

KABELSCHLEPP

GENERAL CATALOG



CABLE CARRIER SYSTEMS MADE OF PLASTIC

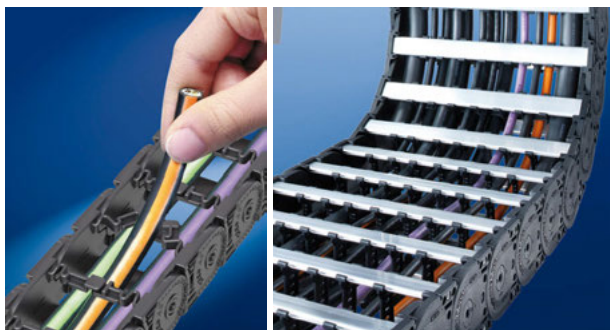
CABLE CARRIER SYSTEMS MADE OF STEEL

TRAXLINE CABLES FOR MOTION

GUIDEWAY PROTECTION SYSTEMS

CONVEYOR SYSTEMS

Contents



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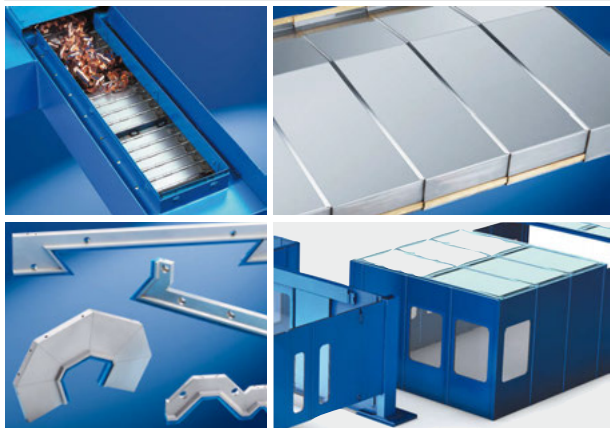
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Cable carriers made of plastic

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

1

Cable carriers made of steel

STEEL-LINE

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

TRAXLINE Cables for Motion

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

2

Guideway Protection and Conveyor Systems

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

3

Cable carriers made of plastic and steel

TRAXLINE Cables for Motion
TOTALTRAX Complete Systems

Guideway Protection
and Conveyor Systems



Innovation@work

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.

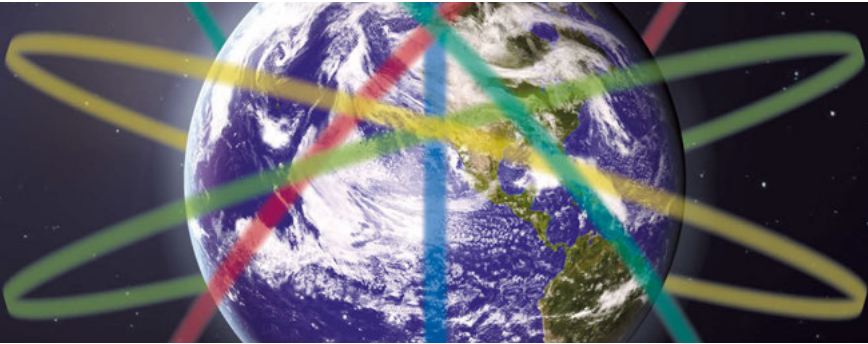
Always the right cable carrier – made of steel or plastic – available in standard widths or customized to the exact mm to fit any application. As a total solution provider, TSUBAKI KABELSCHLEPP can also supply fully harnessed systems with cables and connectors pre-installed.

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.:

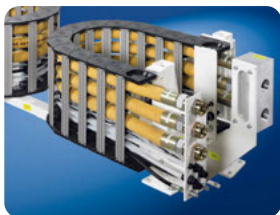
TOTALTRAX – connection-ready and “just-in-time”

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

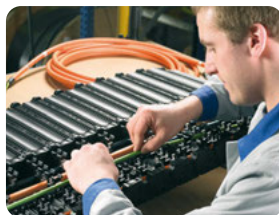
With TOTALTRAX complete systems you save storage costs – we deliver “just in time” in accordance with your production cycles. Upon request, we will configure the entire system according to your construction plans, including assembly plates and fastening elements. For us, special transport frames or packaging 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

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

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

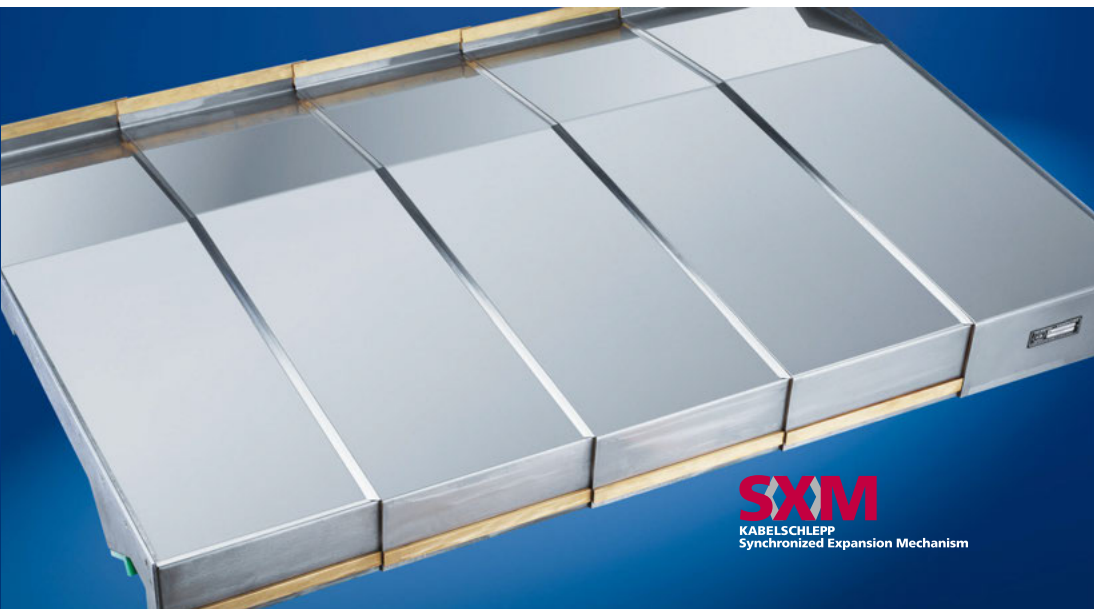


Belt conveyors – the all-rounders – also for parts with sharp edges

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 protection 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.



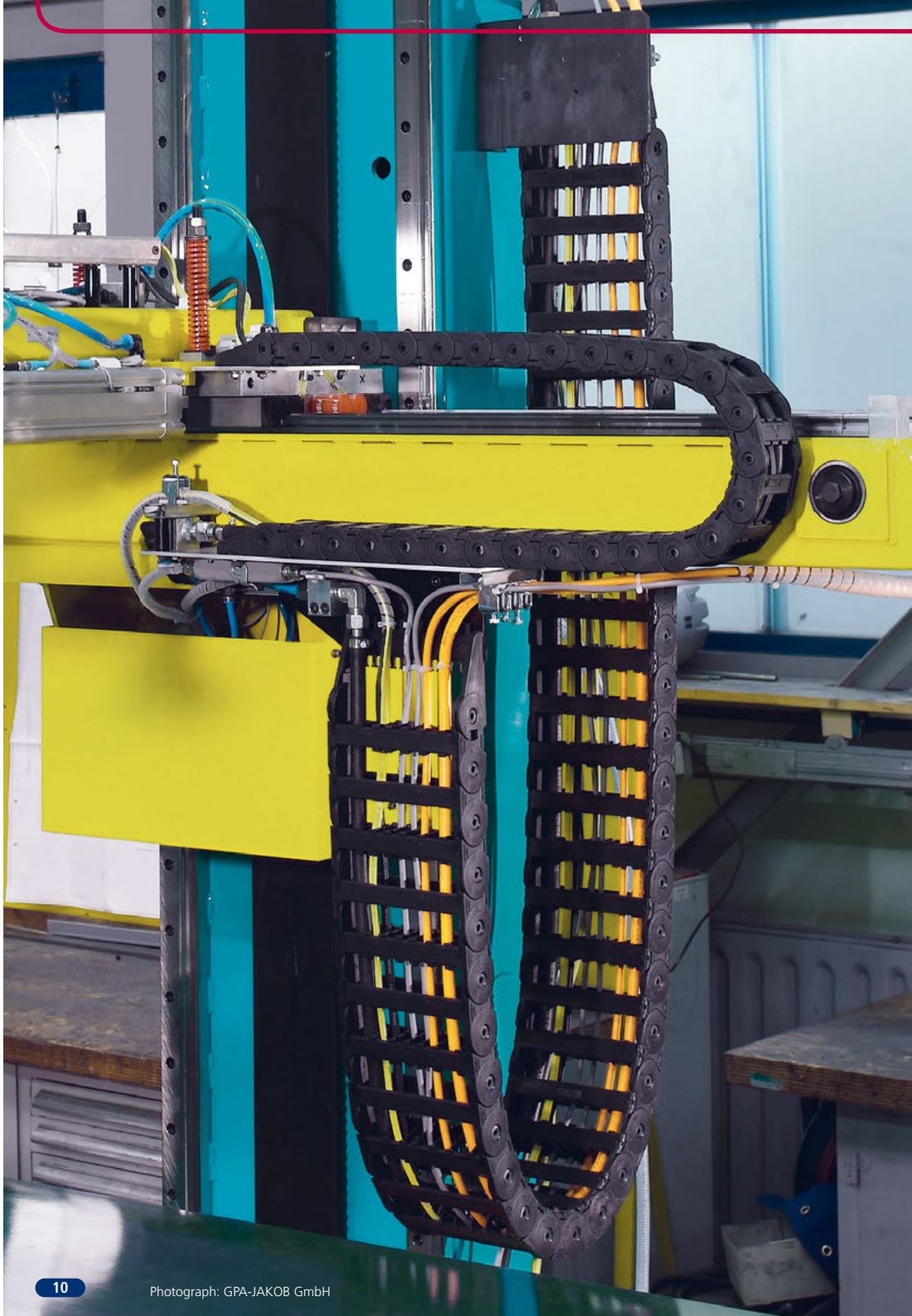
Harness mechanics for impact-free expansion or compression



Solution with one harness for "small" machine tools

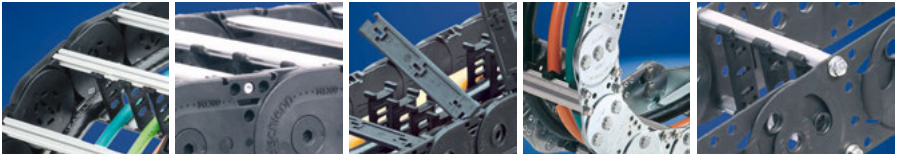


Maintenance-free harness with sliding bearings of high-performance plastic



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

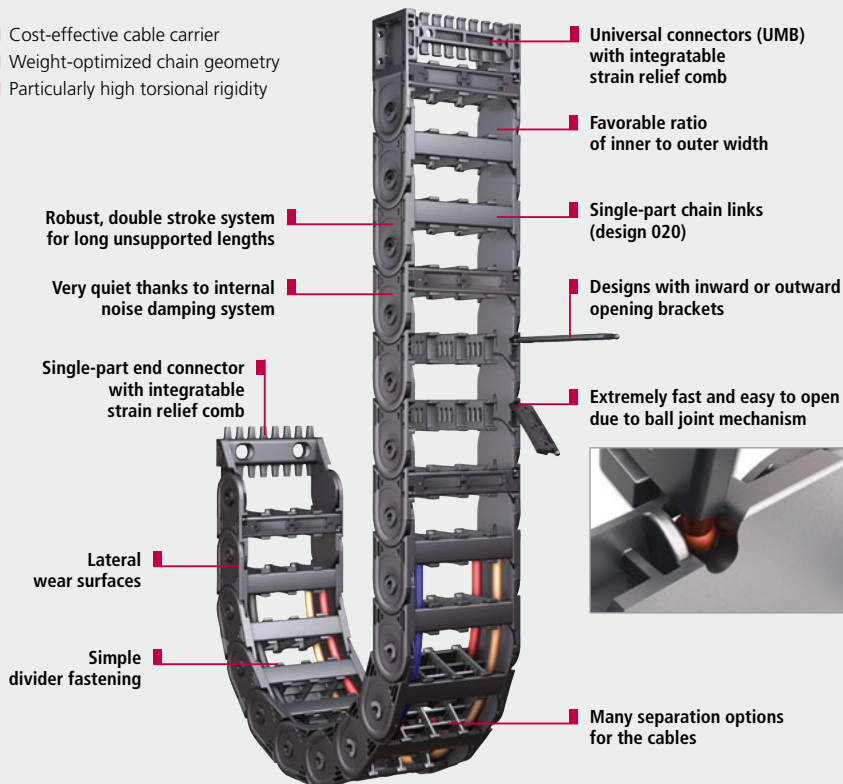
+ improved design
+ more cost effective
> from page 12

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



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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0555.030.150.230	1555.030.150.230	
0555.040.050.063	1555.040.050.063	
0555.040.050.080	1555.040.050.080	
0555.040.050.100	1555.040.050.100	
0555.040.050.125	1555.040.050.125	
0555.040.050.160	1555.040.050.160	
0555.040.050.200	1555.040.050.200	
0555.040.050.230	1555.040.050.230	
0555.040.075.063	1555.040.075.063	
0555.040.075.080	1555.040.075.080	
0555.040.075.100	1555.040.075.100	
0555.040.075.125	1555.040.075.125	
0555.040.075.160	1555.040.075.160	
0555.040.075.200	1555.040.075.200	

UNIFLEX 0555	UNIFLEX Advanced	Page
0555.040.075.230	1555.040.075.230	UNIFLEX Advanced – Page 86
0555.040.100.063	1555.040.100.063	
0555.040.100.080	1555.040.100.080	
0555.040.100.100	1555.040.100.100	
0555.040.100.125	1555.040.100.125	
0555.040.100.160	1555.040.100.160	
0555.040.100.200	1555.040.100.200	
0555.040.100.230	1555.040.100.230	
0555.040.125.063	1555.040.125.063	
0555.040.125.080	1555.040.125.080	
0555.040.125.100	1555.040.125.100	
0555.040.125.125	1555.040.125.125	
0555.040.125.160	1555.040.125.160	
0555.040.125.200	1555.040.125.200	
0555.040.125.230	1555.040.125.230	
0555.040.150.063	1555.040.150.063	
0555.040.150.080	1555.040.150.080	
0555.040.150.100	1555.040.150.100	
0555.040.150.125	1555.040.150.125	
0555.040.150.160	1555.040.150.160	
0555.040.150.200	1555.040.150.200	
0555.040.150.230	1555.040.150.230	

Quickfinder product cross-over

Recommendation for UNIFLEX 0665



UNIFLEX 0665

UNIFLEX 0665	UNIFLEX Advanced	Page	UNIFLEX 0665	UNIFLEX Advanced	Page	UNIFLEX 0665	UNIFLEX Advanced	Page
0665.030.050.075	0665.030.050.075	UNIFLEX Advanced – Page 86	0665.030.200.075	0665.030.200.075	UNIFLEX Advanced – Page 86	0665.040.125.075	0665.040.125.075	UNIFLEX Advanced – Page 86
0665.030.050.100	0665.030.050.100		0665.030.200.100	0665.030.200.100		0665.040.125.100	0665.040.125.100	
0665.030.050.120	0665.030.050.120		0665.030.200.120	0665.030.200.120		0665.040.125.120	0665.040.125.120	
0665.030.050.140	0665.030.050.140		0665.030.200.140	0665.030.200.140		0665.040.125.140	0665.040.125.140	
0665.030.050.200	0665.030.050.200		0665.030.200.200	0665.030.200.200		0665.040.125.200	0665.040.125.200	
0665.030.050.250	0665.030.050.250		0665.030.200.250	0665.030.200.250		0665.040.125.250	0665.040.125.250	
0665.030.050.300	0665.030.050.300		0665.030.200.300	0665.030.200.300		0665.040.125.300	0665.040.125.300	
0665.030.075.075	0665.030.075.075		0665.030.225.075	0665.030.225.075		0665.040.150.075	0665.040.150.075	
0665.030.075.100	0665.030.075.100		0665.030.225.100	0665.030.225.100		0665.040.150.100	0665.040.150.100	
0665.030.075.120	0665.030.075.120		0665.030.225.120	0665.030.225.120		0665.040.150.120	0665.040.150.120	
0665.030.075.140	0665.030.075.140		0665.030.225.140	0665.030.225.140		0665.040.150.140	0665.040.150.140	
0665.030.075.200	0665.030.075.200		0665.030.225.200	0665.030.225.200		0665.040.150.200	0665.040.150.200	
0665.030.075.250	0665.030.075.250		0665.030.225.250	0665.030.225.250		0665.040.150.250	0665.040.150.250	
0665.030.075.300	0665.030.075.300		0665.030.225.300	0665.030.225.300		0665.040.150.300	0665.040.150.300	
0665.030.100.075	0665.030.100.075		0665.030.250.075	0665.030.250.075		0665.040.175.075	0665.040.175.075	
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0665.030.100.140	0665.030.100.140		0665.030.250.140	0665.030.250.140		0665.040.175.140	0665.040.175.140	
0665.030.100.200	0665.030.100.200		0665.030.250.200	0665.030.250.200		0665.040.175.200	0665.040.175.200	
0665.030.100.250	0665.030.100.250		0665.030.250.250	0665.030.250.250		0665.040.175.250	0665.040.175.250	
0665.030.100.300	0665.030.100.300		0665.030.250.300	0665.030.250.300		0665.040.175.300	0665.040.175.300	
0665.030.125.075	0665.030.125.075		0665.040.050.075	0665.040.050.075		0665.040.200.075	0665.040.200.075	
0665.030.125.100	0665.030.125.100		0665.040.050.100	0665.040.050.100		0665.040.200.100	0665.040.200.100	
0665.030.125.120	0665.030.125.120		0665.040.050.120	0665.040.050.120		0665.040.200.120	0665.040.200.120	
0665.030.125.140	0665.030.125.140		0665.040.050.140	0665.040.050.140		0665.040.200.140	0665.040.200.140	
0665.030.125.200	0665.030.125.200		0665.040.050.200	0665.040.050.200		0665.040.200.200	0665.040.200.200	
0665.030.125.250	0665.030.125.250		0665.040.050.250	0665.040.050.250		0665.040.200.250	0665.040.200.250	
0665.030.125.300	0665.030.125.300		0665.040.050.300	0665.040.050.300		0665.040.200.300	0665.040.200.300	
0665.030.150.075	0665.030.150.075		0665.040.075.075	0665.040.075.075		0665.040.225.075	0665.040.225.075	
0665.030.150.100	0665.030.150.100		0665.040.075.100	0665.040.075.100		0665.040.225.100	0665.040.225.100	
0665.030.150.120	0665.030.150.120		0665.040.075.120	0665.040.075.120		0665.040.225.120	0665.040.225.120	
0665.030.150.140	0665.030.150.140		0665.040.075.140	0665.040.075.140		0665.040.225.140	0665.040.225.140	
0665.030.150.200	0665.030.150.200		0665.040.075.200	0665.040.075.200		0665.040.225.200	0665.040.225.200	
0665.030.150.250	0665.030.150.250		0665.040.075.250	0665.040.075.250		0665.040.225.250	0665.040.225.250	
0665.030.150.300	0665.030.150.300		0665.040.075.300	0665.040.075.300		0665.040.225.300	0665.040.225.300	
0665.030.175.075	0665.030.175.075		0665.040.100.075	0665.040.100.075		0665.040.250.075	0665.040.250.075	
0665.030.175.100	0665.030.175.100		0665.040.100.100	0665.040.100.100		0665.040.250.100	0665.040.250.100	
0665.030.175.120	0665.030.175.120		0665.040.100.120	0665.040.100.120		0665.040.250.120	0665.040.250.120	
0665.030.175.140	0665.030.175.140		0665.040.100.140	0665.040.100.140		0665.040.250.140	0665.040.250.140	
0665.030.175.200	0665.030.175.200		0665.040.100.200	0665.040.100.200		0665.040.250.200	0665.040.250.200	
0665.030.175.250	0665.030.175.250		0665.040.100.250	0665.040.100.250		0665.040.250.250	0665.040.250.250	
0665.030.175.300	0665.030.175.300		0665.040.100.300	0665.040.100.300		0665.040.250.300	0665.040.250.300	

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

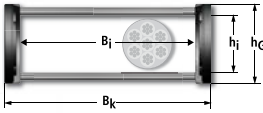
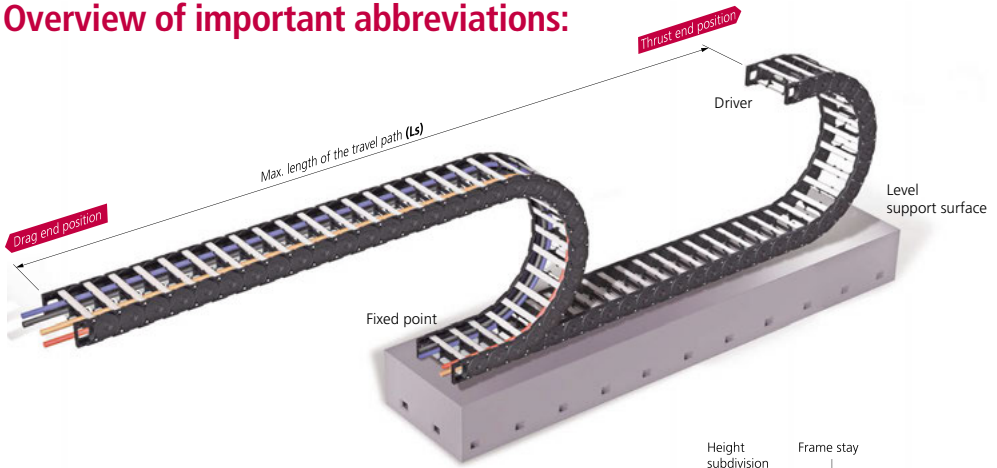
Steel cable carriers



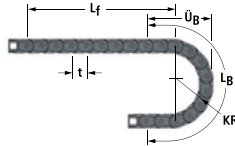
Accessories
Application examples
Ordering

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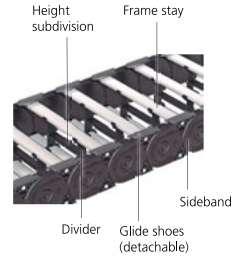
Overview of important abbreviations:



- 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



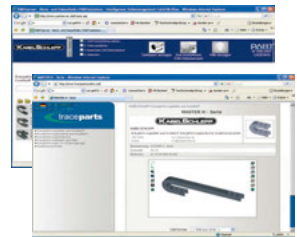
- KR = Bend radius of the cable carrier
- L_B = Bend length
- L_f = Unsupported length
- t = Pitch
- U_B = Loop overhang (Depot)



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



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

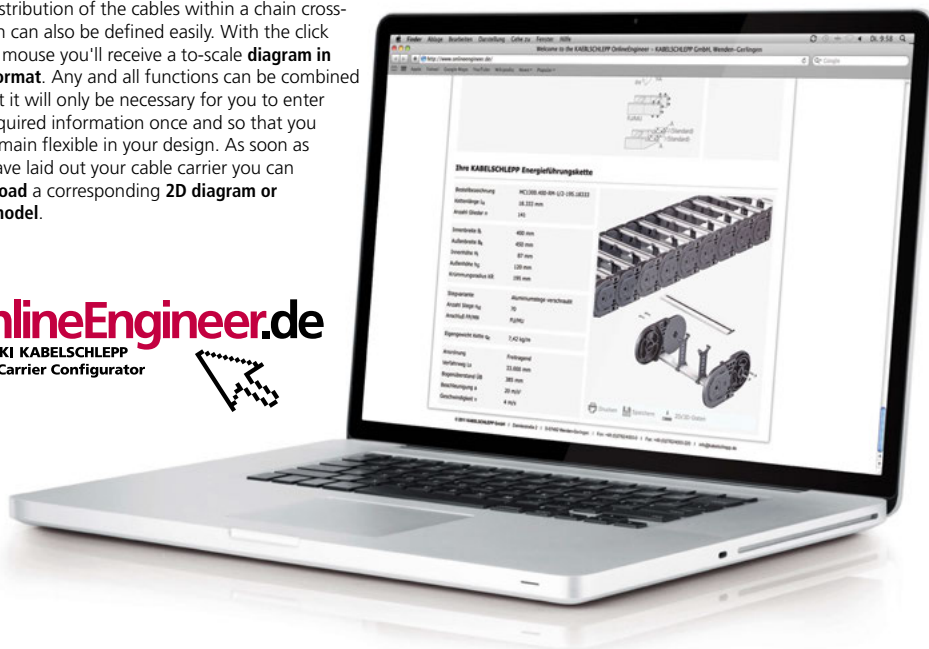
Using the **OnlineEngineer** you can **quickly, dependably and flexibly** design the TSUBAKI KABELSCHLEPP cable carrier system with the optimal price/performance ratio!

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**.

OnlineEngineer.de
TSUBAKI KABELSCHLEPP
Cable Carrier Configurator



KABELSCHLEPP
TSUBAKI KABELSCHLEPP

OnlineEngineer.de
TSUBAKI KABELSCHLEPP
Energieführungs-Konfigurator

Startpage Kabelschlepp Website Support

TSUBAKI KABELSCHLEPP OnlineEngineer 2.0 -
The specification tool for cable carrier system

Online Engineer allows you to configure the appropriate KABELSCHLEPP cable carrier for your specific application. As registered user you have access to all functions. With a guest login you can select and configure cable carrier chains too. If you prefer to work with the current version of the OnlineEngineer, please click [here](#).

Dimensions & application parameters

Quantity: 1
Chain length L₁: to be optimized

Orientation: horizontal

Horizontal travel length L₂: 0 mm
Pivot point offset L₃: 0 mm

Weight of cables w: 0 kg/m
Velocity v: 1 m/s
Acceleration a: 1 m/s²

Inside width B: 0 mm
Round up to standard B: ☒
Inside height H: 0 mm
Max. bending radius R₉₀: 0 mm
Round down (max. 5 %) to standard R₉₀: ☒

login
Create user account
Start new configuration
Quote Request
Load data

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

Guideline for fast product selection

Series	Type						Maximum travel length in m *	Dynamics of unsupported arrangement*		
		Inside height h_i in mm	Inside width B_i in mm	min.	max.	Travel speed v_{max} m/s		Travel acceleration a_{max} m/s ²		
			from	to						
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	50	28	125	80	10	50	
	QT 0320.040	20	15	50	28	125	80	10	50	
UNIFLEX Advanced – light, quiet all-rounder with wide range of applications										
	1320.020	20	38	38	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 <i>Advanced</i> – 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						Maximum travel length in m*	Dynamics of unsupported arrangement*		
		Inside height h_i in mm	Inside width B_i in mm	from	to	min.		max.	Travel speed v_{max} m/s	Travel acceleration a_{max} 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	50	28	125	80	10	50	
	ET 0320.040	18	15	50	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.

Cable carriers made of plastic

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

Guideline for fast product selection

Series	Type					Maximum travel length in m*	Dynamics of unsupported arrangement*		
		Inside height h_i in mm	Inside width B_i in mm	min.	max.		Travel speed v_{max} m/s	Travel acceleration a_{max} m/s ²	
			from	to					
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

RM – frame stay, solid design

Aluminum stays screwed on – high stability, for maximum stay widths

RV – frame stay, reinforced design

For medium to heavy loads – with quickly detachable aluminum stays

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

Cable carriers made of plastic

Stay variants											Technical data see page	Type
Frame stay RS/KSH	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			
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

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} m/s	Travel acceleration a_{max} m/s ²	
			from	to	min.	max.				
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

Cable carriers made of plastic

Stay variants							Technical data see page	Type
Frame stay RS	Frame stay RV	Frame stay RM	Frame stay RMR	Frame stay RE	Frame stay RMD	Hole stay LG		
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

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

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







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

Guideline for fast product selection






Series	Type						Maximum travel length in m*	Dynamics of unsupported arrangement*		Technical data see page
		Inside height h _i in mm	Inside width B _i in mm	from	to	min.		max.	Travel speed v _{max} m/s	
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	175	100	300	150	8	40	267
CoverTrax – extreme cable protection in harsh environmental conditions										
	CT 1555	50	50	250	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 ³⁾ possible maximum values for small carrier widths

Cable carriers made of plastic or steel








Series	Type				Dynamics of unsupported arrangement*		Maximum travel length in m*	Travel speed v_max in m/s	Travel acceleration a_max in m/s²	Technical data see page
		Inside height h_i in mm	Inside width B_i in mm	Bend radii in mm						
			from to	min. max.						
TUBE-SERIES										
STEEL-TUBES – extremely robust and stable steel chains										
	S/SX 0650 RMD	30	70	400	75	300	6 ⁴⁾	60	a.A.	320
	S/SX 0950 RMD	44	125	600	125	410	9 ⁴⁾	60	a.A.	320
	S/SX 1250 RMD	69	130	800	145	1000	12 ⁴⁾	150	a.A.	320
	S/SX 1800 RMD	104	250	1000	265	1405	18 ⁴⁾	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
MOBIFLEX – enclosed cable carrier with flexible metal helical tube										
	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

⁴⁾ Max. value for type S (unsupported); steel band covers are also available as alternatives to cover systems, see page 360

Series	Type					Technical data see page
		Inside height h_i in mm	Inside width B_i in mm	Standard bend radius in mm	Outer diameter in mm	
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.

Guideline for fast product selection

Series	Type					Maximum travel length ^{D)} in m	Dynamics of unsupported arrangement		
		Clearance height ^{A)} h_i in mm	Chain width ^{A)} B_k in mm	from	to		Travel speed ^{C)} v_{max}	Travel acceleration a_{max}	
				min.	max.		m/s	m/s ²	
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

RM – frame stay, solid version

Aluminum stays bolted on both sides – greatest stability, for maximum stay widths

RMA – mounting frame stay

Stay variant for large cable diameter

RS 2 – frame stay, narrow version

Variante RS 2 – with bolted aluminum stays

RMR – roller stay system

Aluminum stays bolted on both sides – with plastic roller system

RR – frame stay, tube version

Steel axes as connecting profiles with rotating metal tubes

RV – frame stay, reinforced version

Aluminum stays on the inside and outside bolted to the chain bands – high stiffness

RC – frame stay, cover system – covered cable carrier

Aluminum cover bolted on both the inside and outside to the chain bands

LG – hole stay – split design

Aluminum stays – order-specific production – maximum degree of operating reliability

Cable carriers made of steel

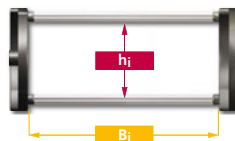
Variants of carrier/hose cross-section											Cover with spring steel strip possible	Technical data see page	Type
Closed frame	Frame stay RS 2	Frame stay RS 1	Frame stay RV	Frame stay RM	Frame stay RMA	Frame stay RMR	Frame stay RR	Hole stay LG	Frame stay RMD				
STEEL-LINE													
LS/LSX Series – 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

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	15-50	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	38	1320.020	UNIFLEX <i>Advanced</i>	84
	20	15-90	0345.030	UNIFLEX	98
	20	15-90	0345.040	UNIFLEX	98
	20	15-65	0345.050	UNIFLEX TUBES	284
	20	15-50	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 <i>Advanced</i>	84
	26	25-103	1455.030	UNIFLEX <i>Advanced</i>	84
	26	25-103	1455.040	UNIFLEX <i>Advanced</i>	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 <i>Advanced</i>	84
	38	50-150	1555.030	UNIFLEX <i>Advanced</i>	84
	38	50-150	1555.040	UNIFLEX <i>Advanced</i>	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

	Inside height h _i (mm)	Inside width B _i (mm)	Type	Series	Page
44-50 mm	44	50-175	1665.020	UNIFLEX <i>Advanced</i>	84
	44	50-175	1665.030	UNIFLEX <i>Advanced</i>	84
	44	50-175	1665.040	UNIFLEX <i>Advanced</i>	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	50-175	TKA55	TKA Series	267
	46	50-400	HC 46	MASTER Series	172
	46	125-600	S/SX 0950	S/SX Series	344
	50	50-250	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	75-600	LC 60	MASTER Series	172
	68.5	103-359	MT 1250	M Series TUBES	300
60-80 mm	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	100-800	MC 1300	M Series	182
	87	100-800	MT 1300	M Series TUBES	301
	102	170	MF 170.2	MOBIFLEX TUBES	322
87-108 mm	104	250-1000	S/SX 1800	S/SX Series TUBES	320
	105	200-1000	XL 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	150-1000	S/SX 5000	S/SX Series	345
150-370 mm	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

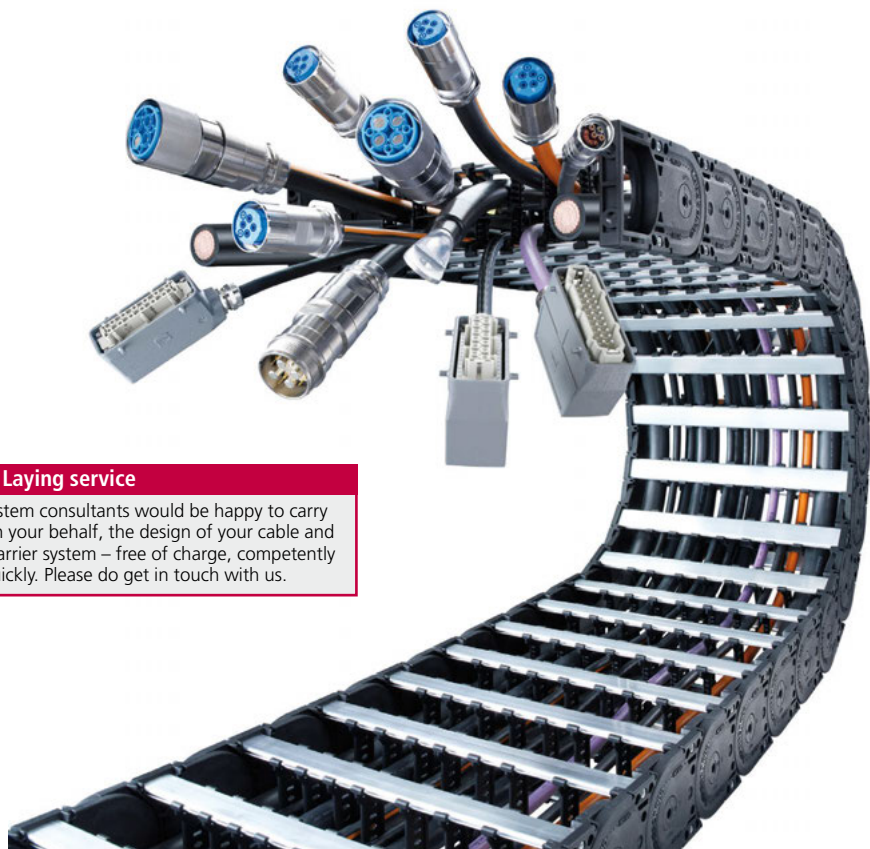
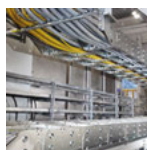
Selection of the cable carrier

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.

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.

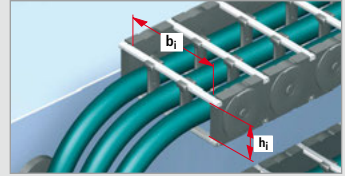
1

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.

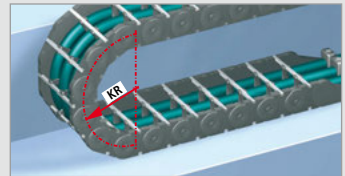


2

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

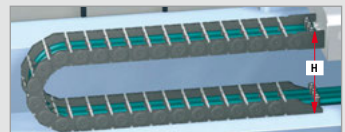
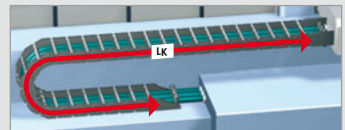
From our product overview, select the cable carrier suitable for your application, taking the application area, the size and the travel speed into consideration.



4

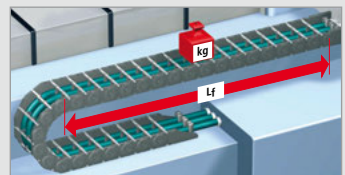
Calculation of the chain length

Calculation of the connection height



5

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



Selection of the cable carrier

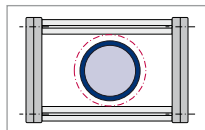
1 Determining the inner dimensions

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.

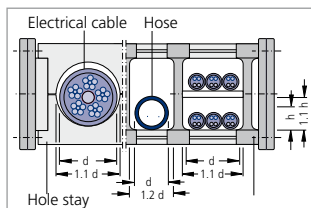
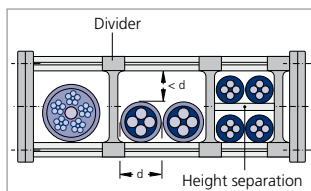
Cables of greatly differing diameters laying immediately next to each other must be avoided.

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.

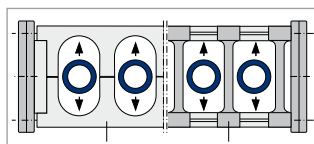
Custom-made hole stays or separation by means of dividers prevent cables lying next to each other from rubbing against each other. In many cases, laying every cable in a separate chamber is advantageous.

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



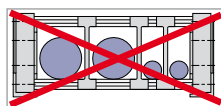
Pressure hoses lengthen or shorten under changing pressure stresses!

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

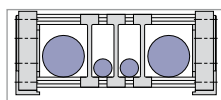


Weight distribution in case of cable laying

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

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

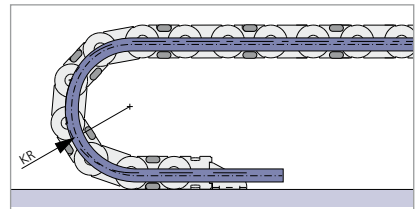
A greater bend radius of the cable carrier and hence a greater bend radius (than the permissible minimum bend radius) of the cables generally increases the life of the cables. Thus, if it is possible, preferably select a somewhat larger bend radius.

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.



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



- 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)

from page 60

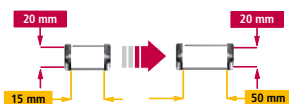


QuickTrax Compact and cost-effective cable carriers in two-component technology

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

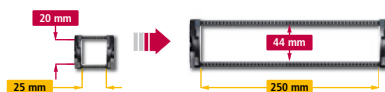


UNIFLEX Advanced Light, quiet all-rounder with wide range of applications

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

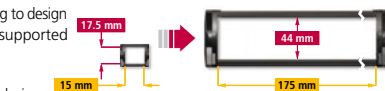


UNIFLEX Proven cable carriers with many opening and cover variants

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

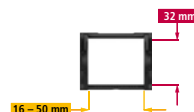


TKP35 Robust all-rounder with variable subdivision

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 B₁ 16

BASIC-LINE^{PLUS} Solid plastic cable carriers with fixed chain widths

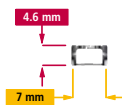
Fast laying by simply pressing in the cables · Ideal for short travel paths and high travel speeds

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

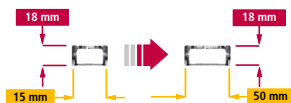


EasyTrax 0320 Extremely quick cable laying, extra-stable thanks to two-component technology

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

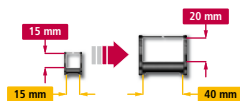


PROTUM Small, light cable carrier for unsupported applications

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

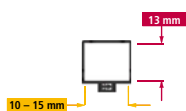


TKZP Low-wear, design made from extruded profiles

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



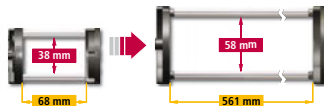
Aluminum or plastic stays · Aluminum stays in 1 mm width sections are available · Inside and outside easy and quick to open · Light, robust or link-free series – a suitable solution for every application

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

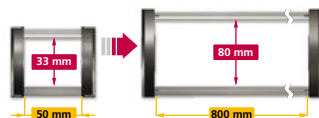


MASTER Series Quiet and weight-optimized cable carriers

from page 170



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



Selection of the cable carrier

3 Selection of the product line and type

VARIO-LINE Cable carriers with variable chain widths



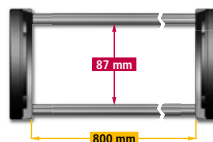
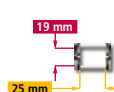
Aluminum or plastic stays · Aluminum stays in 1 mm width sections are available · Inside and outside easy and quick to open · Light, robust or link-free series – a suitable solution for every application

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

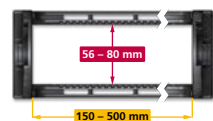


TKP91 Easy to assemble, stable cable carriers with variable dimensions

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

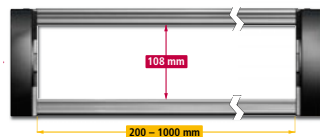


XL Series Cable carrier with large inside height

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

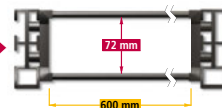


QUANTUM Light, quiet, low-vibration for high speeds and accelerations

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

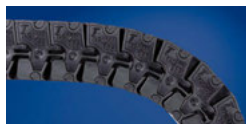


* Tested: Q060.100.100 by TÜV Rheinland. The measurement area sound pressure level was measured at a distance of 0.5 m for uniform and jerky movement.

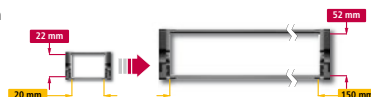
** Tested: Q040.77.RE-70-1000 by the Fraunhofer Institute, travel speed V1 = 0.2 m/s and V2 = 0.9 m/s

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



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

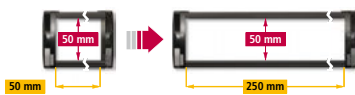


CoverTrax Extreme cable protection in harsh environmental conditions

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

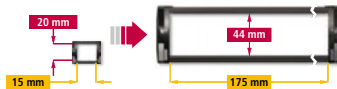


UNIFLEX TUBES Proven solid cable carriers with fixed carrier width

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

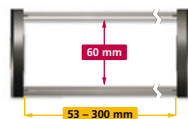


MASTER TUBES Quiet and weight-optimized cable carriers

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

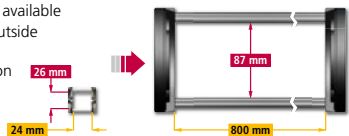


MT Series Multivariable cable carrier with extensive accessories

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

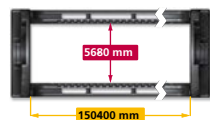


TKC91 Easy to assemble, stable cable carriers with variable dimensions

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



Selection of the cable carrier

3 Selection of the product line and type

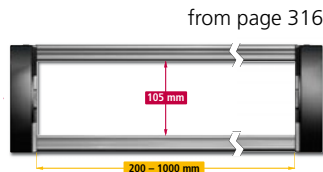
TUBE-SERIES Abgedeckte Energieführungen

Abgedeckte Energieführungen mit Kunststoff- oder Aluminium-Deckelsystemen und komplett geschlossene Energieführungsschläuche · Schutz der Leitungen bei Anwendungen mit Späneanfall oder groben Verschmutzungen

XLT Series Cable carriers with large inside height



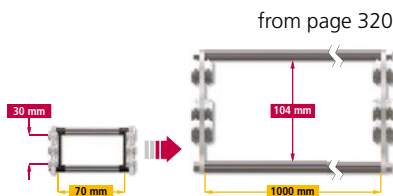
- Large dimensions
- Can be quickly opened on the inside and outside for cable laying
- Highly wear-resistant, replaceable glide shoes available
- Different connection variants
- Different ways of separating the cables
- Optionally with strain relief



S/SX Series Extremely robust and stable steel chains



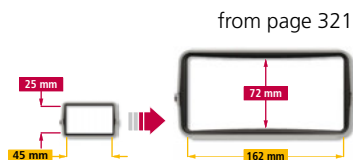
- Available in 1 mm section widths
- Extremely robust stable steel chains for heavy mechanical loads and harsh environmental conditions
- Long unsupported lengths also for large additional loads
- Various types available in different dimensions
- Link design with special bolts for a long service life



CONDUFLEX Closed designer cable carrier



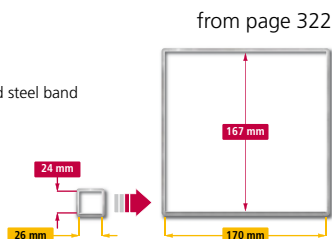
- Attractive appearance owing to high-grade steel brackets and fiberglass reinforced polyamide frame
- Very well sealed design
- With protective straps ideal for hot chips
- Quiet operation due to small pitch
- Easy replacement of the crossbars in the case of external damage is possible
- Easy to shorten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



MOBIFLEX Enclosed cable carrier with flexible metal helical tube



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



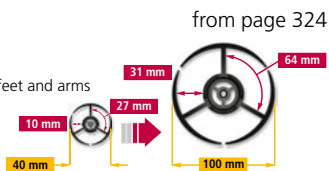
3D-LINE Cable carriers for 3D-movements

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



- 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



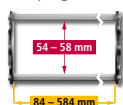
STEEL-LINE Steel cable carriers – solutions for extreme applications

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



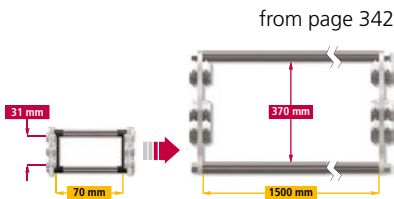
- Available in 1 mm width sections
- Improved, dynamic characteristic values due to weight-optimized design
- 40 % lighter than S 0950 with RS stay variant
- Long unsupported lengths for small to medium additional loads
- Chain belts made of specially coated steel or stainless steel
- Optional central 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



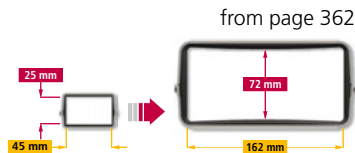
- Available in 1 mm width sections
- Extremely robust and stable steel chains for heavy mechanical loads and harsh environmental conditions
- Very long unsupported lengths also for large additional loads
- Joint design with special bolts for a long service life
- Proven design with chain belts made of 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



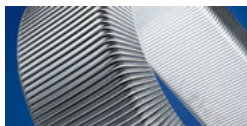
CONDUFLEX Closed designer cable carrier



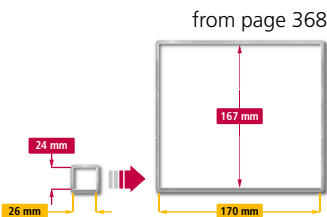
- Very well sealed design
- With protective straps ideal for hot chips
- High-grade steel brackets and fiberglass-reinforced polyamide frames
- Easy to shorten or extend at a later date



MOBIFLEX Enclosed cable carrier with flexible metal helical tube



- 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



Selection of the cable carrier

4 Calculation of the chain length and the connection height

Definition

In the case of an 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

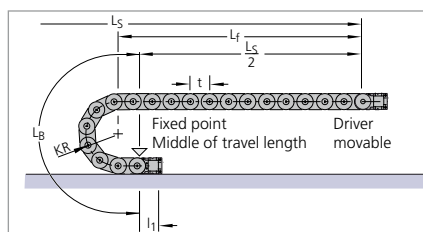
$$L_k \approx \frac{L_S}{2} + L_B$$

Chain length L_k
rounded off to pitch t

Unsupported length L_f

$$L_f \approx \frac{L_S}{2} + (1 \dots 3) \times t$$

L_S = Maximum travel length
of the application



Fixed point outside the middle of the travel path L_S :

Chain length L_k

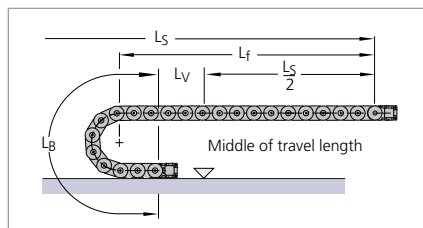
$$L_k \approx \frac{L_S}{2} + L_B + L_V$$

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:

$$L_B = KR \times \pi + KR$$

Selection of the cable carrier

4 Calculation of the chain length and the connection height

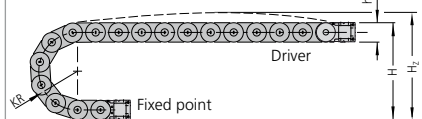
Calculation of the connection height

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:	$H = 2 KR + 30 \text{ mm}$
TKR 0200:	$H = 2 KR + 40 \text{ mm}$
TKR 0260:	$H = 2 KR + 58 \text{ mm}$
TKR 0280:	$H = 2 KR + 72 \text{ mm}$
PROFILE:	$h_G = h_M$
Steel cable carriers:	$H = 2 KR + 1.5 h_G$

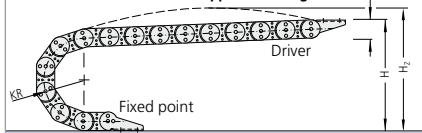
* except MC 1300

Schematic illustration unsupported arrangement



Plastic cable carriers

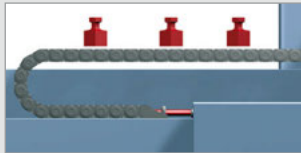
Schematic illustration unsupported arrangement



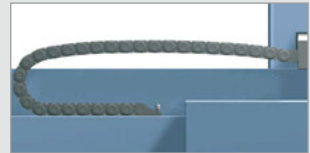
Steel cable carriers

Pretensioning and required installation height Hz

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 Hz.



■ 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.



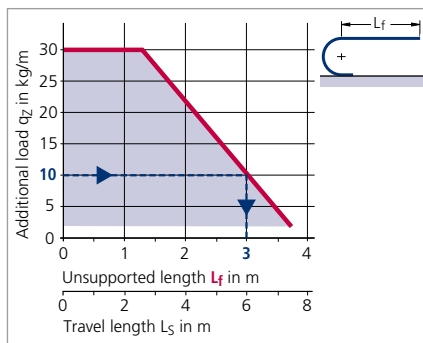
Selection of the cable carrier

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.

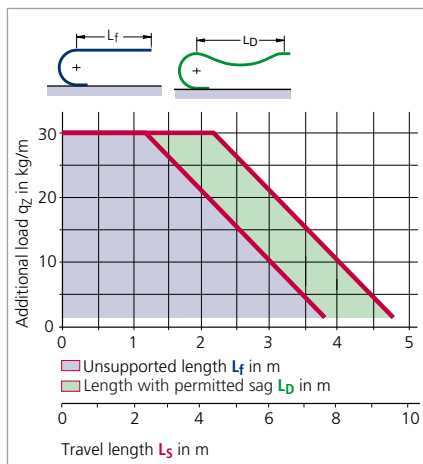
The length with permitted sag is designated as L_D . It is somewhat greater than the unsupported length L_f .

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

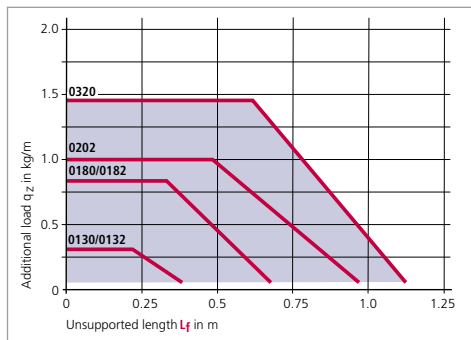


* only cable carriers made of plastic

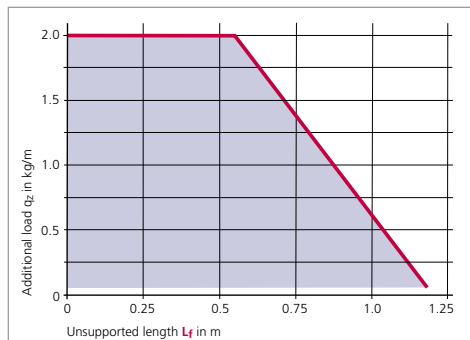
Load diagrams for unsupported applications

BASIC-LINE

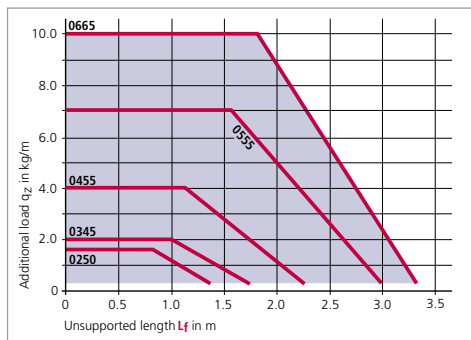
MONO



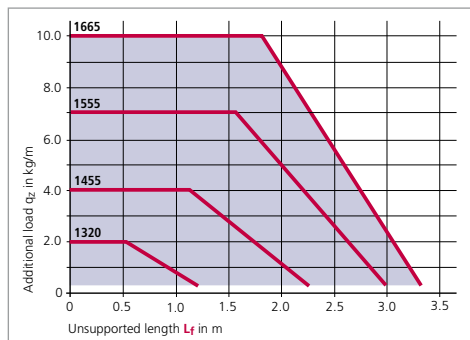
QuickTrax



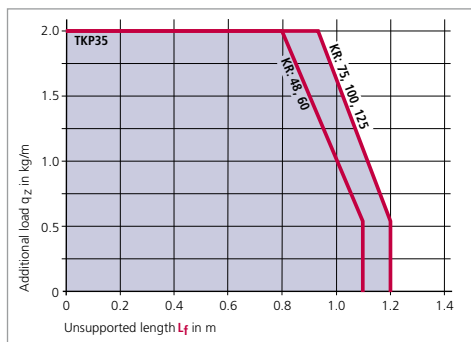
UNIFLEX



UNIFLEX Advanced



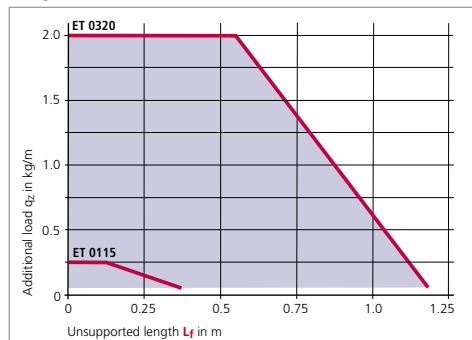
TKP35



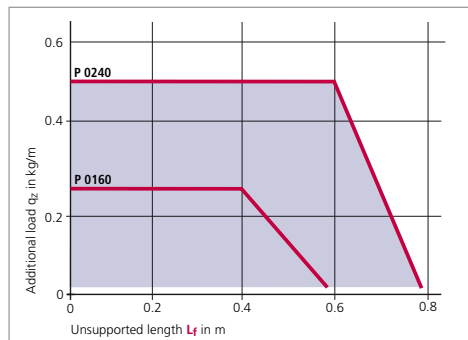
Load diagrams for unsupported applications

BASIC-LINE^{PLUS}

EasyTrax

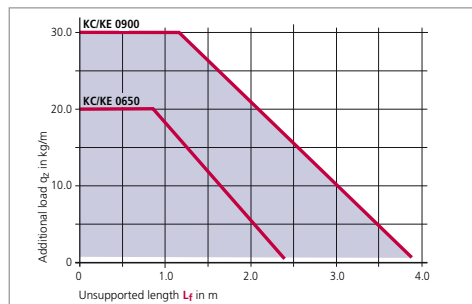


PROTUM

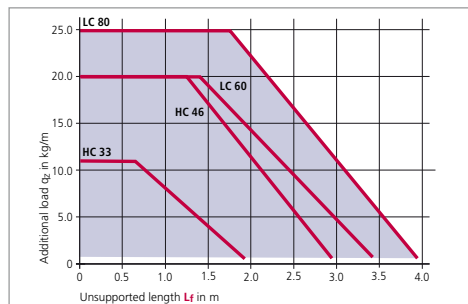


VARIO-LINE

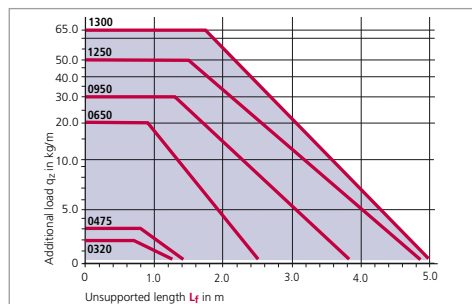
K Series



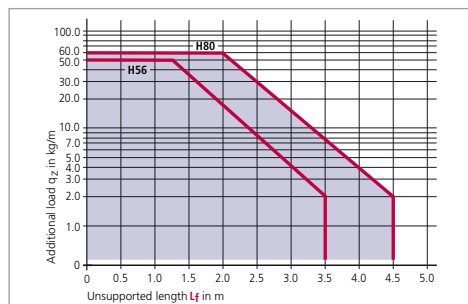
MASTER Series



M Series

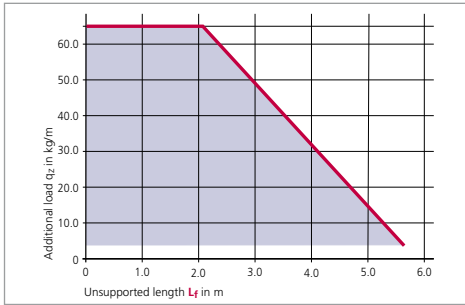


TKP91

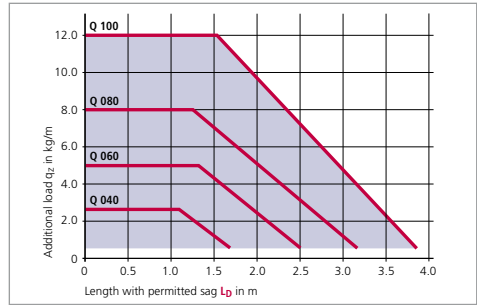


VARIO-LINE

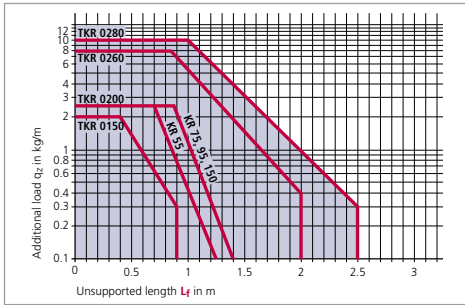
XL Series



QUANTUM

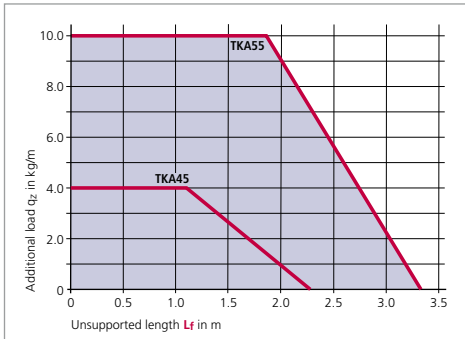


TKR

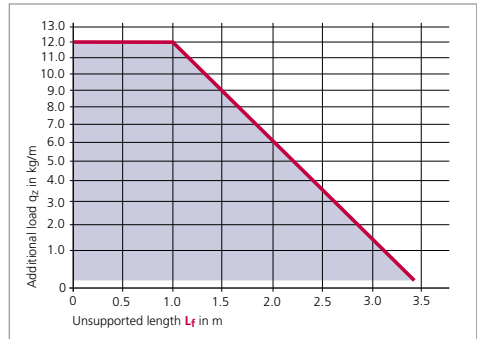


TUBE-SERIES

TKA Series



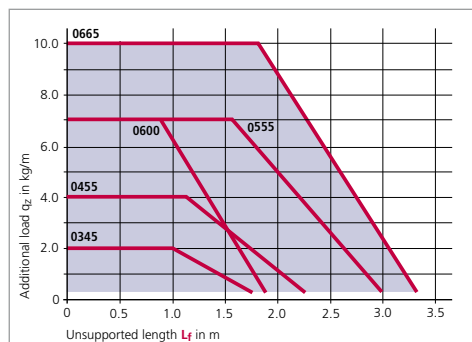
CoverTrax



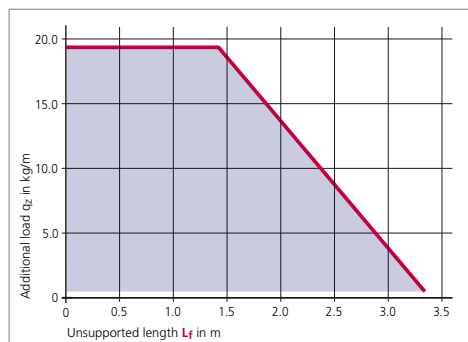
Load diagrams for unsupported applications

TUBE-SERIES

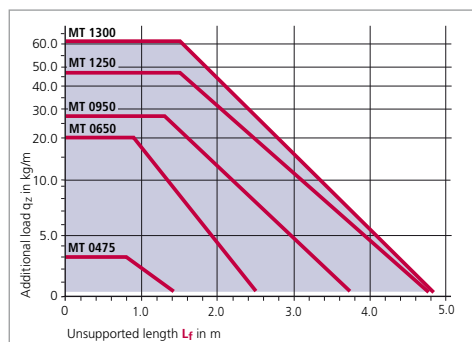
UNIFLEX TUBES



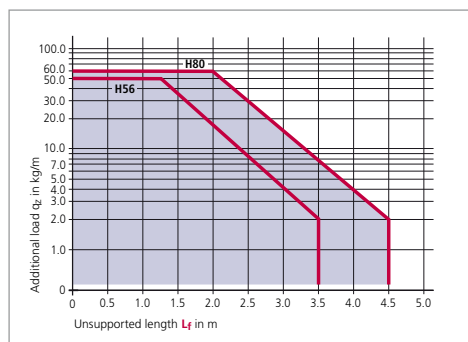
MASTER TUBES



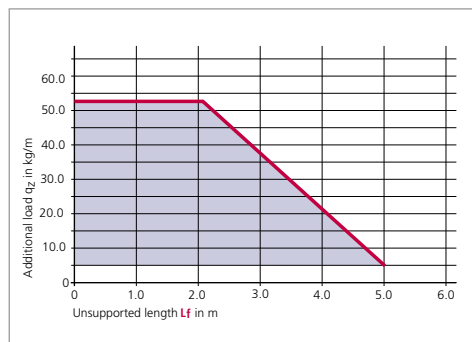
MT SERIES



TKC91

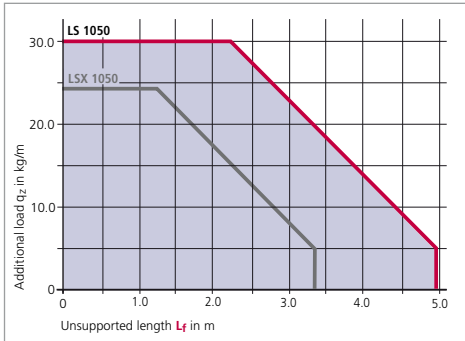


XLT Series

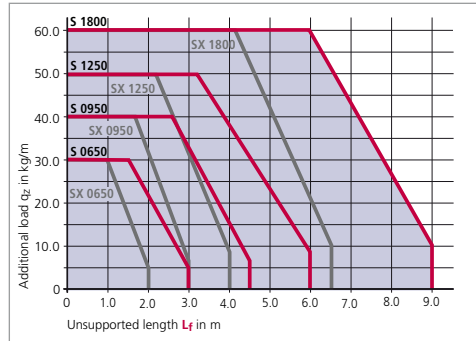


STEEL-LINE

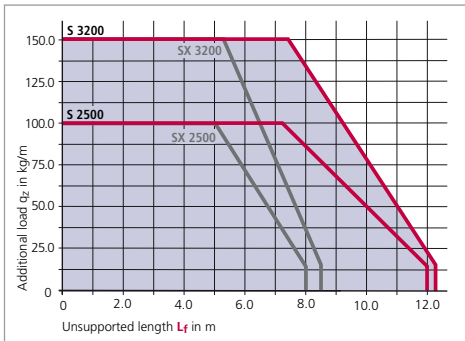
LS/LSX 1050



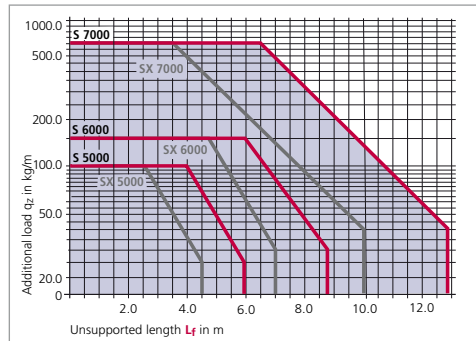
S/SX 0650, 0950, 1250, 1800



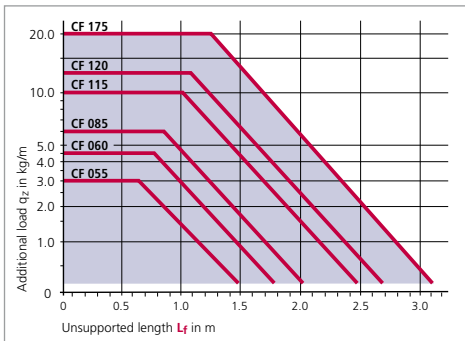
S/SX 2500, 3200



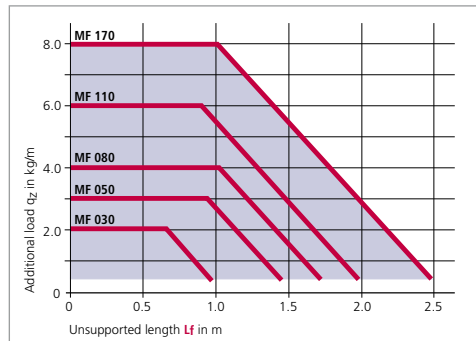
S/SX 5000, 6000, 7000



CONDUFLEX



MOBIFLEX



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.

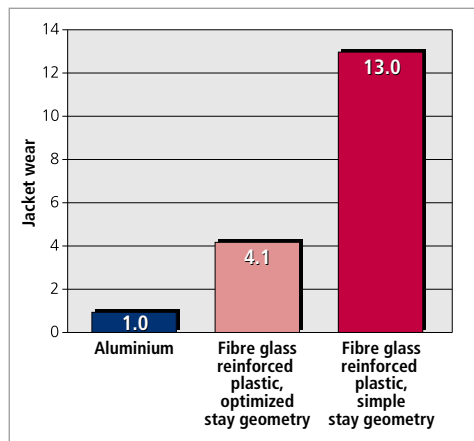
Thereby, already existing test results have been confirmed several times. Aluminum as a support is very gentle on the sheathing of cables. This result is independent of the cable manufacturer and applies to the most common jacket materials.

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.

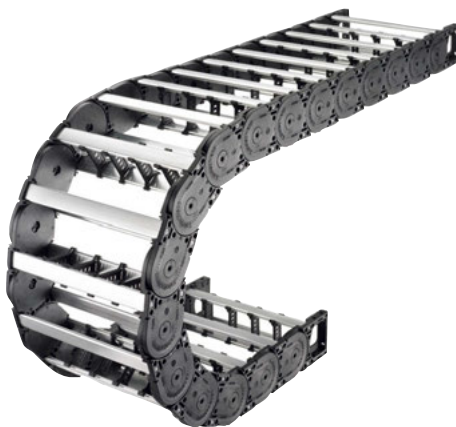
TIP: Jacket wear on aluminum stays

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



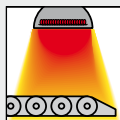
■ Jacket wear of PVC cables against stays scaled against aluminum



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



2-shot-technology

Component 1: flexible – quick cable laying

Component 2: very stable – large unsupported length

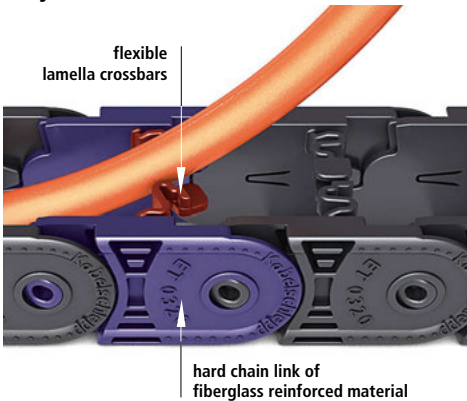
The 2-shot-technology of our new cable carriers makes it possible to unite seemingly non-integral characteristics: **Ruggedness and Flexibility.**

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

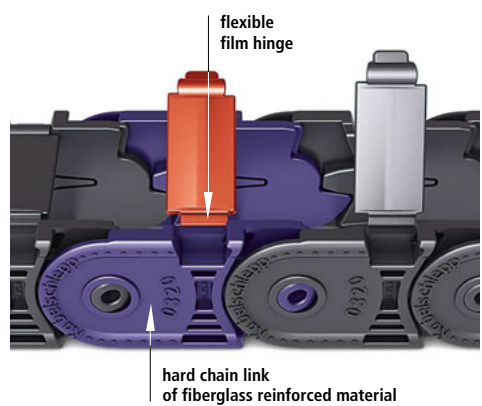
The new cable carriers **EasyTrax 0320** and **QuickTrax 0320** unite these qualities through an innovative design and the materials combination of hard chain elements made of fiberglass reinforced material with lamella crossbars or film hinges made of specially formulated flexible synthetics/plastics.



EasyTrax 0320



QuickTrax 0320



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



- Hand opening – opening and closing even without tools.

