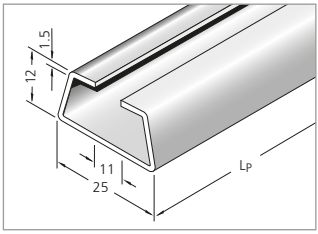


Fits all commercial clamps
(slit width 11 mm),
Types LineFix see page 382.

Material	**Item-No.**
Steel	3931

Attach profile with M 6 – DIN 6912 sockethead cap screws.

C-Rail 25 x 12 mm

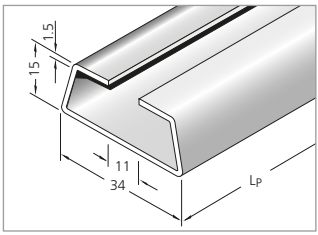


Fits all commercial clamps
(slit width 11 mm),
Types LineFix see page 382.

Material	**Item-No.**
Steel	3934

Attach profile with M 6 – DIN 6912 sockethead cap screws.

C-Rail 34 x 15 mm

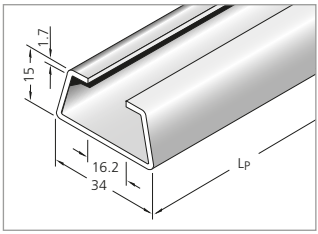


Fits all commercial clamps
(slit width 11 mm),
Types LineFix see page 382.

Material	**Item-No.**
Steel	3935

Attach profile with M 6 – DIN 6912 sockethead cap screws.

C-Rail 34 x 15 mm



Fits all commercial clamps
(slit width 16 – 17 mm),
Types B see page 383.

Material	**Item-No.**
Steel	3932

Attach profile with M 10 – DIN 6912 sockethead cap screws.

Subject to change.

Opening tools

Assembly wrench for the quick opening of connecting stays

Assembly wrench RV stay

Fits all RV stays
Item-No. 16094



Assembly wrench RS stay

Fits all RS stays
Item-No. 16090



Assembly wrench 0321

Fits stay M0320
Item-No. 16091



Screwdriver 7 mm

Screwdriver to open covers and stays (7 mm slot width)
Item-No. 16089


Picture obtainable.

Assembly tool TKZP

Extremely quick closing of the profile for installation of cables and hoses
Item-No. 16088



Opening tool UNIFLEX *Advanced*

Opening tools for UNIFLEX Advanced 1455, 1555, 1665

- Extremely quick and preserving material
- Open 1 m cable carrier in less then 2 seconds
- Can also be used in the guide channel
- Cable carriers containing cables can also be opened without problem.







Type	Version	Item-No.
1455	single	16096
1555	single	16098
	twin	16097
1665	single	16100
	twin	16099

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Notes

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Photograph: FIBRO GmbH

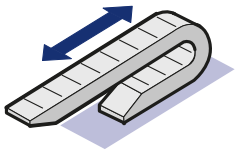
Installation variants

Examples of different installation variants of KABELSCHLEPP cable carriers

Examples of different installation variants

Horizontal arrangement "unsupported"

EBV 01

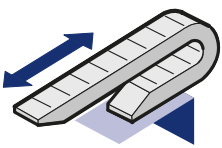






Horizontal arrangement "unsupported – overhanging"

EBV 02

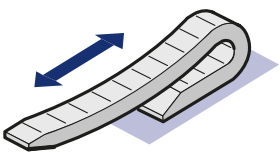






Horizontal arrangement "with permissible sag"

EBV 03

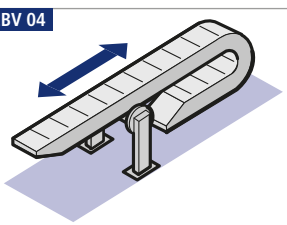






Horizontal arrangement "with support"

EBV 04







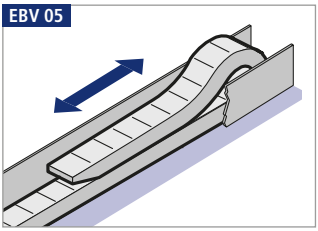
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Subject to change.

Examples of different installation variants

Horizontal arrangement "gliding in a guide channel"

EBV 05



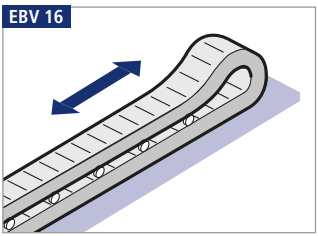




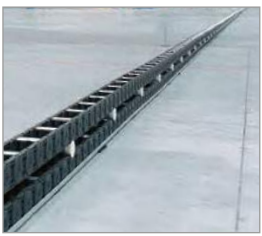
Horizontal arrangement "KabelSkate"

Roller system for travel paths up to 200 m and more

EBV 16



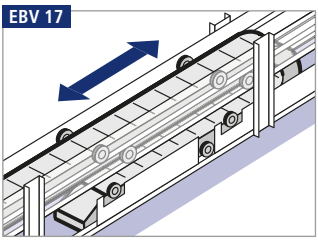




Horizontal arrangement "Rail Cable Carrier"

Roller system for travel paths up to 500 m and more

EBV 17

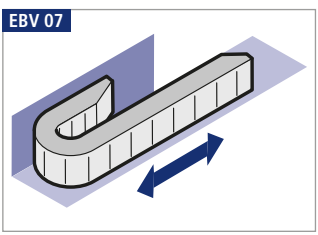






Horizontal arrangement "rotated through 90° – straight"

EBV 07



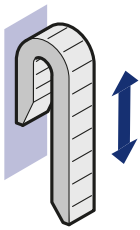


Subject to change.

Examples of different installation variants

Vertical arrangement "standing"

EBV 10

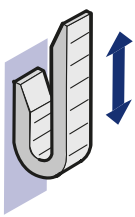






Vertical arrangement "hanging"

EBV 11

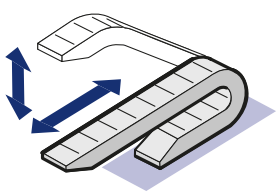






Horizontal/vertical arrangement "combined"

EBV 12





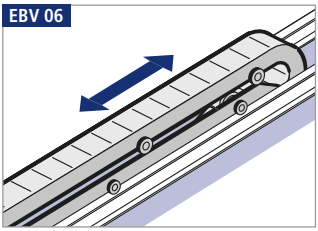


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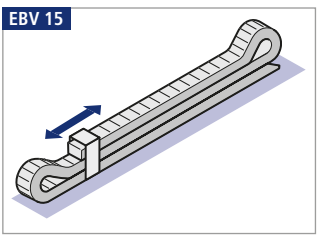
Examples of different installation variants

Horizontal arrangement "with continuous support structure"



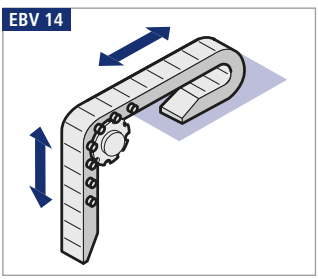



Arrangement "DYNAGLIDE"



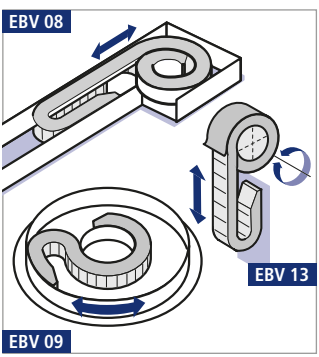



Vertical arrangement "hanging with load-bearing bolts"





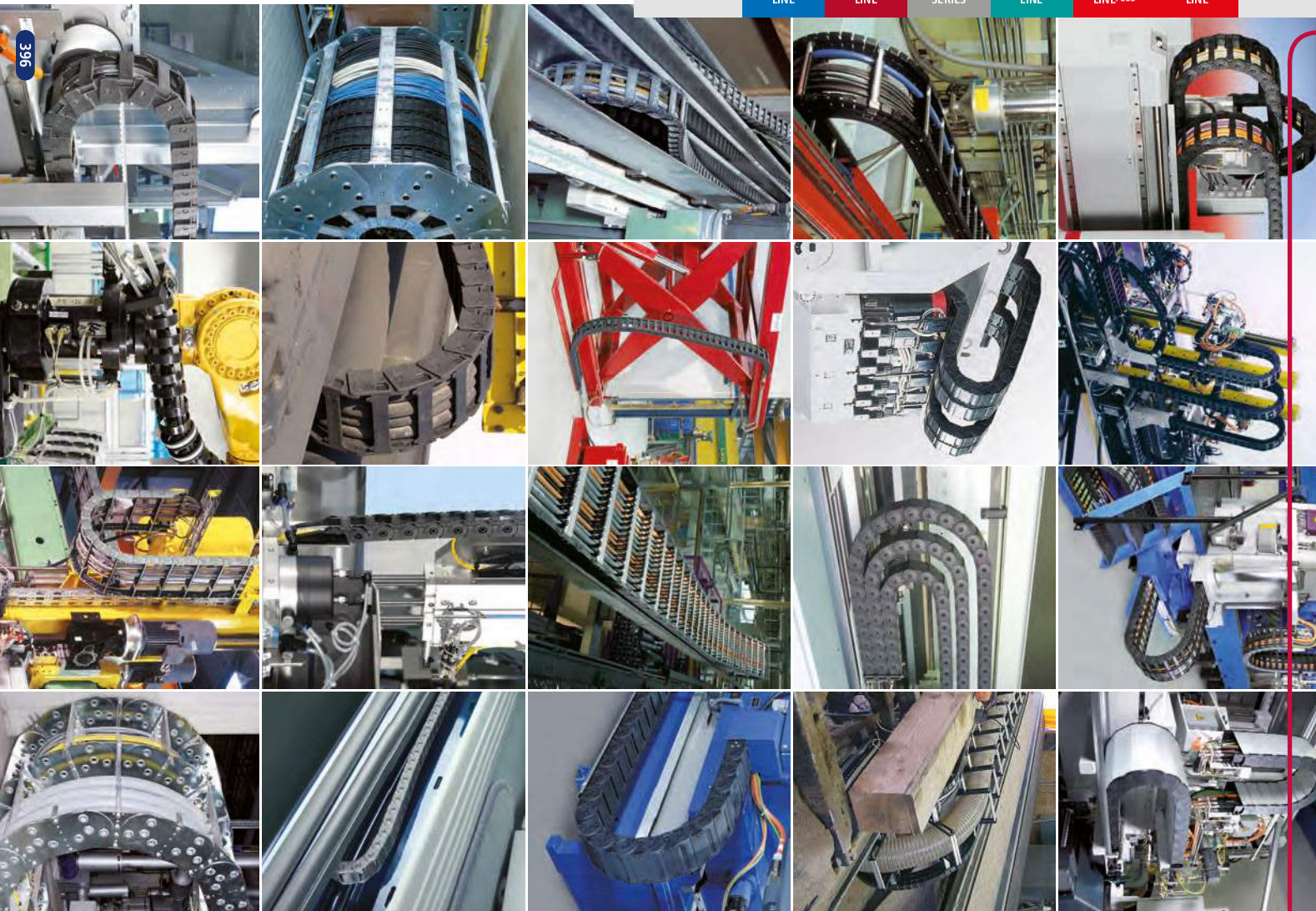

Rotating arrangements







Subject to change.



Application examples

KABELSCHLEPP cable carriers made of plastic or steel in use

Application examples



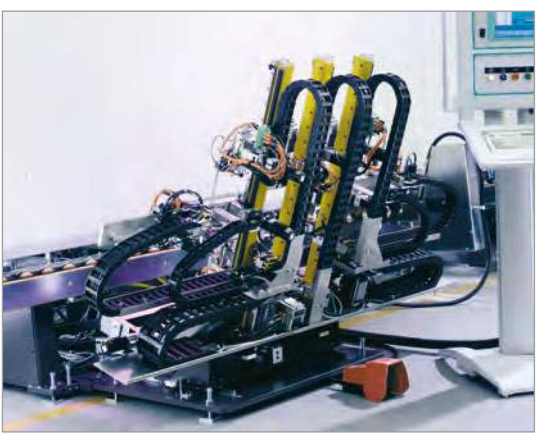


UNIFLEX Series cable carrier on a CNC-machining center

Photographs: Reichenbacher GmbH







UNIFLEX Series cable carriers on an automatic window frame setting station

Photographs: Lenhard Maschinenbau GmbH

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Subject to change.

Application examples





Cable and hose carriers of the **UNIFLEX** and **MONO series** on a roll neck milling machine

Photographs:
Rottler Werkzeugmaschinen GmbH





Cable and hose carriers of the **MASTER LT series** on a tube end processing machine

Photographs: Rottler Werkzeugmaschinen GmbH

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TSUBAKI KABELSCHLEPP
Cable Carrier Configurator

Subject to change.

Application examples



MONO Series cable carrier systems, type 0450
Installation variants: horizontal "unsupported" – and vertical "standing"
Photograph: Reis Robotics

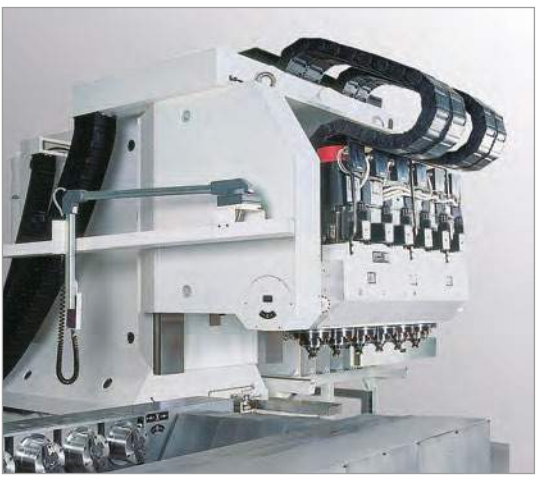


QUANTUM cable carrier system on a handling system
Photograph: SEW





QUANTUM cable carrier system on a handling system



M Series cable carrier on a high-performance machining center
Photograph: Liechti Engineering AG

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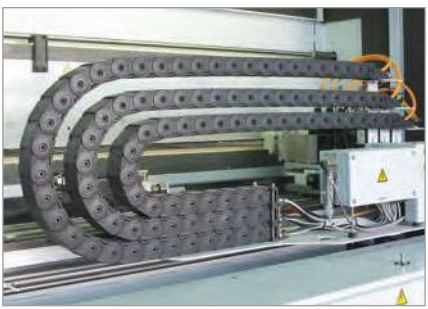
Subject to change.

Application examples



UNIFLEX Series cable and hose carriers on an automatic wood processing machine

Photographs: Homag Holzbearbeitungssysteme AG





QUANTUM cable carrier system on a wood processing machine



MONO Series cable and hose carriers on a wood processing machine

Photographs: Krüsi Maschinenbau AG



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Cable Carrier Configurator

Subject to change.

Application examples





UNIFLEX Series cable and hose carriers on a scissored coil lift

Photographs: Grundei Hebetische Verladetechnik GmbH





M Series cable and hose carriers on a highrise rack

Photographs: BMW AG

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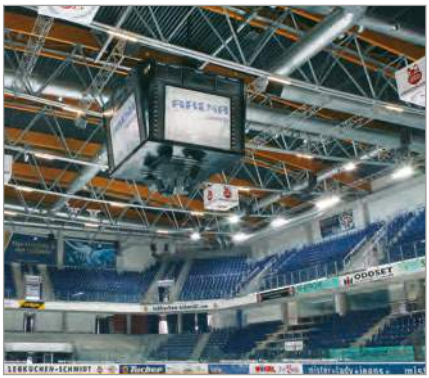
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Application examples





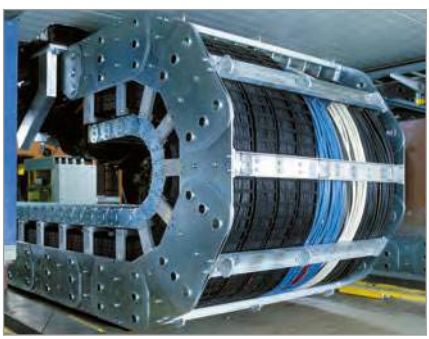


UNIFLEX cable carrier system in a zig-zag system on a lowerable multimedia cube in the Nuremberg Arena



Type MT 0950 cable carrier on a roll grinding machine Installation variant: horizontal – "unsupported"

Photograph:
Waldrich Siegen Werkzeugmaschinen GmbH



Type MK 0475 cable carrier for separating the cables in a steel cable carrier system, **Type 3200** on the ZEUS detector

Photograph:
Deutsches Elektronen-Synchrotron, Hamburg

Subject to change.

Application examples





MONO and UNIFLEX Series cable and hose carriers on a tow truck



UNIFLEX Series cable and hose carriers on a forklift

Photograph: Ing. G+M Schurz GesmbH







MONO cable carriers on a pillar jib crane

Photographs: VETTER Fördertechnik GmbH

Subject to change.

Application examples





UNIFLEX Series cable carrier on a packaging machine
Photographs: Transnova-Ruf GmbH



ROBOTRAX, **K Series** and **M Series** cable carriers on a laser cutting machine
Photograph: Soudronic AG Automotive

Subject to change.

Application examples





Type 0161 cable carrier system in an automobile sliding door







MONO and **UNIFLEX Series** cable carriers on packaging machines
Photographs: Transnova-Ruf GmbH

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Subject to change.

Application examples





ROBOTRAX cable carriers on a jointed-arm robot
Photographs: Daimler Chrysler AG



ROBOTRAX cable carrier system:
Angle of rotation about 180° without channel system on a buckling arm robot application
Photographs: Reis Robotics, Arthur Bräuer GmbH & Co. KG





ROBOTRAX cable carriers on a jointed-arm robot
Photograph: SCA Schucker GmbH & Co.





ROBOTRAX cable carriers on an assembling system
Photographs: Gerstung Systemtechnik GmbH





ROBOTRAX cable carrier system on a combined portal and buckling arm robot application
Photographs: Güdel AG, Langenthal

Subject to change.

Application examples







ROBOTRAX cable carrier system and steel cable carriers on a manipulator for handling crankcase core stackings

Photographs: Hottinger Maschinenbau GmbH





UNIFLEX Series cable carrier and KABELSCHLEPP telescopic cover on a highspeed machining center

Photograph: EiMa Maschinenbau GmbH

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Subject to change.

Application examples





Steel and plastic cable carriers and KABELSCHLEPP telescopic covers on a gantry milling machine
Photograph: Waldrich Siegen Werkzeugmaschinen GmbH





Steel cable carriers on a movable roof construction
Photographs: Lindenschmidt KG



Steel cable carriers with steel band cover on a shredding system
Photographs: Lindenschmidt KG



Steel cable carriers on a CNC drilling machine
Photographs: Rottler Rottler Werkzeugmaschinen GmbH

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Cable Carrier Configurator

Subject to change.

Application examples





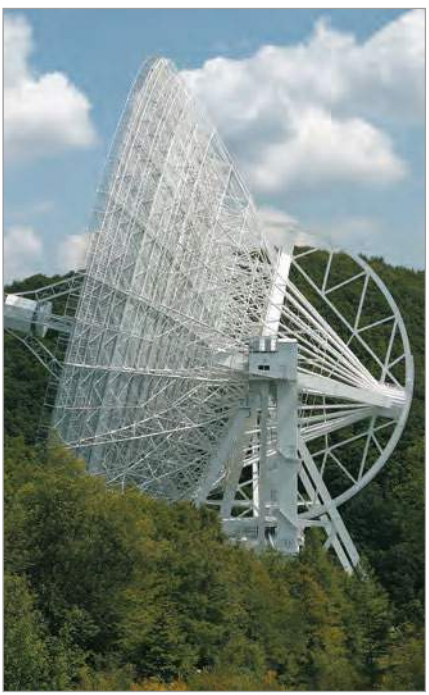




Steel cable carriers on a scissored coil lift
Photographs: SÜDO GmbH







Steel cable carriers with aluminum cover system on a radio telescope
Photographs: Max-Planck-Institut für Radioastronomie

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Subject to change.

Application examples





Steel cable carriers on a paper machine
Photographs: Voith Paper Technology Center GmbH





Steel cable carriers on a drilling system
Photograph: Prime Drilling GmbH





Steel cable carriers on a laser cutting machine
Photographs: Meyer Werft GmbH

Subject to change.

BASIC-LINE

UNIFLEX

Ordering cable carrier

Cable carrier

1555	-	030	-	100	-	125	-	1332
Type		Design		Inside width B_i in mm		Bend radius KR in mm		Chain length L_i in mm (without connection)

Ordering divider system

Divider system

TS 0	/	3
Divider system		Number of dividers fit

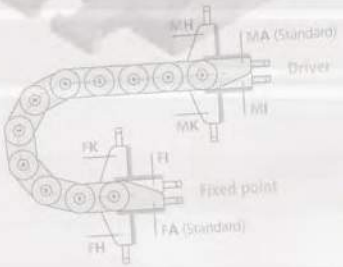
Please state the designation of the divider system (TS 0, TS 1 ...) and number of dividers. Possibly attach a sketch with the dimensions (see page 288).

Ordering plastic connectors

Connection

F	A	/	M	A
Fixed point	Connection type		Driver	Connection type

If no order designation for the connector is stated, we supply the connector variant **FA/MA (standard)**.



Connection point

M – Driver
F – Fixed point

Connection type

A – Threaded joint outside (standard)
I – Threaded joint, inside
H – Threaded joint, rotated through 90° to the outside
K – Threaded joint, rotated through 90° to the inside

The connector type can be changed later simply by changing the connectors.

For possible connection variants see the respective product description.

Ordering Universal Mounting Brackets (UMBs)

Subject to change.

Ordering

Ordering key and sample orders for KABELSCHLEPP cable carriers

Subject to change.

BASIC-LINE

MONO

Ordering cable carrier – Types 0130 to 0202

Cable carrier

0202	.	10	.	28	-	460
Type		Inside width B_i in mm		Bend radius KR in mm		Chain length L_k in mm (without connection)

Ordering cable carrier – Type 0320

Cable carrier

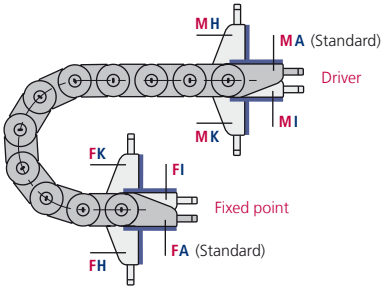
0320.42	.	77	-	800
Chain type		Bend radius KR in mm		Chain length L_k in mm (without connection)

Ordering connection

Connection

F	A	/	M	A
Fixed point	Connection type		Driver	Connection type

If no order designation for the connector is stated, we supply the connector variant **FA/MA (Standard)**.



Connection point
M – Driver
F – Fixed point

Connection type
A – Threaded joint outside (standard)
I – Threaded joint, inside
H – Threaded joint, rotated through 90° to the outside
K – Threaded joint, rotated through 90° to the inside

For possible connection variants see the respective product description.

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Subject to change.

BASIC-LINE

QuickTrax

Ordering cable carrier

Cable carrier

QT 0320	.	030	.	38	.	48	-	640
Type		Design		Inside width B_i in mm		Bend radius KR in mm		Chain length L_k in mm (without connection)

Ordering divider system

Divider system

TS 0	/	1
Divider system		Number of dividers n_T

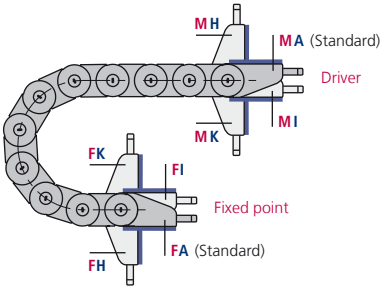
Please state the designation of the divider system (TS 0, TS 1 ...) and number of dividers. Possibly attach a sketch with the dimensions (see page 426).

Ordering plastic connectors

Connection

F	A	/	M	A
Fixed point	Connection type		Driver	Connection type

If no order designation for the connector is stated, we supply the connector variant **FA/MA (Standard)**.



Connection point
- **M** – Driver
- **F** – Fixed point

Connection type
- **A** – Threaded joint outside (standard)
- **I** – Threaded joint, inside
- **H** – Threaded joint, rotated through 90° to the outside
- **K** – Threaded joint, rotated through 90° to the inside

The connector type can be changed later simply by changing the connectors.
For possible connection variants see the respective product description.

BASIC-LINE

UNIFLEX *Advanced* / UNIFLEX / TKP35

Ordering cable carrier

Cable carrier

1555	.	030	.	100	.	125	-	1332
Type		Design		Inside width B_i in mm		Bend radius KR in mm		Chain length L_K in mm (without connection)

NOTE:

UNIFLEX Advanced replaces UNIFLEX 0455/0555/0665 030/040

+ improved design
+ more cost effective

> from page 12

Ordering divider system

Divider system

TS 0	/	3
Divider system		Number of dividers n_T

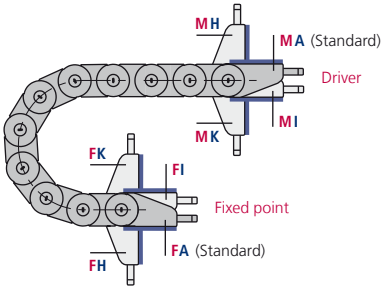
Please state the designation of the divider system (TS 0, TS 1 ...) and number of dividers. Possibly attach a sketch with the dimensions (see page 426).

Ordering plastic connectors

Connection

F	A	/	M	A
Fixed point	Connection type		Driver	Connection type

If no order designation for the connector is stated, we supply the connector variant **FA/MA (Standard)**.



Connection point
M – Driver
F – Fixed point

Connection type
A – Threaded joint outside (standard)
I – Threaded joint, inside
H – Threaded joint, rotated through 90° to the outside
K – Threaded joint, rotated through 90° to the inside

The connector type can be changed later simply by changing the connectors.
For possible connection variants see the respective product description.

Ordering Universal Mounting Brackets (UMBs)

Connection

FU/MU
Connection Fixed point/ Driver

For possible connection variants see the respective product description.

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BASIC-LINE^{PLUS}

EasyTrax

Ordering cable carrier

Cable carrier

ET 0320	.	030	.	38	.	48	-	640
Type		Design		Inside width B_i in mm		Bend radius KR in mm		Chain length L_k in mm (without connection)

Ordering divider system

Divider system

TS 0	/	1
Divider system		Number of dividers n_T

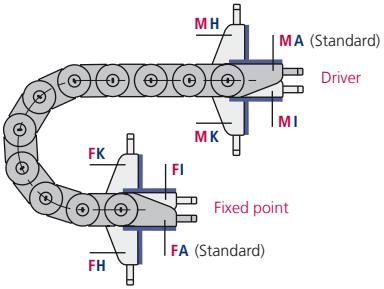
Please state the designation of the divider system (TS 0, TS 1 ...) and number of dividers. Possibly attach a sketch with the dimensions (see page 426).

Ordering plastic connectors

Connection

F	A	/	M	A
Fixed point	Connection type		Driver	Connection type

If no order designation for the connector is stated, we supply the connector variant **FA/MA (Standard)**.



Connection point
- **M** – Driver
- **F** – Fixed point

Connection type
- **A** – Threaded joint outside (standard)
- **I** – Threaded joint, inside
- **H** – Threaded joint, rotated through 90° to the outside
- **K** – Threaded joint, rotated through 90° to the inside

The connector type can be changed later simply by changing the connectors.
For possible connection variants see the respective product description.

BASIC-LINE PLUS

PROTUM

Ordering cable carrier

Cable carrier

P 0240	.	010	.	30	.	42	-	380
Type		Design*		Inside width B_i in mm		Bend radius KR in mm		Chain length L_k in mm (without connection)

* Design 010
(simple insertion of the cables)

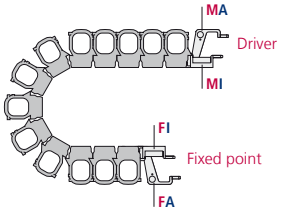
Ordering connection

Connection

F	A	/	M	A
Fixed point	Connection type		Driver	Connection type

When ordering **PROTUM OFFICE**, please specify connection. Specification of the bend radius is not necessary.

For possible connection variants see the respective product description.



Connection point
M – Driver
F – Fixed point

Connection type
A – Threaded joint, outside
I – Threaded joint, inside

TKZP

Ordering cable carrier

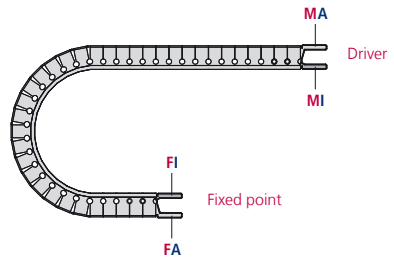
Cable carrier

TKZP10	.	10	-	230
Type		Inside width B_i in mm		Chain length L_k in mm (without connection)

Ordering connection

Connection

F	A	/	M	A
Fixed point	Connection type		Driver	Connection type



Connection point
M – Driver
F – Fixed point

Connection type
A – Threaded joint, outside
I – Threaded joint, inside

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VARIO-LINE

K Series / MASTER Series / M Series / XL Series / QUANTUM

Ordering cable carrier

Cable carrier

KE 0900	.	209	.	RE	.	190	-	2250
Type		Inside width B_i in mm		Stay variant		Bend radius KR in mm		Chain length L_k in mm (without connection)

For Types 0320 and 0475 please specify the desired opening variant.

Ordering divider system

Divider system

TS 0	/	4
Divider system		Number of dividers n_T

Please state the designation of the divider system (TS 0, TS 1 ...) and number of dividers. Possibly attach a sketch with the dimensions (see page 426).

Ordering Universal Mounting Brackets (UMBs)

Connection

FU/MU

Connection Fixed point/ Driver

For possible connection variants see the respective product description.

TKP91 / TKC91

Ordering cable carrier

Cable carrier

TKP 0910H80	.	300	.	250	-	1820
Type		Inside width B_i in mm		Bend radius KR in mm		Chain length L_k in mm (without connection)

Ordering divider system

Divider system

TS 0	/	4
Divider system		Number of dividers n_T

Please state the designation of the divider system (TS 0, TS 1 ...) and number of dividers. Possibly attach a sketch with the dimensions (see page 426).

Ordering Universal Mounting Brackets (UMBs)

Connection

FU/MU

Connection Fixed point/ Driver

Subject to change.

VARIO-LINE

TKR

Ordering cable carrier

Cable carrier

TKR 0200	.	100	.	95	-	800
Type		Inside width B_i in mm		Bend radius KR in mm		Chain length L_k in mm (without connection)

TKR 0150: Chain links can only be ordered in even numbers.

Ordering divider system

Divider system

TS 0	/	3
Divider system		Number of dividers n_T

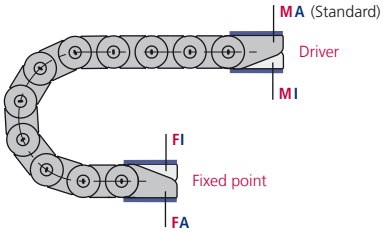
Please state the designation of the divider system (TS 0, TS 1 ...) and number of dividers. Possibly attach a sketch with the dimensions (see page 426).

Ordering plastic connectors – TKR 0150

Connection

F	A	/	M	A
Fixed point	Connection type		Driver	Connection type

If no order designation for the connector is stated, we supply the connector variant **FA/MA (Standard)**.



Connection point
M – Driver
F – Fixed point

Connection type
A – Threaded joint outside (standard)
I – Threaded joint, inside

The connector type can be changed later simply by changing the connectors.
For possible connection variants see the respective product description.

Ordering Universal Mounting Brackets (UMBs) – TKR 0200, 0260, 0280

Connection

FU/MU
Connection Fixed point/ Driver

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Subject to change.

TUBE SERIES

TKA Series

Ordering cable carrier

Cable carrier

TKA45	.	080	.	125	.	140	-	1110
Type		Design		Inside width B_i in mm		Bend radius KR in mm		Chain length L_k in mm (without connection)

Ordering divider system

Divider system without subdivision

TS0	.	B	/	3
Divider system		Version		Number of dividers n_T

Please state the designation of the divider system (TS 0, TS 1 ...) and number of dividers. Possibly attach a sketch with the dimensions (see page 426).

Divider system with subdivision

TS1	.	A	/	3	/	VD23
Divider system		Version		Number of dividers n_T		Subdivision

When ordering the fixed version (version B), please indicate the position of the dividers (sketch). Where a continuous height separations is required (TS1), please also indicate their positions (e.g. VD23, or add a sketch).

Ordering Universal Mounting Brackets (UMBs)

Connection

FU/MU
Connection Fixed point/ Driver

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TSUBAKI KABELSCHLEPP
Cable Carrier Configurator

Subject to change.

TUBE SERIES

CoverTrax

Ordering cable carrier

Cable carrier

CT 1555	.	080	.	175	.	150	-	1110
Type		Design		Inside width B_i in mm		Bend radius KR in mm		Chain length L_k in mm (without connection)

Ordering divider system

Divider System

TS 0	/	1
Divider system		Number of dividers n_T

Please state the designation of the divider system (TS 0, TS 1 ...) and number of dividers. Possibly attach a sketch with the dimensions (see page 426).

Ordering Universal Mounting Brackets (UMBs)

Connection

FU/MU
Connection Fixed point/ Driver

UNIFLEX TUBES / MASTER TUBES / MT Series / XLT Series

Ordering cable carrier, divider system and connectors

According to the ordering keys of the particular LINE; see pages 414 – 425.

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Subject to change.

3D-LINE

ROBOTRAX

Ordering cable carrier

Cable carrier

R 075	.	010	.	145	-	1000
Type		Design*		Bend radius KR in mm		Chain length L_k in mm (without connection)

* Design 010 (simple insertion of the cables)

System components: please state separately.

STEEL-LINE

LS/LSX Series

Ordering cable carrier

Cable carrier

LS 1050	.	180	.	RS 2	.	125	.	Sb	-	2415
Type		Stay width B_{St} in mm		Stay variant		Bend radius KR in mm		Chain band material		Chain length L_k in mm (without connection)

Chain band materials: Sb = Steel specially coated / ER 1 = Stainless steel / ER 1S = Stainless steel, sea water resistant Please contact us for further information about the chain band materials.

Ordering divider system

Divider system

TS 0	/	4
Divider system		Number of dividers n_T

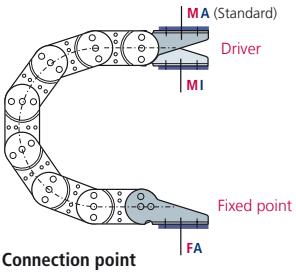
Please state the designation of the divider system (TS 0, TS 1 ...) and number of dividers. Possibly attach a sketch with the dimensions (see page 426).

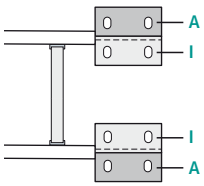
Ordering connectors

Connection

F	A	I	/	M	A	I
Fixed point	Connection type	Connecting surface		Driver	Connection type	Connecting surface

If no order designation for the connector is stated, we supply the connector variant **FAI/MAI (standard)**.





Connection point
M – Driver
F – Fixed point

Connecting surface
I – Connecting surface inside (< B_k)
A – Connecting surface outside (< B_k)

Connection type
A – Threaded joint outside (standard)
I – Threaded joint, inside

For possible connection variants see the respective product description.

Subject to change.

STEEL-LINE

S/SX Series

Ordering cable carrier

Cable carrier

S 0950	.	300	.	RS 1	.	200	.	Sb	-	3150
Type		Stay width B_{St} in mm		Stay variant		Bend radius KR in mm		Chain band material		Chain length L_k in mm (without connection)

Chain band materials: Sb = Steel specially coated / ER 1 = Stainless steel / ER 1S = Stainless steel, sea water resistant

Please contact us for further information about the chain band materials.

Ordering divider system

Divider system

TS 0	/	4
Divider system		Number of dividers n_T

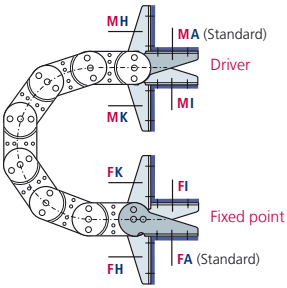
Please state the designation of the divider system (TS 0, TS 1 ...) and number of dividers. Possibly attach a sketch with the dimensions (see page 426).

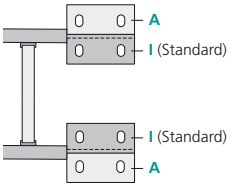
Ordering connectors

Connection

F	A	I	/	M	A	I
Fixed point	Connection type	Connecting surface		Driver	Connection type	Connecting surface

If no order designation for the connector is stated, we supply the connector variant **FAI/MAI (standard)**.





Connection point
- **M** – Driver
- **F** – Fixed point

Connection type
- **A** – Threaded joint outside (standard)
- **I** – Threaded joint, inside
- **H** – Threaded joint, rotated through 90° to the outside
- **K** – Threaded joint, rotated through 90° to the inside

Connecting surface
- **I** – Connecting surface inside (< B_k)
- **A** – Connecting surface outside (> B_k)

The connecting surfaces on the driver and fixed point can be be mounted on the outside or inside according to preference.

The connector type can be changed later simply by changing the connectors.

For possible connection variants see the respective product description.

Subject to change.

STEEL-LINE

CONDUFLEX / MOBIFLEX

Ordering cable carrier

Cable carrier

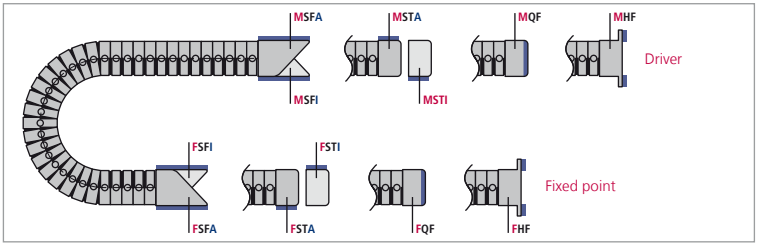
CF 120	.	140	-	1200
CONDUFLEX/ MOBIFLEX Type		Bend radius KR in mm		Conduit length L_{ES} in mm (without connection)

Ordering connection

Connection

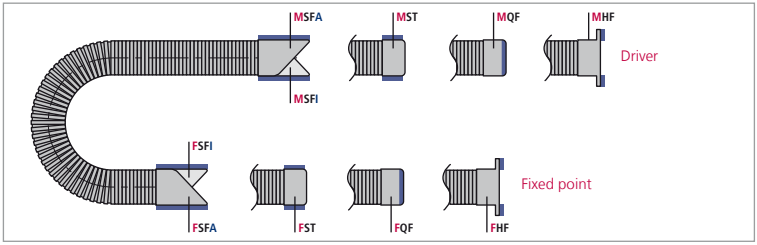
F	SFI	/	M	QF
Fixed point	Connection type		Driver	Connection type

Connection variants CONDUFLEX



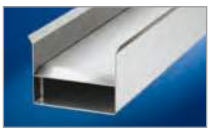
The connectors SF, ST, QF and HF can be combined.

Connection variants MOBIFLEX



The connectors SF, ST, QF and HF can be combined.

Guide channels
➤ from page 375



Strain relief devices
➤ from page 381



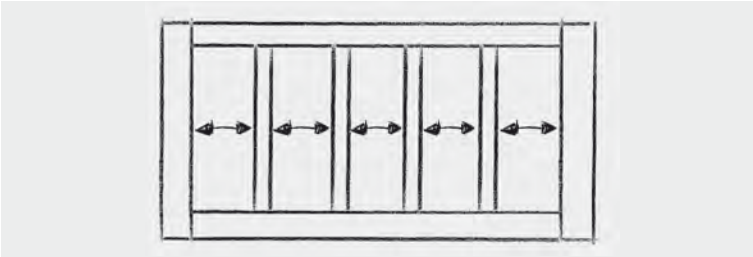
Cables for cable carrier systems
➤ from page 438



Subject to change.

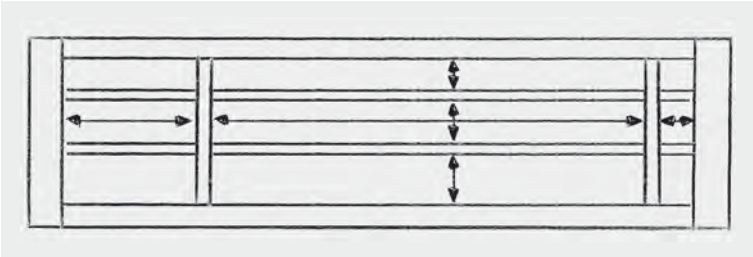
Ordering divider system – sample drawings

Divider system TS 0



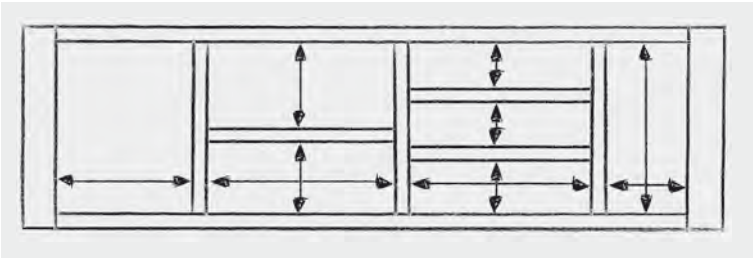
Divider system TS 1

with continuous height subdivision made of aluminum



Divider systeme TS 2 / TS 3

with partitioned height subdivision made of plastic or aluminum



When ordering the divider system, please attach a sketch with the dimensions.