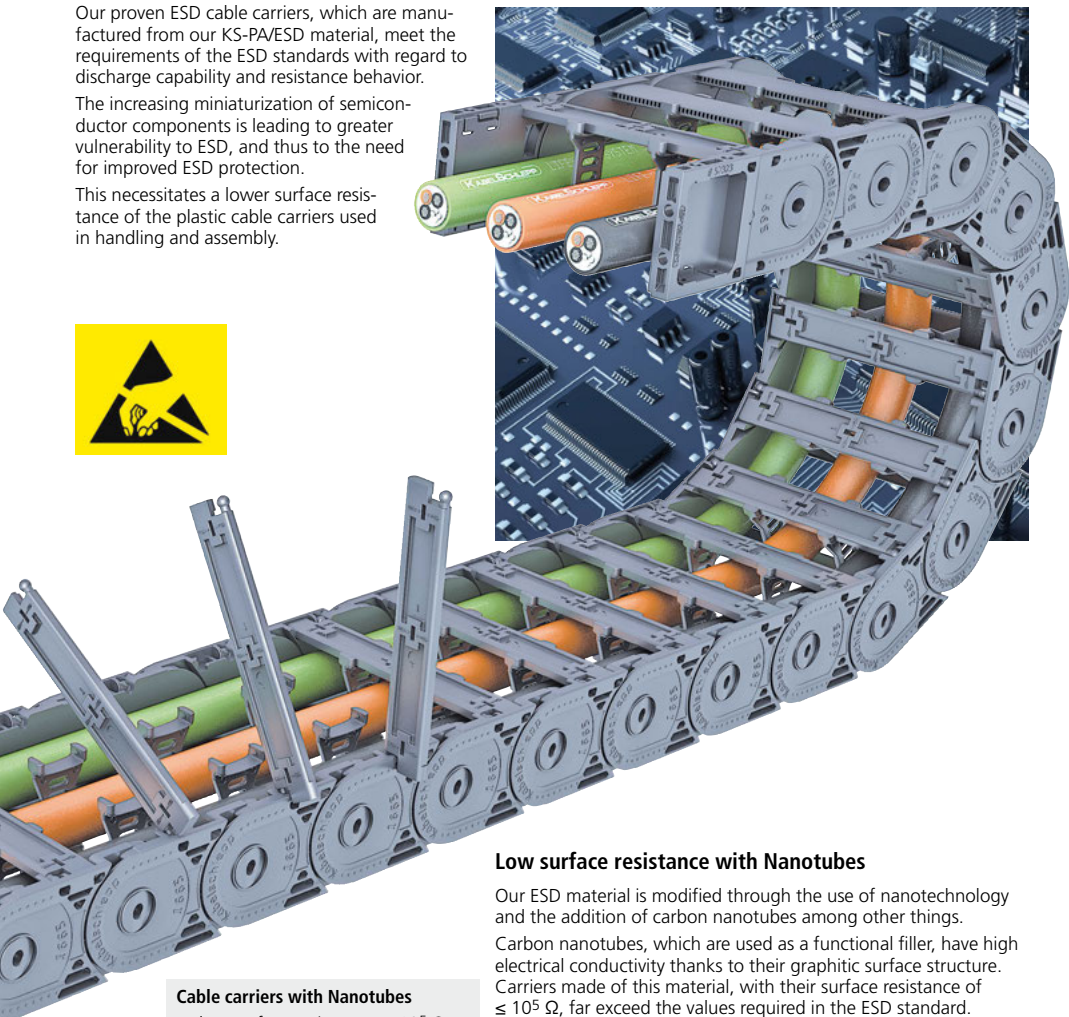
Conductive ESD cable carriers

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.



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 $\leq 10^5 \Omega$, 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.

Cable carriers with Nanotubes

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

Quality with a test report

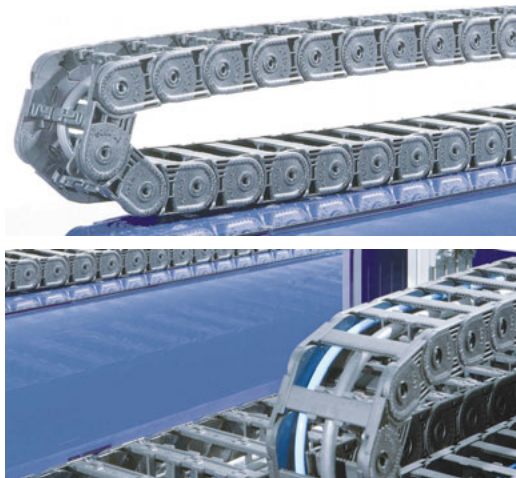
Each ESD cable carrier with Nanotubes technology comes with a KABELSCHLEPP test report.

FB Werkzeugnis 2.2 Seite 1 von 1		Werkzeugnis			
Werkzeugnis Bescheinigung 2.2 nach DIN EN 10204 Certificate 2.2 according to ISO 9004					
Mustermann GmbH Am Schlossgraben 4711 Musterhausen			Besteller / Purchaser: Max Mustermann		
			Bestell - Nr. / Order - Nr.: 181056		
			Unsere Lieferschein Nr. / Our Order No.: 1623229		
			Unsere Auftrags - Nr. / Our Order No.: 2732816		
Erzeugnisform/Product:			Energieföhrungskette		
Werkstoff/Quality PA-ESD Datum/Date: 02.04.2009		Unsere Abteilung, Name, Tel./Our Department, Name, Phone: QS - A. Schmidt / 40762- 4003-0 Lieferbedingungen und/oder amtliche Vorschriften/ Terms of Delivery and/or official Regulations: Oberflächen- und Durchgangswiderstand $\leq 10^5 \Omega$			
USt-Nr. Steuernr.	Merkmale, Dimension oder Spezifikation Characteristics, Dimension or Specification	Lieferanten-Prüfungsergebnis Supplier-Inspection-Results		Bemerkung / Remarks	
1	Oberflächenwiderstand	$10^5 \Omega$			
2	Anzahl Kettenglieder	34			
Es wird bestätigt, dass die Lieferungen den Vereinbarungen bei der Bestellung entsprechen. We hereby certify that the material described above complies with the terms of the order contract.					
FB Werkzeugnis Erstellt von: R. J. Kasper		Stand: 2.5 vom 02.04.2009			

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.



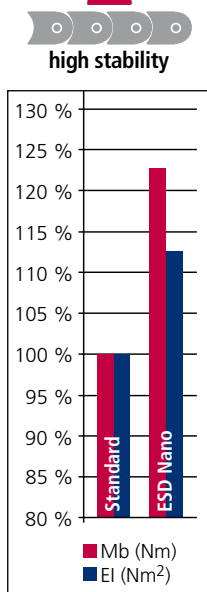
High stability

Modification of the fiber-glass reinforced material with Nanotubes makes the cable carriers even more stable.

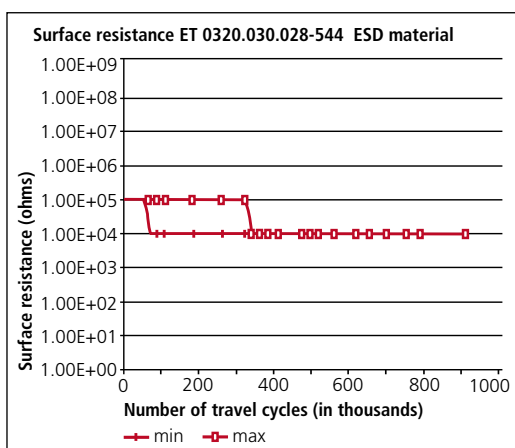
The Nanotubes have a multiple times higher tensile strength than steel, at a sixth of the weight.

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 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.



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

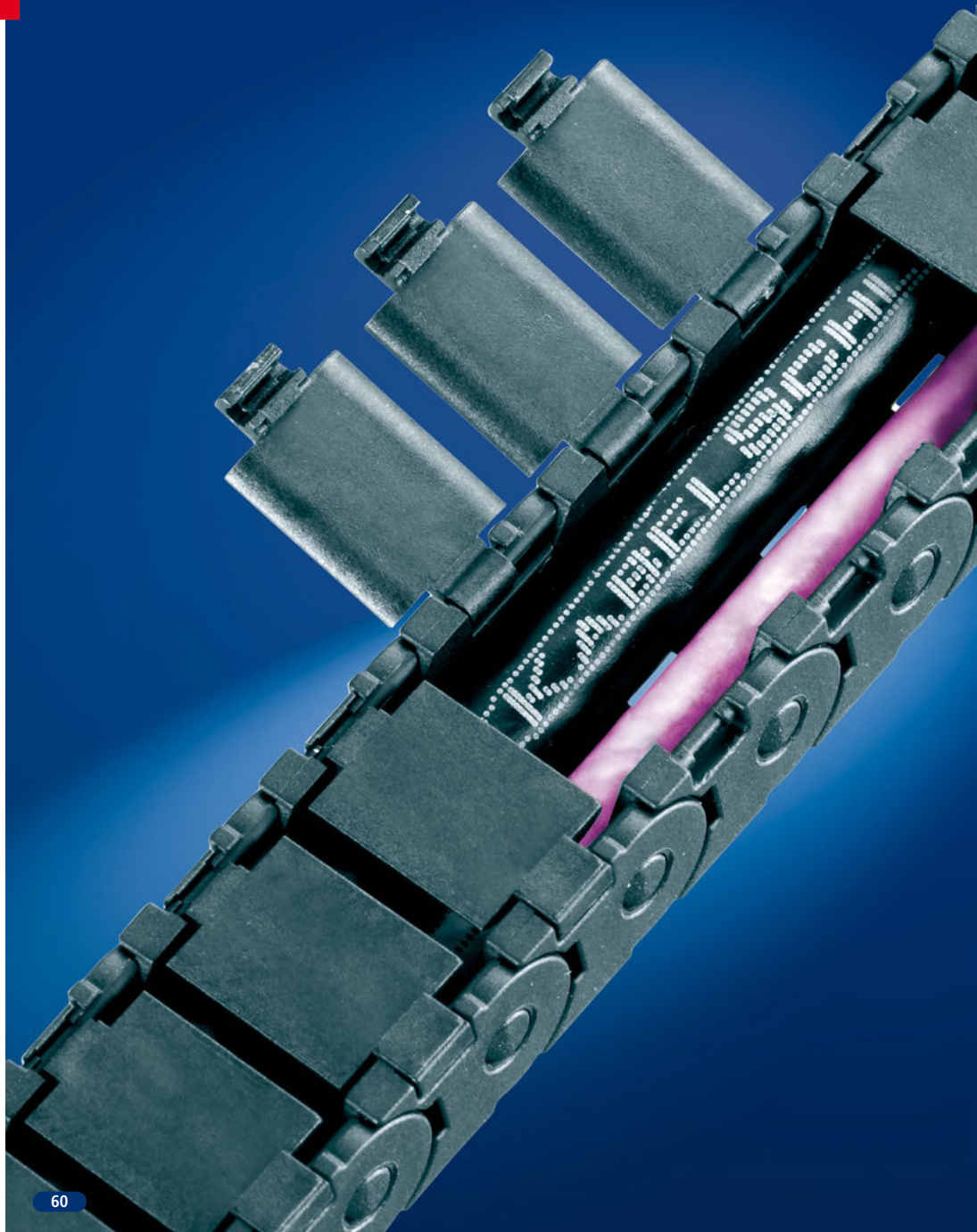
page 96



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

Connectors
with integrated strain relief



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

Inside
heights



Inside
widths



kabelschlepp.de

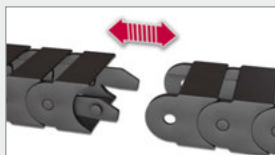
Font:

+49 2762 4003-0

OnlineEngineer.de
TSUBAKI KABELSCHLEPP
Cable Carrier Configuration



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

Overview MONO

Types 0130, 0180 with hinged, openable brackets

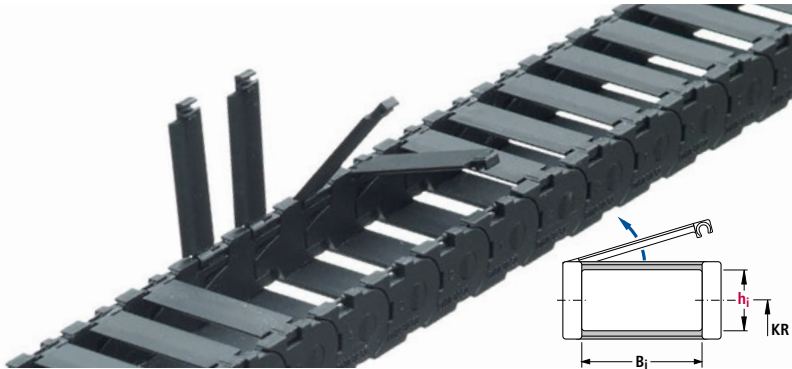
Inside heights



Inside widths



kabelschlepp.de

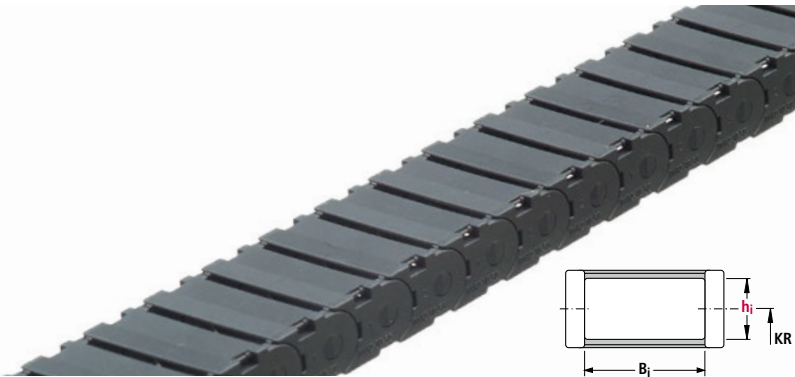


Type	h _i	B _i	Maximum travel length in m	Dynamics of unsupported arrangement		Page
				Travel speed v _{max} in m/s	Travel acceleration a _{max} in m/s²	
0130	10	6-40	40	10	50	64
0180	15	10-40	70	10	50	66

Dimensions in mm

Types 0132, 0202, 0182 with fixed brackets

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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

Use our free project planning service.

Overview MONO

Type 0320 with fixed brackets



Inside
heights

10
19

Inside
widths

6
40

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/s ²	
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

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Font:
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TSUBAKI KABELSCHLEPP
Cable Chain Configuration

Types 0132 and 0130

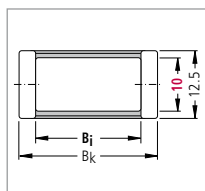
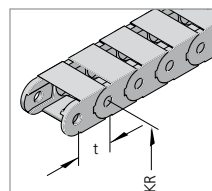
Type 0132

Inside/Outside: Not to be opened

Inside height

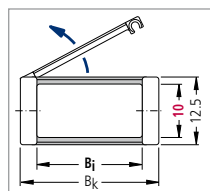
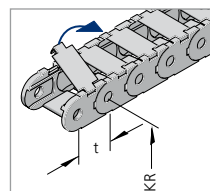


Inside widths



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

* on request

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
0130.30*	10	30	36	0.18
0130.40	10	40	46	0.20

* on request

Bend radius and pitch

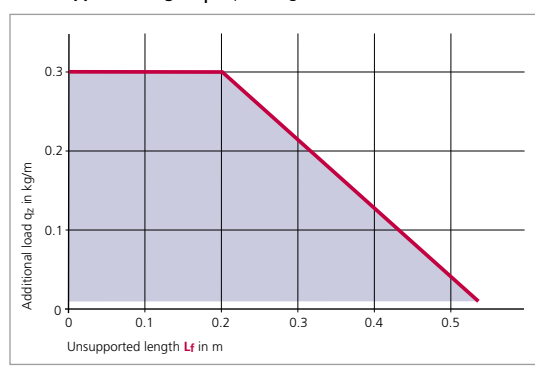
Types 0132 and 0130

Bend radii KR mm		
20	28	37

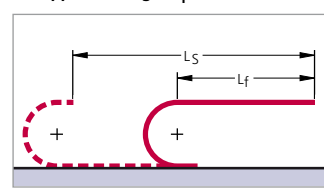
Pitch t = 13.0 mm

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				Connection
0130	10	28	390	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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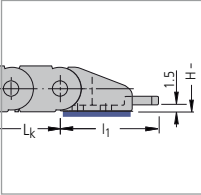
Fon: +49 2762 4003-0

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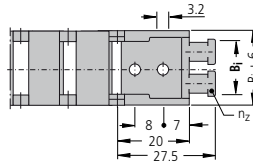
Types 0132 and 0130

Connection dimensions

Plastic connectors
with integrated strain relief



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



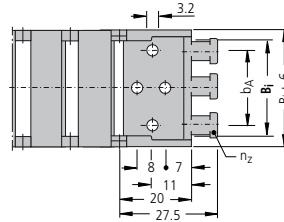
For Type

0130.06 / 0132.06

0130.10 / 0132.10

0130.15 / 0132.15

0130.20 / 0132.20



For Type

0130.30 / 0132.30

0130.40 / 0132.40

Type	Bi mm	Bk mm	bA mm	nZ
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
0130.30 / 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.

Inside height

10

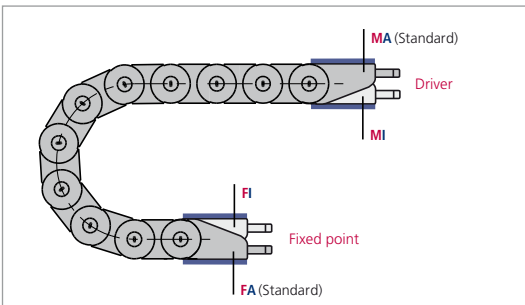
Inside widths

6
40

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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.

Types 0182 and 0180

Type 0182

Inside/Outside: Not to be opened

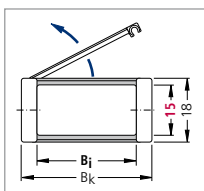
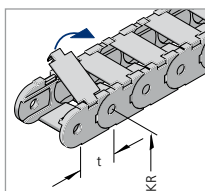
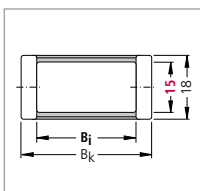
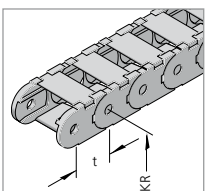
Type 0180

Outside: Hinged, openable brackets

Inside height



Inside widths



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

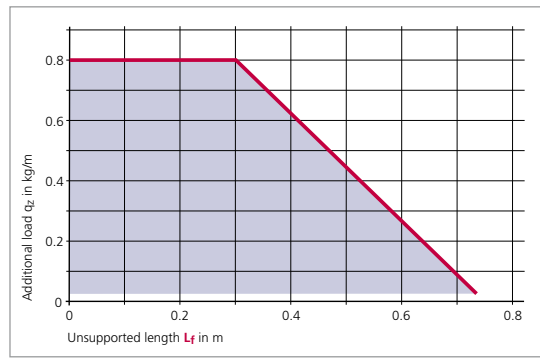
Types 0182 and 0180

Bend radii KR mm		
28	37	50

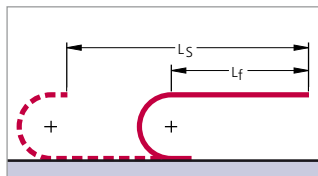
Pitch t = 18.0 mm

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				Connection
0180	30	37	720	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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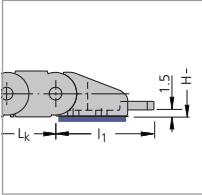
Fon: +49 2762 4003-0

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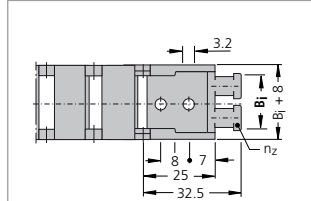
Types 0182 and 0180

Connection dimensions

Plastic connectors
with integrated strain relief



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

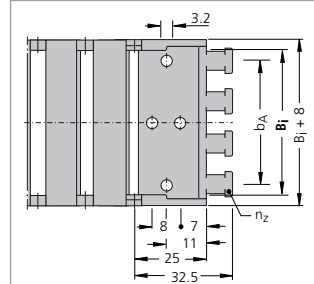


For Type

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 ₂
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.

Inside height

15

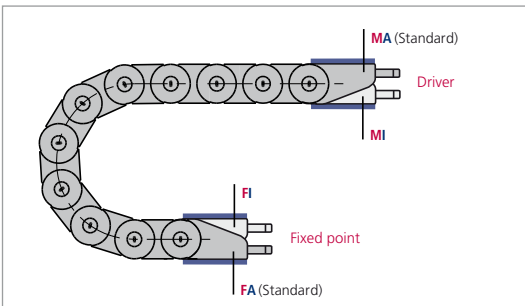
Inside widths

10
40

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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.

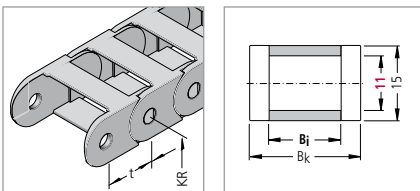
Type 0202

Inside/Outside: Not to be opened

Inside height



Inside widths



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

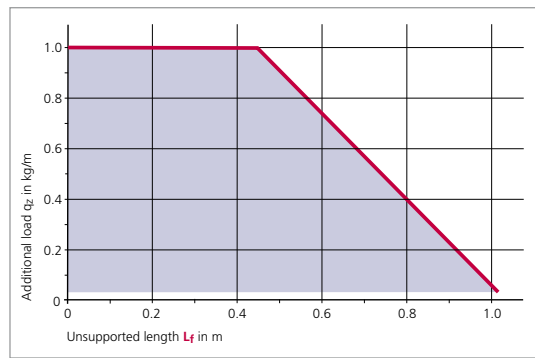
Bend radius and pitch

Bend radii KR mm			
18	28	38	50

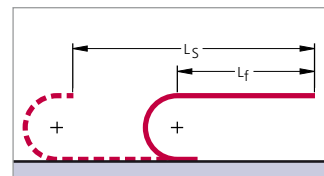
Pitch $t = 20.0$ mm

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

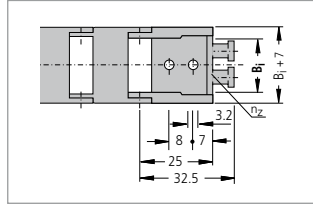
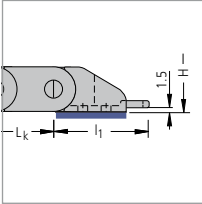
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Type 0202

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.

Inside height

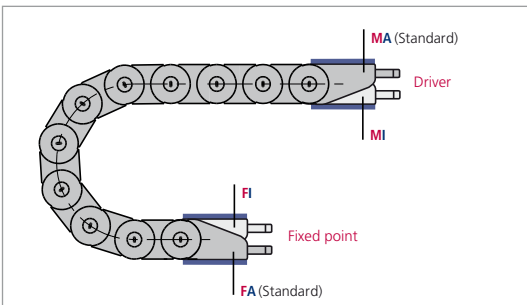


Inside widths



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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.

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Cable Chain Configuration

Type 0320

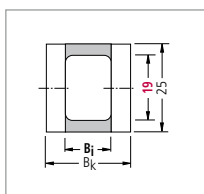
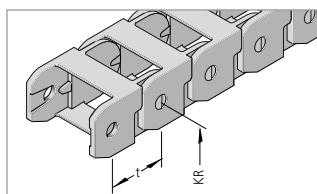
Inside/Outside: Not to be opened

Inside height

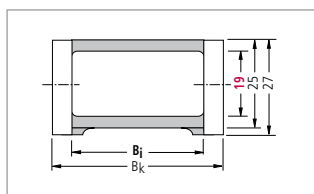
19

Inside widths

13
37



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

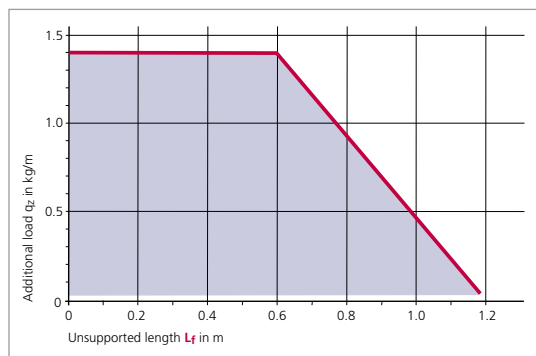
Type 0320 / .42 / .52 / .62

Bend radii KR mm			
37	47	77	100

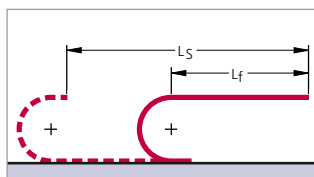
Pitch $t = 32.0$ mm

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

0320.42

Bend radius
KR in mm

77

Chain length L_k
in mm (without
connection)

800

Connection

FA/MA

Connection
Fixed point/
Driver

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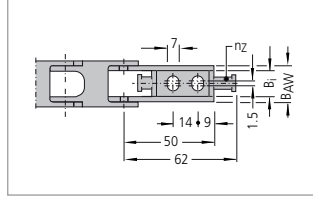
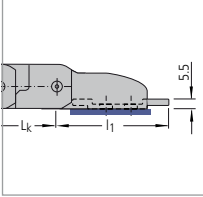
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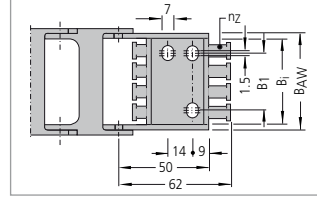
Type 0320

Connection dimensions

Plastic connectors
with integrated strain relief



Type 0320.20



Type 0320.42 / .52 / .62

Connection dimensions at fixed point connection:

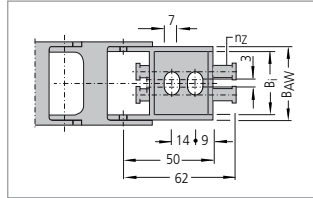
$$BAW = B_i + 5.5$$

$$B_1 = B_i - 12.5$$

Connection dimensions at driver connection:

$$BAW = B_i + 11$$

$$B_1 = B_i - 10.5$$



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

Inside height

19

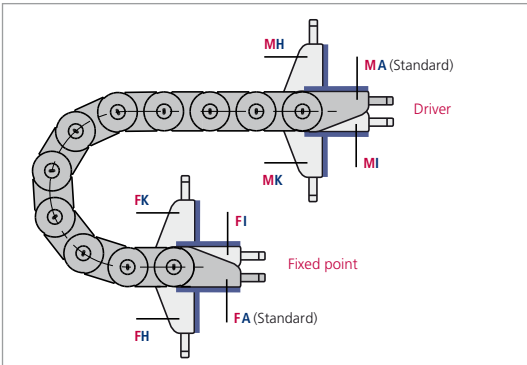
Inside widths

13

37

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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.

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Cable Chain Configuration

Inside
height



Inside
widths



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Notes

Notes

Inside
height



Inside
widths



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Cable Center Configuration





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



Inside height



Inside widths



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TSUBAKI KABELSCHLEPP
Cable Carrier Configuration



Easy to open



High side stability



Reliable cable separation

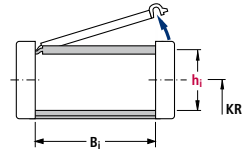
Overview QuickTrax

Design 030 with outward opening brackets

Inside height



Inside widths



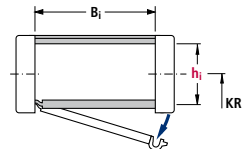
Type	h_i	B_i	Maximum travel length in m	Dynamics of unsupported arrangement		Page
				Travel speed v_{max} in m/s	Travel acceleration a_{max} in m/s ²	
QT 0320.030	20	15-50	80	10	50	78

Dimensions in mm

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For:
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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/s ²	
QT 0320.040	20	15-50	80	10	50	78

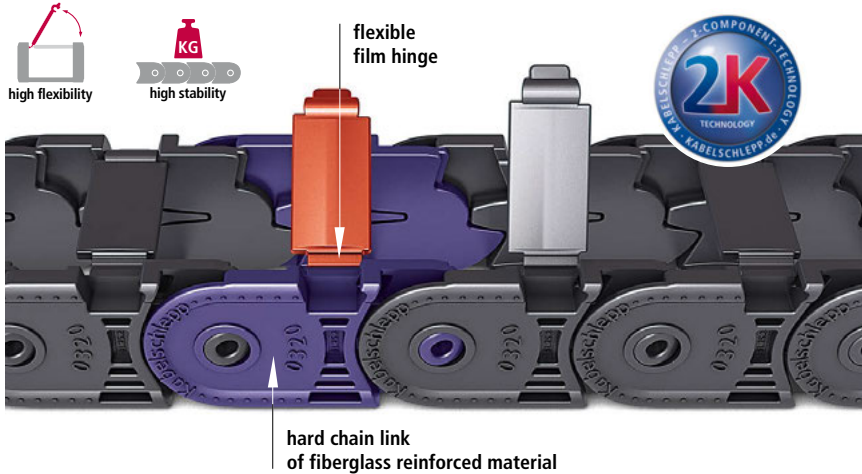
Dimensions in mm

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project planning service.

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.



Inside height



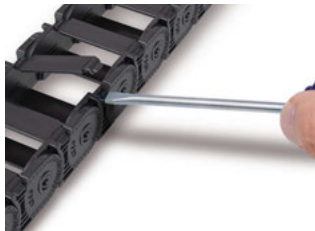
Inside widths



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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.

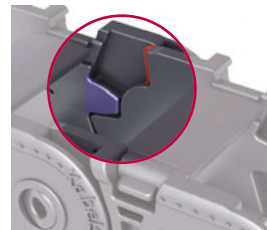


Font:

+49 2762 4003-0

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.



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Cable Carrier Configurator

Type QT 0320

Design 030

Outside: Hinged, openable brackets

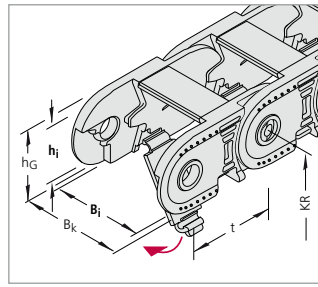
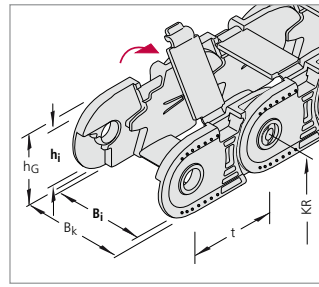
Design 040

Inside: Hinged, openable brackets

Inside height



Inside widths



Dimensions and intrinsic chain weight

Type	h _i	h _G	Inside widths B _i				B _k
			Intrinsic chain weight				
			15*	25	38	50	
QT 0320	20	25.5	0.18	0.28	0.42	0.55	B _i + 12

* on request

Dimensions in mm/Weights in kg/m

Bend radius and pitch

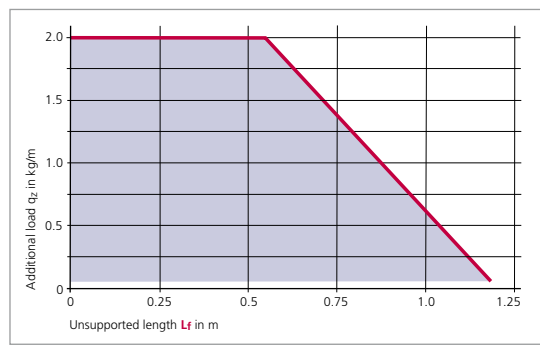
Bend radii KR mm					
28	38	48	75	100	125*

Pitch t = 32.0 mm

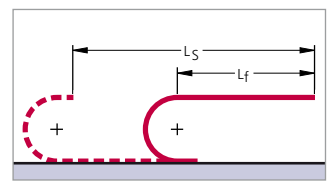
* on request

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	TS 0	1	FA/MA
Type	Design	Inside width B _i in mm	Bend radius KR in mm	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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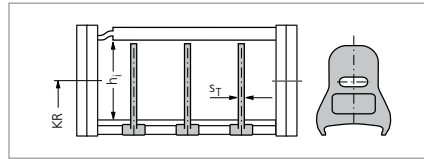
Use our free project planning service.

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.

Inside height



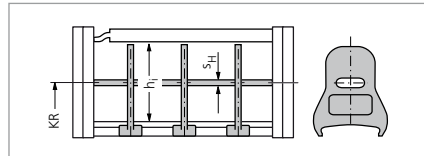
Inside widths



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.



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Type QT 0320

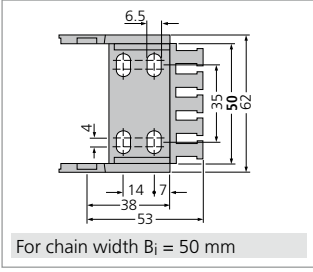
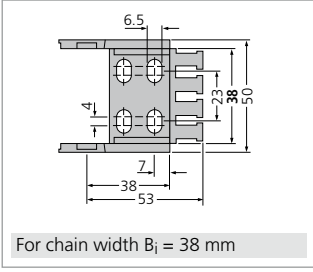
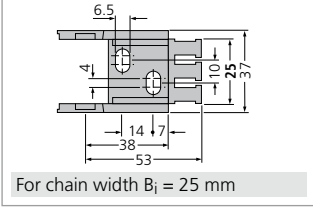
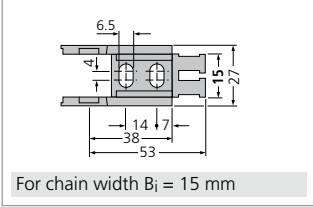
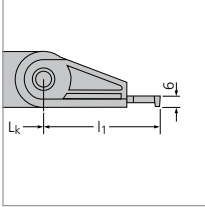
Connection dimensions

Plastic connectors with integrated strain relief

Inside height



Inside widths



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

Dimensions in mm



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



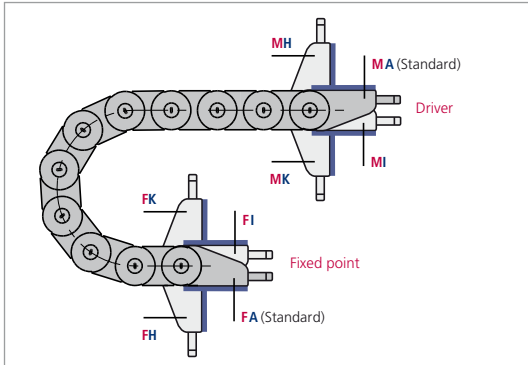
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Type QT 0320

Connection variants



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).

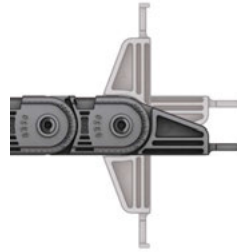
The connection type can subsequently be altered simply by varying the connectors.

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



Inside height



Inside widths



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Cable carrier configurator

Guide channels
► from page 375



Strain relief devices
► from page 381



Cables for cable carrier systems
► from page 438

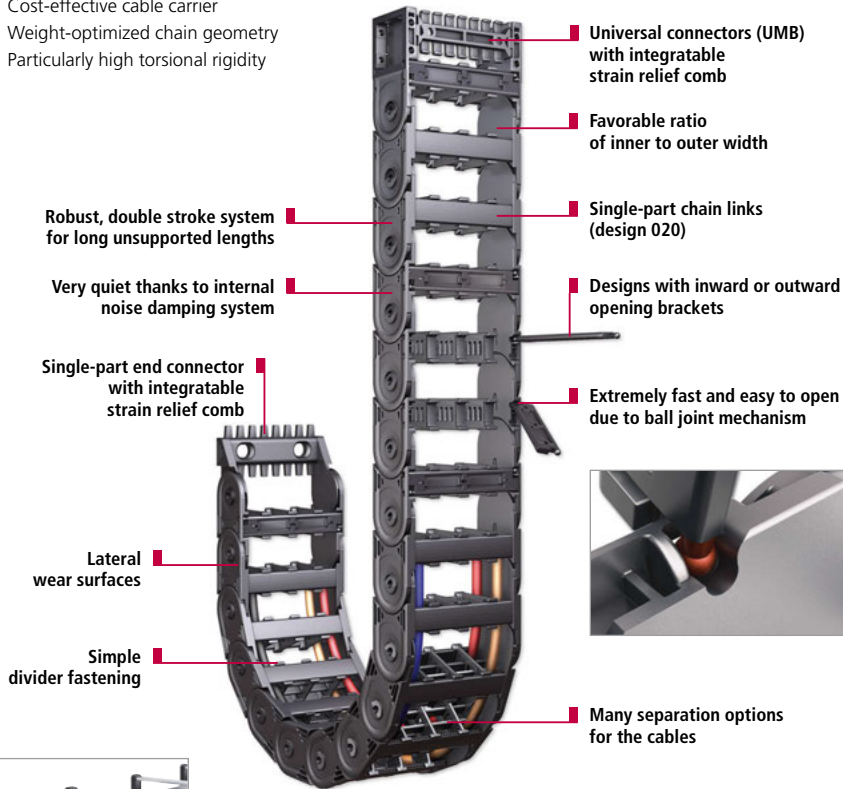




UNIFLEX Advanced

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

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



Inside heights



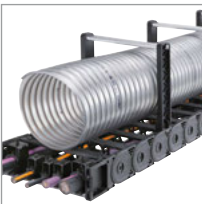
Inside widths



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Cable Carrier Configurator



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

Overview UNIFLEX *Advanced*

Design 020 with enclosed frame

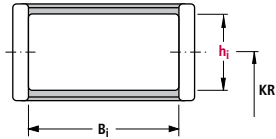
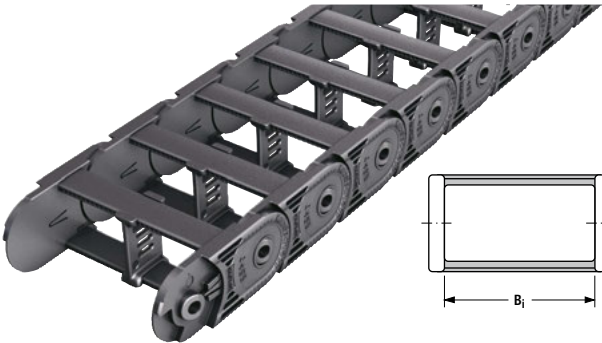
Inside heights



Inside widths



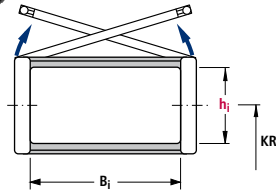
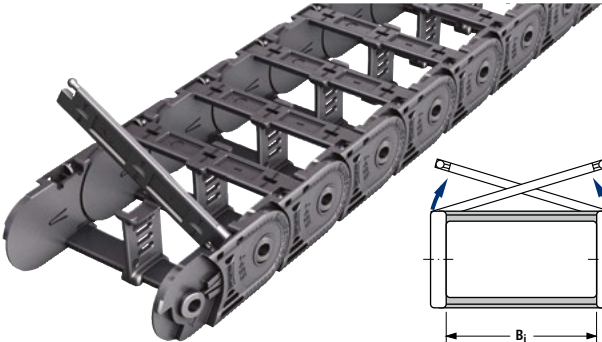
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Type	h _i	B _i	Maximum travel length in m	Dynamics of unsupported arrangement		Page
				Travel speed v _{max} in m/s	Travel acceleration a _{max} in m/s²	
1320.020	20	38-50	80	10	50	86
1455.020	26	25-103	120	10	50	86
1555.020	38	50-150	125	9	45	86
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

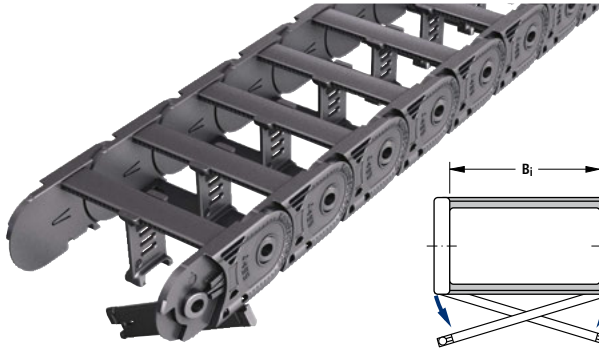
Subject to change

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Overview UNIFLEX Advanced

Design 040 with inward opening and detachable brackets



Inside heights



Inside widths

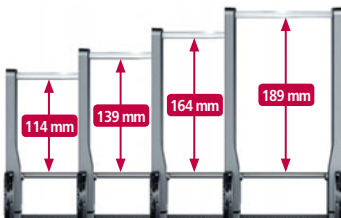


Type	h_i	B_i	Maximum travel length in m	Dynamics of unsupported arrangement		Page
				Travel speed v_{max} in m/s	Travel acceleration a_{max} in m/s ²	
1455.040	26	25-103	120	10	50	86
1555.040	38	50-150	125	9	45	86
1665.040	44	50-250	150	8	40	86

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.



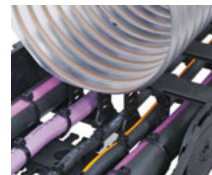
■ Different inside heights for different cable diameters



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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.



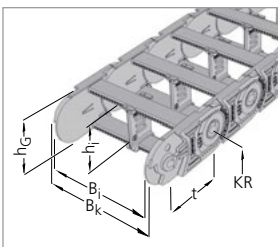
Do you need further information?
Please get in touch with us, we will be pleased to help you.

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Types 1455, 1555 and 1665

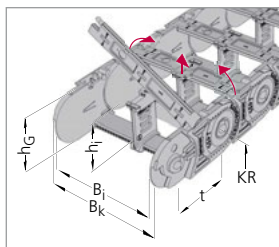
Design 020

Inside/Outside:
Not to be opened



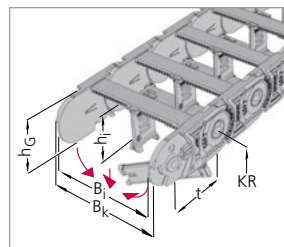
Design 030

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
25
250

Dimensions and intrinsic chain weight

Type	h _i	h _G	Inside widths B _i									B _k
			Intrinsic chain weight									
1320	20	25.5	38	50	—	—	—	—	—	—	—	B _i + 12
			0.40	0.43	—	—	—	—	—	—	—	
1455	26	36	25	38	58	78	103	—	—	—	—	B _i + 16
			0.73	0.75	0.80	0.88	0.98	—	—	—	—	
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

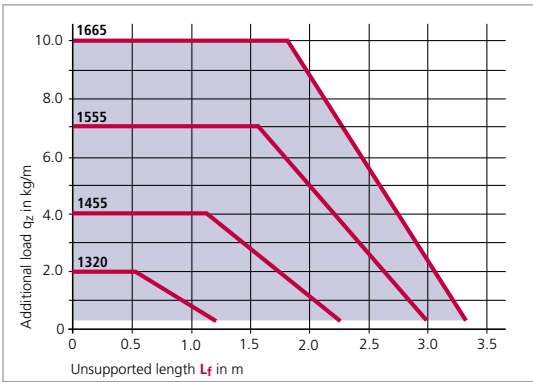
1455: t = 45.5 mm

1555: t = 55.5 mm

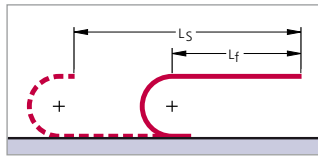
1665: t = 66.5 mm

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.

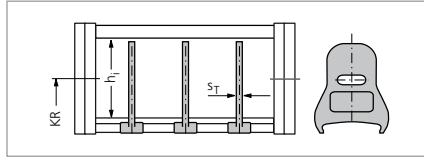
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Types 1455, 1555 and 1665

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.

Inside heights

20
44

Inside widths

25
250

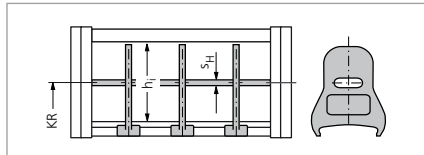


Divider system TS 1 (Type 1320)

with continuous height subdivision made of aluminum

Type	h_i 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.



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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.

Types 1455, 1555 and 1665

Fixing of the dividers

Inside heights



Inside widths



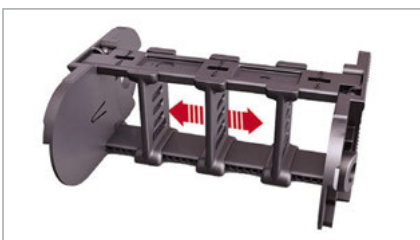
In the standard version, dividers or the complete divider system (dividers with height separation) can be moved in the cross section (**Version A**).

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.

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



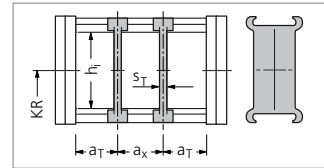
■ Divider with arresting cams

Divider system TS 0

Type	h _i mm	Version A			Version B			
		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

* a_T min = 4 mm for B_i = 38, 58, 78, 103

a_T min = 5 mm for B_i = 25



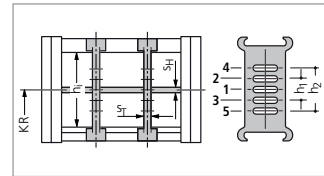
Divider system TS 1 for Design 030/040

with continuous height subdivision made of aluminum

Type	h _i mm	Version A			Version B				S _H mm	h ₁ mm	h ₂ 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	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



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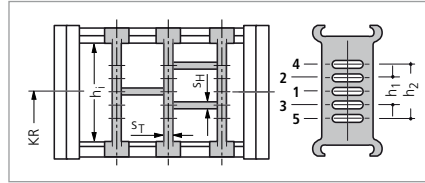
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Types 1455, 1555 and 1665

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

Type	h_1 mm	S_T mm	a_T min mm	a_x min mm	S_H mm	h_1 mm	h_2 mm
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.

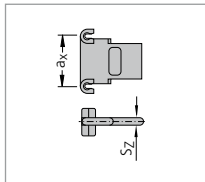
Inside
heights

20
44

Inside
widths

25
250

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.

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Cable Chain Configuration

Types 1455, 1555 and 1665

Strain relief devices for plastic connectors

Inside heights

20
–
44

Inside widths

25
–
250

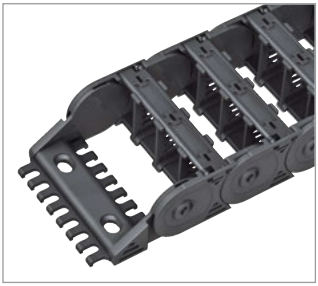
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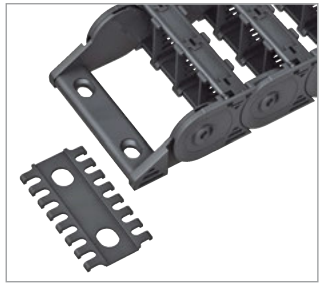
ZLK – A

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

Type	B _i	B _k	n _z
1320.38	38	50	4

Dimensions in mm

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

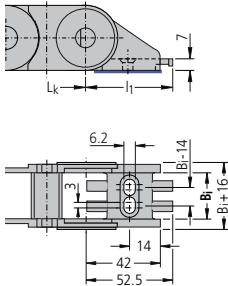
The dimensions of the fixed point and driver connections are identical.

Types 1455, 1555 and 1665

Connection dimensions for Type 1455

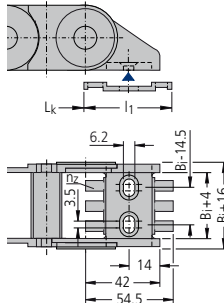
Connecting elements with strain relief combs on both sides

ZLK – A
integrated
strain relief combs



For chain width
 $B_1 = 25$ mm

ZLK – L
screwable
strain relief combs



For chain width
 $B_1 = 38 - 103$ mm

Type	B_1	B_k	n_z
145525	25	41	2
145538	38	54	3
145558	58	74	4
145578	78	94	6
1455103	103	119	8

Dimensions in mm

Inside
heights



Inside
widths



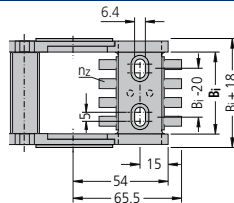
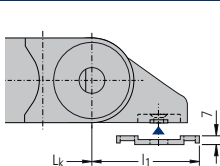
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The dimensions of the fixed point and driver connections are identical.

Connection dimensions for Type 1555

Connecting elements with strain relief combs on both sides

ZLK – L
screwable strain relief combs



Type	B_1	B_k	n_z
155550	50	68	4
155575	75	93	6
1555100	100	118	8
1555125	125	143	10
1555150	150	168	12

Dimensions in mm

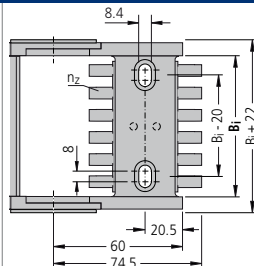
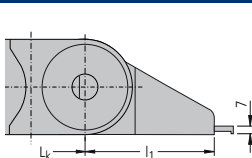
For chain width B_1 90 mm connectors made of steel are available.

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_1	B_k	n_z
166550	50	72	4
166575	75	97	6
1665100	100	122	8
1665125	125	147	10
1665150	150	172	12
1665175	175	197	14
1665200	200	222	16
1665225	225	247	18
1665250	250	272	20

Dimensions in mm

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

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Cable Carriers Configuration

Types 1455, 1555 and 1665

Connection variants

Inside
heights

20
–
44

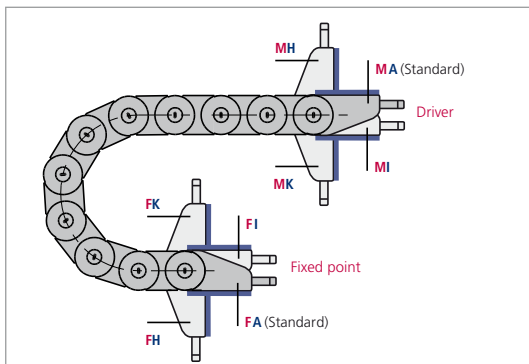
Inside
widths

25
–
250

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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:

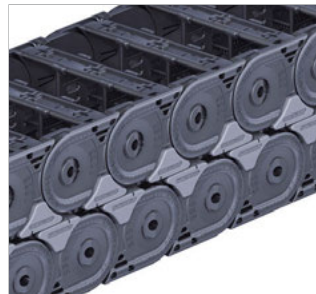
- 1455:** $h_{G'} = h_G + 2.5 = 38.5 \text{ mm}$
- 1555:** $h_{G'} = h_G + 3.0 = 53.0 \text{ mm}$
- 1665:** $h_{G'} = h_G + 3.0 = 63.0 \text{ mm}$

Minimum bend radii when using glide shoes:

- 1455:** $KR_{\min} = 65 \text{ mm}$
- 1555:** $KR_{\min} = 80 \text{ mm}$
- 1665:** $KR_{\min} = 100 \text{ mm}$

Chain width with glide shoes:

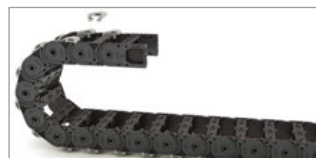
- 1455:** $B_{EF'} = b_j + 19 \text{ mm}$
- 1555:** $B_{EF'} = b_j + 22 \text{ mm}$
- 1665:** $B_{EF'} = b_j + 27 \text{ mm}$



! 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

Types 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.



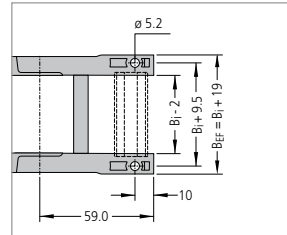
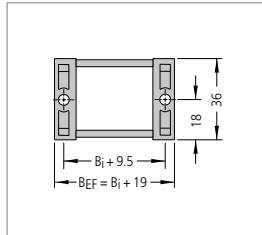
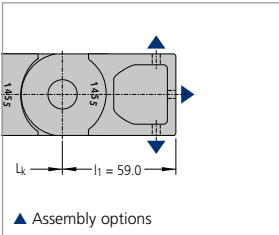
Inside
heights

20
–
44

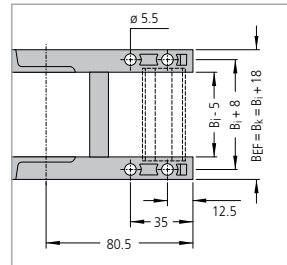
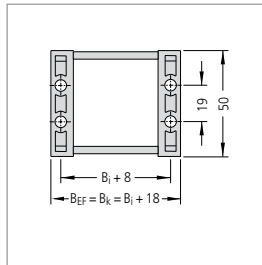
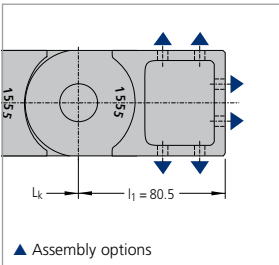
Inside
widths

25
–
250

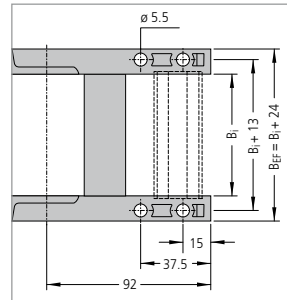
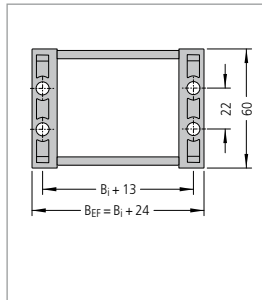
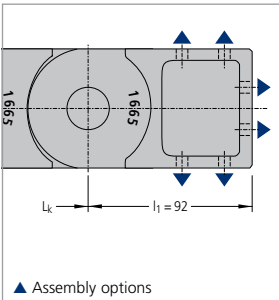
UNIFLEX 1455



UNIFLEX 1555



UNIFLEX 1665



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).

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Types 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.

Inside
heights

20
–
44

Inside
widths

25
–
250

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■ 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	Type	B _i mm	n _z
1555.50	50	3	1665.50	50	3
1555.75	75	5	1665.75	75	5
1555.90	90	6	1665.100	100	7
1555.100	100	7	1665.125	125	9
1555.125	125	9	1665.150	150	11
1555.150	150	11	1665.175	175	13
			1665.200	200	16
			1665.225	225*	17
			1665.250	250*	19

n_z = Number of teeth on one side of the comb

* on request

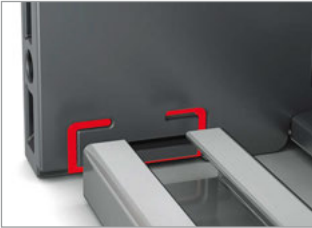
Types 1455, 1555 and 1665

Strain relief devices

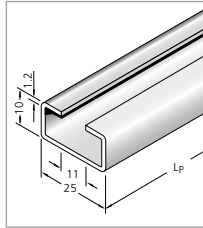
C-rails for LineFix bracket clamps, SZL strain reliefs and clamps (UNIFLEX 1555/1665)

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

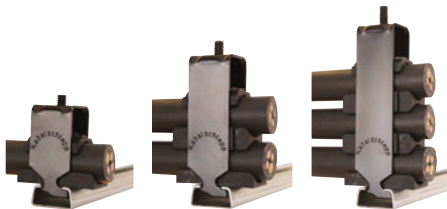


■ Integratable C-rail
25 x 10 mm,
slit width 11 mm,
material steel,
Item-No. 3931

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



Inside
heights



Inside
widths

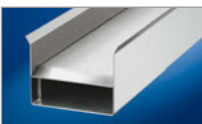


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Cable Carrier Configuration

Guide channels
➤ from page 375



Strain relief devices
➤ from page 381



Cables for cable carrier systems
➤ from page 438





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

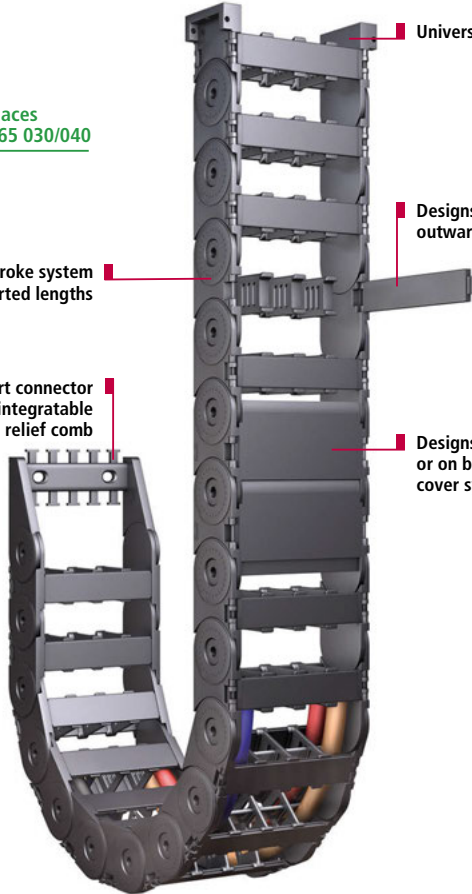
Robust, double stroke system
for long unsupported lengths

Single-part connector
with integratable
strain relief comb

Universal connectors (UMB)

Designs with inward or
outward opening brackets

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



Inside
heights

17.5
—
44

Inside
widths

15
—
175

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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

Overview UNIFLEX

Design 030 with outward opening and detachable brackets

Inside heights

17.5
44

Inside widths

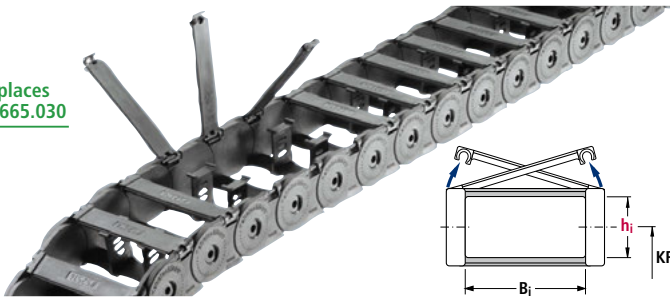
25
175



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/s ²	
0250.030	17.5	20-80	60	10	50	100
0345.030	20	15-90	80	10	50	102

Dimensions in mm

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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



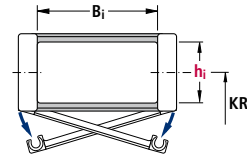
Type	h _i	B _i	Maximum travel length in m	Dynamics of unsupported arrangement		Page
				Travel speed v _{max} in m/s	Travel acceleration a _{max} in m/s ²	
0345.040	20	15-90	80	10	50	102

Dimensions in mm

Use our free project planning service.

Overview UNIFLEX

Design 050 – covered on one side



Inside heights

17.5
—
44

Inside widths

25
—
175

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/s ²	
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

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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



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Cable Carrier Configurator

Type 0250

Design 030

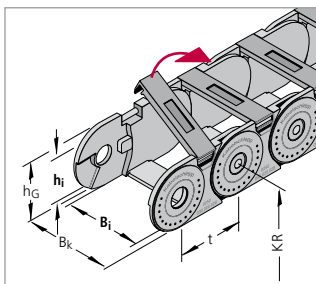
Outside: Hinged, openable and detachable brackets

Inside height

17.5

Inside widths

20
80



Dimensions and intrinsic chain weight

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

Dimensions in mm/Weights in kg/m

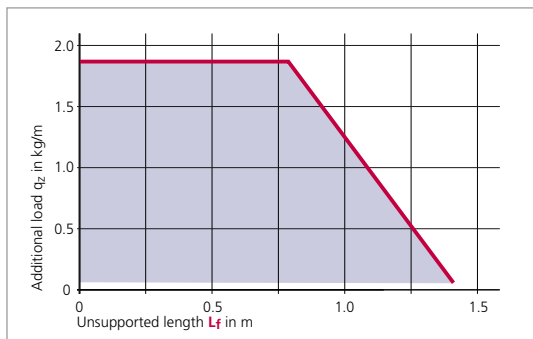
Bend radius and pitch

Bend radii KR mm					
28	38	45	60	75	100

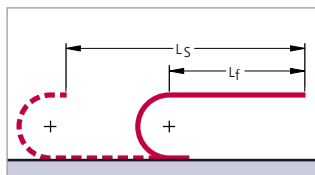
Pitch $t = 25.0$ mm

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

0250

030

40

45

650

Type

Design

Inside width
 B_i in mm

Bend radius
KR in mm

Chain length L_k
in mm (without
connection)

Divider system

TS 0

/

2

Divider
system

Number of
dividers n_T

Connection

FA/MA

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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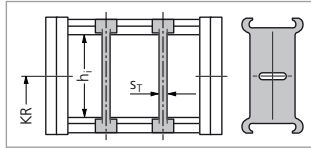
Type 0250

Divider system TS 0

Type	h_1 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 sub-division ($S_H = 2.4$ mm) is also available for the type 0250.

Inside height

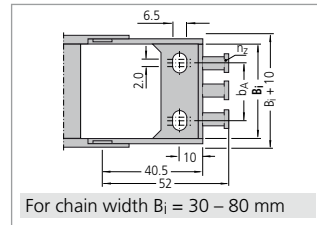
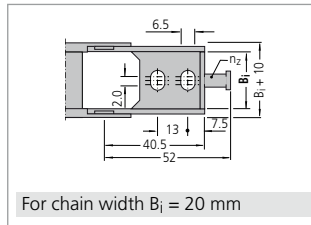
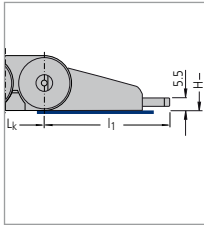
17.5

Inside widths

20
80

Connection dimensions

Plastic connectors with integrated strain relief



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

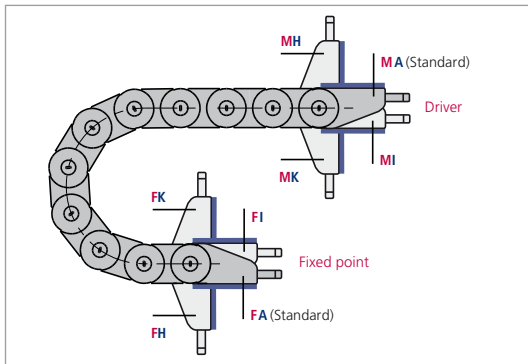
Table of dimensions

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.

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Cable Chain Configuration

Type 0345

Inside heights

20

Inside widths

15
90

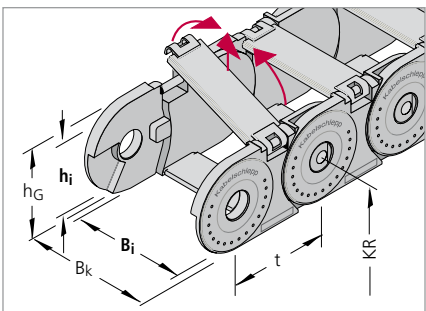
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Use our free project planning service.

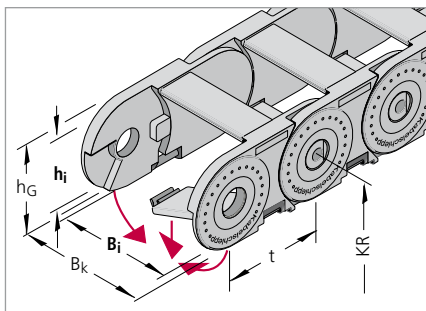
Design 030

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									
0345	20	28	15	20	25	38	50	65	90	—	—	$B_i + 13$
			0.43	0.45	0.46	0.50	0.53	0.57	0.71	—	—	

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

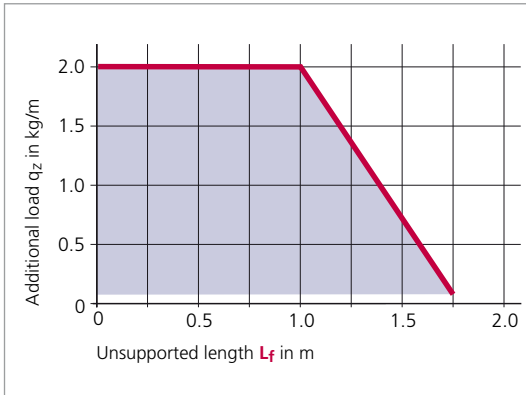
Cable carrier				Divider system		Connection
0345	040	65	75	690	TS 0 / 2	FA/MA
Type	Design	Inside width B_i in mm	Bend radius KR in mm	Chain length L_k in mm (without connection)	Divider system	Number of dividers n_T
						Connection Fixed point/Driver

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.

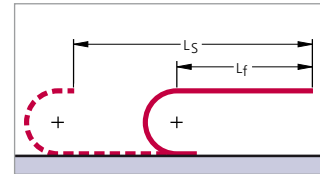
Type 0345

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.

Inside heights



Inside widths

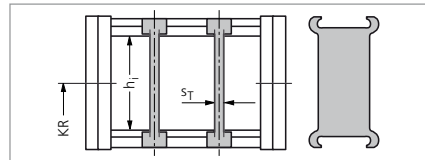


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Divider system TS 0

Type	h_i mm	S_T mm
0345	20	2

The dividers can be moved in the cross section.

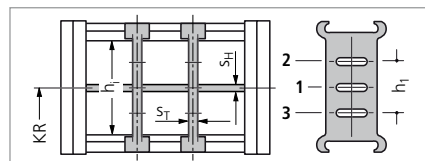


In the standard version, the divider systems are mounted on every second chain link.

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.

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Cable Carrier Configurator

Types 0345, 0455, 0555 and 0665

Design 050

Outside: Covered

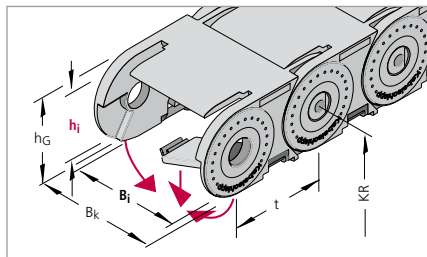
Inside: Hinged, openable (on the right/left) and detachable brackets

Inside
heights

20
–
44

Inside
widths

15
–
175



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Dimensions and intrinsic chain weight

Type	h _i	h _G	Inside widths B _i							B _k
			Intrinsic chain weight							
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

0555 · 050 · 100 · 125 · 1332

Type Design Inside width B_i in mm Bend radius KR in mm Chain length L_k in mm (without connection)

Divider system

TS 0 / 3

Divider system Number of dividers n_T

Connection

FA/MA

Connection Fixed point/Driver

Ordering divider systems:

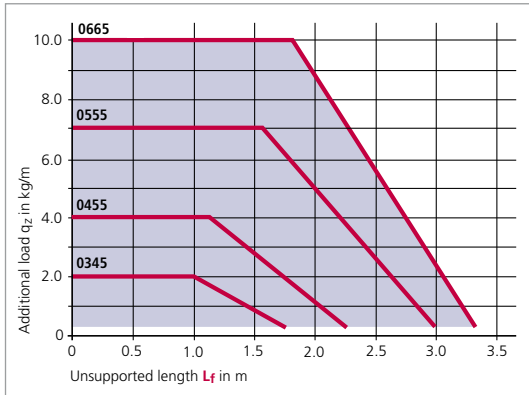
Please state the designation of the divider system (TS 0, TS 1 ...) and the number of dividers. Possibly attach a sketch with the dimensions.

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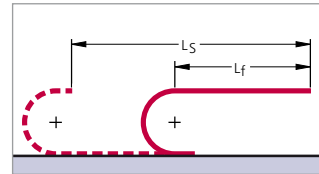
Types 0345, 0455, 0555 and 0665

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.

Inside heights

20
44

Inside widths

15
175

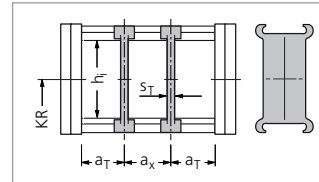
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Divider system TS 0

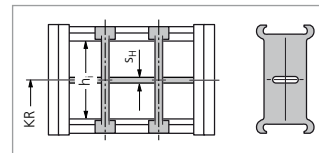
Type	h_i mm	S_T mm	a_x mm	B_i mm	a_T min mm
0455	26	3	20	25	12.5
0455	26	3	20	38, 58, 78	19
0455	26	3	20	103	21.5
0455	26	3	20	130	25
0555	38	3	25	50 ... 150	25
0665	44	5	25	50 ... 175	25

The dividers are fixed at an interval of a_x .

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



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



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Cable Carrier Configurator

Types 0345, 0455, 0555 and 0665

Strain relief devices for plastic connectors

Inside
heights

20
—
44

Inside
widths

15
—
175

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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.

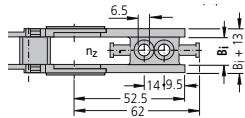
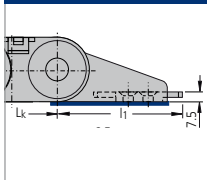
The combs are either clipped to the end connectors and bolted together with them, or screwed on at the desired intervals by using additional boreholes, behind the connecting elements.



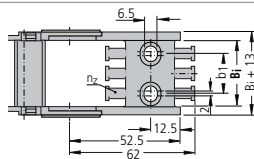
Connection dimensions for Type 0345

Connecting elements with integrated strain relief combs on both sides

ZLK – A



For chain width $B_i = 15 - 20 \text{ mm}$



For chain width $B_i = 25 - 65 \text{ mm}$

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

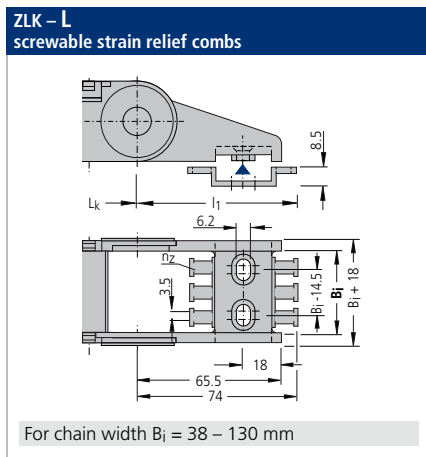
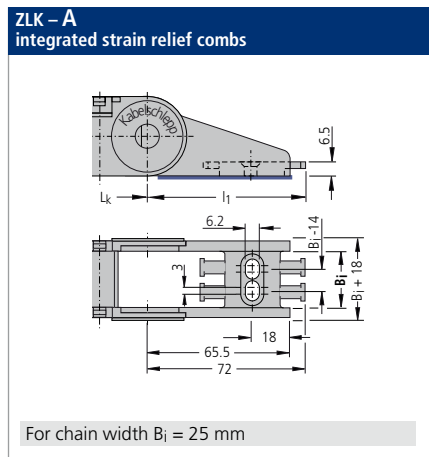
Dimensions in mm

* Type 0345... .25 with 6.5 mm hole (not an elongated hole)
Connectors made of steel are available for carrier width $B_i = 90 \text{ mm}$.

Types 0345, 0455, 0555 and 0665

Connection dimensions for Type 0455

Connecting elements with strain relief combs on both sides



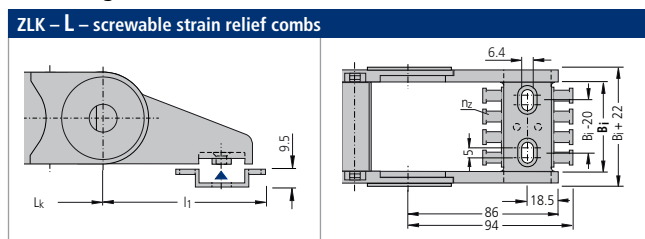
The dimensions of the fixed point and driver connections are identical.

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



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

Inside heights



Inside widths



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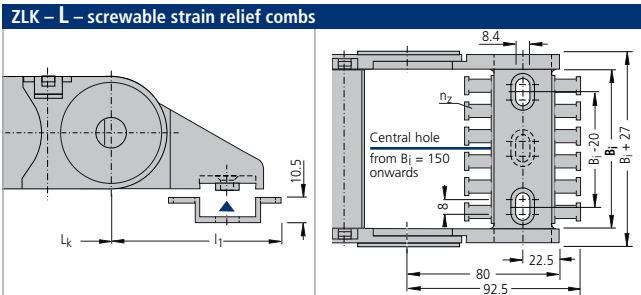
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TSUBAKI KABELSCHLEPP
Cable Carriers Configuration

Types 0345, 0455, 0555 and 0665

Connection dimensions for Type 0665

Connecting elements with strain relief combs on both sides

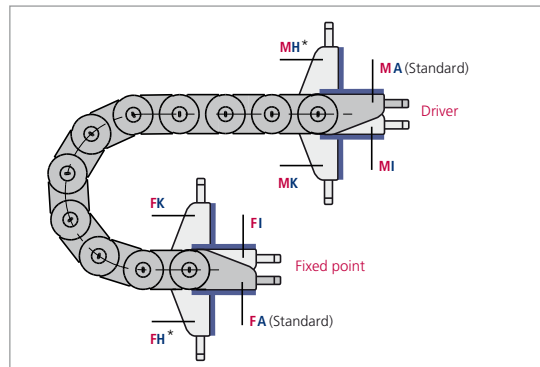


The dimensions of the fixed point and driver connections are identical.

Type	B_i	B_k	n_z
066550	50	77	4
066575	75	102	6
0665100	100	127	8
0665125	125	152	10
0665150	150	177	12
0665175	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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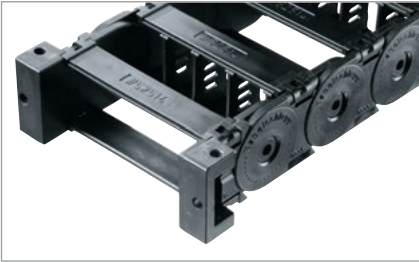
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Types 0345, 0455, 0555 and 0665

Connection dimensions

UMB (Universal Mounting Brackets) made of aluminum

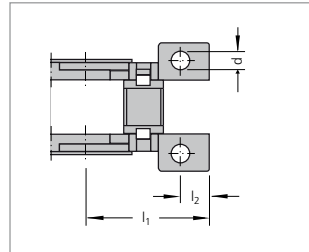
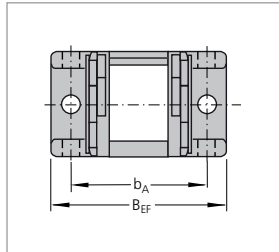
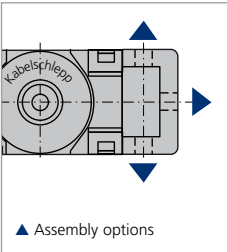


Universal connectors for connection above, below or at the front.

Inside heights



Inside widths



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

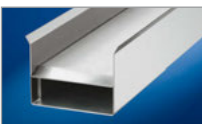
Dimensions in mm

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Your Cable Carrier
Cable Carrier Configurator

Guide channels
► from page 375



Strain relief devices
► from page 381

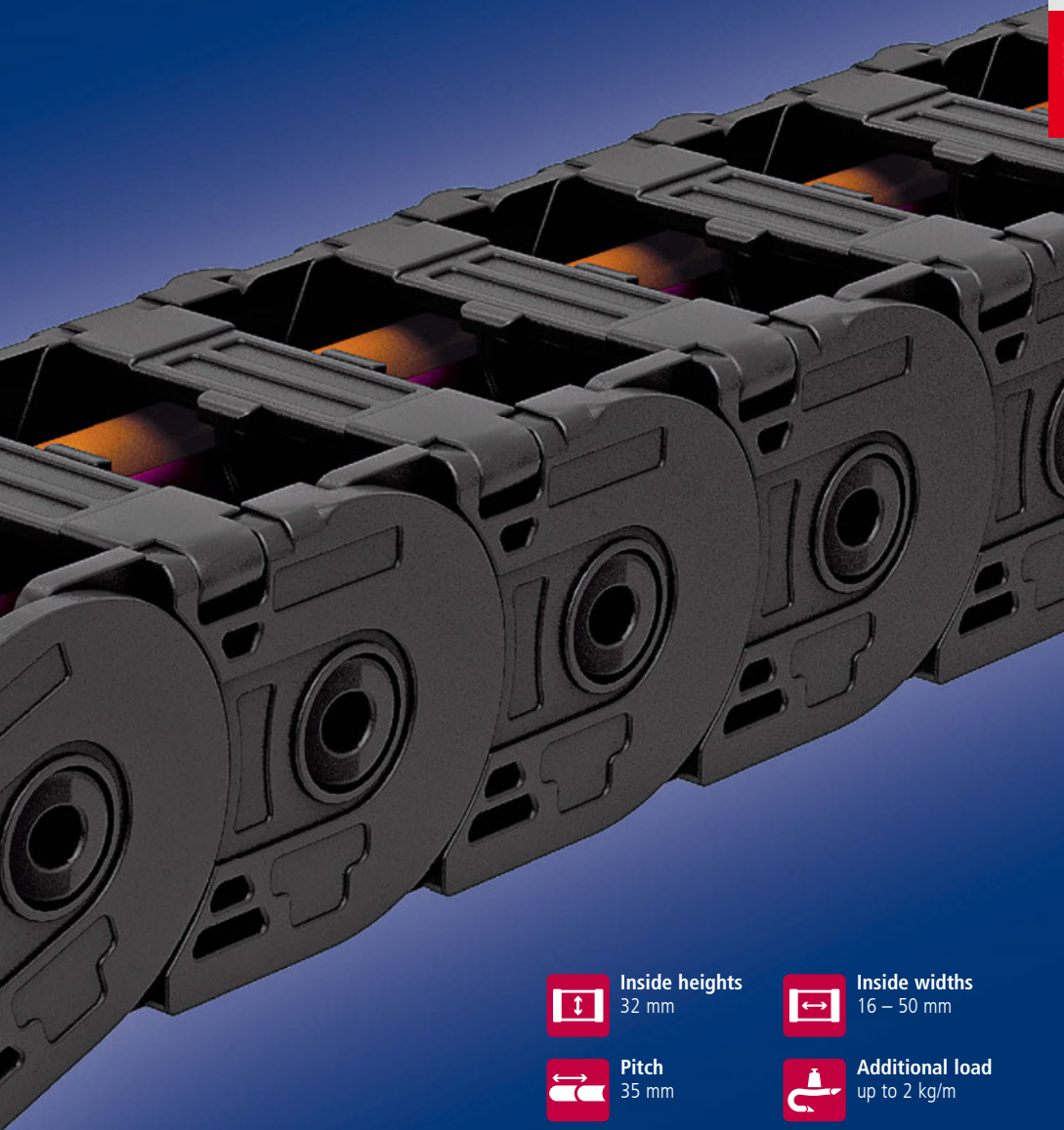


Cables for cable carrier systems
► from page 438



TKP35





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!

BASIC LINE | TKP35

Inside
heights

32

Inside
widths16
-
50

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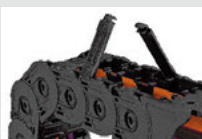
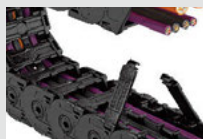
Fon:

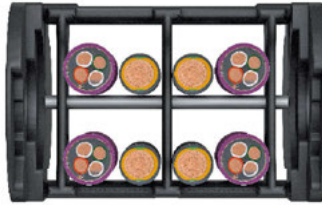
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Features

- 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 Bj 16)
- Easy to open versions, left or right (not Bj 16)
- Very quick and easy to open
- Optional tension relief completely integrated into the connecting element

Safe cable separation
using fixed dividersModel 030 with
outwardly hinged,
detachable brackets on
both sidesModel 040 with
inwardly hinged,
detachable brackets on
both sidesOptimised utilisation
of the interior space;
vertical as well as
horizontal internal
division possible



Example of cross section

- 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

Inside heights



Inside widths



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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

Inside
heightsInside
widths
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TKP35


Pitch
35 mm

Height
32 mm

Width
16 – 50 mm

Stay variants

Stay variant 030

Outside: hinged and detachable brackets

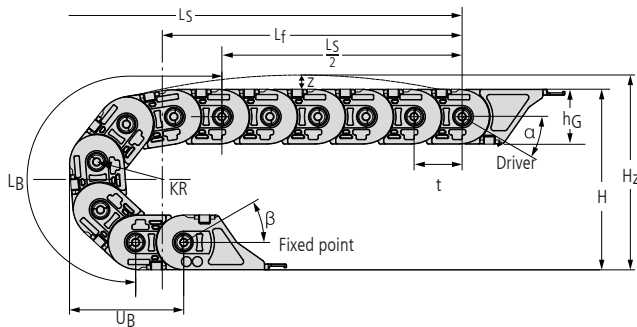

Stay variant 040

Inside: hinged and detachable brackets

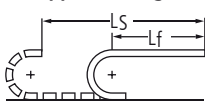
 Spare parts list, installation instructions, etc.:
Receive additional info at kabelschlepp.de

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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

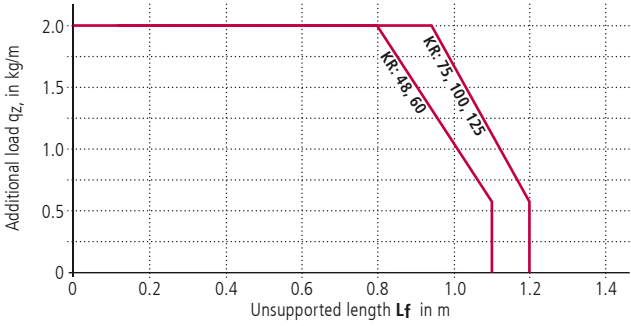
Installation measurements unsupported

KR [mm]	H [mm]	H _z [mm]	L _B [mm]	U _B [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 Bj 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 Lk rounded off to pitch t

Unsupported length Lf

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

Inside heights

32

Inside widths

16
50

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

BASIC LINE | TKP35

Inside
heightsInside
widths

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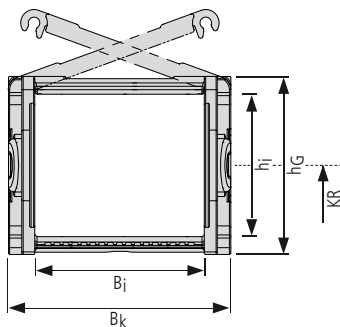
Stay variant 030 –

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

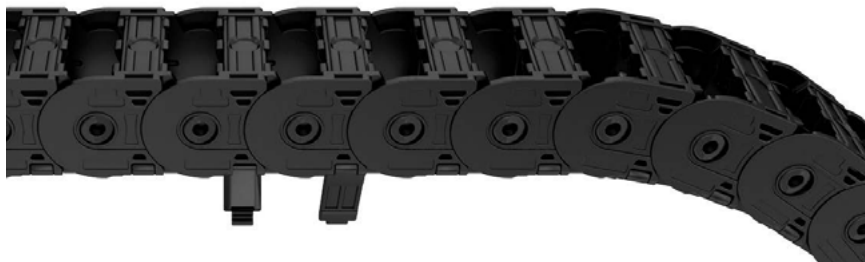


Inside/outside width and intrinsic chain weight

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

BASIC LINE | TKP35

Stay variant 040 –
inward opening and detachable bracket



Inside
heights



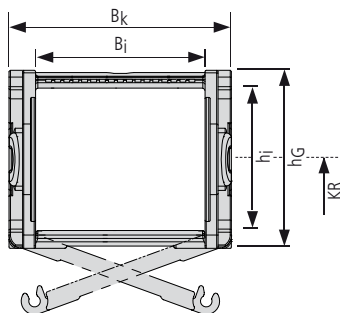
Inside
widths



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Pitch, inside height and chain link height

Type	t [mm]	h _i [mm]	h _G [mm]
TKP35.040	35	32	40



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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

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Inside
heights



Inside
widths



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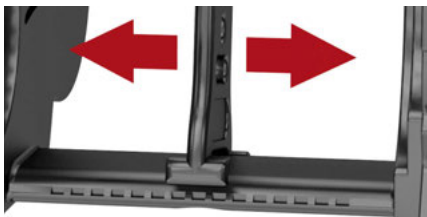
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Divider systems

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)

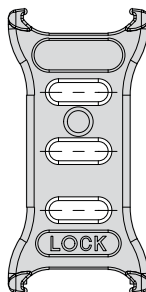
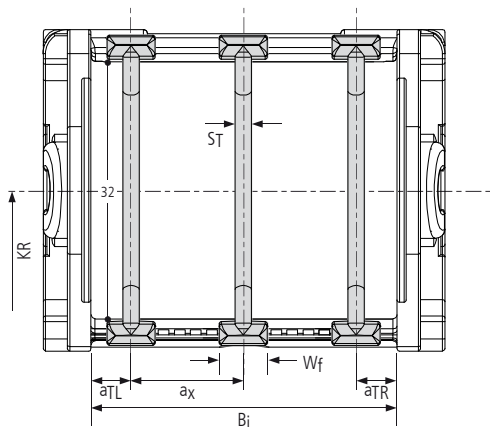


Fixable divider (2 mm grid) Version B



Divider system TS0 without subdivision

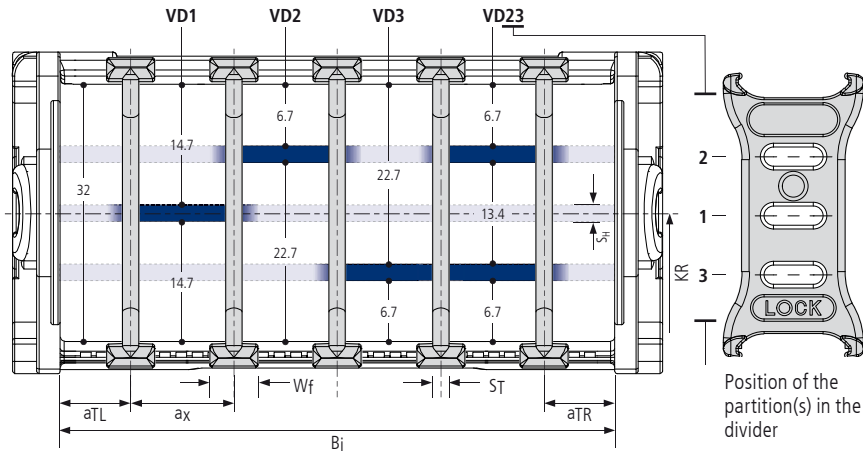
B _i [mm]	S _T [mm]	W _f [mm]	Version A moveable		Version B fixable		
			a _{TL} /a _{TR} min [mm]	a _x min [mm]	a _{TL} /a _{TR} min [mm]	a _x min [mm]	a _x grid [mm]
25	2	6	3	6	4.5	6	2
38	2	6	3	6	5	6	2
50	2	6	3	6	5	6	2




BASIC LINE | TKP35

Divider system TS1 with continuous subdivision made of aluminum

B _i [mm]	S _T [mm]	W _f [mm]	S _H [mm]	Version A moveable			Version B fixable			
				a _T /a _R	a _T /a _R	a _x	a _T /a _R	a _T /a _R	a _x	a _x
				max [mm]	min [mm]	min [mm]	max [mm]	min [mm]	min [mm]	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



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

Inside heights

32

Inside widths

16

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BASIC LINE | TKP35

Inside
heights

32

Inside
widths

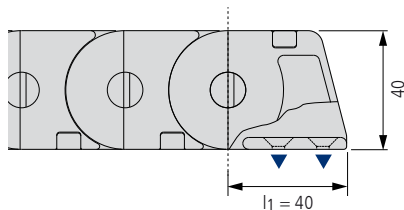
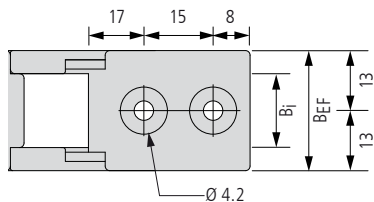
16

50

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Connection elements made from plastic

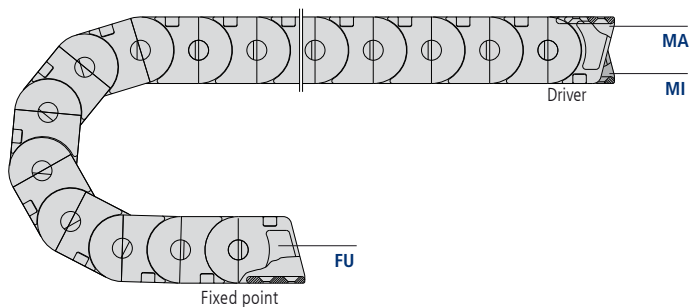
Suitable for B_i 16

▲ Assembly options

Connection dimensions

B _i [mm]	BEF [mm]
16	40

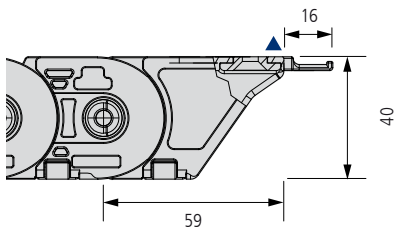
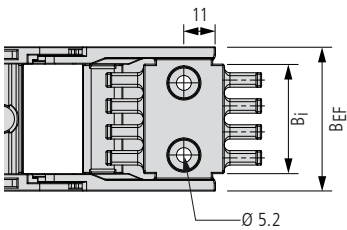
Connection variants



BASIC LINE | TKP35

Connection elements made from plastic

Suitable for Bj 25, Bj 38 and Bj 50



▲ Assembly options

Inside heights



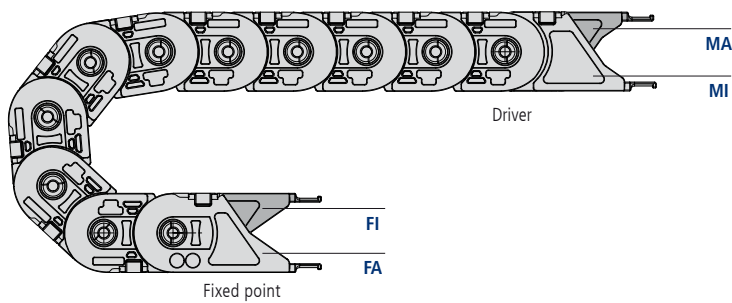
Inside widths



Connection dimensions

Bj [mm]	BEF [mm]
25	37
38	50
50	62

Connection variants



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Cable Carriers Configuration

BASIC LINE | TKP35

Inside
heights



Inside
widths



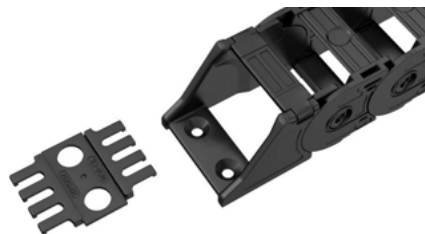
Both-sided strain relief combs made of plastic

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

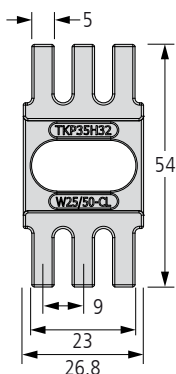


Connecting elements with attachable strain relief combs

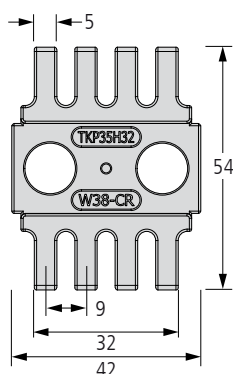
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Strain relief comb for B_i 25 / 50



Strain relief comb for B_i 38



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

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BASIC LINE | TKP35

Ordering

Ordering example cable carrier

Cable carrier

TKP35	·	040	·	38	·	75	·	700
Type		Stay variant		Bj [mm]		KR [mm]		LK [mm]

Inside heights



Inside widths



Ordering example divider system

Divider system without subdivision

TS0	·	B	/	3
Divider system		Version		nT

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

Divider system with subdivision

TS1	·	A	/	3	/	VD23
Divider system		Version		nT		Height separation

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

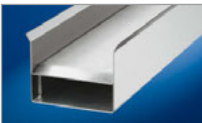
Spare parts list, installation instructions, etc.:
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Configure your custom
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Guide channels

■ from page 375



Strain relief devices

■ from page 381



Cables for cable carrier systems

■ from page 438



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Your KABELSCHLEPP
Cable Carrier Configurator



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

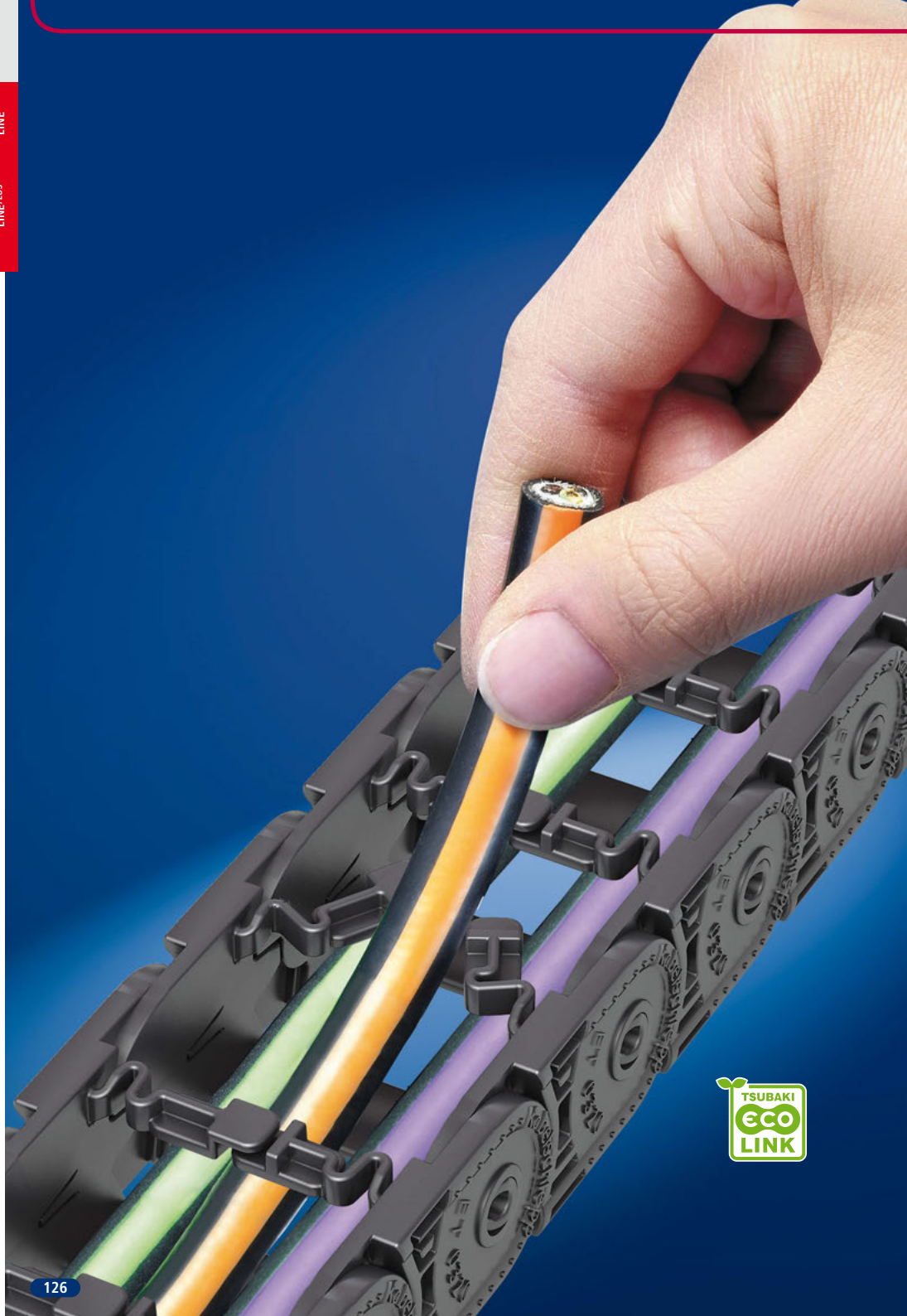
page 136



TKZP

Low-wear design made from extruded profiles

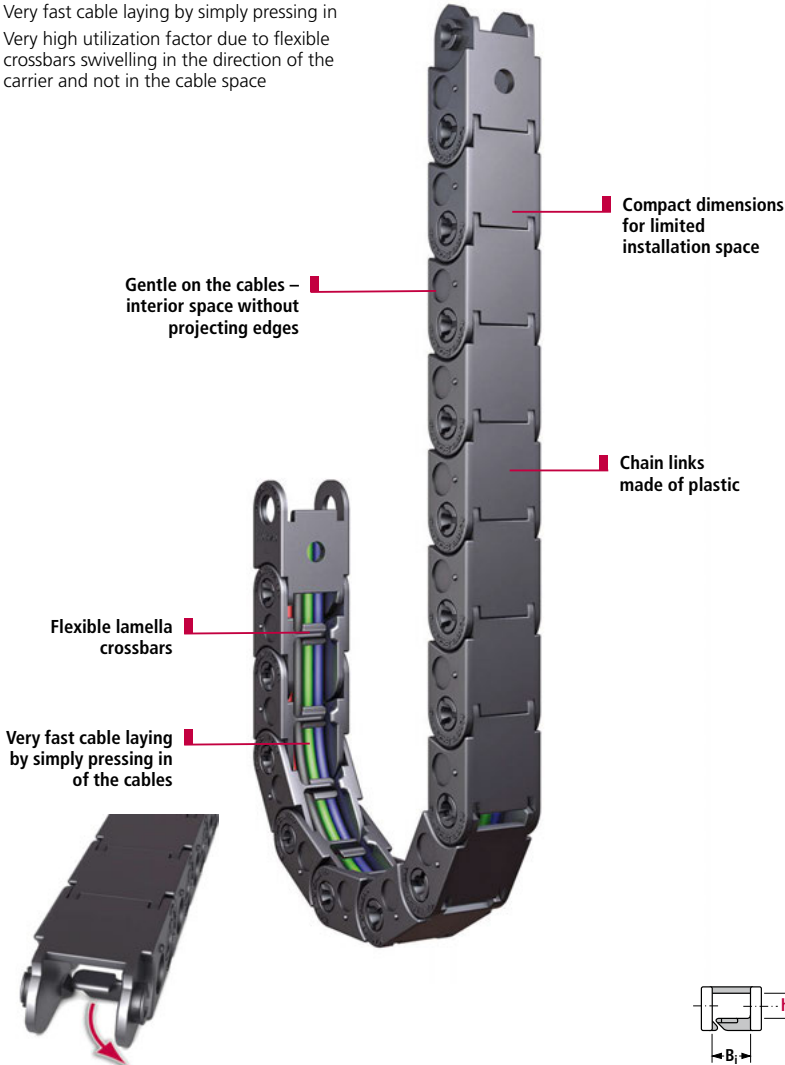
page 142



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



Inside height

4.6

Inside widths

7

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Cable Carrier Configuration

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/s ²	
ET 0115.040	4.6	7	10	3	10	128

Dimensions in mm

Type ET 0115

Design 040

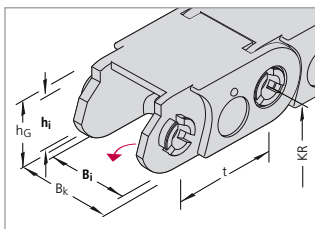
Inside: Simple pressing in of the cables

Inside height

4.6

Inside widths

7



Dimensions and intrinsic chain weight

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

Dimensions in mm/Weights in kg/m

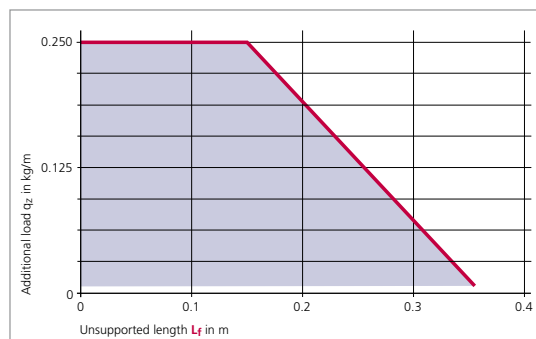
Bend radius and pitch

Bend radii KR mm
10

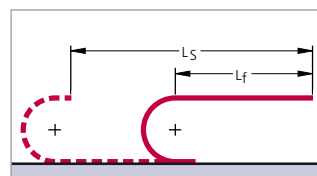
Pitch $t = 11.5$ mm

Load diagram

for unsupported length L_f depending on the additional load



Unsupported length L_f



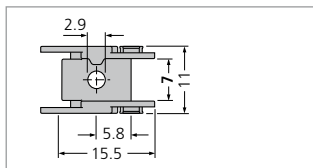
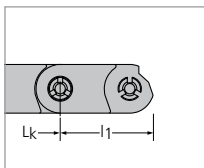
In the case of longer travel lengths, sag of the cable carriers is technically permissible depending on the application.

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)

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

Chain links made of plastic

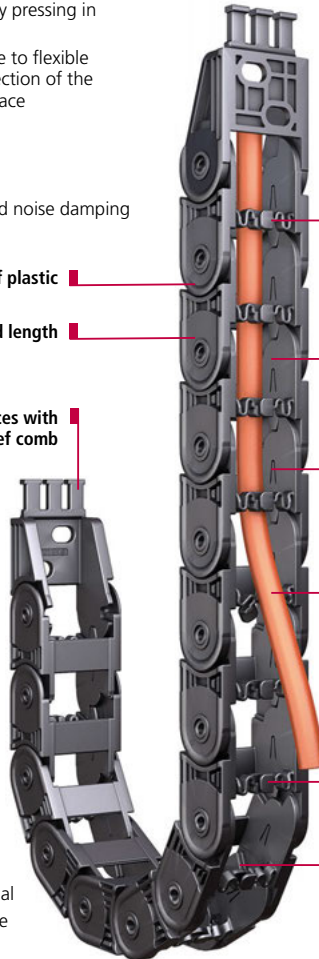
Extensive unsupported length

Connecting pieces with integrated strain relief comb



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



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

Gentle on the cables – interior space without projecting edges

Very quiet thanks to internal noise damping system

Very fast cable laying by simply pressing in of the cables

Designs with inward or outward opening crossbars

Dividers for cable separation

Inside height



Inside widths



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TSUBAKI KABELSCHLEPP
Cable Carrier Configurator



Quick and easy cable laying



Very high utilization factor



High side stability



Divider systems for reliable cable separation

Inside height

18

Inside widths

15
50

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Font:

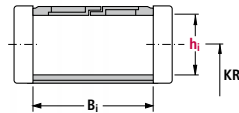
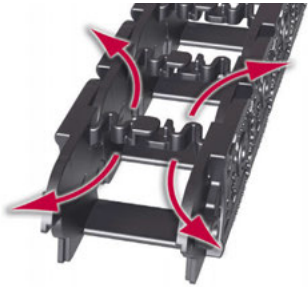
+49 2762 4003-0

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Overview EasyTrax

Design 030:

Cables can be laid easily in the outer radius

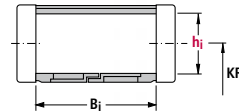
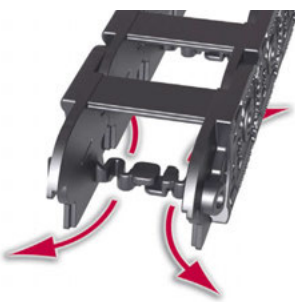


Type	hi	Bi	Maximum travel length in m	Dynamics of unsupported arrangement		Page
				Travel speed v _{max} in m/s	Travel acceleration a _{max} in m/s ²	
ET 0320.030	18	15-50	80	10	50	132

Dimensions in mm

Design 040:

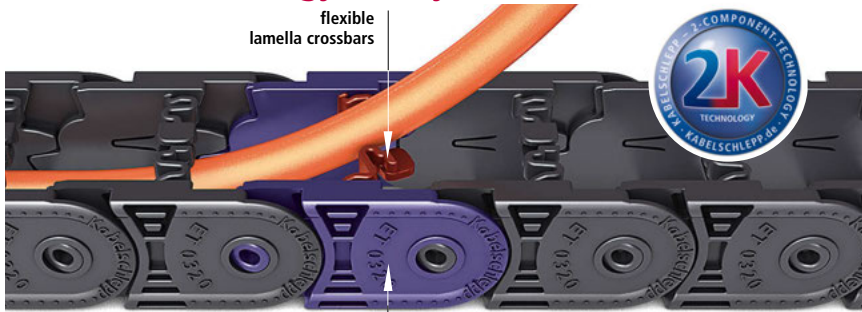
Cables can be laid easily in the inner radius



Type	hi	Bi	Maximum travel length in m	Dynamics of unsupported arrangement		Page
				Travel speed v _{max} in m/s	Travel acceleration a _{max} in m/s ²	
ET 0320.040	18	15-50	80	10	50	132

Dimensions in mm

The 2-shot-technology of EasyTrax 0320

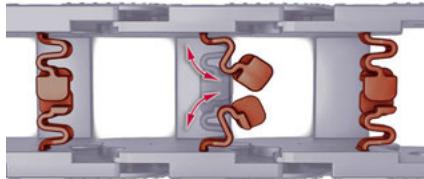


Flexible lamella crossbar –
simple pressing in of the cables



hard chain link of
fiberglass reinforced material

Fiberglass reinforced chain link –
high stability



**High flexibility, high utilization 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.

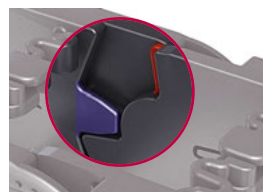
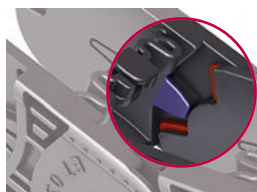
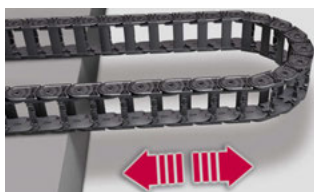


■ EasyTrax – very high utilization factor. Crossbar can be swiveled in the direction of the cable.

■ 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.



Inside height
18

Inside width
15
50

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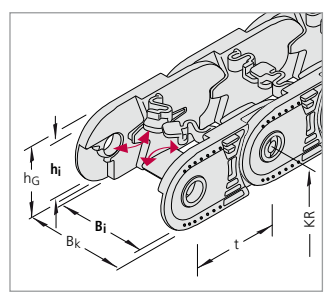
Fon: +49 2762 4003-0

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Type ET 0320

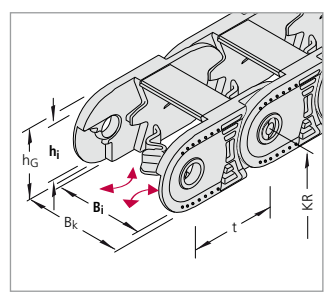
Design 030

Outside: Simple pressing in of the cables



Design 040

Inside: Simple pressing in of the cables



Dimensions and intrinsic chain weight

Type	hi	hG	Inside widths Bi				Bk
			Intrinsic chain weight				
ET 0320	18	25.5	15*	25	38	50	Bi + 12
			0.18	0.27	0.41	0.54	

* on request

Dimensions in mm/Weights in kg/m

Bend radius and pitch

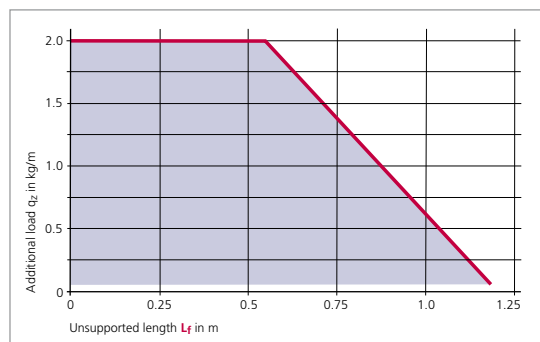
Bend radii KR mm					
28	38	48	75	100	125*

* on request

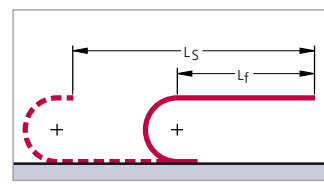
Pitch t = 32.0 mm

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

ET 0320	030	38	48	640
Type	Design	Inside width Bi in mm	Bend radius KR in mm	Chain length Lk in mm (without connection)

Divider system

TS 0	/	1
Divider system		Number of dividers nT

Connection

FA/MA
Connection Fixed point/Driver

Ordering divider systems:

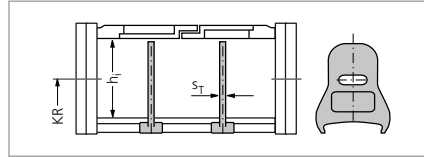
Please state the designation of the divider system (TS 0, TS 1 ...) and the number of dividers. Possibly attach a sketch with the dimensions.

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.



Inside height

18

Inside widths

15
50

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Cable Chain Configurator



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Cable Chain Configurator



Type ET 0320

Connection dimensions

Plastic connectors with integrated strain relief

Inside
height

18

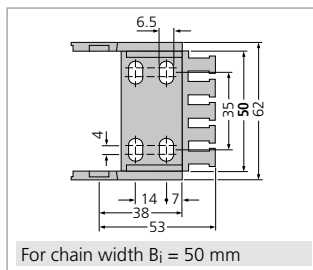
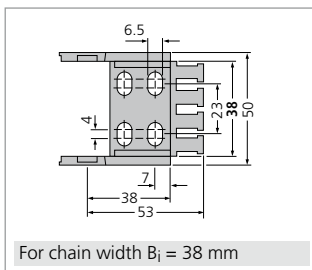
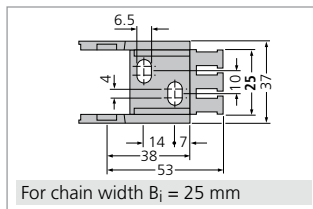
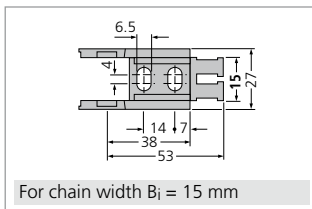
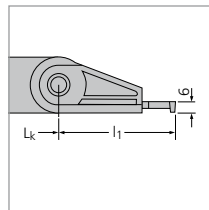
Inside
widths

15
50

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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

Dimensions in mm

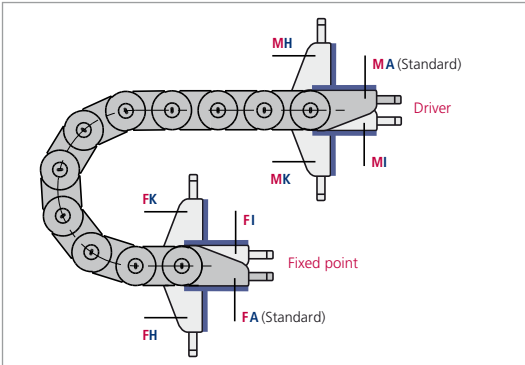


Mounting brackets
without a strain relief
comb are also available –
please contact us.



Type ET 0320

Connection variants



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).

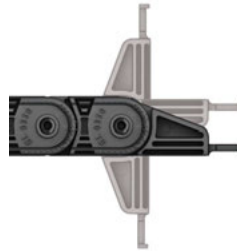
The connection type can subsequently be altered simply by varying the connectors.

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



Inside height

18

Inside widths

15
50

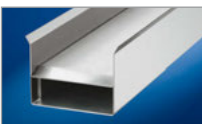
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Font:

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Cable Carrier Configurator

Guide channels
➤ from page 375

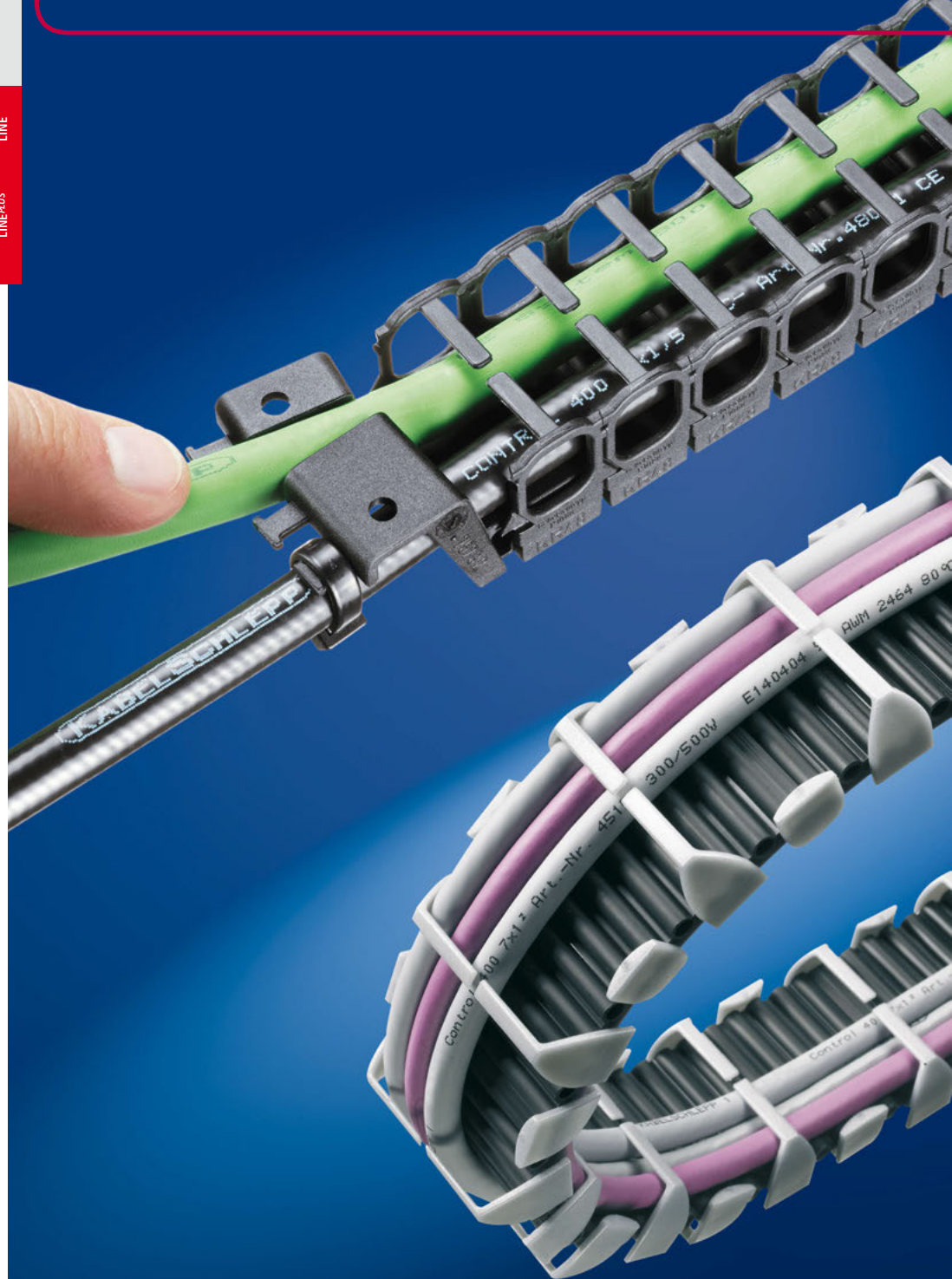


Strain relief devices
➤ from page 381



Cables for cable carrier systems
➤ from page 438





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

Very long life –
no hinges and hence
no hinge wear

Solid plastic cable carrier

Connectors
with strain relief comb



Very good ratio of useful space
to outer dimensions

Simple insertion
of the cables



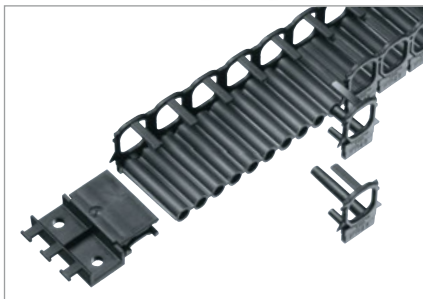
Less expense –
lower costs thanks
to simple cable laying

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.

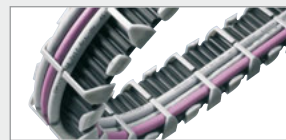


PROTUM OFFICE – P 0240 GS

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-grey, elegant-looking side walls.



Inside heights
15
20

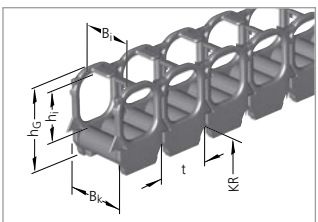
Inside widths
15
40

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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
			15	20	30		
P 0160	15	25	0.14	0.16	0.21	B _i + 4	10
P 0240	20	31	0.18	0.22	0.27	B _i + 5	15

Dimensions in mm/Weights in kg/m

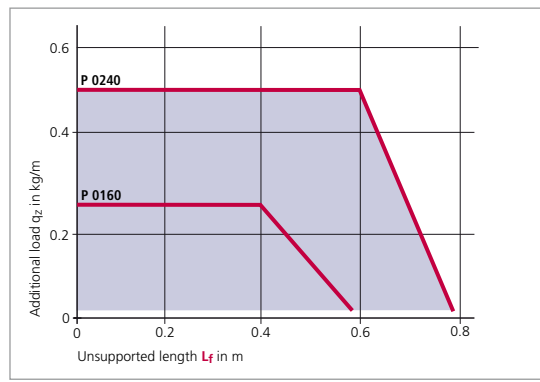
Bend radius and pitch

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

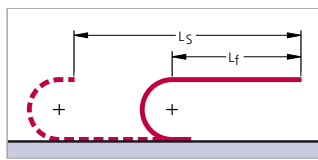
Pitch:
P 0160: t = 16 mm
P 0240: t = 24 mm

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

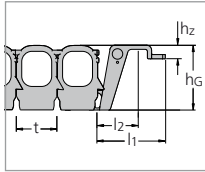
Cable carrier					Connection
P 0240	• 010	• 30	• 42	• 380	FA/MA
Type	Design*	Inside width B _i in mm	Bend radius KR in mm	Chain length L _k in mm (without connection)	Connection Fixed point/Driver

* Design 010 (simple insertion of the cables)

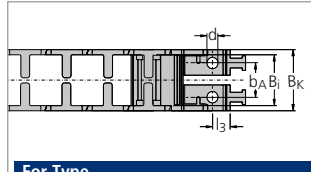
Types P 0160 and P 0240

Plastic connectors with integrated strain relief

Connection dimensions – connection on the outside

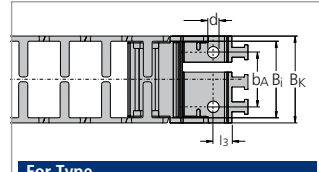


The dimensions of the fixed point and driver connections are identical.



For Type

P 0160: $B_1 = 15, 20$ P 0240: $B_1 = 20$



For Type

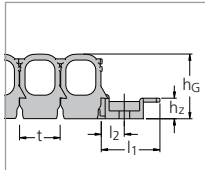
P 0160: $B_1 = 30$ P 0240: $B_1 = 30, 40$

Type	B_1	B_k	b_A	d	l_1	l_2	l_3	h_z	h_g
P 0160	15	$B_1 + 4$	11	4.2	33.6	19.5	7.5	6.5	25
	20		14						
	30		22						
P 0240	20	$B_1 + 5$	14	4.2	33.6	19.5	7.5	6.5	31
	30		22						
	40		32						

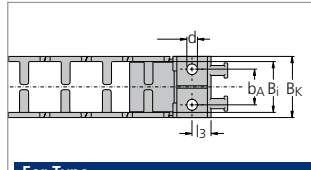
Plastic connecting elements with strain relief combs

Dimensions in mm

Connection dimensions – connection on the inside

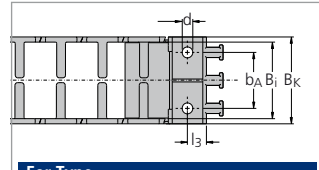


The dimensions of the fixed point and driver connections are identical.



For Type

P 0160: $B_1 = 15, 20$ P 0240: $B_1 = 20$



For Type

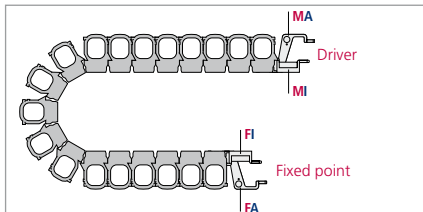
P 0160: $B_1 = 30$ P 0240: $B_1 = 30, 40$

Type	B_1	B_k	b_A	d	l_1	l_2	l_3	h_z	h_g
P 0160	15	$B_1 + 4$	11	4.2	23	7.5	7.5	8	25
	20		14						
	30		22						
P 0240	20	$B_1 + 5$	11	4.2	23	7.5	7.5	8	31
	30		22						
	40		32						

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

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.



Inside heights



Inside widths



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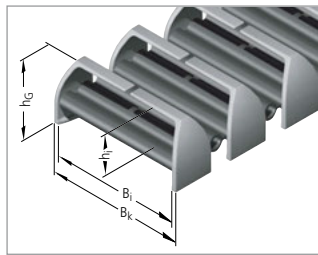
Font: +49 2762 4003-0

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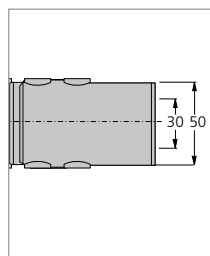
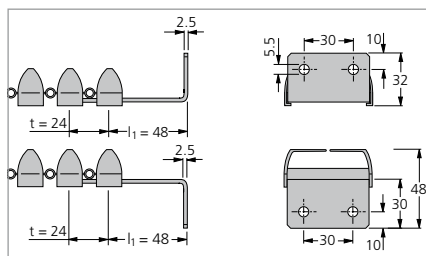
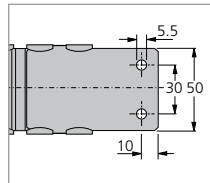
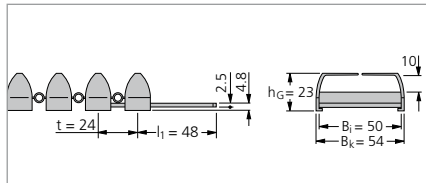
Dimensions and intrinsic chain weight

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

Dimensions in mm

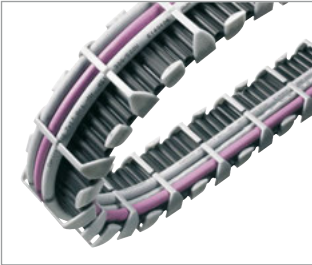


Connectors



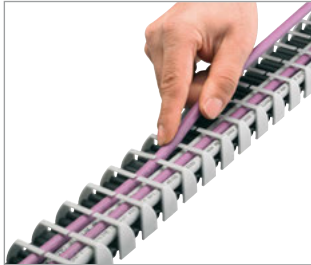
PROTUM OFFICE – P 0240 GS

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



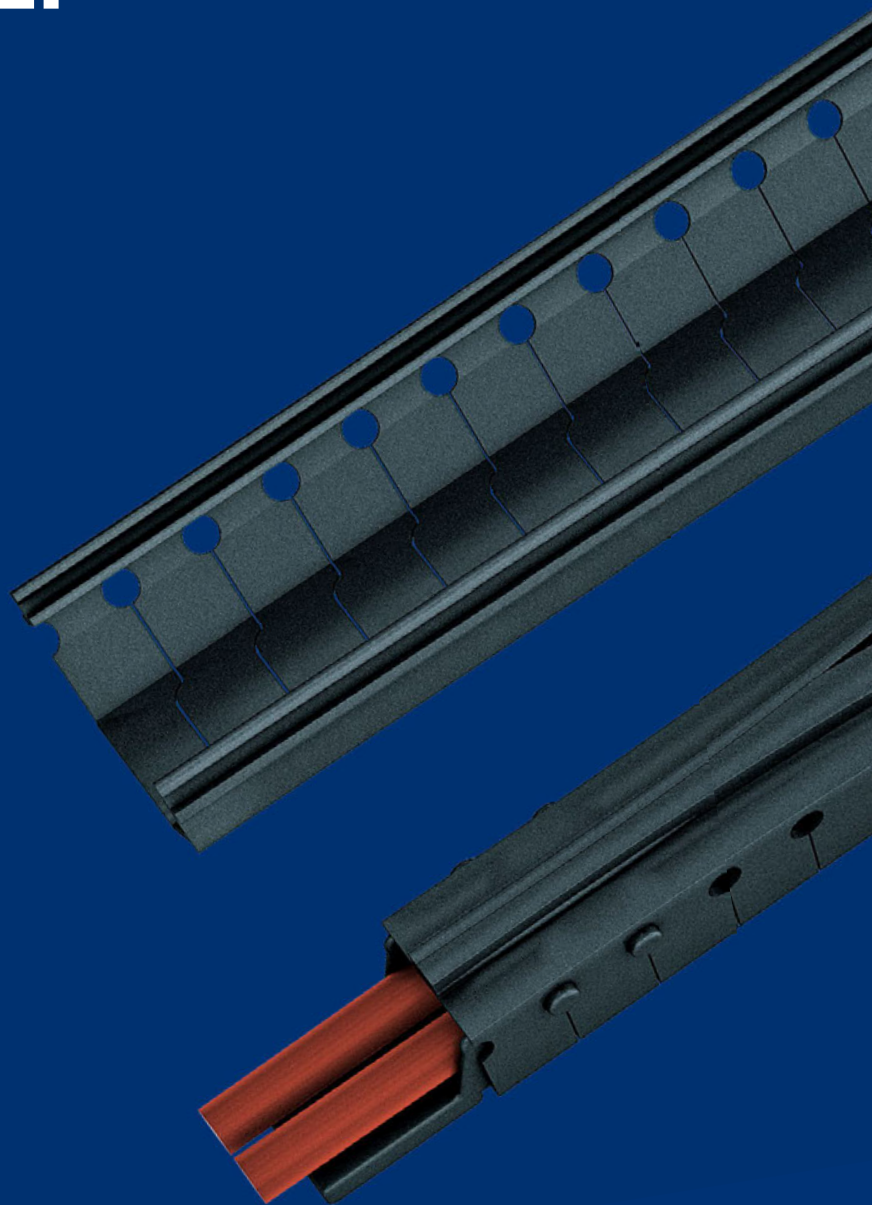
- Simple insertion of the cables.

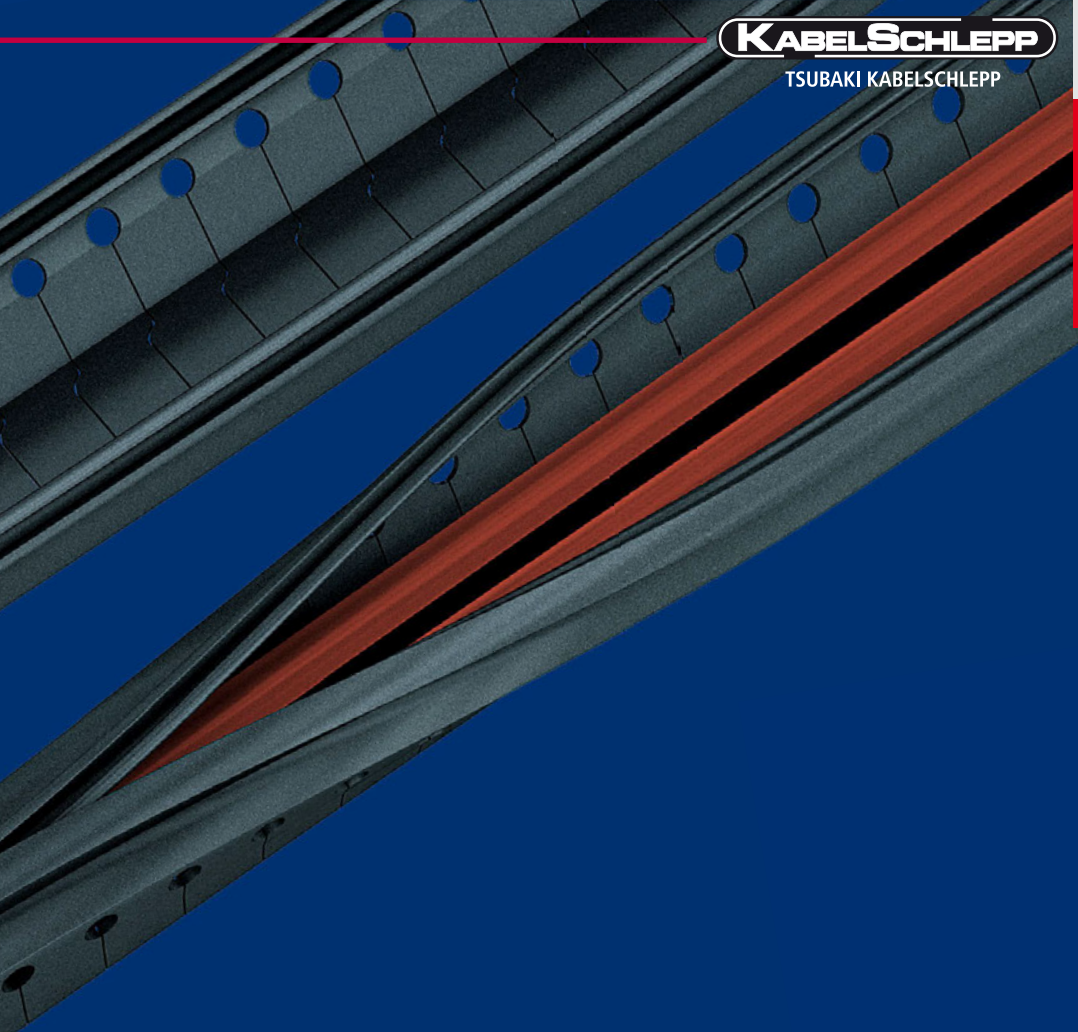
Application examples



- Photographs: Haworth Büroeinrichtungen GmbH

TKZP





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.

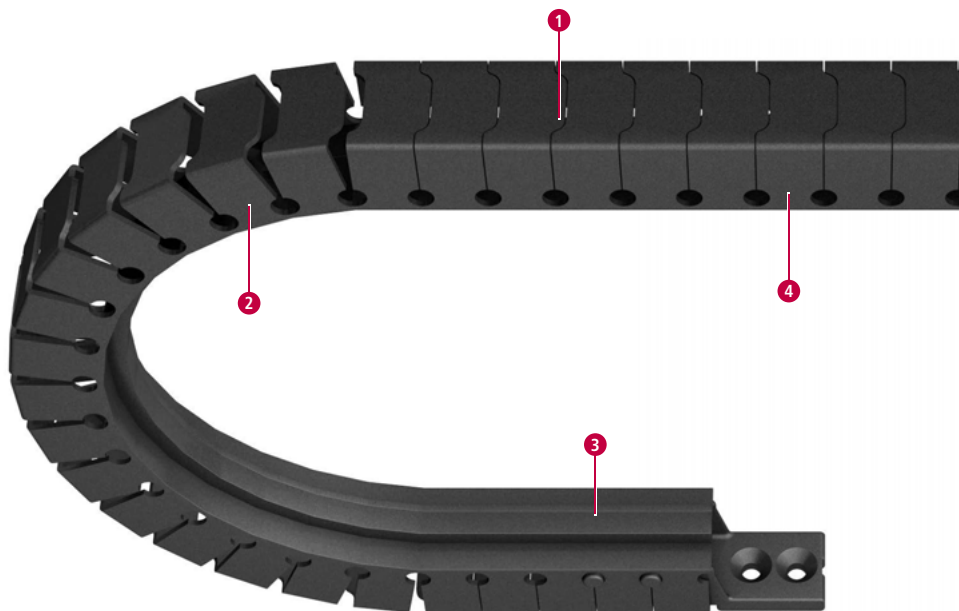
Let us know your requirements – we are here to help!

Inside
heightsInside
widths

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project planning service.

BASIC LINE PLUS | TKZP



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



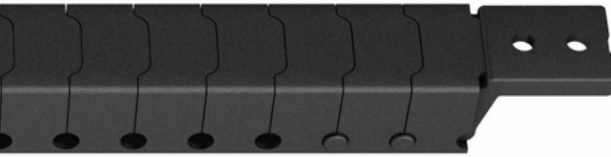
Practically no polygon effect



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



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



Example of cross section

- 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

Inside heights



Inside widths



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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

TKZP



Pitch
10 mm



Height
13 mm



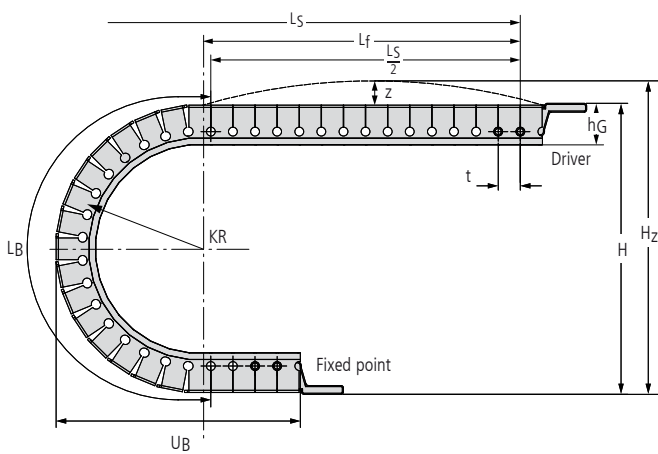
Width
10 – 15 mm



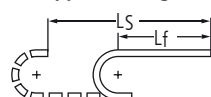
Spare parts list, installation instructions, etc.:
Receive additional info at **kabelschlepp.de**

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.

Inside heights

13

Inside widths

10
15

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Online-Kabelschlepp-Engineer
Cable Carrier Configuration

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

Installation measurements unsupported

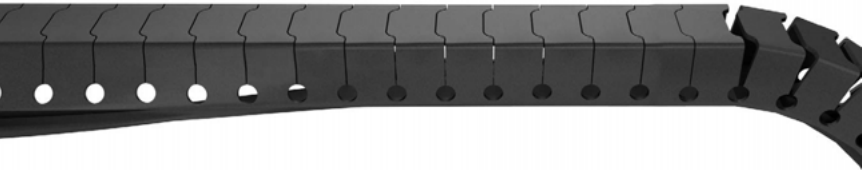
H [mm]	Hz [mm]	LB [mm]	UB [mm]
150	Depending on cable	218	111

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

BASIC LINE PLUS | TKZP10

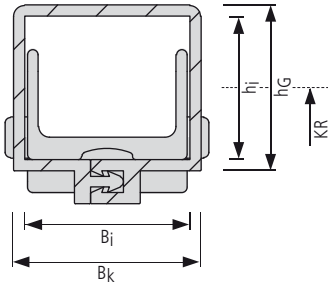
Stay variant

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

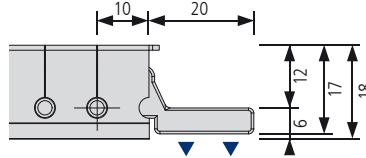
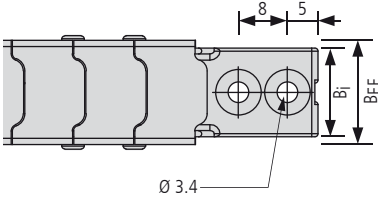


Inside/outside width and intrinsic chain weight

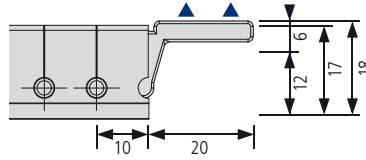
Type	B _i [mm]	B _k [mm]	q _k [kg/m]
TKZP10	10	12	0.06
TKZP10	15	17	0.07

BASIC LINE PLUS | TKZP10

Connecting elements made from plastic



▲ Assembly options

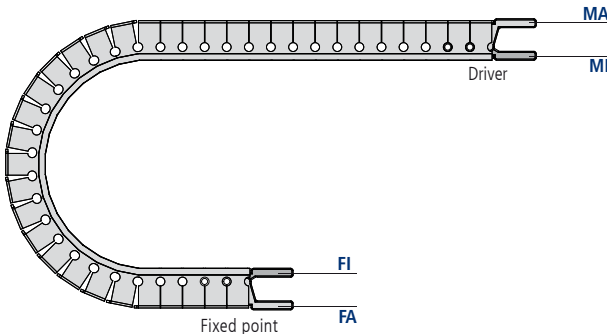


▲ Montagemöglichkeiten

Connection dimensions

B_i [mm]	BEF [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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Cable Carrier Configurator

Inside
heightsInside
widths

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project planning service.

BASIC LINE PLUS | TKZP

Ordering

Ordering example cable carrier


Cable carrier

TKZP10	.	10	-	230
Type		Bi [mm]		LK [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.



See online for additional product information

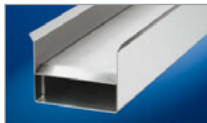
Spare parts list, installation instructions, etc.:
Receive additional info at kabelschlepp.de

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



Notes

Inside
heights



Inside
widths



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Cable Center Configurator 



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

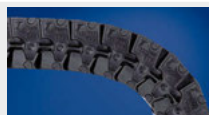
page 210



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

Inside heights



Inside widths

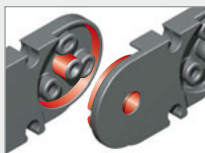
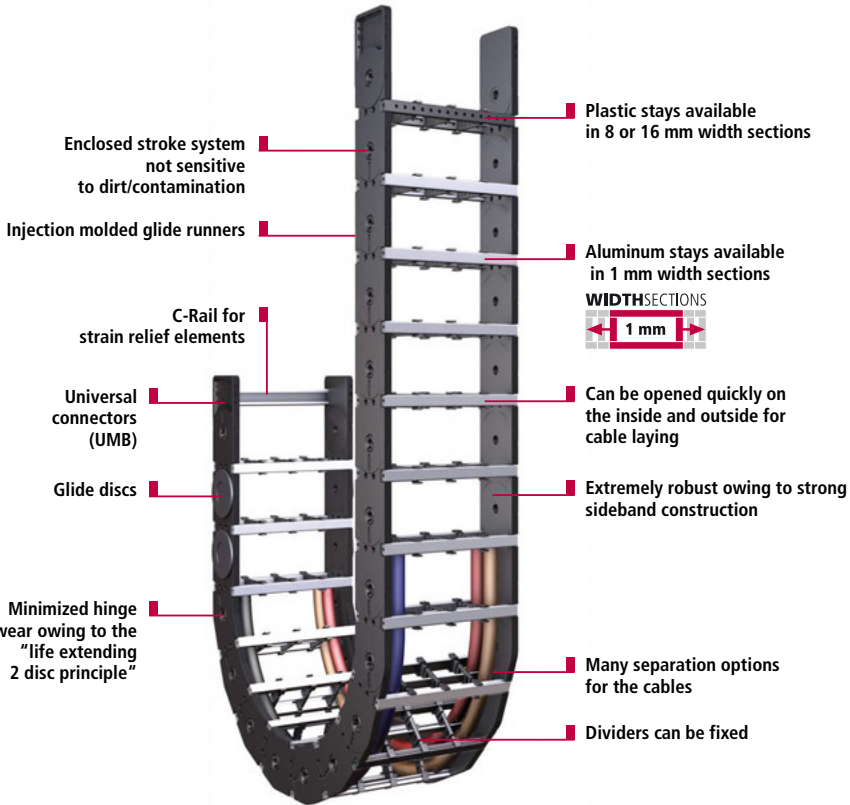


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Cable Carrier Configurator



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°



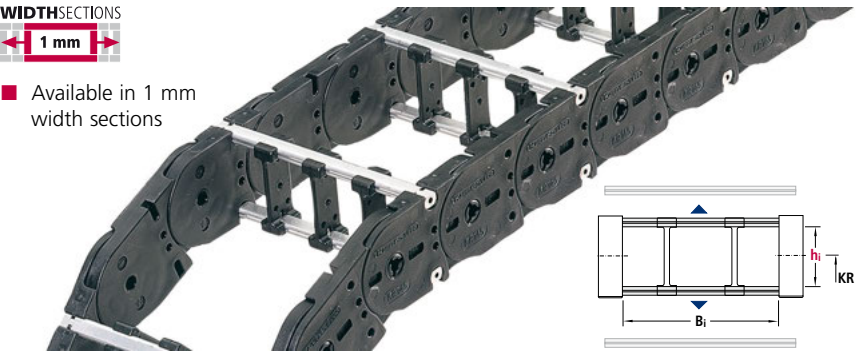
Injection molded glide runners for long service life in gliding arrangement



Many separation options for the cables

Overview K Series

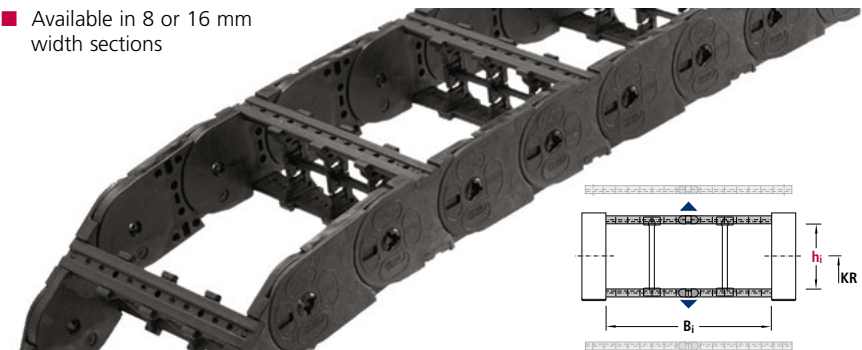
Type KC with aluminum stays



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/s ²	
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



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/s ²	
KE 0650	42	68-260	220	8	40	164
KE 0900	58	81-561	260	6	30	164

Dimensions in mm

Type KC

with aluminum stays

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

WIDTH SECTIONS



Inside heights



Inside widths



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Cable Carrier Configurator

Stay variants

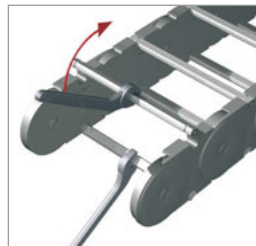
Frame stay RS

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°.