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International Order Key

Order code and order example for KABELSCHLEPP cable carriers with the „International Order Key“

International type designations

International Order Key (INTOK)	Standard order code
MONO	
TKP13	MONO 0130
TKP13	MONO 0132
TKP18	MONO 0180
TKP16	MONO 0182
TKP20	MONO 0202
QuickTrax	
TKQT32	QT 0320
UNIFLEX Advanced	
TKUA32	1320
TKUA45	1455
TKUA55	1555
TKUA66	1665
EasyTrax	
TKET11	ET 0115
TKET32	ET 0320
MASTER Series	
TKHC56	HC 33
TKHC67	HC 46
TKLC91	LC 60

International Order Key (INTOK)	Standard order code
TKLC111	LC 80
TKLT91	LT 60
M Series	
TKMK47	MK 0475
TKMK65	MK 0650
TKMK95	MK 0950
TKMK125	MK 1250
TKMC130	MC 1300
TKMT47	MT 0475
TKMT65	MT 0650
TKMT95	MT 0950
TKMT125	MT 1250
TKMT130	MT 1300
TKP91/TKC91	
TKP91H56	TKP 0910H56
TKP91H80	TKP 0910H80
TKC91H56	TKC 0910H56
TKC91H80	TKC 0910H80
XL Series	
TKXC165	XLC 1650

International Order Key (INTOK)	Standard order code
TKXT165	XLT 1650
Quantum	
TKQ15	Q 040
TKQ20	Q 060
TKQ25	Q 080
TKQ30	Q100
TKR	
TKR15	TKR 0150
TKR20	TKR 0200
TKR26	TKR 0260
TKR28	TKR 0280
TKA Series	
TKA30	TKA30
TKA38	TKA38
TKA45	TKA45
TKA55	TKA55
CoverTrax	
TKCT55	CT 1555
LS Series	
TKLS105	LS 1050

Divider system

Internat. Order Key (INTOK)	Standard order code
Divider system	Divider system
DS0	TS0
DS1	TS1
DS2	TS2
DS3	TS3
DS5	TS5

Connection elements

Internat. Order Key (INTOK)	Standard order code
Connec-tion	Connec-tion
FO	FA
FOB	FAA
FOA	FAI
FC	FFA
FI	FI

Internat. Order Key (INTOK)	Standard order code
Connec-tion	Connec-tion
FIB	FIA
FIA	FII
FU	FU
MO	MA
MOB	MAA

Internat. Order Key (INTOK)	Standard order code
Connec-tion	Connec-tion
MOA	MAI
MC	MFA
MI	MI
MIA	MII
MU	MU

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BASIC-LINE

MONO

Ordering example – International Order Key (INTOK)

Type	-	Stay variant	W	Width (B_i)	R	Bend radius	+	Chain length	**Structure INTOK**
TKP20H11	-	20	W	10	R	28	+	23L	**International Order Key**
0202	.	10	.	28	-	460			**Standard order code**

Index

Types/Stay variant

International Order Key (INTOK)		Standard order code	
Type	**Stay variant**	**Type**	**Stay variant**
TKP13H10	30	MONO 0130	030
TKP13H10	20	MONO 0132	020
TKP18H15	30	MONO 0180	030
TKP18H15	20	MONO 0182	020
TKP20H11	20	MONO 0202	020

Order unit

The chain length can be given either as a number (L_K in mm, e.g. 943) or as quantity of the chain links required (e.g. 17L). To determine the chain length L_K taking into consideration the travel distance LS, refer to Page 46.

QuickTrax

Ordering example – International Order Key (INTOK)

Type	-	Stay variant	W	Width (B_i)	R	Bend radius	+	Chain length	**Structure INTOK**
TKQT32H20	-	30	W	38	R	48	+	20L	**International Order Key**
QT 0320	.	030	.	38	.	48	-	640	**Standard order code**

Index

Types/Stay variant

International Order Key (INTOK)		Standard order code	
Type	**Stay variant**	**Type**	**Stay variant**
TKQT32H20	30	QT 0320	030
TKQT32H20	40	QT 0320	040

Order unit

The chain length can be given either as a number (L_K in mm, e.g. 943) or as quantity of the chain links required (e.g. 17L). To determine the chain length L_K taking into consideration the travel distance LS, refer to Page 46.

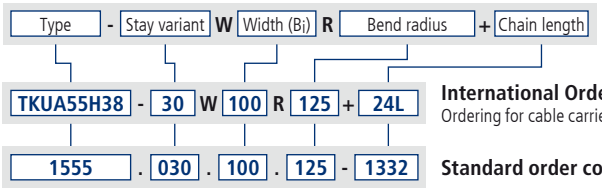
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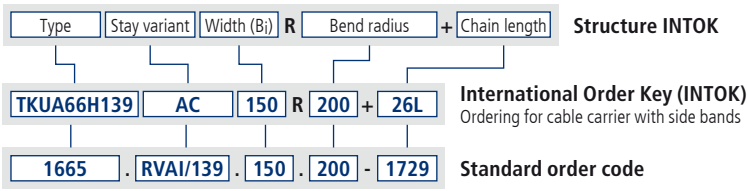
Subject to change.

BASIC-LINE

UNIFLEX *Advanced*

Ordering example – International Order Key (INTOK)





Index

Types/Stay variant

International Order Key (INTOK)		Standard order code	
Type	Stay variant	Type	Stay variant
TKUA32H20	20	1320	020
TKUA45H26	20	1455	020
TKUA45H26	30	1455	030
TKUA45H26	40	1455	040
TKUA55H38	20	1555	020
TKUA55H38	30	1555	030
TKUA55H38	40	1555	040
TKUA66H44	20	1665	020
TKUA66H44	30	1665	030
TKUA66H44	40	1665	040

International Order Key (INTOK)		Standard order code	
Type	Stay variant	Type	Stay variant
TKUA66H114	AC	1665	RVAI/114
TKUA66H139	AC	1665	RVAI/139
TKUA66H164	AC	1665	RVAI/164
TKUA66H189	AC	1665	RVAI/189
TKUA66H114	AE	1665	RVAO/114
TKUA66H139	AE	1665	RVAO/139
TKUA66H164	AE	1665	RVAO/164
TKUA66H189	AE	1665	RVAO/189

Order unit

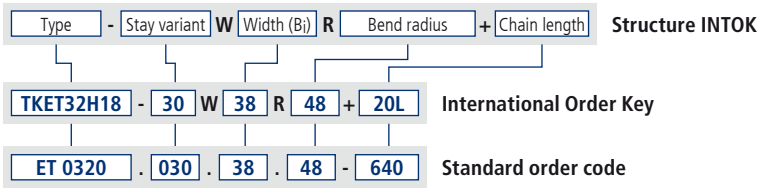
The chain length can be given either as a number (L_K in mm, e.g. 943) or as quantity of the chain links required (e.g. 17L). To determine the chain length L_K taking into consideration the travel distance L_S, refer to Page 46.

Subject to change.

BASIC-LINE PLUS

EasyTrax

Ordering example – International Order Key (INTOK)



Index

Types/Stay variant

International Order Key (INTOK)		Standard order code	
Type	**Stay variant**	**Type**	**Stay variant**
TKET11H5	40	ET 0115	040
TKET32H18	30	ET 0320	030
TKET32H18	40	ET 0320	040

Order unit

The chain length can be given either as a number (L_K in mm, e.g. 943) or as quantity of the chain links required (e.g. 17L). To determine the chain length L_K taking into consideration the travel distance LS, refer to Page 46.

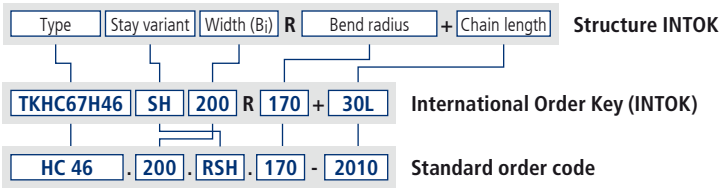
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VARIO-LINE

MASTER Series

Ordering example – International Order Key (INTOK)



Index

Types/Stay variant

International Order Key (INTOK)		Standard order code	
Type	**Stay variant**	**Type**	**Stay variant**
TKHC56H33	SH	HC 33	RSH
TKHC67H46	SH	HC 46	RSH
TKLC91H60	SH	LC 60	RSH
TKLT91H60	DL	LT 60	RDL
TKLC111H80	SH	LC 80	RSH

Order unit

The chain length can be given either as a number (LK in mm, e.g. 943) or as quantity of the chain links required (e.g. 17L). To determine the chain length LK taking into consideration the travel distance LS, refer to Page 46.

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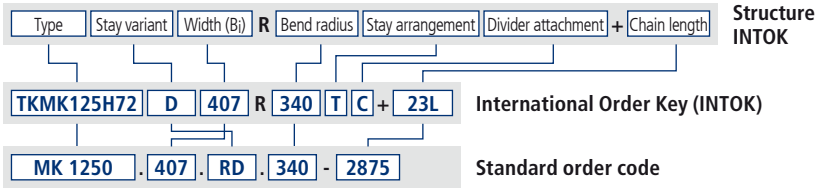
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VARIO-LINE

M Series

Ordering example – International Order Key (INTOK)



Index

Types/Stay variant

International Order Key (INTOK)		Standard order code	
Type	**Stay variant**	**Type**	**Stay variant**
TKMK47H28	DC	MK 0475	RD-01
TKMK47H28	DE	MK 0475	RD-02
TKMT47H26	DDC	MT 0475	RDD-01
TKMT47H26	DDE	MT 0475	RDD-02
TKMT47H26	MDC	MT 0475	RMD-01
TKMT47H26	MDE	MT 0475	RMD-02
TKMK65H42	D	MK 0650	RD
TKMT65H38	DD	MT 0650	RDD
TKMT65H38	MD	MT 0650	RMD
TKMK95H58	D	MK 0950	RD
TKMT95H54	DD	MT 0950	RDD
TKMT95H54	MD	MT 0950	RMD

International Order Key (INTOK)		Standard order code	
Type	**Stay variant**	**Type**	**Stay variant**
TKMK125H72	D	MK 1250	RD
TKMT125H68	DD	MT 1250	RDD
TKMT125H68	MD	MT 1250	RMD
TKMC130H92	LG	MC 1300	LG
TKMC130H87	MF	MC 1300	RMF
TKMC130H87	MS	MC 1300	RMS
TKMC130H87	M	MC 1300	RM
TKMC130H92	LG	MC 1300	LG
TKMC130H87	MF	MC 1300	RMF
TKMC130H87	MS	MC 1300	RMS
TKMC130H87	M	MC 1300	RM
TKMT130H87	MD	MT 1300	RMD

Order unit

The chain length can be given either as a number (L_K in mm, e.g. 943) or as quantity of the chain links required (e.g. 17L). To determine the chain length L_K taking into consideration the travel distance LS, refer to Page 46.

Stay arrangement

T = Full stay
S = Half stay

Divider attachment

A = Attached at the inner radius
B = Attached at the inner and outer radius
C = Moveable

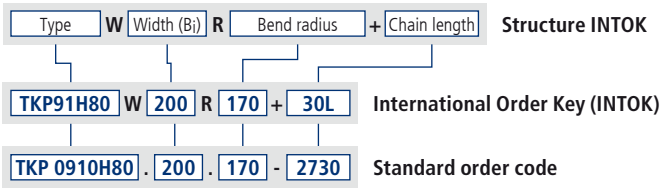
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VARIO-LINE

TKP91/TKC91

Ordering example – International Order Key (INTOK)



Index

Types

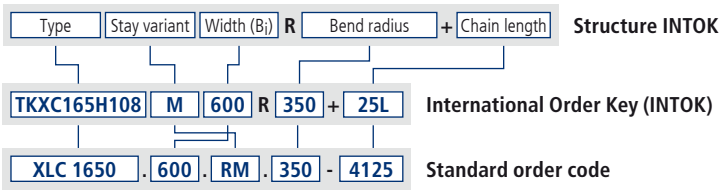
International Order Key (INTOK)	Standard order code
Type	**Type**
TKP91H56	TKP 0910H56
TKP91H80	TKP 0910H80
TKC91H56	TKC 0910H56
TKC91H80	TKC 0910H80

Order unit

The chain length can be given either as a number (L_K in mm, e.g. 943) or as quantity of the chain links required (e.g. 17L). To determine the chain length L_K taking into consideration the travel distance LS, refer to Page 46.

XL Series

Ordering example – International Order Key (INTOK)



Index

Types

International Order Key (INTOK)		Standard order code	
Type	**Stay variant**	**Type**	**Stay variant**
TKXC165H110	LG	XLC 1650	LG
TKXC165H108	M	XLC 1650	RM
TKXT165H105	MD	XLT 1650	RMD

Order unit

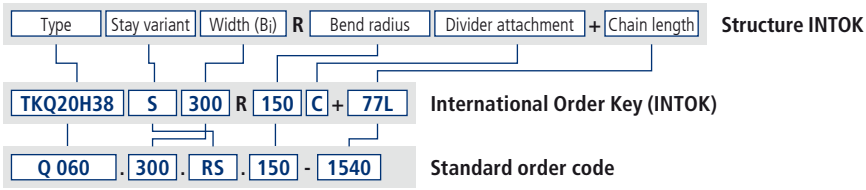
The chain length can be given either as a number (L_K in mm, e.g. 943) or as quantity of the chain links required (e.g. 17L). To determine the chain length L_K taking into consideration the travel distance LS, refer to Page 46.

Subject to change.

VARIO-LINE

QUANTUM

Ordering example – International Order Key (INTOK)



Index

Types/Stay variant

International Order Key (INTOK)		Standard order code	
Type	**Stay variant**	**Type**	**Stay variant**
TKQ15H28	E	Q 040	RE
TKQ20H38	E	Q 060	RE
TKQ20H38	S	Q 060	RS
TKQ25H58	E	Q 080	RE
TKQ25H58	S	Q 080	RS

International Order Key (INTOK)		Standard order code	
Type	**Stay variant**	**Type**	**Stay variant**
TKQ25H58	V	Q 080	RV
TKQ30H72	E	Q 100	RE
TKQ30H72	S	Q 100	RS
TKQ30H72	V	Q 100	RV

Order unit

The chain length can be given either as a number (L_K in mm, e.g. 943) or as quantity of the chain links required (e.g. 17L). To determine the chain length L_K taking into consideration the travel distance LS, refer to Page 46.

Divider attachment

A = Attached at the inner radius
B = Attached at the inner and outer radius
C = Moveable

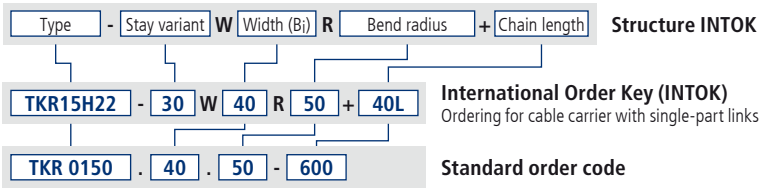
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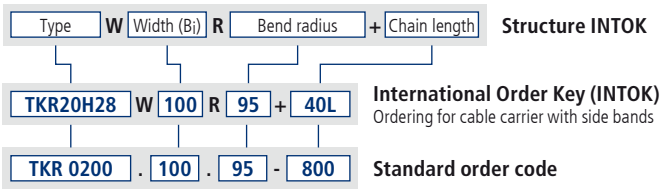
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VARIO-LINE

TKR

Ordering example – International Order Key (INTOK)





Index

Types/Stay variant

International Order Key (INTOK)		Standard order code	
Type	**Stay variant**	**Type**	**Stay variant**
TKR15H22	E	TKR 0150	030
TKR20H28	E	TKR 0200	RE
TKR26H40	E	TKR 0260	RE
TKR28H52	E	TKR 0280	RE

Order unit

The chain length can be given either as a number (L_K in mm, e.g. 943) or as quantity of the chain links required (e.g. 17L). To determine the chain length L_K taking into consideration the travel distance LS, refer to Page 46.

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TUBE-SERIES

TKA Series

Ordering example – International Order Key (INTOK)

Type	-	Stay variant	W	Width (B_i)	R	Bend radius	+	Chain length	Structure INTOK
TKA55H45	-	60	W	125	R	195	+	24L	International Order Key
TKA55	.	060	.	125	.	195	-	1332	Standard order code

Index

Types

International Order Key (INTOK)		Standard order code	
Type	**Stay variant**	**Type**	**Stay variant**
TKA30H21	60	TKA30	060
TKA30H21	80	TKA30	080
TKA38H26	60	TKA38	060
TKA38H26	80	TKA38	080
TKA45H36	60	TKA45	060
TKA45H36	80	TKA45	080
TKA55H45	60	TKA55	060
TKA55H45	80	TKA55	080

Order unit

The chain length can be given either as a number (L_K in mm, e.g. 943) or as quantity of the chain links required (e.g. 17L). To determine the chain length L_K taking into consideration the travel distance LS, refer to Page 46.

CoverTrax

Ordering example – International Order Key (INTOK)

Type	-	Stay variant	W	Width (B_i)	R	Bend radius	+	Chain length	Structure INTOK
TKCT55H50	-	80	W	175	R	150	+	20L	International Order Key
CT 1555	.	080	.	175	.	150	-	1110	Standard order code

Index

Types

International Order Key (INTOK)		Standard order code	
Type	**Stay variant**	**Type**	**Stay variant**
TKCT55H50	80	CT 1555	080

Order unit

The chain length can be given either as a number (L_K in mm, e.g. 943) or as quantity of the chain links required (e.g. 17L). To determine the chain length L_K taking into consideration the travel distance LS, refer to Page 46.

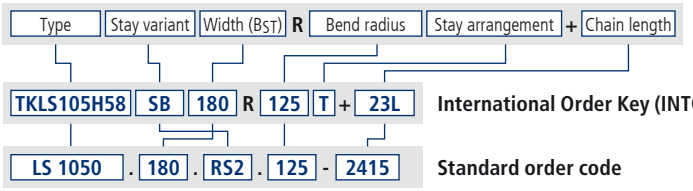
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STEEL-LINE

LS Series

Ordering example – International Order Key (INTOK)



Index

Types/Stay variant

International Order Key (INTOK)		Standard order code	
Type	**Stay variant**	**Type**	**Stay variant**
TKU105H48	LG	LS1050	LG
TKLS105H48	RR	LS1050	RR

International Order Key (INTOK)		Standard order code	
Type	**Stay variant**	**Type**	**Stay variant**
TKLS105H58	SB	LS1050	RS2
TKLS105H58	V	LS1050	RV

Order unit

The chain length can be given either as a number (L_K in mm, e.g. 943) or as quantity of the chain links required (e.g. 17L). To determine the chain length L_K taking into consideration the travel distance LS, refer to Page 46.

Stay arrangement

T = Full stay
S = Half stay

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2

TRAXLINE Cables for Motion



CONTINUOUS BENDING HI-FLEX ELECTRICAL CABLES

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TRAXLINE PRE-ASSEMBLED CABLES

… FOR CABLE CARRIERS

Cost-effective, reliable, durable

TRAXLINE cables for cable carriers

Ready for solutions – your advantage

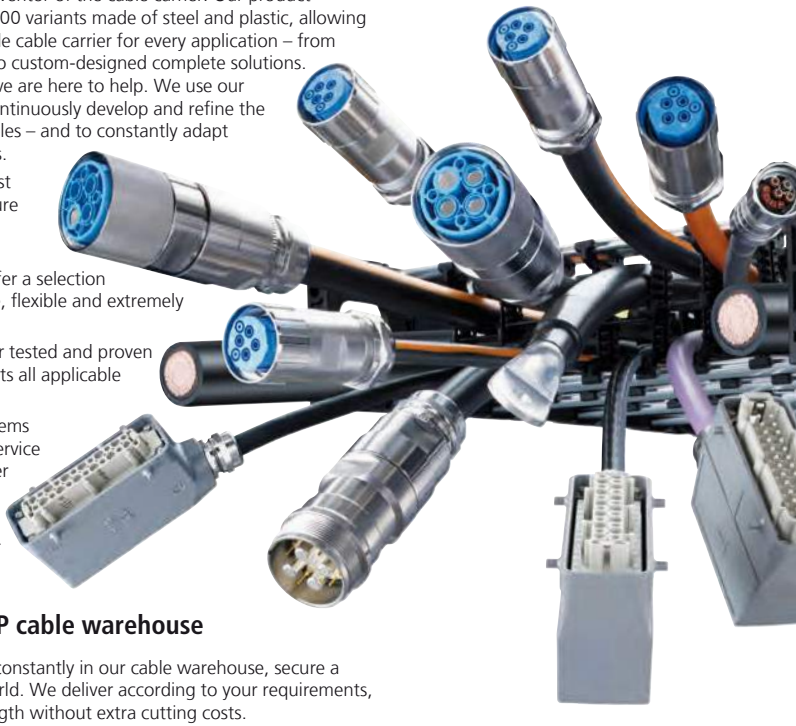
TSUBAKI KABELSCHLEPP – the inventor of the cable carrier. Our product portfolio covers more than 100,000 variants made of steel and plastic, allowing us to deliver a suitable and reliable cable carrier for every application – from standard off-the-shelf products to custom-designed complete solutions. Wherever you are in the world, we are here to help. We use our over 60 years of experience to continuously develop and refine the "insides" – i.e. the TRAXLINE cables – and to constantly adapt them to the market requirements.

Our cable ranges meet the highest quality standards in order to ensure availability of your systems and installations.

With the TRAXLINE range, we offer a selection of cables which are cost-effective, flexible and extremely durable.

A key factor for our cables is their tested and proven operational reliability, which meets all applicable standards and directives.

Competent, objective-driven systems consultation and global on-site service are both part of what we consider an on-going commitment to the technical and commercial optimisation of your applications.



TSUBAKI KABELSCHLEPP cable warehouse

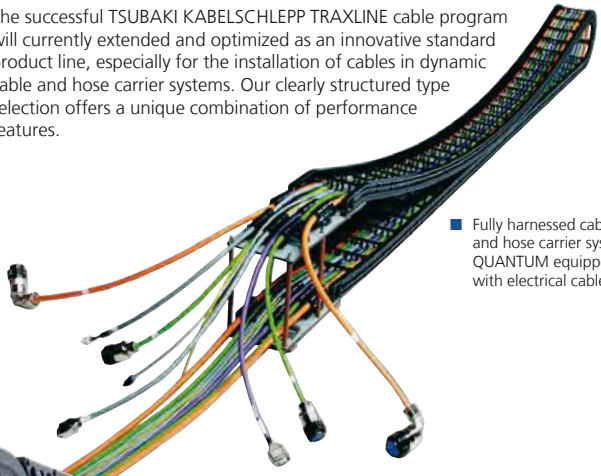
Hundreds of cable types, stored constantly in our cable warehouse, secure a fast availability all around the world. We deliver according to your requirements, no minimum quantities, each length without extra cutting costs.



■ TSUBAKI KABELSCHLEPP cable warehouse.



The successful TSUBAKI KABELSCHLEPP TRAXLINE cable program will currently extended and optimized as an innovative standard product line, especially for the installation of cables in dynamic cable and hose carrier systems. Our clearly structured type selection offers a unique combination of performance features.



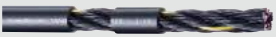
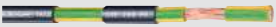
■ Fully harnessed cable and hose carrier system QUANTUM equipped with electrical cables.





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TOTALTRAX Turn-Key Systems 448
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Overview TRAXLINE cable types

Cable type		Outer jacket	Shield	Factor for KR_{min} = n x Ø cable	Temperature moved	Approvals
CONTROL cables						
CONTROL 200		PVC	–	10	-5 to +80 °C	c UL us
CONTROL 200 C		PVC	✓	10	-5 to +80 °C	c UL us
CONTROL 400 600 V		PVC	–	7.5	-5 to +80 °C	c UL us
CONTROL 400 C 600 V		PVC	✓	7.5	-5 to +80 °C	c UL us
CONTROL 700 600 V		PUR	–	7.5	-35 to +90 °C	c UL us
CONTROL 700 C 600 V		PUR	✓	7.5	-35 to +90 °C	c UL us
POWER cables						
POWER 400 1 kV		PVC	–	7.5	-5 to +80 °C	c UL us
POWER 400 C 1 kV		PVC	✓	7.5	-5 to +80 °C	c UL us
POWER 700 1 kV		PUR	–	7.5	-35 to +90 °C	c UL us
POWER ONE 700 1 kV		PUR	–	7.5	-35 to +90 °C	c UL us
POWER ONE 700 PE		PUR	–	7.5	-35 to +90 °C	c UL us
POWER 700 C 1 kV		PUR	✓	7.5	-35 to +90 °C	c UL us
POWER ONE 700 C 1 kV		PUR	✓	7.5	-35 to +90 °C	c UL us
DATA cables						
DATA 400 C		PVC	✓	7.5	-5 to +80 °C	c UL us
DATA 700		PUR	–	7.5	-35 to +90 °C	c UL us
DATA 700 TPi C		PUR	✓	7.5	-35 to +90 °C	c UL us
DATA 700 TPi CD / POWER 700 TPi CD 1 kV		PUR	✓	7.5	-35 to +90 °C	c UL us

Cable overview after part numbers ➤ Page 525

Standards	Colour type-dependent	Halogen-free	Flame-retardant	Oil-resistant	vmax supported (m/s)	vmax gliding (m/s)	amax (m/s2)	Diameter mm2/ Type/Other	Core number	Page
450										
CE REACH/RoHS II	**black**	–	✓	✓	3.5	2	10	0.5^2 to 2.5^2	2-25	**450**
CE REACH/RoHS II	**black**	–	✓	✓	3.5	2	10	0.5^2 to 1.5^2	2-25	**452**
CE REACH/RoHS II	**black**	–	✓	✓	5	3	20	0.34^2 to 2.5^2	2-48	**454**
CE REACH/RoHS II	**black**	–	✓	✓	5	3	20	0.5^2 to 1.5^2	3-36	**456**
CE REACH/RoHS II	**black**	✓	✓	✓	20	5	50	0.5^2 to 1^2	2-36	**458**
CE REACH/RoHS II	**black**	✓	✓	✓	20	5	50	0.5^2 to 1^2	3-25	**460**
462										
CE REACH/RoHS II	**black**	–	✓	✓	5	3	20	1.5^2 to 70^2	2-25	**462**
CE REACH/RoHS II	**black**	–	✓	✓	5	3	20	1.5^2 to 35^2	4-7	**464**
CE REACH/RoHS II	**black**	✓	✓	✓	20	5	50	1.5^2 to 95^2	2-36	**466**
CE REACH/RoHS II	**black**	✓	✓	✓	20	5	50	0.25^2 to 700^2	1	**468**
CE REACH/RoHS II	**black**	✓	✓	✓	20	5	50	1.5^2 to 95^2	1	**470**
CE REACH/RoHS II	**black**	✓	✓	✓	20	5	50	1.5^2 to 150^2	2-49	**472**
CE REACH/RoHS II	**black**	✓	✓	✓	20	5	50	1.5^2 to 300^2	1	**474**
476										
CE REACH/RoHS II	**black**	–	✓	✓	5	3	20	0.25^2 to 0.34^2	4-25	**476**
CE REACH/RoHS II	**black**	✓	✓	✓	20	5	50	0.25^2 to 0.34^2	3-15	**478**
CE REACH/RoHS II	**black**	✓	✓	✓	20	5	50	0.25^2 to 1^2	2-32	**480**
CE REACH/RoHS II	**black**	✓	✓	✓	20	5	50	0.25^2 to 1.5^2	6-20	**482**

Cable overview after part numbers ➤ Page 525

Overview TRAXLINE cable types

Cable type		Outer jacket	Shield	Factor for KR$_{min}$ = n x Ø cable	Temperature moved	Approvals
BUS-/fiber optic-/coaxial cables						
PROFIBUS 700 C / PROFINET 700 C		PUR	✓	15	-20 to +70 °C	cULus
CAN-BUS 700 C		PUR	✓	7.5	-20 to +80 °C	cULus
USB S 700 C / USB L 700 C / USB 3.0 CD		PUR	✓	10	-10 to +70 °C	cULus
INTERBUS 700 C		PUR	✓	10	-30 to +70 °C	cULus
CAT.5E / CAT.6 700 CD		PUR	✓	10	-30 to +80 °C	cULus
KOAX 700 CD		PUR	✓	10	-20 to +70 °C	
FOC 700		PUR	–	7.5	-30 to +90 °C	
OEM SYSTEM cables						
SYSTEM S 700 C		PUR	✓	7.5	-35 to +90 °C	cULus
SYSTEM M 700 C		PUR	✓	7.5	-35 to +90 °C	cULus
Power One Heavy Duty High voltage cable						
POWER ONE HEAVY DUTY 10 kV / 11 kV / 12 kV		PUR	✓	7.5	-35 to +80 °C	
POWER ONE HEAVY DUTY 15 kV / 24 kV / 30 kV		PUR	✓	7.5	-35 to +80 °C	



Cable overview after part numbers ➤ Page 525

Standards	Colour type-dependent	Halogen-free	Flame-retardant	Oil-resistant	vmax supported (m/s)	vmax gliding (m/s)	amax (m/s2)	Diameter mm2/ Type/Other	Core number	Page
484										
CE REACH/RoHS II	**purple**	✓	✓	✓	3.5	2	10	0.64 mm	2	**484**
CE REACH/RoHS II	**black**	✓	✓	✓	3	3	10	0.5^2	2-4	**486**
CE REACH/RoHS II	**purple**	✓	✓	✓	3.5	2	10	AWG 28 / 24 / 20	4	**488**
CE REACH/RoHS II	**purple**	✓	✓	✓	3.5	2	10	0.25^2	6	**490**
CE REACH/RoHS II	**green**	✓	✓	✓	3	3	5	0.15^2	8	**492**
CE REACH/RoHS II	**black**	✓	✓	✓	3.5	3.5	10	HF 50/75 Ω	1-5	**494**
CE REACH/RoHS II	**black**	✓	✓	–	3.5	3.5	10	50µ/62.5µ	6-12	**496**
498										
CE REACH/RoHS II	**green**	✓	✓	✓	5	5	50	0.14^2 to 0.1^2	3-16	**498**
CE REACH/RoHS II	**orange**	✓	✓	✓	5	5	50	1^2 to 50^2	4	**500**
502										
CE REACH/RoHS II	**red**	✓	✓	✓	50	10 / 6	50	10^2 to 400^2	1	**502**
CE REACH/RoHS II	**red**	✓	✓	✓	50	10 / 6	50	10^2 to 400^2	1	**504**



Cable overview after part numbers ➤ Page 525

Overview TRAXLINE pre-assembled cables

USB / CAT.5E / CAT.6 506

USB 700 C pre-assembled		507
CAT.5E 700 CD pre-assembled		507
CAT.6 700 CD pre-assembled		507

Signal cables Cables with connections compatible with the OEM standards 508

Signal basic cables		508
Signal extension cables		508

Power cables Cables with connections compatible with OEM standards 509

Power basic cables without brake wires		509
Power extension cables without brake wires		509
Power basic cables with brake wires		510
Power extension cables with brake wires		510

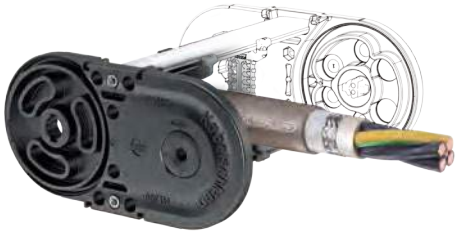
Technical Data, further information

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Cable overview after part numbers ➤ Page 525

Efficient Design
Accurate and fast

Shorten your design time, accelerate your design processes, do concept development with original data from the manufacturer. We continuously invest in the online supply of product-related information to make your work easier. Thereby you can access the latest product and CAD data already during the design phase. Currently, we provide comprehensive, technical information in three different, partly interlinked online tools.



online-engineer.com
Cable Carrier Configurator

Our web-based platform OnlineEngineer that is available throughout the world supports you with multiple functions for selecting and configurating the right product for your application. Here, all relevant technical and commercial information about all individual products from the ranges of cable carriers, cables and accessories is centrally pooled and clearly displayed. By entering different parameters it facilitates to select the appropriate products

For even more convenience the data portals OnlineEngineer and CADENAS will be interlinked. This allows you to easily download the respective CAD model without leaving the OnlineEngineer once you have completed your product configuration. Vice versa, data from OnlineEngineer can be retrieved while working in CADENAS.

CADENAS-3D CAD Catalogue

CADENAS is an international platform for providing 3D models in various CAD formats. Numerous renowned companies from machinery and plant engineering as well as from other industries are represented. Currently, we provide CAD models for our entire product portfolio in all common CAD formats. Moreover, the database contains the corresponding models for guide channels and support trays. We continuously update the scope offered.

Electrical Engineering with EPLAN

EPLAN Data Portal is an integrated, web-based data platform delivering the most recent device data from market-leading component manufacturers for direct use in the EPLAN planning software. For those using the global project planning software EPLAN Electric P8, we offer technical and commercial information of our TRAXLINE cables in the EPLAN Data Portal for download.



For further information:
www.online-engineer.de

TOTALTRAX turn-key systems
Fully harnessed cable carrier systems

The product you need – we support and supply it to you completely harnessed

One supplier – one responsibility
We develop, design and supply all components required for your individual cable & hose carrier system.



■ Ready-to-connect assembled plastic cable carrier system, packed ready for installation

Everything you need

- Consulting
- Planning
- Design
- Cable carriers
- Electrical cables
- Complete guarantee
- Hydraulic hoses
- Pneumatic hoses
- Plug-and-socket connectors
- Assembly plates
- Complete assembly of all components

+ One contact person
+ One order
+ One delivery
+ Guaranteed quality

= **TOTALTRAX Complete System**

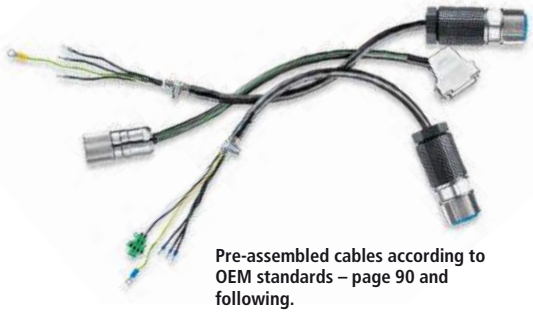
TOTALTRAX – from design to the complete system







NOTE:
Harnessed cables according to all OEM
We manufacture KABELSCHLEPP TRAXLINE cables according to OEM specifications, suitable for all drive controls which consist of signal and power cables and/or extension cables.
- any cable length available
- delivery minimum: 1 unit



Pre-assembled cables according to OEM standards – page 90 and following.

More information: traxline.com

Subject to change.

Cut costs with TOTALTRAX complete cable carrier systems

We help you . . .

- Advice on planning
- Support in the design phase
- Only one contact person for the complete system including all the individual components
- Complete delivery from a single source
- Only one supplier – one purchase order and one item number
- All components match each other perfectly
- Guarantee certificate upon requests

. . . to cut your costs!

- Goods receiving inspections for all individual components are no longer required
- Expensive technical personnel and special tools are no longer required
- Shorter assembly times
- No hidden costs, e.g. cables being cut to excessive lengths etc.
- Less captive capital with almost no inventory
- On-time delivery directly to your production site

No storage costs for individual components like cables and connectors

Our warehouses offer cables, plug-and-socket connectors as well as many other individual components.



Complete system with reusable shipping fixture



Fully harnessed steel cable carrier



Plastic cable carrier fully harnessed with cables, hoses, connectors and holding plates

Complete service – even for applications with extreme assembly conditions

Our service team can design and assemble your cable carrier system even for applications with extreme assembly conditions. Our service center experts provide you with the support you need.

- Complete assembly with guide channels
- Uncoiling of harnessed cable carrier systems with long travel lengths
- Assembly at great heights (e. g. crane systems)



Fully harnessed cable carrier system in shipping crate



Assembly of the fully harnessed cable carrier system

TRAXLINE CONTROL 200

Unshielded continuous bending hi-flex PVC control cables



Picture obtainable.

Core insulation
PP
layered

Outer jacket
PVC
valley-sealed extruded
hi-flex design
UV-resistant
ozone-resistant
high abrasion-resistant

Jacket colour black
ozone-resistant
UV-resistant

Up to 2 million motion cycles!

Up to 25 m travel length!

TSUBAKI KABELSCHLEPP TRAXLINE cables for cable carriers

Developed for

- systems engineering and mechanical engineering
- crane and conveyor equipment
- monitoring, measuring and control cables
- light to medium loads

Properties

- hi-flex design
- oil-resistant
- UV-resistant
- REACH/RoHS II
- ozone-resistant
- metermarked
- CFC-free
- flame-retardant
- silicone-free
- high abrasion resistant

Design

Conductor:	bare copper wires class 5 in an optimized hi-flex design
Center element:	type-dependent
Core insulation:	PP
Core identification:	black with white numbers, protective conductor green/yellow
Core stranding:	conductor cores layered
Outer jacket:	PVC
Jacket colour:	black

Technical Data

Temperature range while moved:	– 5 to + 80 °C
Minimum bend radius while moved:	$KR_{min} \geq 10 \times Ø$
v_{max} supported:	3.5 m/s
v_{max} gliding:	2 m/s
a_{max}:	10 m/s²
Insulation resistance:	≥ 30 MΩ x km
Rated voltage:	according to VDE 300/500 V according to UL 300 V
Approvals:	cURus, based on VDE

varying parameters possible – please contact us

More information: traxline.com
kabelschlepp.de
Questions about cable carrier calbes? Fon: +49 (0)2762 4003-0
TRAXLINE Cables for Motion
TOTALTRAX Complete Systems

Subject to change.

Type selection

TRAXLINE CONTROL 200 – unshielded

core number x nominal-cross-section in mm²	part number	max. Ø mm	cable weight kg/m	copper weight kg/m
2 x 0.5²	**47351**	4.5	0.026	0.010
3 G 0.5²	**47352**	4.7	0.031	0.014
4 G 0.5²	**47353**	5.1	0.037	0.019
5 G 0.5²	**47354**	5.5	0.045	0.024
7 G 0.5²	**47356**	6.5	0.062	0.034
12 G 0.5²	**47360**	7.6	0.090	0.058
18 G 0.5²	**47364**	9.0	0.131	0.086
25 G 0.5²	**47367**	11.4	0.195	0.120
3 G 0.75²	**47372**	5.5	0.043	0.022
4 G 0.75²	**47373**	6.1	0.055	0.029
5 G 0.75²	**47374**	6.6	0.066	0.036
7 G 0.75²	**47376**	7.7	0.088	0.050
12 G 0.75²	**47380**	9.3	0.134	0.086
18 G 0.75²	**47384**	11.2	0.197	0.130
25 G 0.75²	**47387**	13.9	0.290	0.180
3 G 1.0²	**47392**	6.0	0.054	0.029
4 G 1.0²	**47393**	6.5	0.067	0.038
5 G 1.0²	**47394**	7.0	0.079	0.048
7 G 1.0²	**47396**	8.3	0.109	0.067
12 G 1.0²	**47400**	10.2	0.168	0.115
18 G 1.0²	**47404**	12.2	0.243	0.173
25 G 1.0²	**47407**	15.1	0.363	0.240
3 G 1.5²	**47412**	6.6	0.071	0.043
4 G 1.5²	**47413**	7.1	0.087	0.058
5 G 1.5²	**47414**	7.7	0.105	0.072
7 G 1.5²	**47416**	9.2	0.144	0.101
12 G 1.5²	**47420**	11.5	0.230	0.173
18 G 1.5²	**47424**	13.4	0.330	0.259
25 G 1.5²	**47427**	16.8	0.491	0.360
4 G 2.5²	**47433**	8.9	0.141	0.096



More information:
traxline.com
kabelschlepp.de
Questions about cable carrier calbes? Fon: +49 (0)2762 4003-0
TRAXLINE Cables for Motion
TOTALTRAX Complete Systems

Subject to change.

Additional cable types upon request.

TRAXLINE CONTROL 200 C

Shielded continuous bending hi-flex PVC control cables

More information:
traxline.com

kabelschlepp.de

Questions about cable carrier calbes? Fon: +49 (0)2762 4003-0

TRAXLINE Cables for Motion
TOTALTRAX Complete Systems



Picture obtainable.

Core insulation
PP
layered

Inner jacket
PVC
valley-sealed,
pressure extruded,
hi-flex design

Overall shield
high flexural strength,
tin-plated copper braiding
for small bend radii

Outer jacket
PVC
pressure extruded
hi-flex design
high abrasion-resistant

Jacket colour black
ozone-resistant
UV-resistant

Up to 2 million motion cycles!

Up to 25 m travel length!

TSUBAKI KABELSCHLEPP TRAXLINE cables for cable carriers

c UL us CE

Developed for

- systems engineering and mechanical engineering
- crane and conveyor equipment
- monitoring, measuring and control cables
- light to medium loads

Properties

- hi-flex design
- oil-resistant
- UV-resistant
- REACH/RoHS II
- ozone-resistant
- metermarked
- CFC-free
- silicone-free
- flame-retardant
- high abrasion resistant

Design

Conductor:	bare copper wires class 5 in an optimized hi-flex design
Center element:	type-dependent
Core insulation:	PP
Core identification:	black with white numbers, protective conductor green/yellow
Core stranding:	conductor cores layered
Inner jacket:	PVC
Shielding:	coverage nom. 85 %
Outer jacket:	PVC
Jacket colour:	black

Technical Data

Temperature range while moved:	– 5 to + 80 °C
Minimum bend radius while moved:	$KR_{min} \geq 10 \times Ø$
v_{max} supported:	3.5 m/s
v_{max} gliding:	2 m/s
a_{max}:	10 m/s²
Insulation resistance:	≥ 30 MΩ x km
Rated voltage:	according to VDE 300/500 V according to UL 300 V
Approvals:	cURus, based on VDE

varying parameters possible – please contact us

Subject to change.