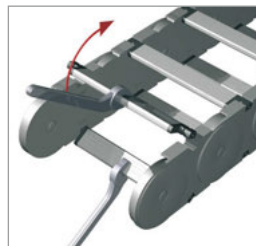
Frame stay RV

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

Types KC 0650 and 0900

Dimensions and intrinsic chain weight

Inside heights



Inside widths



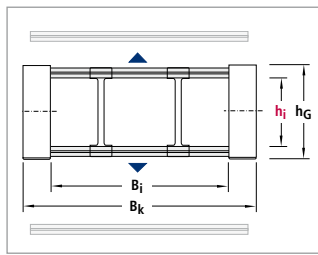
Type	Stay variant	h _i	h _G	B _i min	q _k min	B _i max	q _k max	B _k
KC 0650	RS	38	57.5	75	1.87	400	3.60	B _i + 28
KC 0900	RS	58	78.5	100	2.80	400	5.80	B _i + 31
KC 0900	RV	58	78.5	100	3.20	500	7.00	B _i + 31

Dimensions in mm/Weights in kg/m

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

WIDTH SECTIONS



Bend radius and pitch

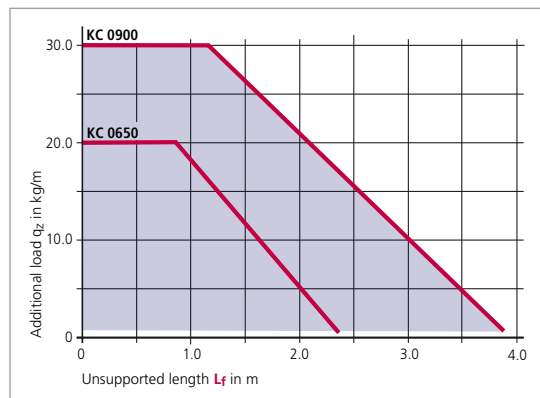
Type	Bend radii KR mm					
KC 0650	75	115	145	175	220	300
KC 0900	130	150	190	245	300	385

Pitch:

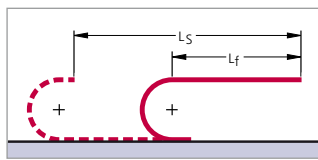
KC 0650: t = 65 mm
KC 0900: t = 90 mm

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				
KC 0900	225	RV	150	1890
Type	Inside width B _i in mm	Stay variant	Bend radius KR in mm	Chain length L _k in mm (without connection)

Divider system	
TS 0	4
Divider system	Number of dividers n _T

Connection
FU/MU
Connection Fixed point/Driver

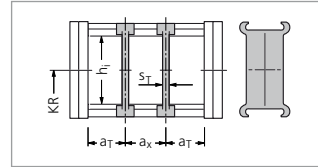
Ordering divider systems:

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

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.

Inside heights

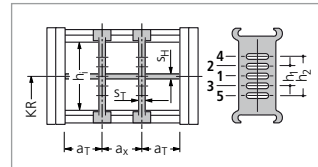
38
58

Inside widths

75
500

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

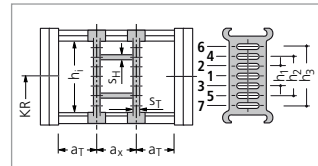


In the standard version, the divider systems are mounted on every second chain link.

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

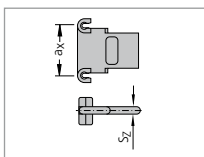
Type	Stay variant	h _i mm	S _T mm	a _T min mm	a _x min mm	S _H mm	h ₁ mm	h ₂ mm	h ₃ mm
KC 0650	RS	38	8	4	16*	4	14	28	—
KC 0900	RV	58	8	4	16*	4	14	28	42

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



S _T	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.

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Cable Carrier Configuration

Inside
heights38
58Inside
widths75
500

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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:

$$\begin{aligned} \text{KC 0650: } B_{EF'} &= B_i + 36 \text{ mm} \\ \text{KC 0900: } B_{EF'} &= B_i + 45 \text{ mm} \end{aligned}$$



Injection molded glide runners

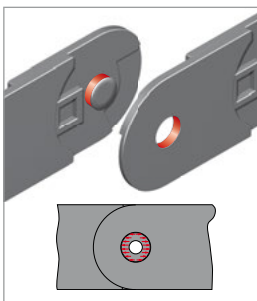
guarantee the long service life of the cable carrier in the case of long travel lengths and large additional loads.



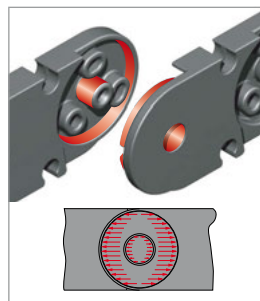
Minimized hinge wear owing to the "life extending 2 disc principle"

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.



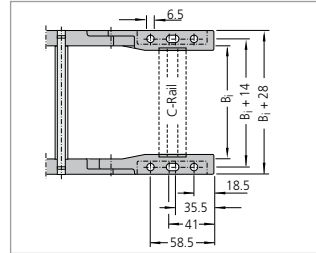
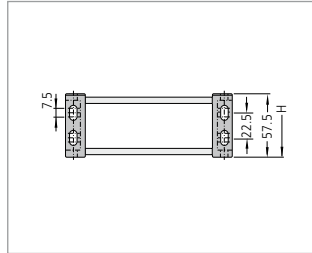
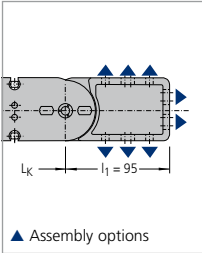
■ Force transmission with a pin-hole joint



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

Types KC 0650 and 0900

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



Inside heights

38
58

Inside widths

75
500

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

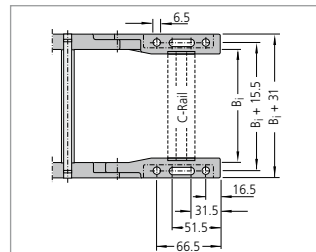
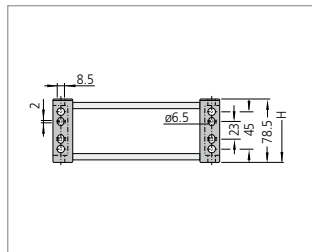
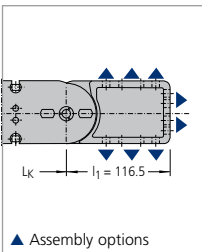
End connectors made of steel plate available on request.

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



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

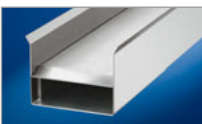
► from page 375

Strain relief devices

► from page 381

Cables for cable carrier systems

► from page 438



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Cable Carrier Configuration

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.

Inside
heights



Inside
widths



■ 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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Types KC 0650 and 0900

Strain relief devices

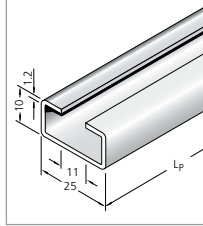
C-rails for LineFix bracket clamps, SZL strain reliefs and clamps

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

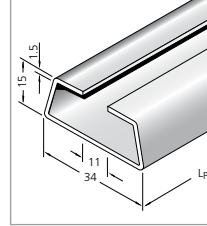
Please state in your order whether C-rails are needed.



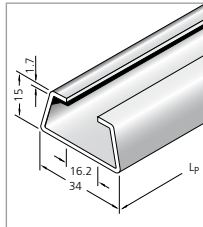
■ Universal mounting bracket with C-rail



■ **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

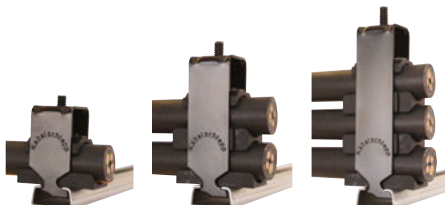


■ **KC 0900:**
Integratable C-rail
34 x 15 mm,
slit width 16 – 17 mm,
material aluminum,
Item-No. 3926,
material steel,
Item-No. 3932

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



Inside heights

38
58

Inside widths

75
500

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Cable Carrier Configuration

Inside
heights42
-
58Inside
widths68
-
561

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project planning service.

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

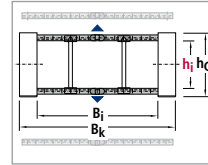
Stays can be fitted on every chain link, please specify when placing your order (not for KE 0650).

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



Inside heights

42
58

Inside widths

68
561

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

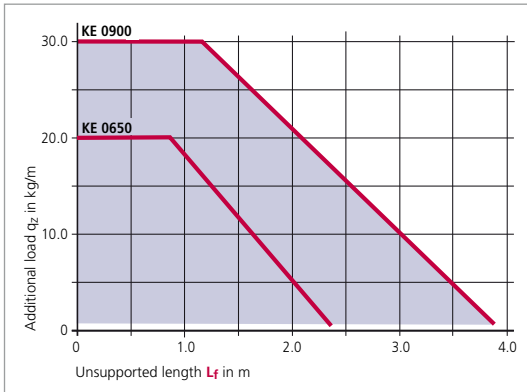
Pitch:

KE 0650: t = 65 mm

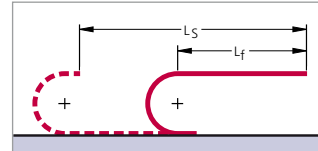
KE 0900: t = 90 mm

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.

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Example of ordering

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)

Divider system

TS 0

4

Divider system

Number of dividers n_T

Connection

FU/MU

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.

Types KE 0650 and 0900

Fixing the dividers

Inside heights



Inside widths



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)

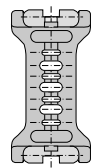
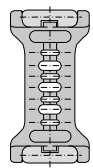
Movable divider:

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

Mounting version B

Fixed divider:

The arresting cam of the divider is fixed in the hole 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.

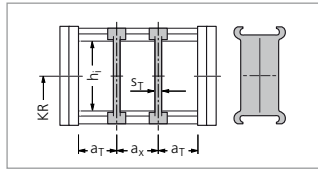
Please note that the dividers can only be fixed in positions at which there is a hole in the stay. The dimension a_x -section specifies the hole intervals in the stay.

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

Divider system TS 0

Type	Stay variant	h_i mm	Mounting version A			Mounting version B			
			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

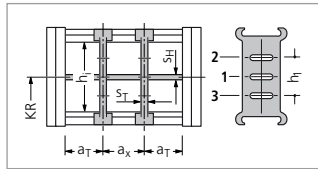
In the standard version, the divider systems are mounted on every second chain link.



Divider system TS 1 with continuous height subdivision made of aluminum

Type	Stay variant	h_i mm	Mounting version A			Mounting version B				S_H mm	h_1 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	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.



Subject to change

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Types KE 0650 and 0900

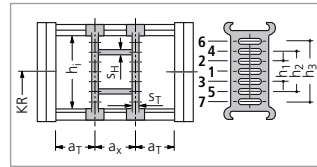
Divider system TS 3 with section subdivision, partitions made of plastic

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.



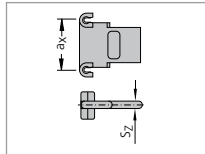
Inside heights

42
58

Inside widths

68
561

Dimensions of the plastic partitions for TS 3



Aluminum partitions in 1 mm width sections are also available.

Sz	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

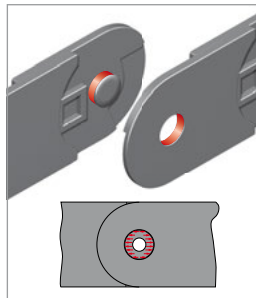
guarantee the long service life of the cable carrier in the case of long travel lengths and large additional loads.



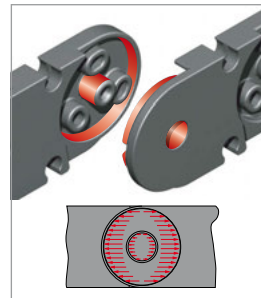
Minimized hinge wear owing to the "life extending 2 disc principle"

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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Cable Carrier Configurator

Types KE 0650 and 0900

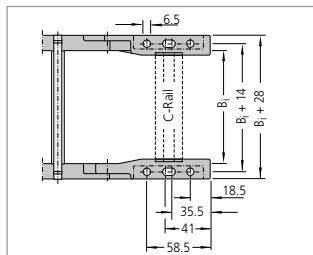
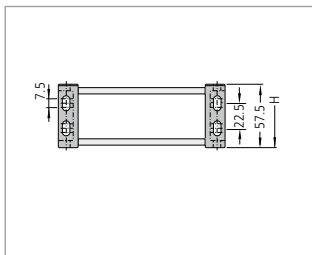
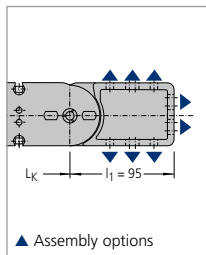
UMB (Universal Mounting Brackets) made of plastic – Type KE 0650

Inside
heights

42
58

Inside
widths

68
561



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

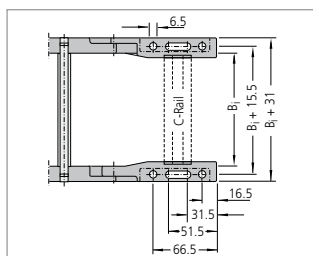
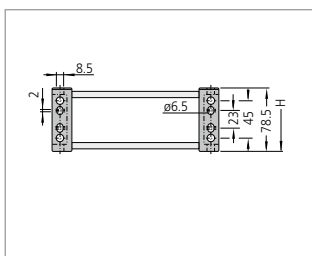
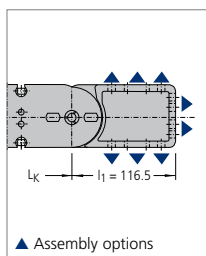
End connectors made of steel plate available on request.

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



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

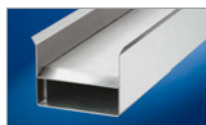
► from page 375

Strain relief devices

► from page 381

Cables for cable carrier systems

► from page 438



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Types KE 0650 and 0900

Strain relief devices

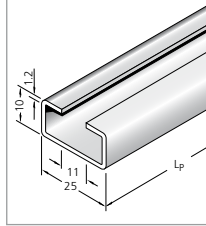
C-rails for LineFix bracket clamps, SZL strain reliefs and clamps

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

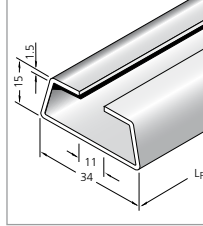
Please state in your order whether C-rails are needed.



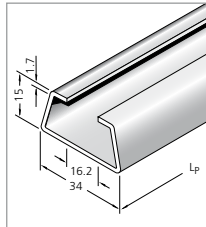
■ Universal mounting bracket with C-rail



■ **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

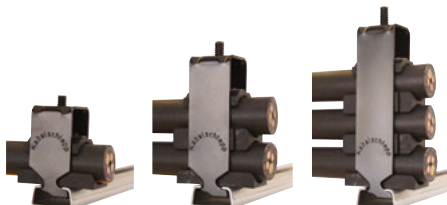


■ **KE 0900:**
Integratable C-rail
34 x 15 mm,
slit width 16 – 17 mm,
material aluminum,
Item-No. 3926,
material steel,
Item-No. 3932

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



Inside heights

42
–
58

Inside widths

68
–
561

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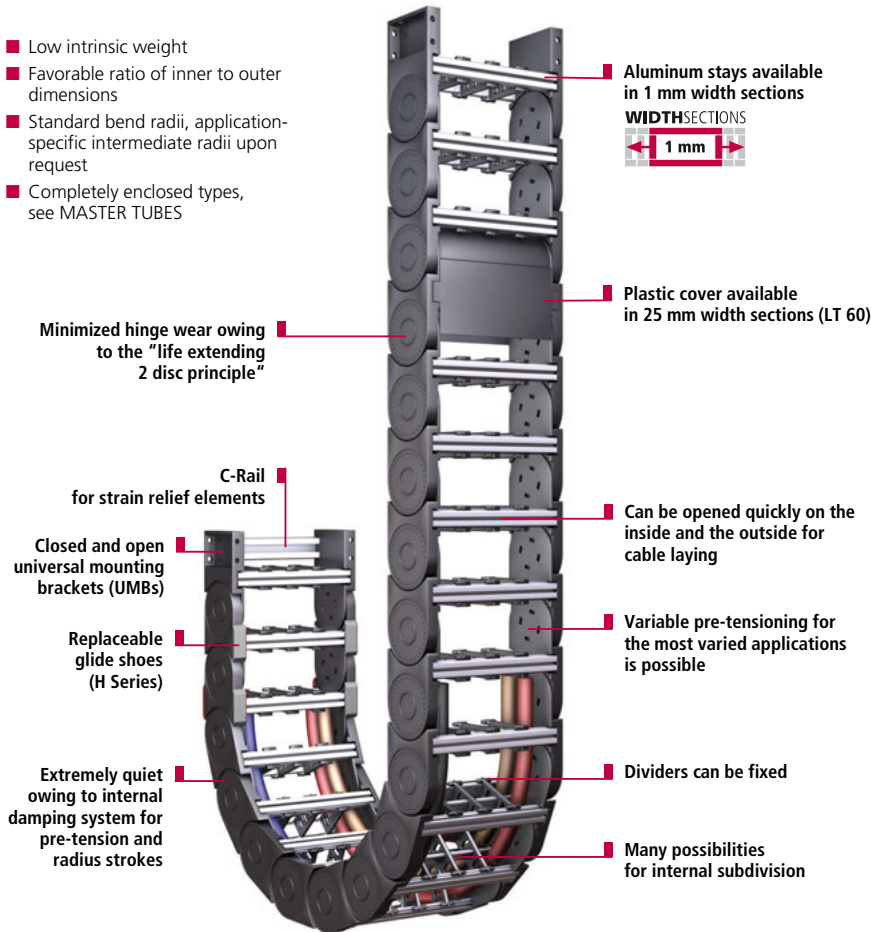
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Tsubaki Kabelschlepp
Cable Carrier Configuration



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



Inside heights

33
-
80

Inside widths

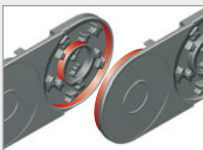
50
-
800

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Cable Carrier Configurator



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

Types MASTER HC/LC

with aluminum stays

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

Inside heights



Inside widths



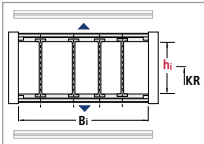
WIDTHSECTIONS



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/s ²	
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



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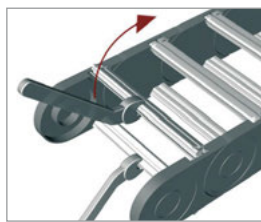
Stay variants

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



Use our free project planning service.

Types MASTER HC 33/46, LC 60/80

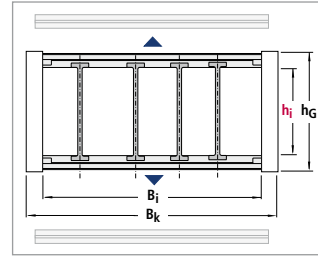
Dimensions and intrinsic chain weight

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



Inside heights



Inside widths



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
LC 60	135	150	200	250	300	350	400	500	—	—
LC 80	—	150	200	250	300	350	400	500	—	—

Pitch:

HC 33: $t = 56$ mm

HC 46: $t = 67$ mm

LC 60: $t = 91$ mm

LC 80: $t = 111$ mm

The listed values are standard bend radii.

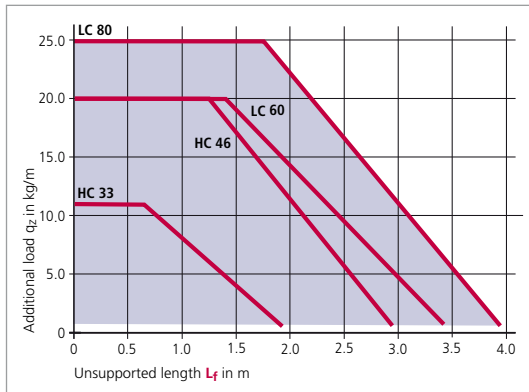
For special applications it is also possible,

to set any desired intermediate radii at the production stage.

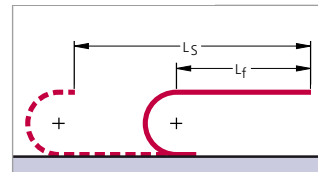
Please do get in touch with us, we would be happy to advise you.

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.

Example of ordering

Cable carrier

HC 46	200	RSH	170	2010
Type	Inside width B_i in mm	Stay variant	Bend radius KR in mm	Chain length L_k in mm (without connection)

Divider system

TS 0	4
Divider system	Number of dividers n_T

Connection

FU/MU
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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Cable carrier Configurator



Types MASTER HC 33/46, LC 60/80

Divider system TS 0

Inside heights

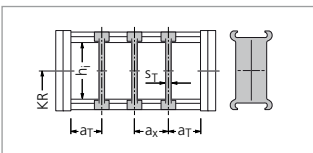
33
80

Inside widths

50
800

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

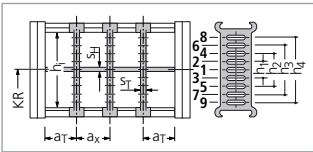
The dividers can be moved in the cross section. Dimensions in mm
In the standard version, the divider systems are mounted on every second chain link.



Divider system TS 1 with continuous height subdivision made of aluminum

Type	h _i mm	S _T mm	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

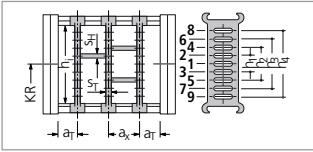
The dividers can be moved in the cross section. Dimensions in mm
In the standard version, the divider systems are mounted on every second chain link.



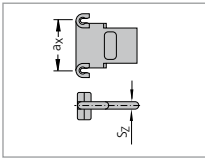
Divider system TS 3 with section subdivision, partitions made of plastic

Type	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 Dimensions in mm
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



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

Aluminum partitions in 1 mm width sections are also available.
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.

Use our free project planning service.

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.

Inside heights



Inside widths



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: $KR_{min} = 100 \text{ mm}$

HC 46: $KR_{min} = 100 \text{ mm}$



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

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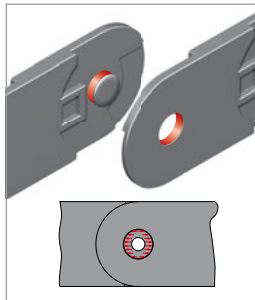
Minimized hinge wear owing to the "life extending 2 disc principle"

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

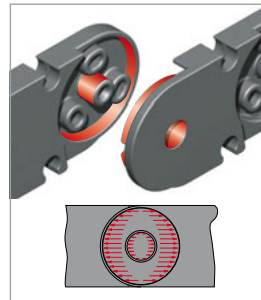
As a result link wear is reduced to a minimum and the life of the cable carrier is considerably lengthened.

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"

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Cable Carrier Configuration

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.

Inside heights

33
80

Inside widths

50
800



■ Standard connector

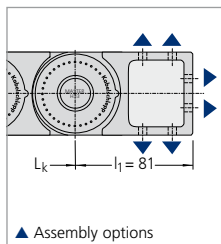


■ Long, closed connector for many of the hole patterns commercially available with **large hole intervals** (only LC)

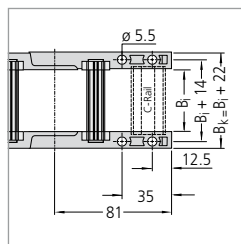
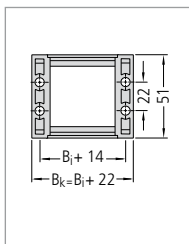


■ Short, open connector, easy assembly owing to optimal accessibility of the holes in **restricted installation conditions** (only LC)

Connection dimensions Type HC 33



▲ Assembly options

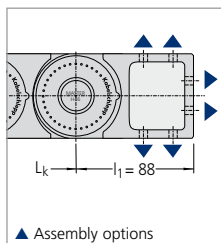


The dimensions of the fixed point and driver connections are identical!

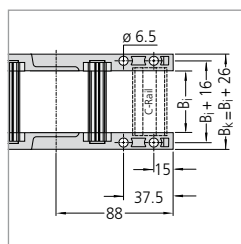
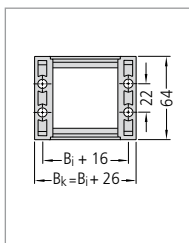
Optional C-rails and strain relief elements for cables can be found on the following pages.

When ordering please specify the connection type FU/MU (see ordering key on page 419).

Connection dimensions Type HC 46



▲ Assembly options



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

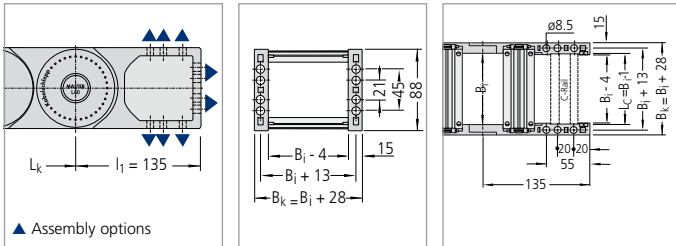
Optional C-rails and strain relief elements for cables can be found on the following pages.

When ordering please specify the connection type FU/MU (see ordering key on page 419).

Types MASTER HC 33/46, LC 60/80

Connection dimensions Type LC 60

Standard connector and short, open connector



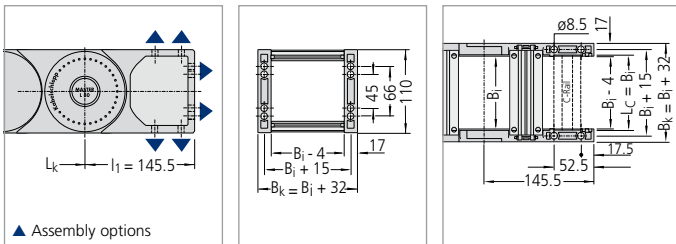
The dimensions of the fixed point and driver connections are identical!

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).

Connection dimensions Type LC 80

Standard connector and short, open connector

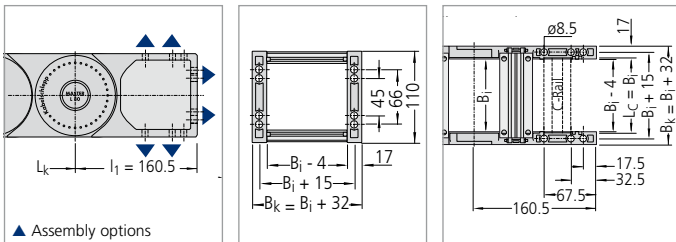


The dimensions of the fixed point and driver connections are identical!

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).

Long, closed 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).

Inside heights

$$\frac{33}{80}$$

Inside widths

$$\begin{array}{r} 50 \\ - \\ 800 \end{array}$$

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177

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**.

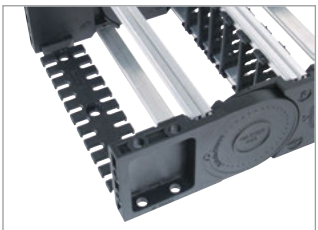
The strain relief combs are installed between the UMBs, and do not need to be bolted on separately or mounted on a C-Rail.

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

Inside heights



Inside widths



■ 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

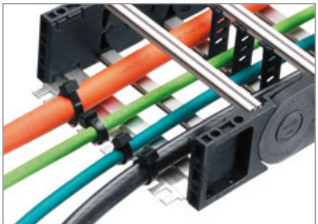
* on request

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

Types MASTER HC 33/46, LC 60/80

Strain relief devices

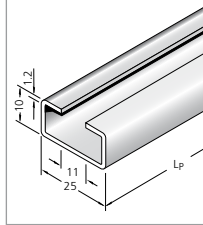
C-rails for LineFix bracket clamps, SZL strain reliefs and clamps

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

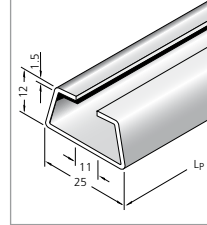
Please state in your order whether C-rails are needed.



■ Universal mounting bracket with C-rail



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

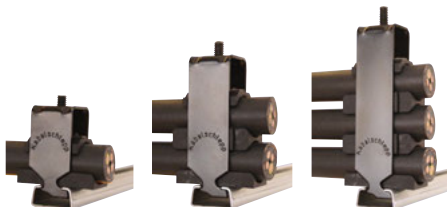


■ **MASTER LC:**
Integratable C-rail
25 x 12 mm,
slit width 11 mm,
material steel,
Item-No. 3934

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



Inside heights

33
80

Inside widths

50
800

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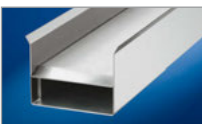
Font:
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Tsubaki Kabelschlepp
Cable Carrier Configuration

Guide channels
➤ from page 375

Strain relief devices
➤ from page 381

Cables for cable carrier systems
➤ from page 438

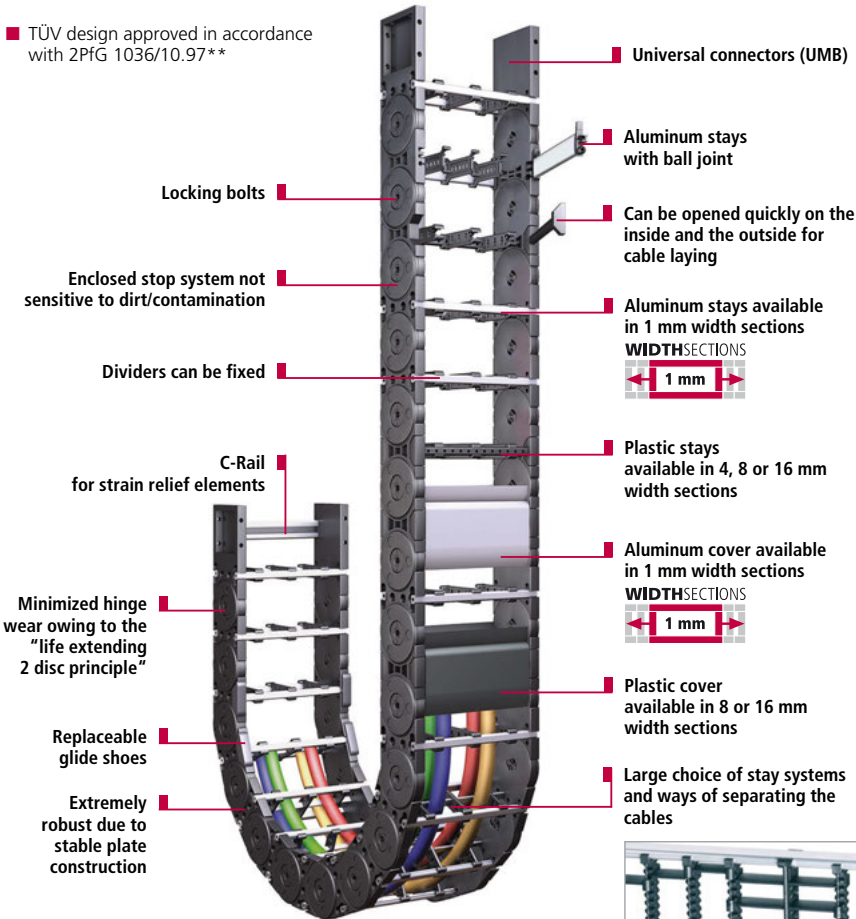




M Series

Multivariable cable carrier
with extensive accessories and stay variants*

■ TÜV design approved in accordance with 2PFG 1036/10.97**



Inside heights

19
-
87

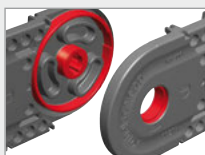
Inside widths

24
-
800

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Font:

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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

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Overview M Series

Type MC with detachable aluminum stays

Inside heights



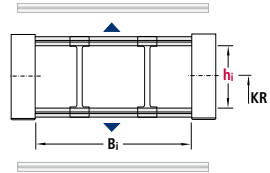
Inside widths



WIDTHSECTIONS



- Available in 1 mm width sections

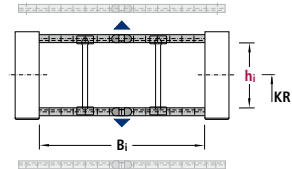
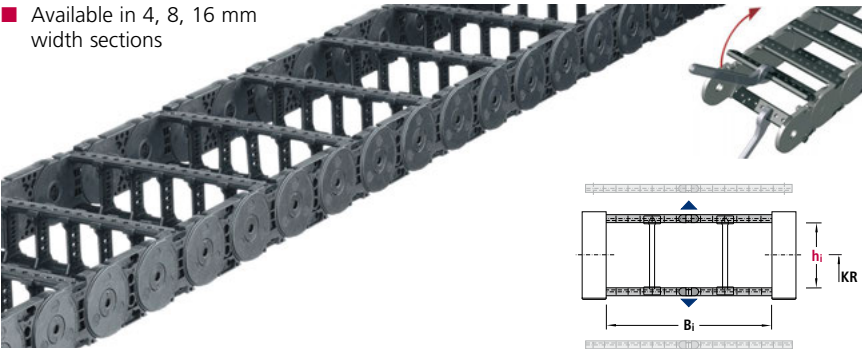


Type	h _i	B _i	Maximum travel length in m	Dynamics of unsupported arrangement		Page
				Travel speed v _{max} in m/s	Travel acceleration a _{max} in m/s ²	
MC 0320	19	25-280	80	10	50	185
MC 0650	38	75-500	220	8	40	185
MC 0950	58	100-600	260	6	30	185
MC 1250	72	100-800	320	5	25	185
MC 1300	87	100-800	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/s ²	
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

Subject to change.

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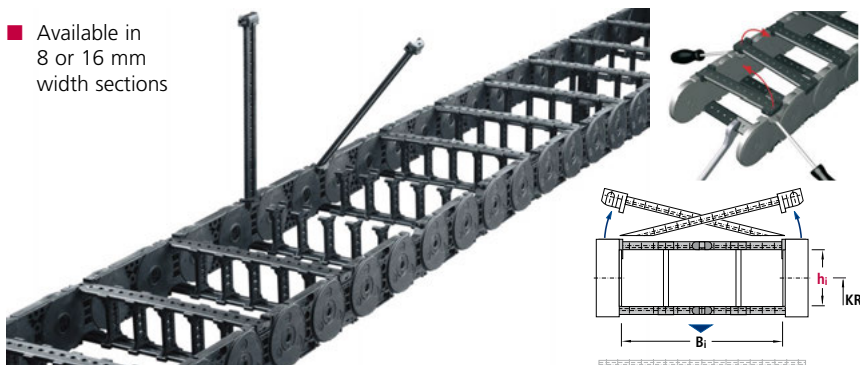
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Overview M Series

Type MK with openable plastic stays

- Available in 8 or 16 mm width sections



Inside heights

19
–
87

Inside widths

24
–
800

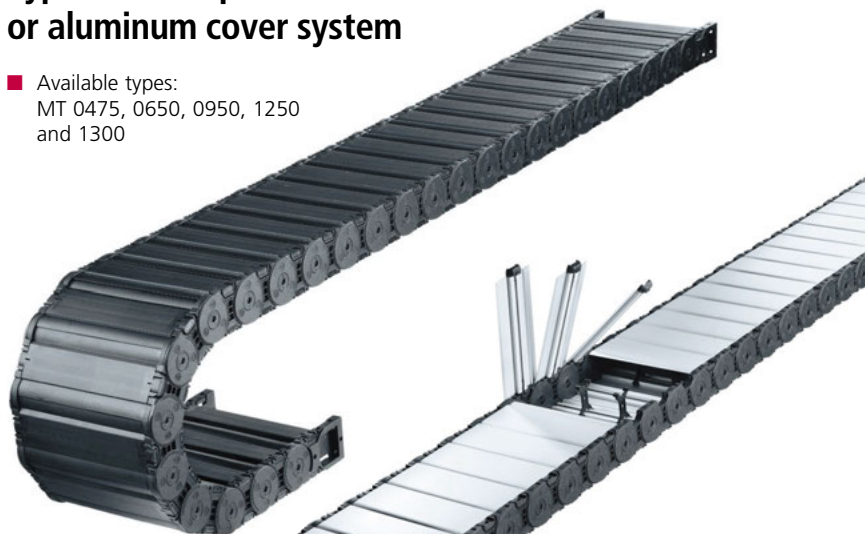
Type	h_i	B_i	Maximum travel length in m	Dynamics of unsupported arrangement		Page
				Travel speed v_{max} in m/s	Travel acceleration a_{max} in m/s ²	
MK 0475	28	24-280	120	10	50	192
MK 0650	42	50-258	220	8	40	192
MK 0950	58	45-557	260	6	30	192
MK 1250	72	71-551	320	5	25	192

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



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Type MC

with aluminum stays

- Available in 1 mm width sections

WIDTH SECTIONS



Inside heights

19
87

Inside widths

25
800

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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°.



Additional stay variants:



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



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.

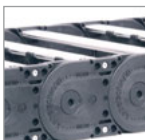


Frame stay RMF

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.



Stay variant RMA:

For very large cable diameters, such as e.g. with air hoses



Stay variant RMR:

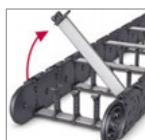
Gentle cable laying by means of rollers. Ideal when using hydraulic hoses with "soft" sheaths

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.



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.

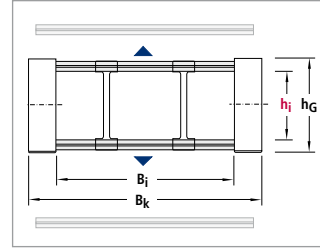
Types MC 0320, 0650, 0950, 1250, 1300

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

WIDTH/SECTIONS



Inside heights



Inside widths



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

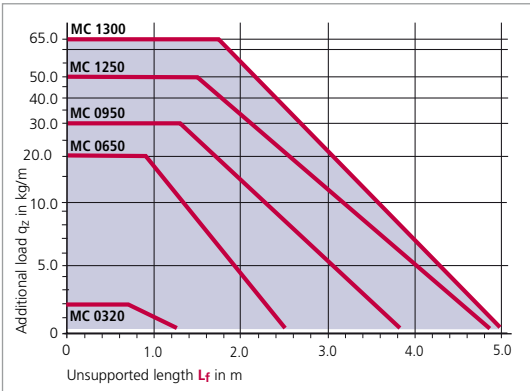
MC 0950: t = 95 mm

MC 1250: t = 125 mm

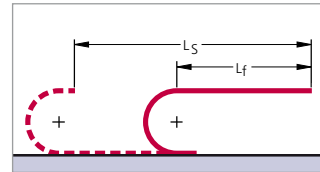
MC 1300: t = 130 mm

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

MC 1300	600	RMF	360	2600
Type	Inside width B _i in mm	Stay variant	Bend radius KR in mm	Chain length L _k in mm (without connection)

Divider system

TS 0	7
Divider system	Number of dividers n _T

Connection

FU/MU
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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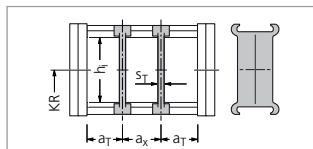
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TSUBAKI KABELSCHLEPP
Cable carrier configurator

Types MC 0320, 0650, 0950, 1250, 1300

Divider system TS 0

Inside
heights19
87Inside
widths25
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

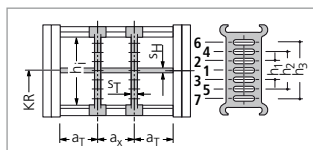


In the standard version, the divider systems are mounted on every second chain link.

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	–

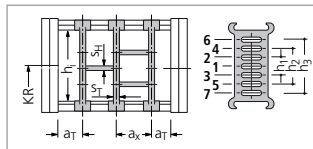


In the standard version, the divider systems are mounted on every second chain link.

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



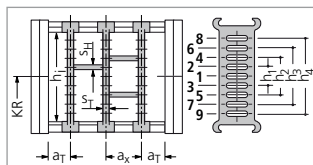
In the standard version, the divider systems are mounted on every second chain link.

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



The dividers are fixed by the partitions, the complete divider system is movable.
Fixed installation version for MC 1300 – see page 187

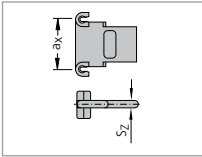
Dimensions in mm

* When using plastic partitions

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

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.

Sz	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.

Inside heights



Inside widths



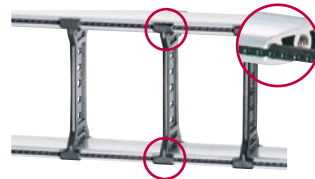
Fixing the dividers in 5 mm steps – Type MC 1300

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



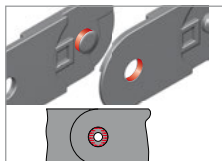
By means of a positive snap connection, the glide shoes sit firmly on the chain link.

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"

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KABELSCHLEPP
Cable Carrier Configuration

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.

Inside
heights

19
87

Inside
widths

25
800

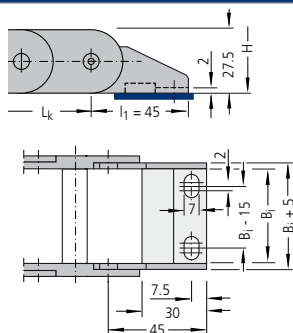
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Font:

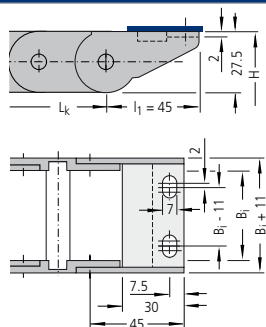
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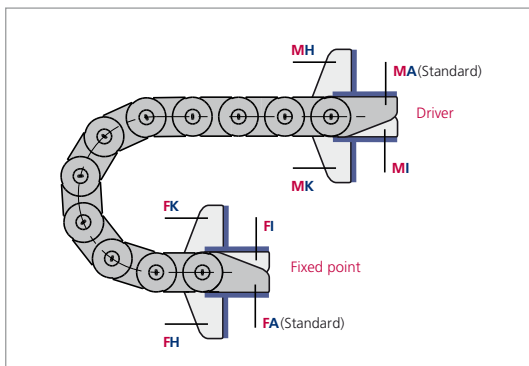
Fixed point connection



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

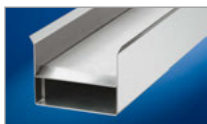
In the standard version, the connectors are mounted with the threaded joint outwards (**FA/MA**).

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



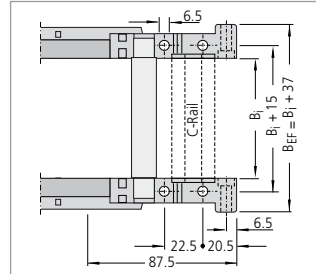
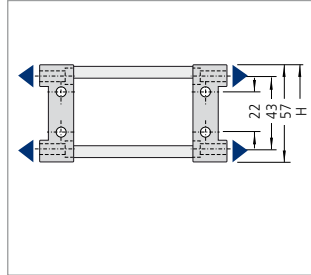
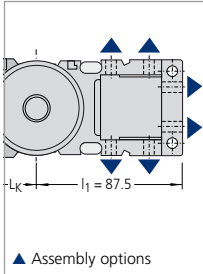
Cables for cable carrier systems

➤ from page 438



Types MC 0320, 0650, 0950, 1250, 1300

UMB (Universal Mounting Brackets) made of aluminum – Type MC 0650



Inside heights

19
87

Inside widths

25
800

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.

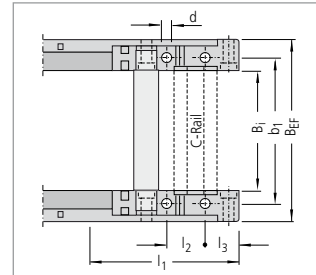
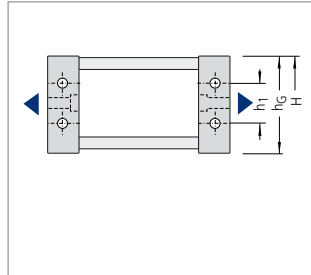
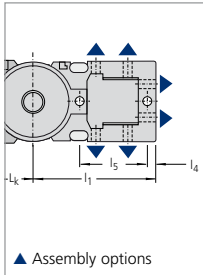
When ordering please specify the connection type FU/MU (see ordering key on page 419).



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UMB (Universal Mounting Brackets) made of aluminum – Types MC 0950 and 1250

UMB (Universal Mounting Brackets) made of plastic – Type MC 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).



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Cable Carrier Configuration

Type	BEF	b1	d	l1	l2	l3	l4	l5	h1	hG
MC 0950	Bi + 44	Bi + 24.5	8.5	136	35	24.5	8.5	80	45	80
MC 1250	Bi + 51	Bi + 28	11	168	35	31	10.5	94.5	45	96
MC 1300	Bi + 50	Bi + 29	11	158	35	20	–	–	66	120

BEF = Width of the cable carrier over connector

Dimensions in mm

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**.

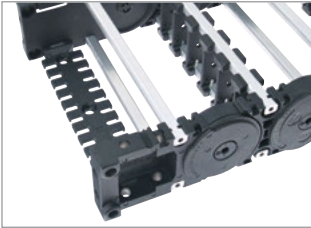
The strain relief combs are installed between the UMBs, and do not need to be bolted on separately or mounted on a C-Rail.

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

Inside heights



Inside widths



■ 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

Types MC 0320, 0650, 0950, 1250, 1300

Strain relief devices

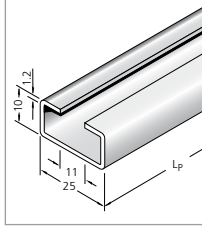
C-rails for LineFix bracket clamps, SZL strain reliefs and clamps

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

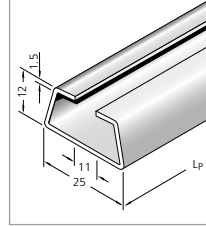
Please state in your order whether C-rails are needed.



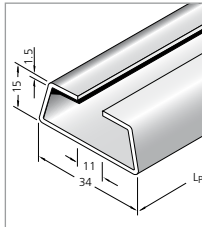
■ Universal mounting bracket with C-rail



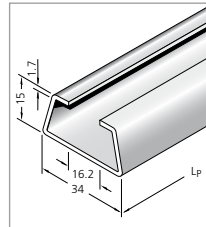
■ **MC 0650:**
Integratable C-rail
25 x 10 mm,
slit width 11 mm,
material steel,
Item-No. 3931



■ **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

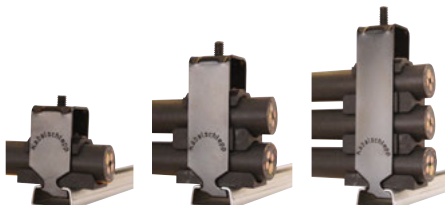


■ **MC 0950, 1250 and 1300:**
Integratable C-rail
34 x 15 mm,
slit width 16 – 17 mm,
material aluminum,
Item-No. 3926,
material steel,
Item-No. 3932

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



Inside heights

19
—
87

Inside widths

25
—
800

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Tsubaki KABELSCHLEPP
Cable Carrier Configuration

Inside
heights19
72Inside
widths24
557

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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

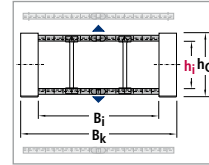
Standard: on every 2nd chain link

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

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

Inside heights

19
72

Inside widths

24
557

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

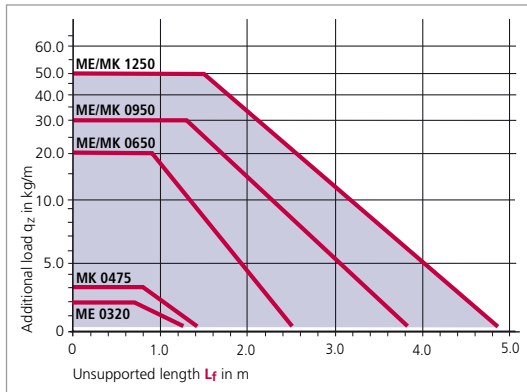
ME/MK 0650: t = 65 mm

ME/MK 0950: t = 95 mm

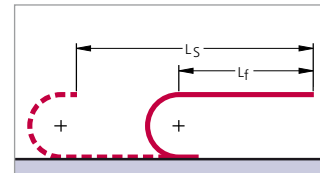
ME/MK 1250: t = 125 mm

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.

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Example of ordering

Cable carrier

ME 1250 · 407 · RE · 340 · 2875
Type Inside width B_i in mm Stay variant Bend radius KR in mm Chain length L_k in mm (without connection)

Divider system

TS 0 / 5
Divider system Number of dividers n_T

Connection

FU/MU
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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TSUBAKI KABELSCHLEPP
Cable Carrier Configurator

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.

Inside heights

19
72

Inside widths

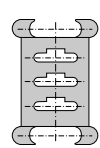
24
557

Types ME 0320

Mounting version A (standard)

Movable divider:

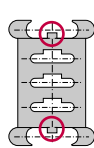
Divider without arresting cams



Mounting version B

Fixed divider:

Divider with 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

Thus, with type ME 0320, the mounting version A **cannot** be changed into mounting version B simply by turning the stay.

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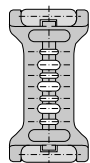
Font:
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Types MK 0475, ME/MK 0650, 0950 and 1250

Mounting version A (standard)

Movable divider:

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

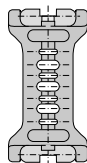


With a movable assembly of the dividers (mounting version A), the holes in the stay do not have any function and hence the dimension a_x -section is meaningless.

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)

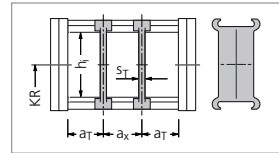
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Types ME 0320, MK 0475, ME/MK 0650, 0950, 1250

Divider system TS 0

Type	Stay variant	h_i mm	Mounting version A			Mounting version B			
			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.



Inside heights

19
72

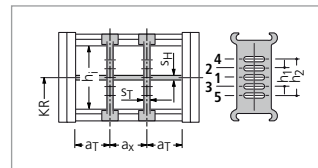
Inside widths

24
557

Divider system TS 1 with continuous height subdivision made of aluminum

Type	Stay variant	h_i mm	Mounting version A			Mounting version B				S_H mm	h_1 mm	h_2 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	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

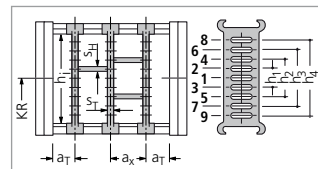
* When using plastic partitions

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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Cable Carriers Configuration

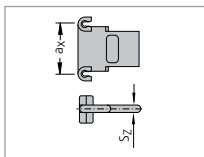
Types ME 0320, MK 0475, ME/MK 0650, 0950, 1250

Dimensions of the plastic partitions for TS 3

Inside heights



Inside widths



Aluminum partitions in 1 mm width sections are also available.

S_z
4

a_x (center-to-center dividers)									
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



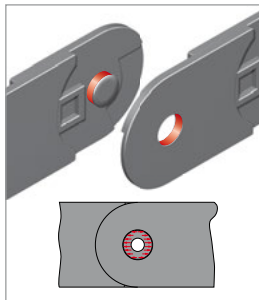
By means of a positive snap connection, the glide shoes sit firmly on the chain link.

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

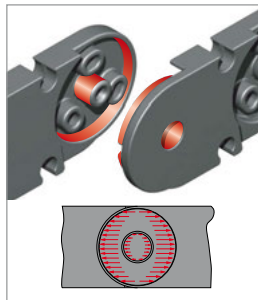
In the M Series*, the push and pull forces are transmitted via the optimum link design for this purpose.

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"

Subject to change.

Inside heights

19
72

Inside widths

24
557

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TSUBAKI KABELSCHLEPP
Cable Carrier Configuration

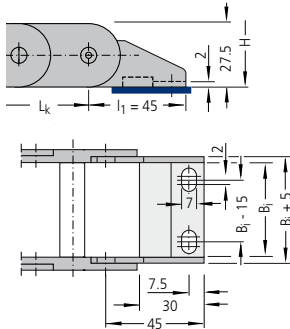
Types ME 0320, MK 0475, ME/MK 0650, 0950, 1250

Connectors made of plastic/aluminum – Type ME 0320

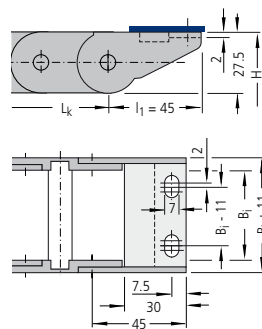
Standard connectors without strain relief.

Connectors with strain relief available on request.

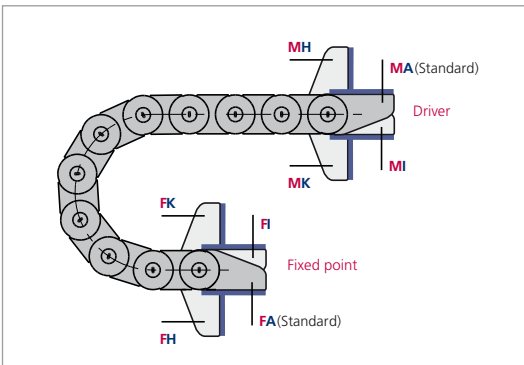
Fixed point connection



Driver connection



Connection variants – Type ME 0320



Connection point

- M** – Driver
- F** – Fixed point

Connection type

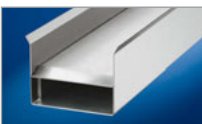
- A** – Threaded joint outside (standard)
- I** – Threaded joint inside
- H** – Threaded joint, rotated through 90° to the outside
- K** – Threaded joint, rotated through 90° to the inside

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



Types ME 0320, MK 0475, ME/MK 0650, 0950, 1250

Connectors made of plastic/steel – Type MK 0475

End connector made of steel plate.

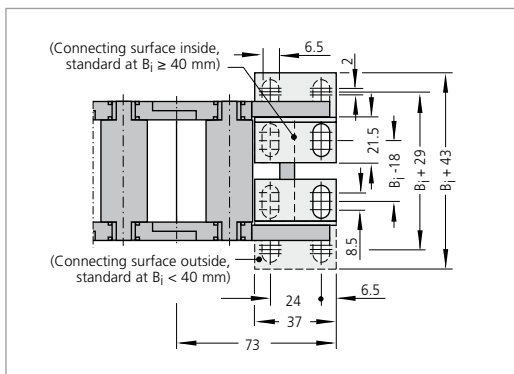
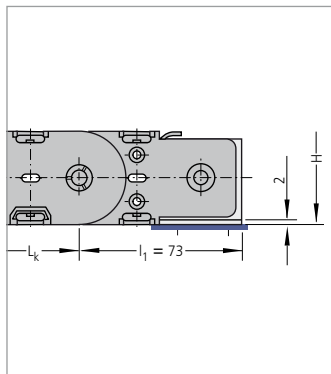
Screwable strain relief made of aluminum on request.

Inside
heights

19
72

Inside
widths

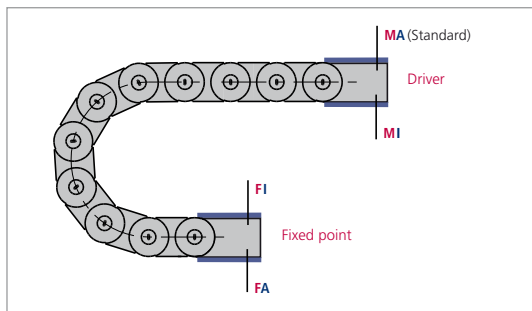
24
557



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

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Connection variants – Type MK 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).

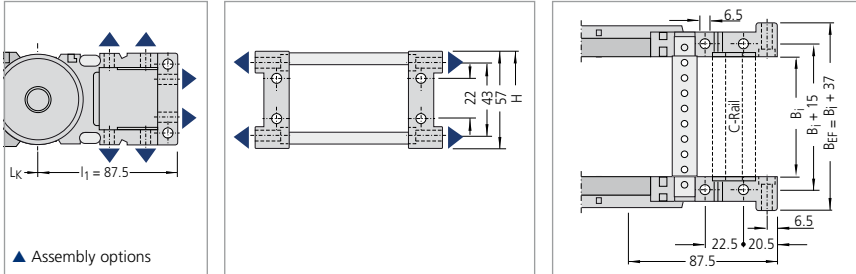
The connection type can subsequently be altered simply by varying the connectors.

For:
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Types ME 0320, MK 0475, ME/MK 0650, 0950, 1250

UMB (Universal Mounting Brackets) made of aluminum – Type ME/MK 0650



Inside heights

19
72

Inside widths

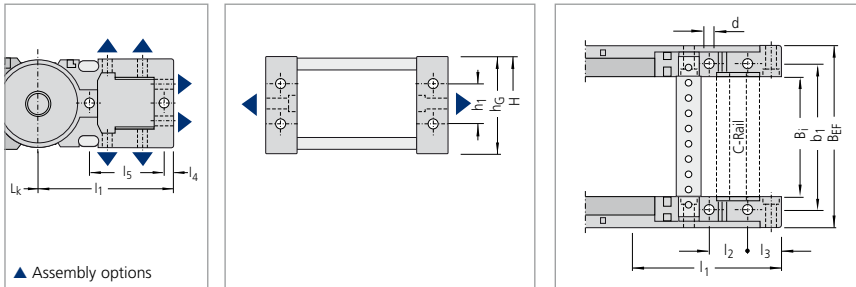
24
557

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 aluminum – Types 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	BEF	b1	d	l1	l2	l3	l4	l5	h1	hG
ME/MK 0950	Bi + 44	Bi + 24.5	8.5	136	35	24.5	8.5	80	45	80
ME/MK 1250	Bi + 51	Bi + 28	11	168	35	31	10.5	94.5	45	96

BEF = Chain width over connector

Dimensions in mm

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TSUBAKI KABELSCHLEPP
Cable Chain Configuration

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.

Inside
heights

19
72

Inside
widths

24
557

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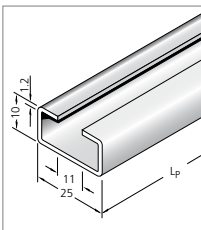
Font:

+49 2762 4003-0

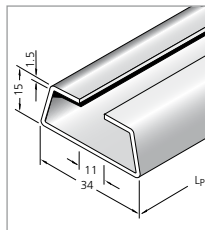
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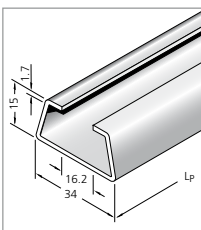
■ Universal mounting bracket with C-rail



■ **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

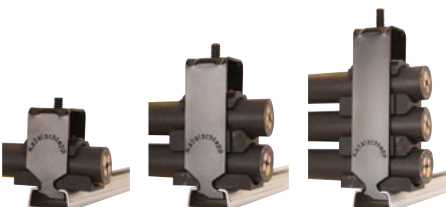


■ **ME/MK 0950 and 1250:**
Integratable C-rail
34 x 15 mm,
slit width 16 – 17 mm,
material aluminum,
Item-No. 3926,
material steel,
Item-No. 3932

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



Notes

Inside
heights



Inside
widths



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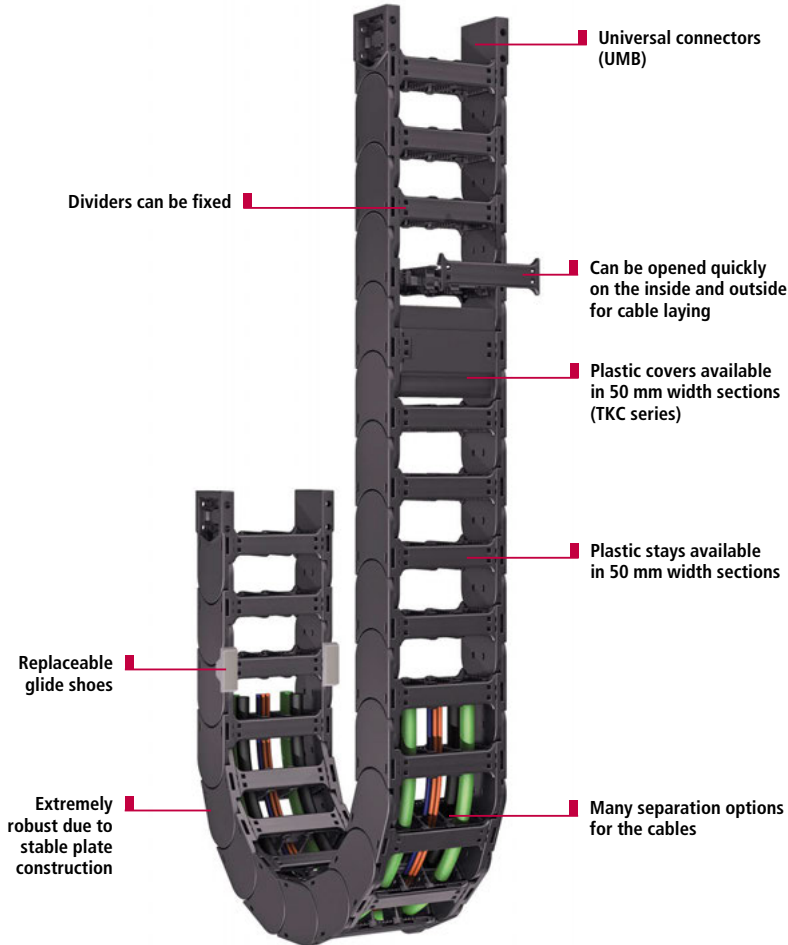
OnlineEngineer.de
TSUBAKI KABELSCHLEPP
Cable Center Configuration





TKP91

Easy to assemble, stable cable carriers with variable dimensions



Inside heights

56
-
80

Inside widths

150
-
500

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Cable Carrier Configuration



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

Type TKP91

with plastic stays



Inside heights

56
80

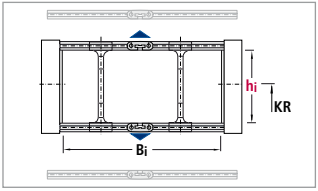
Inside widths

150
500

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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/s ²	
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



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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 4.3	200 4.6	250 5.0	300 5.4	350 5.7	400 6.1	450 6.5	500 6.8	B _i + 41
TKP 0910H80	80	108	150 6.7	200 7.0	250 7.4	300 7.7	350 8.1	400 8.5	450 8.8	500 9.2	B _i + 50

Dimensions in mm/Weights in kg/m

Inside heights

56
80

Inside widths

150
500

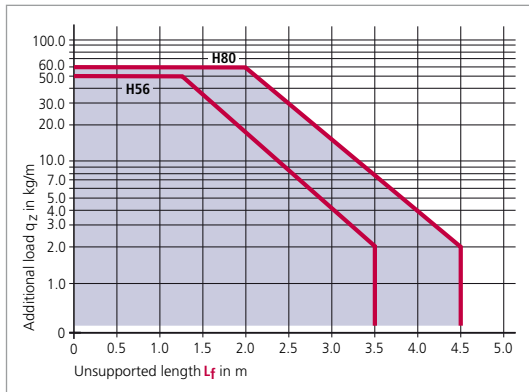
Bend radius and pitch

Type	Bend radii KR mm							
TKP 0910H56	150	200	250	300	350	400	—	—
TKP 0910H80	150	200	250	300	350	400	450	500

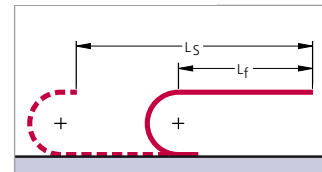
Pitch:
TKP 0910: $t = 91$ mm

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.

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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.

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.

Inside heights

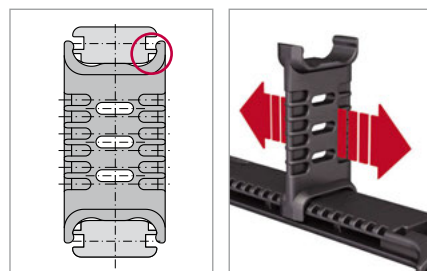


Inside widths



Mounting version A (standard)

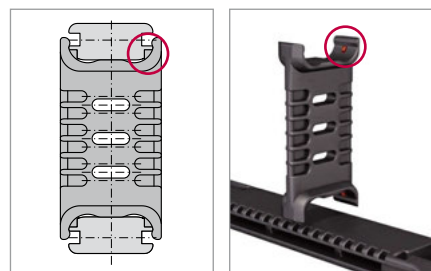
Movable divider



■ Divider without arresting cams

Mounting version B

Fixed divider



■ Divider with arresting cams

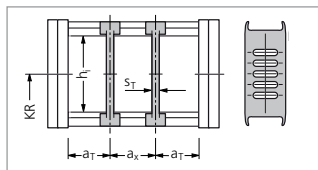
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Divider system TS 0

Type	h _i mm	Version A			Version B			
		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
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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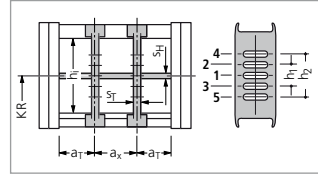
Type TKP91

Divider system TS 1

with continuous height subdivision made of aluminum

		Version A			Version B						
Type	h ₁ 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
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 $B_1 = 200, 350, 500$
 a_T min = 32 mm for $B_1 = 250, 400$
 a_T min = 33 mm for $B_1 = 150, 300, 450$



Inside heights

56
80

Inside widths

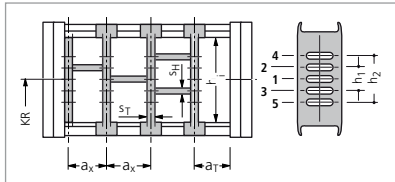
150
500

Divider system TS 3

with section subdivision, partitions made of aluminum

		Version A			Version B						
Type	h ₁ 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
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 $B_1 = 200, 350, 500$
 a_T min = 32 mm for $B_1 = 250, 400$
 a_T min = 33 mm for $B_1 = 150, 300, 450$



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

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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.

OnlineEngineer.de
 Tsubaki KABELSCHLEPP
 Cable carrier configuration

Type TKP91

UMB (Universal Mounting Brackets) made of plastic – TKP 0910H56

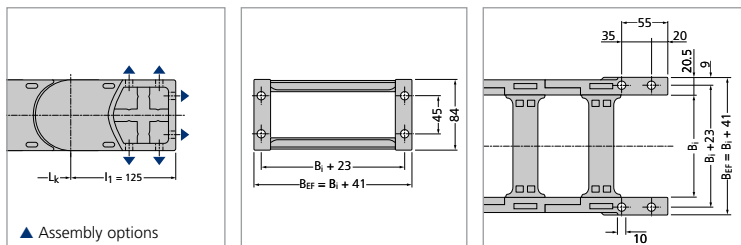
Universal connectors for connection above, below or at the front.

Inside
heights

56
–
80

Inside
widths

150
–
500

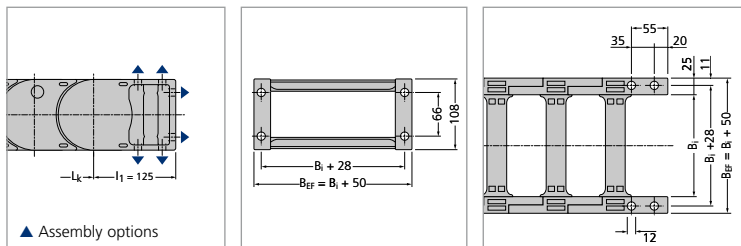


The dimensions of the fixed point and driver connections are identical.

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UMB (Universal Mounting Brackets) made of plastic – TKP 0910H80

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

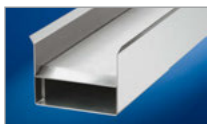


The dimensions of the fixed point and driver connections are identical.

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Guide channels
► from page 375



Strain relief devices
► from page 381



Cables for cable carrier systems
► from page 438



Notes

Inside
heights



Inside
widths



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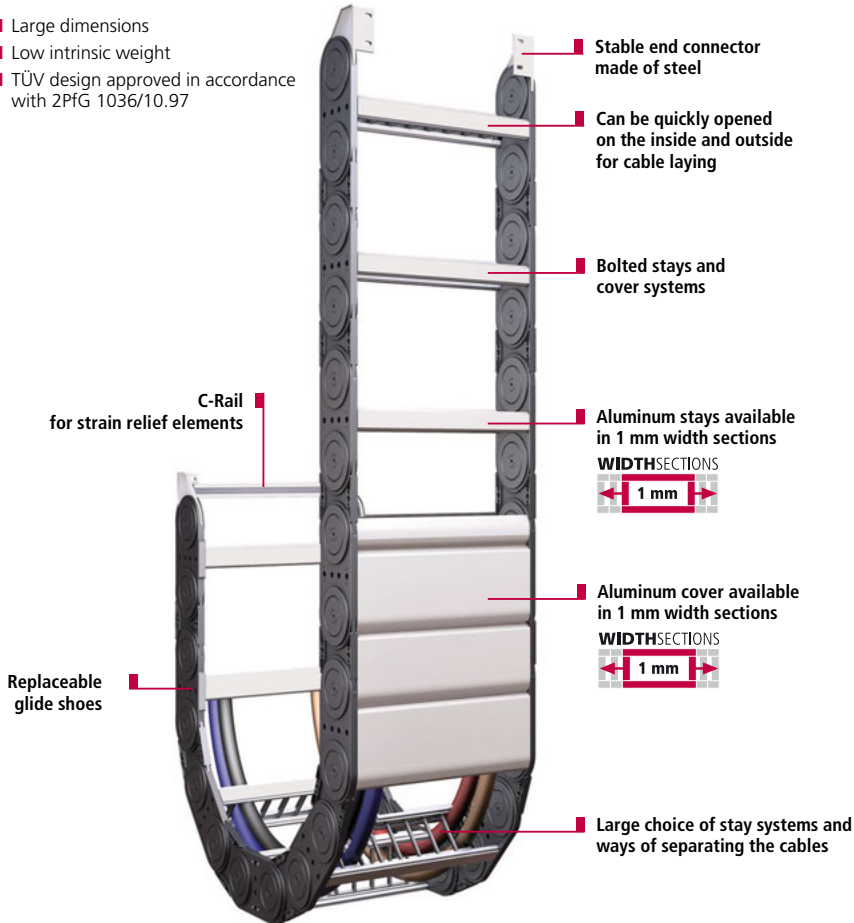
OnlineEngineer.de
TSUBAKI KABELSCHLEPP
Cable Center Configuration



XL Series

Cable carrier with large inside height

- Large dimensions
- Low intrinsic weight
- TÜV design approved in accordance with 2PFG 1036/10.97



Inside height

108

Inside widths

200 - 1000

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TSUBAKI KABELSCHLEPP
Cable Carrier Configuration



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

Type XLC 1650

with aluminum stays

- Available in 1 mm width sections

WIDTH SECTIONS



Inside height

108

Inside widths

200
-
1000

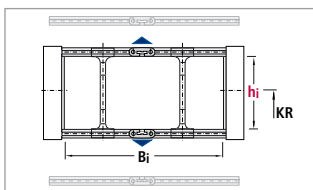
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Type	h_i	B_i	Maximum travel length in m	Dynamics of unsupported arrangement		Page
				Travel speed v_{max} in m/s	Travel acceleration a_{max} in m/s ²	
XLC 1650	108	200-1000	350	4	25	213

Dimensions in mm

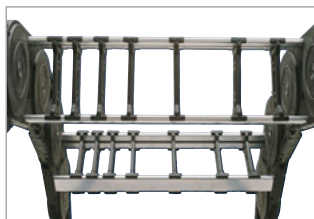


Stay variants

Frame stay RM

Solid design

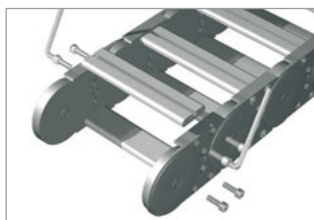
Bolted, maximum stability, maximum chain widths possible.



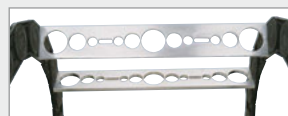
Stay arrangement

Standard: on every 2nd chain link

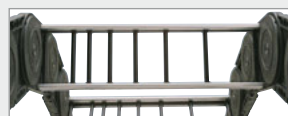
The stays can be mounted on every chain link, please specify when placing your order.



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

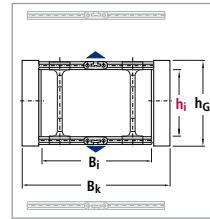


Type XLC 1650

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



Inside height

108

Inside widths

200
1000

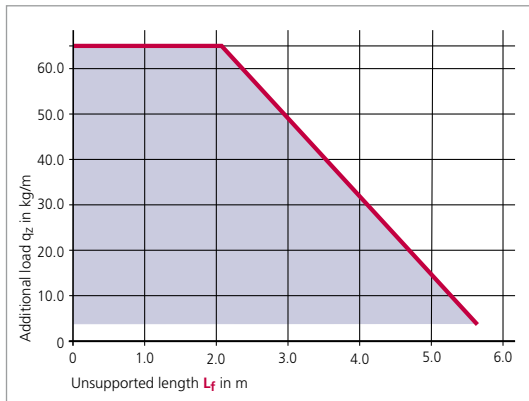
Bend radius and pitch

Type	Bend radii KR mm						
XLC 1650	250	300	350	400	450	500	550

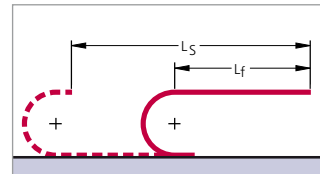
Pitch $t = 165$ mm

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.

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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 L_k must always be rounded to an odd number of chain links.

Type XLC 1650

Divider system TS 0

Inside height

108

Inside widths

200
1000

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Font:

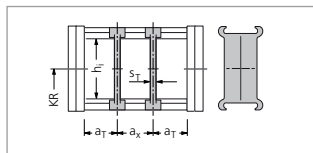
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214

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.



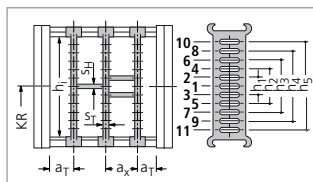
In the standard version, the divider systems are mounted on every second chain link.

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

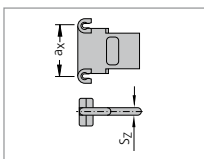
* When using plastic partitions

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



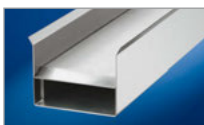
S_T	a_x (center-to-center dividers)									
4	16	18	23	28	32	33	38	43	48	58
	64	68	78	80	88	96	112	128	144	160
	176	192	208	—	—	—	—	—	—	—

Dimensions in mm

Aluminum partitions in 1 mm width sections are also available.

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



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:

$$h_G' = 147 \text{ mm}$$



Inside height

108

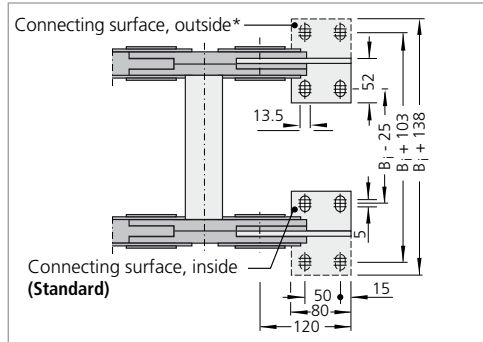
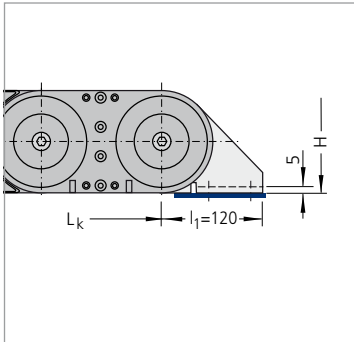
Inside widths

200
1000

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

Connection dimensions

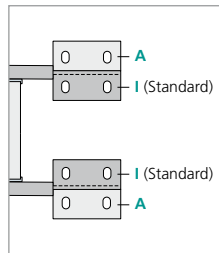
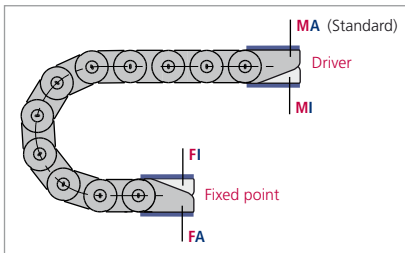
End connector made of steel plate



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 mounted on the outside or inside according to preference.

Connection point Connection type

M – Driver **A** – Threaded joint outside (standard)
F – Fixed point **I** – Threaded joint, inside

Connecting surface

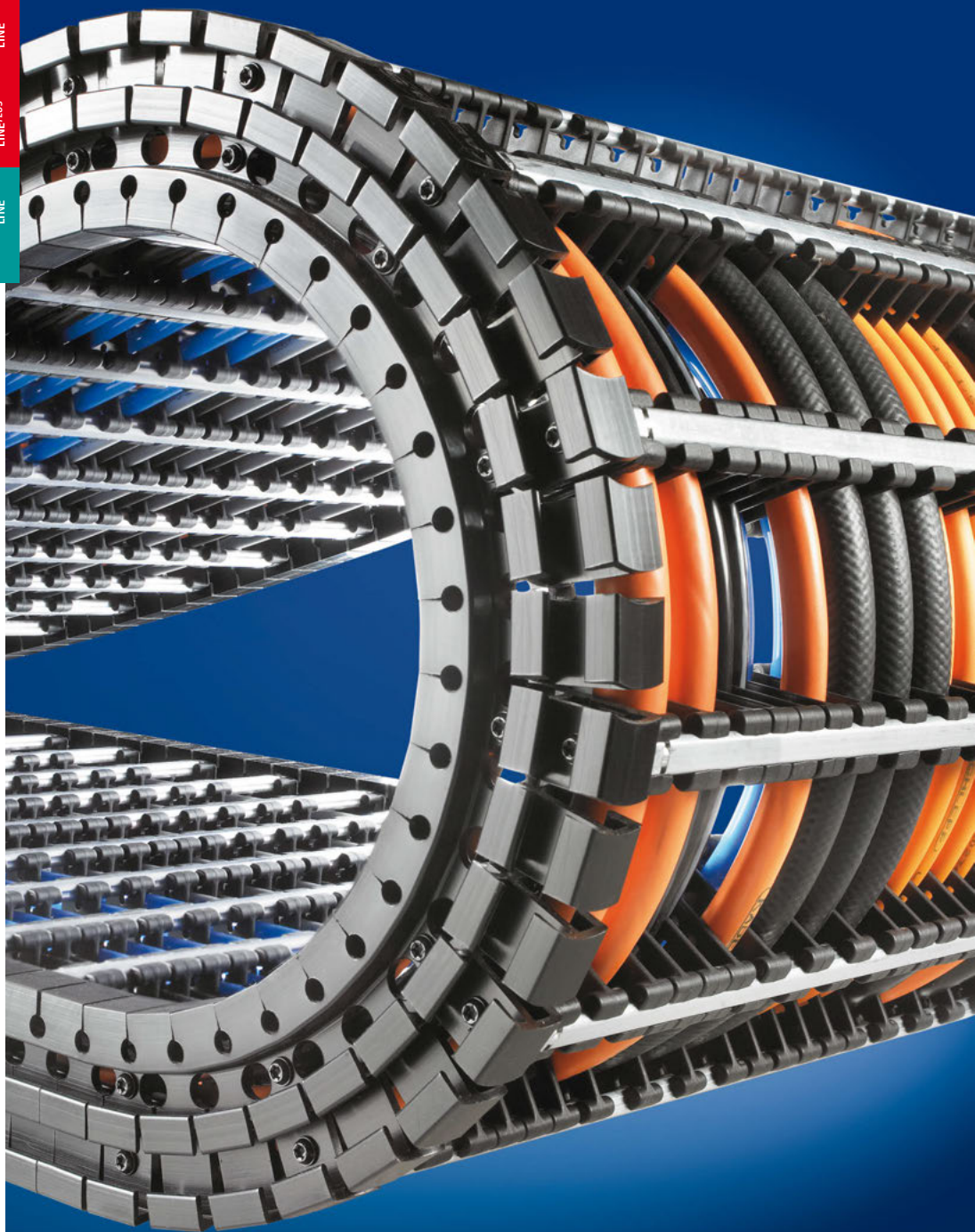
I – Connecting surface inside (< B_k)
A – Connecting surface outside (> B_k)

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).

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TSUBAKI KABELSCHLEPP
Cable Carrier Configuration



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.

C-Rail for strain relief elements or strain relief comb

Replaceable glide shoes

Universal connectors (UMB)

Extremely low-noise and low-vibration operation

Aluminum stays available in 1 mm width sections

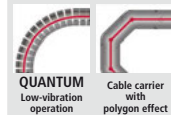
WIDTH SECTIONS



Plastic stays available in 8 or 16 mm width sections

Large choice of stay systems and ways of separating the cables

ALMOST NO POLYGON EFFECT



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

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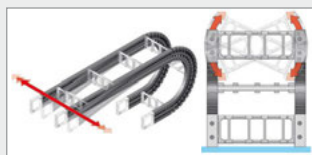
Font:

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KABELSCHLEPP
Cable Carrier Configurator



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



Types Q 040, Q 060, Q 080 and Q 100

with plastic or aluminum stays

- Available in 1 mm width sections (aluminum stays)



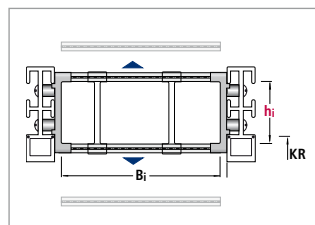
- Available in 8 or 16 mm width sections (plastic stays)



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/s ²	
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°.



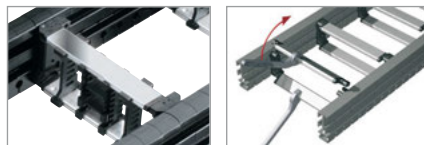
Frame stay RV made of aluminum

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°.

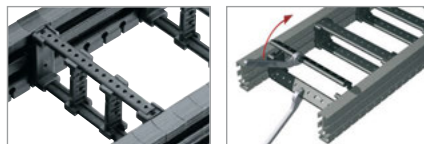


Frame stay RE made of plastic

Q 040, Q 060, Q 080, Q 100

Opening options:

Outside/Inside: simply by turning (through 90°).



Types Q 040, Q 060, Q 080 and Q 100

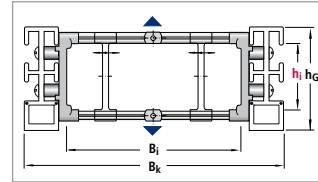
Dimensions and intrinsic weight

"Hybrid designs" with aluminum stay systems

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

WIDTH SECTIONS



Inside heights

28
72

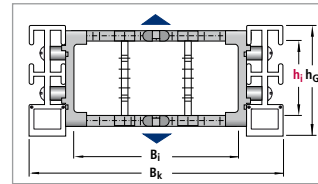
Inside widths

28
600

"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

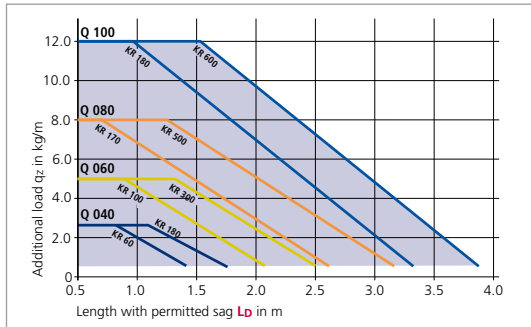
Q 060: t = 20 mm

Q 080: t = 25 mm

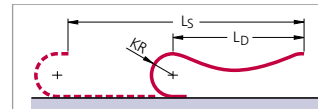
Q 100: t = 30 mm

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

Q 060	200	RS	150	1540
Type	Inside width B _i in mm	Stay variant	Bend radius KR in mm	Chain length L _k in mm (without connection)

Divider system

TS 0	2
Divider system	Number of dividers n _T

Connection

FU/MU
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 Q 040, Q 060, Q 080 and Q 100

Divider system TS 0

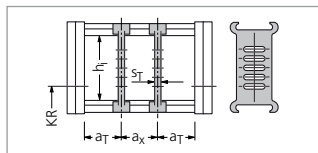
Inside heights



Inside widths



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



Standard mounting distances of the divider systems:

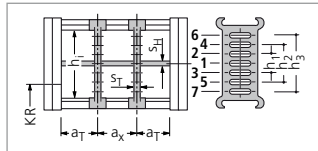
Q 040, Q 060: on every 6th pitch division
Q 080, Q 100: on every 8th pitch division

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).

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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	—	—



Standard mounting distances of the divider systems:

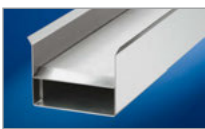
Q 040, Q 060: on every 6th pitch division
Q 080, Q 100: on every 8th pitch division

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).

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Guide channels
➤ from page 375



Strain relief devices
➤ from page 381



Cables for cable carrier systems
➤ from page 438



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.

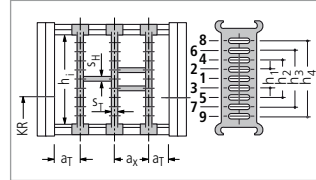
Q 060, Q 080 and Q 100 with divider system TS 3 with section subdivision, partitions made of plastic
For these types, divider system TS 2 with grid subdivision made of aluminum (1 mm grid) is also available.

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

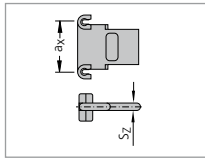
Inside heights

28
72

Inside widths

28
600

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*

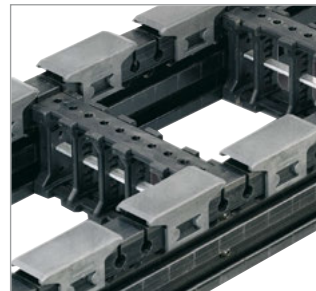
To extend the life of cable carriers in gliding operations KABELSCHLEPP supplies detachable, exchangeable glide shoes. Replaceable glide shoes are a very economical solution. When wear occurs only the glide shoes are replaced, and not the complete cable carrier.

* 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.

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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)

Inside heights

$$\begin{array}{c} \updownarrow \\ 28 \\ \hline 72 \end{array}$$

Inside widths

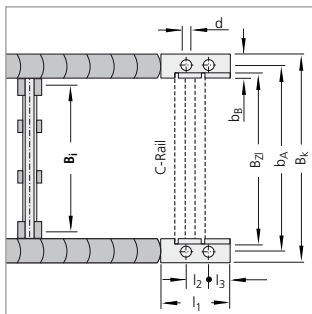
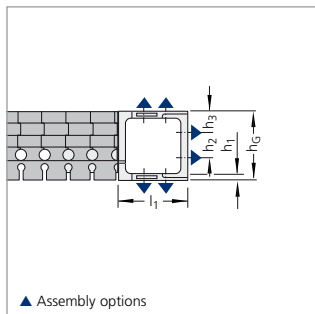
$$\begin{array}{r} 28 \\ - \\ 600 \end{array}$$

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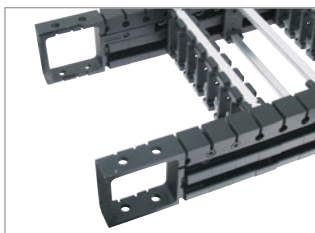
For:

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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

Types Q 040, Q 060, Q 080 and Q 100

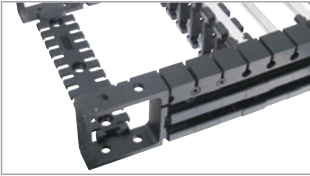
Strain relief devices

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	n _z
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	n _z
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

Inside heights

28
72

Inside widths

28
600

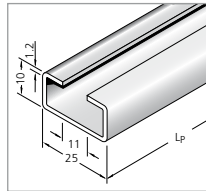
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C-rails for LineFix bracket clamps, SZL strain reliefs and clamps

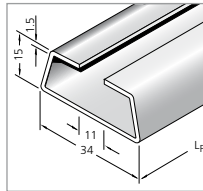
The optional C-rails are fixed by means of the universal mounting brackets and do not have to be screwed separately. **Please state in your order whether C-rails are needed.**



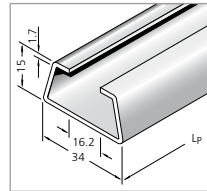
■ Universal mounting bracket with C-rail



■ **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

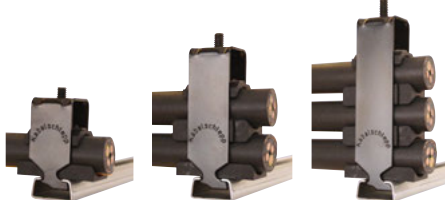


■ **QUANTUM 080, 100:**
Integratable C-rail
34 x 15 mm,
slit width 16 – 17 mm,
material aluminum,
Item-No. 3926,
material steel,
Item-No. 3932

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).



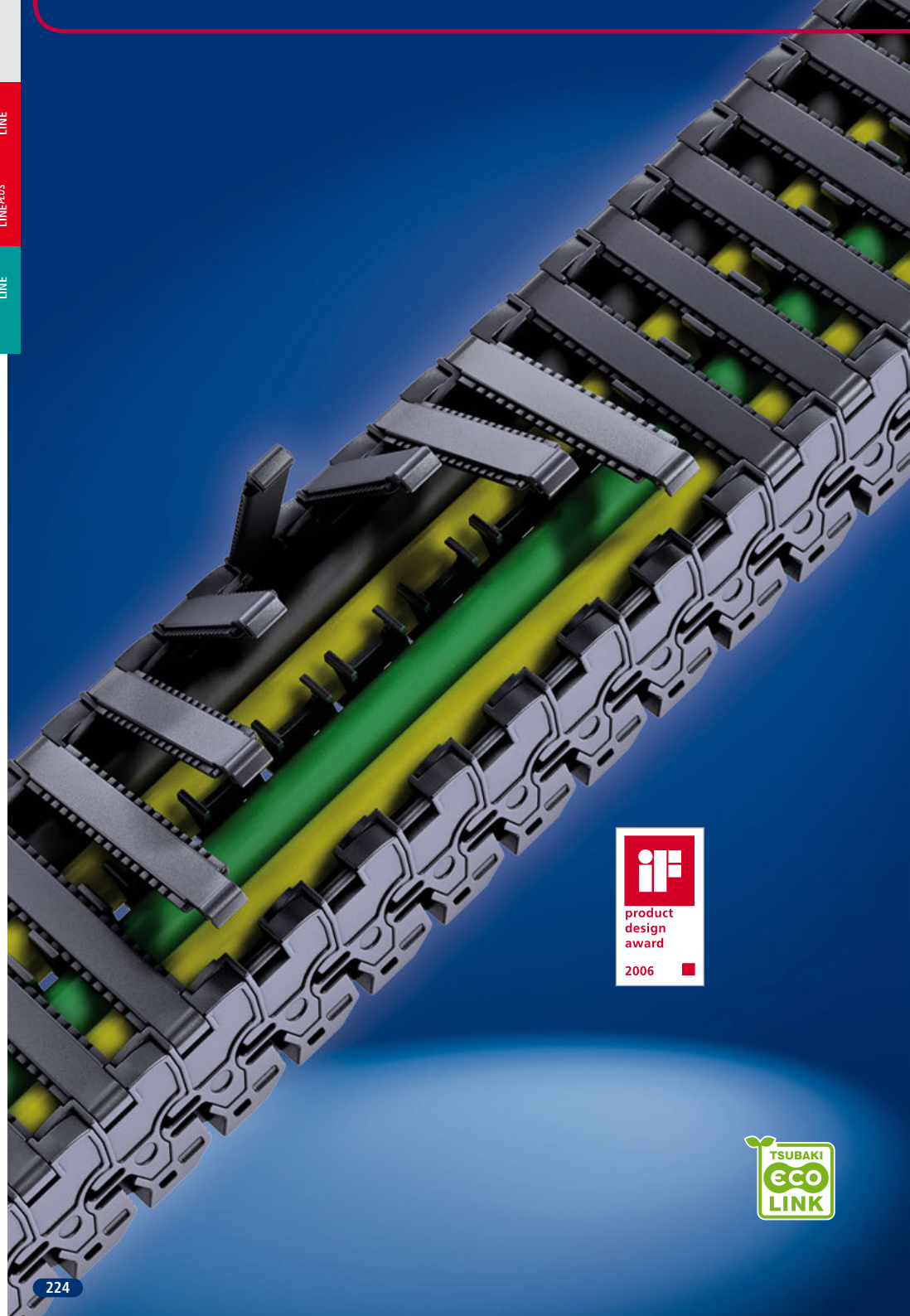
■ C-rail with LineFix strain relief



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Cable Carrier Configuration



TKR

Extremely quiet and low-vibration for highly dynamic applications*

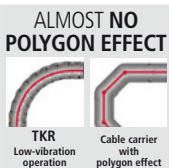
- Long service life
- Ideal for highly dynamic applications
- High lateral stability
- Suitable for clean rooms
- Simple shortening and extension due to modular design

Extremely quiet and low-vibration operation

Variable connection for fast installation

Fixed dividers

Can be quickly and easily opened



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



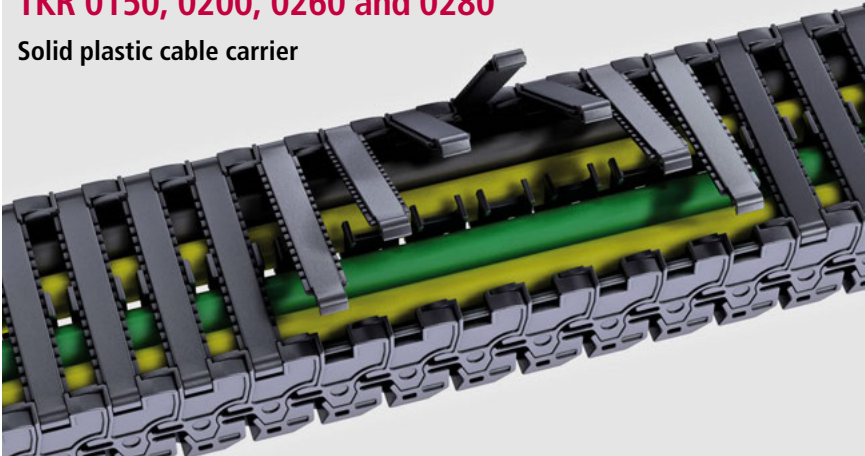
Universal connectors (UMB) for connection above, below or at the front



Injection molded connecting elements

TKR 0150, 0200, 0260 and 0280

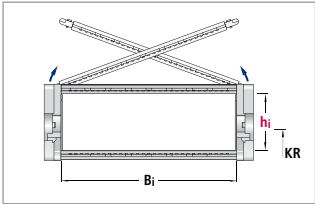
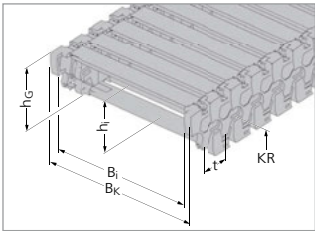
Solid plastic cable carrier



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
			20	40	60	—	—	—	
TKR 0150	22	27,5	0,3	0,4	0,5	—	—	—	B _i + 14
TKR 0200	28	37,0	0,6	0,6	0,7	0,8	0,9	1,0	B _i + 16
TKR 0260	40	54,0	1,5	1,7	1,9	2,1	2,3	2,7	B _i + 26
TKR 0280	52	66,0	2,0	2,2	2,4	2,6	2,8	3,2	B _i + 30

Dimensions in mm/Weights in kg/m

Subject to change.

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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: $t = 15 \text{ mm}$
 TKR 0200: $t = 20 \text{ mm}$
 TKR 0260: $t = 26 \text{ mm}$
 TKR 0280: $t = 28 \text{ mm}$

Inside height

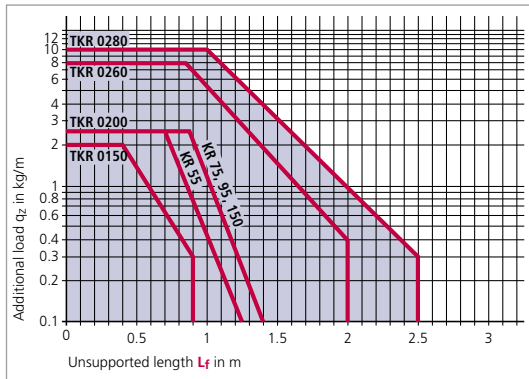
22
—
52

Inside widths

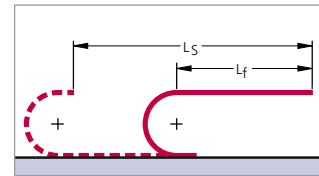
20
—
200

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.

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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.

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 Cable Carrier Configurator

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).

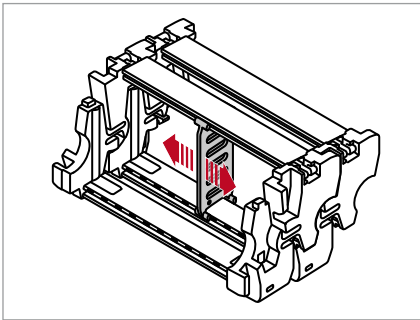
If the fixed installation version is desired, please state this on the order.

Inside height
22
-
52

Inside widths
20
-
200

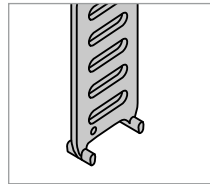
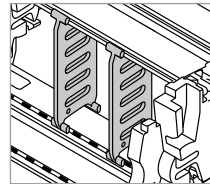
Version A (Standard)

Movable divider



Version B

Fixed divider



■ Locking profile in the crossbar

■ Divider with arresting cams

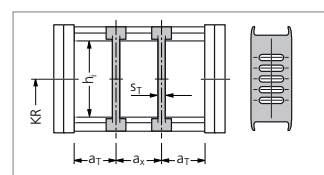
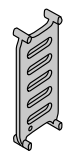
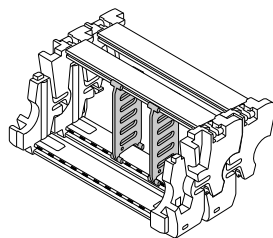
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Divider system TS 0

Type	h _i mm	Version A			Version B			
		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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TKR 0150, 0200, 0260 and 0280

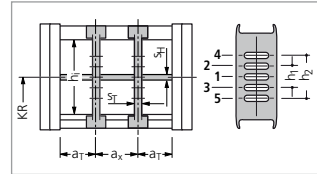
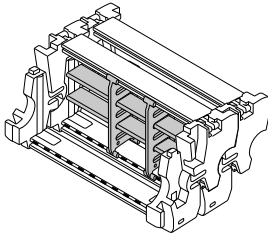
Divider system TS 1

with continuous height subdivision made of aluminum (TKR 0150, 0260, 0280)
or plastic (TKR 0200)

Type	h _i mm	Version A			Version B				S _H mm	h ₁ mm	h ₂ 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			
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 $B_i = 150$



Inside height

22
—
52

Inside widths

20
—
200

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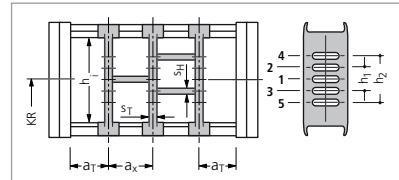
Divider system TS 3

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.

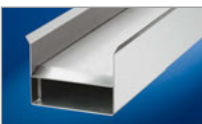
Font:
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TSUBAKI KABELSCHLEPP
Cable Carrier Configuration

Guide channels
► from page 375

Strain relief devices
► from page 381

Cables for cable carrier systems
► from page 438



TKR 0150, 0200, 0260 and 0280

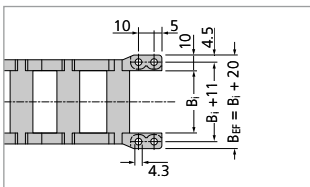
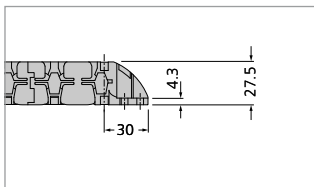
Plastic connectors (Type TKR 0150)

Inside
height

22
-
52

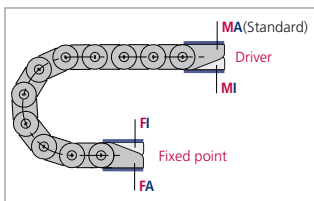
Inside
widths

20
-
200



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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Font:

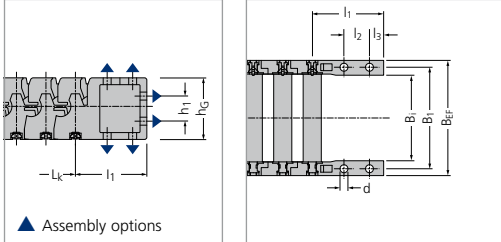
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TKR 0150, 0200, 0260 and 0280

UMB (Universal Mounting Brackets) made of plastic (Types TKR 0200, 0260 and 0280)

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



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	BEF	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

Inside height

22
52

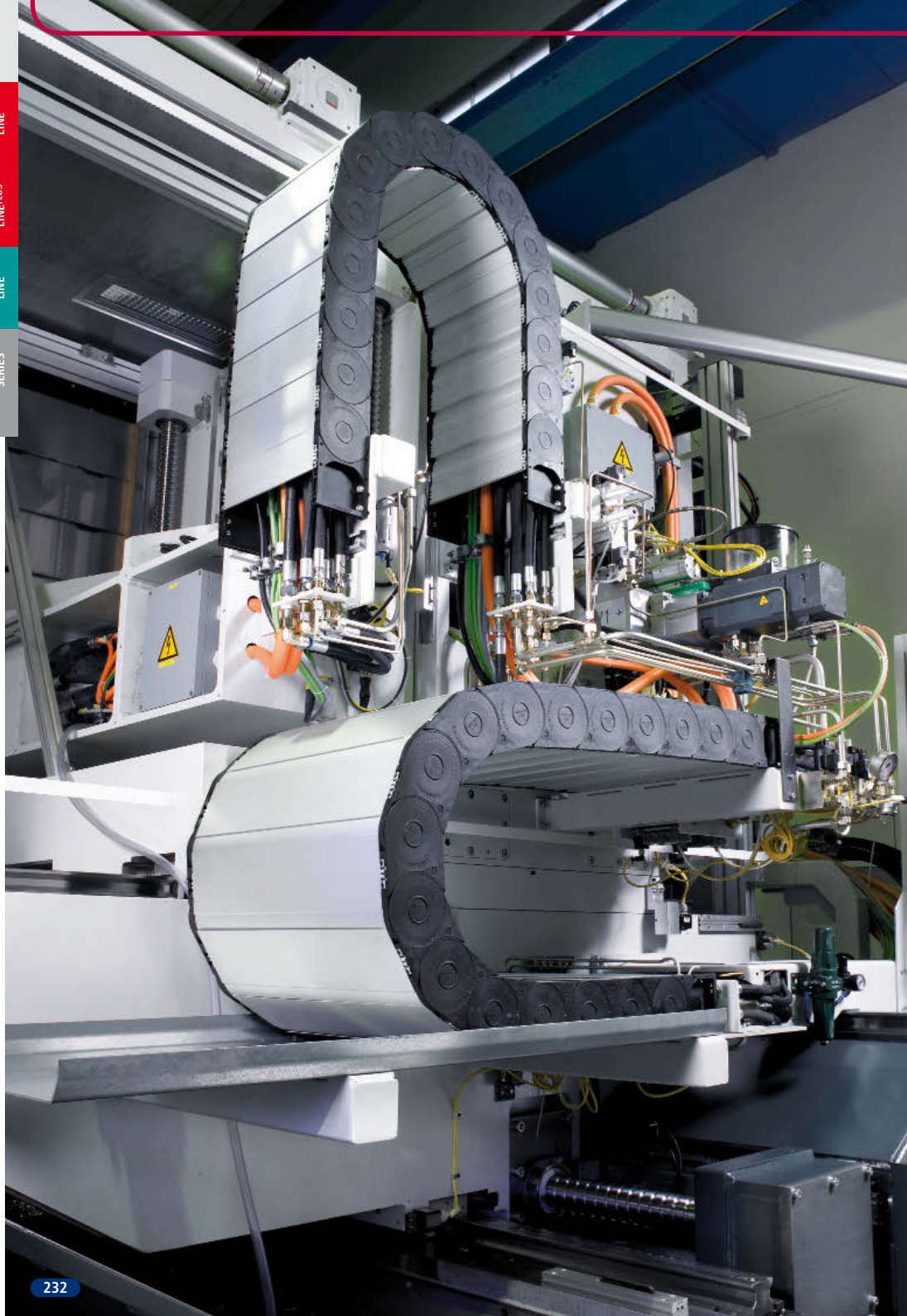
Inside widths

20
200

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TSUBAKI KABELSCHLEPP
Cable Chain Configuration



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



TKA55

product
design award

2013

TKA55

IP54getestet &
bescheinigt
tested &
attested

TÜV NORD



Inside heights
20.5 – 45 mm



Inside widths
15 – 175 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!

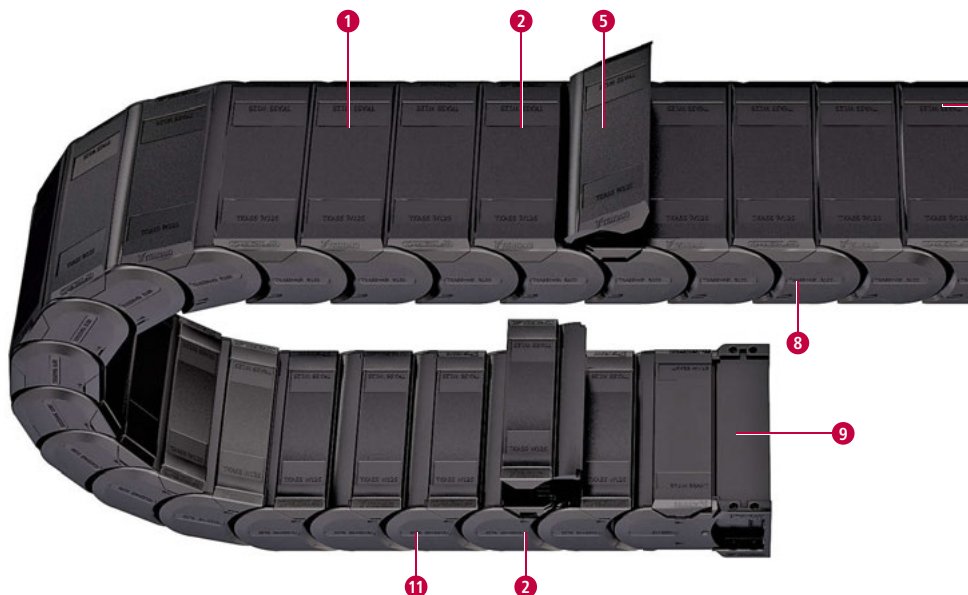
TUBE SERIES | TKA Series

Inside
heights20.5
–
45Inside
widths15
–
175

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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



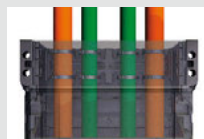
Optimized utilization of the interior space; vertical as well as horizontal subdivision possible



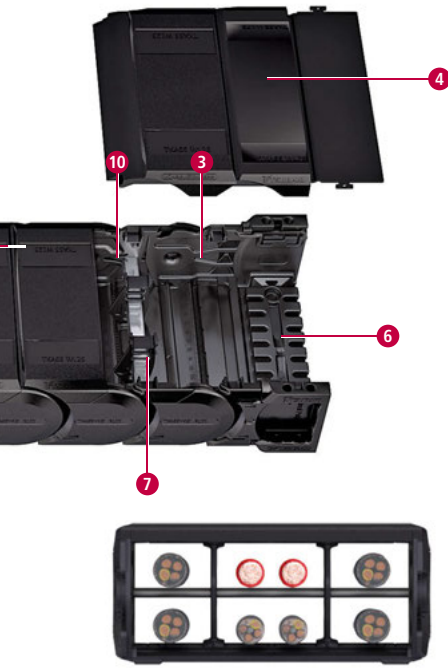
Easy-to-open cover from any vantage point, yet securely fastened



3-fold stroke system for extensive unsupported length



Universal mounting bracket with integrated strain relief elements



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

Inside heights



Inside widths



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Kabelschlepp
Cable Carrier Configurator

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 – 175	55.5	266

TKA30

Inside heights



Inside widths



Pitch
30.5 mm



Height
20.5 mm



Width
15 – 65 mm

Stay variants

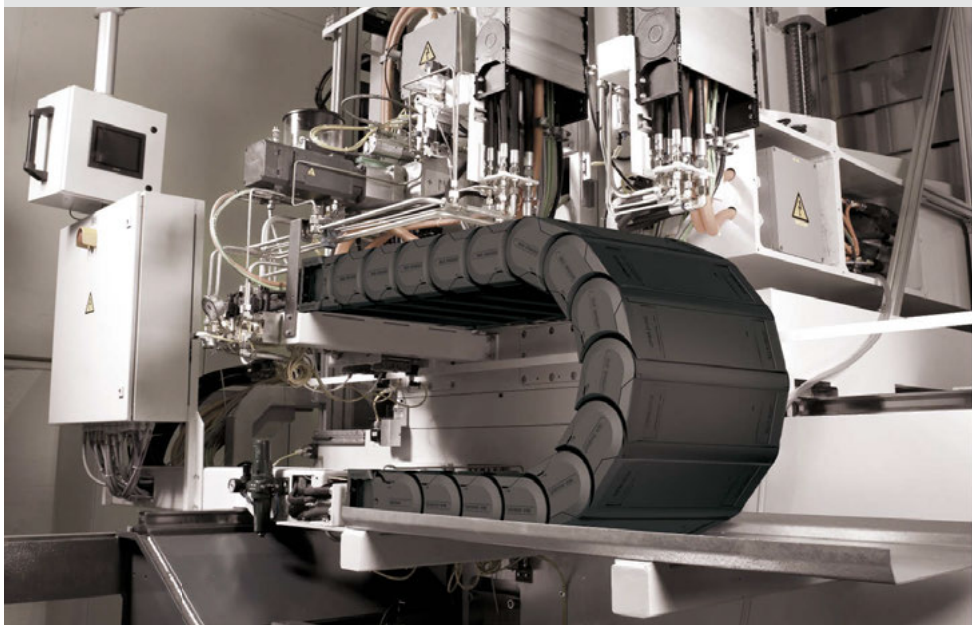
Stay variant 060

Inside: Quick-to-open cover



Stay variant 080

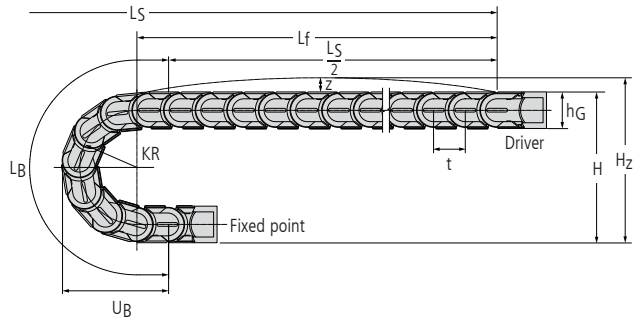
Outside: Quick-to-open cover



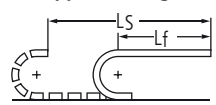
Spare parts list, installation instructions, etc.:
Receive additional info at kabelschlepp.de

TUBE SERIES | TKA30

Unsupported arrangement



Unsupported length Lf



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

t = 30.5 mm
z = 17 mm/m

Inside heights

20.5

Inside widths

15
65

Installation measurements unsupported

KR [mm]	H [mm]	H _z [mm]	L _B [mm]	U _B [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

Note: For order example and notes for ordering, refer to page 275.

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Cable Carrier Configurator

TUBE SERIES | TKA30

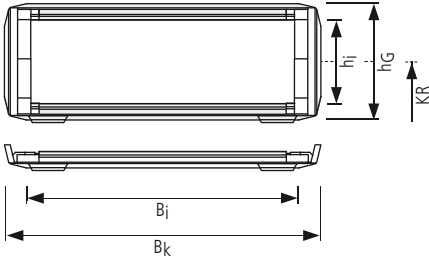
Stay variant 060 –

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



Inside heights

20.5

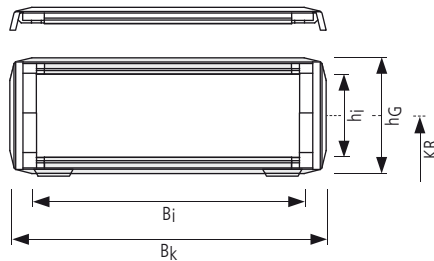
Inside widths

15
65

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Pitch, inside height and chain link height

Type	t [mm]	h _i [mm]	h _G [mm]
TKA30.080	30.5	20.5	28.5



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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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Cable Center Configurator

TUBE SERIES

TKA30

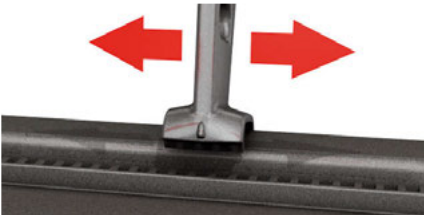
Divider systems

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)



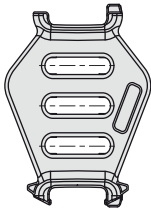
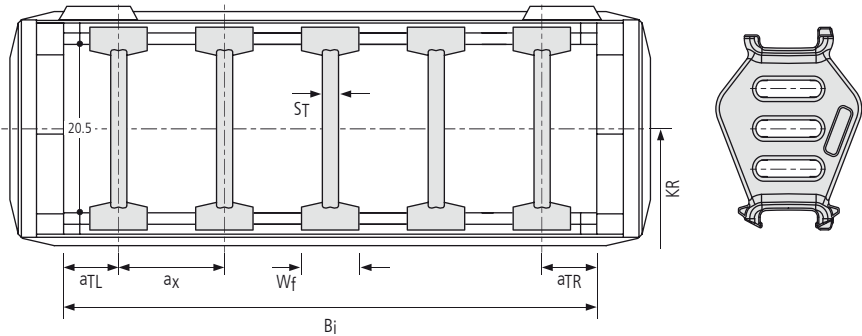
Fixable divider (2 mm grid)

Version B



Divider system TS0 without height separation

ST [mm]	Wf [mm]	Version A moveable		Version B fixable		
		aTL/aTR min [mm]	ax min [mm]	aTL/aTR min [mm]	ax min [mm]	ax grid [mm]
2	7	3.5	7	3.5	8	2



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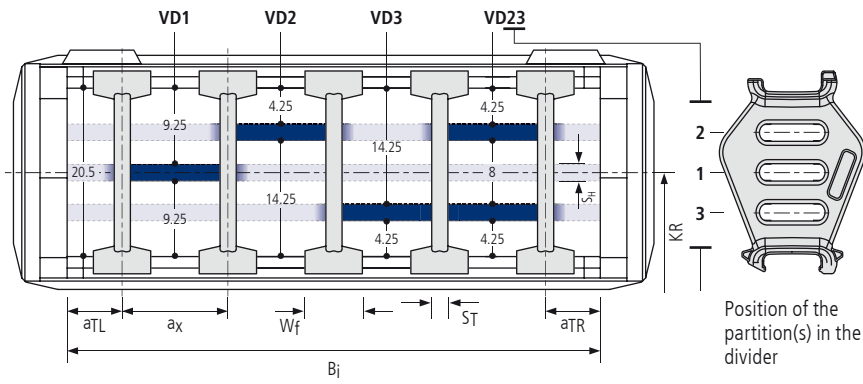
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TUBE SERIES | TKA30

Divider system TS1 with continuous height separation made of aluminum

ST [mm]	Wf [mm]	SH [mm]	aTL/aTR max [mm]	Version A moveable		Version B fixable		
				aTL/aTR min [mm]	ax min [mm]	aTL/aTR min [mm]	ax min [mm]	ax grid [mm]
2	7	2	20	3.5	7	3.5	8	2



Note: For order example and notes for ordering, refer to page 275.

TUBE SERIES

Selection

BASIC LINE

Inside heights

20.5

BASIC LINE PLUS

Inside widths

15
65

VARIO LINE

TUBE SERIES

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Cable Carrier Configurator

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

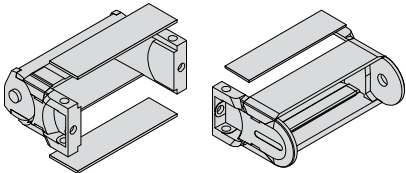
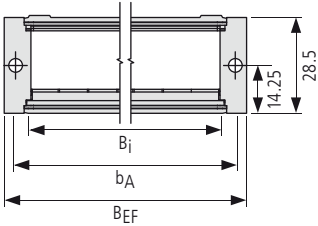
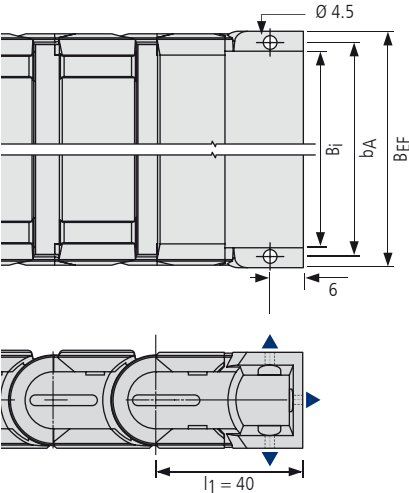
65

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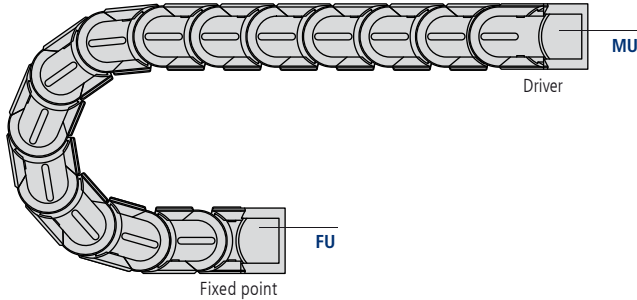
▲ Assembly options

i **Note:** The connecting elements are also available as an option **without** cover plate. Please state when ordering.

Connection dimensions

B_i [mm]	b_A [mm]	B_{EF} [mm]
15	24	31
20	29	36
25	34	41
38	47	54
50	59	66
65	74	81

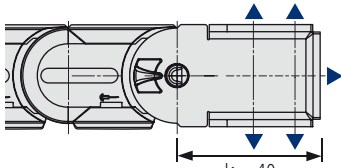
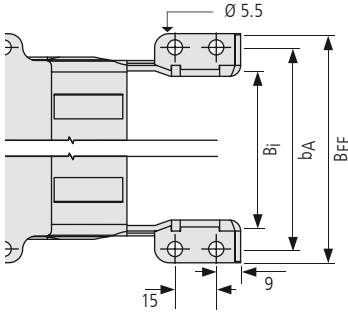
i The connection dimensions for fixed point and driver are identical. When ordering, please specify the connection type (see order key on page 275).



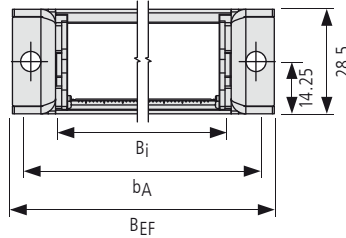
TUBE SERIES | TKA30

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



i The connection dimensions for fixed point and driver are identical. When ordering, please specify the connection type (see order key on page 275).

i **Note:** The connecting elements are also available as an option **with** cover plate. Please state when ordering.

Inside heights

20.5

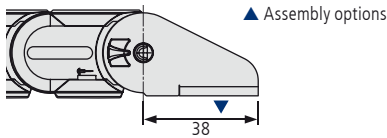
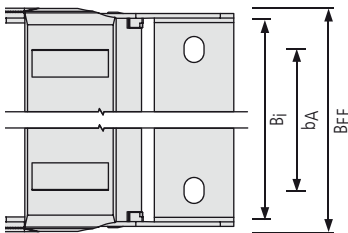
Inside widths

15
65

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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.



▲ Assembly options

Connection dimensions

Bj [mm]	St (UMB)		St	
	bA [mm]	BEF [mm]	bA [mm]	BEF [mm]
15	35	45	1	28
20	40	50	6	33
25	45	55	11	38

Bj [mm]	St (UMB)			St	
	bA [mm]	BEF [mm]		bA [mm]	BEF [mm]
38	58	68		24	51
50	70	80		36	63
65	85	95		51	78

i **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

Inside heights



Inside widths



Pitch
38.5 mm



Height
26 mm



Width
25 – 130 mm

Stay variants

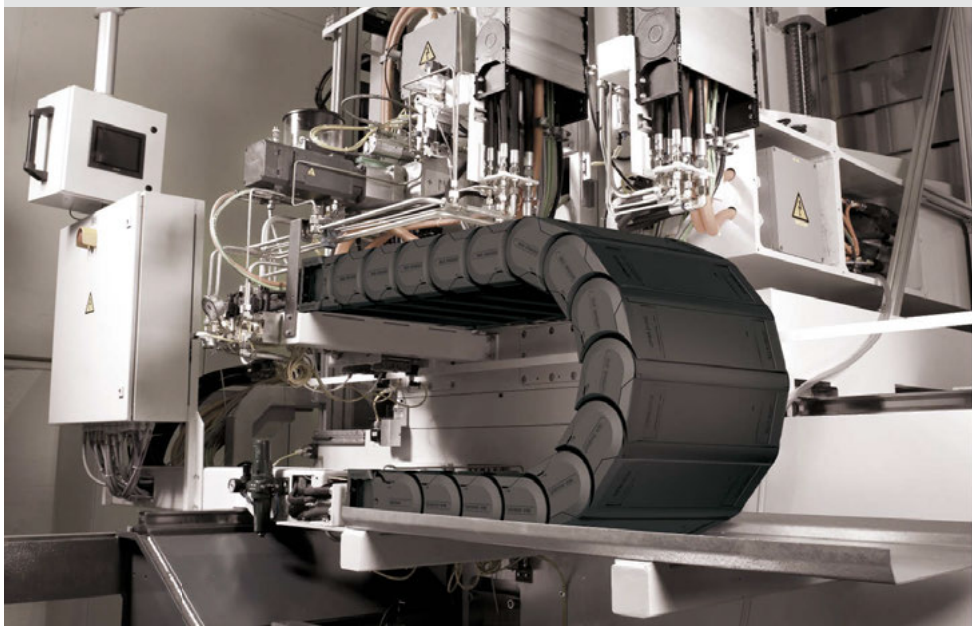
Stay variant 060

Inside: Quick-to-open cover



Stay variant 080

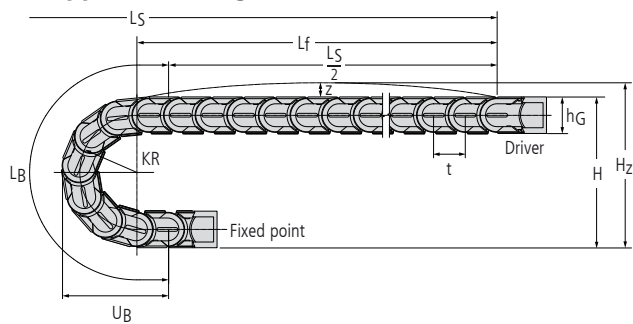
Outside: Quick-to-open cover



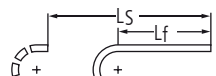
Spare parts list, installation instructions, etc.:
Receive additional info at kabelschlepp.de

TUBE SERIES | TKA38

Unsupported arrangement



Unsupported length Lf



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

t = 38.5 mm
z = 17 mm/m

Installation measurements unsupported

KR [mm]	H [mm]	H _z [mm]	L _B [mm]	U _B [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

Note: For order example and notes for ordering, refer to page 275.

Inside heights

26

Inside widths

25
130

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Cable Carrier Configuration

TUBE SERIES

TKA38

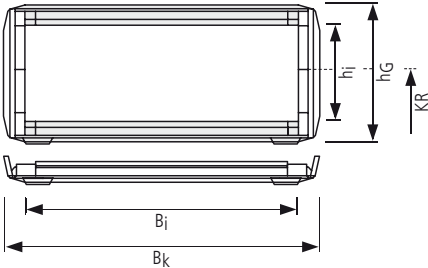
Stay variant 060 –

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]
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



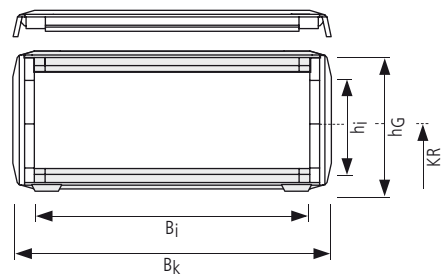
Inside widths



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Pitch, inside height and chain link height

Type	t [mm]	h _i [mm]	h _G [mm]
TKA38.080	38.5	26	36



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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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TSUBAKI KABELSCHLEPP
Cable Chain Configurator

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**).

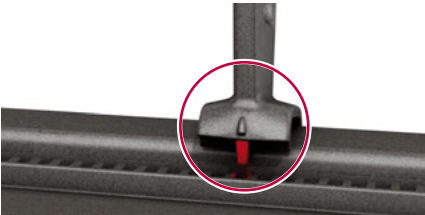
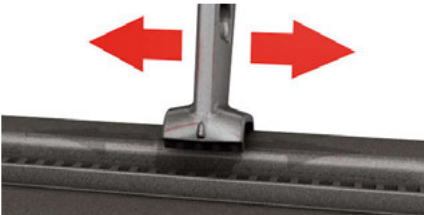
For applications with transverse accelerations and where the carrier is rotated through 90° the dividers can be fixed simply by turning them. This causes the arresting cams to engage in the locking profiles of the covers (**Version B**).

Moveable divider

Version A (standard)

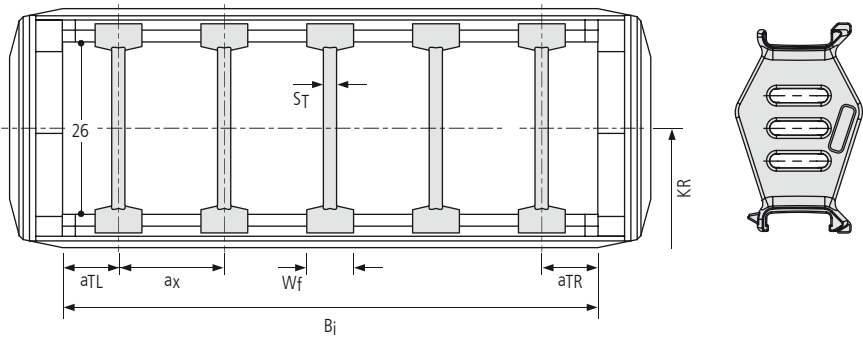
Fixable divider (2 mm grid)

Version B



Divider system TS0 without height separation

ST [mm]	Wf [mm]	Version A moveable		Version B fixable		
		aTL/aTR min [mm]	ax min [mm]	aTL/aTR min [mm]	ax min [mm]	ax grid [mm]
2.0	7	3.5	7	3.5	8	2



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+49 2762 4003-0

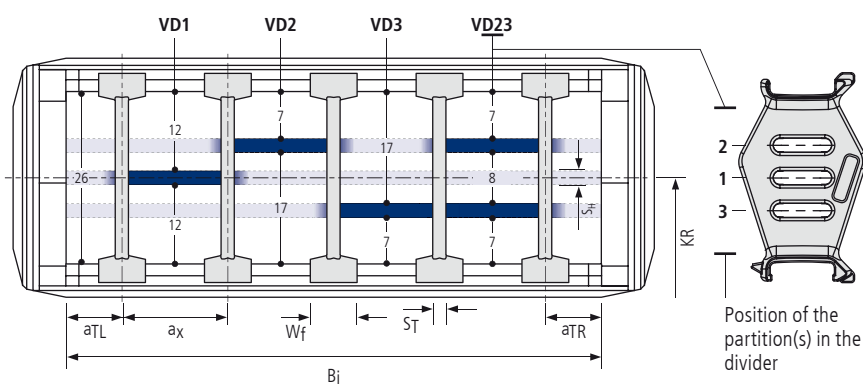
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TUBE SERIES | TKA38

Divider system TS1 with continuous height separation made of aluminum

ST [mm]	Wf [mm]	SH [mm]	aTL/aTR max [mm]	Version A moveable		Version B fixable		
				aTL/aTR min [mm]	ax min [mm]	aTL/aTR min [mm]	ax min [mm]	ax grid [mm]
2.0	7	2	20	3.5	7	3.5	8	2



Note: For order example and notes for ordering, refer to page 275.

TUBE SERIES

Inside heights

26

Inside widths

25
130

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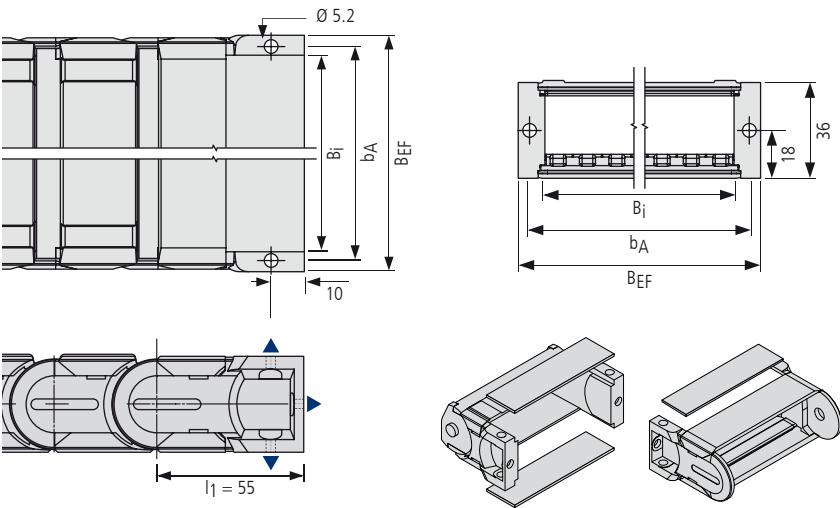
Fon: +49 2762 4003-0

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Tsubaki Kabelschlepp
Cable Carrier Configurator

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**.



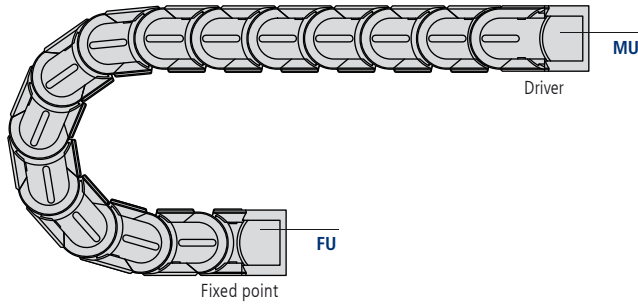
▲ Assembly options

Note: The connecting elements are also available as an option **without** cover plate. Please state when ordering.

Connection dimensions

B_i [mm]	b_A [mm]	B_{EF} [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

i The connection dimensions for fixed point and driver are identical. When ordering, please specify the connection type (see order key on page 275).



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.**

Bj [mm]	nz
25	2
38	3
58	5
78	7
103	9
130	13

nz = Number of teeth on one side of the comb



UMB connection piece with optional strain relief comb



Fixing in the UMB

Inside heights



Inside widths



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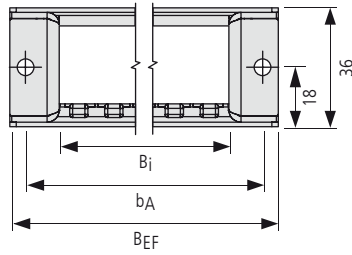
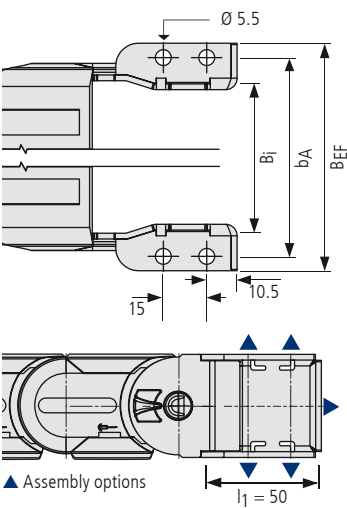
OnlineEngineer.de

Online-Kabelschlepp-Systeme konfigurieren

TUBE SERIES | TKA38

Universal mounting brackets St (UMB)

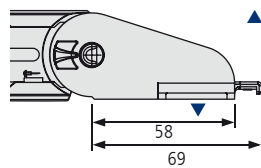
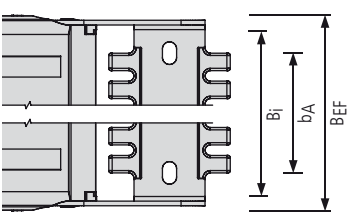
The universal mounting brackets (UMB) are made from zinc plated steel and can **be mounted from above, from below or at the front.**



- 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.



- The connecting element St are delivered as standard with strain relief comb made from plastic.

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.

Notes

Inside
heights



Inside
widths



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Cable Center Configurator

Inside heights

36

Inside widths

50
-
150

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TKA45



Pitch
45.5 mm



Height
36 mm



Width
50 – 150 mm

Stay variants

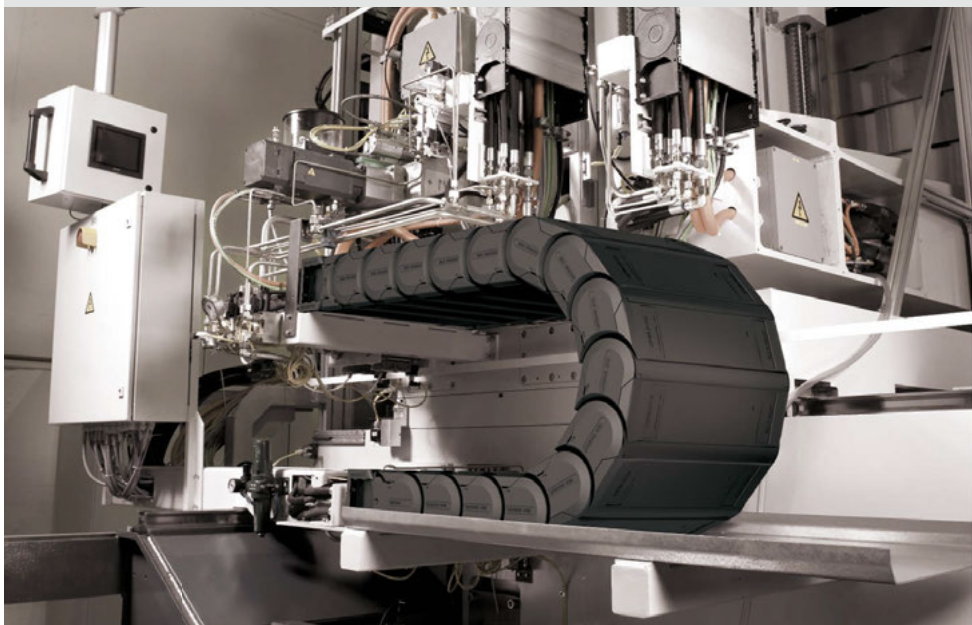
Stay variant 060

Inside: Quick-to-open cover



Stay variant 080

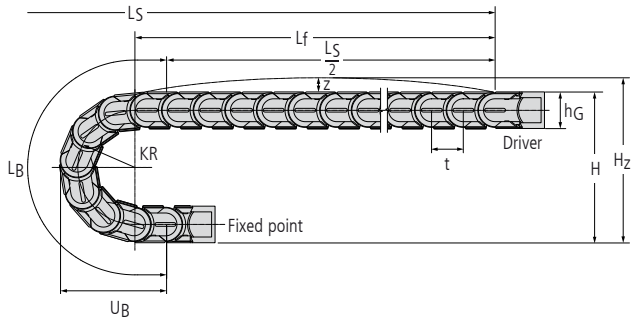
Outside: Quick-to-open cover



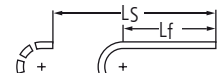
Spare parts list, installation instructions, etc.:
Receive additional info at kabelschlepp.de

TUBE SERIES | TKA45

Unsupported arrangement



Unsupported length Lf



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

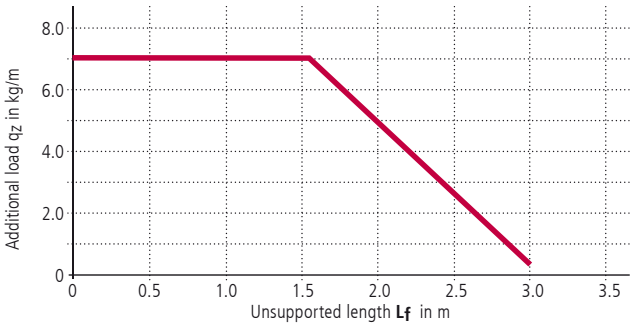
LS max. [m]	Dynamics				t [mm]	z [mm/m]
	vmax [m/s]		amax [m/s]			
	unsupported	gliding	unsupported	gliding		
125	9	3	45	20	45.5	17

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

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

Inside heights

36

Inside widths

50
150

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Note: For order example and notes for ordering, refer to page 275.

TUBE SERIES | TKA45

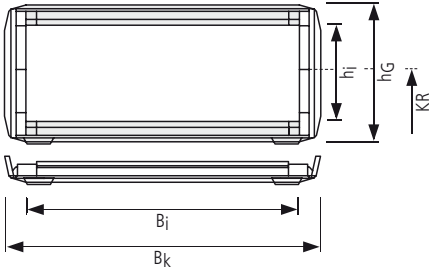
Stay variant 060 –

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]
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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TUBE SERIES | TKA45

Stay variant 080 –
covered on both sides with detachable covers on the outside



Inside heights



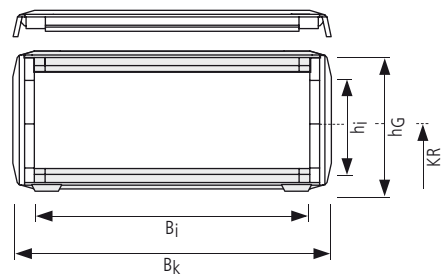
Inside widths



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Pitch, inside height and chain link height

Type	t [mm]	h _i [mm]	h _G [mm]
TKA45.080	45,5	36	50



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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

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Kabelschlepp
Cable Chain Configurator

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)



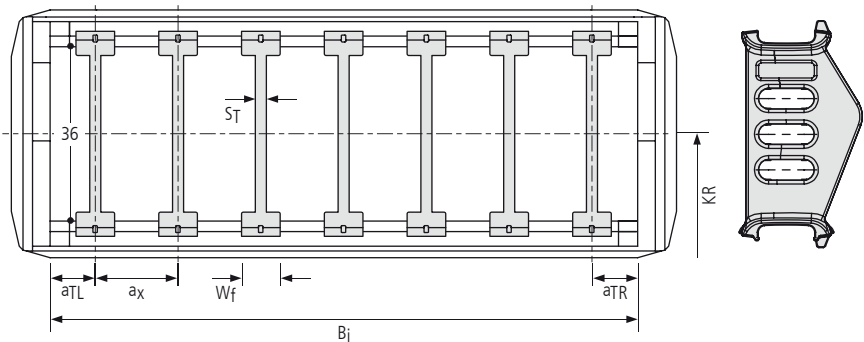
Fixable divider (2 mm grid)

Version B



Divider system TS0 without height separation

ST [mm]	Wf [mm]	Version A moveable		Version B fixable		
		aTL/aTR min [mm]	ax min [mm]	aTL/aTR min [mm]	ax min [mm]	ax grid [mm]
2.5	8	4	8	12	8	2



Fon:

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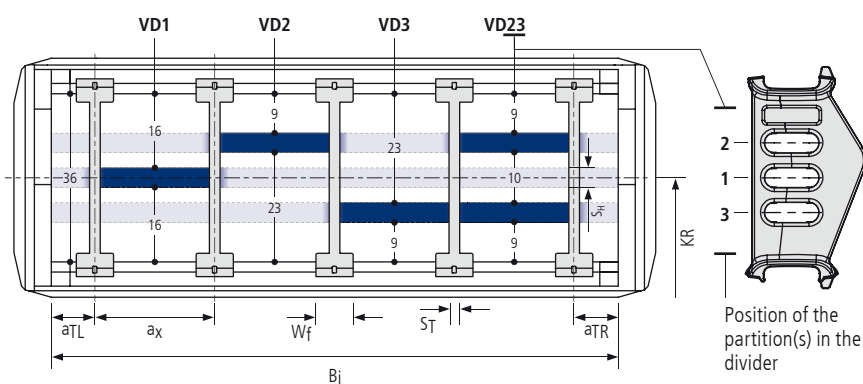
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TUBE SERIES | TKA45

Divider system TS1 with continuous height separation made of aluminum

ST [mm]	Wf [mm]	SH [mm]	aTL/aTR max [mm]	Version A moveable		Version B fixable		
				aTL/aTR min [mm]	ax min [mm]	aTL/aTR min [mm]	ax min [mm]	ax grid [mm]
2.5	8	4	40	4	8	12	8	2



Note: For order example and notes for ordering, refer to page 275.