More information:
traxline.com
kabelschlepp.de
Questions about cable carrier calbes? Fon: +49 (0)2762 4003-0

Type selection

TRAXLINE CONTROL 200 C – shielded

core number x nominal-cross-section in mm²	part number	max. Ø mm	cable weight kg/m	copper weight kg/m
(2 x 0.5²)	**47651**	6.2	0.057	0.030
(3 G 0.5²)	**47652**	6.4	0.062	0.036
(4 G 0.5²)	**47653**	6.8	0.070	0.042
(5 G 0.5²)	**47654**	7.2	0.081	0.048
(7 G 0.5²)	**47656**	8.2	0.104	0.064
(12 G 0.5²)	**47660**	9.7	0.149	0.105
(18 G 0.5²)	**47664**	11.0	0.194	0.137
(25 G 0.5²)	**47667**	13.6	0.283	0.210
(3 G 0.75²)	**47672**	7.2	0.079	0.048
(4 G 0.75²)	**47673**	7.6	0.090	0.055
(5 G 0.75²)	**47674**	8.3	0.108	0.066
(7 G 0.75²)	**47676**	9.8	0.147	0.085
(12 G 0.75²)	**47680**	11.3	0.198	0.135
(18 G 0.75²)	**47684**	13.4	0.284	0.190
(25 G 0.75²)	**47687**	16.5	0.416	0.275
(3 G 1.0²)	**47692**	7.7	0.091	0.059
(4 G 1.0²)	**47693**	8.2	0.108	0.070
(5 G 1.0²)	**47694**	8.7	0.124	0.084
(7 G 1.0²)	**47696**	10.4	0.167	0.106
(12 G 1.0²)	**47700**	12.1	0.232	0.174
(18 G 1.0²)	**47704**	14.2	0.334	0.240
(25 G 1.0²)	**47707**	17.5	0.486	0.332
(3 G 1.5²)	**47712**	8.3	0.113	0.075
(4 G 1.5²)	**47713**	8.8	0.133	0.090
(5 G 1.5²)	**47714**	9.8	0.163	0.108
(7 G 1.5²)	**47716**	11.2	0.207	0.157
(12 G 1.5²)	**47720**	13.7	0.318	0.240
(18 G 1.5²)	**47724**	15.8	0.440	0.355
(25 G 1.5²)	**47727**	19.6	0.646	0.448



Subject to change.

Additional cable types upon request.

TRAXLINE CONTROL 400 600 V

Unshielded continuous bending hi-flex PVC control cables



Picture obtainable.

Up to 4 million motion cycles!

Up to 100 m travel length!

TSUBAKI KABELSCHLEPP TRAXLINE cables for cable carriers

cULus CE

Developed for

- systems engineering and mechanical engineering
- crane and conveyor equipment
- monitoring, measuring and control cables
- medium to heavy loads
- long travel length

Properties

- hi-flex design
- oil-resistant
- UV-resistant
- REACH/RoHS II
- ozone-resistant
- metermarked
- CFC-free
- silicone-free
- flame-retardant
- high abrasion resistant

Design

Conductor:	bare copper wires class 6 in an optimized hi-flex design
Center element:	type-dependent
Core insulation:	PP
Core identification:	black with white numbers, protective conductor green/yellow
Core stranding:	conductor cores bundled in short pitches with minimal torsion (> 8 cores) conductor cores layered in short pitches with minimal torsion (≤ 8 cores)
Outer jacket:	PVC
Jacket colour:	black



Core insulation
PP
bundled stranding
(> 8 cores)



Outer jacket
PVC
valley-sealed extruded
hi-flex design
high abrasion-resistant



Jacket colour black
ozone-resistant
UV-resistant

Technical Data

Temperature range while moved:	– 5 to + 80 °C
Minimum bend radius while moved:	$KR_{min} \geq 7.5 \times Ø$
v_{max} supported:	5 m/s
v_{max} gliding:	3 m/s
a_{max}:	20 m/s²
Insulation resistance:	≥ 30 MΩ x km
Rated voltage:	according to VDE 300/500 V according to UL 600 V
Approvals:	cURus, based on VDE

varying parameters possible – please contact us

Subject to change.

Type selection

TRAXLINE CONTROL 400 600 V – unshielded

core number x nominal-cross-section in mm²	part number	max. Ø mm	cable weight kg/m	copper weight kg/m
2 x 0.5²	**48110**	5.8	0.040	0.010
3 G 0.5²	**48111**	6.1	0.047	0.014
4 G 0.5²	**48112**	6.6	0.057	0.019
5 G 0.5²	**48113**	7.0	0.063	0.025
7 G 0.5²	**48115**	8.1	0.088	0.034
12 G 0.5²	**48119**	10.7	0.145	0.063
18 G 0.5²	**48121**	12.7	0.199	0.087
25 G 0.5²	**48124**	14.4	0.267	0.130
30 G 0.5²	**48125**	15.9	0.324	0.155
36 G 0.5²	**48126**	17.5	0.404	0.185
48 G 0.5²	**48128**	21.0	0.524	0.260
4 G 0.75²	**48040**	7.2	0.068	0.029
5 G 0.75²	**48041**	7.8	0.082	0.036
7 G 0.75²	**48042**	8.9	0.106	0.051
12 G 0.75²	**48043**	12.1	0.183	0.088
18 G 0.75²	**48044**	14.5	0.268	0.138
25 G 0.75²	**48045**	16.6	0.362	0.195
3 G 1.0²	**48046**	6.9	0.065	0.029
4 G 1.0²	**48047**	7.6	0.081	0.039
5 G 1.0²	**48048**	8.2	0.097	0.050
7 G 1.0²	**48049**	9.4	0.127	0.068
12 G 1.0²	**48050**	12.7	0.212	0.125
18 G 1.0²	**48051**	15.4	0.322	0.187
25 G 1.0²	**48052**	17.7	0.438	0.260
3 G 1.5²	**48053**	7.8	0.086	0.045
4 G 1.5²	**48054**	7.8	0.095	0.058
5 G 1.5²	**48055**	8.5	0.115	0.072
7 G 1.5²	**48056**	10.8	0.171	0.101
12 G 1.5²	**48057**	14.7	0.303	0.174
18 G 1.5²	**48058**	18.0	0.462	0.280
25 G 1.5²	**48059**	20.7	0.588	0.360
4 G 2.5²	**48060**	9.7	0.152	0.096



More information:
traxline.com
kabelschlepp.de
Questions about cable carrier calbes? Fon: +49 (0)2762 4003-0

Subject to change.

Additional cable types upon request.

TRAXLINE CONTROL 400 C 600 V

Shielded continuous bending hi-flex PVC control cables



Picture obtainable.

Up to 4 million motion cycles!

Up to 100 m travel length!

TSUBAKI KABELSCHLEPP TRAXLINE cables for cable carriers

c UL us CE

Developed for

- systems engineering and mechanical engineering
- crane and conveyor equipment
- monitoring, measuring and control cables
- medium to heavy loads
- long travel length

Properties

- hi-flex design
- oil-resistant
- UV-resistant
- REACH/RoHS II
- ozone-resistant
- metermarked
- CFC-free
- silicone-free
- flame-retardant
- high abrasion resistant

Design



Core insulation
PP
bundled stranding
(> 8 cores)



Inner jacket
PVC
valley-sealed,
pressure extruded,
hi-flex design



Overall shield
continuous bending hi-flex,
tin-plated copper braiding
for smallest bend radii



Outer jacket
PVC
pressure extruded
hi-flex design
very abrasion-resistant



Jacket colour black
ozone-resistant
UV-resistant

Conductor:	bare copper wires class 6 in an optimized hi-flex design
Center element:	type-dependent
Core insulation:	PP
Core identification:	black with white numbers, protective conductor green/yellow
Core stranding:	conductor cores bundled in short pitches with minimal torsion (> 8 cores) conductor cores layered in short pitches with minimal torsion (≤ 8 cores)
Inner jacket:	PVC
Shielding:	coverage nom. 85 %
Outer jacket:	PVC
Jacket colour:	black

Technical Data

Temperature range while moved:	– 5 to + 80 °C
Minimum bend radius while moved:	$KR_{min} \geq 7.5 \times Ø$
v_{max} supported:	5 m/s
v_{max} gliding:	3 m/s
a_{max}:	20 m/s²
Insulation resistance:	≥ 30 MΩ x km
Rated voltage:	according to VDE 300/500 V according to UL 600 V
Approvals:	cURus, based on VDE

varying parameters possible – please contact us

More information:
traxline.com

kabelschlepp.de

Questions about cable carrier calbes? Fon: +49 (0)2762 4003-0

TRAXLINE Cables for Motion
TOTALTRAX Complete Systems

Subject to change.

Type selection

TRAXLINE CONTROL 400 C 600 V – shielded

core number x nominal-cross-section in mm²	part number	max, Ø mm	cable weight kg/m	copper weight kg/m
(5 G 0,5²)	**48664**	8,7	0,110	0,052
(7 G 0,5²)	**48666**	9,8	0,136	0,066
(9 G 0,5²)	**48668**	11,2	0,172	0,090
(12 G 0,5²)	**48670**	12,7	0,220	0,106
(18 G 0,5²)	**48674**	15,1	0,302	0,169
(25 G 0,5²)	**48678**	17,2	0,405	0,223
(30 G 0,5²)	**48679**	18,9	0,473	0,272
(36 G 0,5²)	**48680**	20,6	0,552	0,302
(3 G 0,75²)	**48682**	8,3	0,095	0,045
(4 G 0,75²)	**48070**	8,9	0,111	0,055
(7 G 0,75²)	**48071**	10,9	0,164	0,085
(12 G 0,75²)	**48072**	14,3	0,278	0,151
(18 G 0,75²)	**48073**	17,1	0,379	0,225
(25 G 0,75²)	**48074**	19,6	0,516	0,295
(4 G 1,0²)	**48075**	9,3	0,128	0,073
(7 G 1,0²)	**48076**	11,4	0,190	0,115
(12 G 1,0²)	**48077**	15,1	0,319	0,198
(18 G 1,0²)	**48078**	18,2	0,447	0,272
(25 G 1,0²)	**48079**	20,8	0,596	0,357
(4 G 1,5²)	**48080**	10,4	0,161	0,085
(5 G 1,5²)	**48081**	11,1	0,184	0,103
(7 G 1,5²)	**48082**	12,9	0,249	0,148
(12 G 1,5²)	**48083**	17,3	0,425	0,269
(18 G 1,5²)	**48084**	20,9	0,601	0,382
(25 G 1,5²)	**48085**	23,9	0,802	0,503
(30 G 1,5²)	**48086**	26,7	0,977	0,635



More information: traxline.com
kabelschlepp.de
Questions about cable carrier calbes? Fon: +49 (0)2762 4003-0
TRAXLINE Cables for Motion
TOTALTRAX Complete Systems

Subject to change.

Additional cable types upon request.

TRAXLINE CONTROL 700 600 V

Unshielded continuous bending hi-flex PUR control cables



Picture obtainable.

Up to 7 million motion cycles!

Up to 500 m travel length!

TSUBAKI KABELSCHLEPP TRAXLINE cables for cable carriers

c UL us CE

Developed for

- systems engineering and mechanical engineering
- crane and conveyor equipment
- monitoring, measuring and control cables
- extremely heavy loads

Properties

- hi-flex design
- oil-resistant
- UV-resistant
- REACH/RoHS II
- halogen-free
- high abrasion resistant
- metermarked
- CFC-free
- silicone-free
- flame-retardant
- ozone-resistant
- NEK606

Design

Conductor:	conductors class 6 of bare copper wires in an optimized hi-flex design
Center element:	type-dependent
Core insulation:	PP
Core identification:	black with white numbers, protective conductor green/yellow
Core stranding:	conductor cores bundled in short pitches with minimal torsion (> 8 cores) conductor cores layered in short pitches with minimal torsion (≤ 8 cores)
Outer jacket:	PUR
Jacket colour:	black



Core insulation
PP
bundled stranding
(> 8 cores)



Outer jacket
PUR
valley-sealed extruded
hi-flex design
extremely abrasion-
resistant



Jacket colour black
ozone-resistant
UV-resistant

Technical Data

Temperature range while moved:	– 35 to + 90 °C
Minimum bend radius while moved:	$KR_{min} \geq 7.5 \times Ø$
v_{max} supported:	20 m/s
v_{max} gliding:	5 m/s
a_{max}:	50 m/s²
Insulation resistance:	≥ 30 MΩ x km
Rated voltage:	according to VDE 300/500 V according to UL 600 V
Approvals:	cURus, based on VDE

varying parameters possible – please contact us

Subject to change.

More information:
traxline.com
kabelschlepp.de
Questions about cable carrier calbes? Fon: +49 (0)2762 4003-0
TRAXLINE Cables for Motion
TOTALTRAX Complete Systems

Type selection

TRAXLINE CONTROL 700 600 V – unshielded

core number x nominal-cross-section in mm²	part number	max. Ø mm	cable weight kg/m	copper weight kg/m
2 x 0.5²	**45391**	5.8	0.039	0.010
3 G 0.5²	**45392**	6.1	0.045	0.014
4 G 0.5²	**45393**	6.6	0.053	0.020
7 G 0.5²	**45396**	8.1	0.085	0.035
12 G 0.5²	**45400**	10.7	0.139	0.060
15 G 0.5²	**45401**	11.7	0.162	0.072
16 G 0.5²	**45402**	12.0	0.178	0.077
36 G 0.5²	**45412**	18.2	0.392	0.198
49 G 0.5²	**45415**	21.8	0.539	0.236
3 G 0.75²	**45421**	6.6	0.055	0.023
4 G 0.75²	**45422**	7.2	0.069	0.031
5 G 0.75²	**45423**	7.8	0.083	0.038
7 G 0.75²	**45425**	9.0	0.108	0.053
12 G 0.75²	**45429**	11.9	0.181	0.096
18 G 0.75²	**45431**	14.3	0.257	0.146
25 G 0.75²	**45434**	16.3	0.362	0.209
36 G 0.75²	**45436**	20.2	0.517	0.270
3 G 1.0²	**45441**	7.0	0.067	0.029
4 G 1.0²	**45442**	7.6	0.082	0.044
5 G 1.0²	**45443**	8.2	0.097	0.048
7 G 1.0²	**45445**	9.5	0.125	0.070
8 G 1.0²	**45446**	10.3	0.145	0.077
12 G 1.0²	**45449**	12.7	0.216	0.125
18 G 1.0²	**45451**	15.4	0.315	0.210
25 G 1.0²	**45454**	17.7	0.437	0.302
18 G 2.5²	**45497**	22.0	0.696	0.450



Subject to change.

Additional cable types upon request.

TRAXLINE CONTROL 700 C 600 V

Shielded continuous bending hi-flex PUR control cables

More information:
traxline.com
kabelschlepp.de

Questions about cable carrier calbes? Fon: +49 (0)2762 4003-0
TRAXLINE Cables for Motion
TOTALTRAX Complete Systems



Picture obtainable.

Core insulation
PP
bundled stranding
(> 8 cores)

Inner jacket
TPE
valley-sealed,
pressure extruded,
hi-flex design

Overall shield
continuous bending hi-flex,
tin-plated copper braiding
for smallest bend radii

Outer jacket
PUR
pressure extruded
hi-flex design
extremely abrasion-resistant

Jacket colour black
ozone-resistant
UV-resistant

Up to 7 million motion cycles!

Up to 500 m travel length!

TSUBAKI KABELSCHLEPP TRAXLINE cables for cable carriers

Developed for

- systems engineering and mechanical engineering
- crane and conveyor equipment
- monitoring, measuring and control cables
- extremely heavy loads

Properties

- hi-flex design
- oil-resistant
- UV-resistant
- REACH/RoHS II
- halogen-free
- high abrasion resistant
- metermarked
- CFC-free
- silicone-free
- flame-retardant
- ozone-resistant
- NEK606

Design

Conductor:	conductors class 6 of bare copper wires in an optimized hi-flex design
Center element:	type-dependent
Core insulation:	PP
Core identification:	black with white numbers, protective conductor green/yellow
Core stranding:	conductor cores bundled in short pitches with minimal torsion (> 8 cores) conductor cores layered in short pitches with minimal torsion (≤ 8 cores)
Inner jacket:	TPE
Shielding:	coverage nom. 85 %
Outer jacket:	PUR
Jacket colour:	black

Technical Data

Temperature range while moved:	– 35 to + 90 °C
Minimum bend radius while moved:	$KR_{min} \geq 7.5 \times Ø$
v_{max} supported:	20 m/s
v_{max} gliding:	5 m/s
a_{max}:	50 m/s²
Insulation resistance:	≥ 30 MΩ x km
Rated voltage:	according to VDE 300/500 V according to UL 600 V
Approvals:	cURus, based on VDE

varying parameters possible – please contact us

Subject to change.

Type selection

TRAXLINE CONTROL 700 C 600 V – shielded

core number x nominal-cross-section in mm²	part number	max. Ø mm	cable weight kg/m	copper weight kg/m
(3 G 0.5²)	**45701**	7.9	0.081	0.036
(4 G 0.5²)	**45702**	8.4	0.090	0.042
(5 G 0.5²)	**45703**	8.9	0.103	0.048
(7 G 0.5²)	**45705**	10.0	0.130	0.064
(12 G 0.5²)	**45709**	12.7	0.201	0.109
(18 G 0.5²)	**45712**	15.1	0.268	0.167
(25 G 0.5²)	**45715**	17.2	0.360	0.212
(3 G 0.75²)	**45721**	8.4	0.082	0.048
(4 G 0.75²)	**45722**	9.0	0.109	0.055
(5 G 0.75²)	**45723**	9.6	0.126	0.066
(7 G 0.75²)	**45725**	11.0	0.158	0.087
(12 G 0.75²)	**45729**	14.3	0.256	0.147
(18 G 0.75²)	**45732**	16.6	0.348	0.222
(25 G 0.75²)	**45735**	19.7	0.491	0.293
(3 G 1.0²)	**45741**	8.8	0.104	0.059
(4 G 1.0²)	**45742**	9.4	0.123	0.070
(5 G 1.0²)	**45743**	10.0	0.139	0.084
(7 G 1.0²)	**45745**	11.6	0.183	0.106
(12 G 1.0²)	**45749**	15.1	0.297	0.174
(18 G 1.0²)	**45752**	18.3	0.429	0.240
(25 G 1.0²)	**45755**	20.6	0.550	0.332
(36 G 1²)	**45757**	25.3	0.803	0.346
(49 G 1²)	**45759**	29.9	1.114	0.471



More information:
traxline.com
kabelschlepp.de
Questions about cable carrier calbes? Fon: +49 (0)2762 4003-0

Subject to change.

Additional cable types upon request.

TRAXLINE POWER 400 1 kV

Unshielded continuous bending hi-flex PVC power cables



Picture obtainable.

Up to 4 million motion cycles!

Up to 100 m travel length!

TSUBAKI KABELSCHLEPP TRAXLINE cables for cable carriers

DESINA

c UL us

CE

Developed for

- systems engineering and mechanical engineering
- crane and conveyor equipment
- power and supply cable
- medium to heavy loads

Properties

- hi-flex design
- oil-resistant
- UV-resistant
- REACH/RoHS II
- ozone-resistant
- metermarked
- CFC-free
- silicone-free
- flame-retardant
- high abrasion resistant

Design

Conductor:	conductors class 6 of bare copper wires in an optimized hi-flex design
Center element:	type-dependent
Core insulation:	PP
Core identification:	black with white numbers, protective conductor green/yellow
Core stranding:	conductor cores bundled in short pitches with minimal torsion (> 8 cores) conductor cores layered in short pitches with minimal torsion (≤ 8 cores)
Outer jacket:	PVC
Jacket colour:	black (according to DESINA)



Core insulation
PP
bundled stranding
(> 8 cores)



Outer jacket
PVC
valley-sealed extruded
hi-flex design
high abrasion-resistant



Jacket colour black
ozone-resistant
UV-resistant

Technical Data

Temperature range while moved:	– 5 to + 80 °C
Minimum bend radius while moved:	$KR_{min} \geq 7.5 \times Ø$
v_{max} supported:	5 m/s
v_{max} gliding:	3 m/s
a_{max}:	20 m/s²
Insulation resistance:	≥ 30 MΩ x km
Rated voltage:	according to VDE 0.6/1 kV according to UL 1 kV
Approvals:	cURus, based on VDE

varying parameters possible – please contact us

More information:
traxline.com
kabelschlepp.de
Questions about cable carrier calbes? Fon: +49 (0)2762 4003-0
TRAXLINE Cables for Motion
TOTALTRAX Complete Systems

Subject to change.

Type selection

TRAXLINE POWER 400 1 kV – unshielded

core number x nominal-cross-section in mm²	part number	max. Ø mm	cable weight kg/m	copper weight kg/m
2 x 1.5²	**45200**	7.4	0.074	0.031
3 G 1.5²	**45201**	7.8	0.088	0.045
4 G 1.5²	**45202**	8.4	0.109	0.060
5 G 1.5²	**45203**	9.2	0.129	0.072
7 G 1.5²	**45205**	10.8	0.173	0.105
12 G 1.5²	**45209**	14.7	0.308	0.180
18 G 1.5²	**45211**	18.0	0.453	0.270
20 G 1.5²	**45213**	18.2	0.525	0.303
25 G 1.5²	**45214**	21.1	0.627	0.405
3 G 2.5²	**45221**	9.0	0.128	0.075
4 G 2.5²	**45222**	9.8	0.158	0.100
5 G 2.5²	**45223**	10.8	0.190	0.125
7 G 2.5²	**45225**	12.7	0.259	0.168
12 G 2.5²	**45229**	17.9	0.483	0.300
18 G 2.5²	**45231**	22.2	0.706	0.450
25 G 2.5²	**45234**	24.8	0.949	0.625
4 G 4.0²	**45242**	11.6	0.233	0.160
5 G 4.0²	**45243**	12.9	0.287	0.200
7 G 4.0²	**45245**	15.3	0.399	0.280
4 G 6.0²	**45252**	13.6	0.336	0.240
5 G 6.0²	**45253**	15.1	0.410	0.288
7 G 6.0²	**45254**	18.5	0.600	0.420
4 G 10²	**45262**	17.0	0.542	0.400
5 G 10²	**45263**	18.9	0.669	0.480
4 G 16²	**45272**	21.0	0.861	0.640
5 G 16²	**45273**	23.7	1.091	0.768
4 G 25²	**45282**	25.7	1.308	1.000
4 G 35²	**45292**	30.1	1.818	1.400
4 G 50²	**45302**	34.6	2.545	1.910
4 G 70²	**45312**	40.7	3.564	2.700



More information:
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Subject to change.

Additional cable types upon request.

TRAXLINE POWER 400 C 1 kV

Shielded continuous bending hi-flex PVC power cables

More information:
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TRAXLINE Cables for Motion
TOTALTRAX Complete Systems

Up to **4 million** motion cycles!

Up to **100 m** travel length!

TSUBAKI KABELSCHLEPP TRAXLINE cables for cable carriers



Core insulation
PP
bundled stranding
(> 8 cores)

Inner jacket
PVC
valley-sealed,
pressure extruded,
hi-flex design

Overall shield
continuous bending
hi-flex, tin-plated
copper braiding
for smallest bend radii

Outer jacket
PVC
pressure extruded
hi-flex design
high abrasion-resistant

Jacket colour black
ozone-resistant
UV-resistant

Developed for

- systems engineering and mechanical engineering
- crane and conveyor equipment
- power and supply cable
- medium to heavy loads

Properties

- hi-flex design
- oil-resistant
- UV-resistant
- REACH/RoHS II
- ozone-resistant
- metermarked
- CFC-free
- silicone-free
- flame-retardant
- high abrasion resistant

Design

Conductor:	conductors class 6 of bare copper wires in an optimized hi-flex design
Center element:	type-dependent
Core insulation:	PP
Core identification:	black with white numbers, protective conductor green/yellow
Core stranding:	conductor cores bundled in short pitches with minimal torsion (> 8 cores) conductor cores layered in short pitches with minimal torsion (≤ 8 cores)
Inner jacket:	PVC
Shielding:	coverage nom. 83 %
Outer jacket:	PVC
Jacket colour:	black

Technical Data

Temperature range while moved:	– 5 to + 80 °C
Minimum bend radius while moved:	$KR_{min} \geq 7.5 \times Ø$
v_{max} supported:	5 m/s
v_{max} gliding:	3 m/s
a_{max}:	20 m/s²
Insulation resistance:	≥ 30 MΩ x km
Rated voltage:	according to VDE 0.6/1 kV according to UL 1 kV
Approvals:	cURus, based on VDE

varying parameters possible – please contact us

Picture obtainable.

Subject to change.

Type selection

TRAXLINE POWER 400 C 1 kV – shielded

core number x nominal-cross-section in mm²	part number	max. Ø mm	cable weight kg/m	copper weight kg/m
(4 G 1.5²)	**47202**	10.4	0.165	0.104
(4 G 2.5²)	**47222**	11.8	0.222	0.148
(5 G 2.5²)	**47223**	12.8	0.263	0.171
(7 G 2.5²)	**47225**	15.1	0.365	0.235
(4 G 4.0²)	**47242**	13.7	0.319	0.209
(5 G 4.0²)	**47243**	15.1	0.412	0.273
(7 G 4.0²)	**47245**	18.1	0.537	0.360
(4 G 6.0²)	**47252**	16.1	0.450	0.307
(5 G 6.0²)	**47253**	17.9	0.558	0.439
(4 G 10²)	**47262**	20.0	0.701	0.520
(5 G 10²)	**47263**	22.0	0.856	0.592
(4 G 16²)	**47272**	24.5	1.088	0.746
(5 G 16²)	**47273**	27.1	1.379	1.050
(4 G 25²)	**47282**	29.3	1.578	1.163
(4 G 35²)	**47292**	33.9	2.178	1.667



More information:
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kabelschlepp.de
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Subject to change.

Additional cable types upon request.

TRAXLINE POWER 700 1 kV

Unshielded continuous bending hi-flex PUR power cables

More information:
traxline.com

kabelschlepp.de

Questions about cable carrier calbes? Fon: +49 (0)2762 4003-0
TRAXLINE Cables for Motion
TOTALTRAX Complete Systems



Picture obtainable.

Core insulation
PP
bundled stranding
(> 8 cores)

Outer jacket
PUR
valley-sealed extruded
hi-flex design
extremely abrasion-resistant

Jacket colour black
ozone-resistant
UV-resistant

Up to 7 million motion cycles!

Up to 500 m travel length!

TSUBAKI KABELSCHLEPP TRAXLINE cables for cable carriers

DESINA

cULus

CE

Developed for

- systems engineering and mechanical engineering
- crane and conveyor equipment
- power and supply cable
- extremely heavy loads

Properties

- hi-flex design
- oil-resistant
- UV-resistant
- REACH/RoHS II
- halogen-free
- high abrasion resistant
- metermarked
- CFC-free
- silicone-free
- flame-retardant
- ozone-resistant
- NEK606

Design

Conductor:	conductors class 6 of bare copper wires in an optimized hi-flex design
Center element:	type-dependent
Core insulation:	PP
Core identification:	black with white numbers, protective conductor green/yellow
Core stranding:	conductor cores bundled in short pitches with minimal torsion (> 8 cores) conductor cores layered in short pitches with minimal torsion (≤ 8 cores)
Outer jacket:	PUR
Jacket colour:	black (according to DESINA)

Technical Data

Temperature range while moved:	– 35 to + 90 °C
Minimum bend radius while moved:	$KR_{min} \geq 7.5 \times Ø$
v_{max} supported:	20 m/s
v_{max} gliding:	5 m/s
a_{max}:	50 m/s²
Insulation resistance:	≥ 30 MΩ x km
Rated voltage:	according to VDE 0.6/1 kV according to UL 1 kV
Approvals:	cURus, based on VDE

varying parameters possible – please contact us

Subject to change.

Type selection

TRAXLINE POWER 700 1 kV – unshielded

core number x nominal-cross-section in mm²	part number	max. Ø mm	cable weight kg/m	copper weight kg/m
2 x 1.5²	**45500**	7.4	0.074	0.029
3 G 1.5²	**45501**	7.8	0.088	0.045
4 G 1.5²	**45502**	8.4	0.109	0.058
5 G 1.5²	**45503**	9.2	0.129	0.072
7 G 1.5²	**45505**	10.8	0.173	0.105
12 G 1.5²	**45509**	14.7	0.307	0.195
18 G 1.5²	**45511**	18.0	0.452	0.270
25 G 1.5²	**45514**	21.1	0.626	0.405
36 G 1.5²	**45516**	26.2	0.904	0.540
2 x 2.5²	**45520**	8.5	0.104	0.048
3 G 2.5²	**45521**	9.0	0.127	0.075
4 G 2.5²	**45522**	9.8	0.158	0.108
5 G 2.5²	**45523**	10.8	0.190	0.125
7 G 2.5²	**45525**	12.7	0.259	0.175
12 G 2.5²	**45529**	17.9	0.482	0.300
18 G 2.5²	**45531**	22.2	0.704	0.450
25 G 2.5²	**45534**	24.8	0.947	0.625
36 G 2.5²	**45536**	30.7	1.337	0.900
2 x 4.0²	**45540**	9.9	0.146	0.080
3 G 4.0²	**45541**	10.6	0.187	0.120
4 G 4.0²	**45542**	11.6	0.233	0.154
7 G 4.0²	**45543**	15.3	0.399	0.269
5 G 4.0²	**45544**	12.9	0.284	0.240
12 G 4.0²	**45546**	22.1	0.748	0.461
30 G 4.0²	**45549**	33.6	1.774	1.152
3 G 6.0²	**45551**	12.3	0.265	0.173
4 G 6.0²	**45552**	13.6	0.336	0.240
5 G 6.0²	**45553**	15.1	0.419	0.288
7 G 6.0²	**45555**	18.5	0.599	0.403
3 G 10²	**45561**	15.2	0.418	0.288
4 G 10²	**45562**	17.0	0.541	0.384
5 G 10²	**45563**	18.9	0.668	0.500
3 G 16²	**45564**	18.8	0.672	0.461
4 G 16²	**45565**	21.0	0.869	0.640
5 G 16²	**45566**	23.7	1.089	0.800
3 G 25²	**45567**	23.0	1.019	0.750
4 G 25²	**45568**	25.7	1.306	1.000
5 G 25²	**45569**	28.9	1.626	1.200
3 G 35²	**45570**	26.7	1.395	1.008
4 G 35²	**45571**	30.1	1.815	1.344
5 G 35²	**45560**	33.7	2.249	1.750
3 G 50²	**45559**	30.7	1.954	1.440
4 G 50²	**45572**	34.6	2.541	1.920
4 G 70²	**45573**	40.0	3.559	2.700
4 G 95²	**45574**	45.3	4.451	3.800

Subject to change.

Additional cable types upon request.

More information: traxline.com
kabelschlepp.de
Questions about cable carrier calbes? Fon: +49 (0)2762 4003-0

TRAXLINE POWER ONE 700 1 kV

Unshielded continuous bending hi-flex PUR single-core cables

More information:
traxline.com
kabelschlepp.de



Core insulation
PUR
wire bundles
in short pitches

Outer jacket
PUR
pressure extruded
hi-flex design
extremely abrasion-resistant

Jacket colour black
ozone-resistant
UV-resistant

Up to **7 million** motion cycles!

Up to **500 m** travel length!

TSUBAKI KABELSCHLEPP TRAXLINE cables for cable carriers

DESINA

cULus CE

Developed for

- systems engineering and mechanical engineering
- crane and conveyor equipment
- power and supply cable
- extremely heavy loads

Properties

- hi-flex design
- oil-resistant
- UV-resistant
- REACH/RoHS II
- halogen-free
- high abrasion resistant
- metermarked
- CFC-free
- silicone-free
- flame-retardant
- ozone-resistant
- NEK606

Design

Conductor:	conductors class 6 of bare copper wires in an optimized hi-flex design
Core insulation:	PUR
Core stranding:	single-core
Outer jacket:	PUR
Jacket colour:	black (according to DESINA)

Technical Data

Temperature range while moved:	– 35 to + 90 °C
Minimum bend radius while moved:	$KR_{min} \geq 7.5 \times Ø$
v_{max} supported:	20 m/s
v_{max} gliding:	5 m/s
a_{max}:	50 m/s²
Insulation resistance:	≥ 100 kΩ x km
Rated voltage:	according to VDE 0.6/1 kV according to UL 1 kV
Approvals:	cURus, based on VDE

varying parameters possible – please contact us

TRAXLINE Cables for Motion
TOTALTRAX Complete Systems
Questions about cable carrier calbes? Fon: +49 (0)2762 4003-0

Picture obtainable.

Subject to change.

Type selection

TRAXLINE POWER ONE 700 1 kV – unshielded

core number x nominal-cross-section in mm²	part number	max. Ø mm	cable weight kg/m	copper weight kg/m
1 x 0.25²	**45575**	4.1	0.017	0.002
1 x 0.34²	**45576**	4.2	0.019	0.003
1 x 0.5²	**45577**	4.3	0.021	0.005
1 x 0.75²	**45578**	4.7	0.026	0.007
1 x 1.0²	**45579**	4.9	0.029	0.010
1 x 1.5²	**45580**	5.6	0.039	0.014
1 x 2.5²	**45581**	6.2	0.053	0.025
1 x 4.0²	**45582**	6.8	0.072	0.040
1 x 6.0²	**45583**	7.4	0.094	0.060
1 x 10²	**45584**	8.6	0.142	0.100
1 x 16²	**45585**	9.7	0.204	0.154
1 x 25²	**45586**	11.3	0.298	0.240
1 x 35²	**45587**	12.7	0.397	0.350
1 x 50²	**45588**	15.0	0.571	0.500
1 x 70²	**45589**	17.0	0.785	0.700
1 x 95²	**45590**	19.5	1.029	0.950
1 x 120²	**45591**	21.4	1.285	1.200
1 x 150²	**45592**	24.2	1.572	1.500
1 x 185²	**45593**	26.6	1.919	1.850
1 x 240²	**45594**	30.2	2.503	2.304
1 x 300²	**45595**	34.4	3.119	2.880
1 x 400²	**45596**	40.2	4.042	3.800
1 x 500²	**45597**	42.8	5.142	5.000
1 x 700²	**45598**	49.9	7.405	6.680



More information:
traxline.com
kabelschlepp.de
Questions about cable carrier calbes? Fon: +49 (0)2762 4003-0
TRAXLINE Cables for Motion
TOTALTRAX Complete Systems

Subject to change.

Additional cable types upon request.

TRAXLINE POWER ONE 700 PE

Unshielded, continuous bending highly-flexible PUR single-core cables with PE core identification

More information:
traxline.com

kabelschlepp.de

Questions about cable carrier calbes? Fon: +49 (0)2762 4003-0

TRAXLINE Cables for Motion
TOTALTRAX Complete Systems



Picture obtainable.

Core insulation
PUR
wire bundles
in short pitches

Outer jacket
PUR
pressure extruded
hi-flex design
extremely abrasion-resistant

Jacket colour black
ozone-resistant
UV-resistant

Up to 7 million motion cycles!

Up to 500 m travel length!

TSUBAKI KABELSCHLEPP TRAXLINE cables for cable carriers

Developed for

- systems engineering and mechanical engineering
- crane and conveyor equipment
- power and supply cable
- extremely heavy loads

Properties

- hi-flex design
- oil-resistant
- UV-resistant
- REACH/RoHS II
- halogen-free
- high abrasion resistant
- metermarked
- CFC-free
- silicone-free
- flame-retardant
- ozone-resistant
- NEK606

Design

Conductor:	conductors class 6 of bare copper wires in an optimized hi-flex design
Core insulation:	PUR
Core identification:	green/yellow
Core stranding:	single-core
Outer jacket:	PUR
Jacket colour:	black

Technical Data

Temperature range while moved:	– 35 to + 90 °C
Minimum bend radius while moved:	$KR_{min} \geq 7.5 \times Ø$
v_{max} supported:	20 m/s
v_{max} gliding:	5 m/s
a_{max}:	50 m/s²
Insulation resistance:	≥ 100 kΩ x km
Rated voltage:	according to VDE 0.6/1 kV according to UL 1 kV
Approvals:	cURus, based on VDE

varying parameters possible – please contact us

Subject to change.

Type selection

TRAXLINE POWER ONE 700 PE – unshielded

core number x nominal-cross-section in mm²	part number	max. Ø mm	cable weight kg/m	copper weight kg/m
1 G 1.5²	**47580**	5.6	0.039	0.014
1 G 2.5²	**47581**	6.2	0.053	0.025
1 G 4.0²	**47582**	6.8	0.071	0.040
1 G 6.0²	**47583**	7.4	0.094	0.060
1 G 10²	**47584**	8.6	0.142	0.100
1 G 16²	**47585**	9.7	0.203	0.154
1 G 25²	**47586**	11.3	0.298	0.213
1 G 35²	**47587**	12.7	0.397	0.302
1 G 50²	**47588**	15.0	0.571	0.434
1 G 70²	**47589**	17.0	0.785	0.700
1 G 95²	**47590**	19.5	1.029	0.950
1 G 120²	**47591**	21.4	1.285	1.200
1 G 150²	**47592**	24.2	1.572	1.500
1 G 185²	**47593**	26.6	1.919	1.850
1 G 240²	**47594**	30.2	2.503	2.304



More information:
traxline.com
kabelschlepp.de
Questions about cable carrier calbes? Fon: +49 (0)2762 4003-0
TRAXLINE Cables for Motion
TOTALTRAX Complete Systems

Subject to change.

Additional cable types upon request.

TRAXLINE POWER 700 C 1 kV

Shielded continuous bending hi-flex PUR power cables

More information:
traxline.com
kabelschlepp.de
Questions about cable carrier calbes? Fon: +49 (0)2762 4003-0
TRAXLINE Cables for Motion
TOTALTRAX Complete Systems

Up to **7 million** motion cycles!

Up to **500 m** travel length!

TSUBAKI KABELSCHLEPP TRAXLINE cables for cable carriers



Picture obtainable.

Core insulation
PP
bundled stranding
(> 8 cores)

Inner jacket
TPE
valley-sealed,
pressure extruded,
hi-flex design

Overall shield
continuous bending
hi-flex, tin-plated
copper braiding for
smallest bend radii

Outer jacket
PUR
pressure extruded,
hi-flex design, extremely
abrasion-resistant

Jacket colour black
ozone-resistant
UV-resistant

Developed for

- systems engineering and mechanical engineering
- crane and conveyor equipment
- power and supply cable
- extremely heavy loads

Properties

- hi-flex design
- oil-resistant
- UV-resistant
- REACH/RoHS II
- halogen-free
- high abrasion resistant
- metermarked
- CFC-free
- silicone-free
- flame-retardant
- ozone-resistant
- NEK606

Design

Conductor:	conductors class 6 of bare copper wires in an optimized hi-flex design
Center element:	type-dependent
Core insulation:	PP
Core identification:	black with white numbers, protective conductor green/yellow
Core stranding:	conductor cores bundled in short pitches with minimal torsion (> 8 cores) conductor cores layered in short pitches with minimal torsion (≤ 8 cores)
Inner jacket:	TPE
Shielding:	coverage nom. 85 %
Outer jacket:	PUR
Jacket colour:	black

Technical Data

Temperature range while moved:	– 35 to + 90 °C
Minimum bend radius while moved:	$KR_{min} \geq 7.5 \times Ø$
v_{max} supported:	20 m/s
v_{max} gliding:	5 m/s
a_{max}:	50 m/s²
Insulation resistance:	≥ 30 MΩ x km
Rated voltage:	according to VDE 0.6/1 kV according to UL 1 kV
Approvals:	cURus, based on VDE

varying parameters possible – please contact us

Subject to change.

Type selection

TRAXLINE POWER 700 C 1 kV – shielded

core number x nominal-cross-section in mm²	part number	max. Ø mm	cable weight kg/m	copper weight kg/m
(2 x 1.5²)	**45760**	9.2	0.112	0.064
(3 G 1.5²)	**45761**	9.6	0.130	0.075
(4 G 1.5²)	**45762**	10.5	0.158	0.089
(5 G 1.5²)	**45763**	11.3	0.181	0.108
(7 G 1.5²)	**45765**	13.0	0.239	0.148
(12 G 1.5²)	**45769**	17.4	0.410	0.264
(18 G 1.5²)	**45772**	21.7	0.585	0.362
(25 G 1.5²)	**45775**	24.6	0.825	0.564
(36 G 1.5²)	**45777**	30.0	1.171	0.698
(49 G 1.5²)	**45778**	36.4	2.054	0.950
(3 G 2.5²)	**45780**	11.0	0.176	0.110
(4 G 2.5²)	**45781**	11.9	0.214	0.142
(5 G 2.5²)	**45783**	12.9	0.253	0.170
(7 G 2.5²)	**45785**	15.2	0.353	0.268
(12 G 2.5²)	**45787**	21.1	0.617	0.421
(18 G 2.5²)	**45789**	25.5	0.895	0.607
(20 G 2.5²)	**45790**	25.7	0.943	0.621
(25 G 2.5²)	**45791**	28.8	1.166	0.765
(4 G 4.0²)	**45801**	13.8	0.306	0.211
(4 G 6.0²)	**45802**	16.2	0.432	0.298
(4 G 10²)	**45803**	20.1	0.671	0.526
(4 G 16²)	**45804**	24.7	1.050	0.781
(5 G 16²)	**45812**	27.7	1.289	0.904
(4 G 25²)	**45805**	29.4	1.145	1.145
(4 G 35²)	**45806**	34.0	1.667	1.667
(4 G 50²)	**45807**	39.2	2.902	2.306
(4 G 70²)	**45808**	45.8	4.016	3.045
(4 G 95²)	**45809**	50.6	5.094	4.060
(4 G 120²)	**45810**	56.2	6.230	5.128
(4 G 150²)	**45811**	66.0	7.765	6.525



More information: traxline.com
kabelschlepp.de
Questions about cable carrier calbes? Fon: +49 (0)2762 4003-0
TRAXLINE Cables for Motion
TOTALTRAX Complete Systems

Subject to change.

Additional cable types upon request.

TRAXLINE POWER ONE 700 C 1 kV

Shielded continuous bending hi-flex PUR single-core cables

More information:
traxline.com
kabelschlepp.de



Picture obtainable.

Up to 7 million motion cycles!

Up to 500 m travel length!

TSUBAKI KABELSCHLEPP TRAXLINE cables for cable carriers

c UL us CE

Developed for

- systems engineering and mechanical engineering
- crane and conveyor equipment
- power and supply cable
- extremely heavy loads

Properties

- hi-flex design
- oil-resistant
- UV-resistant
- REACH/RoHS II
- halogen-free
- high abrasion resistant
- metermarked
- CFC-free
- silicone-free
- flame-retardant
- ozone-resistant
- NEK606

Design

Conductor:	conductors class 6 of bare copper wires in an optimized hi-flex design
Core insulation:	PUR
Core stranding:	single-core
Shielding:	coverage nom. 85 %
Outer jacket:	PUR
Jacket colour:	black



Core insulation
PUR
wire bundles
in short pitches



Overall shield
continuous bending hi-flex,
tin-plated copper braiding
for smallest bend radii



Outer jacket
PUR
pressure extruded
hi-flex design
extremely abrasion-resistant



Jacket colour black
ozone-resistant
UV-resistant

Technical Data

Temperature range while moved:	– 35 to + 90 °C
Minimum bend radius while moved:	$KR_{min} \geq 7.5 \times Ø$
v_{max} supported:	20 m/s
v_{max} gliding:	5 m/s
a_{max}:	50 m/s²
Insulation resistance:	≥ 100 kΩ x km
Rated voltage:	according to VDE 0.6/1 kV according to UL 1 kV
Approvals:	cURus, based on VDE

varying parameters possible – please contact us

Questions about cable carrier calbes? Fon: +49 (0)2762 4003-0
TRAXLINE Cables for Motion
TOTALTRAX Complete Systems

Subject to change.

Type selection

TRAXLINE POWER ONE 700 C 1 kV – shielded

core number x nominal-cross-section in mm²	part number	max. Ø mm	cable weight kg/m	copper weight kg/m
(1 x 1.5²)	**45814**	6.1	0.054	0.029
(1 x 2.5²)	**45815**	6.8	0.070	0.041
(1 x 4.0²)	**45816**	7.4	0.091	0.059
(1 x 6.0²)	**45817**	8.0	0.115	0.071
(1 x 10²)	**45818**	9.2	0.167	0.122
(1 x 16²)	**45819**	10.4	0.234	0.190
(1 x 25²)	**45820**	11.9	0.332	0.289
(1 x 35²)	**45821**	13.3	0.446	0.393
(1 x 50²)	**45822**	15.6	0.630	0.560
(1 x 70²)	**45823**	17.8	0.859	0.750
(1 x 95²)	**45824**	20.3	1.112	1.029
(1 x 120²)	**45825**	22.2	1.378	1.272
(1 x 150²)	**45826**	25.2	1.703	1.578
(1 x 185²)	**45827**	27.4	2.043	1.911
(1 x 240²)	**45828**	31.1	2.638	2.451
(1 x 300²)	**45829**	35.4	3.341	2.997



More information:
traxline.com
kabelschlepp.de
Questions about cable carrier calbes? Fon: +49 (0)2762 4003-0
TRAXLINE Cables for Motion
TOTALTRAX Complete Systems

Subject to change.

Additional cable types upon request.

TRAXLINE DATA 400 C

Shielded continuous bending hi-flex PVC control cables



Picture obtainable.

Up to 4 million motion cycles!

Up to 50 m travel length!

TSUBAKI KABELSCHLEPP TRAXLINE cables for cable carriers

c UL us CE

Developed for

- systems engineering and mechanical engineering
- crane and conveyor equipment
- monitoring, measuring and control cables
- medium to heavy loads

Properties

- hi-flex design
- oil-resistant
- UV-resistant
- REACH/RoHS II
- ozone-resistant
- metermarked
- CFC-free
- silicone-free
- flame-retardant
- high abrasion resistant



Core insulation
PP
bundled stranding
(> 8 cores)



Inner jacket
PVC
valley-sealed,
pressure extruded,
hi-flex design



Overall shield
continuous bending hi-flex,
tin-plated copper braiding
for smallest bend radii



Outer jacket
PVC
pressure extruded
hi-flex design
high abrasion-resistant



Jacket colour black
ozone-resistant
UV-resistant

Design

Conductor:	bare copper wires class 6 in an optimized hi-flex design
Center element:	type-dependent
Core insulation:	PVC
Core identification:	core identification coloured according to DIN 47100
Core stranding:	conductor cores bundled in short pitches with minimal torsion (> 8 cores) conductor cores layered in short pitches with minimal torsion (≤ 8 cores)
Inner jacket:	PVC
Shielding:	coverage nom. 83 %
Outer jacket:	PVC
Jacket colour:	black

Technical Data

Temperature range while moved:	– 5 to + 80 °C
Minimum bend radius while moved:	$KR_{min} \geq 7.5 \times Ø$
v_{max} supported:	5 m/s
v_{max} gliding:	3 m/s
a_{max}:	20 m/s²
Insulation resistance:	≥ 10 MΩ x km
Rated voltage:	according to VDE 300/500 V according to UL 300 V
Approvals:	cURus, based on VDE

varying parameters possible – please contact us

Subject to change.

Type selection

TRAXLINE DATA 400 C – shielded

core number x nominal-cross-section in mm²	part number	max. Ø mm	cable weight kg/m	copper weight kg/m
(4 x 0.25²)	**48623**	6.9	0.062	0.029
(8 x 0.25²)	**48627**	8.4	0.093	0.056
(25 x 0.25²)	**48638**	12.7	0.212	0.134
(4 x 0.34²)	**48647**	7.3	0.071	0.027
(5 x 0.34²)	**48648**	7.7	0.079	0.030
(7 x 0.34²)	**48649**	8.5	0.099	0.040



Additional cable types upon request.

Subject to change.

TRAXLINE DATA 700

Unshielded continuous bending hi-flex PUR control cables



Picture obtainable.

Up to 7 million motion cycles!

Up to 200 m travel length!

TSUBAKI KABELSCHLEPP TRAXLINE cables for cable carriers

c UL us CE

Developed for

- systems engineering and mechanical engineering
- crane and conveyor equipment
- monitoring, measuring and control cables
- extremely heavy loads

Properties

- hi-flex design
- oil-resistant
- UV-resistant
- REACH/RoHS II
- halogen-free
- high abrasion resistant
- metermarked
- CFC-free
- silicone-free
- flame-retardant
- ozone-resistant
- NEK606

Design

Conductor:	conductors class 6 of bare copper wires in an optimized hi-flex design
Center element:	type-dependent
Core insulation:	PP
Core identification:	core identification coloured according to DIN 47100
Core stranding:	conductor cores bundled in short pitches with minimal torsion (> 8 cores) conductor cores layered in short pitches with minimal torsion (≤ 8 cores)
Outer jacket:	PUR
Jacket colour:	black



Core insulation
PP
bundled stranding
(> 8 cores)



Outer jacket
PUR
valley-sealed extruded
hi-flex design
extremely abrasion-resistant



Jacket colour black
ozone-resistant
UV-resistant

Technical Data

Temperature range while moved:	– 35 to + 90 °C
Minimum bend radius while moved:	$KR_{min} \geq 7.5 \times Ø$
v_{max} supported:	20 m/s
v_{max} gliding:	5 m/s
a_{max}:	50 m/s²
Insulation resistance:	≥ 30 MΩ x km
Rated voltage:	according to VDE 300/500 V, according to UL 300 V
Approvals:	cURus, based on VDE

varying parameters possible – please contact us

Subject to change.

More information:
traxline.com
kabelschlepp.de
Questions about cable carrier calbes? Fon: +49 (0)2762 4003-0

Type selection

TRAXLINE DATA 700 – unshielded

core number x nominal-cross-section in mm²	part number	max. Ø mm	cable weight kg/m	copper weight kg/m
6 x 0.25²	**45355**	6.1	0.046	0.014
7 x 0.25²	**45356**	6.4	0.048	0.017
8 x 0.25²	**45357**	6.8	0.054	0.019
9 x 0.25²	**45358**	7.2	0.060	0.023
10 x 0.25²	**45359**	7.6	0.070	0.024
12 x 0.25²	**45360**	8.4	0.084	0.029
15 x 0.25²	**45361**	9.1	0.098	0.039
3 x 0.34²	**45372**	5.3	0.034	0.010
4 x 0.34²	**45373**	5.6	0.039	0.014
5 x 0.34²	**45374**	6.0	0.046	0.017
7 x 0.34²	**45376**	6.9	0.062	0.024
8 x 0.34²	**45377**	7.4	0.070	0.027
12 x 0.34²	**45380**	9.1	0.103	0.041
15 x 0.34²	**45382**	9.9	0.122	0.053



Subject to change.

Additional cable types upon request.

TRAXLINE DATA 700 TPi C

Shielded continuous bending hi-flex PUR data cables

More information:
traxline.com
kabelschlepp.de

Questions about cable carrier calbes? Fon: +49 (0)2762 4003-0
TRAXLINE Cables for Motion
TOTALTRAX Complete Systems



Picture obtainable.

Core insulation
PP
stranded in pairs

Inner jacket
TPE
valley-sealed,
pressure extruded,
hi-flex design

Overall shield
continuous bending hi-flex,
tin-plated copper braiding
for smallest bend radii

Outer jacket
PUR
pressure extruded
hi-flex design
extremely abrasion-resistant

Jacket colour black
ozone-resistant
UV-resistant

Up to 7 million motion cycles!

Up to 200 m travel length!

TSUBAKI KABELSCHLEPP TRAXLINE cables for cable carriers

Developed for

- measurement and control equipment
- sensor equipment
- data and signal cables
- extremely heavy loads

Properties

- hi-flex design
- oil-resistant
- UV-stable
- REACH/RoHS II
- halogen-free
- high abrasion resistant
- metermarked
- CFC-free
- silicone-free
- flame-retardant
- ozone-resistant
- NEK606

Design

Conductor:	conductors class 6 of bare copper wires in an optimized hi-flex design
Core insulation:	PP
Core identification:	according to DIN 47100
Core stranding:	cores bundled in pairs in short pitches with minimal torsion
Inner jacket:	TPE
Shielding:	coverage nom. 85 %
Outer jacket:	PUR
Jacket colour:	black

Technical Data

Temperature range while moved:	– 35 to + 90 °C
Minimum bend radius while moved:	$KR_{min} \geq 7.5 \times Ø$
v_{max} supported:	20 m/s
v_{max} gliding:	5 m/s
a_{max}:	50 m/s²
Insulation resistance:	≥ 30 MΩ x km
Rated voltage:	according to VDE 300/500 V according to UL 300 V
Approvals:	cURus, based on VDE

varying parameters possible – please contact us

Subject to change.

Type selection

TRAXLINE DATA 700 TPi C – shielded

core number x nominal-cross-section in mm²	part number	max. Ø mm	cable weight kg/m	copper weight kg/m
(1 x 2 x 0.25²)	**45622**	6.5	0.046	0.016
(2 x 2 x 0.25²)	**45623**	8.1	0.075	0.023
(3 x 2 x 0.25²)	**45624**	8.6	0.086	0.037
(4 x 2 x 0.25²)	**45625**	9.2	0.104	0.045
(5 x 2 x 0.25²)	**45626**	9.8	0.127	0.057
(6 x 2 x 0.25²)	**45627**	10.4	0.133	0.061
(8 x 2 x 0.25²)	**45628**	11.5	0.166	0.086
(10 x 2 x 0.25²)	**45629**	13.1	0.196	0.095
(12 x 2 x 0.25²)	**45630**	12.2	0.187	0.100
(14 x 2 x 0.25²)	**45631**	12.7	0.209	0.109
(16 x 2 x 0.25²)	**45632**	13.2	0.226	0.124
(1 x 2 x 0.5²)	**45634**	7.0	0.059	0.024
(2 x 2 x 0.5²)	**45635**	9.3	0.102	0.050
(3 x 2 x 0.5²)	**45636**	9.9	0.121	0.058
(4 x 2 x 0.5²)	**45637**	10.7	0.135	0.078
(5 x 2 x 0.5²)	**45638**	11.7	0.164	0.091
(6 x 2 x 0.5²)	**45639**	12.9	0.174	0.106
(8 x 2 x 0.5²)	**45640**	13.7	0.216	0.144
(10 x 2 x 0.5²)	**45641**	15.6	0.284	0.178
(12 x 2 x 0.5²)	**45642**	15.2	0.287	0.204
(14 x 2 x 0.5²)	**45643**	16.3	0.325	0.218
(1 x 2 x 0.75²)	**45646**	7.6	0.069	0.029
(2 x 2 x 0.75²)	**45647**	10.3	0.135	0.068
(4 x 2 x 0.75²)	**45649**	11.9	0.185	0.105
(5 x 2 x 0.75²)	**45650**	12.7	0.207	0.124
(6 x 2 x 0.75²)	**45651**	13.8	0.246	0.155
(8 x 2 x 0.75²)	**45652**	16.1	0.315	0.215
(12 x 2 x 0.75²)	**45654**	18.2	0.409	0.293



More information:
traxline.com
kabelschlepp.de
Questions about cable carrier calbes? Fon: +49 (0)2762 4003-0

Subject to change.

Additional cable types upon request.

TRAXLINE DATA 700 TPi CD / POWER 700 TPi CD 1 kV

Double-shielded continuous bending hi-flex PUR data cables



Picture obtainable.

Up to 7 million motion cycles!

Up to 500 m travel length!

TSUBAKI KABELSCHLEPP TRAXLINE cables for cable carriers

c UL us CE

Developed for

- measurement and control equipment
- sensor equipment
- data and signal cables
- extremely heavy loads

Properties

- hi-flex design
- oil-resistant
- UV-resistant
- REACH/RoHS II
- halogen-free
- high abrasion resistant
- metermarked
- CFC-free
- silicone-free
- flame-retardant
- ozone-resistant
- NEK606



Core insulation
PP
stranded in pairs



Pair shield
continuous bending hi-flex,
tin-plated braided copper shield



Inner jacket
TPE
valley-sealed,
pressure extruded,
hi-flex design



Overall shield
continuous bending hi-flex,
tin-plated copper braiding
for smallest bend radii



Outer jacket
PUR
pressure extruded
hi-flex design
extremely abrasion-resistant



Jacket colour black
ozone-resistant
UV-resistant

Design

Conductor:	conductors class 6 of bare copper wires in an optimized hi-flex design
Center element:	type-optimized
Core insulation:	PP
Core identification:	according to DIN 47100 part number 45667, 45669, 45679: black with white numbers
Core stranding:	cores bundled in pairs in short pitches with minimal torsion
Inner jacket pairs:	TPE
Inner jacket:	TPE
Shielding:	coverage nom. 85 %
Outer jacket:	PUR
Jacket colour:	black

Technical Data

Temperature range while moved:	– 35 to + 90 °C
Minimum bend radius while moved:	$KR_{min} \geq 7.5 \times Ø$
v_{max} supported:	20 m/s
v_{max} gliding:	5 m/s
a_{max}:	50 m/s²
Insulation resistance:	≥ 30 MΩ x km
Rated voltage:	according to VDE 300/300 V according to UL 300 V part number 45667, 45669, 45679: according to VDE 0.6/1 kV according to UL 1 kV
Approvals:	cURus, based on VDE

varying parameters possible – please contact us

Subject to change.

More information: traxline.com
kabelschlepp.de
Questions about cable carrier calbes? Fon: +49 (0)2762 4003-0
TRAXLINE Cables for Motion
TOTALTRAX Complete Systems

Type selection

TRAXLINE DATA 700 TPi CD – double-shielded

core number x nominal-cross-section in mm²	part number	max. Ø mm	cable weight kg/m	copper weight kg/m
(3 x (2 x 0.25²))	**45661**	13.1	0.212	0.077
(4 x (2 x 0.5²))	**45662**	15.4	0.310	0.158
(10 x (2 x 0.5²))	**45664**	26.1	0.824	0.335
(16 x (2 x 0.5²)	**45665**	27.5	0.970	0.391

CABLE + CONNECTOR
can be supplied ready for connection

TRAXLINE POWER 700 TPi CD 1 kV – double-shielded

core number x nominal-cross-section in mm²	part number	max. Ø mm	cable weight kg/m	copper weight kg/m
(2 x (2 x 1.5²))	**45667**	19.4	0.415	0.194
(6 x (2 x 1.5²))	**45669**	27.0	0.928	0.437
(10 x (2 x 1.5²))	**45679**	37.5	1.771	0.803

CABLE + CONNECTOR
can be supplied ready for connection

Subject to change.

Additional cable types upon request.

TRAXLINE PROFIBUS 700 C / PROFINET 700 C

Shielded continuous bending hi-flex Profibus PUR cables

More information:
traxline.com
kabelschlepp.de



Up to **7 million** motion cycles!

Up to **100 m** travel length!

TSUBAKI KABELSCHLEPP TRAXLINE cables for cable carriers

DESINA

c UL us

CE

Developed for

- Profibus applications
- sensor equipment
- data and signal cables
- extremely heavy loads

Properties

- oil-resistant
- UV-stable
- REACH/RoHS II
- halogen-free
- high abrasion resistant
- CFC-free
- silicone-free
- flame-retardant
- ozone-resistant
- NEK606

Design



Core insulation
PP/TPE
concentrically stranded



Inner jacket
PP/TPE
valley-sealed, pressure extruded, hi-flex design



Overall shield
continuous bending hi-flex, tin-platedcopper braiding
Coverage: approx. 90 % and foil shield



Outer jacket
PUR
pressure extruded
hi-flex design
extremely abrasion-resistant

Conductor:	extremely fine stranded conductors of bare copper wires in an optimized hi-flex design
Center element:	type-optimized
Core insulation:	PP/TPE
Core identification:	coloured, Profibus
Core stranding:	cores type-optimized stranded in short pitches with minimal torsion
Inner jacket:	PP/TPE
Shielding:	coverage 85 %
Outer jacket:	PUR
Jacket colour:	purple (according to DESINA)

Technical Data

Temperature range while moved:	– 20 to + 70 °C / # 45689 90 °C
Minimum bend radius while moved:	$KR_{min} \geq 15 \times Ø$
v_{max} supported:	3.5 m/s
v_{max} gliding:	2 m/s
a_{max}:	10 m/s²
Insulation resistance:	≥ 10 MΩ x km
Rated voltage:	according to VDE 300/300 V
Approvals:	cURus, based on VDE

varying parameters possible – please contact us

Questions about cable carrier calbes? Fon: +49 (0)2762 4003-0
TRAXLINE Cables for Motion
TOTALTRAX Complete Systems

Picture obtainable.

Subject to change.

Type selection

TRAXLINE PROFIBUS 700 C 90 °C – shielded

core number x nominal-cross-section in mm²	part number	max. Ø mm	cable weight kg/m	copper weight kg/m
(1 x 2 x 0.64)	**45689**	8.5	0.070	0.026

CABLE + CONNECTOR
can be supplied ready for connection

TRAXLINE PROFIBUS 700 C – shielded

core number x nominal-cross-section in mm²	part number	max. Ø mm	cable weight kg/m	copper weight kg/m
(1 x 2 x 0.64)	**45690**	8.4	0.070	0.025

CABLE + CONNECTOR
can be supplied ready for connection

TRAXLINE PROFINET 700 C – geschirmt

core number x nominal-cross-section in mm²	part number	max. Ø mm	cable weight kg/m	copper weight kg/m
(4 x 1 x 0.5²)	**45692**	6.9	0.065	0.050

CABLE + CONNECTOR
can be supplied ready for connection

Subject to change.

Additional cable types upon request.

TRAXLINE CAN-BUS 700 C

Shielded continuous bending hi-flex and robust PUR bus cables

More information:
traxline.com
kabelschlepp.de
Questions about cable carrier calbes? Fon: +49 (0)2762 4003-0
TRAXLINE Cables for Motion
TOTALTRAX Complete Systems



Picture obtainable.



Core insulation
PP/TPE
star quad
stranded



Inner jacket
PP/TPE
valley-sealed,
pressure extruded,
hi-flex design



Overall shield
continuous bending hi-flex,
tin-plated copper braiding
for smallest bend radii
Coverage: approx. 85 %



Outer jacket
PUR
pressure extruded
hi-flex design
extremely abrasion-resistant



Jacket colour black
ozone-resistant
UV-resistant

Up to 7 million motion cycles!

Up to 200 m travel length!

TSUBAKI KABELSCHLEPP TRAXLINE cables for cable carriers

DESINA

c UL us

CE

Developed for

- CAN bus applications
- sensor equipment
- data and signal cables
- extremely heavy loads

Properties

- oil-resistant
- UV-stable
- REACH/RoHS II
- halogen-free
- high abrasion resistant
- CFC-free
- silicone-free
- flame-retardant
- ozone-resistant
- NEK606

Design

Conductor:	extremely fine stranded conductors of bare copper wires in an optimized hi-flex design
Center element:	type-optimized
Core insulation:	PP/TPE
Core identification:	coloured, CAN-BUS
Core stranding:	cores type-optimized stranded in short pitches with minimal torsion
Inner jacket:	PP/TPE
Shielding:	coverage 85 %
Outer jacket:	PUR
Jacket colour:	black

Technical Data

Temperature range while moved:	– 20 to + 80 °C
Minimum bend radius while moved:	$KR_{min} \geq 7.5 \times Ø$ (– 5 to + 70 °C)
v_{max} supported:	3 m/s
v_{max} gliding:	3 m/s
a_{max}:	10 m/s²
Insulation resistance:	≥ 10 MΩ x km
Rated voltage:	according to VDE 300/300 V according to UL 300 V
Approvals:	cURus, based on VDE

varying parameters possible – please contact us

Subject to change.

Type selection

TRAXLINE CAN-BUS 700 C – shielded

core number x nominal-cross-section in mm²	part number	max. Ø mm	cable weight kg/m	copper weight kg/m
(1 x 2 x 0.5²)	**45670**	8.6	0.087	0.034
(4 x 1 x 0.5²)	**45672**	8.4	0.093	0.045



Additional cable types upon request.

TRAXLINE USB S 700 C / USB L 700 C / USB 3.0 CD

Shielded continuous bending hi-flex USB PUR cables

More information:
traxline.com
kabelschlepp.de



Up to **7 million** motion cycles!

Up to **5 / 10 m** travel length!

TSUBAKI KABELSCHLEPP TRAXLINE cables for cable carriers

DESINA

cULus CE

Developed for

- USB applications
- data and image transmission
- transmission lengths up to 5/10 m
- extremely heavy loads

Properties

- oil-resistant
- UV-resistant
- REACH/RoHS II
- halogen-free
- high abrasion resistant
- ozone-resistant
- CFC-free
- silicone-free
- flame-retardant
- NEK606

Design

Conductor:	extremely fine stranded conductors of bare copper wires in an optimized hi-flex design
Center element:	type-optimized
Core insulation:	PP/TPE
Core identification:	coloured, red, black/white, white, green
Core stranding:	cores type-optimized stranded in short pitches with minimal torsion
Shielding:	coverage 85 %
Outer jacket:	PUR
Jacket colour:	purple (according to DESINA)

Technical Data

Temperature range while moved:	– 10 to + 70 °C
Minimum bend radius while moved:	$KR_{min} \geq 10$
v_{max} supported:	3.5 m/s
v_{max} gliding:	2 m/s
a_{max}:	10 m/s²
Insulation resistance:	≥ 10 MΩ x km
Rated voltage:	according to VDE 30 V according to UL 30 V
Transmission length:	nom. 5 m nom. 10 m
Approvals:	cURus, based on VDE

varying parameters possible – please contact us



Core insulation
PP/TPE
concentrically stranded



Overall shield
continuous bending hi-flex, tin-plated copper braiding
Coverage: approx. 90 % and foil shield



Outer jacket
PUR
pressure extruded
hi-flex design
UV-resistant
extremely abrasion-resistant

Picture obtainable.

Subject to change.

More information:
traxline.com
kabelschlepp.de
TRAXLINE Cables for Motion
TOTALTRAX Complete Systems
Questions about cable carrier calbes? Fon: +49 (0)2762 4003-0

Type selection

TRAXLINE USB S 700 C

core number x nominal-cross-section in mm²	part number	max. Ø mm	cable weight kg/m	copper weight kg/m
(1 x 2 x 28 AWG + 2 x 20 AWG)	**45686**	5.2	0.045	0.030



TRAXLINE USB L 700 C

core number x nominal-cross-section in mm²	part number	max. Ø mm	cable weight kg/m	copper weight kg/m
(1 x 2 x 24 AWG + 1 x 2 x 20 AWG)	**45687**	6.5	0.056	0.040



TRAXLINE USB 3.0 CD

core number x nominal-cross-section in mm²	part number	max. Ø mm	cable weight kg/m	copper weight kg/m
(2 x 2 x AWG 28 + 2 x (1 x 2 x AWG 28))	**45688**	6.8	0.062	0.042



Subject to change.

Additional cable types upon request.

TRAXLINE INTERBUS 700 C

Shielded continuous bending hi-flex Interbus PUR cables

More information:
traxline.com
kabelschlepp.de
Questions about cable carrier calbes? Fon: +49 (0)2762 4003-0
TRAXLINE Cables for Motion
TOTALTRAX Complete Systems



Picture obtainable.

Up to 7 million motion cycles!

Up to 200 m travel length!

TSUBAKI KABELSCHLEPP TRAXLINE cables for cable carriers

DESINA

Developed for

- Interbus applications
- sensor equipment
- data and signal cables
- extremely heavy loads

Properties

- oil-resistant
- UV-stable
- REACH/RoHS II
- halogen-free
- high abrasion resistant
- CFC-free
- silicone-free
- flame-retardant
- ozone-resistant
- NEK606

Design



Core insulation
PP/TPE
concentrically stranded



Inner jacket
PP/TPE
valley-sealed, pressure extruded, hi-flex design



Overall shield
continuous bending hi-flex, tin-plated copper braiding for smallest bend radii
Coverage: approx. 85 %



Outer jacket
PUR
pressure extruded
hi-flex design
UV-resistant
extremely abrasion-resistant

Conductor:	extremely fine stranded conductors of bare copper wires in an optimized hi-flex design
Core insulation:	PP/TPE
Core identification:	coloured, Interbus
Core stranding:	cores type-optimized stranded in short pitches with minimal torsion
Inner jacket:	PP/TPE
Shielding:	coverage 85 %
Outer jacket:	PUR
Jacket colour:	purple (according to DESINA)

Technical Data

Temperature range while moved:	– 30 to + 70 °C
Minimum bend radius while moved:	$KR_{min} \geq 10 \times Ø$
v_{max} supported:	3.5 m/s
v_{max} gliding:	2 m/s
a_{max}:	10 m/s²
Insulation resistance:	≥ 10 MΩ x km
Rated voltage:	according to VDE, according to Interbus specification
Approvals:	cURus, based on VDE

varying parameters possible – please contact us

Subject to change.

Type selection

TRAXLINE INTERBUS 700 C – shielded

core number x nominal-cross-section in mm²	part number	max. Ø mm	cable weight kg/m	copper weight kg/m
(3 x 2 x 0.25²)	**45676**	8.3	0.085	0.047



More information:
traxline.com
kabelschlepp.de
Questions about cable carrier calbes? Fon: +49 (0)2762 4003-0
TRAXLINE Cables for Motion
TOTALTRAX Complete Systems

TRAXLINE CAT.5E / CAT.6 700 CD

Double-shielded continuous bending hi-flex CAT.5E / CAT.6 PUR cable

More information:
traxline.com

kabelschlepp.de

Questions about cable carrier calbes? Fon: +49 (0)2762 4003-0

TRAXLINE Cables for Motion
TOTALTRAX Complete Systems



Picture obtainable.

Up to 7 million motion cycles!

Up to 60 m travel length!

TSUBAKI KABELSCHLEPP TRAXLINE cables for cable carriers

DESINA

Developed for

- computer cables
- sensor equipment
- data and signal cables
- extremely heavy loads

Properties

- oil-resistant
- UV-resistant
- REACH/RoHS II
- halogen-free
- NEK606
- CFC-free
- silicone-free
- flame-retardant
- high abrasion resistant

Design

Conductor:	extremely fine stranded conductors of bare copper wires in an optimized hi-flex design
Core insulation:	PP/TPE
Core identification:	coloured, white/blue, blue, white/orange, orange, white/green, green, white/brown, brown
Core stranding:	cores type-optimized stranded in short pitches with minimal torsion
Shielding:	coverage 85 %
Outer jacket:	PUR
Jacket colour:	green (according to DESINA)



Core insulation
PP/TPE
concentrically stranded



Overall double-shielding
continuous bending hi-flex, tin-plated copper braiding
Coverage: approx. 90 % and foil shield



Outer jacket
PUR
pressure extruded
hi-flex design
UV-resistant
extremely abrasion-resistant

Technical Data

Temperature range while moved:	– 30 to + 80 °C
Minimum bend radius while moved:	$KR_{min} \geq 10 \times Ø$
v_{max} supported:	3 m/s
v_{max} gliding:	3 m/s
a_{max}:	5 m/s²
Insulation resistance:	≥ 10 MΩ x km
Rated voltage:	according to VDE 30 V according to UL 30 V
Approvals:	cURus, based on VDE

varying parameters possible – please contact us

Subject to change.

Type selection

TRAXLINE CAT.5E 700 CD – double-shielded

core number x nominal-cross-section in mm²	part number	max. Ø mm	cable weight kg/m	copper weight kg/m
((4 x 2 x 26 AWG))	**45693**	7.1	0.056	0.031



TRAXLINE CAT.6 700 CD – double-shielded

core number x nominal-cross-section in mm²	part number	max. Ø mm	cable weight kg/m	copper weight kg/m
((4 x 2 x AWG 26))	**45684**	8.0	0.065	0.034



Subject to change.

Additional cable types upon request.

TRAXLINE KOAX 700 CD

Double-shielded continuous bending hi-flex PUR data cables



Picture obtainable.

Coax cable
flexible,
continuous bending hi-flex

Core insulation
PP/TPE
concentrically
stranded

Element shield
continuous bending hi-flex
copper braiding
– see type/design

Overall shield
continuous bending hi-flex,
tin-plated copper braiding
for smallest bend radii
Coverage: approx. 90 %

Outer jacket
PUR
pressure extruded
hi-flex design
extremely abrasion-resistant

Jacket colour black
ozone-resistant
UV-resistant

Up to 2 million motion cycles!

Up to 50 m travel length!

TSUBAKI KABELSCHLEPP TRAXLINE cables for cable carriers

CE

Developed for

- image transmission
- sensor equipment
- data and signal cables
- extremely heavy loads

Properties

- oil-resistant
- UV-resistant
- REACH/RoHS II
- flame-retardant
- NEK606
- CFC-free
- silicone-free
- halogen-free
- high abrasion resistant

Design

Conductor:	conductors class 6 of bare copper wires in an optimized hi-flex design
Core insulation:	type dependent
Core identification:	black with white numbers
Core stranding:	optimized stranding with maximum flexural strength
Shielding:	part number 45694: coverage 90 %
Outer jacket:	PUR
Jacket colour:	black

Technical Data

Temperature range while moved:	– 20 to + 70 °C
Minimum bend radius while moved:	$KR_{min} \geq 10 \times Ø$
v_{max} supported:	3.5 m/s
v_{max} gliding:	3.5 m/s
a_{max}:	10 m/s²
Rated voltage:	type dependent
Approvals:	type dependent

varying parameters possible – please contact us

More information:
traxline.com

kabelschlepp.de

Questions about cable carrier calbes? Fon: +49 (0)2762 4003-0

TRAXLINE Cables for Motion
TOTALTRAX Complete Systems

Subject to change.

Type selection

TRAXLINE KOAX 700 CD 50 Ohm – double-shielded

core number x nominal-cross-section in mm²	part number	max. Ø mm	cable weight kg/m	copper weight kg/m
1 x (1HF50) 50 Ohm	**45680**	5.6	0.059	0.022
(3 x (1HF50)) 50 Ohm	**45683**	11.2	0.140	0.063
(5 x (1HF50)) 50 Ohm	**45685**	14.0	0.230	0.099

CABLE + CONNECTOR
can be supplied ready for connection

TRAXLINE KOAX 700 CD 75 Ohm – double-shielded

core number x nominal-cross-section in mm²	part number	max. Ø mm	cable weight kg/m	copper weight kg/m
1 x (1HF75) 75 Ohm	**45691**	5.6	0.060	0.018
(3 x (1HF75)) 75 Ohm	**45694**	11.2	0.142	0.070
(5 x (1HF75)) 75 Ohm	**45695**	14.0	0.234	0.089

CABLE + CONNECTOR
can be supplied ready for connection

Subject to change.

Additional cable types upon request.

TRAXLINE FOC 700

Continuous bending hi-flex multi-mode glass fiber optic cable

More information:
traxline.com

kabelschlepp.de

Questions about cable carrier calbes? Fon: +49 (0)2762 4003-0

TRAXLINE Cables for Motion
TOTALTRAX Complete Systems



Picture obtainable.

Fiber-optic cable glass
flexible, continuous bending hi-flex, aramid fiber protection

Core insulation PP/TPE
concentrically stranded

Outer jacket PUR
pressure extruded
hi-flex design
UV-resistant
extremely abrasion-resistant

Jacket colour black
ozone-resistant
UV-resistant

Up to 7 million motion cycles!

Up to 500 m travel length!

TSUBAKI KABELSCHLEPP TRAXLINE cables for cable carriers

CE

Developed for

- light signal transmission
- sensor equipment
- data and signal cables
- extremely heavy loads

Properties

- halogen-free
- Multimode 1300 nm
- REACH/RoHS II
- absolutely EMC safety
- high abrasion resistant
- CFC-free
- silicone-free
- flame-retardant
- metal-free
- NEK606

Design

Conductor:	glass
Conductor insulation:	PP/TPE
Conductor identification:	coloured, colour coded
Conductor stranding:	concentrically around center element
Outer jacket:	PUR
Jacket colour:	black

Technical Data

Temperature range while moved:	– 30 to + 90 °C
Minimum bend radius while moved:	$KR_{min} \geq 7.5 \times Ø$
v_{max} supported:	3.5 m/s
v_{max} gliding:	3.5 m/s
a_{max}:	10 m/s²
Approvals:	IEC 60794 IEC 61300

varying parameters possible – please contact us

Subject to change.

Type selection

TRAXLINE FOC 700

core number x nominal-cross-section in mm²	part number	max. Ø mm	cable weight kg/m
6 G 50/125	**45696**	13.4	0.140
6 G 62.5/125	**45697**	13.4	0.140
12 G 50/125	**45698**	13.4	0.140
12 G 62.5/125	**45699**	13.4	0.140



More information:
traxline.com
kabelschlepp.de
Questions about cable carrier calbes? Fon: +49 (0)2762 4003-0

Subject to change.

Additional cable types upon request.

TRAXLINE SYSTEM S 700 C

Shielded continuous bending hi-flex PUR signal cables

More information:
traxline.com
kabelschlepp.de

Questions about cable carrier calbes? Fon: +49 (0)2762 4003-0
TRAXLINE Cables for Motion
TOTALTRAX Complete Systems



Picture obtainable.

Up to **5 million** motion cycles!

Up to **50 m** travel length!

TSUBAKI KABELSCHLEPP TRAXLINE cables for cable carriers

DESINA

c UL us

CE

Developed for

- KS alternative to OEM standards
- long transmission distances
- servo drives
- extremely heavy loads

Properties

- oil-resistant
- UV-resistant
- REACH/RoHS II
- halogen-free
- high abrasion resistant
- CFC-free
- silicone-free
- flame-retardant
- DESINA
- NEK606

Design

Conductor:	extra-fine wire conductor made from bare or tin-plated copper wires, design-optimized for maximum flexural strength
Center element:	type-optimized
Core insulation:	PP/TPE
Core identification:	according to OEM specifications (type-dependent)
Core stranding:	cores type-optimized stranded in short pitches with minimal torsion
Shielding:	coverage 80/85 % (type-dependent)
Outer jacket:	PUR
Jacket colour:	green (according to DESINA)

Technical Data

Temperature range while moved:	– 35 to + 90 °C
Minimum bend radius while moved*:	$KR_{min} \geq 7.5 \times Ø$
v_{max} supported:	5 m/s
v_{max} gliding:	5 m/s
a_{max}:	50 m/s²
Insulation resistance:	≥ 10 MΩ x km
Rated voltage:	OEM type-dependent
Approvals:	cURus, based on VDE

varying parameters possible – please contact us



Core insulation
PP/TPE
hybrid stranded



Element shield
continuous bending hi-flex, in-plated braided copper shield with the option of foil shield – see type/design



Overall shield
continuous bending hi-flex, tin-plated copper braiding for smallest bend radii
Coverage: approx. 80 %



Outer jacket
PUR
pressure extruded
hi-flex design
UV-resistant
extremely abrasion-resistant

Subject to change.

Type selection

TRAXLINE SYSTEM S 700 C – shielded

KS alternative to OEM standard	core number x nominal-cross-section in mm²	part number	max. Ø mm	cable weight kg/m	copper weight kg/m
6FX8008 1BD11	(8 x 2 x 0.18²)	**46100**	8.0	0.088	0.054
6FX8008 1DC00	(2 x 2 x 0.20² + 1 x 2 x 0.38²)	**46104**	7.1	0.072	0.041
6FX8008 1BD21	(4 x 2 x 0.38² + 4 x 0.5²)	**46105**	9.1	0.116	0.083
6FX8008 1BD31	(3 x (2 x 0.14²) + 2 x (0.5²))	**46110**	9.2	0.125	0.074
6FX8008 1BD41	(3 x (2 x 0.14²) + 4 x 0.14² + 2 x 0.5²)	**46115**	9.0	0.110	0.066
6FX8008 1BD51	(3 x (2 x 0.14²) + 4 x 0.14² + 4 x 0.23² + 2 x 0.5²)	**46120**	9.6	0.129	0.075
6FX8008 1BD61	(4 x 2 x 0.18²)	**46125**	6.6	0.060	0.035
6FX8008 1BD71	(2 x 2 x 0.18²)	**46130**	5.2	0.038	0.024
6FX8008 1BD81	(12 x 0.22²)	**46135**	7.1	0.076	0.065

KS alternative to OEM standard	core number x nominal-cross-section in mm²	part number	max. Ø mm	cable weight kg/m	copper weight kg/m
INK 0448	(4 x 2 x 0.25² + 2 x 0.5²)	**46400**	8.8	0.103	0.051
INK 0209	(4 x 2 x 0.25² + 2 x 1²)	**46410**	9.1	0.118	0.064
INK 0280	(3 x 0.25² + 3 x (2 x 0.25²) + 2 x 1²)	**46412**	9.3	0.130	0.084
INK 0532	(2 x 0.14² + (4 x 0.14²) + 4 x 1²)	**46415**	9.8	0.140	0.081

KS alternative to OEM standard	core number x nominal-cross-section in mm²	part number	max. Ø mm	cable weight kg/m	copper weight kg/m
–	(4 x 2 x 0.14² + 4 x 0.5²)	**46505**	8.8	0.102	0.052

KS alternative to OEM standard	core number x nominal-cross-section in mm²	part number	max. Ø mm	cable weight kg/m	copper weight kg/m
–	(5 x 2 x 0.14² + 2 x 0.5²)	**46090**	9.0	0.093	0.072



Additional cable types upon request.

Subject to change.

More information:
traxline.com
kabelschlepp.de
Questions about cable carrier calbes? Fon: +49 (0)2762 4003-0
TRAXLINE Cables for Motion
TOTALTRAX Complete Systems

TRAXLINE SYSTEM M 700 C

Shielded continuous bending hi-flex PUR motor/servo drive cables

More information:
traxline.com
kabelschlepp.de

Questions about cable carrier calbes? Fon: +49 (0)2762 4003-0
TRAXLINE Cables for Motion
TOTALTRAX Complete Systems



Picture obtainable.

Core insulation
PP
hybrid stranded

Element shield
continuous bending hi-flex, in-plated braided copper shield with the option of foil shield – see type/design

Overall shield
continuous bending hi-flex, tin-plated copper braiding for smallest bend radii
Coverage: approx. 80 %

Outer jacket
PUR
pressure extruded
hi-flex design
UV-resistant
extremely abrasion-resistant

Up to 5 million motion cycles!

Up to 50 m travel length!