TUBE SERIES

Selection

BASIC LINE

BASIC LINE PLUS

VARIO LINE

TUBE SERIES

Inside heights

36

Inside widths

50 - 150

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TUBE SERIES | TKA45

Universal mounting brackets (UMB)

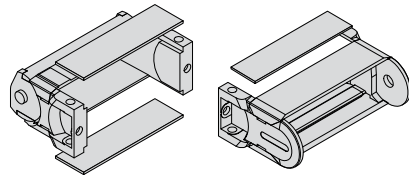
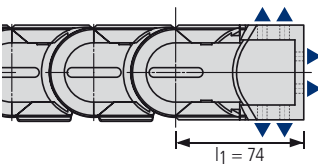
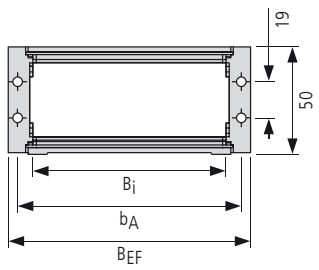
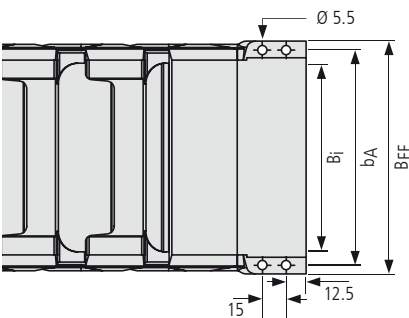
The universal mounting brackets (UMB) are made from plastic and can **be mounted from above, from below or at the front**.

Inside heights

36

Inside widths

50
-
150



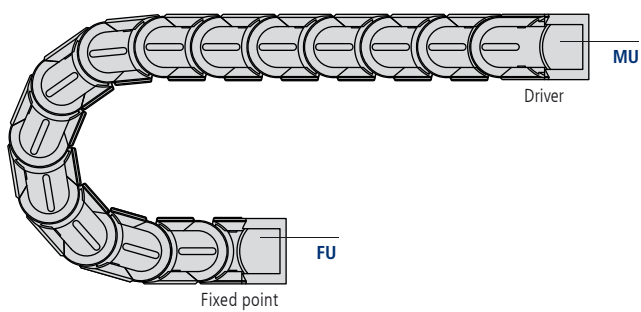
▲ Assembly options

Note: The connecting elements are also available as an option **without** cover plate. Please state when ordering.

Connection dimensions

B_i [mm]	b_A [mm]	B_{EF} [mm]
50	60	70
75	85	95
100	110	120
125	135	145
150	160	170

i The connection dimensions for fixed point and driver are identical. When ordering, please specify the connection type (see order key on page 275).



TUBE SERIES | TKA45

Both-sided strain relief combs made of plastic

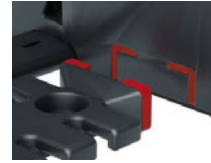
The cables can be fixed securely and simply using the **optional strain relief combs**. The strain relief combs are installed between the UMBs, and do not need to be bolted on separately or mounted on a C-rail. **When ordering, please state if strain relief combs are required.**

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

Inside heights

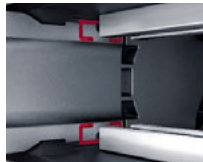


Inside widths

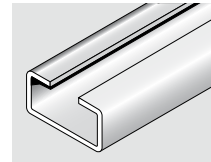


C-rails for LineFix bracket clamps, SZL strain reliefs and clamps

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

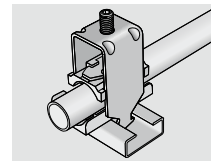
Our LineFix strain reliefs are very well suited for the C-rails (LineFix bow clamps and other strain reliefs – refer to Chapter Accessories, from Page 381).



Note: LineFix strain reliefs can only be used in the connecting elements without cover plate.



C-rail with LineFix strain relief



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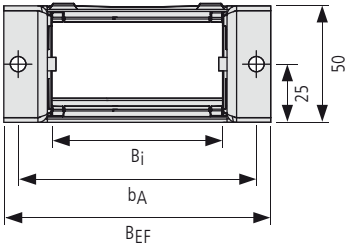
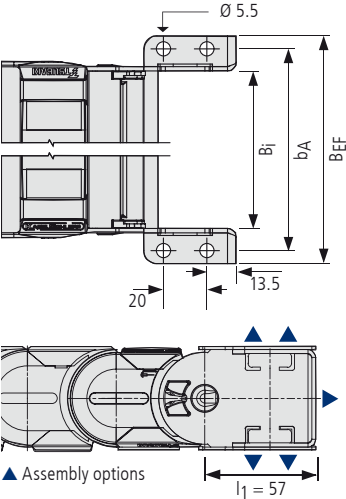
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TUBE SERIES | TKA45

Universal mounting brackets St (UMB)

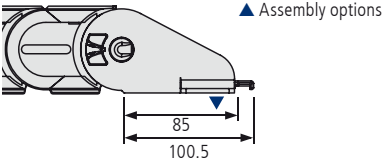
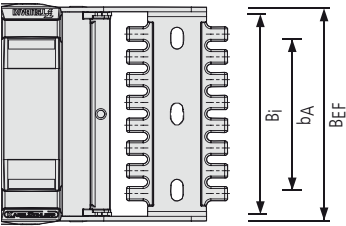
The universal mounting brackets (UMB) are made from zinc plated steel and can **be mounted from above, from below or at the front.**



- 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.

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.

Connection dimensions

Universal mounting brackets St (UMB)			Connecting elements 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.

Notes

Inside heights



Inside widths



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Cable Center Configuration 

TKA55

Inside heights



Inside widths



Pitch
55.5 mm



Height
45 mm



Width
50 – 175 mm

Stay variants

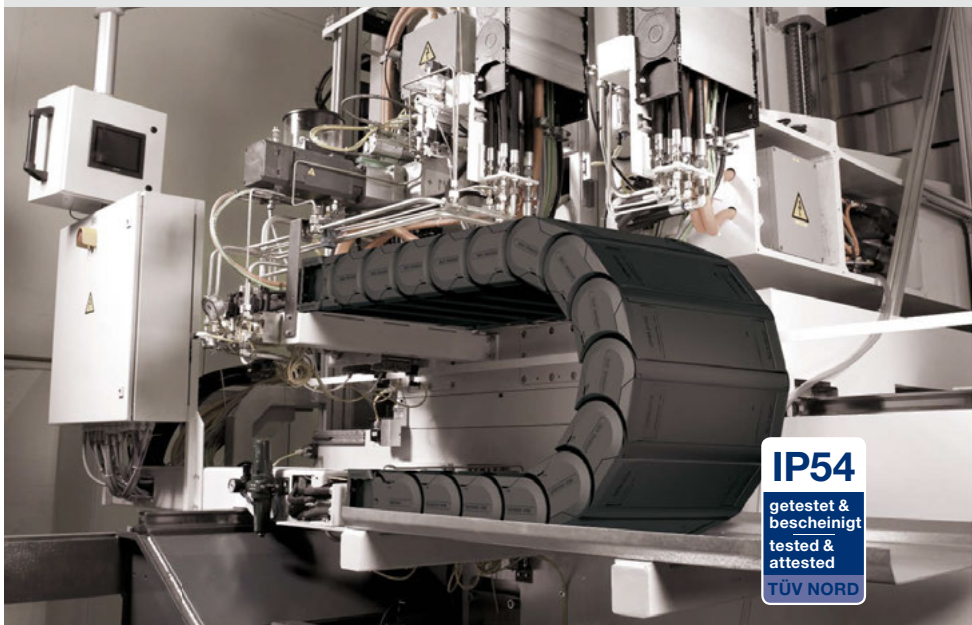
Stay variant 060

Inside: Quick-to-open cover



Stay variant 080

Outside: Quick-to-open cover



IP54

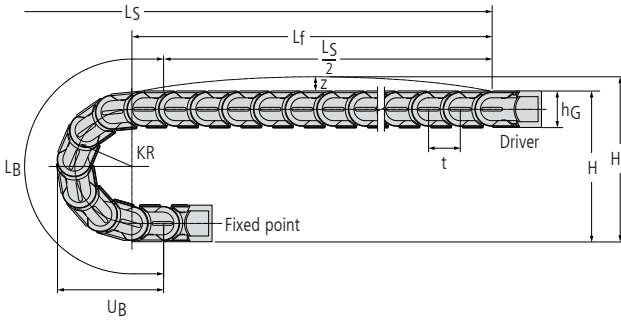
getestet & bescheinigt
tested & attested
TÜV NORD



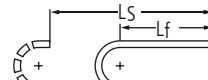
Spare parts list, installation instructions, etc.:
Receive additional info at kabelschlepp.de

TUBE SERIES | TKA55

Unsupported arrangement



Unsupported length Lf



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

Inside heights



Inside widths



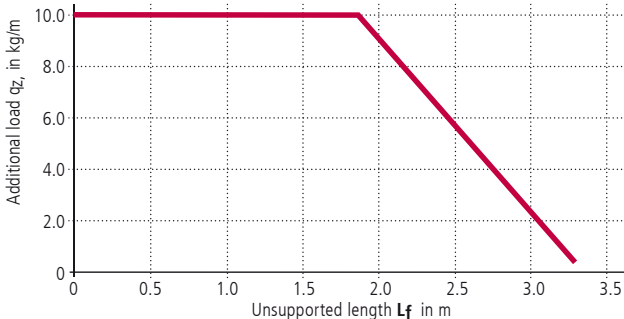
LS max. [m]	Dynamics				t [mm]	z [mm/m]
	vmax [m/s]		amax [m/s]			
	unsupported	gliding	unsupported	gliding		
150	8	3	40	15	55.5	17

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

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

Chain length Lk rounded off to pitch t

Unsupported length Lf

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

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TUBE SERIES | TKA55

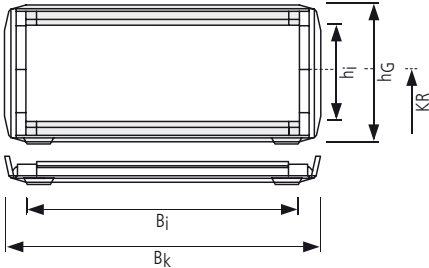
Stay variant 060 –

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]
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	70	1.95
TKA55.060	75	95	2.22
TKA55.060	100	120	2.51
TKA55.060	125	145	2.78
TKA55.060	150	170	3.10
TKA55.060	175	195	3.46

TUBE SERIES | TKA55

Stay variant 080 –

covered on both sides with detachable covers on the outside



Inside heights



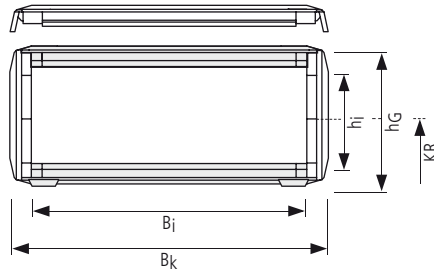
Inside widths



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Pitch, inside height and chain link height

Type	t [mm]	h _i [mm]	h _G [mm]
TKA55.080	55.5	45	64



Fon: +49 2762 4003-0

Inside/outside width and intrinsic chain weight

Type	B _i [mm]	B _k [mm]	q _k [kg/m]
TKA55.080	50	70	1.95
TKA55.080	75	95	2.22
TKA55.080	100	120	2.51
TKA55.080	125	145	2.78
TKA55.080	150	170	3.10
TKA55.080	175	195	3.46

TUBE SERIES

TKA55

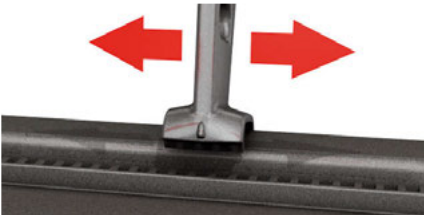
Divider systems

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)



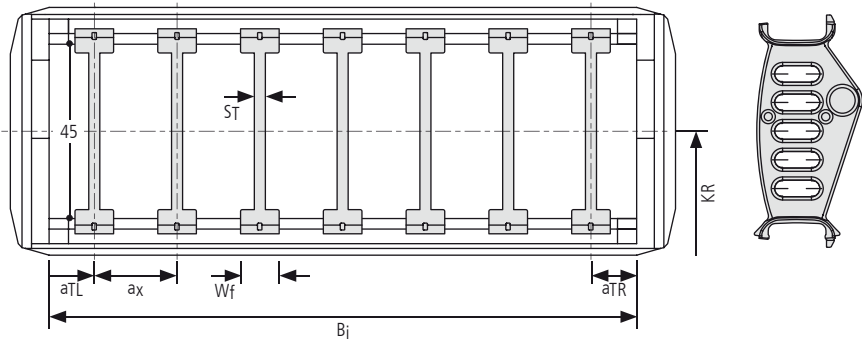
Fixable divider (2 mm grid)

Version B



Divider system TS0 without height separation

ST [mm]	Wf [mm]	Version A moveable		Version B fixable		
		aTL/aTR min [mm]	ax min [mm]	aTL/aTR min [mm]	ax min [mm]	ax grid [mm]
3	10	45	10	13.5	10	2



Fon:

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TUBE SERIES | TKA55

Divider system TS1 with continuous height separation made of aluminum

ST [mm]	Wf [mm]	SH [mm]	aTL/aTR max [mm]	Version A moveable		Version B fixable		
				aTL/aTR min [mm]	ax min [mm]	aTL/aTR min [mm]	ax min [mm]	ax grid [mm]
3	10	4	40	5	10	13.5	10	2

TUBE SERIES

Selection

BASIC LINE

BASIC LINE PLUS

VARIO LINE

TUBE SERIES

Inside heights



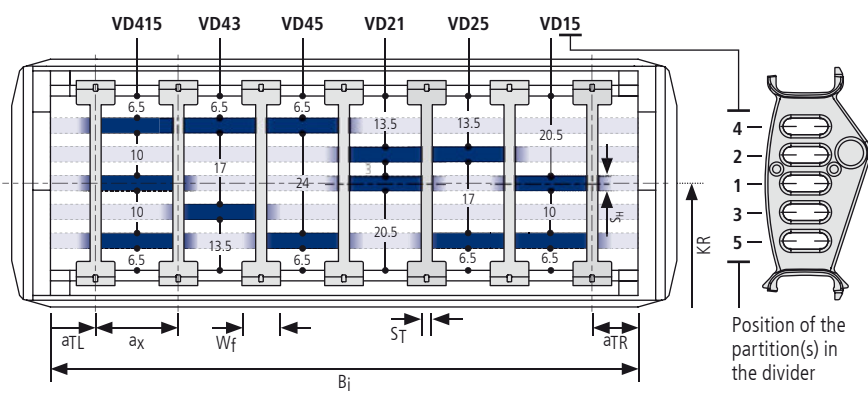
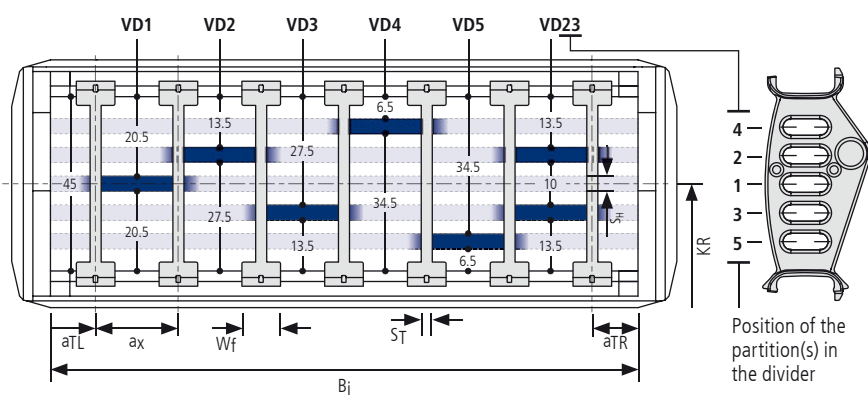
Inside widths



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Cable Carrier Configurator



Note: For order example and notes for ordering, refer to page 275.

Inside heights
45

Inside widths
50
175

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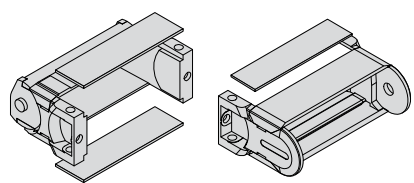
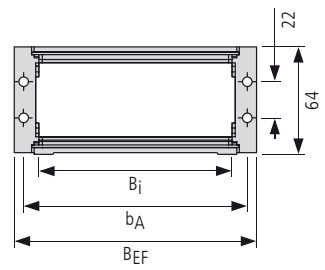
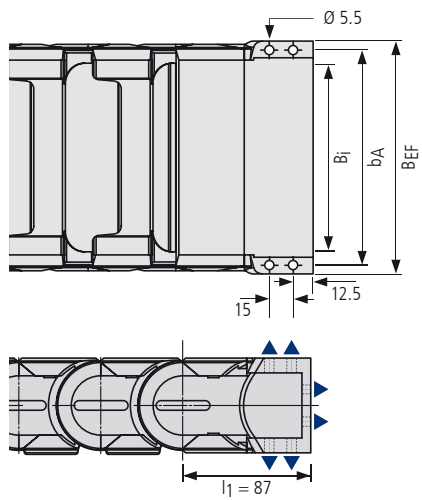
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TUBE SERIES | TKA55

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

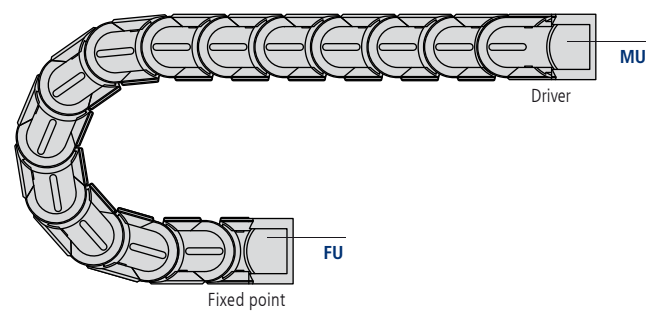
Note: The connecting elements are also available as an option **without** cover plate. Please state when ordering.

Connection dimensions

B_i [mm]	b_A [mm]	B_{EF} [mm]
50	63	74
75	88	99
100	113	124

B_i [mm]	b_A [mm]	B_{EF} [mm]
125	138	149
150	163	174
175	188	199

i The connection dimensions for fixed point and driver are identical. When ordering, please specify the connection type (see order key on page 275).



TUBE SERIES | TKA55

Both-sided strain relief combs made of plastic

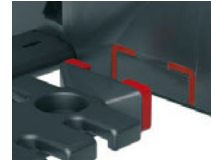
The cables can be fixed securely and simply using the **optional strain relief combs**. The strain relief combs are installed between the UMBs, and do not need to be bolted on separately or mounted on a C-rail. **When ordering, please state if strain relief combs are required.**

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

Inside heights



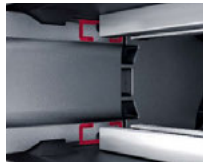
Inside widths



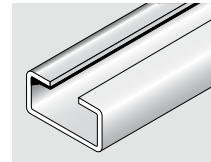
kabelschlepp.de

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.



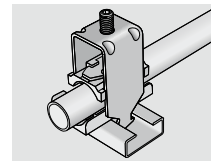
Integrated C-rail.
25 x 10 mm, slot width 11 mm, material steel, Item No. 3931

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



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Tsubaki Kabelschlepp
Cable Carrier Configuration

TUBE SERIES | TKA55

Inside
heights

45

Inside
widths50
175

kabelschlepp.de

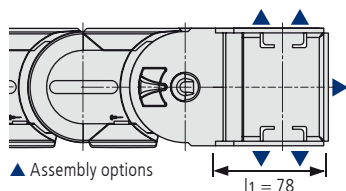
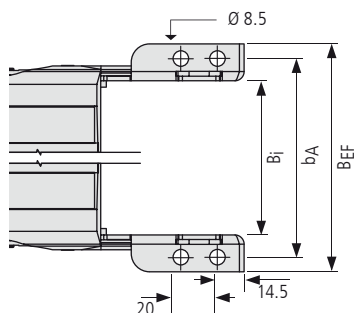
Fon:

+49 2762 4003-0

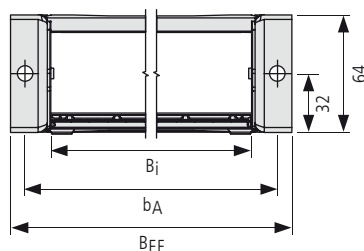
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Universal mounting brackets St (UMB)

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

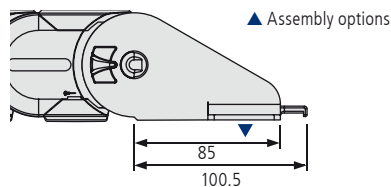
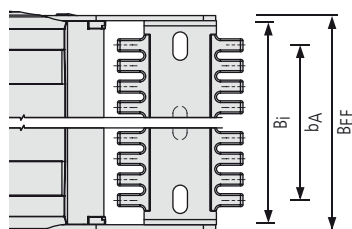


i The connection dimensions for fixed point and driver are identical. When ordering, please specify the connection type (see order key on page 275).

i **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

i The connecting element St are delivered as standard with strain relief comb made from plastic.

Connection dimensions

St (UMB)			St		St (UMB)			St	
Bi [mm]	bA [mm]	BEF [mm]	bA [mm]	BEF [mm]	Bi [mm]	bA [mm]	BEF [mm]	bA [mm]	BEF [mm]
50	78	94	30	70	125	153	169	105	145
75	103	119	55	95	150	178	194	130	170
100	128	144	80	120	175	203	219	155	195

i **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.

TUBE SERIES | TKA Series

Ordering

Ordering example cable carrier

Cable carrier

TKA45	·	080	·	125	·	140	·	1110
Type		Stay variant		Bj [mm]		KR [mm]		LK [mm]

Inside heights



Inside widths



Ordering example divider system

Divider system without height separation

TS0	·	B	/	3
Divider system		Version		nT

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

Divider system with height separation

TS1	·	A	/	3	/	VD23
Divider system		Version		nT		Height separation

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

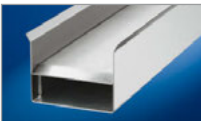
Spare parts list, installation instructions, etc.:
Receive additional info at kabelschlepp.de

Configure your custom
cable carrier system:
onlineengineer.de



Guide channels

■ from page 375



Strain relief devices

■ from page 381



Cables for cable carrier systems

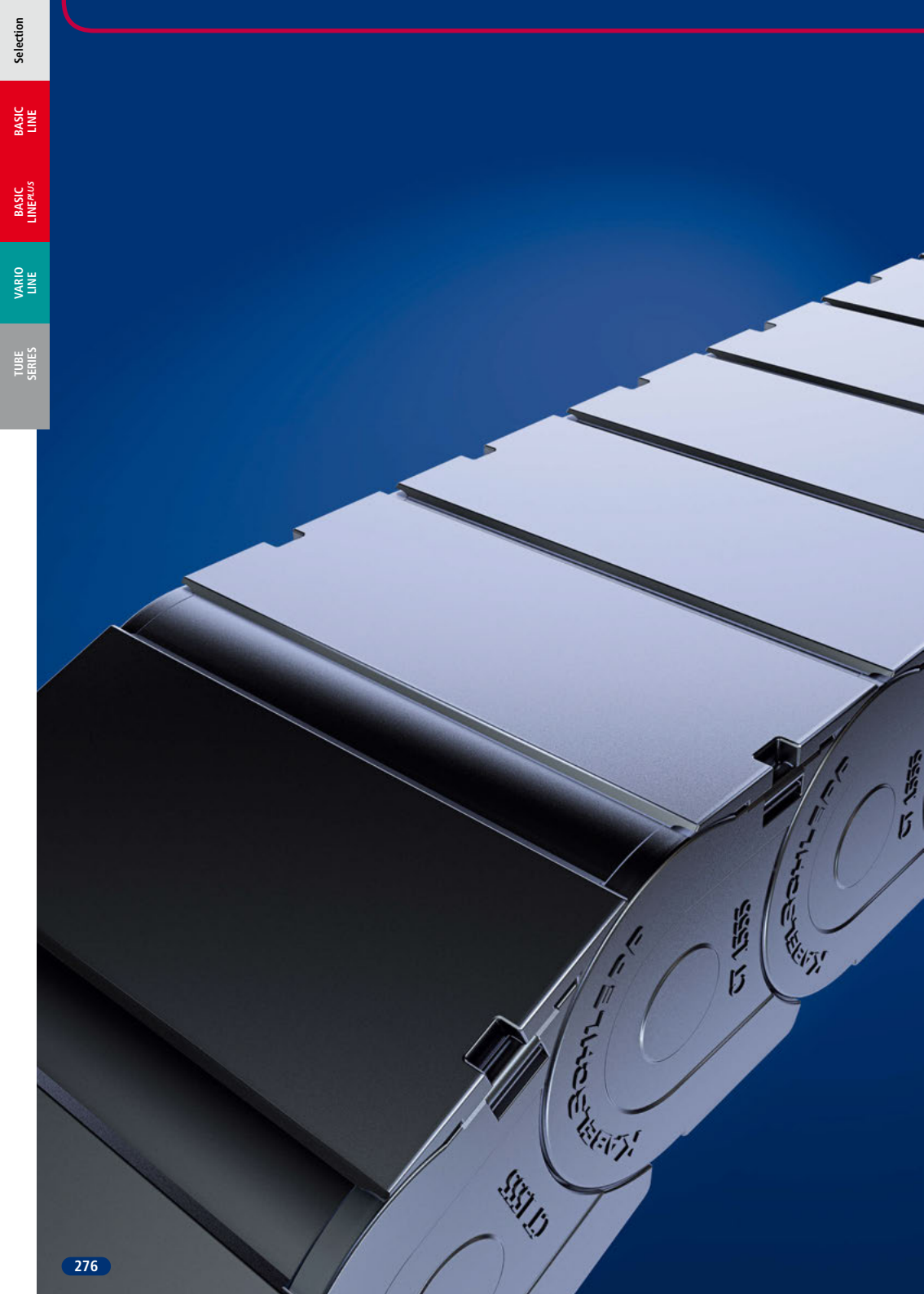
■ from page 438



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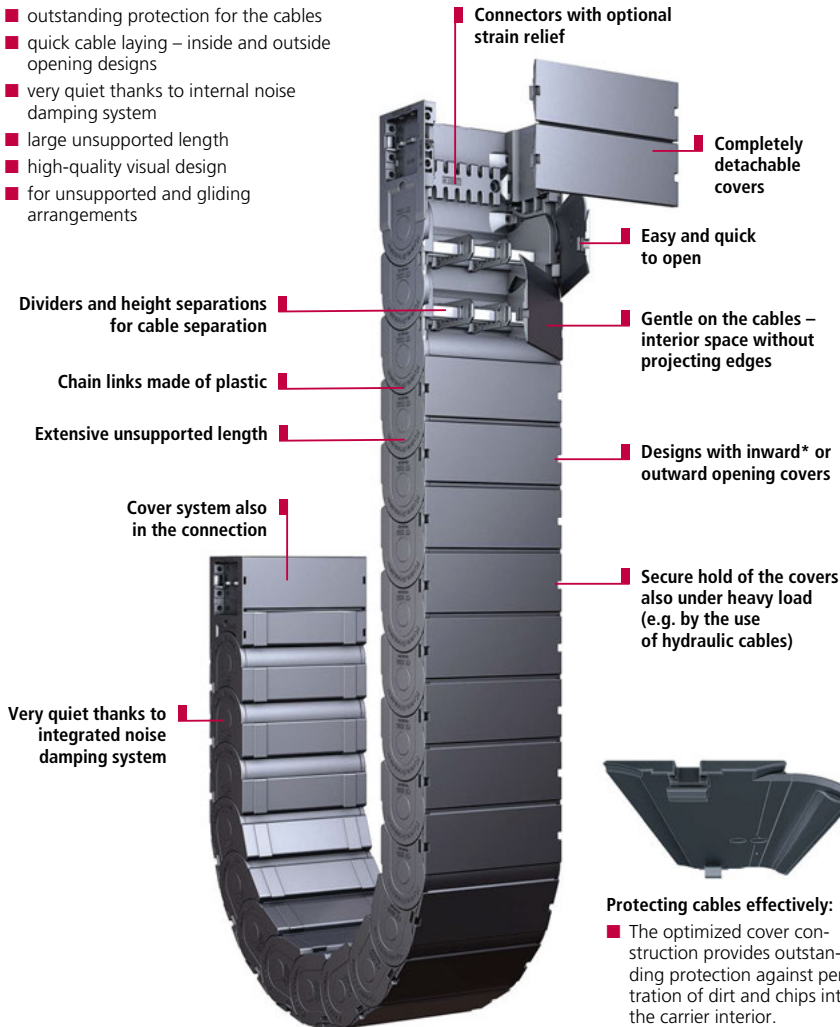
OnlineEngineer.de
Your Cable Carrier Configuration



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:

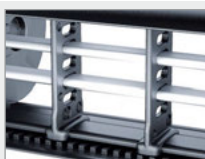
- The optimized cover construction provides outstanding protection against penetration of dirt and chips into the carrier interior.



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

TUBE-SERIES

Inside heights

50

Inside widths

50

250

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Cable Carrier Configuration

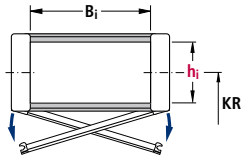
Overview CoverTrax

Design 060 with a cover that can be levered open to the inside*

Inside heights



Inside widths



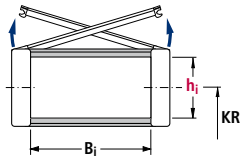
Type	h _i	B _i	Maximum travel length in m	Dynamics of unsupported arrangement		Page
				Travel speed v _{max} in m/s	Travel acceleration a _{max} in m/s ²	
CT 1555.060	50	50-250	100	6	35	280

Dimensions in mm

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Bauart 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/s ²	
CT 1555.080	50	50-250	100	6	35	280

Dimensions in mm

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Inside heights

50

Inside widths

50

250

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Font:

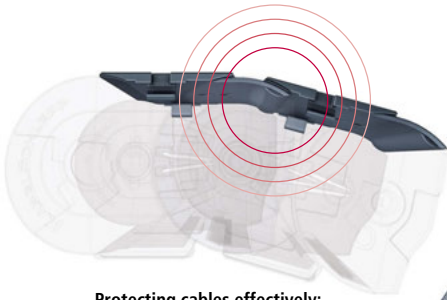
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Cable Carrier Configurator

279

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.



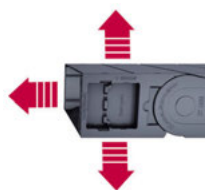
- The openable covers reach above the side band and deflect dirt off to the side.



- 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.



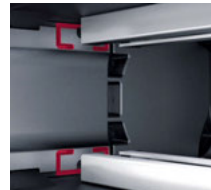
- UMB connector



- Optional strain relief comb



- Connection with LineFix on C-rail

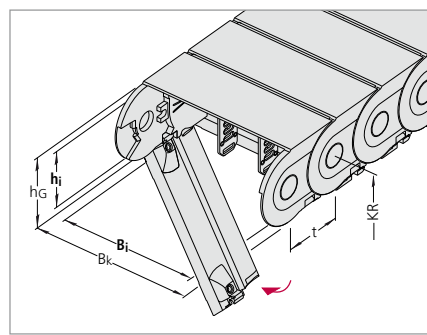


- The UMB connectors have mounts above and below for fixing a C-rail or strain relief comb.

Type CT 1555

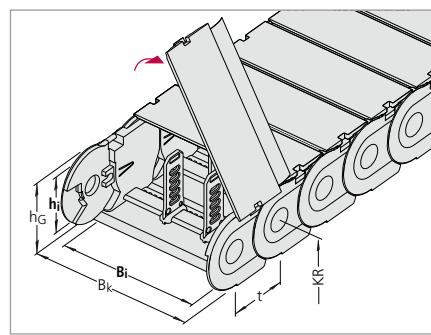
Design 060*

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



Design 080

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



Inside heights
50

Inside widths
50 - 250

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Dimensions and intrinsic chain weight

Type	h _i	h _G	Inside widths B _i										B _k
			Intrinsic chain weight										
CT 1555	50	69	50*	75	100*	115*	125	150*	175	200*	225*	250*	B _i + 21
			2.18	2.43	2.68	2.83	2.94	3.19	3.44	3.69	3.94	4.20	

* on request

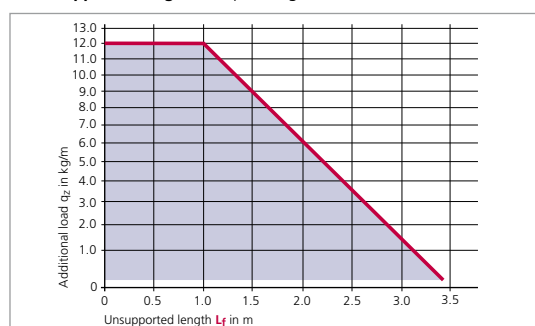
Dimensions in mm/Weights in kg/m

Bend radius and pitch

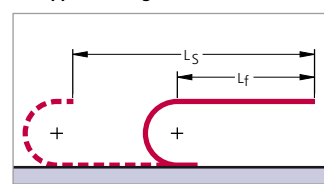
Bend radii KR mm								Pitch t = 55.5 mm
100	125	150	175	200	225	250	300	

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, sag of 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 on these 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 systemmm	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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Inside heights

50

Inside widths

50

250

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TSUBAKI KABELSCHLEPP
Cable Carrier Configuration

Type CT 1555

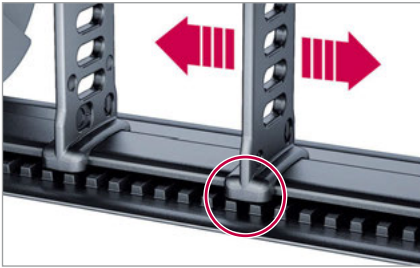
Fixing the dividers

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.

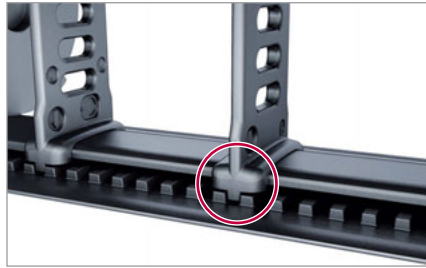
Version A (standard)

Movable divider



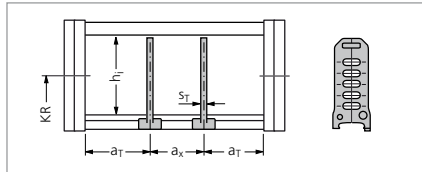
Version B

Divider fixed in 5 mm steps.



Divider system TS 0

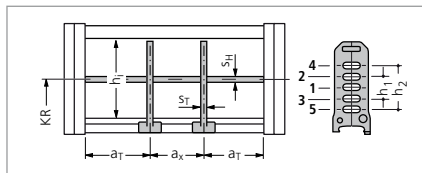
Type	h_i mm	Version A			Version B			
		S_T mm	a_T min mm	a_x min mm	S_T mm	a_T min mm	a_x min mm	a_x section mm
CT 1555	50	3	5	10	3	7.5	10	5



Divider system TS 1

with continuous height subdivision made of aluminum

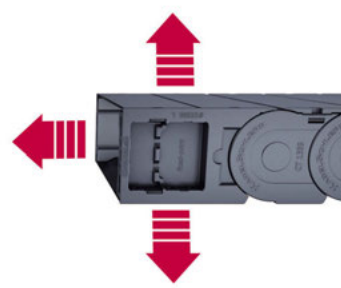
		Version A			Version B						
Type	h_i mm	S_T mm	a_T min mm	a_x min mm	S_T mm	a_T min mm	a_x min mm	a_x section mm	S_H mm	h_1 mm	h_2 mm
CT 1555	50	3	5	10	3	7.5	10	5	4	14	28



Type CT 1555

Universal mounting brackets

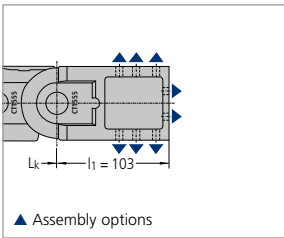
With plastic UMBs (Universal Mounting Brackets), you can easily connect the CoverTrax from above, from below, or at head height.



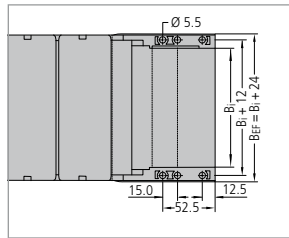
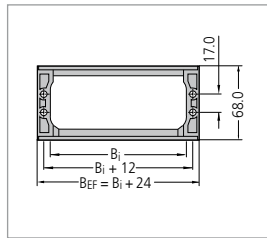
Inside heights



Inside widths



▲ 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 ₁ mm	n _z
CT 1555.50	50	3
CT 1555.75	75	5
CT 1555.100	100	7
CT 1555.125	125	9
CT 1555.150	150	11
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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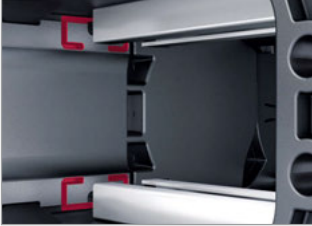
Type CT 1555

Strain relief devices

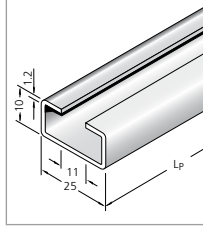
C-rails for LineFix bracket clamps, SZL strain reliefs and clamps

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

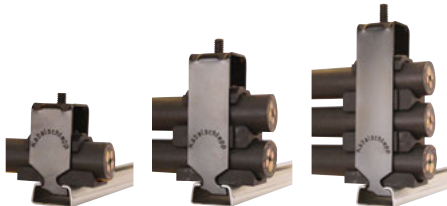


■ Integratable C-rail
25 x 10 mm,
slit width 11 mm,
material steel,
Item-No. 3931

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

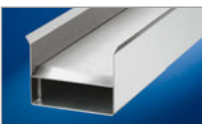


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Your Cable Carrier Configurator

Guide channels
► from page 375



Strain relief devices
► from page 381



Cables for cable carrier systems
► from page 438



Inside heights

19,5
44

Inside widths

15
175

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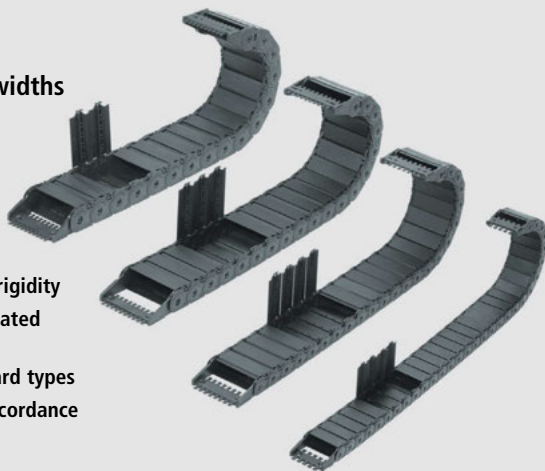
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UNIFLEX

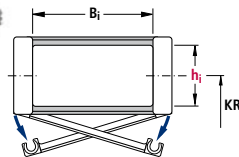
TUBES with fixed chain widths

- 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



Design 050 – covered on one side

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

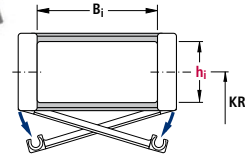


Type	h _i	B _i	Maximum travel length in m	Dynamics of unsupported arrangement		Page
				Travel speed v _{max} in m/s	Travel acceleration a _{max} in m/s ²	
0345.050	20	15-65	80	10	50	104
0455.050	26	25-130	120	10	50	104
0555.050	38	50-150	125	9	45	104
0665.050	44	50-175	150	8	40	104

Dimensions in mm

Design 060 – covered on both sides

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



Inside heights

19.5
44

Inside widths

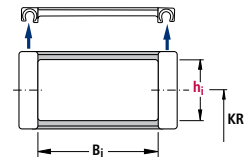
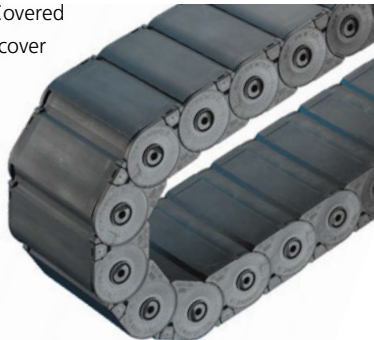
15
175

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/s ²	
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/s ²	
0600.080	44	50-125	100	6	35	292

Dimensions in mm

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Cable Chain Configurator

UNIFLEX – Types 0345, 0455, 0555 and 0665

Design 060 – cable carriers covered on both sides

Outside and inside: Covered

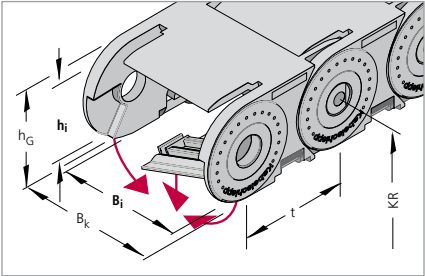
Inside: Hinged, openable (on the right/left) and detachable covers

Inside heights

19.5
-
42

Inside widths

15
-
175



Dimensions and intrinsic chain weight

Type	h _i	h _G	Inside widths B _i Intrinsic chain weight						B _k
0345	19.5	28	15 0.48	20 0.52	25 0.56	38 0.65	50 0.74	65 0.85	B _i + 13
0455	25	36	25 0.92	38 1.01	58 1.16	78 1.31	103 1.51	130 1.72	B _i + 18
0555	36	50	50 1.72	75 1.95	100 2.17	125 2.39	150 2.61	— —	B _i + 22
0665	42	60	50 2.36	75 2.69	100 3.00	125 3.32	150 3.64	175 3.95	B _i + 27

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

0555 · 060 · 125 · 160 · 1665
Type Design Inside width B_i in mm Bend radius KR in mm Chain length L_k in mm (with-out connection)

Divider system

TS 0 / 3
Divider system Number of dividers n_T

Connection

FU/MU
Connection Fixed point/ Driver

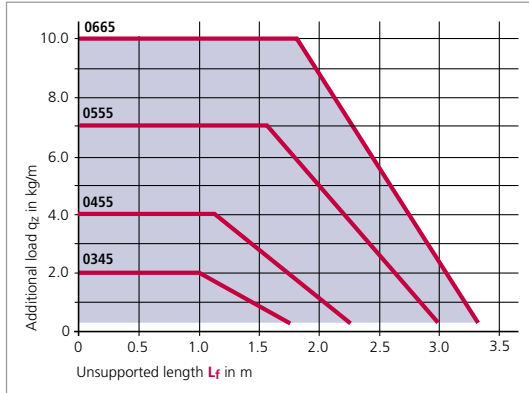
Ordering divider systems:

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

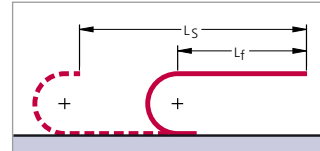
UNIFLEX – Types 0345, 0455, 0555 and 0665

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.

Inside heights

19.5
42

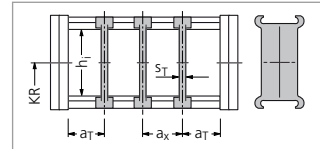
Inside widths

15
175

Divider system TS 0

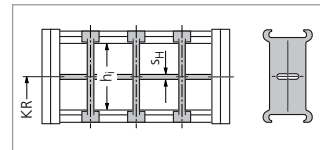
Type	h_i mm	S_T mm	a_x mm	B_i mm	a_T min mm
0455	25	3	20	25	12.5
0455	25	3	20	38, 58, 78	19
0455	25	3	20	103	21.5
0455	25	3	20	130	25
0555	36	3	25	50 ... 150	25
0665	42	5	25	50 ... 175	25

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.



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Cable Carrier Configuration

UNIFLEX – Types 0345, 0455, 0555 and 0665

Strain relief devices for plastic connectors

Inside heights

19.5
–
42

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.

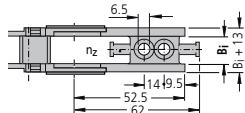
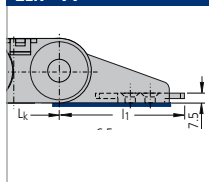
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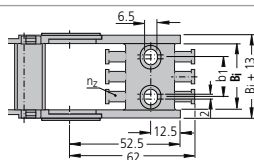
Connecting elements Type 0345

Connecting elements with integrated strain relief combs on both sides

ZLK – A



For chain width $B_1 = 15 - 20 \text{ mm}$



For chain width $B_1 = 25 - 65 \text{ mm}$

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

Type	B_1	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

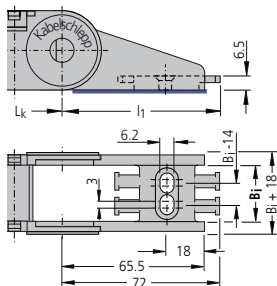
Use our free project planning service.

UNIFLEX – Types 0345, 0455, 0555 and 0665

Connecting elements Type 0455

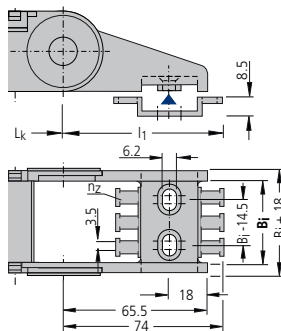
Connecting elements with strain relief combs on both sides

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

Inside heights

19.5
42

Inside widths

15
175

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Cable Chain Configuration

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

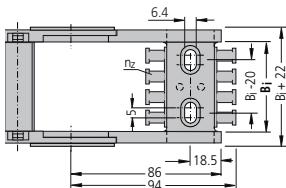
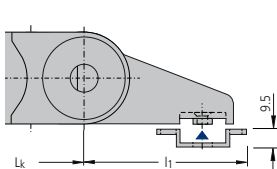
Type	B_i	B_k	n_z
0455.25	25	43	2
0455.38	38	56	3
0455.58	58	76	4
0455.78	78	96	6
0455.103	103	121	8
0455.130	130	148	10

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

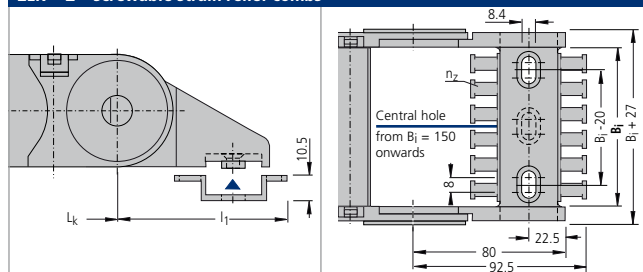
Dimensions in mm

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

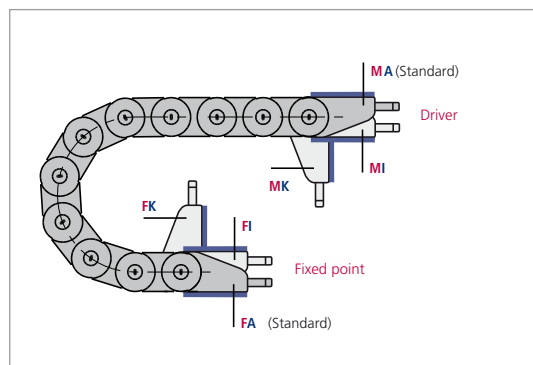
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Connection variants for design 060



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

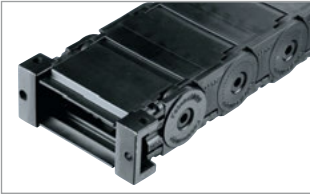
In the standard version, the connectors are mounted with the threaded joint outwards (**FA/MA**).

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

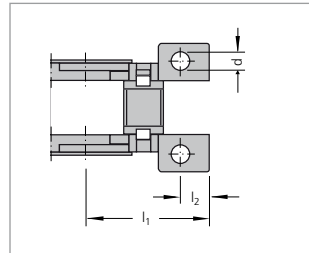
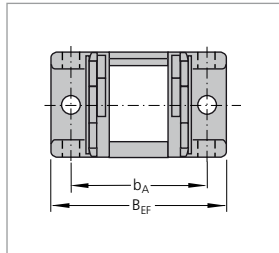
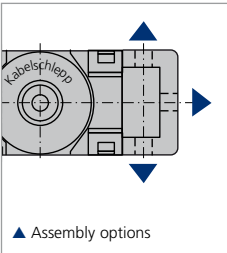
The connection type can subsequently be altered simply by varying the connectors.

UNIFLEX – Types 0345, 0455, 0555 and 0665

UMB (Universal Mounting Brackets) made of aluminum



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



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

Inside heights

19.5
42

Inside widths

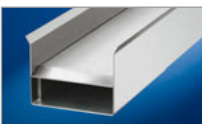
15
175

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Your Cable Carrier Configuration

Guide channels
► from page 375



Strain relief devices
► from page 381



Cables for cable carrier systems
► from page 438



UNIFLEX – Type 0600 Tube, lightweight construction

Design 080 – cable carriers covered on both sides

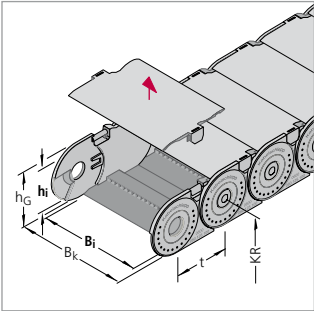
Outside and inside: Covered
 Outside: Detachable cover

Innenhöhe

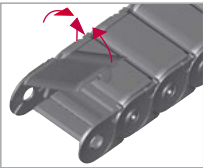
44

Inside widths

50
125



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				
0600	44	61	50	75	100	125	B _i + 18
			1.60	1.88	2.15	2.42	

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

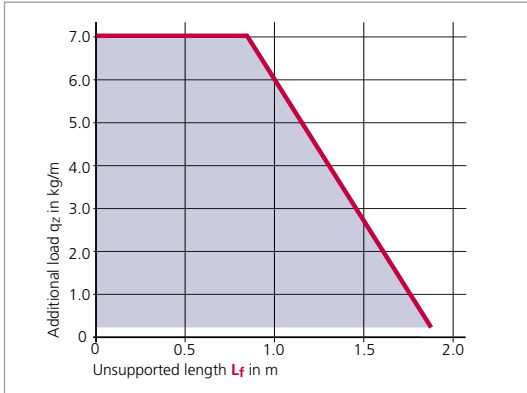
Cable carrier					Divider system	Connection
0600	080	125	175	1800	TS 0 / 3	FU/MU
Type	Design	Inside width B _i in mm	Bend radius KR in mm	Chain length L _k in mm (without connection)	Divider system	Number of dividers n _T
						Connection Fixed point/Driver

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.

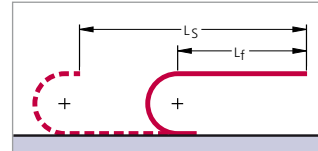
UNIFLEX – Type 0600 Tube, lightweight construction

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.

Innen-
höhe

44

Inside
widths

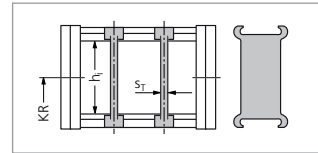
50
125

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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.

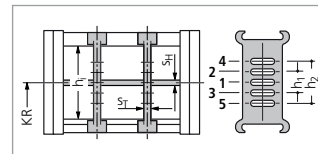


In the standard version, the divider systems are mounted on every second chain link.

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.

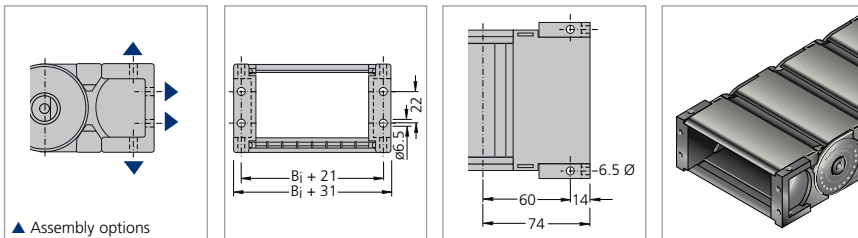


In the standard version, the divider systems are mounted on every second chain link.

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UMB (Universal Mounting Brackets) made of aluminum



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).

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TSUBAKI KABELSCHLEPP
Cable Carrier Configurator

Inside height

60

Inside widths

53
300

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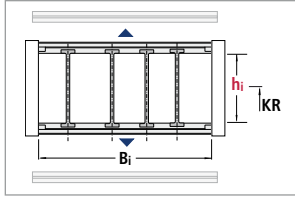
Types MASTER LT

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



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/s ²	
LT 60	60	53 – 300	6.8*	6	30	295

* only unsupported

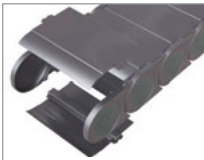
Dimensions in mm

Carrier construction and cover system

Available in 25 mm width sections.

Opening options:

Outside/Inside: Unscrewable cover



Types MASTER LT 60

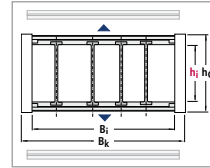
Dimensions and intrinsic chain weight

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



Inside height

60

Inside widths

53
300

Bend radius and pitch

Type	Bend radii KR mm									
LT 60	150	200	250	300	350	400	500	—	—	—

Pitch:

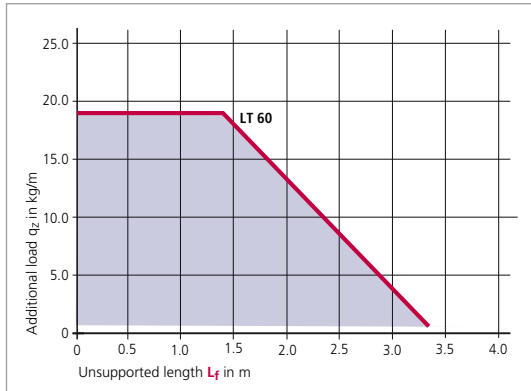
LT 60: t = 91 mm

The listed values are standard bend radii. For special applications it is also possible, to set any desired intermediate radii at the production stage.

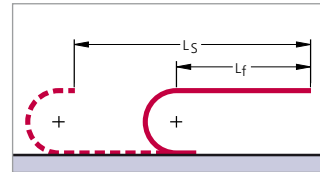
Please do get in touch with us, we would be happy to advise you.

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 (LT 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 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.

* If the standard connector is not required, please state this on the order.

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Cable carrier configuration

Inside height

60

Inside widths

53
300

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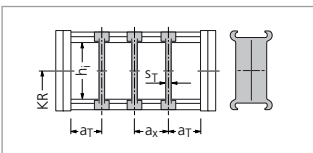
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Types MASTER LT 60

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

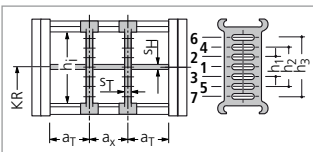
The dividers can be moved in the cross section. Dimensions in mm
In the standard version, the divider systems are mounted on every second chain link.



Divider system TS 1 with continuous height subdivision made of aluminum

Type	h _i mm	S _T mm	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

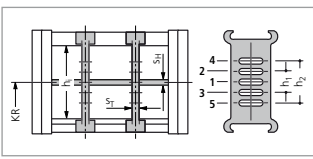
The dividers can be moved in the cross section. Dimensions in mm
In the standard version, the divider systems are mounted on every second chain link.



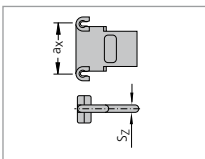
Divider system TS 3 with section subdivision, partitions made of plastic

Type	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 Dimensions in mm
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

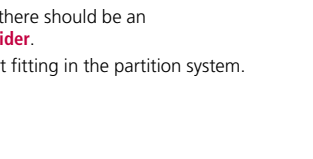


S _z	a _x (center-to-center dividers)									
4	16	18	23	28	32	33	38	43	48	58
	64	68	78	80	88	96	112	128	144	160
	176	192	208	—	—	—	—	—	—	—

Dimensions in mm

Aluminum partitions in 1 mm width sections are also available.

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.



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.



Inside
height

60

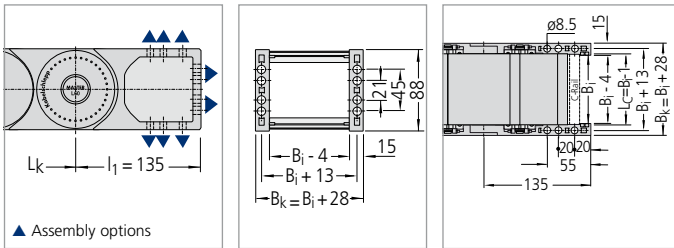
Inside widths

$$\begin{array}{r} 53 \\ - 300 \\ \hline \end{array}$$

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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).

Fon:

+49 2762 4003-0

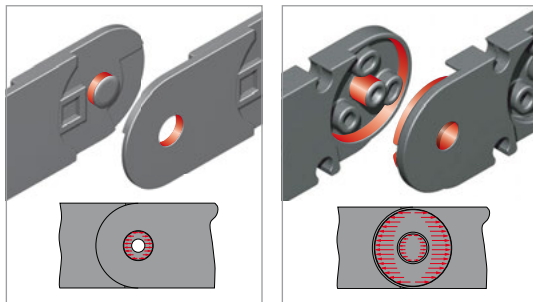
Minimized hinge wear owing to the "life extending 2 disc principle"

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"

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TSUBAKI KABELSCHLEPP
Cable Carrier Configurator

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.

Inside
height

60

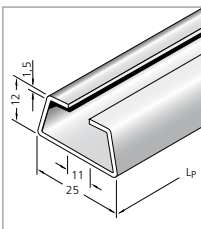
Inside
widths

53

300



■ Universal mounting bracket with C-rail

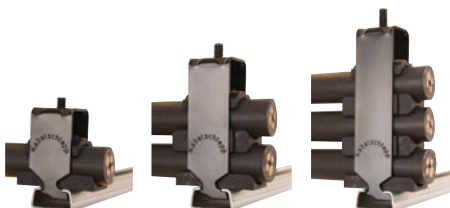


■ **MASTER LT:**
Integratable C-rail
25 x 12 mm,
slit width 11 mm,
material steel,
Item-No. 3934

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



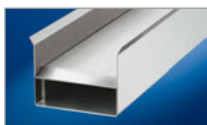
Font:

+49 2762 4003-0

Use our free
project planning service.

Guide channels

➤ from page 375



Strain relief devices

➤ from page 381



Cables for cable carrier systems

➤ from page 438



Notes

Inside
height



Inside
widths



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TSUBAKI KABELSCHLEPP
Cable Center Configuration



Inside heights

26
-
87

Inside widths

24
-
800

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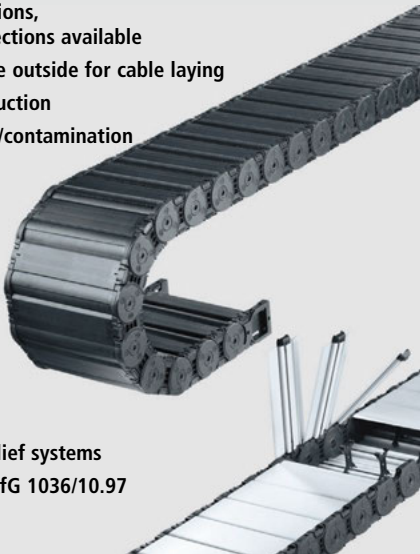
Fon: +49 2762 4003-0

Use our free project planning service.

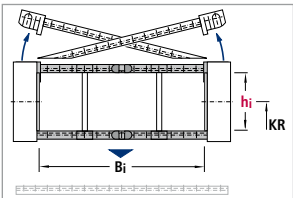
MT Series

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 area via 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/s ²	
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

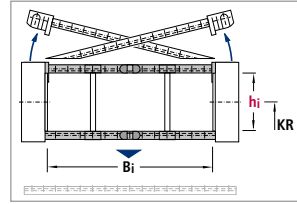
Outside: Simply by levering the cover open (on the right or left). Cover can also be removed

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.



Type MT with aluminum cover system (stay variant RMD)



Inside heights

26
-
87

Inside widths

24
-
800

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/s ²	
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

WIDTH SECTIONS



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

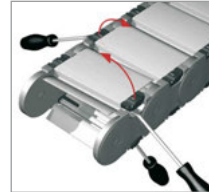
Inside: Simply by turning the cover

Opening options (MT 1300)

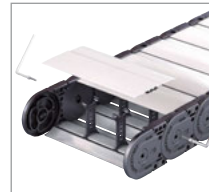
Inside/Outside: Bolted cover for maximum stability



■ Cover openable (MT 0650, 0950, 1250)



■ Cover bolted (MT 1300)



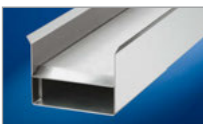
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Font:

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Guide channels

► from page 375



Strain relief devices

► from page 381



Cables for cable carrier systems

► from page 438



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Cable Carrier Configuration

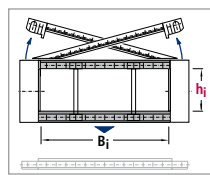
Types MT 0475, 0650, 0950, 1250 and 1300

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



Inside heights

26
87

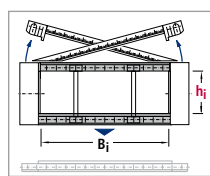
Inside widths

24
800

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	WIDTH/SECTIONS
MT 0475	RMD	26	39	24	0.9	180	4.5	B _i + 17	1 mm
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	

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
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

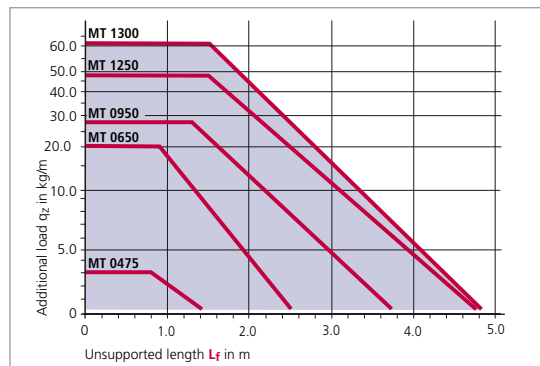
MT 0950: t = 95 mm

MT 1250: t = 125 mm

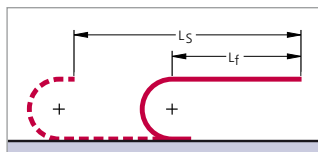
MT 1300: t = 130 mm

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

MT 0950	450	RMD	290	2850
Type	Inside width B _i in mm	Stay variant	Bend radius KR in mm	Chain length L _k in mm (without connection)

Divider system

TS 0	4
Divider system	Number of dividers n _T

Connection

FU/MU
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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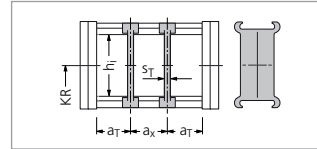
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Types MT 0475, 0650, 0950, 1250 and 1300

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.

Inside heights

26
87

Inside widths

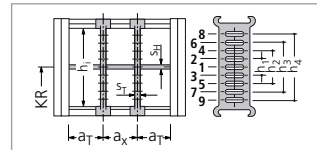
24
800

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

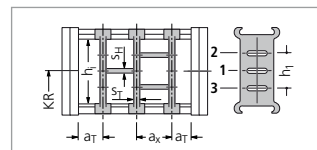
With plastic cover systems (RDD), the dividers are fixed in the cross-section (at intervals of a_x-section). With aluminum cover systems (RMD), the dividers can be moved.



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.

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TSUBAKI KABELSCHLEPP
Cable Carriers Configuration

Types MT 0475, 0650, 0950, 1250 and 1300

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

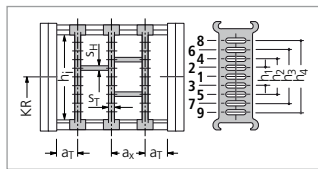
Inside heights

26
87

Inside widths

24
800

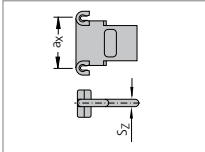
Type	Stay variant	h _i mm	S _T mm	a _T min mm	a _x min mm	S _H mm	h ₁ mm	h ₂ mm	h ₃ mm	h ₄ mm
MT 0950	RDD	54.5	8	6.5	16*	4	14	28	42	—
MT 1250	RDD	68.5	8	4	16*	4	14	28	42	56
MT 1300	RMD	87	8	7.5	16*	4	14	28	42	56



* 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



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

Aluminum partitions in 1 mm width sections are also available.

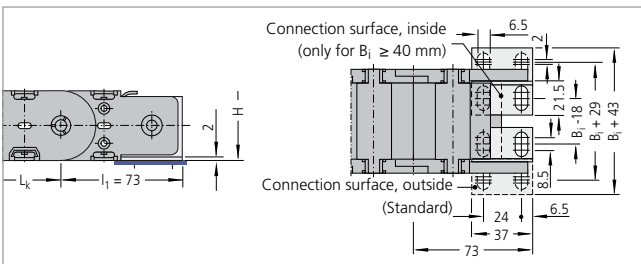
When using partitions with a_x > 112 mm there should be an additional central support with a twin divider (S_T = 4 mm).

Twin dividers are designed for subsequent fitting in the partition system.

Connectors of plastic/steel – Type MT 0475

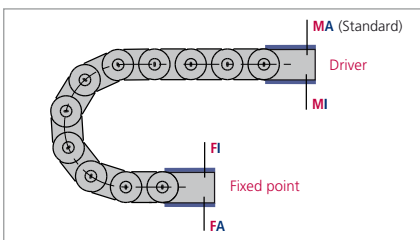
End connector of steel plate

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

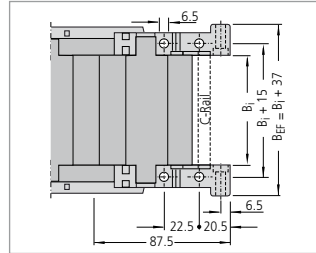
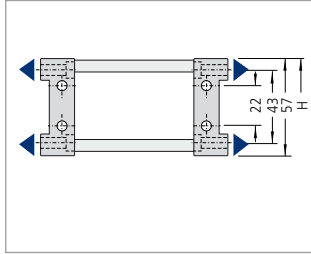
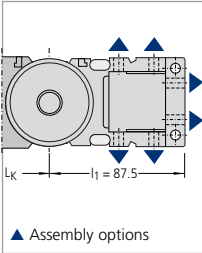
- A – Threaded joint outside (standard)
- I – Threaded joint inside

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.

Types MT 0475, 0650, 0950, 1250 and 1300

UMB-connectors of aluminum – Type MT 0650



Inside heights

26
87

Inside widths

24
800

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

End connectors of steel plate available on inquiry.

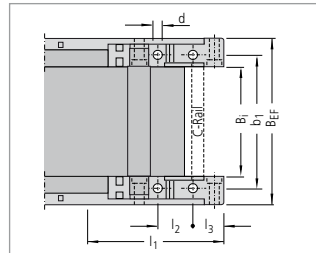
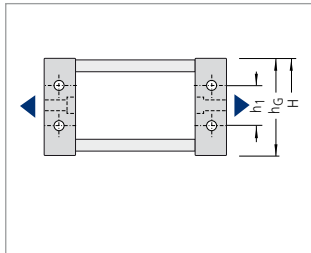
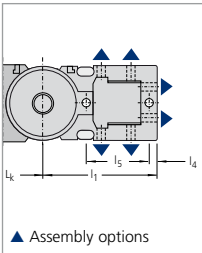
Optional C-rails and strain relief elements for cables can be found on the following pages.

When ordering please specify the connection type FU/MU (see ordering key on page 419).



UMB-connectors of aluminum – Types MT 0950, 1250

UMB-connectors of plastic – Type MT 1300



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

End connectors of steel plate available on inquiry.

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	BEF	b1	d	l1	l2	l3	l4	l5	h1	hg
MT 0950	B _i + 44	B _i + 24.5	8.5	136	35	24.5	8.5	80	45	80
MT 1250	B _i + 51	B _i + 28	11	168	35	31	10.5	94.5	45	96
MT 1300	B _i + 50	B _i + 29	11	158	35	20	–	–	66	120

BEF = Chain width over connector

Dimensions in mm

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TSUBAKI KABELSCHLEPP
Cable Chain Configuration

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.

Inside heights



Inside widths



■ 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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Types MT 0475, 0650, 0950, 1250 and 1300

Strain relief devices

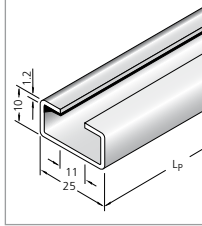
C-rails for LineFix bracket clamps, SZL strain reliefs and clamps

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

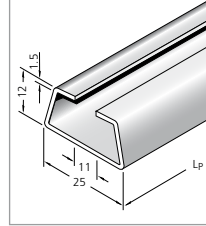
Please state in your order whether C-rails are needed.



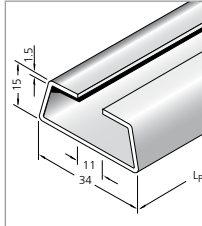
■ Universal mounting bracket with C-rail



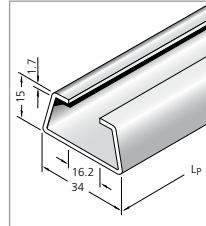
■ **MT 0650:**
Integratable C-rail
25 x 10 mm,
slit width 11 mm,
material steel,
Item-No. 3931



■ **MT 1300:**
Integratable C-rail
25 x 12 mm,
slit width 11 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

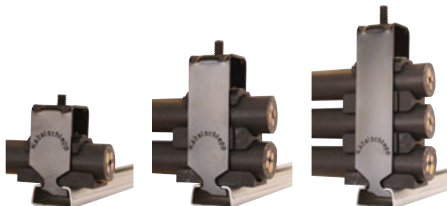


■ **MT 0950, 1250 and 1300:**
Integratable C-rail
34 x 15 mm,
slit width 16 – 17 mm,
material aluminum,
Item-No. 3926,
material steel,
Item-No. 3932

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



Inside heights

26
87

Inside widths

24
800

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TUBER KABELSCHLEPP
Cable Carrier Configuration

Types MT 0475, 0650, 0950, 1250 and 1300

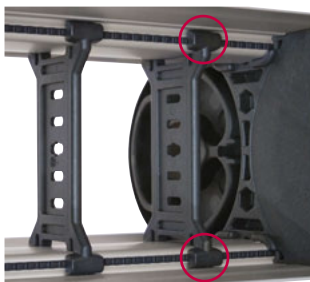
Fixing the dividers in 5 mm steps – Type MT 1300

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 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).