TSUBAKI KABELSCHLEPP TRAXLINE cables for cable carriers

DESINA

Developed for

- KS alternative to OEM standards
- long transmission distances
- motors/servo drives
- extremely heavy loads

Properties

- oil-resistant
- UV-resistant
- REACH/RoHS II
- halogen-free
- high abrasion resistant
- CFC-free
- silicone-free
- flame-retardant
- DESINA
- NEK606

Design

Conductor:	finely stranded conductors of bare copper wires in an optimized hi-flex design
Center element:	NEW – OEM types-optimized
Core insulation:	PP
Core identification:	according to OEM specifications (type-dependent)
Core stranding:	cores type-optimized stranded in short pitches with minimal torsion
Shielding:	coverage 80/85 % (type-dependent)
Outer jacket:	PUR
Jacket colour:	orange (according to DESINA)

Technical Data

Temperature range while moved:	– 35 to + 90 °C
Minimum bend radius while moved*:	≤ 16 mm²: $KR_{min} \geq 7.5 \times Ø$ ≥ 25 mm²: $KR_{min} \geq 7.5 \times Ø$
v_{max} supported:	5 m/s
v_{max} gliding:	5 m/s
a_{max}:	50 m/s²
Insulation resistance:	≥ 10 MΩ x km
Rated voltage:	1000 V
Approvals:	cURus, based on VDE

varying parameters possible – please contact us

Subject to change.

More information:
traxline.com
kabelschlepp.de
Questions about cable carrier calbes? Fon: +49 (0)2762 4003-0
TRAXLINE Cables for Motion
TOTALTRAX Complete Systems

Type selection

TRAXLINE SYSTEM M 700 C – shielded

KS alternative to OEM standard	type KS / construction	part number	max. Ø mm	cable weight kg/m	copper weight kg/m
6FX8008 1BB11	(4 G 1.5²)	**46200**	9.5	0.136	0.080
6FX8008 1BB21	(4 G 2.5²)	**46205**	11.0	0.198	0.120
6FX8008 1BB31	(4 G 4²)	**46210**	12.3	0.273	0.195
6FX8008 1BB41	(4 G 6²)	**46215**	14.9	0.393	0.296
6FX8008 1BB51	(4 G 10²)	**46220**	18.2	0.616	0.445
6FX8008 1BB61	(4 G 16²)	**46225**	22.3	0.949	0.730
6FX8008 1BB25	(4 G 25²)	**46230**	26.2	1.495	1.100
6FX8008 1BB35	(4 G 35²)	**46235**	29.5	1.770	1.522
6FX8008 1BB50	(4 G 50²)	**46240**	34.4	2.530	2.165
6FX8008 1BA11	(4 G 1.5² + (2 x 1.5²))	**46150**	12.0	0.221	0.136
6FX8008 1BA21	(4 G 2.5² + (2 x 1.5²))	**46155**	13.8	0.285	0.187
6FX8008 1BA31	(4 G 4² + (2 x 1.5²))	**46160**	15.2	0.382	0.268
6FX8008 1BA41	(4 G 6² + (2 x 1.5²))	**46165**	17.3	0.496	0.358
6FX8008 1BA51	(4 G 10² + (2 x 1.5²))	**46170**	20.1	0.713	0.515
6FX8008 1BA61	(4 G 16² + (2 x 1.5²))	**46175**	23.8	1.016	0.802
6FX8008 1BA25	(4 G 25² + (2 x 1.5²))	**46250**	27.6	1.438	1.144
6FX8008 1BA35	(4 G 35² + (2 x 1.5²))	**46255**	31.9	2.095	1.850
6FX8008 1BA50	(4 G 50² + (2 x 1.5²))	**46260**	35.0	2.609	2.540

KS alternative to OEM standard	type KS / construction	part number	max. Ø mm	cable weight kg/m	copper weight kg/m
INK 0653	(4 G 1² + 2 x (2 x 0.75²))	**46300**	11.3	0.194	0.136
INK 0650	(4 G 1.5² + 2 x (2 x 0.75²))	**46305**	12.5	0.234	0.170
INK 0602	(4 G 2.5² + 2 x (2 x 1²))	**46315**	14.3	0.327	0.229
INK 0603	(4 G 4² + (2 x 1²) + (2 x 1.5²))	**46323**	16.1	0.435	0.328
INK 0604	(4 G 6² + (2 x 1²) + (2 x 1.5²))	**46330**	17.9	0.552	0.445
INK 0605	(4 G 10² + (2 x 1.5²) + (2 x 1²))	**46345**	20.7	0.757	0.626
INK 0606	(4 G 16² + 2 x (2 x 1.5²))	**46350**	24.0	1.079	0.922
INK 0607	(4 G 25² + 2 x (2 x 1.5²))	**46355**	27.4	1.487	1.323
INK 0667	(4 G 35² + 2 x (2 x 1.5²))	**46360**	31.0	1.951	1.621
INK 0668	(4 G 50² + 2 x (2 x 1.5²))	**46365**	36.0	2.740	2.600



Additional cable types upon request.

Subject to change.

TRAXLINE POWER ONE HEAVY DUTY 10 kV / 11 kV / 12 kV

Shielded continuous bending hiflex PUR high performance cables

More information: traxline.com
kabelschlepp.de



TSUBAKI KABELSCHLEPP TRAXLINE cables for cable carriers

Up to 1000 m travel length!

Developed for

- Long cranes with cable carrier
- systems engineering and mechanical engineering
- Outdoor / Indoor
- Offshore / Onshore
- very heavy loads

Properties

- hiflex design
- flame-retardant
- seawater-resistant
- crude oil resistant
- side pressure strength
- cut resistant
- tear propagation strength
- high abrasion resistant
- UV-resistant
- ozone-resistant
- metermarked
- REACH/RoHS II
- halogen-free
- silicone-free
- CFC-free
- NEK606

Core insulation EPR
wire bundles in short pitches

Overall shield
strong durable, twisted shielding for small bending and best grounding

Outer jacket PUR
pressure extruded, superb flexible, extremely tough, ultra abrasion proof

Jacket colour red
Top outdoor-quality

Design

Conductor:	conductor class 6 tinned high flex design as per EN 60288
Inner conductor:	inner x outer semiconductive compounds
Semi insulation:	EPR
Core stranding:	EN 60228 class 6
Inner jacket:	TPE
Shielding:	tinned, coverage min. 85 %
Outer jacket:	PUR; ultra abrasion proof
Jacket colour:	red, RAL ~ 3000; optional: black, RAL ~ 9005

Technical Data

Temperature range while moved:	– 35 to + 80 °C
Minimum bend radius while moved:	$KR_{min} \geq 7.5 \times Ø$
Fix assembling radius:	$KR_{min} \geq 5 \times Ø$
v_{max} supported:	50 m/s
v_{max} gliding:	10 m/s / 6 m/s
a_{max}:	50 m/s²
Insulation resistance:	≥ 20 MΩ x km
Rated voltage:	10 kV / 11 kV / 12 kV
Test voltage:	21 kV / 23 kV / 25 kV
Approvals:	CE, in style of VDE

varying parameters possible – please contact us

Questions about cable carrier calbes? Fon: +49 (0)2762 4003-0
TRAXLINE Cables for Motion
TOTALTRAX Complete Systems

Picture obtainable.

Subject to change.

More information:
traxline.com
kabelschlepp.de
Questions about cable carrier calbes? Fon: +49 (0)2762 4003-0

Type selection

TRAXLINE POWER ONE HEAVY DUTY 6/10 kV – shielded

core number x nominal-cross-section in mm²	part number	max. Ø mm	cable weight kg/m	copper weight kg/m
(1 x 10²/10²)	**49817**	21.5	0.571	0.219
(1 x 16²/16²)	**49818**	22.9	0.712	0.369
(1 x 25²/16²)	**49819**	24.6	0.826	0.458
(1 x 35²/16²)	**49820**	26.2	0.962	0.572
(1 x 50²/16²)	**49821**	28.1	1.218	0.722
(1 x 70²/16²)	**49822**	30.3	1.414	0.921
(1 x 95²/16²)	**49823**	32.6	1.723	1.165
(1 x 120²/25²)	**49824**	35.5	1.996	1.550
(1 x 150²/25²)	**49825**	37.6	2.407	1.847
(1 x 185²/25²)	**49826**	40.2	2.984	2.542
(1 x 240²/25²)	**49827**	43.4	3.662	3.149
(1 x 300²/35²)	**49828**	46.7	4.423	3.463
(1 x 400²/35²)	**49829**	53.2	6.167	4.362

TRAXLINE POWER ONE HEAVY DUTY 6.7/11 kV – shielded

core number x nominal-cross-section in mm²	part number	max. Ø mm	cable weight kg/m	copper weight kg/m
(1 x 10²/10²)	**49837**	22.4	0.626	0.245
(1 x 16²/16²)	**49838**	24.0	0.753	0.371
(1 x 25²/16²)	**49839**	25.4	0.889	0.460
(1 x 35²/16²)	**49840**	27.3	1.097	0.548
(1 x 50²/16²)	**49841**	28.9	1.308	0.725
(1 x 70²/16²)	**49842**	31.1	1.514	0.926
(1 x 95²/16²)	**49843**	33.4	1.748	1.170
(1 x 120²/25²)	**49844**	36.3	2.083	1.557
(1 x 150²/25²)	**49845**	39.0	2.553	1.856
(1 x 185²/25²)	**49846**	41.0	3.026	2.554
(1 x 240²/25²)	**49847**	44.2	3.657	3.164
(1 x 300²/35²)	**49848**	47.7	4.367	3.480
(1 x 400²/35²)	**49849**	54.2	6.245	4.381

TRAXLINE POWER ONE HEAVY DUTY 7.2/12 kV – shielded

core number x nominal-cross-section in mm²	part number	max. Ø mm	cable weight kg/m	copper weight kg/m
(1 x 10²/10²)	**49857**	22.8	0.630	0.246
(1 x 16²/16²)	**49858**	24.6	0.770	0.373
(1 x 25²/16²)	**49859**	26.0	0.909	0.462
(1 x 35²/16²)	**49860**	27.8	1.116	0.578
(1 x 50²/16²)	**49861**	29.5	1.335	0.729
(1 x 70²/16²)	**49862**	31.8	1.561	0.930
(1 x 95²/16²)	**49863**	34.0	1.797	1.176
(1 x 120²/25²)	**49864**	36.9	2.134	1.565
(1 x 150²/25²)	**49865**	39.6	2.632	1.865
(1 x 185²/25²)	**49866**	41.6	3.086	2.566
(1 x 240²/25²)	**49867**	44.8	3.719	3.179
(1 x 300²/35²)	**49868**	48.3	4.425	3.497
(1 x 400²/35²)	**49869**	54.8	6.326	4.400

Delivery: from current production
Additional cable types upon request.

Subject to change.

TRAXLINE POWER ONE HEAVY DUTY 15 kV / 24 kV / 30 kV

Shielded continuous bending hiflex PUR high performance cables

More information: traxline.com
kabelschlepp.de

Questions about cable carrier calbes? Fon: +49 (0)2762 4003-0
TRAXLINE Cables for Motion
TOTALTRAX Complete Systems



Picture obtainable.

TSUBAKI KABELSCHLEPP TRAXLINE cables for cable carriers

Up to 1000 m travel length!

Developed for

- Long cranes with cable carrier
- systems engineering and mechanical engineering
- Outdoor / Indoor
- Offshore / Onshore
- very heavy loads

Properties

- hiflex design
- flame-retardant
- seawater-resistant
- crude oil resistant
- side pressure strength
- cut resistant
- tear propagation strength
- high abrasion resistant
- UV-resistant
- ozone-resistant
- metermarked
- REACH/RoHS II
- halogen-free
- silicone-free
- CFC-free
- NEK606

Core insulation
EPR
wire bundles in short pitches

Overall shield
strong durable, twisted shielding for small bending and best grounding

Outer jacket
PUR
pressure extruded, superb flexible, extremely tough, ultra abrasion proof

Jacket colour red
Top outdoor-quality

Design

Conductor:	conductor class 6 tinned high flex design as per EN 60288
Inner conductor:	inner x outer semiconductive compounds
Semi insulation:	EPR
Core stranding:	EN 60228 class 6
Inner jacket:	TPE
Shielding:	tinned, coverage min. 85 %
Outer jacket:	PUR; ultra abrasion proof
Jacket colour:	red, RAL ~ 3000; optional: black, RAL ~ 9005

Technical Data

Temperature range while moved:	– 35 to + 80 °C
Minimum bend radius while moved:	$KR_{min} \geq 7.5 \times Ø$
Fix assembling radius:	$KR_{min} \geq 5 \times Ø$
v_{max} supported:	50 m/s
v_{max} gliding:	10 m/s / 6 m/s
a_{max}:	50 m/s²
Insulation resistance:	≥ 20 MΩ x km
Rated voltage:	15 kV / 24 kV / 30 kV
Test voltage:	30 kV / 50 kV / 63 kV
Approvals:	CE, in style of VDE

varying parameters possible – please contact us

Subject to change.

Type selection

TRAXLINE POWER ONE HEAVY DUTY 8.7/15 kV – shielded

core number x nominal-cross-section in mm²	part number	max. Ø mm	cable weight kg/m	copper weight kg/m
(1 x 10²/10²)	**49917**	25.1	0.773	0.374
(1 x 16²/16²)	**49918**	26.6	0.891	0.448
(1 x 25²/16²)	**49919**	28.3	1.027	0.560
(1 x 35²/16²)	**49920**	30.6	1.235	0.688
(1 x 50²/16²)	**49921**	32.3	1.438	0.859
(1 x 70²/16²)	**49922**	34.5	1.697	1.082
(1 x 95²/16²)	**49923**	36.8	1.918	1.361
(1 x 120²/25²)	**49924**	39.3	2.374	1.901
(1 x 150²/25²)	**49925**	41.6	2.754	2.232
(1 x 185²/25²)	**49926**	43.8	3.239	2.630
(1 x 240²/25²)	**49927**	47.8	3.879	3.245
(1 x 300²/35²)	**49928**	51.3	4.619	3.910
(1 x 400²/35²)	**49929**	56.0	6.649	4.420

TRAXLINE POWER ONE HEAVY DUTY 14.4/24 kV – shielded

core number x nominal-cross-section in mm²	part number	max. Ø mm	cable weight kg/m	copper weight kg/m
(1 x 10²/10²)	**49937**	31.3	1.179	0.451
(1 x 16²/16²)	**49938**	33.0	1.340	0.539
(1 x 25²/16²)	**49939**	34.4	1.492	0.657
(1 x 35²/16²)	**49940**	36.0	1.696	0.775
(1 x 50²/16²)	**49941**	37.9	1.957	0.953
(1 x 70²/16²)	**49942**	40.3	2.322	1.254
(1 x 95²/16²)	**49943**	42.6	2.701	1.541
(1 x 120²/25²)	**49944**	45.9	3.137	2.032
(1 x 150²/25²)	**49945**	48.0	3.599	2.373
(1 x 185²/25²)	**49946**	50.2	4.139	2.764
(1 x 240²/25²)	**49947**	53.4	4.862	3.376
(1 x 300²/35²)	**49948**	56.9	5.663	4.037
(1 x 400²/35²)	**49949**	61.4	7.426	4.515

TRAXLINE POWER ONE HEAVY DUTY 18/30 kV – shielded

core number x nominal-cross-section in mm²	part number	max. Ø mm	cable weight kg/m	copper weight kg/m
(1 x 10²/10²)	**49957**	34.3	1.440	0.488
(1 x 16²/16²)	**49958**	35.8	1.531	0.574
(1 x 25²/16²)	**49959**	37.2	1.688	0.681
(1 x 35²/16²)	**49960**	39.0	1.921	0.797
(1 x 50²/16²)	**49961**	40.9	2.248	1.047
(1 x 70²/16²)	**49962**	43.1	2.574	1.267
(1 x 95²/16²)	**49963**	45.4	2.818	1.548
(1 x 120²/25²)	**49964**	48.9	3.327	2.054
(1 x 150²/25²)	**49965**	50.8	3.695	2.389
(1 x 185²/25²)	**49966**	53.0	4.199	2.772
(1 x 240²/25²)	**49967**	56.4	5.074	3.568
(1 x 300²/35²)	**49968**	59.9	5.883	4.260
(1 x 400²/35²)	**49969**	64.4	7.878	4.578

Delivery: from current production
Additional cable types upon request.

Subject to change.

TRAXLINE pre-assembled OEM high flex cables

More information: traxline.com

kabelschlepp.de

You need connection-ready harnessed **bus cables**?
Or harnessed **signal- or power cables** for drives –
in accordance to OEM specifications?

Simply order by quoting just the **OEM order number and cable length**, and wait for your original **TRAXLINE** quality goods to arrive.



Connection-ready harnessed cables

- easy to order with just order number and cable length
- in accordance to OEM specifications
- Just-in-time delivery of three work days
- **no minimum order quantities**
- **individual cable lengths without surcharge**
- checked and monitored for reliable connection

Properties of the **TRAXLINE** cables:



Questions about cable carrier calbes? Fon: +49 (0)2762 4003-0

Subject to change.

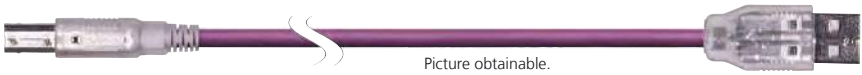
TRAXLINE USB 700 C pre-assembled

Shielded continuous bending hi-flex USB PUR cable

Properties of the TRAXLINE cables:

- UV-resistant
- CFC-free
- Minimum bend radius 10 x Ø
- halogen-free
- flame-retardant
- Approvals: cURus, based on VDE, REACH/RoHS II

TSUBAKI KABELSCHLEPP TRAXLINE cables for cable carriers



Picture obtainable.

cable type	approx. diameter mm	minimum bend radius moved KR_{min}
USB S 700 C – type A/B	5.2	10 x Ø
USB L 700 C – type A/B	6.6	10 x Ø
USB 3.0 CD – type A/B	6.8	10 x Ø

Smaller bend radii are possible in many cases – contact us about options.

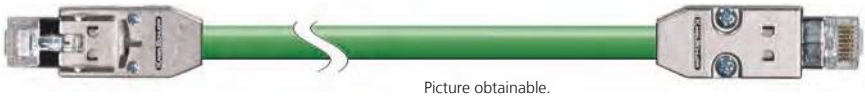
TRAXLINE CAT.5E / CAT.6 700 CD pre-assembled

Shielded continuous bending hi-flex CAT.5E / CAT.6 PUR cable

Properties of the TRAXLINE cables:

- UV-stable
- CFC-free
- Minimum bend radius 7.5 x Ø
- halogen-free
- flame-retardant
- Approvals: cURus, based on VDE, REACH/RoHS II

TSUBAKI KABELSCHLEPP TRAXLINE cables for cable carriers



Picture obtainable.

cable type	approx. diameter mm	minimum bend radius moved KR_{min}
CAT.5E 8-stranded straight	7.1	10 x Ø
CAT.5E 8-stranded cross-over	7.1	10 x Ø
CAT.6 8-stranded straight	8.0	10 x Ø
CAT.6 8-stranded cross-over	8.0	10 x Ø

Smaller bend radii are possible in many cases – contact us about options.

Subject to change.

Additional cable types upon request.

TRAXLINE pre-assembled PUR signal cables

Cables with connections compatible with the OEM standards

Properties of the TRAXLINE cables:

- UV-resistant
- CFC-free
- Minimum bend radius 7.5 x Ø
- halogen-free
- flame-retardant
- Approvals: cURus, based on VDE, REACH/RoHS II

Signal basic cables

PUR design

TSUBAKI KABELSCHLEPP TRAXLINE cables for cable carriers



Picture obtainable.

KS alternative to OEM standard	approx. diameter mm	minimum bend radius moved KR_{min}
6FX8002 2AD00	9.5	7.5 x Ø
6FX8002 2CA31	10.1	7.5 x Ø
6FX8002 2CA51	9.5	7.5 x Ø
6FX8002 2CA61	9.5	7.5 x Ø
6FX8002 2CF02	9.5	7.5 x Ø
6FX8002 2CH00	9.5	7.5 x Ø
6FX8002 2EQ00	10.1	7.5 x Ø
6FX8002 2EQ10	10.1	7.5 x Ø

Varying parameters possible – contact us about options.

Signal extension cables

PUR design

TSUBAKI KABELSCHLEPP TRAXLINE cables for cable carriers



Picture obtainable.

KS alternative to OEM standard	approx. diameter mm	minimum bend radius moved KR_{min}
6FX8002 2AD04	9.5	7.5 x Ø
6FX8002 2CA34	10.1	7.5 x Ø
6FX8002 2CA54	9.5	7.5 x Ø
6FX8002 2CB54	9.3	7.5 x Ø
6FX8002 2CF04	9.5	7.5 x Ø
6FX8002 2EQ14	10.1	7.5 x Ø

Varying parameters possible – contact us about options.

Subject to change.

TRAXLINE pre-assembled PUR power cables

Cables with connections compatible with the OEM standards

Properties of the TRAXLINE cables:

- UV-resistant
- CFC-free
- Minimum bend radius 7.5 x Ø
- halogen-free
- flame-retardant
- Approvals: cURus, based on VDE, REACH/RoHS II

Power basic cables without brake wires

PUR design

TSUBAKI KABELSCHLEPP TRAXLINE cables for cable carriers



Picture obtainable.

KS alternative to OEM standard	approx. diameter mm	minimum bend radius moved KR_{min}
6FX8002 5CA01	10.4	7.5 x Ø
6FX8002 5CA11	11.7	7.5 x Ø
6FX8002 5CA21	10.4	7.5 x Ø
6FX8002 5CA31	11.7	7.5 x Ø
6FX8002 5CA41	13.5	7.5 x Ø
6FX8002 5CA51	16.3	7.5 x Ø
6FX8002 5CA61	19.7	7.5 x Ø

Varying parameters possible – contact us about options.

Power extension cables without brake wires

PUR design

TSUBAKI KABELSCHLEPP TRAXLINE cables for cable carriers



Picture obtainable.

KS alternative to OEM standard	approx. diameter mm	minimum bend radius moved KR_{min}
6FX8002 5CA05	10.4	7.5 x Ø
6FX8002 5CA15	11.7	7.5 x Ø
6FX8002 5CA28	10.4	7.5 x Ø
6FX8002 5CA38	11.7	7.5 x Ø
6FX8002 5CA48	13.5	7.5 x Ø
6FX8002 5CA58	16.3	7.5 x Ø
6FX8002 5CA68	19.7	7.5 x Ø

Varying parameters possible – contact us about options.

Subject to change.

Additional cable types upon request.

TRAXLINE pre-assembled PUR power cables

Cables with connections compatible with the OEM standards

Properties of the TRAXLINE cables:

- UV-resistant
- CFC-free
- Minimum bend radius 7.5 x Ø
- halogen-free
- flame-retardant
- Approvals: cURus, based on VDE, REACH/RoHS II

Power basic cables with brake wires

PUR design

TSUBAKI KABELSCHLEPP TRAXLINE cables for cable carriers



Picture obtainable.

KS alternative to OEM standard	approx. diameter mm	minimum bend radius moved KR_{min}
6FX8002 5DA01	12.6	7.5 x Ø
6FX8002 5DA11	14.0	7.5 x Ø
6FX8002 5DA21	12.6	7.5 x Ø
6FX8002 5DA31	14.0	7.5 x Ø

Varying parameters possible – contact us about options.

Power extension cables with brake wires

PUR design

TSUBAKI KABELSCHLEPP TRAXLINE cables for cable carriers



Picture obtainable.

KS alternative to OEM standard	approx. diameter mm	minimum bend radius moved KR_{min}
6FX8002 5DA05	12.6	7.5 x Ø
6FX8002 5DA15	14.0	7.5 x Ø
6FX8002 5DA28	12.6	7.5 x Ø
6FX8002 5DA38	14.0	7.5 x Ø

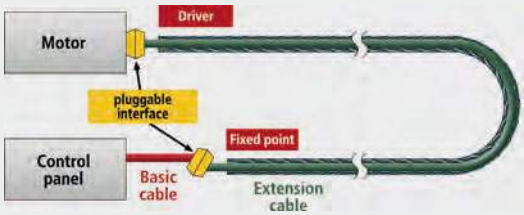
Varying parameters possible – contact us about options.

Extension cables

In addition to connection-ready harnessed basic cables, **extension cables** are also available.

These are available as **signal and power cables** for drives – according to OEM specifications.

Simply order by quoting just the **order number and cable length**, and wait for your original TRAXLINE quality goods to arrive.



Subject to change.

Application parameters TRAXLINE cables

Application parameters*	CONTROL 200/200 C	DATA / CONTROL 400/400 C	POWER 400/400 C	CONTROL / POWER 700/700 C	SYSTEM S 700 SYSTEM M 700
Acceleration a	up to 10 m/s²	up to 20 m/s²	up to 20 m/s²	up to 50 m/s²	up to 50 m/s²
Speed v, self-supporting	up to 3.5 m/s²	up to 5 m/s²	up to 5 m/s²	up to 20 m/s²	up to 5 m/s²
Speed v, gliding	up to 2 m/s²	up to 3.5 m/s²	up to 3.5 m/s²	up to 5 m/s²	up to 5 m/s²
Travel length recommended application areas	up to 25 m	up to 100 m	up to 100 m	up to 500 m	up to 50 m
DESINA	subject to cable type	subject to cable type	subject to cable type	subject to cable type	subject to cable type
Cold-resistant	•	•	•	•••	•••
Minimum bend radius, unshielded	KR_{min} ≥ 10 x Ø	KR_{min} ≥ 7.5 x Ø	KR_{min} ≥ 7.5 x Ø	KR_{min} ≥ 7.5 x Ø	subject to cable type
Minimum bend radius, shielded	KR_{min} ≥ 10 x Ø	KR_{min} ≥ 7.5 x Ø	KR_{min} ≥ 7.5 x Ø	KR_{min} ≥ 7.5 x Ø	subject to cable type
Approval c UL us	+	+	+	+	+
Operating temperature range	- 5 to + 80 °C	- 5 to + 80 °C	- 5 to + 80 °C	- 35 to + 90 °C	- 35 to + 90 °C
UV-resistance	+	+	+	• jacket coloured ••• jacket black	• jacket coloured ••• jacket black
CFC-free	+	+	+	+	+
flame-retardant	+	+	+	+	+
halogen-free	–	–	–	+	+
oil-resistant	+	+	+	+	+
silicone-free	+	+	+	+	+

+ Yes – No • suitable •• well suitable ••• very well suitable

* Recommended values for the design of KABELSCHLEPP cable carrier systems.

Subject to change.

Electrical load capacity

Cross section	PVC		PUR		PUR Single cores	
0.14 mm²	2 A	DIN VDE 0298-4 page 33, chart 11, column 5	2 A	DIN VDE 0298-4 page 23, chart 6, column 5	2 A	DIN VDE 0298-4 page 33, chart 11, column 2
0.25 mm²	4 A		4 A		4 A	
0.34 mm²	6 A		6 A		6 A	
0.5 mm²	9 A		9 A		9 A	
0.75 mm²	12 A		12 A		15 A	
1 mm²	15 A		15 A		19 A	
1.5 mm²	18 A		23 A		24 A	
2.5 mm²	26 A		32 A		32 A	
4 mm²	34 A		42 A		42 A	
6 mm²	44 A		54 A		54 A	
10 mm²	61 A		75 A		73 A	
16 mm²	82 A		100 A		98 A	
25 mm²	108 A		127 A		141 A	DIN VDE 0298-4 page 23, chart 6, column 7
35 mm²	135 A		158 A		176 A	
50 mm²	168 A		192 A		216 A	
70 mm²	207 A		246 A		279 A	
95 mm²	250 A		298 A		342 A	
120 mm²	292 A		346 A		400 A	
150 mm²	335 A		399 A		464 A	
185 mm²	382 A		456 A		533 A	
240 mm²	453 A		538 A		634 A	
300 mm²	523 A		621 A		736 A	
400 mm²					868 A	
500 mm²					998 A	
700 mm²					1240 A	

These values are extracted from DIN VDE 0298-4. The laying procedure „Continuous flexible/moving in a cable carrier“ is not standardized. Due to this fact these values are for orientation only. Please observe reduction factors for cumulation of cables and varying ambient temperatures while selecting cables. Please observe additional standards which will be security-relevant for the application.

All data in this publication are to be used as guidelines for planning purposes only. In particular, we do not guarantee that the products supplied suit the users application. It is the customer's responsibility to verify that our products fit the users application specifications.

Conversion factors for different ambient temperatures

	Permitted/recommended operating temperature at conductor					
	40 °C	60 °C	70 °C	80 °C	85 °C	90 °C
Ambient temperatures in °C	Conversion factors, must be applied to the loading capacity information!					
10	1.73	1.29	1.22	1.18	1.17	1.15
15	1.58	1.22	1.17	1.14	1.13	1.12
20	1.41	1.15	1.12	1.10	1.09	1.08
25	1.22	1.08	1.06	1.05	1.04	1.04
30	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**
35	0.71	0.91	0.94	0.95	0.95	0.96
40	–	0.82	0.87	0.89	0.90	0.91
45	–	0.71	0.79	0.84	0.85	0.87
50	–	0.58	0.71	0.77	–	0.82
55	–	0.41	0.61	0.71	–	0.76
60	–	–	0.50	0.63	–	0.71
65	–	–	0.35	0.55	–	0.65
70	–	–	–	0.45	–	0.58
75	–	–	–	0.32	–	0.50
80	–	–	–	–	–	0.41
85	–	–	–	–	–	0.29
90	–	–	–	–	–	–
95	–	–	–	–	–	–

Subject to change.

Colour codes

DIN 47100 colour code

1 white	11 grey-pink	21 white-blue	31 green-blue	41 grey-black
2 brown	12 red-blue	22 brown-blue	32 yellow-blue	42 pink-black
3 green	13 white-green	23 white-red	33 green-red	43 blue-black
4 yellow	14 brown-green	24 brown-red	34 yellow-red	44 red-black
5 grey	15 white-yellow	25 white-black	35 green-black	
6 pink	16 yellow-brown	26 brown-black	36 yellow-black	
7 blue	17 white-grey	27 grey-green	37 grey-blue	
8 red	18 grey-brown	28 yellow-grey	38 pink-blue	
9 black	19 white-pink	29 pink-green	39 grey-red	
10 purple	20 pink-brown	30 yellow-pink	40 pink-red	

The first colour describes the base colour of the core insulation, the second colour that of the printed ring.

Copper wire dimensions: AWG vs. metric

AWG-No.	Cross section mm²	Diameter mm	AWG-No.	Cross section mm²	Diameter mm
500	254	20.7	**16**	1.31	1.29
400	203	18.9	**17**	1.04	1.15
350	178	17.3	**18**	0.823	1.024
300	152	16	**19**	0.653	0.912
250	127	14.6	**20**	0.519	0.812
4/0	107.2	11.68	**21**	0.412	0.723
3/0	85	10.4	**22**	0.325	0.644
2/0	67.5	9.27	**23**	0.259	0.573
0	53.4	8.25	**24**	0.205	0.511
1	42.4	7.35	**25**	0.163	0.455
2	33.6	6.54	**26**	0.128	0.405
3	26.7	5.83	**27**	0.102	0.361
4	21.2	5.19	**28**	0.0804	0.321
5	16.8	4.62	**29**	0.0646	0.286
6	13.3	4.11	**30**	0.0503	0.255
7	10.6	3.67	**31**	0.04	0.227
8	8.366	3.26	**32**	0.032	0.202
9	6.63	2.91	**33**	0.0252	0.18
10	5.26	2.59	**34**	0.04	0.16
11	4.15	2.3	**35**	0.0161	0.143
12	3.3	2.05	**36**	0.0123	0.127
13	2.62	1.83	**37**	0.01	0.113
14	2.08	1.63	**38**	0.00795	0.101
15	1.65	1.45	**39**	0.00632	0.0897

Subject to change.

Calculation of the copper surcharge

The copper contained in cables is already calculated into the sales price at € 150.00/100 kg (copper basis).

The current price of copper, the German DEL quotation, rises and falls on a daily basis. The difference between the copper basis and the daily quotation is calculated and added to the cable price (copper surcharge).

The formula for calculating the copper surcharge (€/m):

$$\frac{\textbf{Copper weight}\ (\text{kg/m}) \times ((\textbf{DEL quote}\ (€/100\ \text{kg}) + 1\ \%\ \textbf{procurement costs}) - \textbf{copper basis}\ (€/100\ \text{kg}))}{100}$$

DEL quotation

The DEL quotation (Deutsches Elektrolytkupfer für Leitzwecke / German Electrolytic Copper for Conductor Purposes) is a market quotation for copper used in cables with a purity of over 95.5 %.

Copper basis

Is the proportional value of copper already included in the cable price. This is € 150.00/100 kg copper for all TRAXLINE cables.

Copper weight

The copper weight is the weight of the copper in a cable. This can vary greatly depending on the cross-section and the number of cores used, and is specified in kilograms per meter (kg/m).

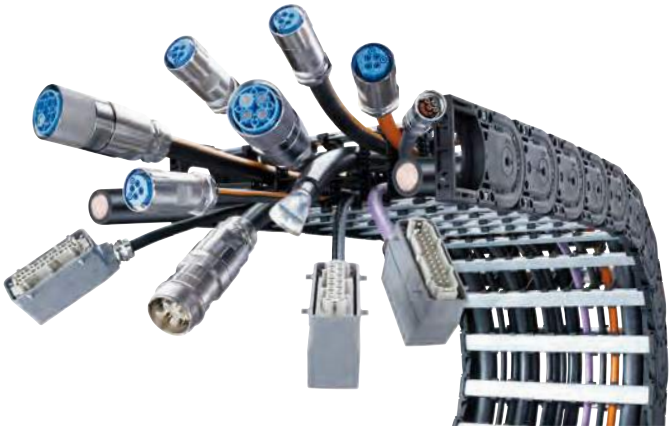
Example:

Copper weight: 0.152 kg/m
DEL notation: € 300.00/100 kg
Copper base: € 150.00/100 kg

Rebates and discounts do not apply to the copper surcharge.
The copper surcharge is indicated separately in our invoices.

$$\frac{0.152\ \text{kg/m} \times ((€\ 300.00/100\ \text{kg} + €\ 3.00/100\ \text{kg}) - €\ 150.00/100\ \text{kg})}{100}$$

= € 0.23/m copper surcharge per meter of cable





Abbreviations

Abbreviation	Description	Note
C	total shield with Copper-braid	optical coverage
D	double-shielded	CD identification
G	including on Bi-color core	Yellow-Green/Ground/PE
Ø max.	maximum outer diameter	see type selection
EMV	electromagnetic compatibility	use shielded cables
FOC	fiber-optic cables – fiber/diameter	e.g. 6G62.5/125
PUR	special KABELSCHLEPP compound	e.g. 11 Y
TPE-E	Thermoplastic Polyester Elastomer	12 Y
PP/TPE	special KABELSCHLEPP compound	e.g. 9 Y
PVC	special KABELSCHLEPP PVC compound	Y
Approvals	USA/Canada approval	c UL us

Definitions

Definition	Description	Example
Design	number of cores x nominal cross-section in mm²	3 G 1.5²
Design AWG	American Wire Gauge	18AWG/2c
Shielding	without	4 G 1.5²
	total	(4 G 1.5²)
	total and pair	(4 x (2 x 0.5²))
	total and pair and single element	((2 x 0.75²) + 2 x (1²))
DESINA	decentral and standardized installation technology on machine tools	DESINA
Flame-retardant	according to UL or equal specification	c UL us
Halogen-free	according to VDE 0282-13 attachment C	700 Series
Oil-resistant	for special applications	see application parameters
UV-resistant	without any restriction	outer jacket: black / black + ICC
UV-stable	time restriction possible	outer jacket: coloured
Stranding	core stranding in bundle technology	5 x 5 x 2.5² = 25 x 2.5²
	core stranding mixed, in hybrid technology	((4 G 50²) + 2 x (2 x 1.5²))
	core stranding in layer design	7 x 1.5²
	core stranding in pairs	(8 x 2 x 0.75²)

Subject to change.

Chemical resistance

Chemical product	Resistance					
	CONTROL 200	CONTROL/POWER 400	CONTROL/POWER 700	DATA 700	CONTROL/POWER 700 C	SYSTEM 700 C
Inorganic chemicals / aqueous solutions, neutral						
Water	✓	✓	✓	✓	✓	✓
Common salt (10 %)	✓	✓	✓	✓	✓	✓
Sodium sulphate (10 %)	✓	✓	✓	✓	✓	✓
Aqueous solutions, alkaline						
Soda (10 %)	✓	✓	✓	✓	✓	✓
Aqueous solutions, acidic						
Aqueous solutions, oxidising	◆	◆	✓	✓	✓	✓
Hydrogen peroxide (3 %)	✓	✓	✓	✓	✓	✓
Potassium permanganate (2 %)	✓	✓	✓	✓	✓	✓
Inorganic acids						
Concentrated hydrochloric acid	–	–	–	–	–	
Hydrochloric acid (10 %)	✓	✓	✓	✓	✓	✓
Concentrated sulphuric acid	–	–	✓	✓	✓	✓
Sulphuric acid (10 %)	✓	✓	✓	✓	✓	✓
Concentrated nitric acid	–	–	✓	✓	✓	✓
Nitric acid (10 %)	o	o	✓	✓	✓	✓
Inorganic alkalis						
Concentrated sodium hydroxide	–	–	✓	✓	✓	✓
Sodium hydroxide (10 %)	✓	✓	✓	✓	✓	✓
Concentrated caustic potash solution	–	–	✓	✓	✓	✓
Caustic potash solution (10 %)	✓	✓	✓	✓	✓	✓
Concentrated ammonia	o	o	✓	✓	✓	✓
Ammonia (10 %)	✓	✓	✓	✓	✓	✓
Organic chemicals / organic acids						
Concentrated acetic acid	–	–	✓	✓	✓	✓
Acetic acid (10 % in H_2O)	✓	✓	✓	✓	✓	✓
Tartaric acid (10 % in H_2O)	✓	✓	✓	✓	✓	✓
Citric acid (10 % in H_2O)	–	–	–	–	–	
Ketones						
Acetone	–	–	–	–	–	
Methyl ethyl ketone (MEK)	–	–	–	–	–	
Alcohols						
Ethyl alcohol (white spirits)	–	–	o	o	o	
Isopropyl alcohol	–	–	✓	✓	✓	✓
Diethylene glycol	o	o	✓	✓	✓	✓
Aromatics						
Toluene	–	–	–	–	–	
Xylene	–	–	–	–	–	
Fuels						
Petrol	–	–	✓	✓	✓	✓
Diesel	o	o	✓	✓	✓	✓
Kerosene	–	–	✓	✓	✓	✓
Synthetic oils / lubricating oil						
ASTM oil #2	✓	✓	✓	✓	✓	✓
Hydraulic fluid						
Based on mineral oil	–	–	✓	✓	✓	✓
Based on glycol	–	–	✓	✓	✓	✓
Based on synthetic ester	–	–	◆	◆	◆	
Vegetable oils						
Rapeseed oil	o	o	✓	✓	✓	✓
Olive oil	o	o	✓	✓	✓	✓
Soybean oil	o	o	✓	✓	✓	✓
Other						
Seawater	✓	✓	✓	✓	✓	✓

✓ = resistant – = not resistant o = short-term resistance ◆ = no data

Subject to change.

Questions about cable carrier calbes? Fon: +49 (0)2762 4003-0
TRAXLINE Cables for Motion
TOTALTRAX Complete Systems

You don't know just how good a cable is until you see it in the carrier

Nothing proves the excellent performance of our products better than an uncompromising test







The following test set-ups were used as the basis for the indicated motion cycles:

TRAXLINE Series 200

Test KS VL – 1 200



Travel length:	**13.8 m**	Speed:	**2 m/s**
Acceleration:	**2.2 m/s²**	Radius:	**10 x cable diameter**

Result: over two million cycles

TRAXLINE Series 400

Test KS VL – 2 400



Travel length:	**17.4 m**	Speed:	**2.6 m/s**
Acceleration:	**2.2 m/s²**	Radius:	**7.5 x cable diameter**

Result: over four million cycles

TRAXLINE Series 700

Test KS VL – 3 700



Travel length:	**28.3 m**	Speed:	**3 m/s**
Acceleration:	**2.2 m/s²**	Radius:	**7.5 x cable diameter**

Result: over seven million cycles

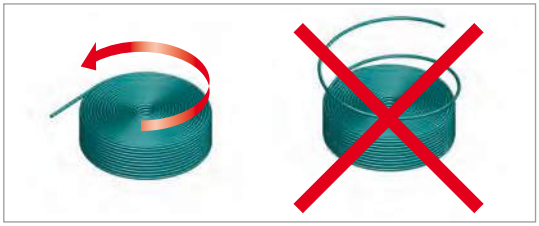
With a TRAXLINE cable from KABELSCHLEPP, you play it safe!

Subject to change.

Installing cables into the cable carrier

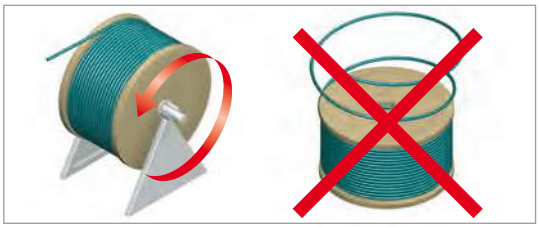
Do not cut ring-coiled cables

When cutting cables prior to installation into the cable carrier, ring-coiled cables must be unspooled tangentially and not be pulled in loops off the top.



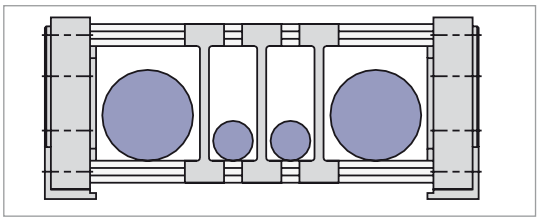
Uncoil cables from reels torsion-free

When cutting cables prior to installation into the cable carrier, drum-coiled cables must be unreeled, twist- and torsion-free.

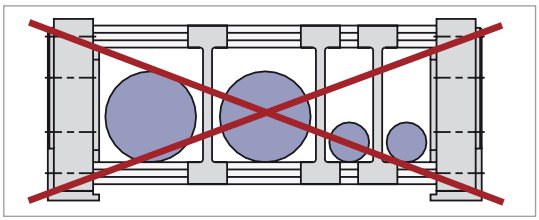


Weight distribution inside the carrier cavity

When inserting the cables into the cable carrier, the cable weight is to be symmetrically distributed within the cavity width to assure maximum cycle life of the cable carrier and reduce the likelihood of cable carrier twist or tilt during operation.



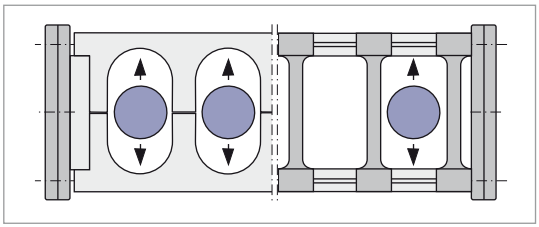
■ Right weight distribution



■ False weight distribution

Cable length

A change in the length of the cables after installation can be balanced out in the carrier loop. Thus, the cables must move freely inside the cable carrier at sufficient length and torsion-free.



Subject to change.

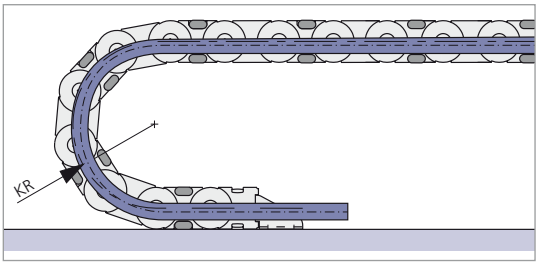
Installing cables into the carrier

The cables must be inserted into the carrier system in a way to allow them to move independently through the carrier's bend radius.



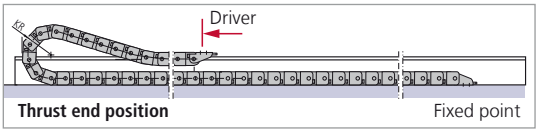
How to do it:

- Always allow sufficient clearance between the dividers and within the cable carrier cavity area.
- Insert cables tension-free.
- Never tie-wrap or fasten cables onto the carrier links or cross bars!



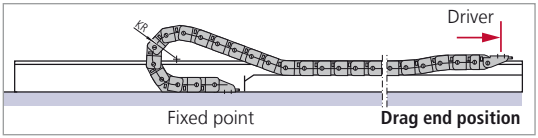
Strain relief at the driven end of the carrier

After positioning the driven end (moving end) in the **retracted position** the cables are strain-relieved at the moving end.



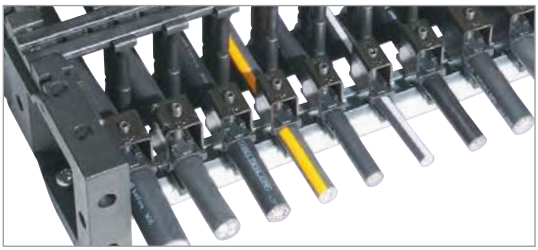
Correct cable length inside the carrier

After repositioning the driven end (moving end) in the carrier's **extended position** the cables are checked for tension-free length in the carrier loop and if necessary, pushed further into the carrier.



Strain relief at the fixed end of the carrier

At this tension-free „installation length", the cables are then strain-relieved at the carrier's fixed point.



Subject to change.

TRAXLINE cable scout

Cable dimensioning for your cable carrier application

Inquiring party:
Company: _____
Contact person: _____
Telephone: _____ E-mail: _____
Country: _____ ZIP code: _____
Town: _____ Street: _____

Operational parameters:
Travel length L_S [m]: _____ Acceleration a_{max} [m/s²]: _____
Velocity v_{max} [m/s]: _____ Approx. cycles [1/year]: _____
Temperature T [°C] from: _____ to: _____
Environment: ☐ Indoor ☐ Outdoor
Machine-Type/Description of function: _____
Free installation height (Total system) H [mm]: _____

Durability and norm:
☐ Chemical resistance against: _____
☐ UV ☐ OZON ☐ Others: _____
☐ UL ☐ DESINA ☐ Others: _____

Purchases and delivery:
Approx. demand [1/year]: _____ ☐ Unsupported ☐ Gliding ☐ RSC
Cable-carrier-type: _____
☐ Cable carrier with cable ring ☐ Cable carrier with cable reel
☐ Cable in cable carrier on reel ☐ Preassembled with plug
☐ Cable: ☐ Ring ☐ Reel Desired date of delivery: ___ / ___ / _____

Cable list

Quantity	Number of cores	Cross section [mm]	Shield	Nominal voltage [V]	Length [m]	Used/Alter-native	TRAXLINE Part number

Note/Specification: _____

Download under: www.traxline.de

Subject to change.

Application examples



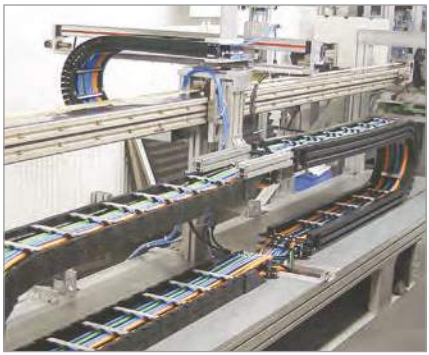
- TOTALTRAX – the system solution for time-saving final assembly and short rework



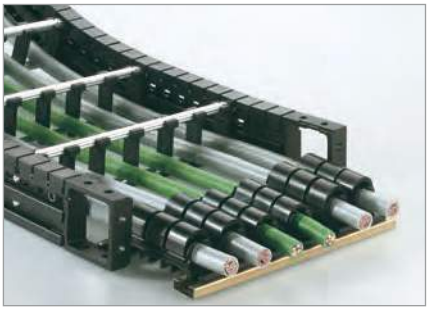
- Complete systems with a total weight of up to 10+ tons
- Customer inspection, if desired, at the factory
- Special packaging and transportation logistics for delivery to the construction site
- Up to 50 % time saving during final assembly



- MC-crane cable with cable package, SZL strain relief driven-end plate and sea-watertight AL-guide channel for worldwide use in port cranes



- High-speed test stand
- Durability tests exceeding 25 million cycles



- Optimized SZL-strain relief for long cable life – safe, compact, easy-to-assemble



- 125 m travel length: carrier fully harnessed with TRAXLINE Series 700

Subject to change.

Definitions

Oil-resistant

The term „oil-resistant" means the chemical resistance of cables that are used in an environment where they are continuously exposed to oil or lubricants. Tests are carried out using approx. 55 oils and lubricants.

UV-resistant

The UV-resistance describes the resistance of the cable jacket to premature aging of the material due to sunlight. In addition, TRAXLINE cables are also weather-resistant.

CFC-free

Chlorofluorocarbons
Due to the very detrimental effects of CFCs on the environment, and in particular on the ozone layer, we do not use them either in the manufacture of our products or in the products themselves.

Flame-retardant

Flame-retardant describes the fire behavior of cables tested according to IEC 60331. Flame retardant is a characteristic of the materials used in the insulation according to which it only catches fire after a delay when it is subjected to an open flame, and extinguishes itself when the flame is removed.

Silicone-free

The silicones used in cables are a very serious problem when applying paint, because if a surface contains silicone, paints and lacquers will not adhere to it properly. That is why all of our cables are generally silicone-free.

RoHS-compliant

Restriction of the use of certain hazardous substances in electrical and electronic equipment.
In particular, the use of lead, mercury and cadmium should be strictly limited.

Halogen-free

No materials such as chlorine, fluorine, iodine or bromide are used in our cables, because in the event of a fire corrosive gases would form hydrochloric acid, hydrofluoric acid, etc., thus greatly extending the scope of damage.

Profibus

This field bus was developed in Germany in 1989, and today is the most widespread bus of its type worldwide. It is used equally extensively in both production automation and process automation. We make a distinction between two types:

Profibus DP (Decentralized Periphery)
Sensors and actuators are controlled by a central controller. Data rates of up to 12 Mbit/s are possible.

Profibus PA (Process Automation)
Is used in process engineering and process technology. The data transfer rate is only 31.25 kbit/s.

Interbus

Is a field bus developed by the German company Phoenix Contact. The Interbus bus system is widely used in the automotive industry. The standard data transfer rate is 500 kBit/s.

Subject to change.

Definitions

CAN-BUS

Is a bus system developed by Bosch. The CAN bus was developed for use in vehicles. Its data transfer capabilities are thus very large over short distances, but decrease greatly as the distance increases. The data transfer rate up to 40 m is 1 Mbit/s. Variants of the CAN bus:
CAN open – Primarily used in Europe.
DeviceNet – Primarily used in the USA. Developed by Allen-Bradley.

USB

Universal Serial Bus
A serial bus developed by Intel that connects a PC with external devices. USB 2.0 achieves a data rate of 480 Mbit/s, which gives it an advantage over the industrial bus systems, but because it transfers data only in packets, it is less suitable for time-critical applications.

FOC

Fiber-optic cables
Electric signals are converted by an optocoupler into light pulses, transferred via the fiber-optic cable and then converted back. The transfer rate is larger than for all comparable copper cables, and furthermore the cables are not subject to electromagnetic influences, and thus particularly suitable for industrial environments. The data transfer rate at 1300 nm/km is up to 10 Gbit/s. The fiber-optic cables can be made of plastic (POF) or glass.

Cable carrier suitability

Cable carrier suitability designates the characteristic of a cable to be moved continuously in a cable carrier. This characteristic is present if the cable can withstand more than one million motion cycles. All of the cables offered in our catalog are cable carrier suitable.

Servo cable

Servo cables designate cables that, in addition to the electric power required for the drive, can also transmit the signals generated by the servo controller. These measurements are made by means of an encoder such as a resolver, an incremental encoder or an absolute encoder.

Center element

The center element serves to fill the cavity that is present with an extruded jacket. This center element must be able to hold the stranded assembly securely in position. It is one of the essential elements of our TRAXLINE cables.

Rated voltage

The rated voltage designates the working range of the cable as defined by standards. The permissible voltage may differ depending on the approval.

Insulation resistance

The insulating materials used oppose the flow of electric current with a very high resistance. This is inversely proportional to the cable length. The insulation resistance is a measure of the quality of the insulating material between two conductors or between a conductor and a shield.

Temperature range

The temperature range designates the range in which the cables can be moved in a cable carrier. It is dependent on the insulating materials employed in the cable. Use outside of the specified temperature spectrum will result in significant damage to the cable.

Subject to change.

Definitions

TALTRAX

Pre-assembled cable carrier systems.
Ready-to-connect cable carrier complete systems with system guarantee.

Approvals

Technical plastics

Insulating materials
The insulating materials used in our TRAXLINE cables can be subdivided into the following groups:

PVC – polyvinyl chloride
The material most often used in the cable industry. Plasticizers, stabilizers, masterbatches and other additives are added to form an individual mix, i.e. PVC. Operating temperature: from – 5 °C to + 80 °C

PUR – polyurethane
Besides a significantly higher notch toughness, polyurethane is also more resistant to chemicals. Its very good flexibility at low temperature makes this material excellent for outdoor applications. Operating temperature: from – 35 °C to + 90 °C

PP – polypropylene
Because of its very high dielectric strength, polypropylene is a very good insulating material. In combination with PUR insulation it is thus possible to produce cables that are excellent for use in cable carriers. Operating temperature: from – 35 °C to + 90 °C

CAT cables

Unlike with normal data cables, with a Cat cable the transfer parameters are always specified, and therefore the damping and frequency of transfer are clearly defined.

CAT.5

Frequency of transfer:	100 MHz
Damping:	22 dB
NEXT (min. at 100 MHz):	32.3 dB

CAT.5E

Frequency of transfer:	100 MHz
Damping:	22 dB
NEXT (min. at 100 MHz):	35.3 dB

CAT.6

Frequency of transfer:	250 MHz
Damping:	19.8 dB
NEXT (min. at 100 MHz):	44.3 dB

Ethernet

Ethernet is a defined standard for data transfer in networks (LANs). At present the transfer rates are up to 100 Mbit/s.

Subject to change.

Overview as per part numbers

part no.	page
45200	463
45201	463
45202	463
45203	463
45205	463
45209	463
45211	463
45213	463
45214	463
45221	463
45222	463
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45225	463
45229	463
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Subject to change.

More information:
traxline.com
kabelschlepp.de
Questions about cable carrier calbes? Fon: +49 (0)2762 4003-0
TRAXLINE Cables for Motion
TOTALTRAX Complete Systems

3

Guideway Protection and Conveyor Systems



GUIDEWAY PROTECTION SYSTEMS

CONVEYOR SYSTEMS

PROTECTIVE DEVICES

Safe. Clean. Reliable

Guideway Protection and Conveyor Systems

KABELSCHLEPP – that is motion. Motion as a principle of continuous development, a never-ending series of new inventions. Just like our product range. KABELSCHLEPP supplies reliable complete solutions covering all aspects of motion and transport for your machines.






From standard to customized

Where not only standard products, but also customer-specific solutions are the order of the day, being close to the customer is not just empty words, but a way of life.




Subject to change.

Service is one of our greatest priorities

We are available for you 24 hours a day. Because our service department is oriented towards your requirements: If your production is down only because a conveyor system or a telescopic cover is out of order, then we can give you quick, reliable help.

It is often most advantageous to repair the equipment, since generally custom-manufactured items are involved. Our service technicians are familiar with many different manufacturers, and are thus able to get your production up and
running very quickly.

- Installation, maintenance and repair right at your location
- Large repairs and generaloverhauls at our Service Center in Hünsborn, Germany
- Quick delivery of spare parts
- Training your personnel for maintenance and small repairs
- Specimen construction and manufacture of prototypes



■ KABELSCHLEPP Service-Center Hünsborn



■ Repair stands in Hünsborn

SERVICE-HOTLINE: + 49 2762/97420 · kabelschlepp-service.de

Efficient and flexible thanks to modern manufacturing organisation

Efficiency – that is the key word that guides our entire company. A challenge that is part of the 21st century, and a challenge that we are eager to meet.

Our production facility for protection and conveyor systems is one of the most modern in Europe.

Constant investments in the most modern manufacturing systems and the expansion of our production areas to approximately 3500 m² give you very visible benefits:

- Top quality
- Short delivery times
- An excellent price/performance ratio



■ KABELSCHLEPP System Engineering



■ KABELSCHLEPP System Engineering Manufacturing

Hinged belt conveyors 536
Scraper conveyors 544
Modular conveyors 548
Belt conveyors 550
Telescopic covers 554
Way wipers 568
Link apron covers 577
Bellows 581
Conical spring covers 583
Roll-up covers 586
Protective devices 588

Subject to change.

KABELSCHLEPP is a provider of solutions, e.g.:

Part conveyor – scratch-free parts transfer at production machines

The part conveyor is a solution for automatic production on punching nibbling machines. Both smooth and angular parts can be transported. The overall concept and the integration into the machine were developed in cooperation with our customers.



Gentle transport all the way to the parts depot

The parts conveyor provides the option of gently transporting parts with high standards for surface quality out into the required parts depot. The brush rollers in the discharge area ensure that the materials being transported are transfered to the parts depot virtually horizontally.



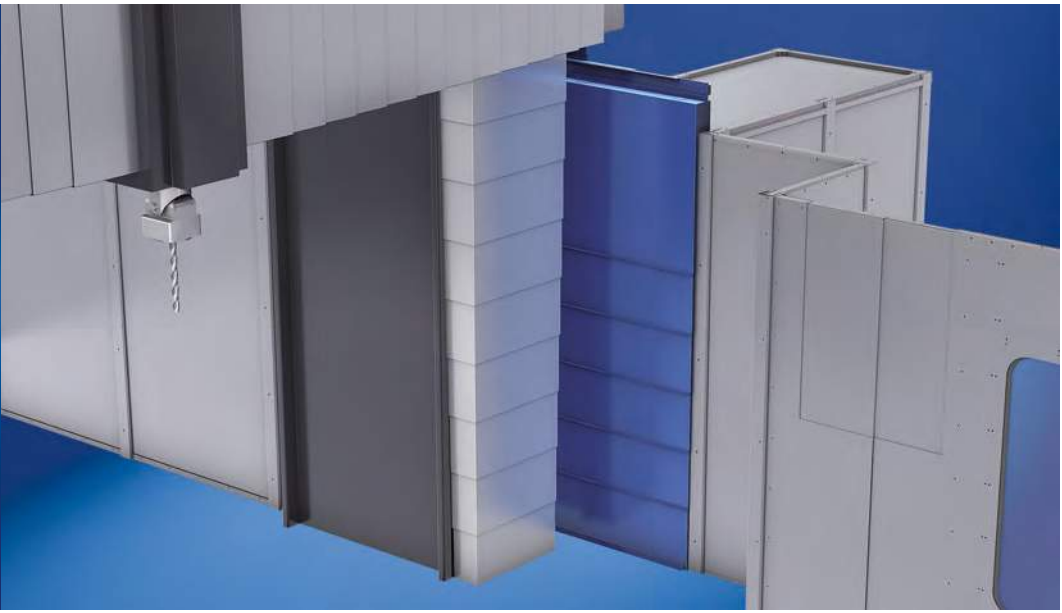


Subject to change.

KABELSCHLEPP is a provider of solutions, e.g.:

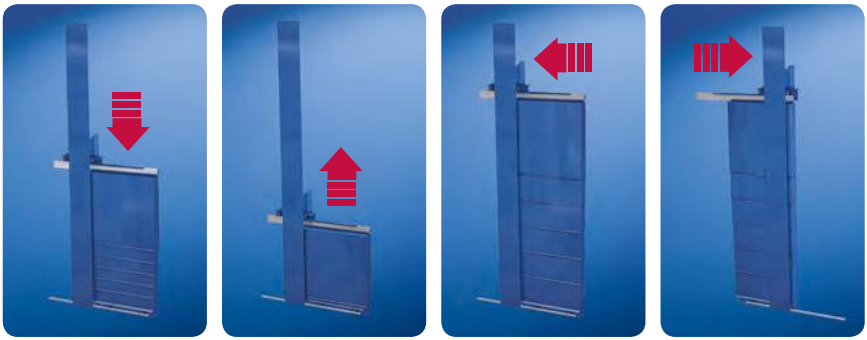
Chip protection wall can be traversed horizontally and vertically – variable chip protection

Machining tools should be kept ready near the machining area. To prevent damage and fouling of the tools that are kept ready, they have to be given special protection. Our chip protection wall separates the machining cell from the tool magazine and protects the tools in the magazine that are not needed for the current machining operation.



Variable protection of the tool magazine

The chip protection wall is fastened to a height-adjustable cross-beam, and moves with it in the vertical direction. An electric drive moves the wall in the horizontal direction for tool changing.



Subject to change.


KABELSCHLEPP

Conveyor systems

Reliability and experience based on tradition



Hinged belt conveyors

Proven for a wide range of disposal tasks

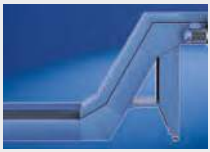
page 536



Scraper conveyors

For disposal of small materials

page 544



Modular conveyors

Hinged belt conveyors with modular construction

page 548



Belt conveyors

The all-rounders – also for parts with sharp edges

page 550

Conveyor systems

Reliability and experience based on tradition

Our scraper belt, hinged belt and belt conveyors embody more than 50 years of experience. Systematic further development of our products and adaptation of their functions for use with the latest generation of machines guarantees you the utmost level of reliability.

Every production machine requires a disposal system

In the metalworking industry, tonnes of metal chips are created every day at cutting machine tools. We offer the right chip removal system and the suitable conveyor for your specific application.

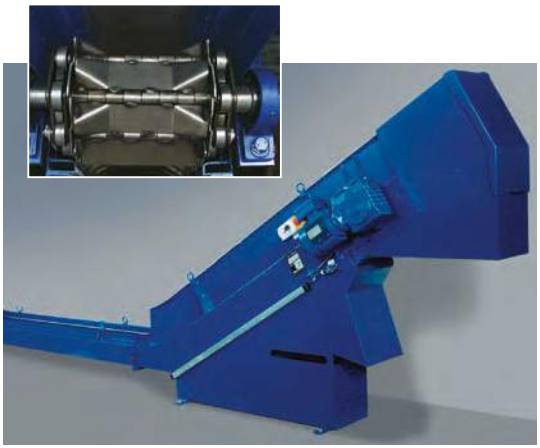
- For disposal of chips at machine tools
- For transporting metal scrap and chips away from saws
- For disposal at stamping presses and laser cutting systems
- For disposal of edge scrap at trimming shears in coil cutting systems
- For transporting away casting waste in foundry lines



■ Standard hinged belt conveyor at a CNC boring machine

From standard to customized – we have a solution

- Everything from a single source – planning, design and manufacturing
- Standard conveyors available within a short time
- For an individual solution we will work together with you to design a suitable conveyor
- The optimal solution for whatever material is to be conveyed: hinged belt conveyor, scraper conveyor or belt conveyor
- Can be supplied with coolant processing if required
- Quality and long service life are our strong points
- Spare parts supplies are of course ensured for years to come
- Great price-performance ratio



■ Hinged belt conveyor developed for the Trumpf TUBEMATIC laser cutting machine. Special hinged belt plates prevent jamming of the material to be conveyed.

kabelschlepp.de
Fon: +49 2762 4003-0
Enquiry forms – page 597

Subject to change.

Designs and areas of application

Conveyors are an aspect of mechanical engineering, and are used especially on cutting machine tools. For **many applications** it is possible to use our **standard models**. The material to be conveyed, volume to be conveyed, and space limitations often already determine the type of conveyor.

In most cases, the variable dimensions such as the belt width, feed length, discharge height and incline are sufficient to take the requirements of the specific application in to account.



■ Hinged belt conveyors



■ Scraper conveyors



■ Belt conveyors

We also plan and manufacture special conveyors for very specific requirements, even complete chip disposal systems with machine cleaning, crushing, workshop cleaning and hopper storage.





■ Hinged belt conveyor for loading of a hopper system



■ Special model at a trimming shear with a belt width of 900 mm



■ Scraper conveyor for distribution of various chip materials



■ Scraper conveyor under a hopper system for aluminum chips

Subject to change.

Hinged belt conveyors

Proven for a wide range of disposal tasks

Transportation of the material takes place on the upper trough of a revolving hinged belt. Drivers ensure transport of the material up the inclined section.

For wet machining the cooling lubrications are collected in the conveyor housing and can be fed back into the machine circuit via an optionally available coolant container or a pump station.

Our hinged belt conveyors can be used either as stand-alone conveyors at machine tools, or as linked conveyor systems. Depending on the design, the material to be conveyed is brought to the required height at a defined incline and then discharged.



This way we can solve your disposal tasks in over 80 % of all cases:

- Wet or dry chips
- Workpieces and waste
- Hot forgings
- Stampings and punching scrap
- And much more

■ Hinged belt conveyors

Structure

- Stable metal plate construction
- Standardized housing cross-section with variable width
- Robust worm gear motor with torque switching
- Customized discharge height
- Customized incline standards = 30°, 45° and 60°
- Floor mounting or as a push-in version into the machine base

Accessory examples

- Motor monitoring systems with current monitoring relay
- Other overload safety devices (on request)
- Coolant container with pump station
- Direct electrical connection to your machine controller
- Other special solutions are available. Please do get in touch with us, we will be happy to advise you.

Subject to change.

Typical designs

Straight design



■ Can be used in a horizontal or inclined position. Max incline 45°

Straight/rising design



■ Max. incline 45°

Straight/rising/straight design



■ Max. incline 60°

Subject to change.

Hinged belt conveyors

Proven for a wide range of disposal tasks

Types and main areas of application

SRF 040.00 – the elegant "small one", and particularly compact

Pitch of the hinged belt t = 40 mm

With its small pitch (40 mm) and extremely compact design, this conveyor is suitable for even the smallest machine tools.





SRF 063.00 – the "classic", and our best seller

Pitch of the hinged belt t = 63 mm

The conveyor type for most mechanical engineering applications.

SRF 100.00 – the "big one" and especially robust

Pitch of the hinged belt t = 100 mm

With a pitch of 100 mm, this conveyor is particularly useful when large quantities of chips are present.





SRF 150.00 – the "strongest" one we build

Pitch of the hinged belt t = 150 mm

Special solutions with 150 mm pitch for transporting away of large outputs or large parts.

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Fon: +49 2762 4003-0

Enquiry forms – page 598

Subject to change.

Hinged belt designs

Various hinged belt designs are available for different operating conditions:



■ **Hinged belt (standard)**
for dry materials and chips with a low proportion of coolant

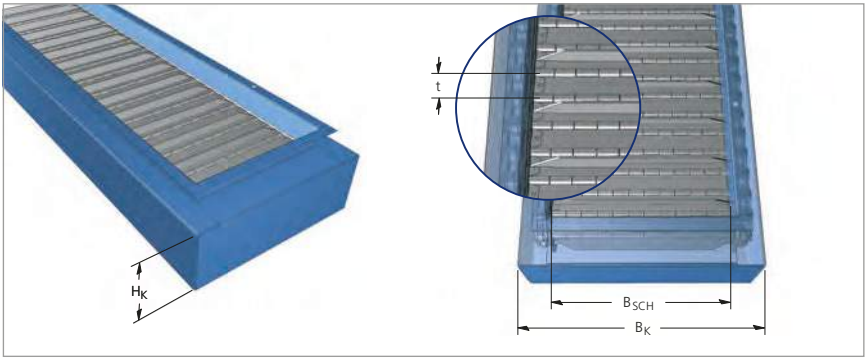


■ **Hinged belt with perforations**
for pre-separation of coolant for materials with a high proportion of coolant



■ **Hinged belt conveyor with corrugations**
for transporting "sticky" parts

Standard dimensions



Type	Pitch t	Box height H_K	Hinged belt width B_{SCH}	Box width B_K
SRF 040.00	40	140	150, 200, 250, 300, 450, 600	B_{SCH} + 75 mm
SRF 063.00	63	216	150, 300, 450, 600, 750, 900	B_{SCH} + 120 mm
SRF 100.00	100	360	150, 300, 450, 600, 750, 900	B_{SCH} + 150 mm
SRF 150.00	150	540	300, 450, 600, 750, 900	B_{SCH} + 190 mm

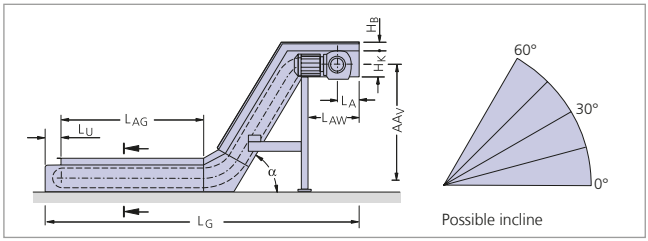
Special widths on request.

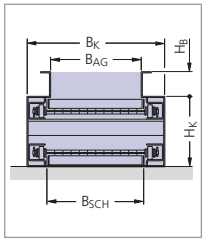
Subject to change.

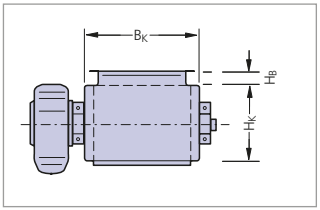
Hinged belt conveyors

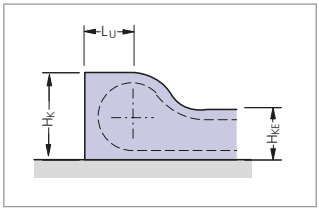
Proven for a wide range of disposal tasks

Dimensions of conveyor housing









Variable dimensions:

B_{Sch} = Hinged belt width
B_K = Box width
B_{AG} = Feed width
H_B = Panel height
AA_V = Distance between axles, vertica
L_{AG} = Feed length
L_{AW} = Discharge length
L_G = Total length of the conveyor
α = Incline

Design-dependent dimensions:

H_K = Box height
H_{KE} = Retracted box height
L_A = Length of the tail (discharge, incl. tensioning distance)
L_U = Length of the tail (feed)

The tensioning station is located at the discharge.

Type	H_B			H_K	H_{KE}	L_{AW} min	L_A	L_U
SRF 040.00	40	60	–	140	110	500	180	73
SRF 063.00	40	80	150	216	153	620	240	111
SRF 100.00	150	250	–	360	260	1000	600	185
SRF 150.00	150	250	350	540	390	1000	600	275

Dimensions in mm

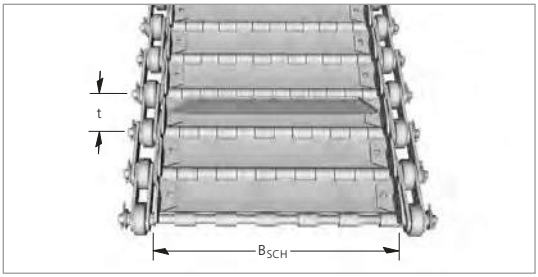
Subject to change.

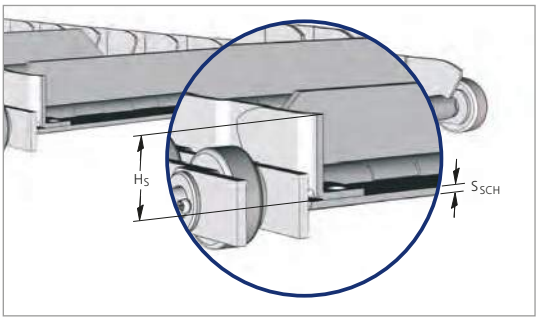
Dimensions of hinged belt

Manufactured of strip steel, the hinged belt plates have roller-formed hinge eyes, and are connected by means of axles to the side chains (which are designed as hollow pin chains), thus forming a hinged belt assembly.

Type	t	S_{SCH}	H_S
SRF 040.00	40	1.5	20
SRF 063.00	63	3.0	35
SRF 100.00	100	3.5	60
SRF 150.00	150	5.0	100

Dimensions in mm





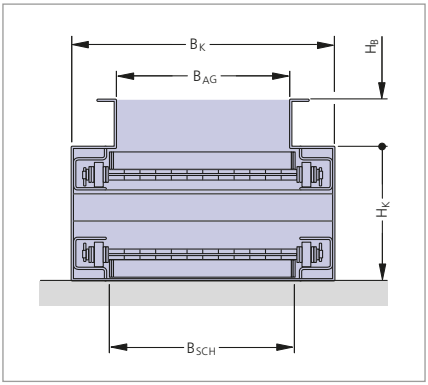
Definitions:

t = Pitch
B_{Sch} = Hinged belt width
S_{SCH} = Plate thickness of the conveyor
H_S = Height of the side rim

Dimensions as a function of the hinged belt width

Type	B_{SCH}	B_K	B_{AG}
SRF 040.00	150	225	130
	200	275	180
	250	325	230
	300	375	280
	450	525	430
	600	675	580
SRF 063.00	150	270	130
	300	420	280
	450	570	430
	600	720	580
	750	870	730
	900	1020	880
SRF 100.00	150	300	120
	300	450	270
	450	600	420
	600	750	570
	750	900	720
	900	1050	870
SRF 150.00	300	490	250
	450	640	400
	600	790	550
	750	940	700
	900	1090	850

Dimensions in mm



Definitions:

B_{SCH} = Hinged belt width
B_K = Box width
B_{AG} = Feed width

Subject to change.

Hinged belt conveyor with WAVE-BELT System

No hinge – almost seamless

Chips, particels and dirt can accumulate in the hinges of conventional hinged belt conveyors.

The WAVE-BELT System has no hinges, the single plates of the WAVE-BELT System glide almost gap free one upon each other. The construction of the side rims has been optimized so that their surface is also smooth and almost gap free. The WAVE-BELT System is suitable for a variety of coolant-free application, where the defaults risk of jammed transported material shall be minimized.

Hinged belt conveyors with WAVE-BELT System

- Longer service life due to optimized belt construction
- Denser than conventional conveyors, as no hinges
- Extremely stable due to special shaping of the individual belt plates
- Easy to maintain because of bolted belt plates that can be easily replaced



■ The special design of the plates makes the complete belt extremely rigid and highly stressable.



WBS
KABELSCHLEPP
WAVE-BELT-System

This sign indicates that the latest generation of KABELSCHLEPP WAVE-BELT System is applied.

Subject to change.

Easy replacement of individual hinge belt plates

The **belt plates** are bolted and can be easily replaced if needed **without having to dismantle the complete conveyor belt**.









■ Replacement of individual hinge belt plates **at the discharge**.

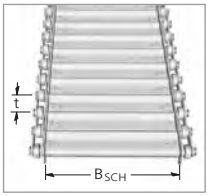
Dimensions of hinge belt conveyor WBC 063

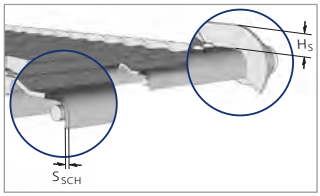
Hinge belt

Type	t	S_{SCH}	H_S
WBC 063.00	63	2.5	22.5

Dimensions in mm

t = Pitch
B_{Sch} = Hinged belt width
S_{SCH} = Plate thickness of the conveyor
H_S = Height of the side rim





Subject to change.

Scraper conveyors

For disposal of small materials

Transport of the material takes place via drivers which push the material along the floor of the housing towards the discharge.

Cooling lubricants are collected in the conveyor housing and can be fed back into the machine circuit via an added-on container or a pumping unit. Our scraper conveyors can be used as stand-alone conveyors at machine tools or as linked conveyor systems.

Depending on the design, the material to be conveyed is brought to the required height at a defined incline and then discharged.



The solution for small and short chips:

- Frequently used for machining of non-ferrous metals
- Can also be used for very hard, short chips
- Casting chips, milling chips and sawing chips

■ Scraper belt conveyors

Structure

- Stable metal plate construction
- Standardized housing cross-section with variable width
- Robust worm gear motor with torque switching
- Customized discharge height
- Customized incline standards = 30°, 45° and 60°
- Floor mounting or as a push-in version into the machine base

Accessory examples

- Motor monitoring systems with current monitoring relay
- Other overload safety devices (on request)
- Coolant container with pump station
- Direct electrical connection to your machine controller
- Other special solutions are available. Please do get in touch with us, we will be happy to advise you.

Subject to change.

Typical designs

Straight design



- Can be used in a horizontal or inclined position. Max incline 45°

Straight/rising design



- Max. incline 45°

Straight/rising/straight design



- Max. incline 60°

Subject to change.

Scraper conveyors

For disposal of small materials

Types and main areas of application

KRF 040 – the "classic" scraper conveyor
Pitch of the scraper belt t = 40 mm
Our standard scraper conveyor for smaller machine tools and small quantities of chips.





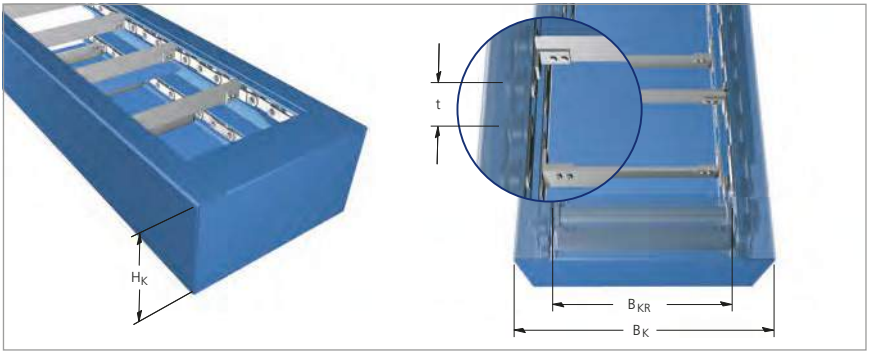
KRF 063 – for somewhat "bigger" tasks
Pitch of the scraper belt t = 63 mm
For larger machines and larger quantities of chips.



KRF 100 – the "Jumbo" for highest demands
Pitch of the scraper belt t = 100 mm
Special solution for very large quantities of chips.

Subject to change.

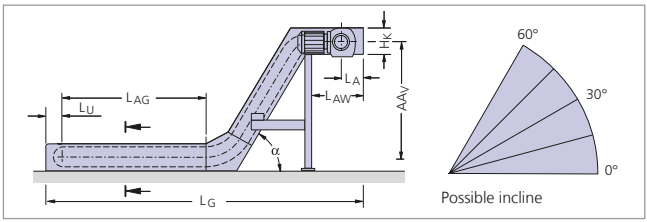
Standard dimensions

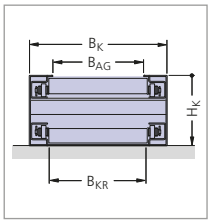


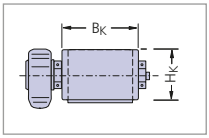
Type	Pitch t	Box height H_K	Scraper belt width B_{KR}	Box width B_K
KRF 040.00	40	140	150, 200, 250, 300, 450, 600	B_{KR} + 90 mm
KRF 063.00	63	216	150, 300, 450, 600, 750, 900	B_{KR} + 120 mm
KRF 100.00	100	420	150, 300, 450, 600, 750, 900	B_{KR} + 150 mm

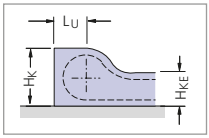
Special dimensions on request.

Dimensions of conveyor housing









Type	H_K	H_{KE}	L_{AW}	L_A	L_U min
KRF 040.00	140	110	500	180	73
KRF 063.00	216	153	620	240	106
KRF 100.00	360	260	1000	600	215

Dimensions in mm

Variable dimensions:

B_{KR} = Scraper width
B_K = Box width
B_{AG} = Feed width
AA_V = Distance between axles, vertical
L_{AG} = Feed length
L_{AW} = Discharge length
L_G = Total length of the conveyor
α = Incline

Design-dependent dimensions:

H_K = Box height
H_{KE} = Retracted box height
L_A = Length of the tail (discharge, incl. tensioning distance)
L_U = Length of the tail (feed)

Subject to change.

Modular Conveyors

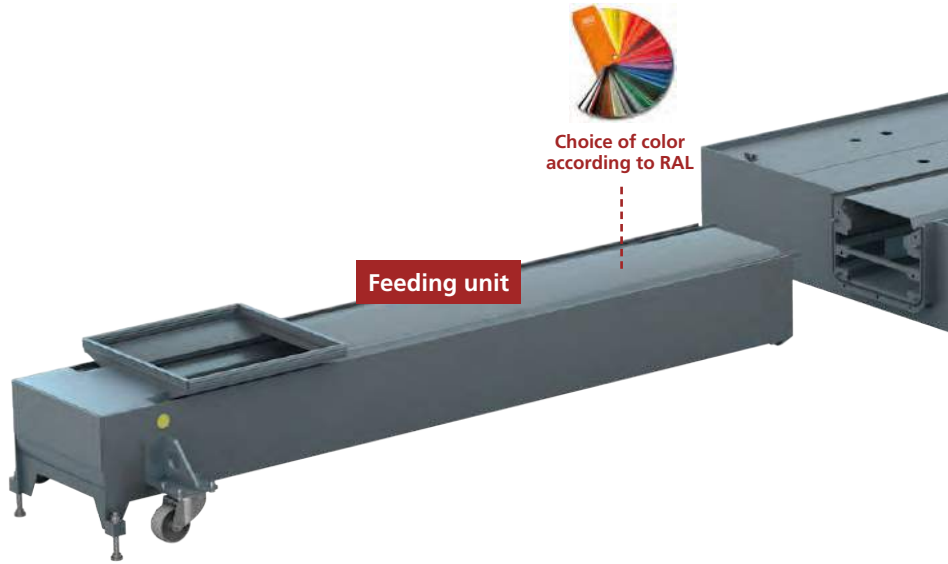
Hinge belt conveyors in modular design

Using standard assemblies enables us to transfer our production methods to any global production site within the group of companies.

Thus, we realize a production nearby and guarantee shortest delivery times. Any time just where you are.