Inside heights

26
87

Inside widths

24
800

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Font:
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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).



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.

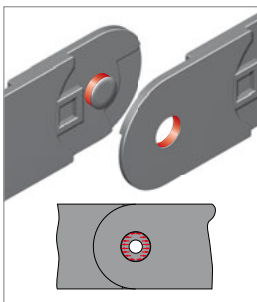
! By means of a positive snap connection, the glide shoes sit firmly on the chain link.

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

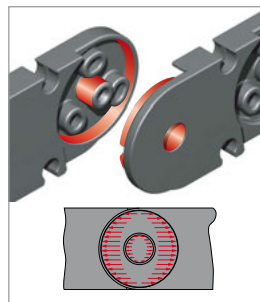
In the M Series*, the push and pull forces are transmitted via the optimum link design for this purpose.

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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Notes

Inside
heights



Inside
widths



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Cable Chain Configuration



Type TKC91

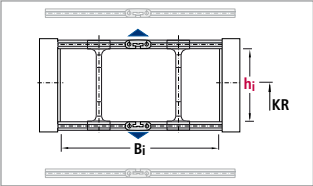
Easy to assemble, stable cable carriers with variable dimensions

- 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/s ²	
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						
TKC 0910H56	56	84	150 5.4	200 6.2	250 7.0	300 7.7	350 8.5	400 9.2	$B_i + 41$
TKC 0910H80	80	108	150 7.8	200 8.6	250 9.3	300 10.1	350 10.8	400 11.6	$B_i + 50$

Dimensions in mm/Weights in kg/m

Inside heights

56
80

Inside widths

150
400

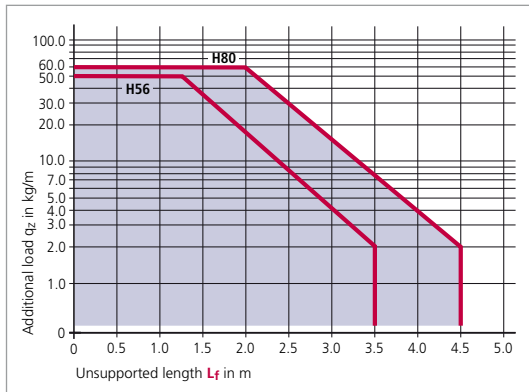
Bend radius and pitch

Type	Bend radii KR mm							
TKC 0910H56	200	250	300	350	400	—	—	—
TKC 0910H80	150	200	250	300	350	400	450	500

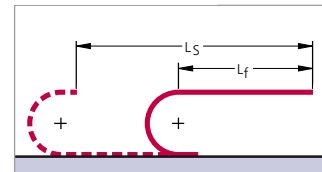
Pitch:
TKC 0910: $t = 91$ mm

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.

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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.

Type TKC91

Fixing the dividers

In the standard version, dividers or the complete tube 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.

Inside heights



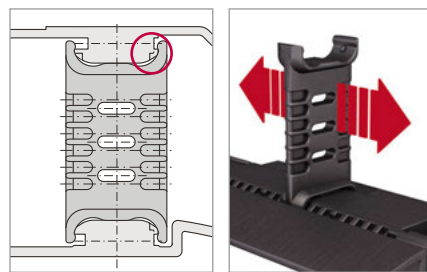
Inside widths



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Mounting version A (standard)

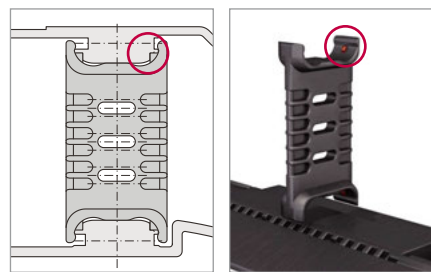
Movable divider



■ Divider without arresting cams

Mounting version B

Fixed divider

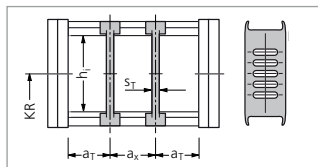


■ Divider with arresting cams

Divider system TS 0

Type	h_i mm	Version A			Version B			
		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
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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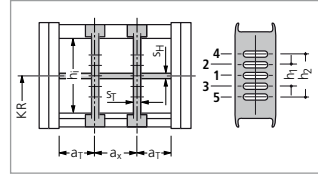
Type TKC91

Divider system TS 1

with continuous height subdivision made of aluminum

		Version A			Version B						
Type	h ₁ 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
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 $B_1 = 200, 350, 500$
 a_T min = 32 mm for $B_1 = 250, 400$
 a_T min = 33 mm for $B_1 = 150, 300, 450$



Inside heights

56
—
80

Inside widths

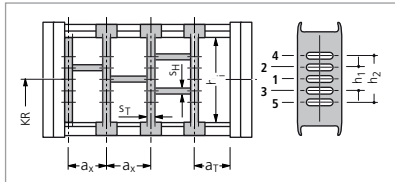
150
—
400

Divider system TS 3

with section subdivision, partitions made of aluminum

		Version A			Version B						
Type	h ₁ 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
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 $B_1 = 200, 350, 500$
 a_T min = 32 mm for $B_1 = 250, 400$
 a_T min = 33 mm for $B_1 = 150, 300, 450$



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.

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Cable Carrier Configuration

Type TKC91

UMB (Universal Mounting Brackets) made of plastic – TKC 0910H56

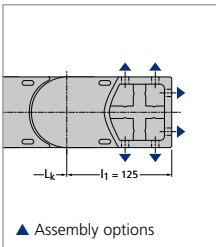
Universal connectors for connection above, below or at the front.

Inside heights

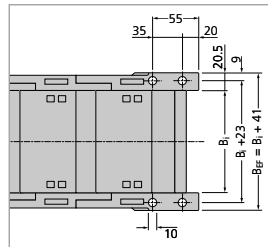
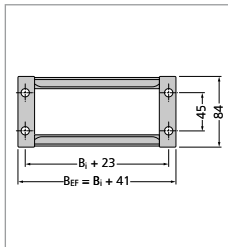
56
80

Inside widths

150
400



▲ Assembly options



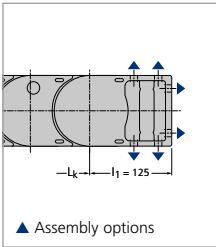
The dimensions of the fixed point and driver connections are identical.

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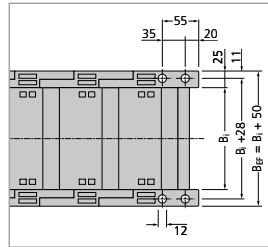
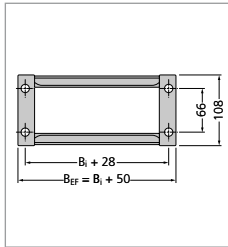
For:
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UMB (Universal Mounting Brackets) made of plastic – TKC 0910H80

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



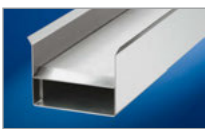
▲ Assembly options



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

Use our free
project planning service.

Guide channels
➤ from page 375



Strain relief devices
➤ from page 381



Cables for cable carrier systems
➤ from page 438



Notes

Inside
heights



Inside
widths



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Cable Center Configuration



Inside height

105

Inside widths

200
1000

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Fon:

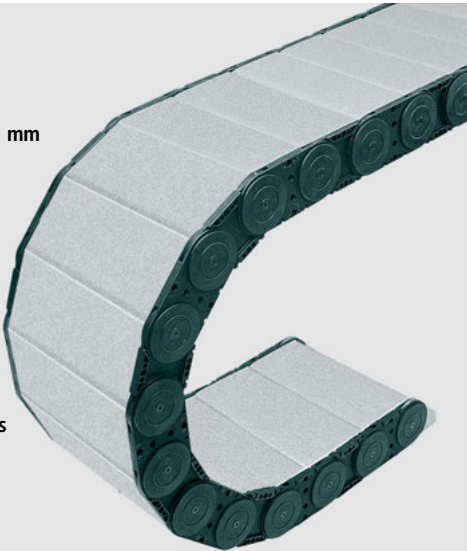
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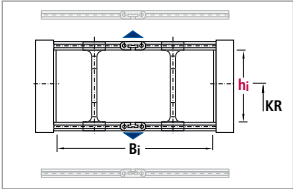
XLT Series

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



Available in 1 mm width sections.
RMD cover system made of aluminum – solid version
 Bolted, high stability, large carrier widths

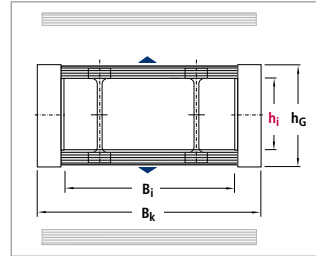


Type XLT 1650

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



Inside height

105

Inside widths

200
1000

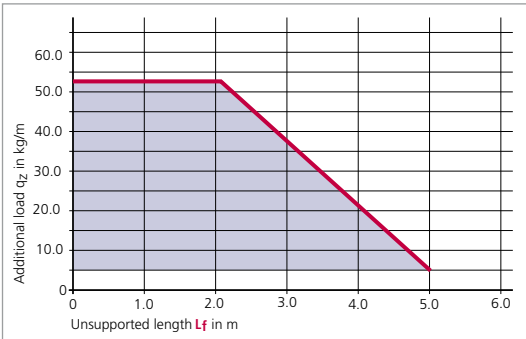
Bend radius and pitch

Type	Bend radii KR mm					
XLT 1650	300	350	400	450	500	550

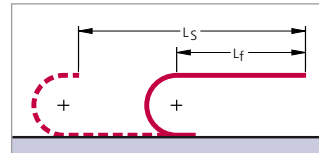
Pitch $t = 165$ mm

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.

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Example of ordering

Cable carrier

XLT 1650	700	RMD	400	4950
Type	Inside width B_i in mm	Stay variant	Bend radius KR in mm	Chain length* L_k in mm (without connection)

Divider system

TS 0	4
Divider system	Number of dividers n_T

Connection

FA/MA
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.

Type XLT 1650

Divider system TS 0

Inside height

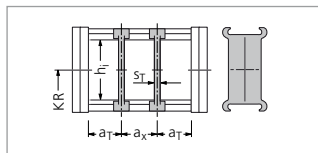
105

Inside widths

200
1000

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.



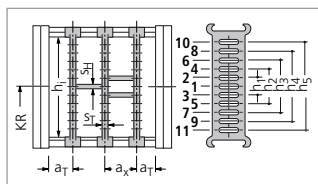
In the standard version, the divider systems are mounted on every second chain link.

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.

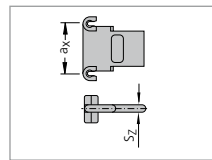


In the standard version, the divider systems are mounted on every second chain link.

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Dimensions of the plastic partitions for TS 3



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

Aluminum partitions in 1 mm width sections are also available.

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

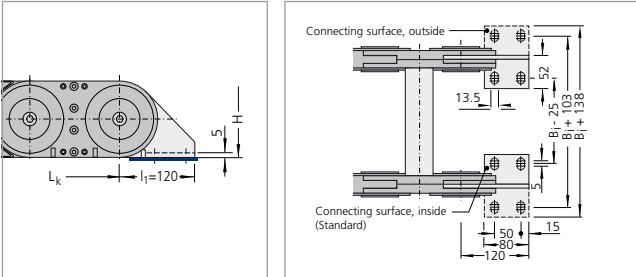


! By means of a positive snap connection, the glide shoes sit firmly on the chain link.

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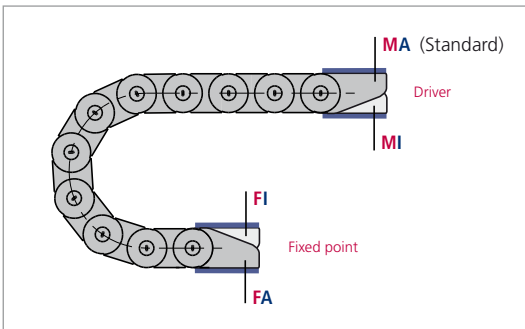
Type XLT 1650

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).

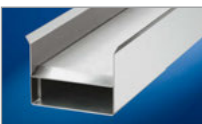
The connection type can subsequently be altered.

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Cable Carrier Configuration

Guide channels
► from page 375



Strain relief devices
► from page 381



Cables for cable carrier systems
► from page 438



Inside heights
30
104

Inside widths
70
1000

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For:
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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

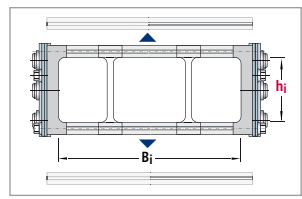


Types S/SX 0650, 0950, 1250, 1800

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

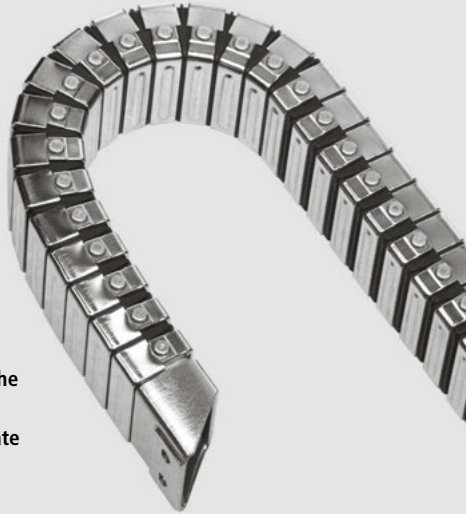


Detailed information on STEEL TUBES can be found on page 349 onwards.

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



Inside heights

25
-
72

Inside widths

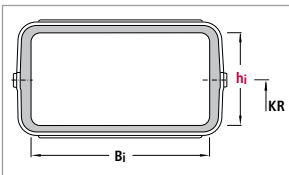
45
-
162

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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/s ²
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



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Detailed information on designer TUBES CONDUFLEX can be found on page 362 onwards.

Inside heights

24
167

Inside widths

26
170

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MOBIFLEX

Flexible metal helical TUBES

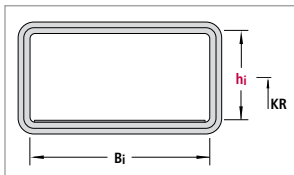
- Very well sealed design
- Ideal in case of hot metal chips
- Optimum protection for cables and hoses
- Unsupported thanks to the inserted, pre-tensioned steel band



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/s ²
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.

Notes

Inside
heights



Inside
widths



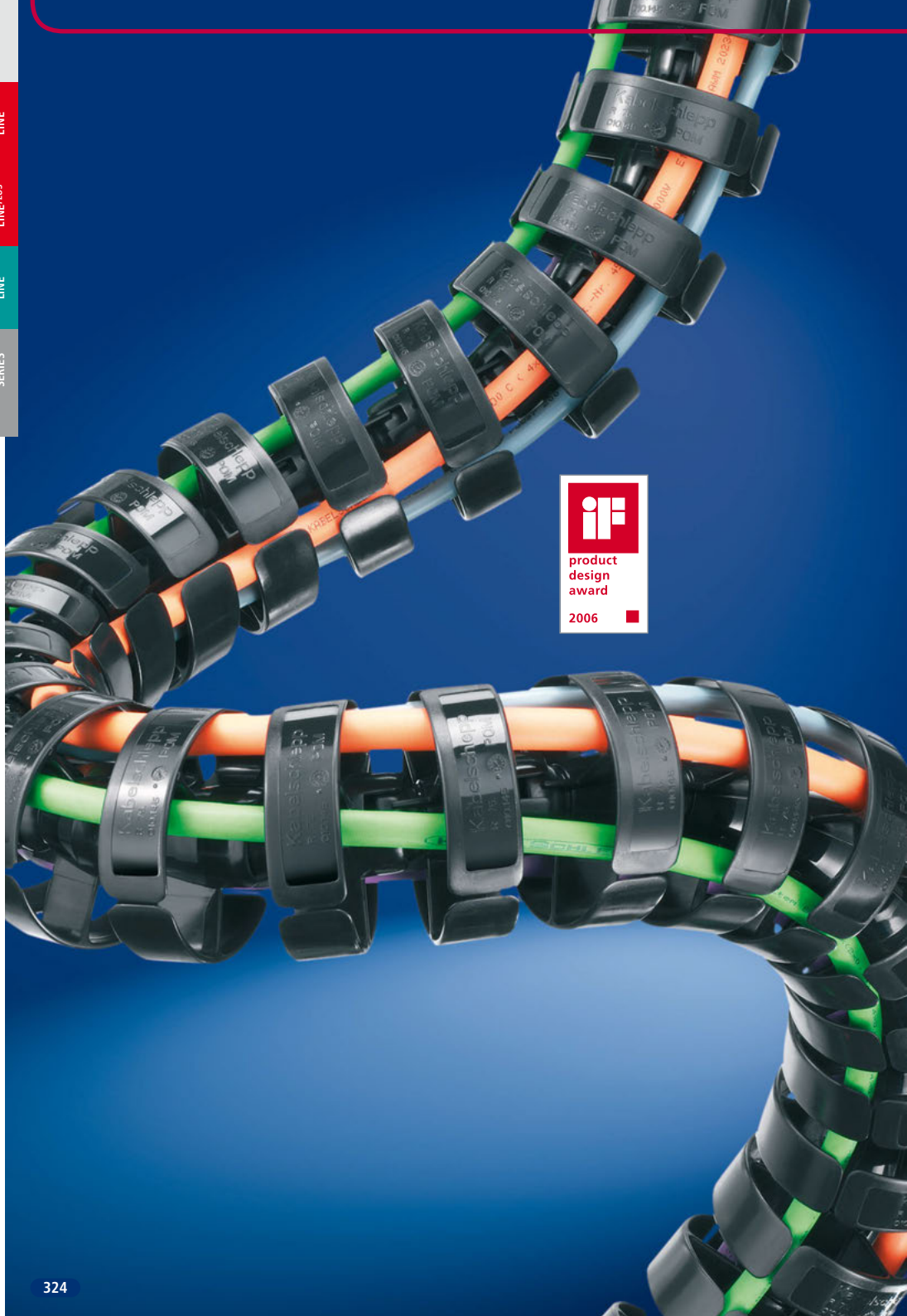
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Cable Center Configuration





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

Inside heights

10
–
31

Inside widths

27
–
64

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TSUBAKI KABELSCHLEPP
Cable Carrier Configurator



ROBOTRAX system components



Impact protection



Chuckling device



LineFix saddle-type clamps for strain relief*



Quick-opening bracket on a rotary plate



Quick-opening bracket on a helical spring

ROBOTRAX System – cable carrier for 3D movements

Design principle

Inside heights

 10
31

Inside widths

 27
64


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.

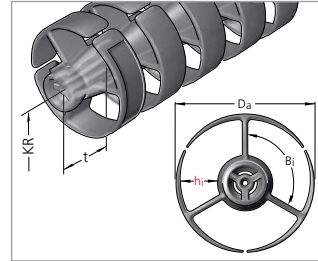
ROBOTRAX System – cable carrier for 3D movements

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



Inside heights

10
31

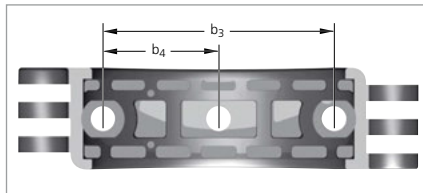
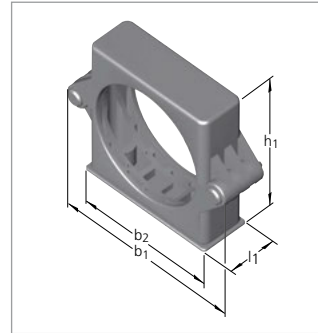
Inside widths

27
64

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
Type		Design*		Bend radius KR in mm
				Chain length L _k in mm (without connection)
				1000

* Design 010 (simple insertion of the cables)

Ordering system components: please state separately.

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Cable Carrier Configurator

ROBOTRAX – system components

Inside heights

10
–
31

Inside widths

27
–
64



Impact protection

When a robot is moving, a striking of the ROBOTRAX against machine components often cannot be avoided.

An impact protective device made of elastomer plastic can easily be attached to each link using a cable tie.



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

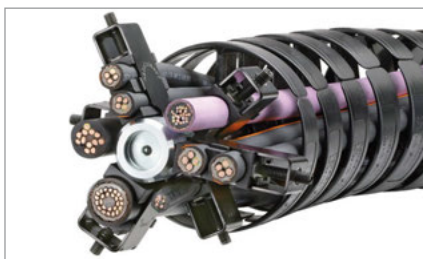
This can be used to set the steel wire to the desired tension quickly and easily, and can be readjusted at any time.



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.)



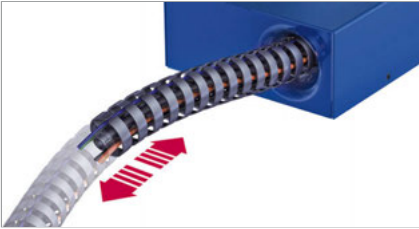
Strain relief with LineFix saddle-type clamps LFR

(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.

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.



Inside heights

10
31

Inside widths

27
64

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Cable Carrier Configuration

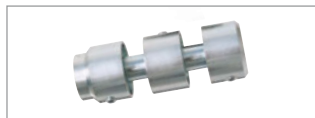
ROBOTRAX System – cable carrier for 3D movements

Part numbers for ordering

Inside heights

 10
31

Inside widths

 27
64


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

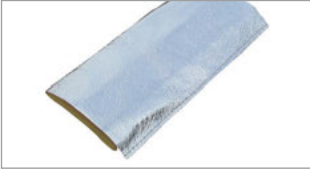
Impact protection

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

ROBOTRAX System – cable carrier for 3D movements

Part numbers for ordering



Heat shield/Protective sleeve

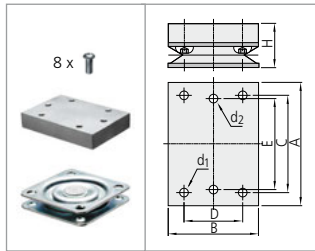
Type	R 040	R 056	R 075	R 085	R 100
Heat shield	60801	60802	60803	60804	60805
Protective sleeve (not illustrated)	60806	60807	60808	60809	60810

Please specify total length or partial lengths.

Inside heights



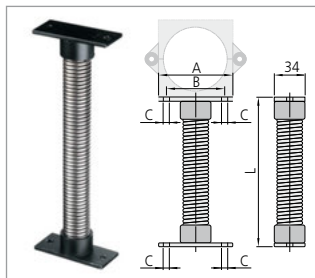
Inside widths



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

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Your KABELSCHLEPP
Cable Carrier Configuration



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

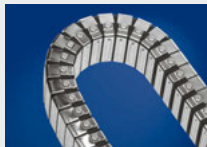
page 334



S/SX Series

Extremely robust and stable steel chains

page 342



CONDUFLEX

Closed designer cable carrier

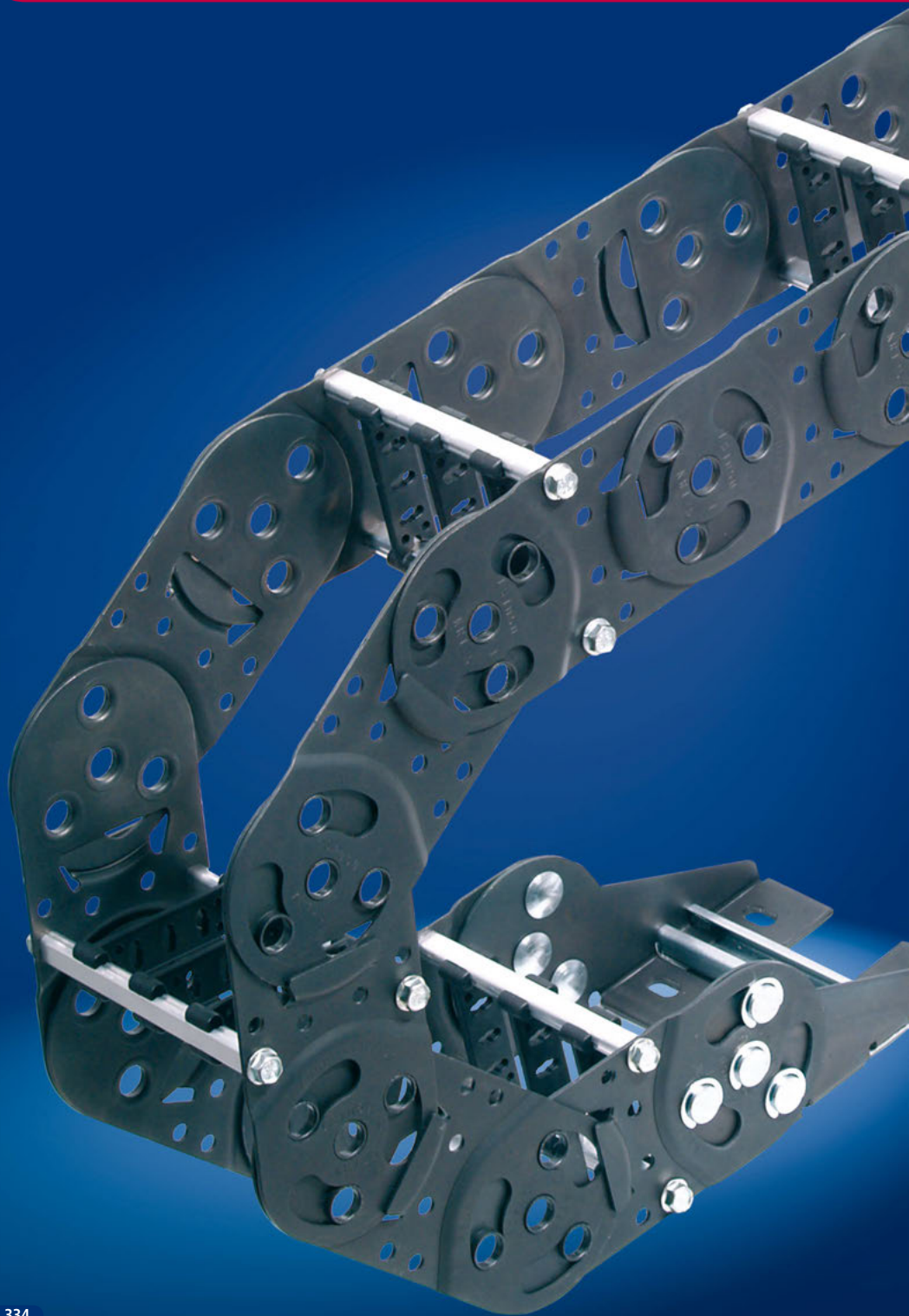
page 362



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



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

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

WIDTH SECTIONS
1 mm

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

Inside height

58

Chain widths

100 – 600

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Cable Chain Configuration

Type LS/LSX 1050

■ **Type LS:**
Chain bands made of specially coated steel

Type LSX:
High-grade stainless steel chainbands

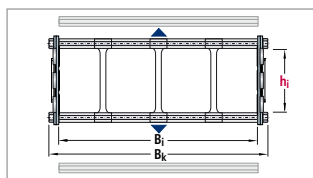
■ **Available in 1 mm width sections**



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/s ²
LS/LSX 1050	58	100-600	10	5C)	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

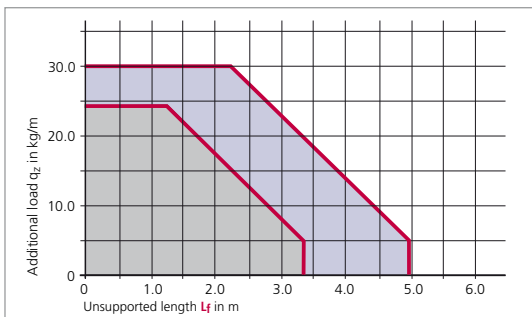
Bend radius and pitch

Type	Bend radii KR mm							
LS/LSX 1050	105	125	155	195	260	295	325	365 430

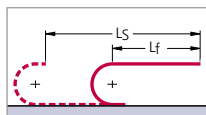
Pitch: t = 105 mm

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	TS 0	4	FA/MA
Type	Stay width B _{St} in mm	Stay variant	Bend radius KR in mm	Chain band material	Divider system	Number of dividers n _T	Connection Fixed point/Driver

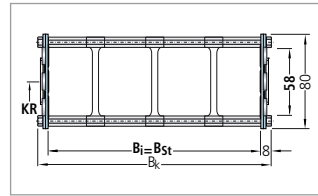
Chain band materials: Sb = Steel specially coated / ER 1 = Stainless steel / ER 1S = Stainless steel, sea water resistant. Please contact us for further information about the chain band materials.

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.

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



Inside height

58

Chain widths

100
600

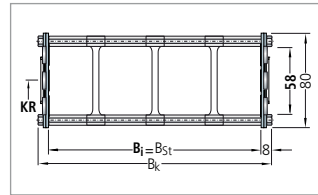
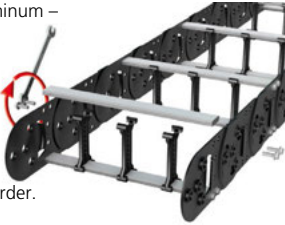
Dimensions and intrinsic chain weight

Type	Stay variant	h _i	h _G	B _k min	q _k min	B _k max	q _k max	B _i	B _{St}	WIDTH SECTIONS
LS/LSX 1050	RS 2	58	80	100	3.7	400	4.2	B _k – 16	B _{St} = B _i	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}	WIDTH SECTIONS
LS/LSX 1050	RV	58	80	100	4.0	600	5.9	B _k – 16	B _{St} = B _i	1 mm

Dimensions in mm/Weights in kg/m

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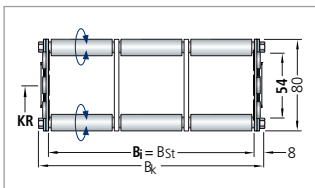
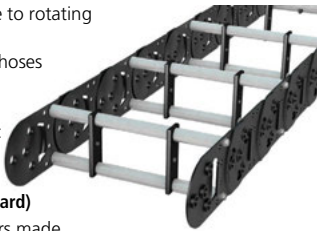
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Cable Chain Configurator

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



Inside height

58

Chain widths

100

600

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

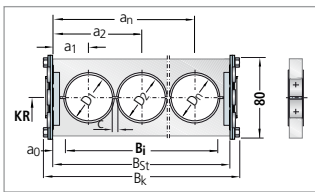
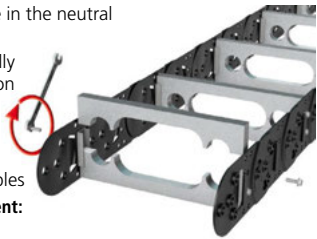
WIDTHSECTIONS

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 non split



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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

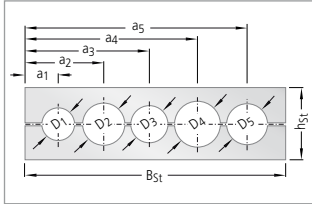
See next page for examples of hole patterns.

Use our free project planning service.

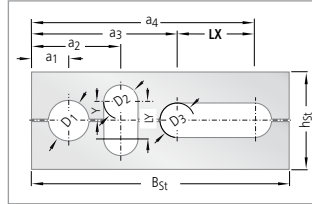
Type LS/LSX 1050

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.

Inside height

58

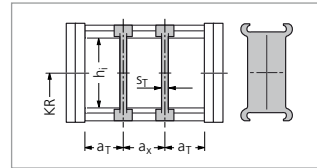
Chain widths

100
600

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).

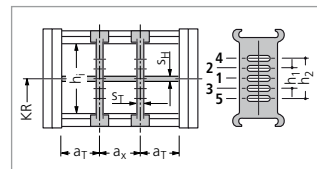


In the standard version, the divider systems are mounted on every second chain link.

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).

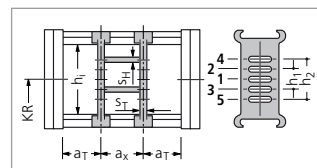


In the standard version, the divider systems are mounted on every second chain link.

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.

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Cable Carrier Configuration

Type LS/LSX 1050

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

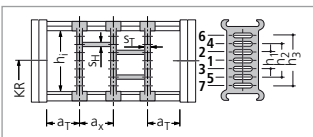
Inside height
58

Chain widths
100
600

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

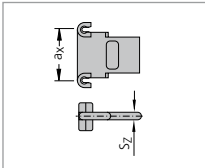
* When using plastic partitions

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



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

Aluminum partitions in 1 mm width sections are also available.

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

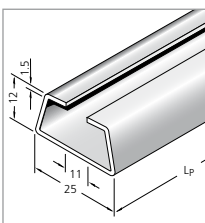


■ C-rail fixed in the end connector.



■ 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.

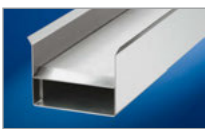


■ Inserting the C-rail in the end connector.

Guide channels
➤ from page 375

Strain relief devices
➤ from page 381

Cables for cable carrier systems
➤ from page 438



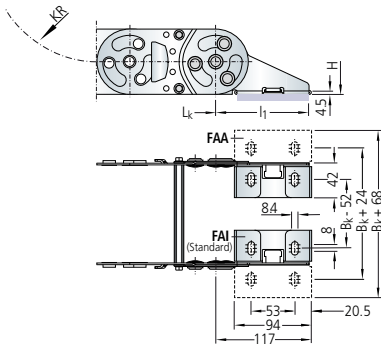
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Type LS/LSX 1050

End connectors

Fixed point connection

Connection variant FA

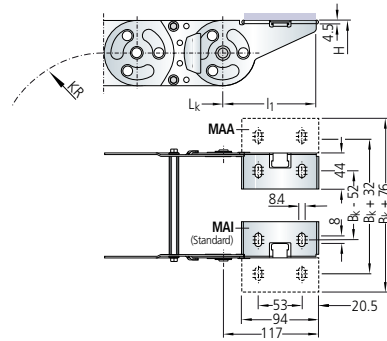


Different connection variants for fixed point and driver are possible according to the drawing information. Different end connectors are needed for different connection variants.

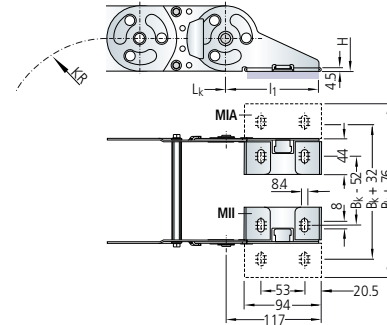
Please state the desired connection variant according to the ordering key.

Driver connection

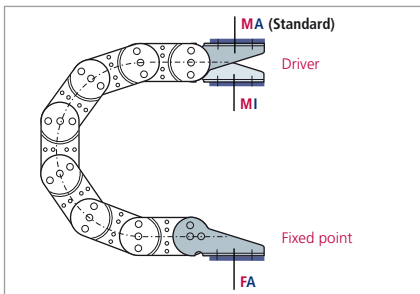
Connection variant MA



Connection variant MI



Connection variants

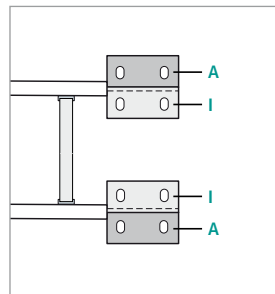


Connection point

- M** – Driver
- F** – Fixed point

Connection type

- A** – Threaded joint outside (standard)
- I** – Threaded joint, inside



Connecting surface

- I** – Connecting surface inside (< Bk)
- A** – Connecting surface outside (> Bk)

Inside height

58

Chain widths

100 - 600

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Cable Center Configurator



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 aluminum cover system or steel strip possible for protection of the cables



Link design with special bolts for a long service life

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.

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

WIDTHSECTIONS
1 mm

Aluminum cover available in 1 mm width sections

WIDTHSECTIONS
1 mm

Dividers made of plastic or steel

Various cable separation options

Inside heights

31
370

Chain widths

70
1800

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Cable Carrier Configuration



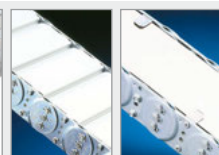
Sandwich design:
Chain link plates consist of two plates welded together



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

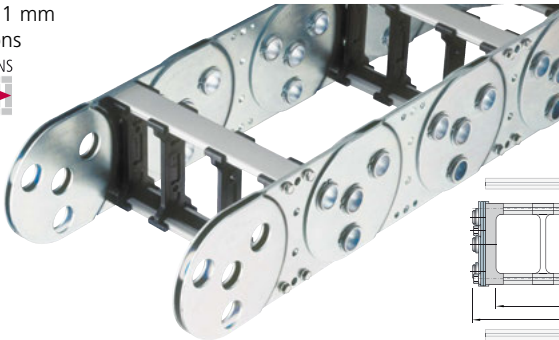
Overview S/SX Series

Types S/SX 0650, 0950, 1250, 1800

- Available in 1 mm width sections
- WIDTH

SECTIONS

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/s ²	
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

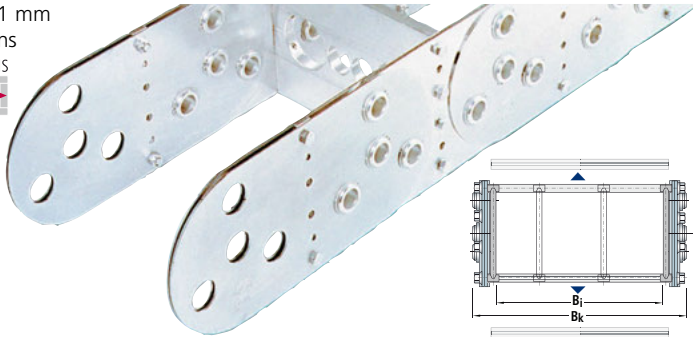


Detailed information for the stay variant RMD can be found on page 349.

Overview S/SX Series

Types S/SX 2500 and 3200

- Available in 1 mm width sections



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/s ²	
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



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/s ²	
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

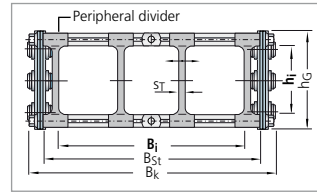
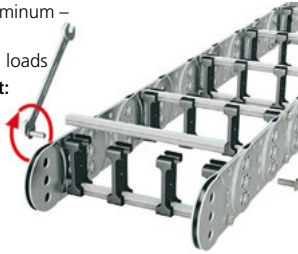
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KABELSCHLEPP
Cable Carrier Configuration

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



Inside heights

31
72

Chain widths

100
500

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

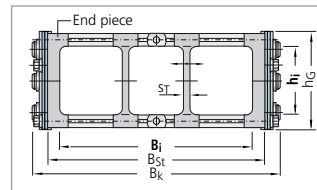
WIDTH SECTIONS



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

WIDTH SECTIONS



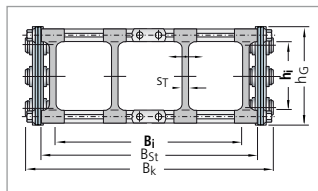
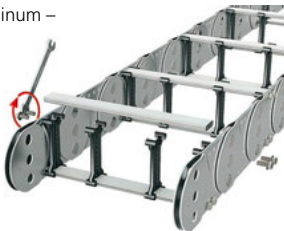
Dimensions in mm/Weights in kg/m

The illustrations on this page show the design principle.
The design of individual types can be different.

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



Inside heights

43 – 108

Chain widths

125 – 1000

Dimensions and intrinsic chain weight

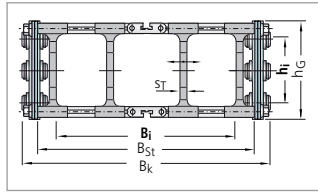
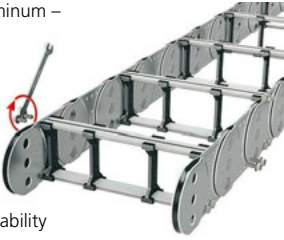
Type	Stay variant	h _i	h _g	B _k min	q _k min	B _k max	q _k max	B _i	B _{st}
S/SX 1250	RV	72	94	200	13.6	600	17.0	B _k – 46	B _i + 22

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

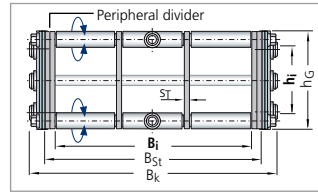
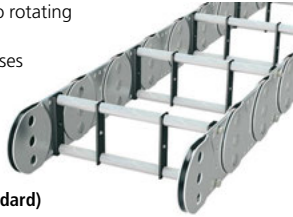
Dimensions in mm/Weights in kg/m



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



Inside heights

26
104

Chain widths

100
1000

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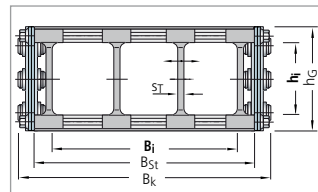
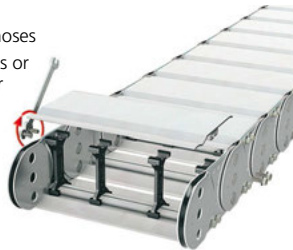
Dimensions and intrinsic chain weight

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.



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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}	WIDTH SECTIONS
S/SX 0650	RMD	30	50	100	4.8	500	10.5	$B_k - 35$	$B_i + 20$	115	1 mm
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	

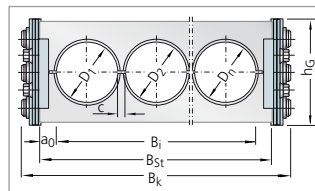
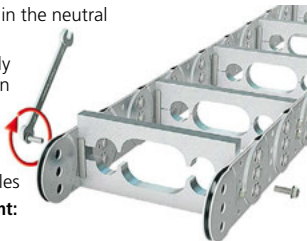
Dimensions in mm/Weights in kg/m

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TSUBAKI KABELSCHLEPP
Cable Carrier Configuration

Types S/SX 0650, 0950, 1250, 1800

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



Inside heights

40
110

Chain widths

70
1000

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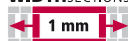
Dimensions and intrinsic chain weight

Type	Stay variant	D max	hG	Bk min	qk min*	Bk max	qk max*	a0 min	B1	BSt
S/SX 0650	LG	40	50	70	4.0	500	6.4	9.0	BSt – 18	Bk – 17
S/SX 0950	LG	48	68	125	8.1	600	11.8	11.0	BSt – 22	Bk – 21
S/SX 1250	LG	74	94	130	13.2	800	18.2	11.0	BSt – 22	Bk – 26
S/SX 1800	LG	110	140	180	24.8	1000	33.0	13.5	BSt – 27	Bk – 32

* Listed weights assume that the hole area is approx. 50 % of the stay.

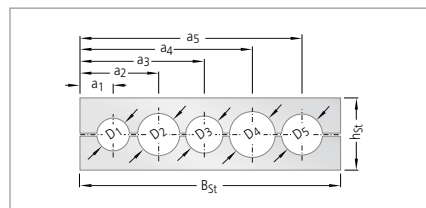
Dimensions in mm/Weights in kg/m

WIDTHSECTIONS

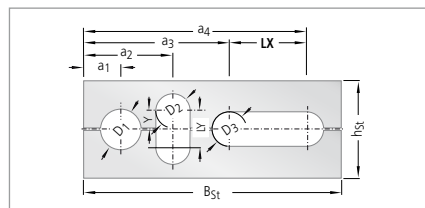


Selection of some hole patterns:

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.

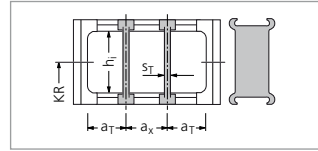
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Types S/SX 0650, 0950, 1250, 1800

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.

Inside heights

31
108

Chain widths

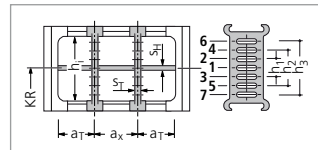
70
1000

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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.

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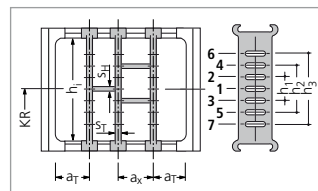
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Divider system TS 2 with grid subdivision made of aluminum (1 mm grid)

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_{Tmin} changes to 11 mm.



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

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Cable Carrier Configuration

Types S/SX 0650, 0950, 1250, 1800

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

Inside heights

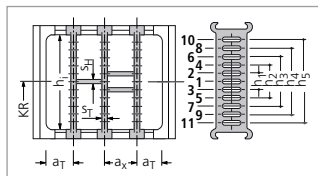
31
108

Chain widths

70
1000

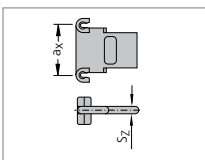
Type	Stay variant	h _i mm	S _T mm	a _T min mm	a _x min mm	S _H mm	h ₁ mm	h ₂ mm	h ₃ mm	h ₄ mm	h ₅ mm
S/SX 1800	RM	108	8	11.5	16*	4	14	28	42	56	70

* 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



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

Aluminum partitions in 1 mm width sections are also available.

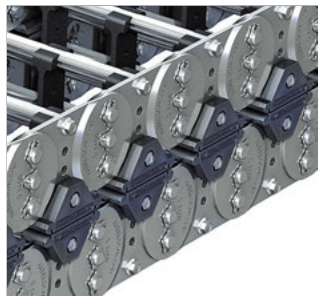
When using **partitions with a_x > 112 mm**, there should be an additional central support with a **twin divider** (S_T = 4 mm).
Twin dividers are designed for subsequent fitting in the partition system.

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_{min} = 125 mm
S/SX 0950: KR_{min} = 140 mm
S/SX 1250: KR_{min} = 200 mm

Chain width with glide shoes:

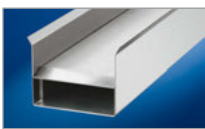
S/SX 0650: B_{EF'} = B_k + 5.2 mm
S/SX 0950: B_{EF'} = B_k + 9.0 mm
S/SX 1250: B_{EF'} = B_k + 6.0 mm

! 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

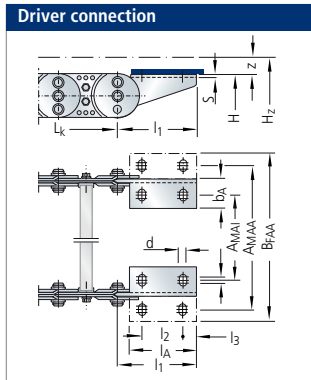
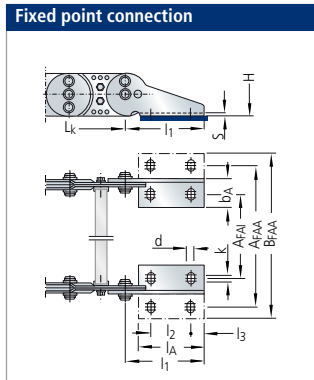
Cables for cable carrier systems
➤ from page 438



Use our free project planning service.

Types S/SX 0650, 0950, 1250, 1800

End connectors made of steel (types S) or high-grade steel (types SX)



Inside heights

31
108

Chain widths

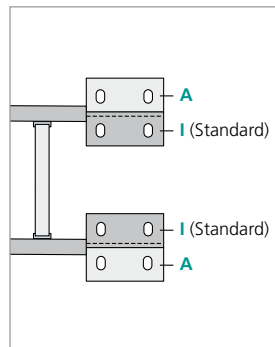
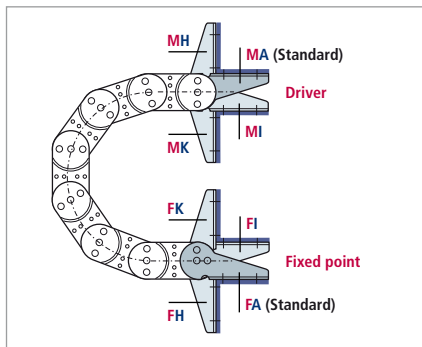
70
1000

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 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.

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Cable Chain Configuration

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**

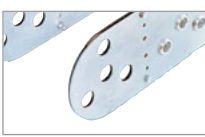
Inside heights



Chain widths



WIDTHSECTIONS



Side plate construction for types S/SX 2500



Side plate construction for types S/SX 3200

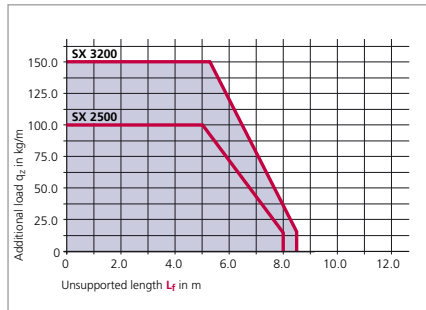
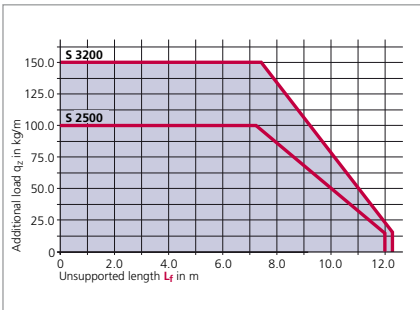
Bend radius and pitch

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

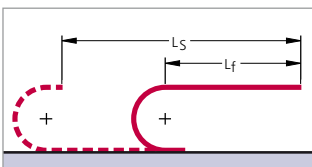
Pitch:
 S/SX 2500: t = 250 mm
 S/SX 3200: t = 320 mm

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.

Example of ordering

Cable carrier

S 2500	850	LG	760	ER 1	9250
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

TS 0	4
Divider system	Number of dividers n_T

Connection

FA/MA
Connection Fixed point/Driver

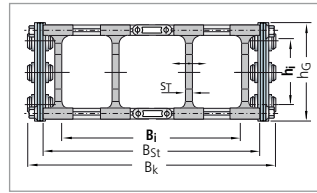
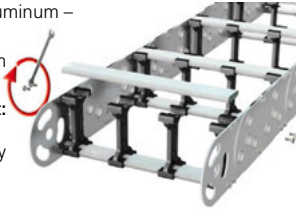
Chain band materials: St = Zinc plated steel / ER 1 = Stainless steel / ER 1S = Stainless steel, sea water resistant / ER 2 = High-strength stainless steel. Please contact us for further information about the chain band materials.

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.

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



Inside height

183

Chain widths

250
1200

Dimensions and intrinsic chain weight

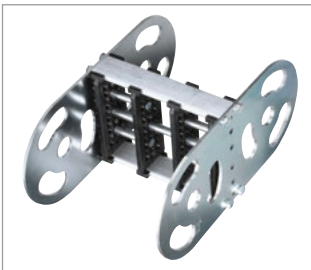
Type	Stay variant	h_i	h_g	B_k min	q_k min	B_k max	q_k max	B_i	B_{St}
S/SX 2500	RM	183	220	250	39	1200	44	$B_k - 75$	$B_i + 43$

WIDTH SECTIONS



Dimensions in mm/Weights in kg/m

Standard divider for different separation options



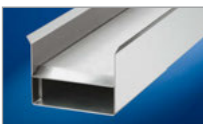
Dividers are available for stay variant RM which enable different height subdivisions of the steel tube to be achieved.

Please do get in touch with us. We would be happy to advise you.

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Guide channels
➤ from page 375



Strain relief devices
➤ from page 381



Cables for cable carrier systems
➤ from page 438



Types S/SX 2500 and 3200

Stay variant LG – hole stay made of aluminum, split design

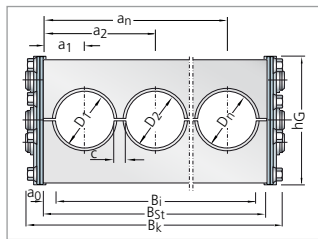
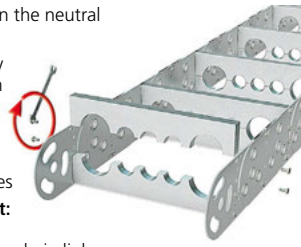
Inside height

180
220

Chain widths

250
1500

- 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	hG	Bk min	qk min*	Bk max	qk max*	a0 min	Bj	BSt
S/SX 2500	LG	180	220	250	36.5	1200	48.5	22	BSt – 44	Bk – 32
S/SX 3200	LG	220	300	250	57.5	1500	72.5	22	BSt – 44	Bk – 40

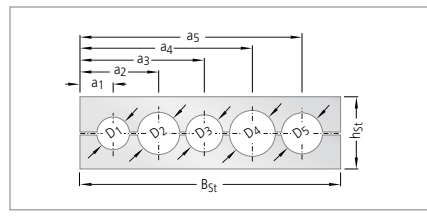
* Listed weights assume that the hole area is approx. 50 % of the stay.

Dimensions in mm/Weights in kg/m

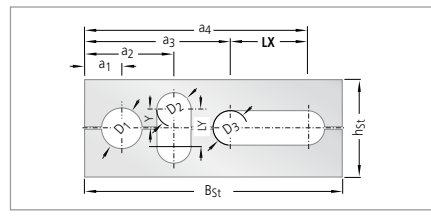


Selection of some hole patterns:

Split hole stay
with individual holes

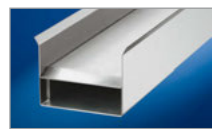


Split hole stay
with horizontal and vertical elongated holes*



*) 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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Types S/SX 2500 and 3200

End connectors made of steel (types S) or high-grade steel (types SX)

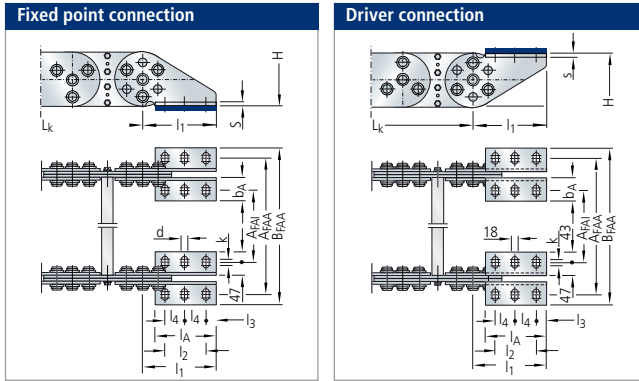
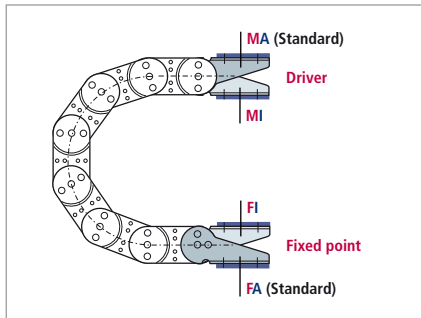


Table of dimensions:

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).

S/SX Series

Selection

BASIC LINE

BASIC LINE PLUS

VARIO LINE

TUBE SERIES

3D LINE

STEEL LINE

Inside height

180
220

Chain widths

250
1500

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Cable Chain Configurator

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



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



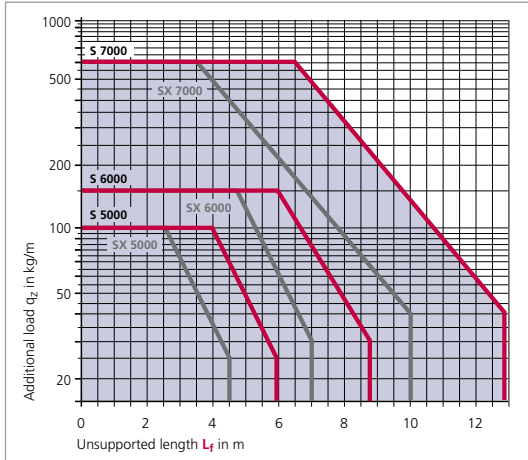
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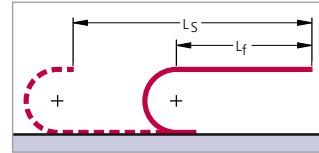
Types S/SX 5000, 6000, 7000

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.

S/SX Series

Selection

BASIC LINE

BASIC LINE PLUS

VARIO LINE

TUBE SERIES

3D LINE

STEEL LINE

Inside heights

150
370

Chain widths

250
1800

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Cable Carrier Configurator

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

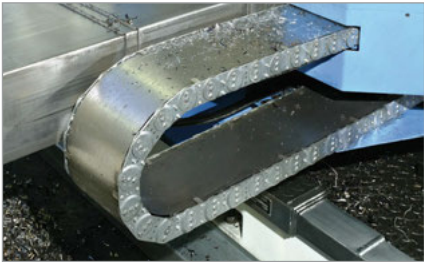
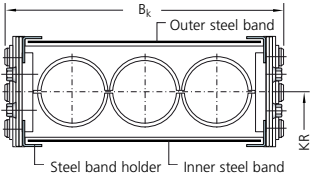


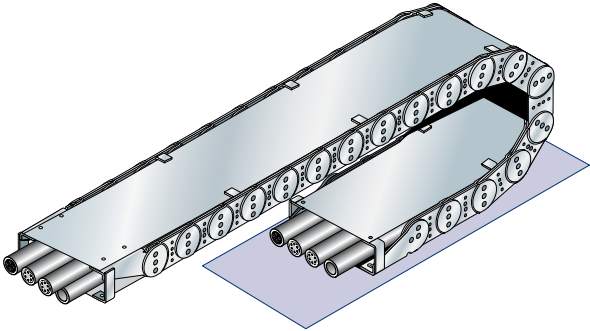
Table of dimensions

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!

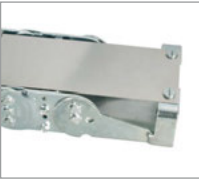
Dimensions in mm



Fastening the steel band



■ Steel band holder on the sidebands.



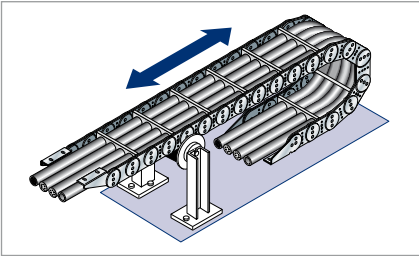
■ Fastening to the chain connection with special end connector.



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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.

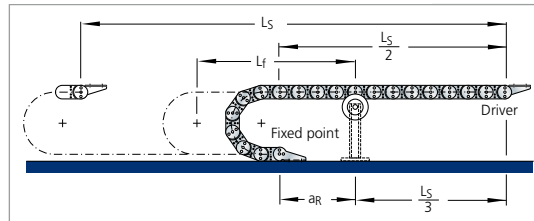
Arrangement of the support

Arrangement with a support roller:

when $L_S < 3 L_f$ $a_R = \frac{L_S}{6}$

The distance of the support to the fixed point in this arrangement is approx 1/6 of the total travel length!

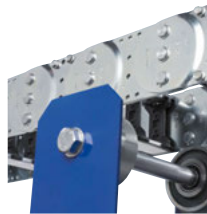
Schematic illustration



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





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

Optional:
Protective straps for
protecting the stop grooves
against contamination



Different
end connectors



Completely enclosed
cable carriers in a
sophisticated design

Attractive appearance due to
stainless steel crossbars and
frame made of fiberglass
reinforced polyamide

Optimum protection for cables
and hoses

Quiet operation
due to small pitch

Inside
heights



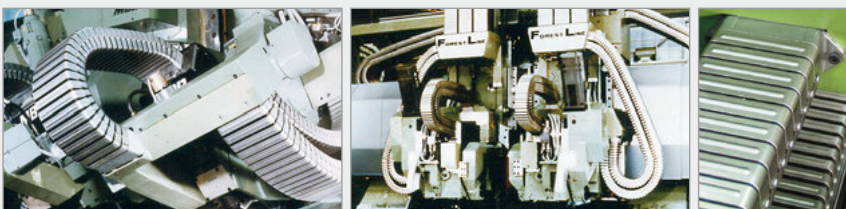
Inside
widths



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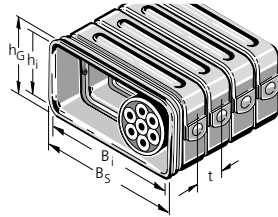
CONDUFLEX – Designer cable carrier in use

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.



Inside heights

25
72

Inside widths

45
162

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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

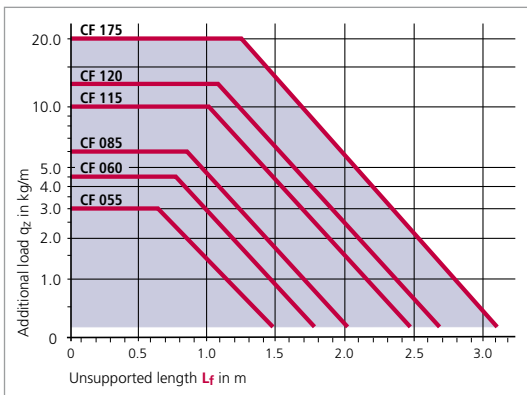
Typ CF 115: $t = 25$ mm

Typ CF 120: $t = 25$ mm

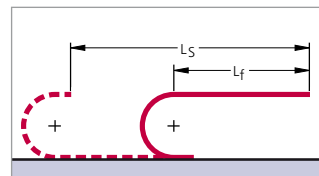
Typ CF 175: $t = 30$ mm

Load diagram

for unsupported length L_f depending on the additional load



Unsupported length L_f

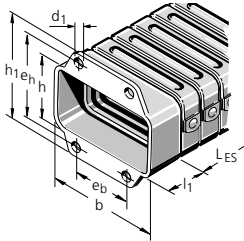


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Your KABELSCHLEPP
Cable Carrier Configurator

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

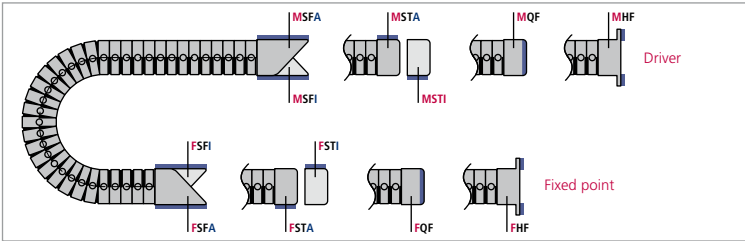
Inside heights

25
–
72

Inside widths

45
–
162

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).

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Cable Carriers Configuration



MOBIFLEX

Enclosed cable carrier with flexible metal helical tube

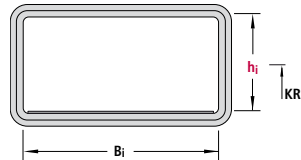
- Very well sealed design
- Ideal in case of hot metal chips
- Unsupported thanks to the inserted, pre-tensioned steel band

Different end connectors

Completely enclosed cable carriers

Optimum protection for cables and hoses

Flexible metal helical tube (zinc plated) combined with special steel band



Inside heights

24
167

Inside widths

26
170

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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/s ²	
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

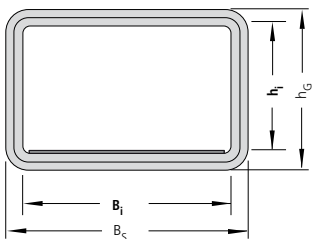
Types MF 030, 050, 080, 110, 170

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

Stated bend radii = KR_{max}
Tolerances specified by manufacturer: -20 to -30 mm

Dimensions in mm / Weight in kg/m



Hose length (with loop):

$$L_{ES} \approx \frac{L_S}{2} + L_B$$

Bend length
 $L_B = KR \cdot \pi + \text{Reserve (KR)}$

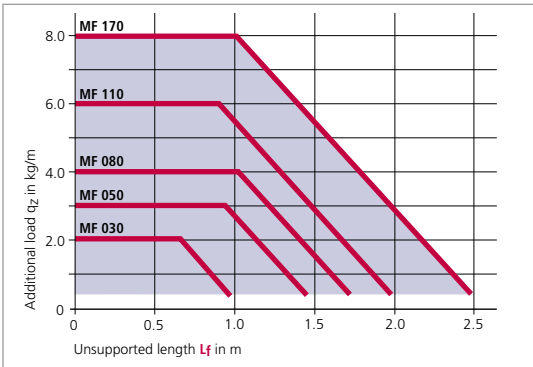
Stretched hose length:

$$L_{gestr.} = L_{ES} - L_{VK}$$

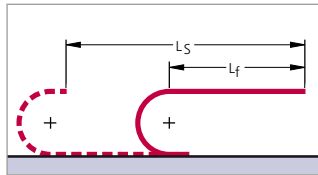
Hose shortening
 $L_{VK} = h_G/2 \cdot \pi$

Load diagram

for unsupported length L_f depending on the additional load



Unsupported length L_f



Example of ordering

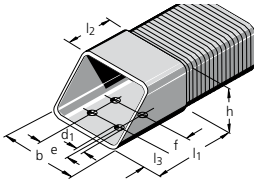
Cable carrier	MF 170.1 - 250 - 980		Connection
MOBIFLEX Type	Bend radius KR in mm	Conduit length L _{ES} in mm (without connection)	FSFI/MQF
		Connection Fixed point/Driver	

Use our free project planning service.

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

Inside heights

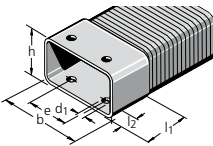
24
167

Inside widths

26
170

Dimensions in mm

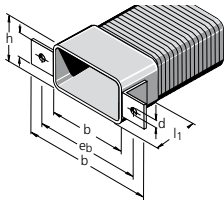
Standard connector bracket – ST



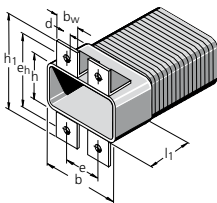
Type	b	h	e	e _b	e _h	d	l ₁	l ₂	b _w	b ₁	h ₁
MF 030.1	34	34	–	56	56	9	60	20	20	74	74
MF 050.1	54	34	20	76	56	9	60	20	20	94	74
MF 050.2	54	54	20	76	76	9	60	20	20	94	94
MF 080.1	89	49	50	111	71	9	75	20	20	129	89
MF 080.2	89	64	50	111	86	9	75	20	20	129	104
MF 080.3	89	89	50	111	111	9	75	20	20	129	129
MF 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

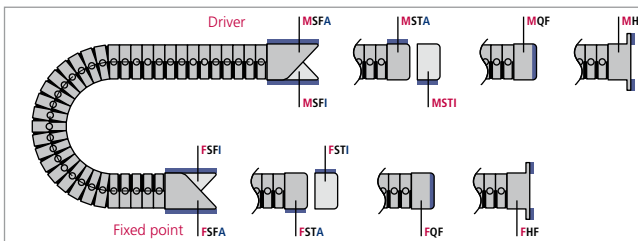
Cross flange connector bracket – QF



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).

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Cable Carrier Configuration



Selection

BASIC
LINE

BASIC
LINEplus

VARIO
LINE

TUBE
SERIES

3D
LINE

STEEL
LINE

Accessories for cable carriers



Support trays

page 374



Guide channels

page 375



RCC – Rail Cable Carrier

page 379

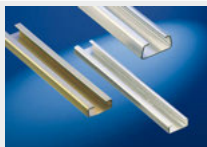
ECC – Emergency Cable Carrier

page 380



Strain relief devices

page 381



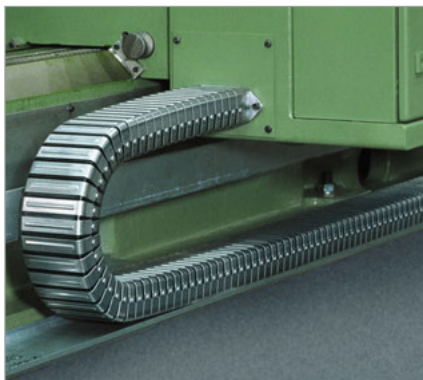
Assembly profile bars

page 387

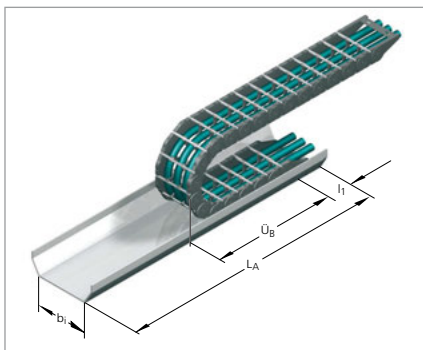
Support trays

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)

$$b_1 \text{ min} \approx B_k + 15 \text{ mm}$$

Length (with standard connection)

$$L_A = \frac{L_c}{2} + \ddot{U}_B + I_1$$

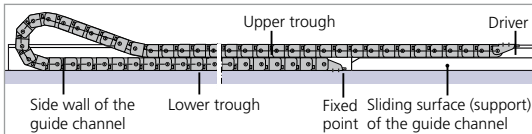
\ddot{U}_B – loop overhang

I_1 – connection length

Where there is a strain relief device at the fixed point, the length of the support tray must be increased accordingly.

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.

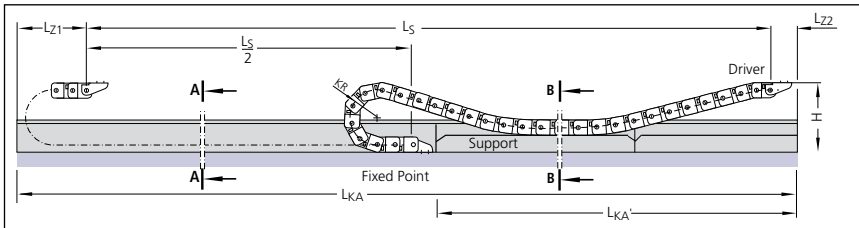


! The economical solution: We recommend that the fixed point be placed in the middle of the travel length (central feed). This will result in the shortest lengths for the cable carrier, cables and guide channel.