Configurable from standard modules:

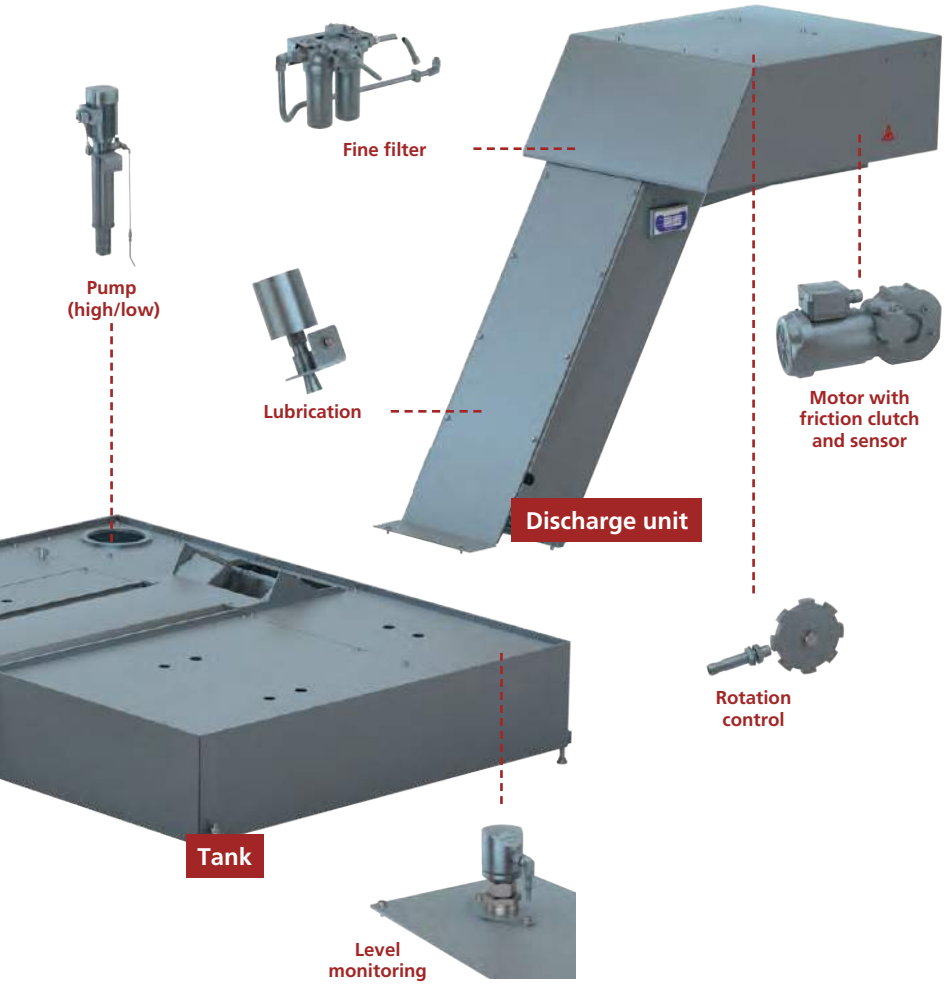
- Discharge unit
- Tank
- Feeding unit
- Color according to RAL
- Options (exemplary)







Subject to change.



Modular System for Hinge Belt Conveyors

Our modular system provides numerous opportunities to adapt the conveyor to your individual application.

- Optimum delivery times due to global production
- Cost-effective standard assemblies
- Numerous configuration options
- Replacement of single modules possible due to defined interface
- Concept is extandable
- RAL color at customers' option
- Delivery in operational condition – no onside installation required
- Reduced downtime by only replacing individual modules

We are happy to configure the most suitable system for you.

Subject to change.

Belt conveyors

The all-rounders – also for parts with sharp edges

Our belt conveyors are predominantly used on punch-nibbling machines, for transporting punching scrap and punching trimmings.

However, other parts can also be transported, such as waste parts from plastic injection machines. The transport belt of the conveyor is resistant to oil and grease.



■ Belt conveyors

Structure

- Housing made of steel plate
- Oil-resistant belt
- Protective motor switch
- Convex return shafts
- Shafts with ball bearings
- Adjustable belt tension

The universal transport solution, for applications where no cooling lubricant is present.

- Also suitable for parts with sharp edges
- Not suitable for transporting hot chips

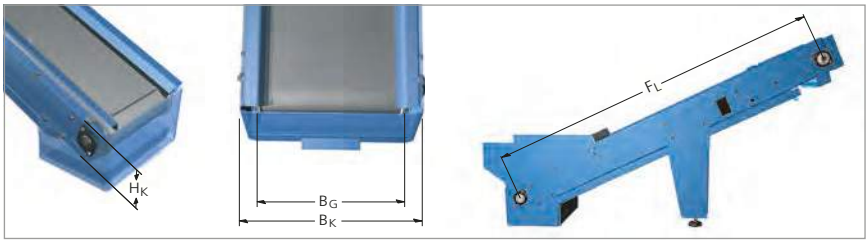
Subject to change.

Standard design



■ **Standard design**
Can be used in a horizontal or inclined position. Max incline 30°

Standard dimensions



Type	Box height H_K	Belt width B_G	Box width B_K	Maximum conveying length F_L
GBF	104	150, 200, 250, 300, 450, 600	B_G + 50	5000

Special widths on request.

Dimensions in mm

Subject to change.



Photograph: Waldrich Siegen Werkzeugmaschinen GmbH

Guideway protection systems

Perfect protection for guideways on machine tools



Telescopic covers

Perfect protection for guideways on machine tools

page 554



Way wipers

The cleanup crew

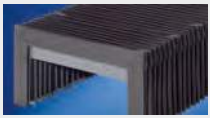
page 568



Link apron covers

Solutions for limited spaces

page 577



Bellows

Guideway protection solutions with very little compression

page 581



Conical spring covers

Protection under extreme conditions

page 583



Roll-up covers

Protection in a minimum of space

page 586

Telescopic covers

Perfect protection for guideways on machine tools

Wherever guideways on machines have to be protected, we have a suitable solution. Our guideway protections systems boast a high degree of operational reliability, a long service life, and make use of innovative technical solutions.

Every production machine requires protection for its guideway

Today, modern machine tools process workpieces at ever-greater cutting and travel speeds. The protection of guideways, measuring systems, drive elements and other vulnerable parts is absolutely essential.

Accelerations and speeds of machines are constantly increasing. Telescopic covers must also be able to cope with these challenges. This is where telescopic covers with harness mechanisms are used.



Telescopic cover for lathes



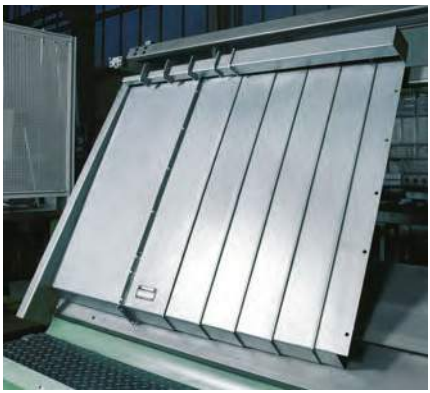
Telescopic cover at a milling machine

From individual manufacture to series production – we have a solution

The number of varieties is immense – no cover for a machine is exactly the same as any other.



Telescopic cover with flat shape on a boring machine



Special form of an inclined bed cover on a test framework

Subject to change.

Designs and areas of application

Until the 1970s, telescopic covers seldom moved in speed ranges any greater than 15 m/min.

The expansion and compression of the individual boxes took place sequentially. Due to the low speed, there was hardly any impact pulse that caused interfering vibrations.

Over the years, however, improvements in drive technology have increased the travel speeds of the machines and thus also the speeds of the cover.

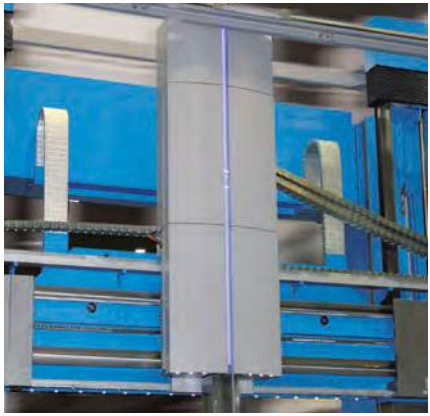
At high running speeds the impact pulses affecting the covers are enormous. This creates high impact noise and machine vibration. Furthermore extreme mechanical stress is exerted on the telescopic cover.

The landscape for telescopic covers has changed greatly in the last few years.

"Old" designs are less and less in demand, with modern concepts such as covers with differential drives taking their place.



■ Cross-beam cover at a milling machine



■ Telescopic cover at a milling machine

Telescopic covers are generally produced from cold-rolled uncoated thin plates in thicknesses from 1 to 3 mm.

In case of extremely aggressive environmental conditions (e.g. aggressive cooling lubricants), corrosion-resistant stainless steel plates may also be used.







KABELSCHLEPP GmbH Hünsborn develops and produces guide track protection systems for different axes of the machine, to customer specifications.

Subject to change.

Telescopic covers

The speed is decisive

At speeds below 15 m/min a telescopic cover can still be built in the conventional form of box synchronization. At high running speeds the inevitable impact pulses lead to vibrations and clearly audible impact noise.

So-called differential drives serve to synchronize the boxes and eliminate impact pulses. KABELSCHLEPP has decided on the tried and proven harness mechanism principle for which special materials are used.

Telescopic cover with damping elements





1 Wiper systems in various designs



2 Rollers



2 Sliders



3 Gully in various designs



4 Damping systems in various designs



5 Structural metal plates to prevent slipping (on the largest box)



6 Lifting element



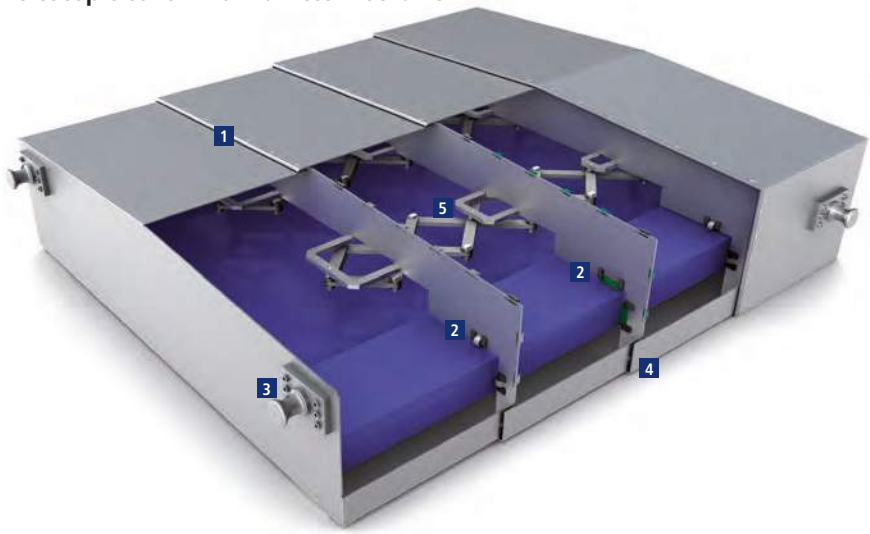
7 Locking system

Subject to change.

Travel speed	Damper elements / harnesses
Up to 15 m/min	Not required
Up to 30 m/min	Damper elements
Up to 60 m/min	Damper elements / harnesses

The use of damping elements depends on the travel speed and the moving mass. The information in the table should therefore only be viewed as guide values.

Telescopic cover with harness mechanism

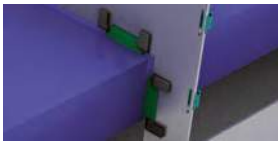




1 Wiper systems in various designs



2 Rollers



2 Sliders



3 Lifting element



4 Locking system



5 Synchronising device (harnesses) for fast-running telescopic covers

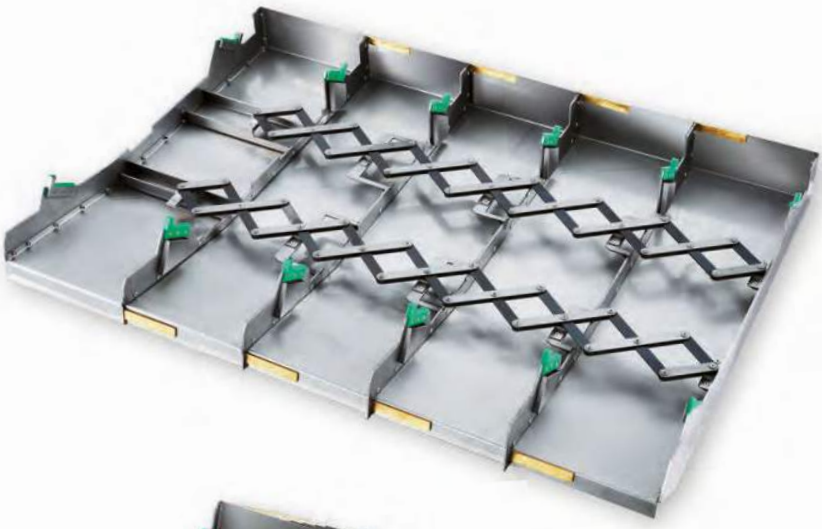
Subject to change.

SXM – Mechanical elements with harnesses

KABELSCHLEPP sets the mark

To ensure impact-free expansion / compression of telescopic covers, they are used with so-called synchronisers (harnesses).

As a result, all of the cover boxes move evenly during expansion and compression. The individual boxes move relative to each other only at a differential speed.





■ Telescopic cover with proven harness mechanism in various expansion states.

SXM
KABELSCHLEPP
Synchronized Expansion Mechanism

SXM – Synchronized Expansion Mechanism.
The KABELSCHLEPP harness technology is used wherever you find this symbol.

Telescopic covers with harness mechanisms have many advantages:

- High travel speeds up to 200 m/min are possible.
- **Acceleration forces** and speeds are **uniformly distributed across all the plates**. This also applies to the resultant inertial forces.
- The **force peaks** that would normally occur when the telescopic covers dashed against each other **do not occur**.
- The disruptive **impact pulse** of the boxes **is eliminated**.

Subject to change.

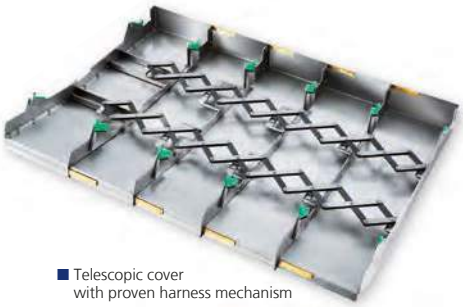
Cover with two harnesses

This solution has been developed for travel speeds greater than 100 m/min. Two harnesses ensure synchronization. In the example shown here the cover plates are made of 1 mm thick stainless steel.

The cover plates are riveted to the rear wall. Welding and the resulting heat effects have been avoided. Only the wiper is spot-welded.

SXM
KABELSCHLEPP
Synchronized Expansion Mechanism





■ Telescopic cover
with proven harness mechanism

Cover with one harness

This particularly lightweight solution has been developed for "small" machine tools. The cover plates are made of 1 mm thick normal steel.

The travel speed in this special application is only 30 m/min. The harness mechanism serves to ensure synchronization, however, and the reduced mass of all the elements means that it was possible to develop an especially cost-effective solution here.



■ Telescopic cover with only one harness

SXM
KABELSCHLEPP
Synchronized Expansion Mechanism

Subject to change.

Telescopic covers

Perfect protection for guideways on machine tools



Photograph: Heinrich Georg GmbH Maschinenfabrik

Designs

Machine tools come in a wide variety of designs. That is why a modern lathe needs another type of telescopic cover than, for example, a large bed-type milling machine. The following designs provide an overview of typical designs.

Flat shape

The U-shaped design is generally used in a horizontal, lying position for milling table guides. With this design the maximum width of the telescopic cover should be limited to 1.5 m.



Roof shape, centric (eccentric)

This design is always advisable when cooling lubricants are used. The inclined surface allows the water – and naturally also the chips – to run off more easily. With large covers (> 3 m width) for reasons of stability, etc. at least three roof angles should be provided.



Subject to change.

Flattened roof shape

The flattened roof shape is a special construction method with two roof angles. Primarily for dry operation and widths > 3 m.



Shape with incline to one side

The shape with incline to one side has a special roof shape. Depending on the possible incline, covers can be constructed with widths of up to 1.5 m. This shape is likewise a recommended solution when large amounts of coolant are present.

Depending on the angle of incline, this form also helps to discharge coolants / chips.



Vertically-installed telescopic cover

Standing covers are used on larger machine tools, mostly in the area above and below the cross beam. They can take many different shapes.



Blind cover

With blind telescopic covers, the cover plates move in separate guide rails, each of which is mounted on the machine at the sides. It is used exclusively in a vertical arrangement. The guide rails are generally made of brass.



Cross-beam cover

These covers are predominantly used on large gantry machine tools on a cross beam to the left and right of the support. The boxes are suspended vertically and protect the support guides from chips and cooling lubricants.



Tubular cover, polygonal cover

Tubular covers or covering shafts, spindles, etc. They can be made either with a round or a polygonal shape.

The round shape is possible up to a tube diameter of 120 mm, for bigger diameters one should choose a polygonal guide. Subsequent installation on the spindle without disassembly is the advantage of the polygonal guide.



Other forms and special designs tailored to your specific requirements are possible. Please do get in touch with us, we will be happy to advise you!

Subject to change.

Wipers on telescopic covers

Wipers on telescopic covers keep the cover boxes clean and prevent the penetration of dirt and chips.

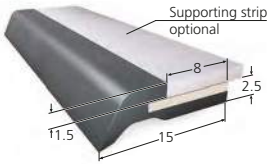
Welded-on and riveted-on wipers

With these types the support profile is spot-welded or riveted to the cover box.

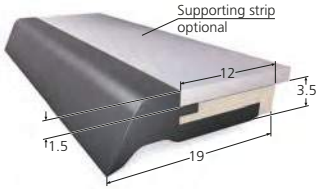
Type MA 8 / MA 12

These wipers consist of an NBR profile vulcanized onto a steel strip.

Necessary calculated distance of the cover plates 2.5 to 3.5 mm.



■ Wiper type MA 8



■ Wiper type MA 12

Type MA 8S / MA 12S

Wipers MA 8 and MA 12 are covered with a protective strip for protection against hot chips.

Necessary calculated distance of the cover plates 3.5 to 4 mm

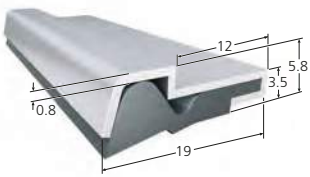


■ Wiper type MA -S

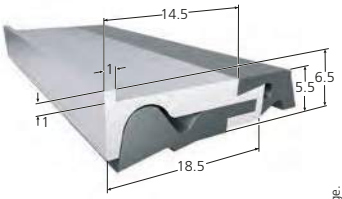
Type MA 12.1 / MA 18

A specially-milled steel plate profile is spot-welded to the boxes and a PUR wiper lip is inserted.

Necessary calculated distance of the cover plates 3.5 to 5.5 mm.



■ Wiper type MA 12.1



■ Wiper type MA 18

Subject to change.

Welded-on and riveted-on wipers

Steel plate wiper made of spring band steel

A specially shaped, approximately 0.4 mm thick, approximately 25 mm wide band of stainless spring band steel is spot-welded to the cover plate. This wiper is recommended for dry machining.

Necessary calculated distance of the cover plates 1 mm.



Types with replaceable wiper lips

The replaceable wiper with a PU lip

This new generation of wipers can be replaced directly on the machine, without disassembling the telescopic cover.

The wiper lips have good gliding characteristics and are also usable where little lubricant is generated, e.g. on machine tools.

Turn-lock fasteners fasten the wiper to the cover plates. With a 90° turn of the turn-lock fasteners the wiper is locked or released. In this way the system can be easily switched out for fresh parts.

Necessary calculated distance of the cover plates 4 mm (VA 12 G) and 6 mm (VA 17 G).



■ Wiper type VA 12 G



■ Wiper type VA 17 G

Damping elements on telescopic covers

Telescopic covers with travel speeds greater than 15 m/min must be provided with dampers in order to reduce impact pulses.

Wiper type MA 18 with damping

The support profile is made of aluminum and is screwed or riveted on. The wiper lip is identical to MA 12.1. The special damping profile can be installed in the rear aperture formed onto the support profile.

Necessary calculated distance of the cover plates 5.5 mm.



Brass strips with damping

Brass strips are used primarily on standing covers. The damping profile described above can likewise be mounted on an appropriately drawn brass profile.

Necessary calculated distance of the cover plates 5.5 mm.



Progressive damping element

In order to reduce impact pulses effectively, progressive damping elements can be installed in the rear walls of the covers. Depending on application and running speed the number of dampers is varied in order to achieve an optimal result.





Subject to change.

Splash- and hose-proof protection on telescopic covers

Over time cooling emulsion and fine chips can be "pumped" under the individual boxes and make it over the rear wall into the machinery space that is being protected. In many cases this is undesirable. Machine tools with hydrostatic bearings require "watertight" covers.

Gullies for telescopic covers

In order to catch coolant and chips that make it over the rear wall, a gully is generally installed on the back of the rear wall. This gully allows the fluids to be drained off to the sides.

Aluminum gully type AL 19

This gully is an extruded aluminum profile which is screwed onto the rear walls of the cover.

The cover plate is bent downwards so that it projects into the gully. This allows the coolant between the plates to flow into the moulded gully.

Condensation water that forms under the cover plates is wiped off by a lip and drained into gullies to the front and back. This makes it possible to achieve a very high level of waterproofing.



Gully type ST 05

This gully is screwed onto the rear wall. This has the advantage of, among other things, meaning that galvanized metal plates can be used (no welding necessary).



Condensation gully type ST 05 K

This gully is based on the proven type ST 05. An upward extending sealing membrane made of flexible synthetic moves in both directions catching the condensation and directing it into the drain gutters. From there it flows automatically into the side drains.



Subject to change.

CROSS-COVER covers

Even longer service lives for horizontal machines

Wherever for example machining spindles of horizontal drilling machines move with high accelerations and speeds, horizontal and vertically moving cover elements are needed.

With the second CROSS-COVER generation you likewise receive a ready-to-install cover unit that is movable in two dimensions. They are adapted individually to your application and delivered ready to install.

Our reworking of its proven design has improved its dynamic characteristics and extended its service life.



Re-Design CROSS-COVER

With the second CROSS-COVER generation the use of gliding and guide elements and the systematically weight-optimized design have made possible even higher travel speeds.

In addition to improvement of the dynamic characteristic values through reduction of the moving masses, the covers are even more durable. They provide the same high penetration resistance as the service-proven system.

Re-Design CROSS-COVER

- Higher travel speeds and accelerations possible
- Longer service life
- Lighter thanks to optimized design
- Protection against spray water according to IP X5
- Size selections available on short notice



CROSS-COVER in various expansion states

SXM
KABELSCHLEPP
Synchronized Expansion Mechanism

SXM – Synchronized Expansion Mechanism

Impact-free travel of the cover elements

To ensure impact-free expansion / compression, synchronizers (harnesses) are also used in the revised design.

Protection against spray water acc. to IP X5

The CROSS-COVER covers meet the requirements of protection class IP X5 (Ingress Protection – protection against hose water).

Subject to change.

Subject to change.

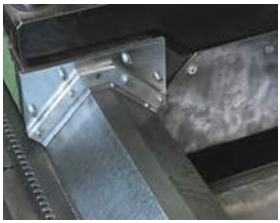
Notes

KABELSCHLEPP
A member of the TSUBAKI GROUP

Way wipers on guideways

The cleanup crew

Way wipers are essential to keep the guideways in a proper functional state, and thus to keep the machine tool permanently in operation. Even if the guideways are already protected by a telescopic cover, it is necessary to wipe fine, penetrating particles off of the vulnerable ways.









■ Harnessed way wipers



■ Cast wiper with steel support strip



■ Way wipers in a modular system



■ BAY-WIPE way wiper with optimised corner design.

Subject to change.

Overview and delivery forms

Harnessed way wipers – proven in millions of applications

Available in a wide variety of shapes, harnessed according to your specifications, in bar form or available ex-stock.

Further information can be found on page 570.



Way wiper BA 65

Cast wiper with steel support strip, available ex-stock in bar form.

Further information can be found on page 572.



Way wiper BA 115 – with extra-long lip

Highly-flexible cast wiper with steel support strip, available ex-stock in bar form.

Further information can be found on page 573.



Way wipers in a modular system – the clever solution

The most economical alternative to cast wipers.

Further information can be found on page 574.



Subject to change.

Way wiper types BA and BAS

The original!

Wipers of this type have a replaceable lip and guarantee high form stability and mechanical loading capacity. They are manufactured in custom forms according to your specifications. Available as bar material ex-stock.



Note: Reduce costs
With types BA and BAS the wiper lip is replaceable. In case of wear, only the lip has to be exchanged; the support profile can remain in use.

Properties

- Temperature range – 40 °C to 100 °C
- Support material: Aluminum
- Wiper lip material: Polyurethane
- Largely resistant to oils, greases, alkalis and water
- Pretension approx. 2 mm
- Replaceable wiper lip
- Standard length of bar material: 1000 mm



■ Inside or outside wiping forms are possible

Subject to change.

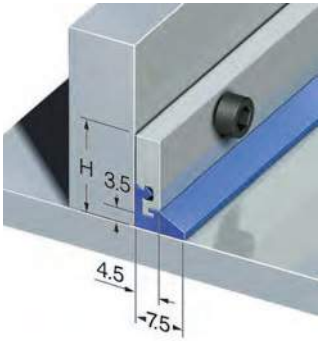
Dimensions and types

Type BA

Way wipers of this type are used mainly in those cases where installation conditions are restrictive, or where the wipers are additionally protected by means of a telescopic cover, a bellows, a link apron cover, or where no chips occur.

Type	Installation height H (clamped in position)
BA 18	17.5
BA 25	23.5

Standard length: 1000 mm

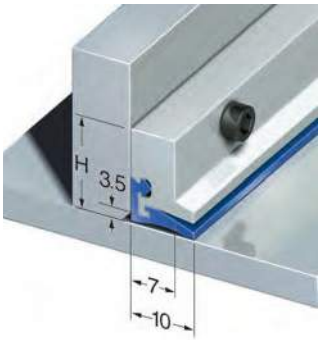


Type BAS

In this type series, the light metal support provides protection for the wiper lip. It is used primarily in the case of direct incidence of chips (no hot chips).

Type	Installation height H (clamped in position)
BAS 18	17.5
BAS 25	23.5
BAS 40	39.5

Standard length: 1000 mm



Pre-wiper for protection of the guideway

To protect the wiper lip from hot chips, and to remove coarse and stubborn dirt from the guideway, the way wiper must be fitted with a pre-wiper made from stainless spring steel or brass.

The pre-wiper and its corresponding light metal clamping strip are affixed to the machine component with the fastening screws of the wiper.

For straight way wipers with a corresponding hole pattern (distance between holes ≤ 80 mm), the clamping strip is not required.

Subject to change.

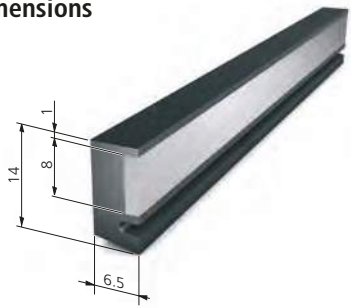
Way wiper BA 65 – bar material

Wipers of this type are compact and are notable for high shape accuracy and dimensional accuracy. It is manufactured in various forms, thus guaranteeing high repeatability.

Properties

- Temperature resistance – 40 °C to + 100 °C, briefly up to 140 °C
- Support material: Steel
- Wiper lip material: Abrasion-resistant synthetic rubber (NBR)
- Resistant to standard oils, greases, acids and bases
- Resistant to microorganisms

Dimensions



Way wiper BA 65-14



Way wiper BA 65-18



Way wiper BA 65-22



Way wiper BA 65-25

Type	Pretension (max.)
BA 65-14	1 mm
BA 65-18	1 mm
BA 65-22	2 mm
BA 65-25	1 mm

Length: 500 mm

Subject to change.

Way wiper BA 115 – bar material

Highly flexible wiper with a max. pretension of 4 mm.
It is likewise manufactured in various forms, guaranteeing high repeatability.

Properties

- Temperature resistance – 40 °C to + 100 °C, briefly up to 140 °C
- Support material: Steel
- Wiper lip material: Abrasion-resistant synthetic rubber (NBR)
- Resistant to standard oils, greases, acids and bases
- Resistant to microorganisms

Dimensions



Way wiper BA 115-30

Type	Pretension (max.)
BA 115-30	4 mm

Length: 500 mm

Subject to change.

Way wiper BA 65 VARIO

The most economical alternative to cast wipers – even for small quantities. On request we also manufacture them according to your specifications – custom tailored for your application. BA 65 VARIO way wipers are optionally available as complete wipers, or as individual wiper lips in bar form for your own harnessing.



So-called **"cast wipers"** are wipers consisting of a piece of neoprene rubber vulcanised onto a steel support profile. They are produced in specially-manufactured injection moulds. Larger quantities are essential, as the tool costs must be offset by the number of parts produced.

For the wiper system **BA 65 VARIO** no special tools are required: A pre-finished profile of synthetic rubber is custom-tailored. The support profile – usually made from metal – can be produced on a laser or nibbling machine.

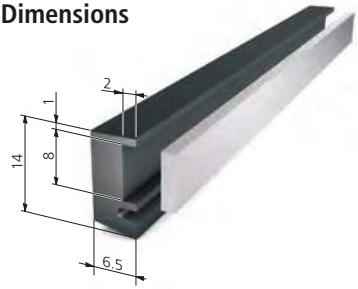
Thus, smaller quantities can be produced in this way at a reasonable cost.

Properties

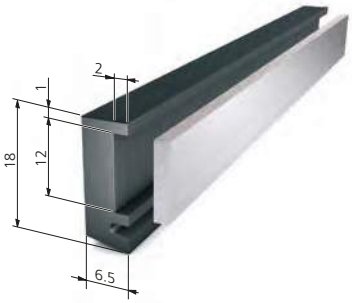
- Temperature resistance – 40 °C to + 100 °C, briefly up to 140 °C
- Support material: Steel, stainless steel
- Wiper lip material: Abrasion-resistant synthetic rubber (NBR)
- Resistant to standard oils, greases, acids and bases
- Pretension of the wiper lip: max. 1 mm
- Resistant to microorganisms

Subject to change.

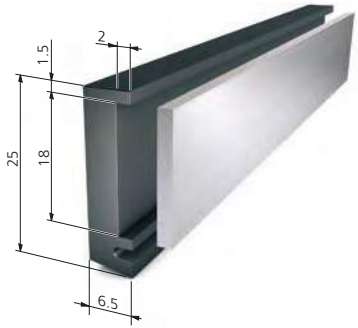
Dimensions



■ Way wiper BA 65-14 VARIO



■ Way wiper BA 65-18 VARIO



■ Way wiper BA 65-25 VARIO

Type	Pretension (max.)
BA 65-14	1 mm
BA 65-18	1 mm
BA 65-25	1 mm

Length: 500 mm

Delivery options

1. Construction set as individual parts

The support material and wiper lips are produced according to your specifications, and put together as a construction set.



■ Easy assembly of the individual parts

2. Ready-to-install wiper system

All parts are supplied affixed to the support profile.



■ Ready-to-install wiper system

3. Separate wiper lip

If your production department can produce the required support plates itself, you can order the wiper lip from us separately. The delivery length is 500 mm.

It can be ordered as follows:

....pcs. wiper lip BA 65-14 material no. 79000
....pcs. wiper lip BA 65-18 material no. 79001
....pcs. wiper lip BA 65-25 material no. 79003



■ Wiper lip bar material

Subject to change.

Way wiper BAY-WIPE

Wiper with double action

BAY-WIPE by KABELSCHLEPP does what didn't seem possible up to now: A way wiper system that serves to wipe off oil inside while simultaneously removing foreign particles and coolants outside. In this way it protects particularly hydrostatic guideways by preventing the escape of lubricants.

Many wiper systems have problems at the point where a hydrostatic guideway goes round a corner. Rounded or bevelled corners on guideways are often problem areas, because the wiper elements cannot follow the profile closely enough.

Our BAY-WIPE system now has these problem areas perfectly under control. Thanks to its optimised corner elements, which follow the contours of the path exactly, the guideway is wiped clean in both directions.



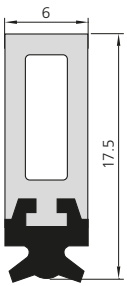


Properties

- Aluminum support profile with PUR wiper lip
- Wiper with double action: Wipes inside and outside
- Has separation effect by wiping on both sides
- Extremely low oil loss
- Prevents the invasion of foreign material
- Optimal regularity of pressure through minimum form deviation (die casting)
- Also provides seal at guideway protection bevel by conforming to shape
- Simple production, few parts

Dimensions

- Pretension: 0.4 mm
- Length: 516 mm



Intelligently designed, individually produced

The wiper lip of the BAY-WIPE was developed at the Institute for Machine Elements (IMA) at the University of Stuttgart. KABELSCHLEPP participated in this research project, and put the results into practice in a consistent manner.

A wiper lip that works in both directions is affixed directly to the support profile by means of a plastic injection moulding process. The straight sections of this profile, which have been cut to length, are then non-positively joined with pre-assembled corner elements. This allows a wiper system to be created from the individual parts, exactly suited to the contours of the guideway.



Subject to change.

Link apron covers

Solutions for limited spaces

Link apron covers can be used anywhere where, for reasons of space, it is not possible to use telescopic covers. They lie directly on the guideways and can hang down freely at the end of the path, or be screwed on or wound around without any special guides.



Properties

- Small space requirement
- Protection against chips and lubricant
- Splash- and hose-proof
- Low weight
- Long service life
- Heat-resistant to 100 °C over extended periods
- Customized end attachment
- All link apron covers can be supplied with a roller device
- Lateral guides are not necessary
- Short delivery time
- Attractive price/performance ratio



Subject to change.

Link apron covers

Solutions for limited spaces

Designs

Design 1

Lightweight, highly flexible solid profile link apron covers, thin design.

B_{min} = 100 mm
B_{max} = 950 mm
R_{min} = 25 mm
Weight = 5.6 kg/m²
Solid aluminum profile 19 x 3.0 mm with PU connecting elements





Design 2N

Lightweight, stable hollow profile link apron covers, extremely stress-resistant, even in large widths.

B_{min} = 100 mm
B_{max} = 2950 mm
R_{min} = 50 mm
Weight = 10 kg/m²
Hollow aluminum profile 20 x 5.5 mm with PU connecting elements





Design 3

Flexible solid metal link apron cover, with hinges and one-sided bend radius.

B_{min} = 100 mm
B_{max} = 2000 mm
R_{min} = 60 mm
Weight = 16.5 kg/m²
Hollow aluminum profile 18.5 x 6.8 mm with integrated hinge





Subject to change.

Fastenings / connecting elements

Examples of fastening profiles



■ Standard end profile



■ Standard profile with mounting bracket



■ Straight end profile



■ Angle fastening profile

Installation variants





Roller devices

All link apron covers can be rolled up like a window blind.

They can be driven with spring or electric motors.



Subject to change.

Notes

Subject to change.

Bellows

Guideway protection solutions with very little compression

KABELSCHLEPP bellows are used on all kinds of machine to provide protection for guideways and spindles, in those cases where no hot chips are present and accessibility is not a requirement.

Bellows can be individually produced from a range of different materials, depending on your specific requirements.



Properties

- Simple installation
- High travel speed
- Minimal compression
- High quality

Installation variants

- Horizontal, lying
- Horizontal, hanging
- Vertical

Delivery options

- For travel speeds of up to 1.5 m/s
- Customized production
- Available in a wide range of shapes
- Available in many different materials

Bellows

Guideway protection solutions with very little compression

Designs

U-bellows design

- Variable dimensions
- Customized in the guide
- Economically priced



■ U-bellows design

Box bellows design

- Covering for movable machine elements
- High form stability



■ Box bellows design

U-bellows design with lamellas

- Reliable protection against heavy chip generation
- Rust-resistant and acid-resistant telescopic plates
- Can be made coolant-proof upon request
- Rigid or movable design of the telescopic plates is possible



■ U-bellows design with lamellas

Additional shapes and designs are available on request.

Subject to change.

Conical spring covers

Protection under extreme conditions

Conical spring covers protect spindles, columns, shafts, threads and rod guides reliably against contamination, chips and mechanical damage. They provide a good sealing function, and are self-cleaning if installed in a suitable position. High temperature resistance and resistance to chemicals guarantee reliable protection even under extreme operating conditions.





The springs are made of hardened high-quality spring band steel. The optimized design means that the horizontal bending and vertical deflection is very low. Thus, even in the extended state KABELSCHLEPP conical spring covers guarantee excellent protection against dirt and mechanical influences.

Properties

- Accident prevention for operating personnel from revolving spindles and shafts
- Reduction in downtimes resulting from contamination
- Increased machine service life
- Some conical spring covers are also available for retrofitting

Subject to change.

Conical spring covers

Protection under extreme conditions

Installation positions

The conically wound conical spring covers automatically follow the motions of the machine. Made of high-quality blue polished steel or alternatively of stainless steel, they can be used in vertical, horizontal and inclined positions.

Vertical installation

When installed vertically, conical spring covers are mounted with the larger diameter at the top. This way the overlapping of the individual coils makes the conical spring covers self-cleaning.



Horizontal installation

When installed horizontally, conical spring covers are mounted with the larger diameter in the direction of the chip generation. In horizontal installation with larger diameters or longer expansion, the maximum expansion is reduced to 60 % of the value for vertical installation.

Moreover, a slight sag appears in the conical spring cover, which is about 2 – 5 % of the maximum expansion.



Installation in inclined position

In addition to vertical and horizontal installation, installation in an inclined position is also possible.
For small angles of incline above the horizontal the same conditions apply as in horizontal installation.



Subject to change.

Installation of several conical spring covers in series

By connecting several conical spring covers in series it is possible to deal with special requirements, such as extra-long traversing distances.

We would be happy to advise you regarding such applications and can supply you with the necessary special flanges.



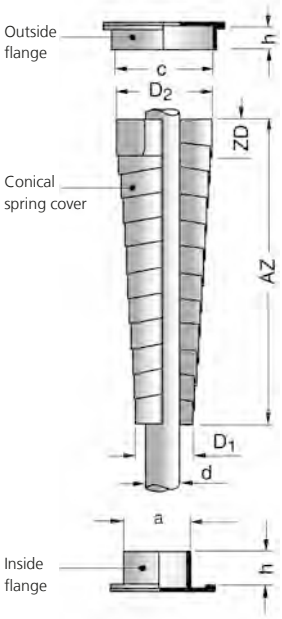
Retrofitting

Many conical spring covers are also available for retrofitting.

Selection

Selection of the conical spring cover suitable for your specific application is generally based on the following criteria:

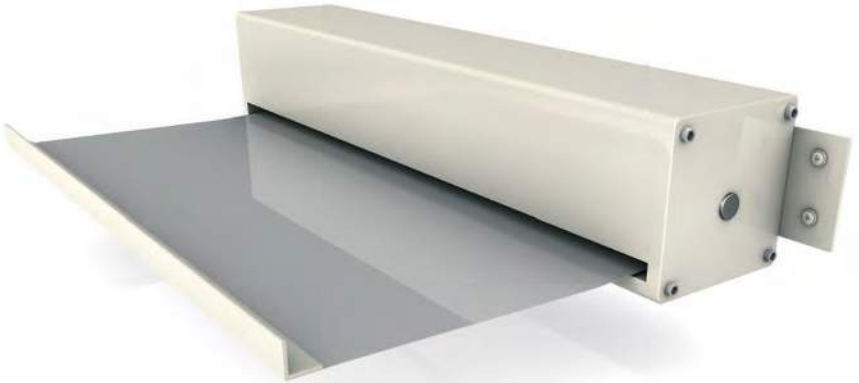
- Internal diameter D1
- Expansion AZ (vertical / horizontal)
- Compression ZD



Roll-up covers

Protection in a minimum of space

KABELSCHLEPP roll-up covers serve to protect contact surfaces and guideways on all kinds of machine.



Properties

- For high travel speeds
- Minimal space required
- Customized production
- Simple installation
- Long service life
- Cost-effective

Designs

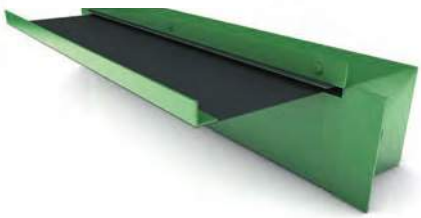
Roll-up cover without housing

Roll-up covers without a housing are suitable for areas with limited space, and facilitate optimal integration into the machine enclosure.



Roll-up cover with housing

Roll-up covers with an additional housing made of steel or aluminum protect the standard roll-up cover and allow simple installation or retrofitting.



Subject to change.

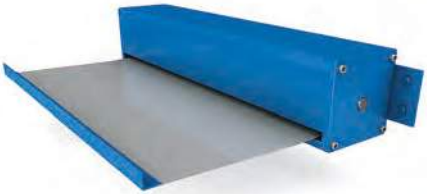
Roll-up covers with plastic band

- Reliable protection against cutting waste, oil and cooling emulsions
- Particularly suitable for high travel speeds thanks to its low own weight
- Minimal space required
- Very resistant to tearing due to plastic layered special fabric
- Various materials are possible



Roll-up covers with steel band

- Very good protection against cutting waste, oil and cooling emulsions
- Rust-resistant and acid-resistant spring band steel with thickness from 0.2 to 0.4 mm
- Suitable for high travel speeds and greater mechanical loads
- Only available with housing



Subject to change.






1315

Protective devices

according to EN ISO 12100



PROTECT-PANEL

page 590

The “impenetrable” housing for your machines

PROTECT-PANEL system

The "impenetrable" housing for your machines

High speeds, quick machining cycles, cooling water and chips: Machine tools represent a dangerous environment for people. This is why all machine tools are contained in nearly "impenetrable" housings.

These help reduce or eliminate the hazards for the persons who work with them. With the KABELSCHLEPP PROTECT-PANEL system, we offer you optimized protection for a particularly attractive price.

Steel plate construction for a totally harmonised system

Every protective device is produced to your specifications – nevertheless made from standardized parts. We design in 3D and assemble your protective device from predefined elements. Special connecting elements hold the walls in line.

The entire system is made of steel. Extremely sturdy wall modules are created by using a combination of screws and rivets as well as sandwich-design without weld joints from industrially preassembled components. The wall elements are normally mounted vertically on C-profiles, e.g. on the shop floor. Unevenness of the floor surface can be compensated by adjusting hardware.

This production method offers you several advantages: Short design times by use of standardized parts. Short delivery times, since our production is based on predefined processes. Shorter installation time, since our mounting profiles are standardized and the wall elements are assembled with only a few screws. Processing on state-of-the-art processing machine tools provides a high precision for all elements. Avoiding welding as much as possible eliminates the potential for distortion and irregularties.



KABELSCHLEPP PROTECT-PANEL – modules:

- Wall modules
- Window modules
- Corner modules
- Roof modules
- Sliding doors
  – automatic design
  – telescopic design
- Folding doors
- Lift gates
- Roll gates
- Chip protection walls
- Powder coated
  (colour as desired, RAL 9002 is standard)

PROTECT-PANEL: Secure protection against water spray

The unique connecting element means that the wall elements are sealed against water spray, and are joined to each other in an extra-sturdy manner. Each pair of modules is joined by specially-formed plates held together by bolts. An additional plate on the inside forms a labyrinth seal. In order to direct the remaining water spray downwards, we have fitted a deflector plate which guides the downward-flowing water directly into a particle conveyor, for example. The sandwich construction of the wall elements, together with the deflector plate, result in a sealed protective wall which can withstand even high water pressures.

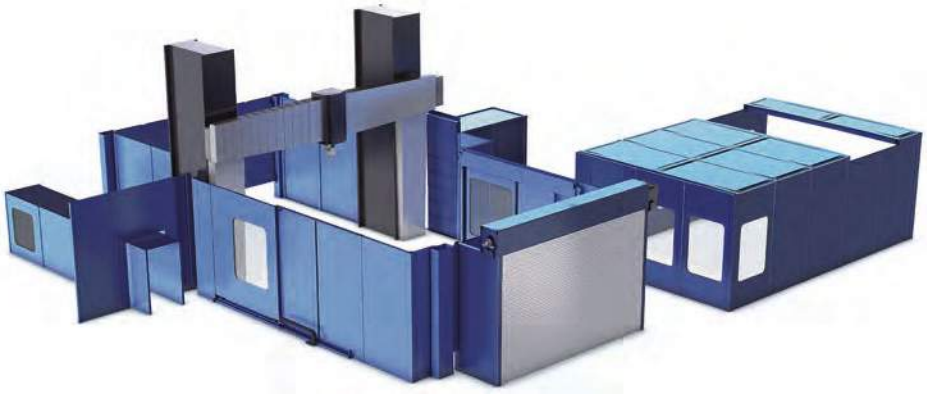


- Protection against sprayed fluids:
  Sealed with a rubber seal and deflector plate.

kabelschlepp.de
Fon: +49 2762 4003-0

Subject to change.

Protective devices in modular design



PROTECT-PANEL – modules:



■ **Wall modules**
(standard dimensions B x H 1235 x 2350 mm)



■ **Window modules**
(with special glass pane insert)



■ **Corner modules**



■ **Roof modules**



■ **Sliding doors**
(automatic design)



■ **Sliding doors**
(telescopic design)



■ **Folding doors**
(electric motor-driven under PLC control)



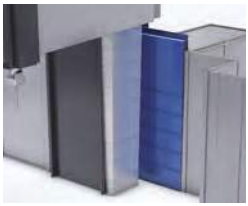
■ **Lift gates**
(up to six segments)



■ **Roll gates**
(vertical/vertical-horizontal motion)



■ **Roll gates with stainless steel lamellas**
(opens quickly, lightweight design)



■ **Movable chip protection walls**
(vertical and horizontal)

Subject to change.

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PROTECT-PANEL system

The "impenetrable" housing for your machines

Protective devices in modular design

Wall modules

The standard wall module measurements are defined at 1235 mm width, 2350 mm height and 50 mm thickness. The sheet thickness of the outside cover plates is 2 mm.

Also the DIN EN 12415 and/or 17 standards are fulfilled by a total sheet thickness of 4 mm.

Using a 150 mm high floor-mounted C-profile with a wall connection element creates a grid spacing of 1250 x 2500 mm (W x H). The wall modules can be mounted side-by-side to form long walls. When necessary, supporting-columns are installed to add to lateral stability. Corner modules and roofs also provide a stabilizing effect and add to wall stability considerably. Connection elements have a labyrinth-seal on the work area side so that additional synthetic or rubber seals are not necessary. All parts of the walls are riveted or screwed together and are protected against rust by a powder coating in the desired colours. Cavity sealing protects the inner sides of the walls from condensation.





Windows modules

In the staging area of the machine polycarbonate-glass compound windows with high-grade steel frames are used which meet the DIN/EN 12415 standards for lathes and/or DIN/EN 12417 for machining centers. Outside the work area safety windows which are designated as single-pane safety glass are usually sufficient.

All window panes are installed in the walls – where necessary – in a splash-proof way. While the windows themselves are always produced as a rectangle, the opening can be formed according to customer preference. Whether oval, rectangular or rectangular with rounded corners, the organization of the external cover plates in the window area makes any shape possible.

Usual window measurements are 1000 x 1200 mm (W x H). The wall module in the standard measurements is made as a window module. If larger window widths are desired special modules are necessary.





Subject to change.

Corner modules

Wall modules can be combined to form corner modules. It is irrelevant whether it is a standard or a custom wall width. Specially designed corner profiles combine the elements at the header sides using screws and rivets imbedded in the already coated walls.

A metal valance reaching to the ground closes the outside corner opening and provides good aesthetics. As seen from the staging area the inside corner is sealed and waterproof without the use of synthitic seals. The 90° corner constructed in this way is
extremely stable.

Multiple colours – as shown in the picture – require seperately produced elements, since otherwise a powder coating would not be possible.





Roof modules

The machine tools had to be secured at the top for reasons of job safety.

The task: Although the covers to be constructed do not have to bear the same load as the side walls, they need to ensure a high degree of stability to effectively block flying chips.

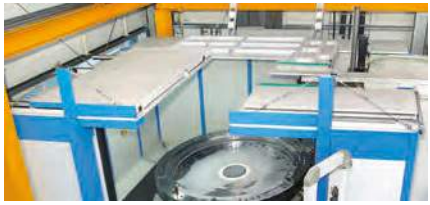
Based on our PROTECT-PANEL system, we developed a roof with a sandwich design that is both lightweight and stable.

To dispense with inner braces, a bearing structure was selected that is also used for suspension bridges: Steel cables and pylons assume the static function for the roof elements.

Since workpieces are frequently supplied by cranes in processing centres, the roof was designed to open a few locations. This opening was created by two movable elements that telescopically overlap. The sliding roof elements take up very little space when open.







Subject to change.

PROTECT-PANEL system

The "impenetrable" housing for your machines

Protective devices in modular design

Sliding doors (automatic design)

Because automatic doors are integrated into the machine tool programme, they automatically open and close according to the required production cycle. For heights of 2-3 m that's nothing special. But the automatic door in the PROTECT-PANEL system can manage much bigger sizes.

At the production plant of one of our customers, a first automatic door has been installed which is 6500 mm high, 1600 mm wide, 500 kg in weight and can open and close within 5 seconds. It's a challenge that we were able to solve with the help of linear drives, a three-phase motor and control shaft technology.





Sliding doors (telescopic design)

The access to the inside of machining centres is particular large due to our space-saving telescopic sliding door. Components in XXL format can be easily supplied.

The PROTECT-PANEL system already boasts of a series of sliding door and roll gate solutions. The telescopic sliding door can be opened wide quickly, but it remains impenetrable when closed.

The sliding door elements also come in a sandwich construction and additionally provided with bullet-proof glass window to allow a view of the interior.





Folding doors

To make exchanging workpieces easier, and if it is not possible to implement a guide rail in the upper and lower areas of the enclosure, then you can equip the enclosure with a folding door which moves to the side. The folding door is suspended only from a lateral post, leaving the greatest possible open space for your workpieces, especially in the upwards direction.

The door elements have the same design as the wall elements. Each of them is driven by a 24 V DC motor with a planetary gear unit and integrated PLC controller. Country-specific voltages can easily be obtained using an appropriate transformer.

Modern CAN-BUS technology makes it possible to program different motion patterns for individual door elements. Teaching and loading of programs are remarkably simple. If suitable CAN-BUS equipment is present, the motors can also be monitored using the machine controller. When closed, the doors are held together by a locking mechanism, and will not open even if a person leans on them, for example. The end positions can be monitored and interrogated either via the program, or by means of additional limit switches.





Subject to change.

Lift gates

Unlike the roll gate, the lift gate has a small number of larger segments, which all move together. The segments have a sandwich construction, which makes them extremely resistant to penetration. These larger segments are thus not rolled up, but instead are positioned one behind the other, and hang neatly one behind the other when the door is open.

A special feature of this gate is its lifting and lowering mechanism, which makes use of pulleys. Each gate element is suspended on two pulleys, which raise or lower all of the elements evenly.





Roll gates

When changing pallets on machine tools, a gate is required that moves at high speeds when opening and closing. The PROTECT-PANEL roll gate functions in principle like a garage door. A segmented gate moves upwards and is rolled up. The height of an already built gate structure is 3500 mm.

The lamellas of this gate are made from aluminum, and are reinforced on the inside with steel inserts. This guarantees the required penetration resistance.





Roll gates with stainless steel lamellas

Different production processes require differentiated gate solutions. The roll gate with rugged stainless steel lamellas is an economical solution featuring lightweight construction.

Thanks to the special shaping of the lamellas the gates are very stable despite their low intrinsic weight and are very resistant to flying chips. The lightweight construction means that high speeds can be achieved when opening and closing.



Movable chip protection walls

Machining tools should be kept ready near the machining area in order to ensure short distances and thus short changing times. To prevent damage and fouling of the tools that are kept ready, they have to be given special protection.

Our chip protection wall separates the machining cell from the tool magazine and protects the tools in the magazine that are not needed for the current machining operation.

It can be traversed horizontally for loading; during machining it follows the vertical motion of the cross beam.



Subject to change.

Hinged belt conveyors question form.

Purpose of the conveyor: _____

Material to be conveyed: _____

Type of material to be conveyed (for chips: type of chip): _____

Max. dimensions of material to be conveyed: _____

Material: _____

Output: _____ m^3/h _____ kg/h

Coolant

Type of coolant: ☐ Emulsion ☐ Oil _____

Quantity of coolant: _____ l/min

Coolant container: ☐ On conveyor housing
☐ Separate container
☐ With pump
☐ With float bracket

Electrical connection values:

Operating voltage: _____ volts

Control voltage: _____ volts

Frequency: _____ Hz

Electrical control

☐ Supplied by KABELSCHLEPP GmbH

☐ Material to be provided by customer

Design of control _____

Overload safety

☐ Electrical overload protection (e.g. motor protection switch)

☐ Current monitoring relay

☐ Torque switching via limit switch
(only when conveyor driven by attachable gear motor)

Paintwork

Primer _____

Paint – RAL _____

Design

☐ Straight

☐ Straight/rising

☐ Straight/rising/straight

■ **Straight design**
Horizontal or rising
Max. incline 45°

■ **Straight/rising design**
Max. incline 45°

■ **Straight/rising/straight design**
Max. incline 60°

Enquiry forms

Question forms and technical information



Hinged belt conveyors page 598
Question form



Scraper conveyors page 602
Question form



Belt conveyors page 607
Question form



Telescopic covers page 608
Question form



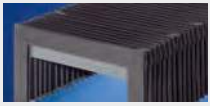
Telescopic covers page 609
Technical information question form



Way wipers page 612
Question form



Link apron covers page 613
Question form



Bellows page 614
Question form



Conical spring covers page 615
Question form



Roll-up covers page 616
Question form

Hinged belt conveyors question form

Area of application:

Machining processes

☐ turning ☐ milling ☐ drilling ☐ grinding
☐ punching ☐ pressing ☐ laser ☐ _____

Conveyed goods:

Chips

_____
material (cast iron, Al, St, Ms, Cu, ...)

☐ flow chips ☐ finely broken < 5 cm
☐ broken ☐ curled, swarf clusters
☐ other _____

Type of chips: ☐ compressible
☐ not compressible
☐ high-strength

Ball formation: ☐ yes ☐ no

Apparent density: _____ kg/m³

Chip volume (machined): _____ m³/h

Chip temperature: _____ °C

Parts

_____
material (cast iron, Al, St, Ms, Cu, ...)

☐ waste parts ☐ good parts ☐ punched parts
☐ forged parts ☐ other _____

Dimension: _____ mm

Shape: _____

Parts temperature: _____ °C

Units/min: _____

Apparent density: _____ kg

Parts weight: _____ kg/unit

Task

☐ continuous ☐ at intervals
☐ time between intervals _____ min
☐ sliding ☐ falling
☐ falling height _____ mm

_____
Infeed peak (e.g. 0.5 m3 in 10 minutes; 20 units in 10 minutes)



■ **Straight design**
Horizontal or rising.
Max. incline 45°



■ **Straight/rising design**
Max. incline 45°



■ **Straight/rising/straight design**
Max. incline 60°

Subject to change.

Cutting lubrication:

Cutting fluid

☐ water ☐ oil ☐ emulsion ☐ without lubricant

_____ l/min
Quantity

_____
Manufacturer/type

Coolant pumps

☐ High pressure

_____
Quantity

_____
Manufacturer/type

_____ l/min
Pumping capacity

_____ bar
at

☐ Low pressure

_____
Quantity

_____
Manufacturer/type

_____ l/min
Pumping capacity

_____ bar
at

☐ Level switch

_____
Type

_____
Switching points

Screen(s)/filters

☐ filter basket ☐ wedge wire screen

_____ mm
Hole/wedge width

Coolant tank

☐ on the pump housing ☐ separate container

_____ litres
Volume

Conditions:

Environment

☐ dust ☐ other _____

_____ °C
Ambient temperature

_____ %
Relative humidity

Subject to change.

Installation situation

☐ individual conveyor ☐ connected conveyor _____ Stück

Chip conveyor, divided: ☐ yes ☐ no Length per pitch: _____ mm

☐ next to machine bed ☐ in machine bed ☐ in coolant tank

☐ internal ☐ external only ☐ discharge external

Chip discharge: ☐ direct access ☐ indirect access

Discharge into: ☐ container ☐ chute: ☐ motorised / ☐ manual

☐ follow-up conveyor ☐ free fall

Available space in the machine bed/foundation

_____ mm Height _____ mm Width

_____ mm Length

_____ Foundation, pit, channel, connections for coolant

_____ Manufacturer of processing machine/type

Electrical system:

Connection

_____ V Supply voltage _____ Hz Frequency

_____ V Control voltage _____ Certifications (CE, UL, CSA, ...)

Electrical control:

☐ supplied by KABELSCHLEPP GmbH - Hünsborn ☐ provided by customer

_____ Control version

Overload protection:

☐ electrical overload protection (e.g. motor protection switch) ☐ current measuring relay

☐ torque switch-off via limit switch (only for drive through shaft-mounted gear motor)

Paint coat:

_____ ☐ textured ☐ smooth

Paint coat – RAL (if nothing is specified, RAL 7035 light grey will be supplied)

Other:

Requirement

_____ Annual requirement _____ Place/country of use

Installation:

☐ installed by KABELSCHLEPP GmbH - Hünsborn ☐ installed by customer

Subject to change.

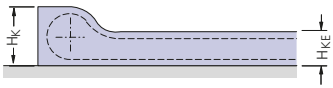
Design:

Total length L_G: _____ mm Box width B_K: _____ mm

Belt width B_{SCH}: _____ mm

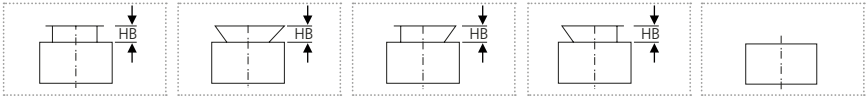
Box height H_K: ☐ 140 mm (SRF 040.00) ☐ 216 mm (SRF 063.00) ☐ 360 mm (SRF 100.00) ☐ 540 mm (SRF 150.00)

Reduced box height H_{KE}: (if required) ☐ 110 mm (SRF 040.00) ☐ 153 mm (SRF 063.00) ☐ 260 mm (SRF 100.00) ☐ 390 mm (SRF 150.00)



Design of the cover panel in the feed area (see cross section A-B)

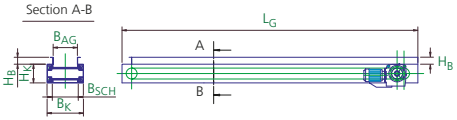
☐ V 1 ☐ V 2 ☐ V 3 ☐ V 3.1 ☐ V 4



☐ **straight**

Total length of conveyor L_G: _____ mm

Cover panel height H_B: _____ mm





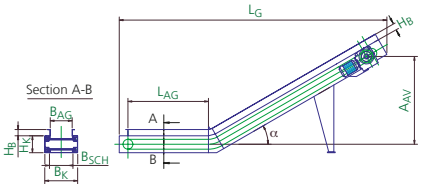
☐ **straight/rising**

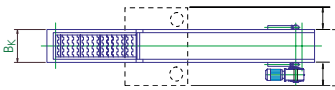
Feed length L_{AG}: _____ mm

Centre distance vertical AA_V: _____ mm

Alpha: ☐ 30° ☐ 45° ☐ 60° ☐ _____°

Cover panel height H_B: _____ mm





_____ mm

_____ mm

☐ **straight/rising/straight**

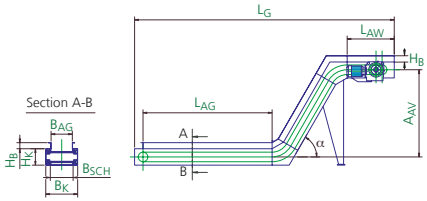
Feed length L_{AG}: _____ mm

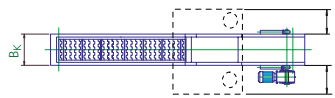
Centre distance vertical AA_V: _____ mm

Alpha: ☐ 30° ☐ 45° ☐ 60° ☐ _____°

Discharge length L_{AW}: _____ mm

Cover panel height H_B: _____ mm





_____ mm

_____ mm

Subject to change.

Scraper conveyors question form

Area of application:

Machining processes

☐ turning ☐ milling ☐ drilling ☐ grinding
☐ punching ☐ pressing ☐ laser ☐ _____

Conveyed goods:

Chips

_____
material (cast iron, Al, St, Ms, Cu, ...)

☐ flow chips ☐ finely broken < 5 cm
☐ broken ☐ curled, swarf clusters
☐ other _____

Type of chips: ☐ compressible
☐ not compressible
☐ high-strength

Ball formation: ☐ yes ☐ no

Apparent density: _____ kg/m³

Chip volume (machined): _____ m³/h

Chip temperature: _____ °C

Parts

_____
material (cast iron, Al, St, Ms, Cu, ...)

☐ waste parts ☐ good parts ☐ punched parts
☐ forged parts ☐ other _____

Dimension: _____ mm

Shape: _____

Parts temperature: _____ °C

Units/min: _____

Apparent density: _____ kg

Parts weight: _____ kg/unit

Task

☐ continuous ☐ at intervals
☐ time between intervals _____ min
☐ sliding ☐ falling
☐ falling height _____ mm

_____
Infeed peak (e.g. 0.5 m3 in 10 minutes; 20 units in 10 minutes)



■ **Straight design**
Horizontal or rising.
Max. incline 45°



■ **Straight/rising design**
Max. incline 45°



■ **Straight/rising/straight design**
Max. incline 60°

Subject to change.

Cutting lubrication:

Cutting fluid

☐ water ☐ oil ☐ emulsion ☐ without lubricant

_____ l/min _____
Quantity Manufacturer/type

Coolant pumps

☐ High pressure

_____ _____
Quantity Manufacturer/type

_____ l/min _____ bar
Pumping capacity at

☐ Low pressure

_____ _____
Quantity Manufacturer/type

_____ l/min _____ bar
Pumping capacity at

☐ Level switch

_____ _____
Type Switching points

Screen(s)/filters

☐ filter basket ☐ wedge wire screen _____ mm
Hole/wedge width

Coolant tank

☐ on the pump housing ☐ separate container _____ litres
Volume

Conditions:

Environment

☐ dust ☐ other _____

_____ °C _____ %
Ambient temperature Relative humidity

Subject to change.

Installation situation

☐ individual conveyor ☐ connected conveyor _____ Stück

Chip conveyor, divided: ☐ yes ☐ no Length per pitch: _____ mm

☐ next to machine bed ☐ in machine bed ☐ in coolant tank

☐ internal ☐ external only ☐ discharge external

Chip discharge: ☐ direct access ☐ indirect access

Discharge into: ☐ container ☐ chute: ☐ motorised / ☐ manual

☐ follow-up conveyor ☐ free fall

Available space in the machine bed/foundation

_____ mm Height _____ mm Width

_____ mm Length

_____ Foundation, pit, channel, connections for coolant

_____ Manufacturer of processing machine/type

Electrical system:

Connection

_____ V Supply voltage _____ Hz Frequency

_____ V Control voltage _____ Certifications (CE, UL, CSA, ...)

Electrical control:

☐ supplied by KABELSCHLEPP GmbH - Hünsborn ☐ provided by customer

_____ Control version

Overload protection:

☐ electrical overload protection (e.g. motor protection switch) ☐ current measuring relay

☐ torque switch-off via limit switch (only for drive through shaft-mounted gear motor)

Paint coat:

_____ ☐ textured ☐ smooth

Paint coat – RAL (if nothing is specified, RAL 7035 light grey will be supplied)

Other:

Requirement

_____ Annual requirement _____ Place/country of use

Installation:

☐ installed by KABELSCHLEPP GmbH - Hünsborn ☐ installed by customer

Subject to change.

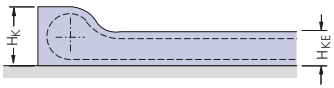
Bauform:

Gesamtlänge L_G: _____ mm Kastenbreite B_K: _____ mm

Kratzerbreite B_{KR}: _____ mm

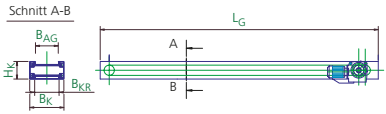
Kastenhöhe H_K: ☐ 140 mm (KRF 040.00) ☐ 216 mm (KRF 063.00)
☐ 360 mm (KRF 100.00)

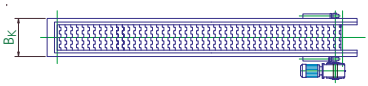
Eingezogene Kastenhöhe H_{KE}: (bei Bedarf)
☐ 110 mm (SRF 040.00)
☐ 153 mm (SRF 063.00)
☐ 260 mm (SRF 100.00)



☐ **straight**

Total length of conveyor L_G: _____ mm



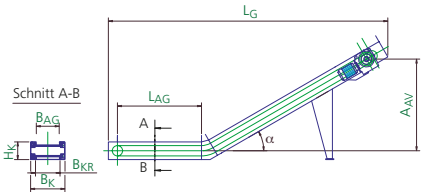


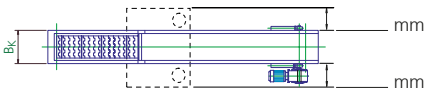
☐ **straight/rising**

Feed length L_{AG}: _____ mm

Centre distance vertical AA_V: _____ mm

Alpha: ☐ 30° ☐ 45° ☐ 60° ☐ _____°





_____ mm

_____ mm

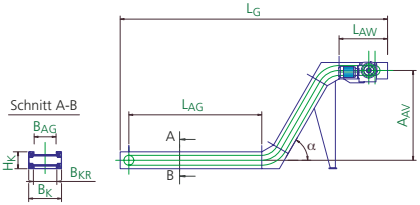
☐ **straight/rising/straight**

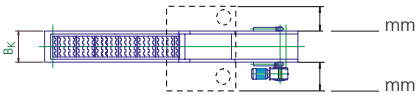
Feed length L_{AG}: _____ mm

Centre distance vertical AA_V: _____ mm

Alpha: ☐ 30° ☐ 45° ☐ 60° ☐ _____°

Discharge length L_{AW}: _____ mm





_____ mm

_____ mm

Subject to change.

Notes

Subject to change.

Belt conveyors question form

Purpose of the conveyor: _____

Material to be conveyed:

Type of material to be conveyed (for chips: type of chip): _____

Max. dimensions of material to be conveyed: _____

Material: _____

Output: _____ m^3/h _____ kg/h



■ **Standard design**
Horizontal or rising.
Max. incline 30°

Electrical connection values:

Operating voltage: _____ volts

Control voltage: _____ volts

Frequency: _____ Hz

Electrical control

☐ Supplied by KABELSCHLEPP GmbH

☐ Material to be provided by customer

Design of control _____

Overload safety

☐ Electrical overload protection (e.g. motor protection switch)

☐ Current monitoring relay

Varnish coating

Primer _____

Paint – RAL _____
(if not otherwise specified, RAL 7035 – light-grey – will be delivered)

Construction dimensions:

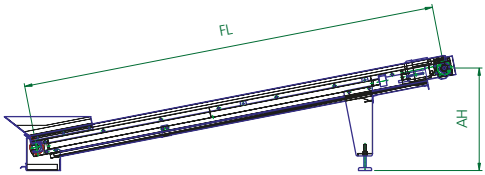
Conveying length F_L: _____ mm

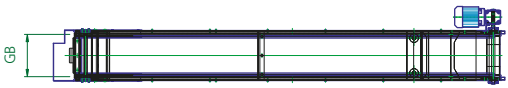
Discharge height A_H: _____ mm

Belt width G_B: _____ mm

Additional information

_____





Subject to change.

Telescopic covers question form

Machine data:

Machine type: _____

Use of telescopic cover:

☐ Machine base

☐ Standing

☐ Cross-beam

Machine travel (travel distance LS_K) _____ mm

Travel speed v: _____ m/min

Acceleration a: _____ m/s^2

Width of guideway B_B: _____ mm

Guideway lubrication:

☐ Hydrostatic

☐ Aerostatic

☐ Other _____



Photograph: Waldrich Siegen Werkzeugmaschinen GmbH

Data for the design of the telescopic cover:

Travel length of telescopic cover L_S: _____ mm

Maximum compression of telescopic cover L_Z: _____ mm

Possible width of the telescopic cover B_A: _____ mm

Possible height of the telescopic cover above the guideway $H1_{.x}$: _____ mm

Possible total height of telescopic cover H_G: _____ mm

Connection of telescopic cover: _____

Wiper with protective strip for protection against hot chips: ☐ Yes ☐ No

Additional information:

Interference contours around the telescopic cover (way wipers, lines, etc.):

_____

Design of the telescopic cover: ☐ Not walkable-on ☐ Walkable-on when at rest

Quantity of chips: _____ kg/h

Type of chips: _____

Coolant:

Type: _____

Quantity: _____ l/min

Can consoles be attached? ☐ Yes ☐ No

Should consoles be attached? ☐ Yes ☐ No

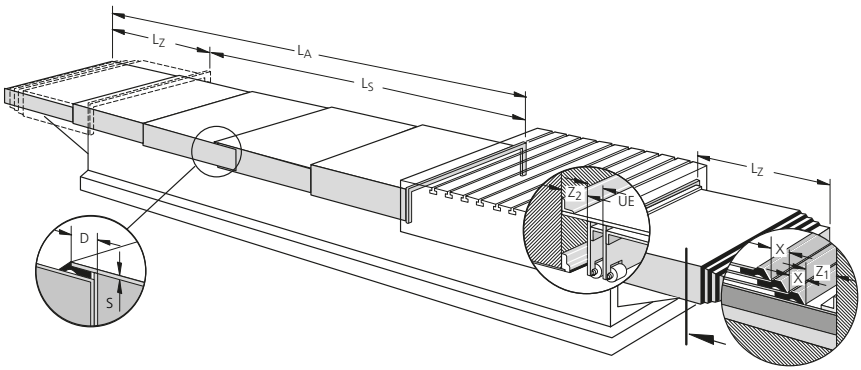
Other information

_____

Subject to change.

Horizontally-installed telescopic covers

Technical information



Explanation of terms
Technical explanations

B_A = Maximum width of the telescopic cover

B_B = Width of guideway

B_{U1} = Width of undergrip – left

B_{U2} = Width of undergrip – right

h_1 = Thickness of upper bundle of plates

h_2 = Thickness of side bundle

h_3 = Thickness of undergrip bundle

$H_{1.1}$ = Height of telescopic cover above the contact surface – left

$H_{1.2}$ = Height of telescopic cover above the contact surface – right

$H_{2.1}$ = Height of side leg piece – left

$H_{2.2}$ = Height of side leg piece – right

H_G = Total height of telescopic cover

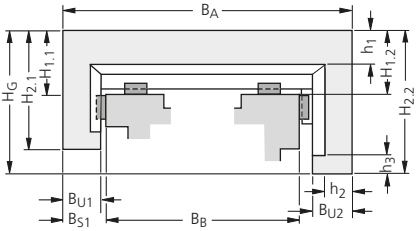
Z_1 = Console plate extension

Z_2 = Support plate extension

v = Travel speed

L_{SK} = Machine travel length

The travel length of the machine is the distance that a moving machine component travels from one end position to the other.



L_S = Travel length of telescopic cover

$L_S = L_{SK}$ + reserve

L_Z = Compression

If the individual sheet metal elements are compressed in an end position, then the compression is the length of the bundle of metal plates.

n = Number of plates

s = Plate thickness

D = Sheathing (non-expandable plate length)

UE = Distance between the plates at the support

X = Gradation of metal plate at the driver wipe

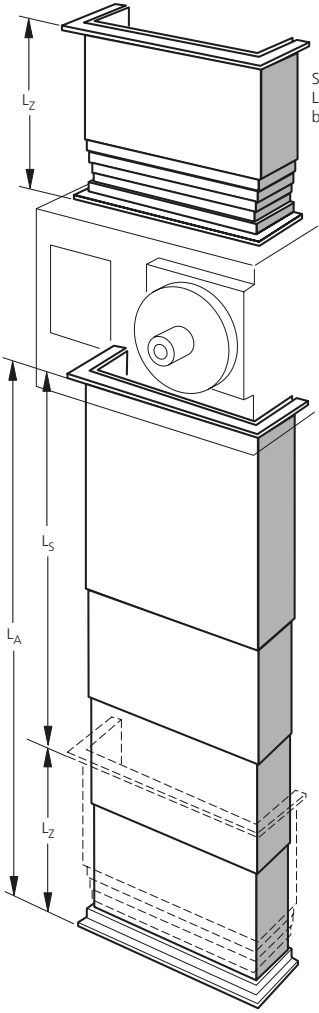
l = Plate length

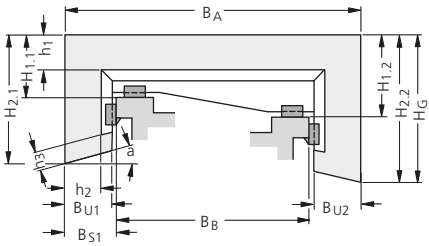
The relationship between the plate length and plate width is selectable up to a ratio of **1:8**.

Subject to change.

Vertically-installed telescopic covers

Technical information





Eyplanation of terms
Technical explanations

B_A = Maximum width of the telescopic cover

B_B = Width of guideway

B_{U1} = Width of undergrip – left

B_{U2} = Width of undergrip – right

h_1 = Thickness of upper bundle of plates

h_2 = Thickness of side bundle

h_3 = Thickness of undergrip bundle

a = Angle at undergrip

$H_{1.1}$ = Height of telescopic cover above the contact surface – left

$H_{1.2}$ = Height of telescopic cover above the contact surface – right

$H_{2.1}$ = Height of side leg piece – left

$H_{2.2}$ = Height of side leg piece – right

H_G = Total height of telescopic cover

v = Travel speed

L_{SK} = Machine travel length

The travel length of the machine is the distance that a moving machine component travels from one end position to the other.

L_S = Travel length of telescopic cover

$L_S = L_{SK}$ + reserve

L_Z = Compression

If the individual sheet metal elements are compressed in an end position, then the compression is the length of the bundle of metal plates.

n = Number of plates

s = Plate thickness

D = Sheathing (non-expandable plate length)

UE = Distance between the plates at the support

X = Gradation of metal plate at the driver wiper

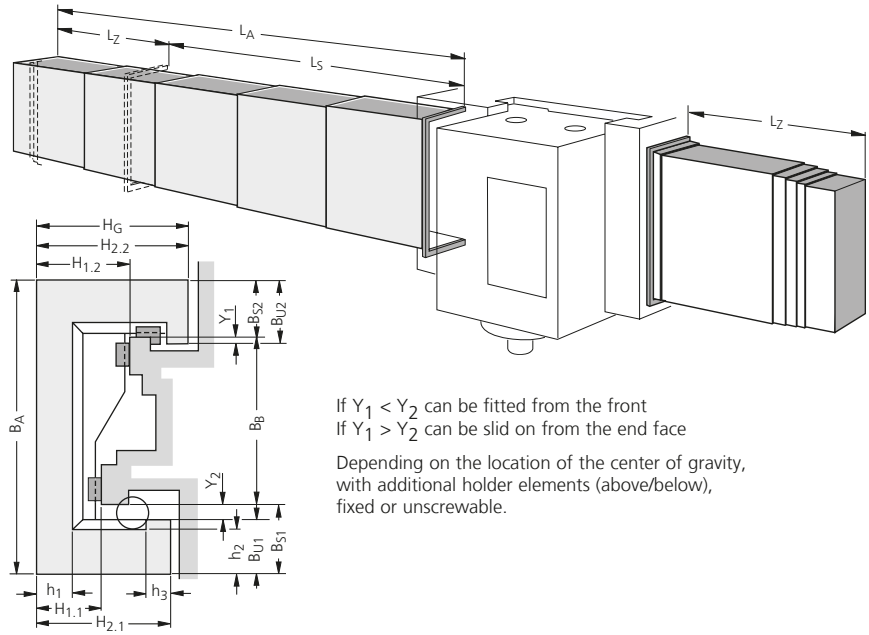
l = Plate length

The relationship between the plate length and plate width is selectable up to a ratio of **1:8**.

Subject to change.

Horizontal, hanging telescopic covers

Technical information



If $Y_1 < Y_2$ can be fitted from the front
If $Y_1 > Y_2$ can be slid on from the end face

Depending on the location of the center of gravity, with additional holder elements (above/below), fixed or unscrewable.

Explanation of terms
Technical explanations

B_A = Maximum width of the telescopic cover

B_B = Width of guideway

B_{U1} = Width of undergrip – left

B_{U2} = Width of undergrip – right

h_1 = Thickness of upper bundle of plates

h_2 = Thickness of side bundle

h_3 = Thickness of undergrip bundle

$H_{1.1}$ = Height of telescopic cover above the contact surface – left

$H_{1.2}$ = Height of telescopic cover above the contact surface – right

$H_{2.1}$ = Height of side leg piece – left

$H_{2.2}$ = Height of side leg piece – right

H_G = Total height of telescopic cover

v = Travel speed

L_{SK} = Machine travel length

The travel length of the machine is the distance that a moving machine component travels from one end position to the other.

L_S = Travel length of telescopic cover

$L_S = L_{SK}$ + reserve

L_Z = Compression

If the individual sheet metal elements are compressed in an end position, then the compression is the length of the bundle of metal plates.

n = Number of plates

s = Plate thickness

D = Sheathing (non-expandable plate length)

UE = Distance between the plates at the support

X = Gradation of metal plate at the driver wiper

l = Plate length

The relationship between the plate length and plate width is selectable up to a ratio of **1:8**.

Subject to change.



Way wipers question form

Standard design:

Type	Standard length	Quantity
Type BA 18	1000 mm	_____
Type BA 25	1000 mm	_____
Type BAS 18	1000 mm	_____
Type BAS 25	1000 mm	_____
Type BAS 40	1000 mm	_____
Type BA 65-14	500 mm	_____
Type BA 65-18	500 mm	_____
Type BA 65-25	500 mm	_____
Type BA 115-30	500 mm	_____
BAY-WIPE	516 mm	_____

Harnessed wipers:

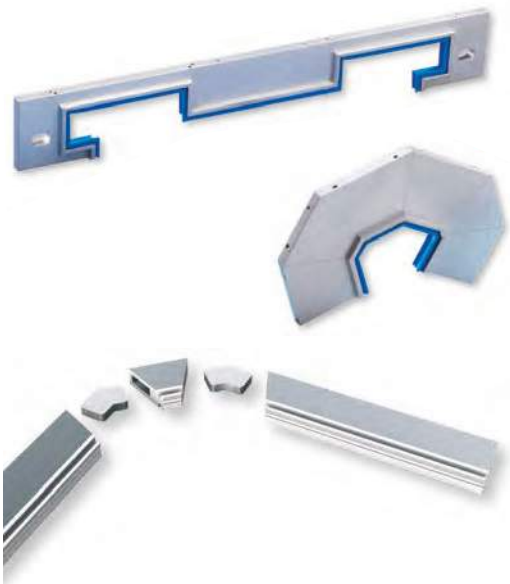
Drawing/sketch of the wiper with precise dimensioning

Pre-wiper for protecting the wiper lip against hot chips:

☐ yes ☐ no

Environmental conditions (temperature, coolant, dirt, etc.):

_____





Subject to change.

Link apron covers question form

Travel speed: _____ m/min

Length: _____ mm

Width: _____ mm

Designs:

☐ **Design 1**

B_{min} = 100 mm

B_{max} = 950 mm

R_{min} = 25 mm

Weight = 5.6 kg/m²

Solid aluminum profile 19 x 3.0 mm
with PU connecting elements





■ **Design 1**

☐ **Design 2N**

B_{min} = 100 mm

B_{max} = 2950 mm

R_{min} = 50 mm

Weight = 10 kg/m²

Hollow aluminum profile 20 x 5.5 mm
with PU connecting elements





■ **Design 2N**

☐ **Design 3**

B_{min} = 100 mm

B_{max} = 2000 mm

R_{min} = 60 mm

Weight = 16.5 kg/m²

Hollow aluminum profile 18.5 x 6.8 mm
without PU connecting elements





■ **Design 3**

End attachment:

_____

Comments:

_____

Subject to change.

Bellows question form

Drawing/sketch of the cross-section to be covered

Travel speed: _____ m/min

Total expansion: _____ mm

Compression: _____ mm

Machine travel: _____ mm

Max. external dimensions: _____ mm

End attachment:

_____

Installation position:

_____

Environmental conditions (temperature, etc.):

_____

Use of emulsions (type and quantity in l/min):

_____

Annual requirements:

_____







Subject to change.

Conical spring covers question form

Internal diameter: _____ mm

Travel speed: _____ m/min

Total expansion: _____ mm

Compression: _____ mm

Machine travel: _____ mm

Max. external dimensions: _____ mm



Material:

☐ Spring band steel, blue polished

☐ Stainless steel

Installation position:

_____

Environmental conditions (temperature, etc.):

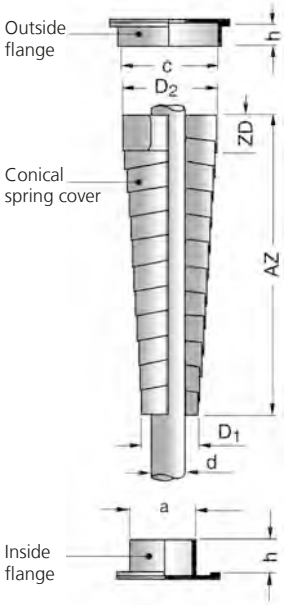
_____

Use of emulsions (type and quantity in l/min):

_____

Annual requirements:

_____



Type designation

025 – 0100 – 020 V 0

- Spiral internal diameter D_1 in mm
- Vertical expansion AZ in mm
- Compression ZD in mm
- Installation position: V = vertical, H = horizontal
- Spiral material: 0 = Spring band steel, blue polished, 1 = Stainless steel

Conical spring cover

d = Shaft/spindle diameter
a = Diameter of the guide sleeve
= Hole diameter in the external flange
a ≤ D_1 – 4 mm
D_1 = Spiral internal diameter
D_2 = Spiral external diameter
c = External diameter of the internal flange
Internal diameter of the external flange
c ≥ D_2 + 6 mm
h = Flange height
(0.6 x ZD ≤ h ≤ (ZD – 2 mm))
ZD = Compression
AZ = Expansion / expansion length

The guide flange is not included in the scope of supply, but can be supplied at the same time on request.

When ordering please indicate the installation position and spiral material. See "Type designation".

Subject to change.

Roll-up covers question form

Travel speed: _____ m/min

Total expansion: _____ mm

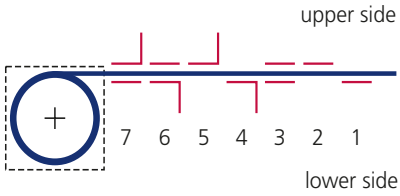
Machine travel: _____ mm

Belt width: _____ mm





End attachment:



☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7

Installation position:

_____

Design:

☐ With housing

☐ Without housing

Belt type:

☐ Stainless steel

☐ Plastic

Environmental conditions (temperature, emulsions, etc.):

_____

Annual requirements:

_____

Subject to change.

Subject to change.

Notes

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Notes

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www.kabelschlepp.de/salesnetwork






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