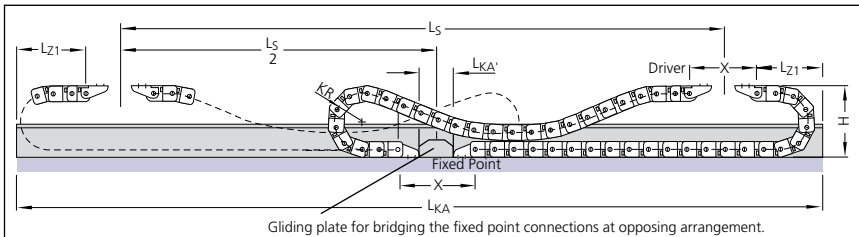
One-sided cable carrier arrangement (standard connection)

$$L_{KA} = L_S + L_{Z1} + L_{Z2}$$



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

($\Delta L_S/2$) with one-sided arrangement

($\Delta X - 2 l_1$) with opposing arrangement

L_{Z1} = Additional measurement for loop overhang
($\Delta \ddot{U}_B + 50 \text{ mm}$) with standard connection

L_{Z2} = Additional measurement for connection
($\Delta l_1 + 50 \text{ mm}$)

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 retaining plates
 - 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

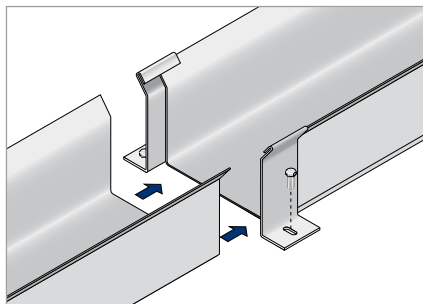
Delivery length: Standard length 2 m/
special lengths on request

Optional standard fixing with retaining plates

A retaining plate 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 retaining plates will be needed.

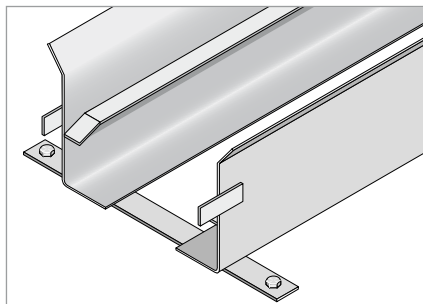


Examples of guide channels special solutions in steel plate design

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.

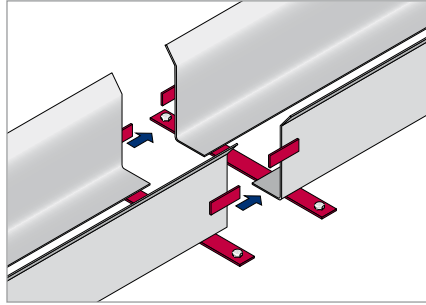


Guide channels made of steel plate – standard design

Examples of guide channels special solutions in steel plate design

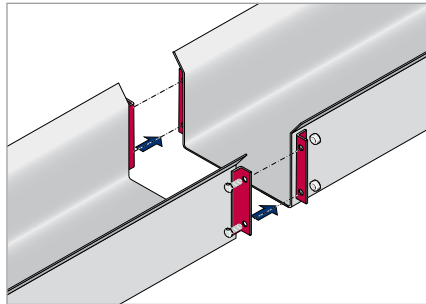
Attachment straps with flat profile

- 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



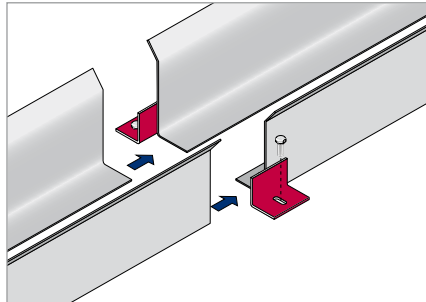
Unsupported connection points

- 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

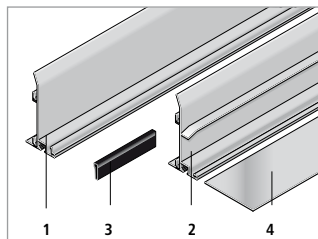


Modular guide channel system made of aluminum profile bars

- 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

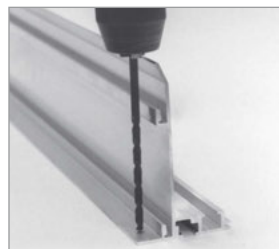


Standard lengths



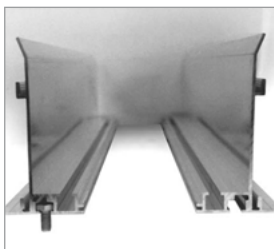
- Part 1** channel side wall profile bar without support 1000 mm + 2000 mm
- Part 2** channel side wall profile bar with support 1000 mm + 2000 mm
- Part 3** plastic clamping profile 130 mm
- Part 4** floor plate – available on request

Examples of fastening options



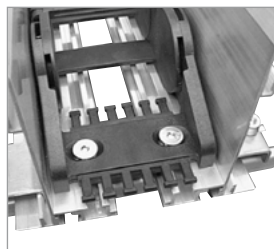
Screwed on from the "outside"

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.



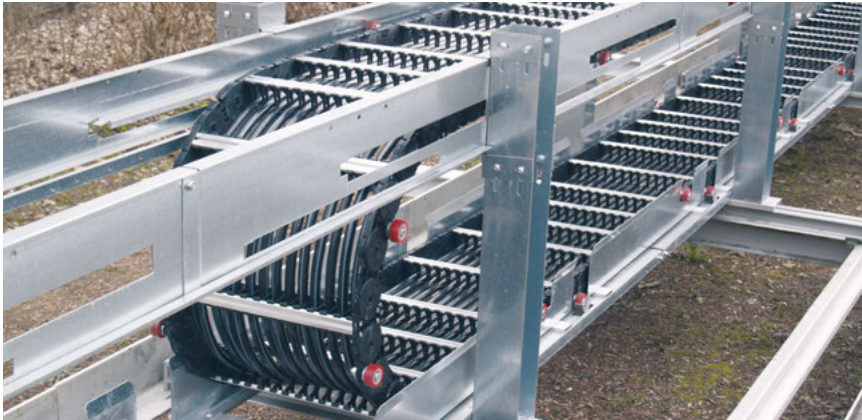
Attached with a clamp

Simple alignment with assembly on a C-Rail.

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

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Cable Carrier Configurator



ECC – Emergency Cable Carrier

Safety for long travel lengths

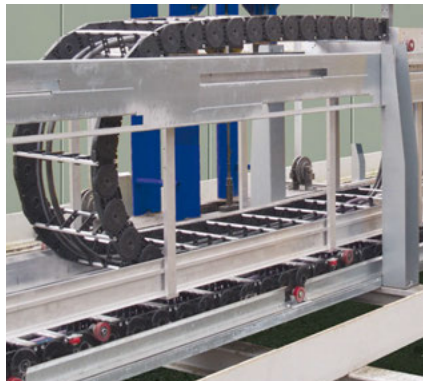


Blockages in the travel lengths of cable carriers in large systems can destroy the entire cable carrier system. This results in high costs and downtime for the entire system. The **ECC – Emergency Cable Carrier minimizes downtimes and avoids repair costs.**

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.

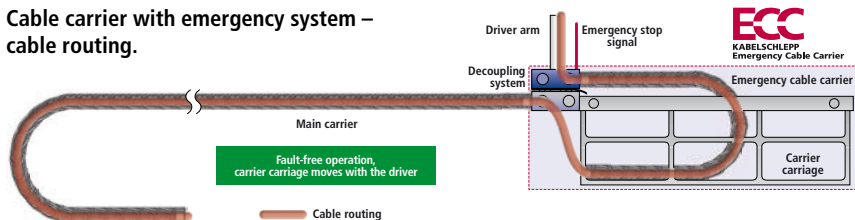


■ Emergency Cable Carrier on a Rail Cable Carrier.
The system can also be adapted for gliding arrangements.

Emergency Cable Carrier System – a possible installation situation



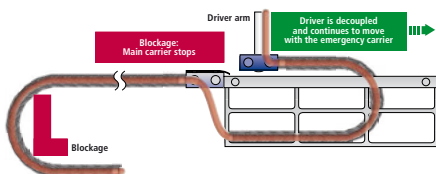
Cable carrier with emergency system – cable routing.



Decoupling system with automatic emergency cutout

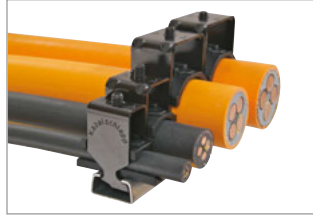
Our Emergency Cable Carrier System offers, in addition to a bridging safeguard for the braking distance with an emergency carrier also an integrated emergency stop system.

The system is switched off if the preset maximum force on the driver of the main cable carrier is exceeded.

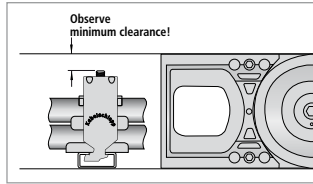


Strain relief devices

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.

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

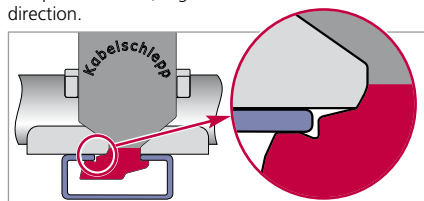


LineFix Type	Designation	Material no. for a complete LineFix	Material no. for a complete LineFix stainless steel	Min. cable Ø	Max. cable Ø	Number of cables	Width	Total height with max. cable Ø incl. C-rail*
Single clamps 	LF 12-1	13630	13731	6	12	1	16	55
	LF 14-1	13631	13732	12	14	1	18	52
	LF 16-1	13632	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
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

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.

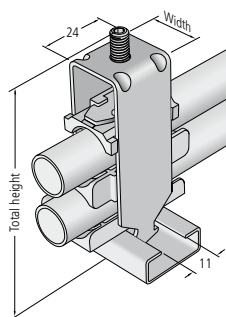


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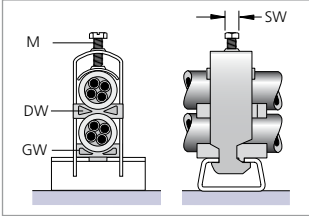


The total height specification is an approximate value. The actual height depends on the diameter and characteristics of the cables, among other things.

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 GW	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 GW	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 GW	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

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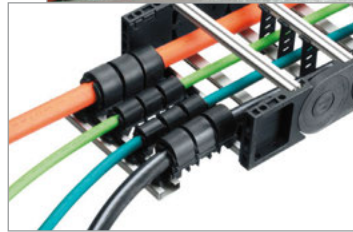
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TSUBAKI KABELSCHLEPP
Cable Carrier Configuration



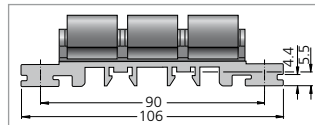
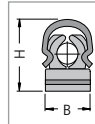
SZL strain relief devices

- 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		Height 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



Block clamps

- for strain relief of hoses
- with clamping bolt(s) and mounting rail nut(s)



Single clamps – one cable

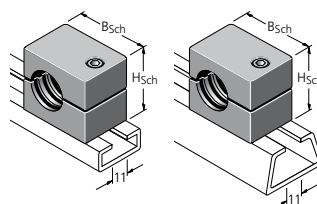
Type BS 0

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

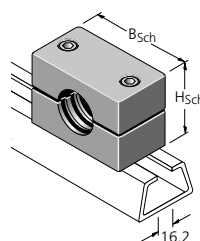
Type BS 1 – BS 5

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

Type BS 1.____ - BS 5.____



Assembly profile bars:

Material: Aluminum
Item-No.: 3926

Material: Steel
Item-No.: 3932

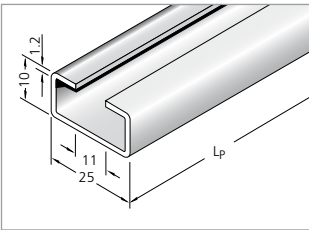
For:
+49 2762 4003-0

Use our free
project planning service.

Assembly profile bars for strain relief devices



C-Profile 25 x 10 mm

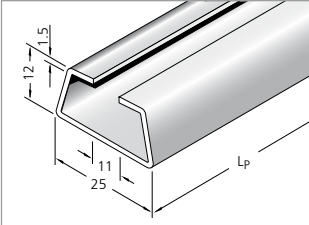


Fits all commercial clamps
(slit width 11 mm),
Types LineFix see page 382.

Material **Item-No.**
Steel 3931

Attach profile with M 6 – DIN 6912 sockethead cap screws.

C-Rail 25 x 12 mm

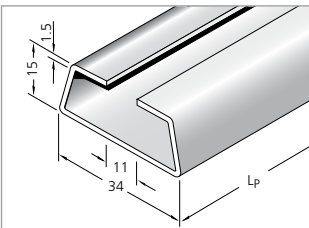


Fits all commercial clamps
(slit width 11 mm),
Types LineFix see page 382.

Material **Item-No.**
Steel 3934

Attach profile with M 6 – DIN 6912 sockethead cap screws.

C-Rail 34 x 15 mm

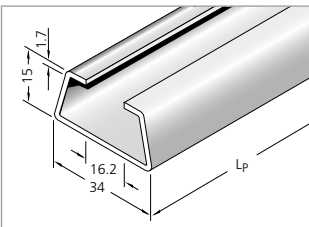


Fits all commercial clamps
(slit width 11 mm),
Types LineFix see page 382.

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.**
Aluminum 3926
Steel 3932

Attach profile with M 10 – DIN 6912 sockethead cap screws.

Opening tools

Assembly wrench for the quick opening of connecting stays

Assembly wrench RV stay

Fits all RV stays
Item-No. 16094



Assembly wrench MASTER L

Fits all stays of the MASTER L60 and L80
Item-No. 16092



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 than 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
	twin	16097
1665	single	16100
	twin	16099

Notes

Accessories

Selection

BASIC
LINE

BASIC
LINE^{plus}

VARIO
LINE

TUBE
SERIES

3D
LINE

STEEL
LINE

Accessories

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Fon:

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OnlineEngineer.de
TSUBAKI KABELSCHLEPP
Cable Center Configurator





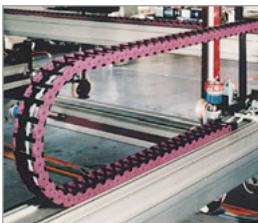
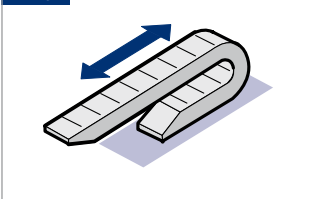
Installation variants

Examples of different installation variants
of KABELSCHLEPP cable carriers

Examples of different installation variants

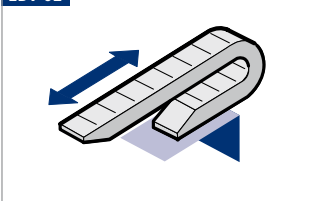
Horizontal arrangement "unsupported"

EBV 01



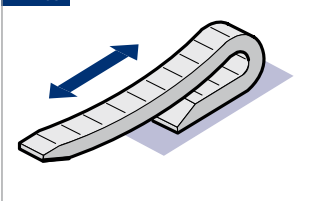
Horizontal arrangement "unsupported – overhanging"

EBV 02



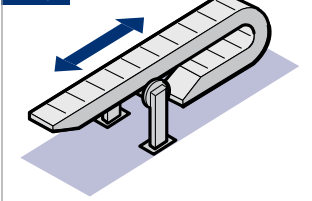
Horizontal arrangement "with permissible sag"

EBV 03



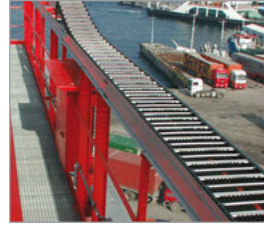
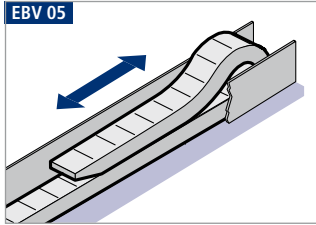
Horizontal arrangement "with support"

EBV 04



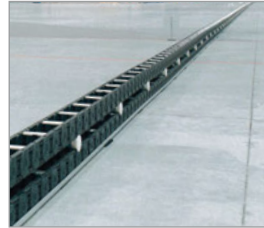
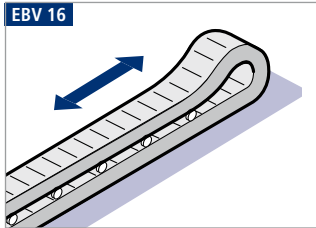
Examples of different installation variants

Horizontal arrangement "gliding in a guide channel"



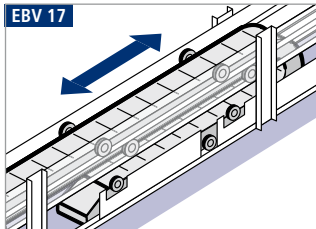
Horizontal arrangement "KabelSkate"

Roller system for travel paths up to 200 m and more

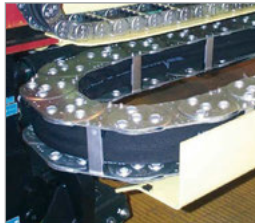
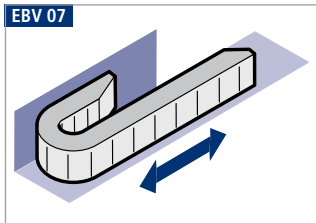


Horizontal arrangement "Rail Cable Carrier"

Roller system for travel paths up to 500 m and more



Horizontal arrangement "rotated through 90° – straight"



Installation
variants

Selection

BASIC
LINE

BASIC
LINEPLUS

VARIO
LINE

TUBE
SERIES

3D
LINE

STEEL
LINE

Installation
variants

kabelschlepp.de

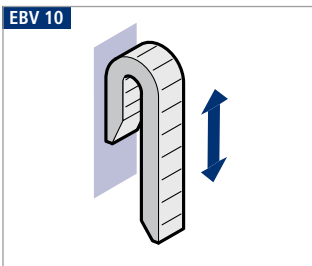
Font:
+49 2762 4003-0

OnlineEngineer.de
TSUBAKI KABELSCHLEPP
Cable Carrier Configurator

Examples of different installation variants

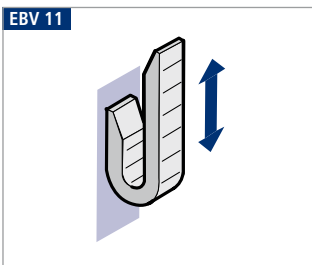
Vertical arrangement "standing"

EBV 10



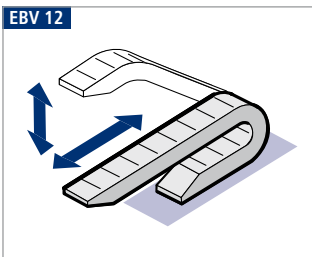
Vertical arrangement "hanging"

EBV 11



Horizontal/vertical arrangement "combined"

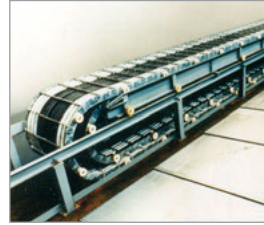
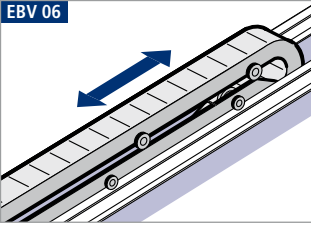
EBV 12



Examples of different installation variants

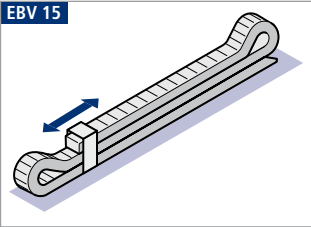
Horizontal arrangement "with continuous support structure"

EBV 06



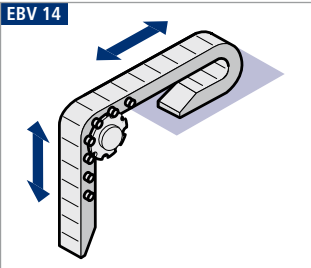
Arrangement "DYNAGLIDE"

EBV 15



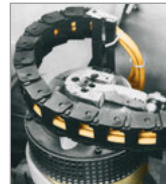
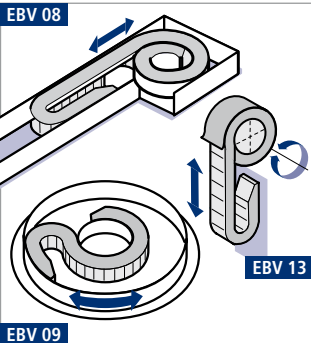
Vertical arrangement "hanging with load-bearing bolts"

EBV 14



Rotating arrangements

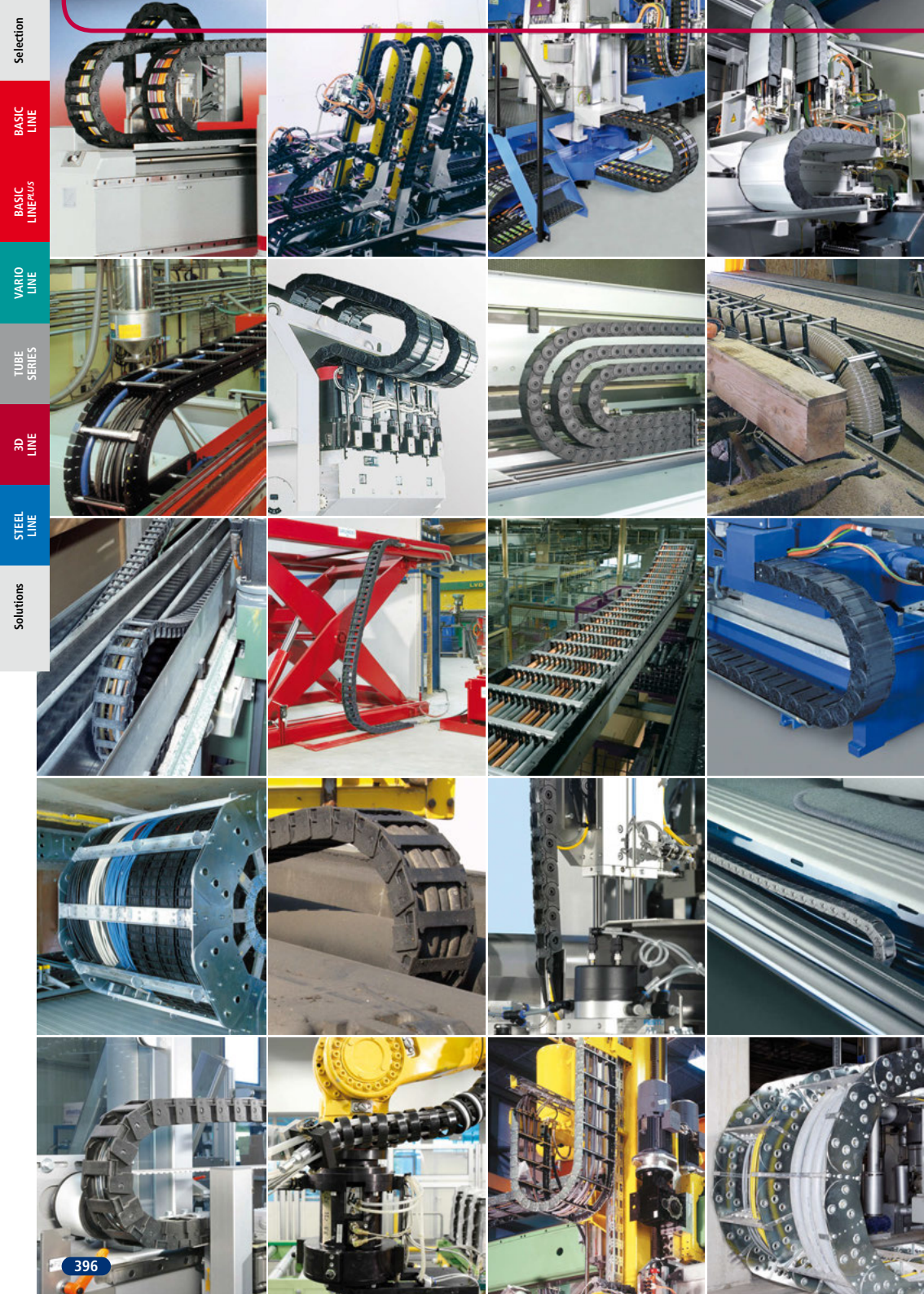
EBV 08



Font:

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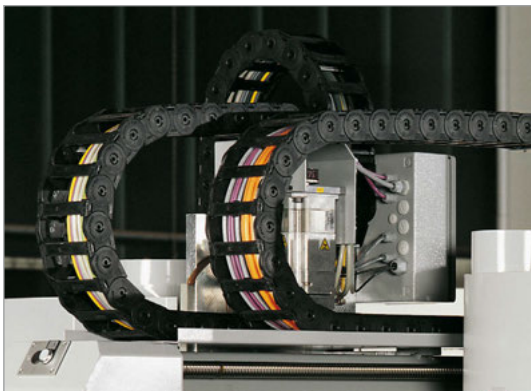
OnlineEngineer.de
TSUBAKI KABELSCHLEPP
Cable Chain Configurator



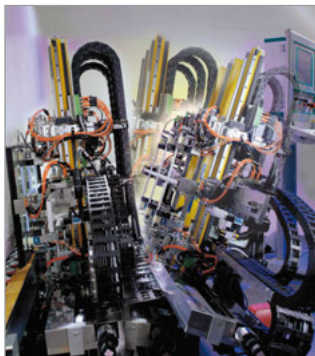
Application examples

KABELSCHLEPP cable carriers
made of plastic or steel in use

Application examples

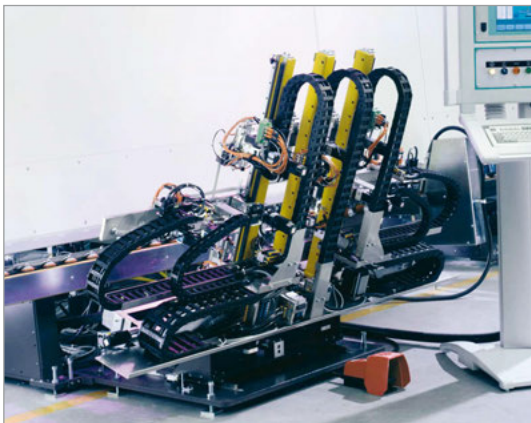


UNIFLEX Series cable carrier on a CNC-machining center
Photographs:
Reichenbacher GmbH



UNIFLEX Series cable carriers on an automatic window frame setting station

Photographs:
Lenhard Maschinenbau GmbH



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

Solutions

Selection

BASIC LINE

BASIC LINE PLUS

VARIO LINE

TUBE SERIES

3D LINE

STEEL LINE

Solutions

kabelschlepp.de

Font:

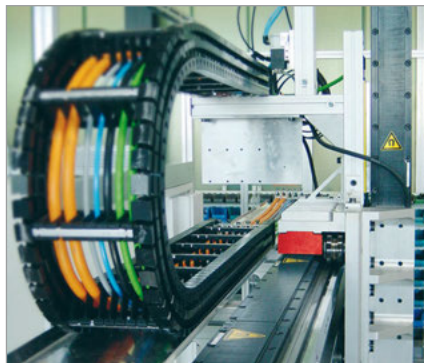
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TSUBAKI KABELSCHLEPP
Cable Carrier Configurator

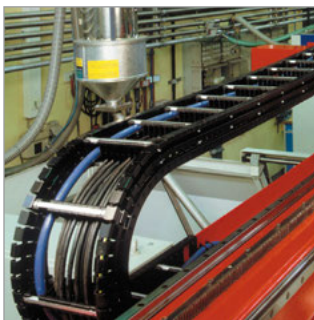
Application examples



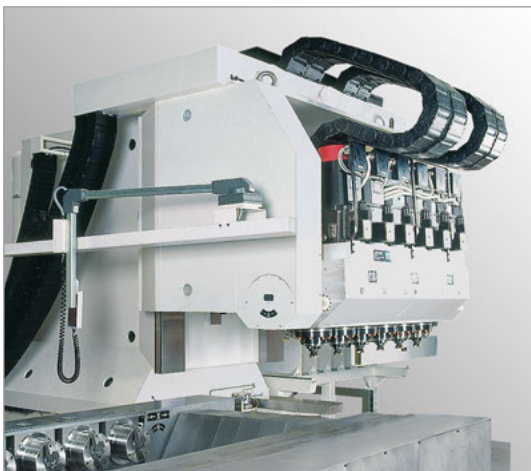
MONO Series cable carrier systems, type 0450
Installation variants: horizontal "unsupported" –
and vertical "standing"
Photograph: Reis Robotics



QUANTUM cable carrier system on a handling system
Photograph: SEW



QUANTUM cable carrier system
on a handling system



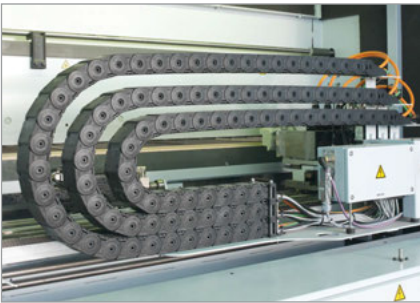
M Series cable carrier on a high-performance machining center
Photograph: Liechti Engineering AG

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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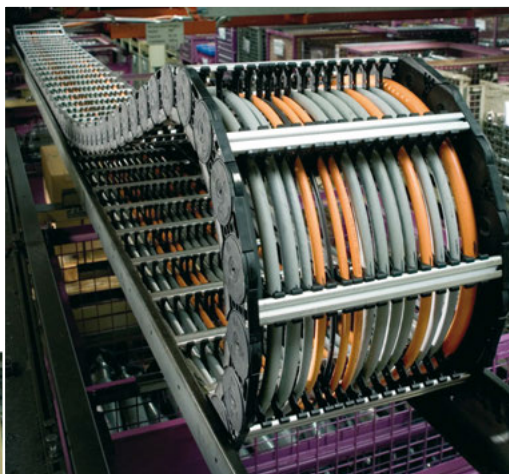
OnlineEngineer.de
Tsubaki KABELSCHLEPP
Cable Carrier Configurator

Application examples



UNIFLEX Series cable and hose carriers on a scissored coil lift

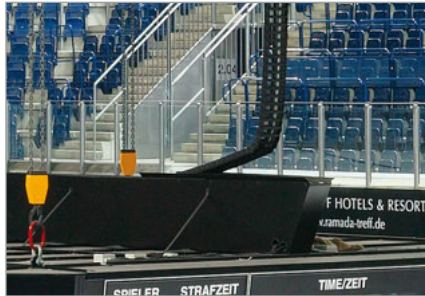
Photographs: Grundeis Hebetische Verladetechnik GmbH



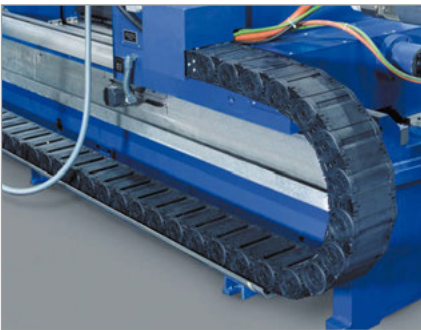
M Series cable and hose carriers on a highrise rack

Photographs: BMW AG

Application examples

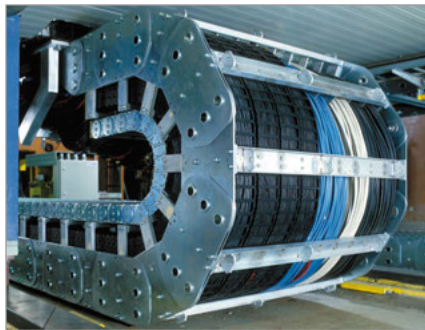


UNIFLEX cable carrier system in a zig-zag system on a lowerable multimedia cube in the Nuremberg Arena



Type MT 0950 cable carrier on a roll grinding machine Installation variant: horizontal – "unsupported"

Photograph:
Waldrich Siegen Werkzeugmaschinen GmbH



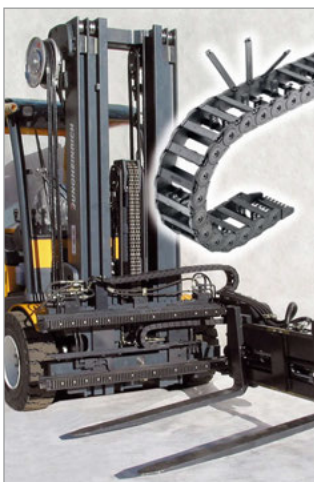
Type MK 0475 cable carrier for separating the cables in a steel cable carrier system, **Type 3200** on the ZEUS detector

Photograph:
Deutsches Elektronen-Synchrotron, Hamburg

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

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

Solutions

Selection

BASIC
LINE

BASIC
LINE PLUS

VARIO
LINE

TUBE
SERIES

3D
LINE

STEEL
LINE

Solutions

kabelschlepp.de

Font:

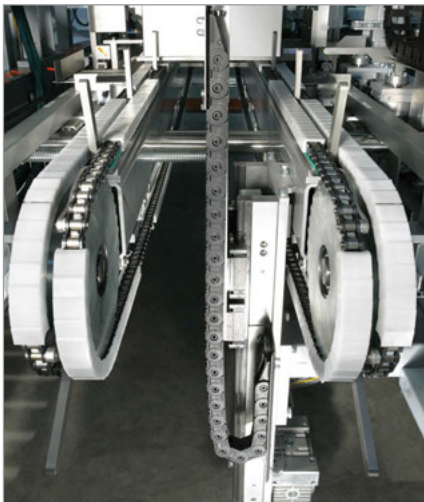
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Tsubaki Kabelschlepp
Cable Carrier Configurator

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

Application examples



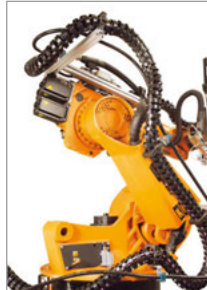
ROBOTRAX cable carriers on a jointed-arm robot
Photographs: Daimler Chrysler AG



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.



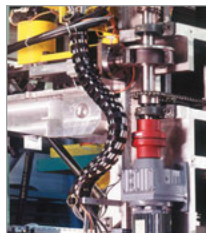
ROBOTRAX cable carriers on an assembling system
Photographs: Gerstung Systemtechnik GmbH



ROBOTRAX cable carrier system on a combined portal and buckling arm robot application
Photographs: Güdel AG, Langenthal



Application examples



ROBOTRAX cable carrier system and steel cable carriers on a manipulator for handling crankcase core stackings

Photographs: Hottinger Maschinenbau GmbH



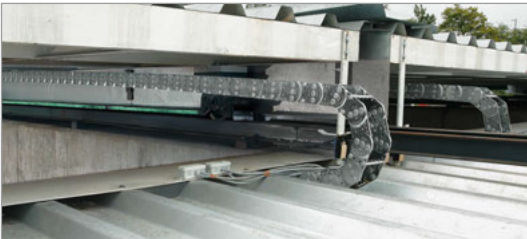
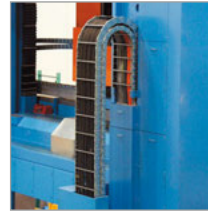
UNIFLEX Series cable carrier and KABELSCHLEPP telescopic cover on a highspeed machining center

Photograph: EiMa Maschinenbau GmbH

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

Application examples

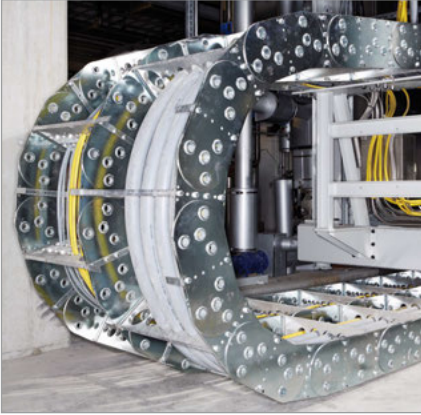


Steel cable carriers on a scissored coil lift
Photographs: SÜDO GmbH



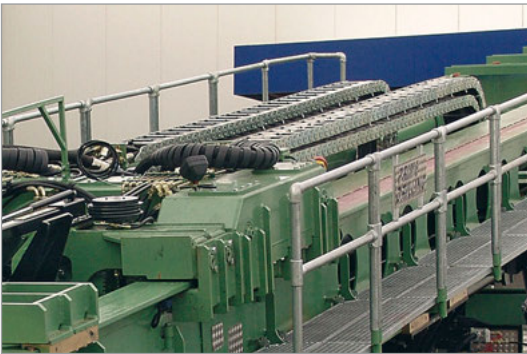
Steel cable carriers with aluminum cover system on a radio telescope
Photographs: Max-Planck-Institut für Radioastronomie

Application examples



Steel cable carriers on a paper machine

Photographs: Voith Paper Technology Center GmbH



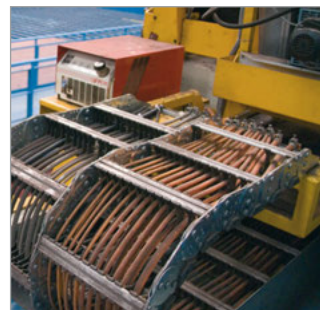
Steel cable carriers on a drilling system

Photograph: Prime Drilling GmbH



Steel cable carriers on a laser cutting machine

Photographs: Meyer Werft GmbH



BASIC-LINE

UNIFLEX

Ordering cable carrier

Cable carrier

1555

Type

030

Design

100

Inside width
B_i in mm

125

Bend-radius
KR in mm

1332

Chain length
L_c in mm (with-
out connection)

Ordering divider system

Divider system

TS 0

Divider
system

3

Number of
dividers m

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

Fixed point

A

Connection
type

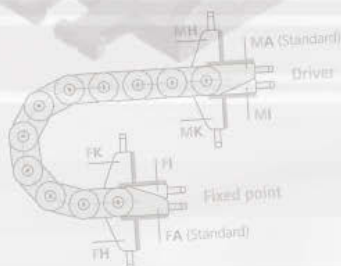
M

Driver

A

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

Ordering key and sample orders
for KABELSCHLEPP cable carriers

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

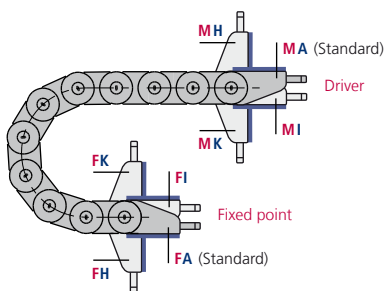
0320.42	77	800
Chain type	Bend radius KR in mm	Chain length L_k in mm (without connection)

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.

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

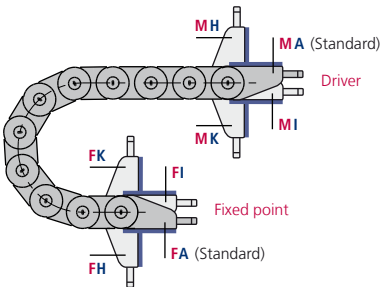
Divider system	
TS 0	1
Divider system	Number of dividers n_T

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

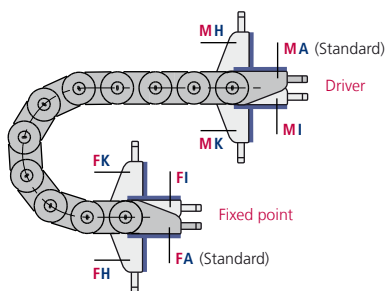
Please state the designation of the divider system
(TS 0, TS 1 ...) and number of dividers. Possibly attach
a sketch with the dimensions (see page 426).

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.

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

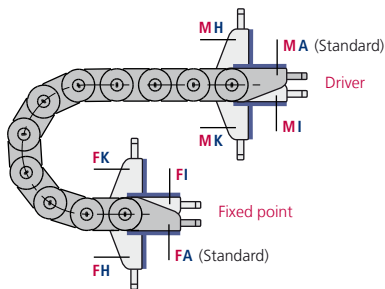
Please state the designation of the divider system (TS 0, TS 1 ...) and number of dividers. Possibly attach a sketch with the dimensions (see page 426).

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.

Ordering

Selection

BASIC
LINE

BASIC
LINE^{PLUS}

VARIO
LINE

TUBE
SERIES

3D
LINE

STEEL
LINE

Ordering

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OnlineEngineer.de
Tsubaki Kabelschlepp
Cable Carrier Configurator

BASIC-LINE^{PLUS}

PROTUM

Ordering cable carrier

Cable carrier

Type	P 0240	Design*	010	Inside width B _i in mm	30	Bend radius KR in mm	42	Chain length L _k in mm (without connection)	380
------	--------	---------	-----	--------------------------------------	----	-------------------------	----	--	-----

* Design 010
(simple insertion of the cables)

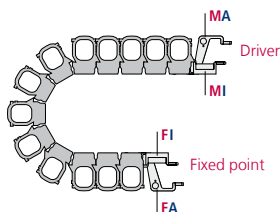
Ordering connection

Connection

Fixed point	F	Connection type	A	Driver	M	Connection type	A
-------------	---	-----------------	---	--------	---	-----------------	---

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

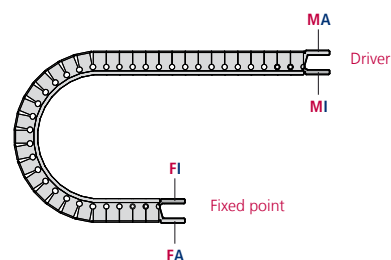
Cable carrier

Type	TKZP10	Inside width B _i in mm	10	Chain length L _k in mm (without connection)	230
------	--------	--------------------------------------	----	--	-----

Ordering connection

Connection

Fixed point	F	Connection type	A	Driver	M	Connection type	A
-------------	---	-----------------	---	--------	---	-----------------	---



Connection point

- M – Driver
- F – Fixed point

Connection type

- A – Threaded joint, outside
- I – Threaded joint, inside

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Use our free project planning service.

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	

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

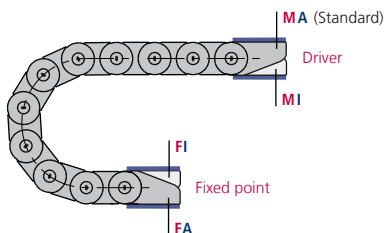
Please state the designation of the divider system (TS 0, TS 1 ...) and number of dividers. Possibly attach a sketch with the dimensions (see page 426).

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

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

TUBE SERIES

CoverTrax

Ordering cable carrier

Cable carrier				
<input type="text" value="CT 1555"/>	<input type="text" value="080"/>	<input type="text" value="175"/>	<input type="text" value="150"/>	<input type="text" value="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	
<input type="text" value="TS 0"/>	<input type="text" value="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
<input type="text" value="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.

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

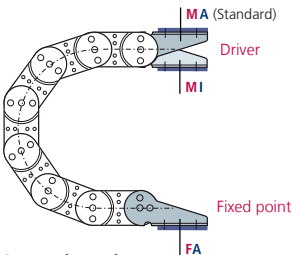
Divider system	
TS 0	4
Divider system	Number of dividers n _T

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).

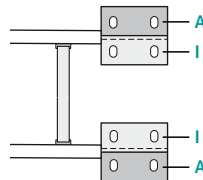


Connection point

- M** – Driver
- F** – Fixed point

Connection type

- A** – Threaded joint outside (standard)
- I** – Threaded joint, inside



Connecting surface

- I** – Connecting surface inside (< B_k)
- A** – Connecting surface outside (< B_k)

For possible connection variants see the respective product description.

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

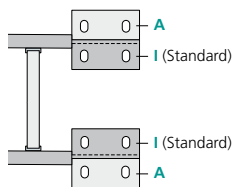
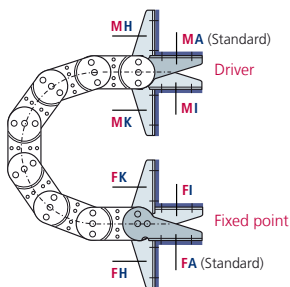
Please state the designation of the divider system (TS 0, TS 1 ...) and number of dividers. Possibly attach a sketch with the dimensions (see page 426).

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 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.

STEEL-LINE

CONDUFLEX / MOBIFLEX

Ordering cable carrier

Cable carrier

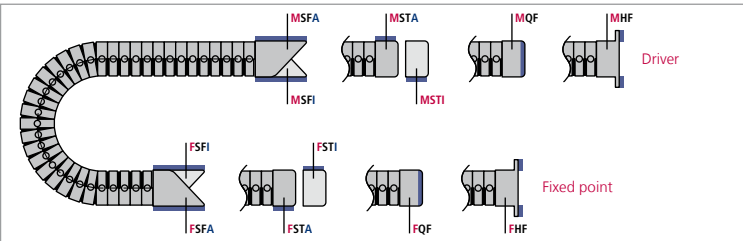
CF 120	140	1200
CONDUFLEX/ MOBIFLEX Type	Bend radius KR in mm	Conduit length L _g in mm (with- out connection)

Ordering connection

Connection

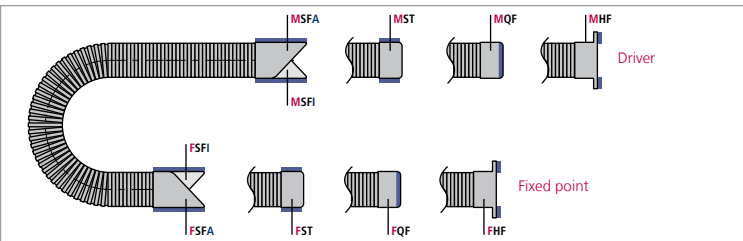
F	SFI	/	M	QF
Fixed point	Connection type		Driver	Connection type

Connection variants CONDUFLEX



The connectors SF, ST, QF and HF can be combined.

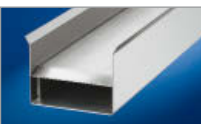
Connection variants MOBIFLEX



The connectors SF, ST, QF and HF can be combined.

Guide channels

► from page 375



Strain relief devices

► from page 381



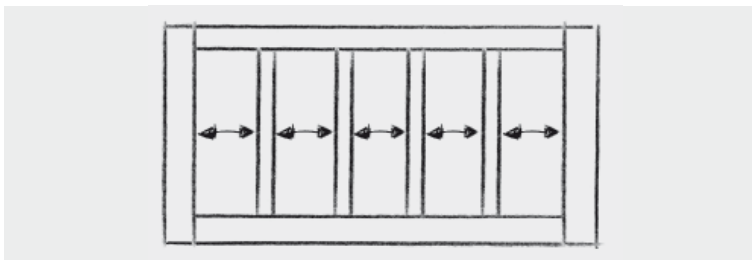
Cables for cable carrier systems

► from page 438



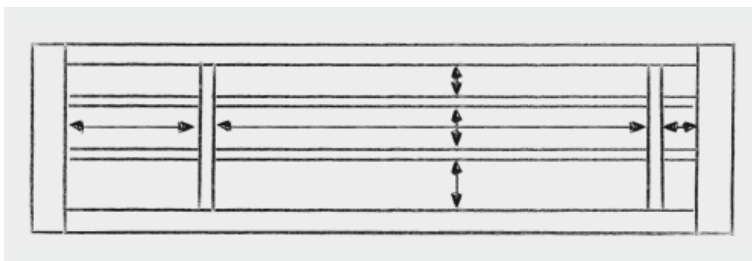
Ordering divider system – sample drawings

Divider system TS 0



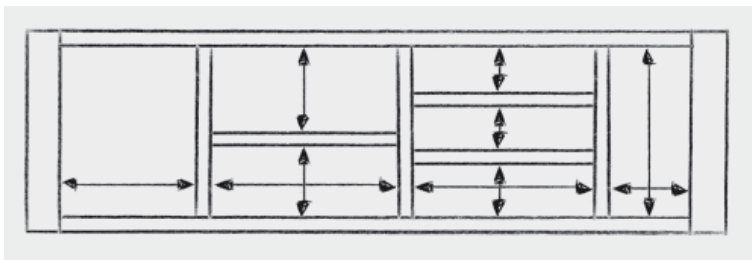
Divider system TS 1

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.

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	International Order Key (INTOK)	Standard order code	International Order Key (INTOK)	Standard order code
MONO		TKLC111	LC 80	TKXT165	XLT 1650
TKP13	MONO 0130	TKLT91	LT 60	Quantum	
TKP13	MONO 0132	M Series		TKQ15	Q 040
TKP18	MONO 0180	TKMK47	MK 0475	TKQ20	Q 060
TKP16	MONO 0182	TKMK65	MK 0650	TKQ25	Q 080
TKP20	MONO 0202	TKMK95	MK 0950	TKQ30	Q100
QuickTrax		TKMK125	MK 1250	TKR	
TKQT32	QT 0320	TKMC130	MC 1300	TKR15	TKR 0150
UNIFLEX Advanced		TKMT47	MT 0475	TKR20	TKR 0200
TKUA32	1320	TKMT65	MT 0650	TKR26	TKR 0260
TKUA45	1455	TKMT95	MT 0950	TKR28	TKR 0280
TKUA55	1555	TKMT125	MT 1250	TKA Series	
TKUA66	1665	TKMT130	MT 1300	TKA30	TKA30
EasyTrax		TKP91/TKC91		TKA38	TKA38
TKET11	ET 0115	TKP91H56	TKP 0910H56	TKA45	TKA45
TKET32	ET 0320	TKP91H80	TKP 0910H80	TKA55	TKA55
MASTER Series		TKC91H56	TKC 0910H56	CoverTrax	
TKHC56	HC 33	TKC91H80	TKC 0910H80	TKCT55	CT 1555
TKHC67	HC 46	XL Series		LS Series	
TKLC91	LC 60	TKXC165	XLC 1650	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

Subject to change.

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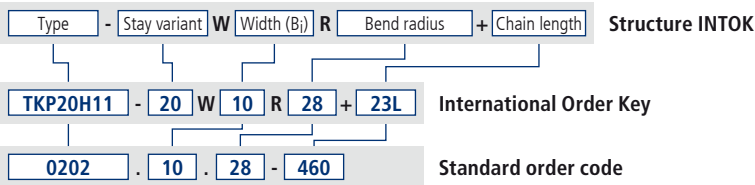
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KABELSCHLEPP
Cable Carrier Configuration

BASIC-LINE

MONO

Ordering example – International Order Key (INTOK)



Index

Types/Stay variant

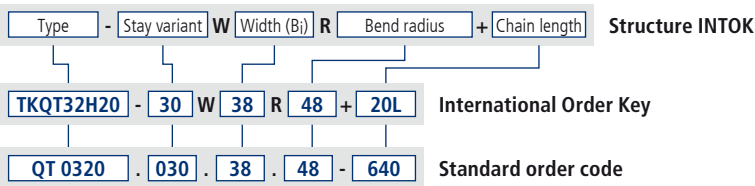
International Order Key (INTOK)		Standard order code	
Type	Stay variant	Type	Stay variant
TKP13H10	30	MONO 0130	030
TKP13H10	20	MONO 0132	020
TKP18H15	30	MONO 0180	030
TKP18H15	20	MONO 0182	020
TKP20H11	20	MONO 0202	020

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)



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.

BASIC-LINE

UNIFLEX *Advanced*

Ordering example – International Order Key (INTOK)

Structure INTOK

Type - Stay variant W Width (B_i) R Bend radius + Chain length

TKUA55H38 - 30 W 100 R 125 + 24L

International Order Key (INTOK)
Ordering for cable carrier with single-part links

1555 . 030 . 100 . 125 - 1332

Standard order code

Structure INTOK

Type Stay variant Width (B_i) R Bend radius + Chain length

TKUA66H139 AC 150 R 200 + 26L

International Order Key (INTOK)
Ordering for cable carrier with side bands

1665 . RVAI/139 . 150 . 200 - 1729

Standard order code

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 LS, refer to Page 46.

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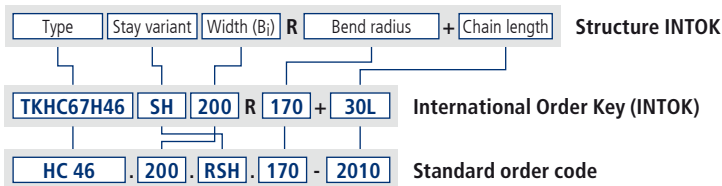
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Your KABELSCHLEPP
Cable Carrier Configuration

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 (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.

International
Order Key

Selection

BASIC
LINE

BASIC
LINEPLUS

VARIO
LINE

TUBE
SERIES

3D
LINE

STEEL
LINE

Ordering

kabelschlepp.de

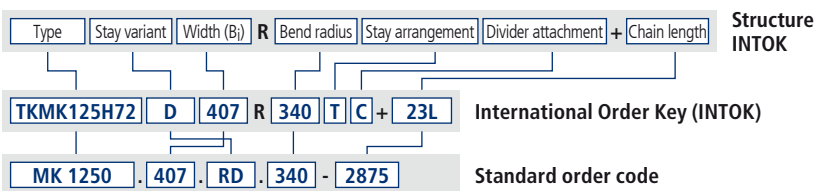
Fon:
+49 2762 4003-0

OnlineEngineer.de
Online-Kabelschlepp-
Cable Chain Configurator

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 L_S, refer to Page 46.

Stay arrangement

T = Full stay
S = Half stay

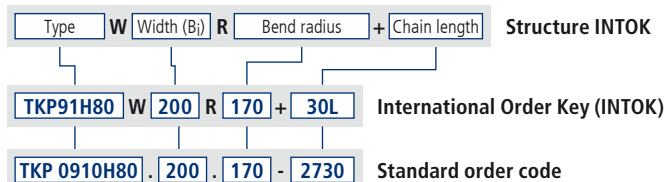
Divider attachment

A = Attached at the inner radius
B = Attached at the inner and outer radius
C = Moveable

VARIO-LINE

TKP91/TKC91

Ordering example – International Order Key (INTOK)



Index

Types

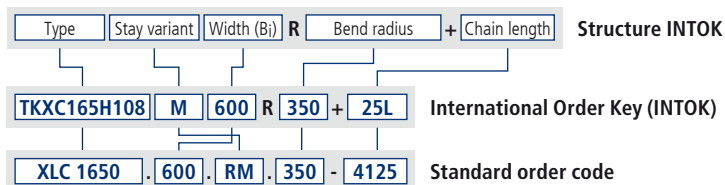
International Order Key (INTOK)	Standard order code
Type	Type
TKP91H56	TKP 0910H56
TKP91H80	TKP 0910H80
TKC91H56	TKC 0910H56
TKC91H80	TKC 0910H80

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

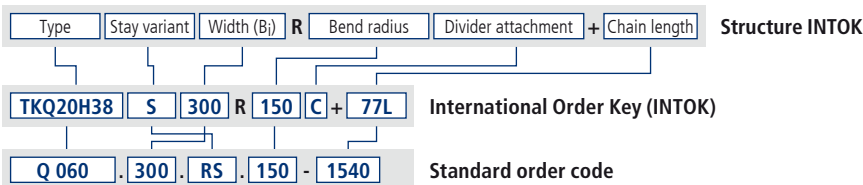
Order unit

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.

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 L_S, refer to Page 46.

Divider attachment

- A = Attached at the inner radius
- B = Attached at the inner and outer radius
- C = Moveable

VARIO-LINE

TKR

Ordering example – International Order Key (INTOK)

Structure INTOK

Type - Stay variant W Width (B_i) R Bend radius + Chain length

TKR15H22 - 30 W 40 R 50 + 40L

International Order Key (INTOK)
Ordering for cable carrier with single-part links

TKR 0150 . 40 . 50 - 600

Standard order code

Structure INTOK

Type W Width (B_i) R Bend radius + Chain length

TKR20H28 W 100 R 95 + 40L

International Order Key (INTOK)
Ordering for cable carrier with side bands

TKR 0200 . 100 . 95 - 800

Standard order code

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

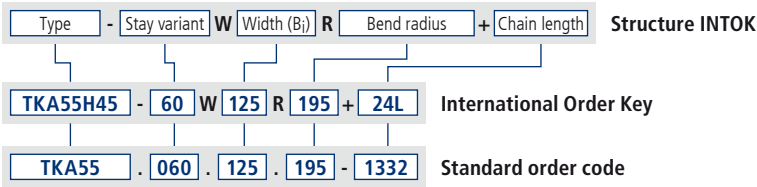
Order unit

The chain length can be given either as a number (L_q in mm, e.g. 943) or as quantity of the chain links required (e.g. 17L). To determine the chain length L_q taking into consideration the travel distance L_S, refer to Page 46.

TUBE-SERIES

TKA Series

Ordering example – International Order Key (INTOK)



Index

Types

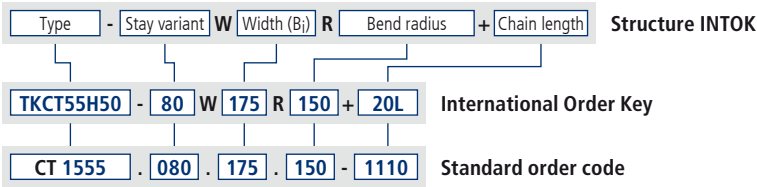
International Order Key (INTOK)		Standard order code	
Type	Stay variant	Type	Stay variant
TKA30H21	60	TKA30	060
TKA30H21	80	TKA30	080
TKA38H26	60	TKA38	060
TKA38H26	80	TKA38	080
TKA45H36	60	TKA45	060
TKA45H36	80	TKA45	080
TKA55H45	60	TKA55	060
TKA55H45	80	TKA55	080

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 L_S, refer to Page 46.

CoverTrax

Ordering example – International Order Key (INTOK)



Index

Types

International Order Key (INTOK)		Standard order code	
Type	Stay variant	Type	Stay variant
TKCT55H50	80	CT 1555	080

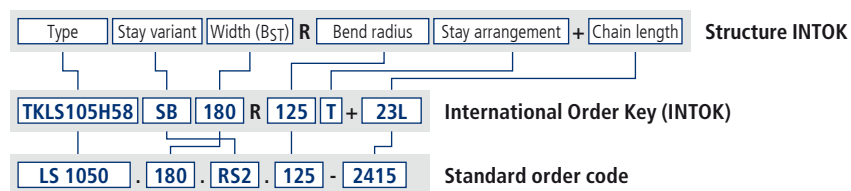
Order unit

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 L_S, refer to Page 46.

STEEL-LINE

LS Series

Ordering example – International Order Key (INTOK)



Index

Types/Stay variant

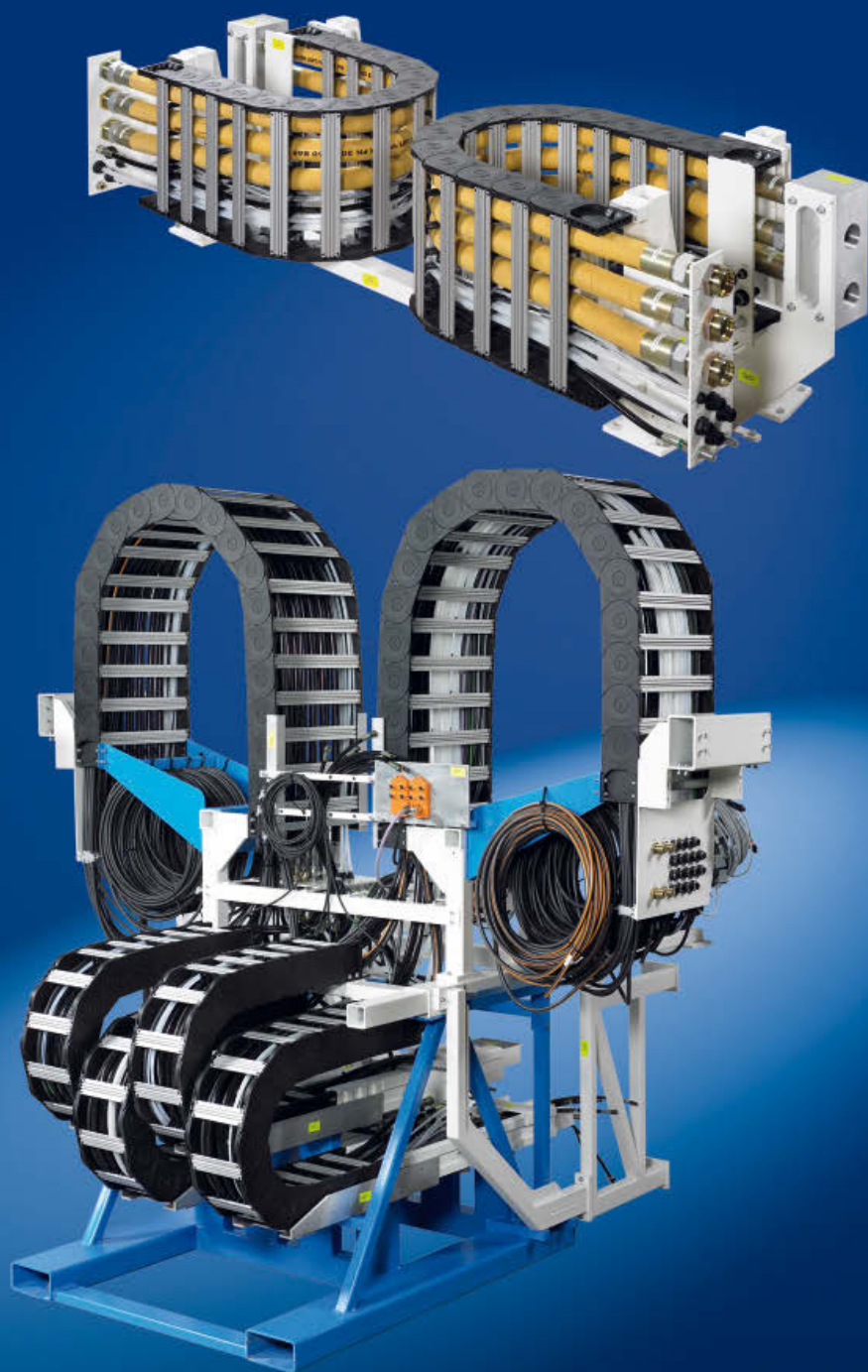
International Order Key (INTOK)		Standard order code		International Order Key (INTOK)		Standard order code	
Type	Stay variant	Type	Stay variant	Type	Stay variant	Type	Stay variant
TKU105H48	LG	LS1050	LG	TKLS105H58	SB	LS1050	RS2
TKLS105H48	RR	LS1050	RR	TKLS105H58	V	LS1050	RV

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



2

TRAXLINE Cables for Motion



CONTINUOUS BENDING HI-FLEX ELECTRICAL CABLES

TOTALTRAX TURN-KEY SYSTEMS

TRAXLINE PRE-ASSEMBLED CABLES

... FOR CABLE CARRIERS

Cost-effective, reliable, durable

TRAXLINE cables for cable carriers

Ready for solutions – your advantage

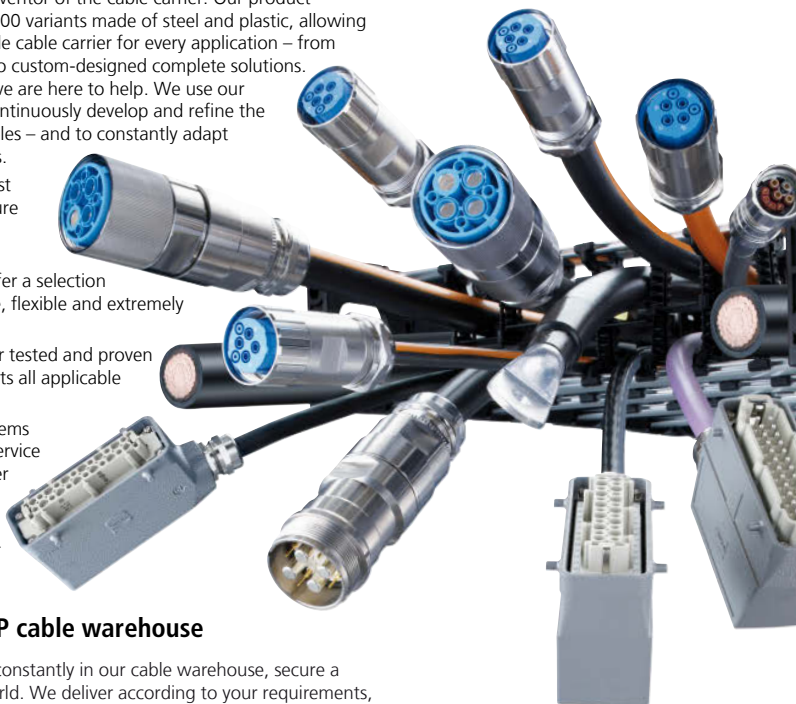
TSUBAKI KABELSCHLEPP – the inventor of the cable carrier. Our product portfolio covers more than 100,000 variants made of steel and plastic, allowing us to deliver a suitable and reliable cable carrier for every application – from standard off-the-shelf products to custom-designed complete solutions. Wherever you are in the world, we are here to help. We use our over 50 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

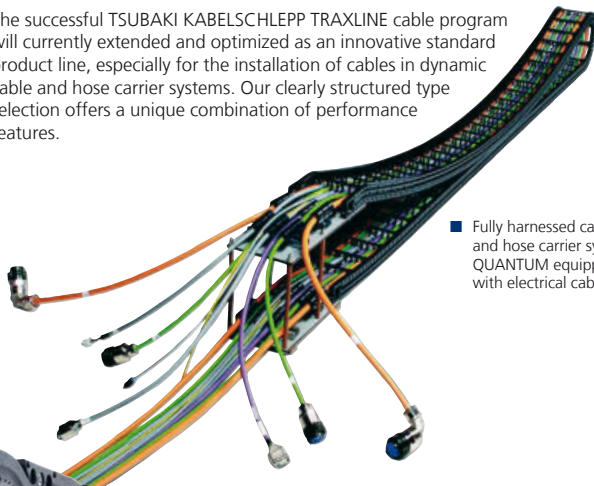
Hundreds of cable types, stored constantly in our cable warehouse, secure a fast availability all around the world. We deliver according to your requirements, no minimum quantities, each length without extra cutting costs.



■ 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.



**Overview
of TRAXLINE
cable types** 442

**TOTALTRAX
Turn-Key
Systems** 448

**TRAXLINE
CONTROL
cables** 450

**TRAXLINE
POWER cables** 462

**TRAXLINE
DATA cables** 476

**TRAXLINE
BUS-/FOC-/
COAXIAL cables** 484

**TRAXLINE
SYSTEM cables** 498

**TRAXLINE-
Power One
Heavy Duty** 502

**TRAXLINE
pre-assembled
cables** 506

**Technical data,
further
information** 511












Overview TRAXLINE cable types

Cable type	Outer jacket	Shield	Factor for $KR_{min} = n \times \varnothing \text{ cable}$	Temperature moved	Approvals
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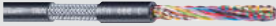





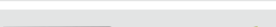

CONTROL cables

CONTROL 200		PVC	–	10	-5 to +80 °C	c 
CONTROL 200 C		PVC	✓	10	-5 to +80 °C	c 
CONTROL 400 600 V		PVC	–	7,5	-5 to +80 °C	c 
CONTROL 400 C 600 V		PVC	✓	7,5	-5 to +80 °C	c 
CONTROL 700 600 V		PUR	–	7,5	-30 to +90 °C	c 
CONTROL 700 C 600 V		PUR	✓	7,5	-30 to +90 °C	c 

POWER cables

POWER 400 1 kV		PVC	–	7,5	-5 to +80 °C	c 
POWER 400 C 1 kV		PVC	✓	7,5	-5 to +80 °C	c 
POWER 700 1 kV		PUR	–	7,5	-30 to +90 °C	c 
POWER ONE 700 1 kV		PUR	–	7,5	-40 to +90 °C	c 
POWER ONE 700 PE		PUR	–	7,5	-40 to +90 °C	c 
POWER 700 C 1 kV		PUR	✓	7,5	-30 to +90 °C	c 
POWER ONE 700 C 1 kV		PUR	✓	7,5	-40 to +90 °C	c 







DATA cables

DATA 400 C		PVC	✓	7,5	-5 to +80 °C	c 
DATA 700		PUR	–	7,5	-30 to +90 °C	c 
DATA 700 TPI C		PUR	✓	7,5	-30 to +90 °C	c 
DATA 700 TPI CD / POWER 700 TPI CD 1 kV		PUR	✓	7,5	-30 to +90 °C	c 








Cable overview after part numbers ► Page 525

Standards	Colour type-dependent	Halogen-free	Flame-retardant	Oil-resistant	V _{max} supported (m/s)	V _{max} gliding (m/s)	a _{max} (m/s ²)	Diameter mm2/ Type/Other	Core number	Page
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450

 RoHS conform ✓	black	–	✓	✓	3.5	2	10	0.5 ² to 2.5 ²	2-25	450
 RoHS conform ✓	black	–	✓	✓	3.5	2	10	0.5 ² to 1.5 ²	2-25	452
 RoHS conform ✓	black	–	✓	✓	5	3	20	0.34 ² to 2.5 ²	2-48	454
 RoHS conform ✓	black	–	✓	✓	5	3	20	0.5 ² to 1.5 ²	3-36	456
 RoHS conform ✓	black	✓	✓	✓	20	5	50	0.5 ² to 1 ²	2-36	458
 RoHS conform ✓	black	✓	✓	✓	20	5	50	0.5 ² to 1 ²	3-25	460

462

 RoHS conform ✓	black	–	✓	✓	5	3	20	1.5 ² to 70 ²	2-25	462
 RoHS conform ✓	black	–	✓	✓	5	3	20	1.5 ² to 35 ²	4-7	464
 RoHS conform ✓	black	✓	✓	✓	20	5	50	1.5 ² to 95 ²	2-36	466
 RoHS conform ✓	black	✓	✓	✓	20	5	50	0.25 ² to 700 ²	1	468
 RoHS conform ✓	black	✓	✓	✓	20	5	50	1.5 ² to 95 ²	1	470
 RoHS conform ✓	black	✓	✓	✓	20	5	50	1.5 ² to 150 ²	2-49	472
 RoHS conform ✓	black	✓	✓	✓	20	5	50	1.5 ² to 300 ²	1	474

476

 RoHS conform ✓	coloured/ black	–	✓	✓	5	3	20	0.25 ² to 0.34 ²	4-25	476
 RoHS conform ✓	coloured/ black	✓	✓	✓	20	5	50	0.25 ² to 0.34 ²	3-15	478
 RoHS conform ✓	black	✓	✓	✓	20	5	50	0.25 ² to 1 ²	2-32	480
 RoHS conform ✓	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 $KR_{min} = n \times \varnothing \text{ cable}$	Temperature moved	Approvals
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BUS-/fiber optic-/coaxial cables

PROFIBUS 700 C		PUR	✓	15	-20 to +70 °C	c 
CAN-BUS 700 C		PUR	✓	7.5	-20 to +80 °C	c 
USB S 700 C / USB L 700 C		PUR	✓	10	-10 to +70 °C	c 
INTERBUS 700 C		PUR	✓	10	-30 to +70 °C	c 
CAT.5E / CAT.6 700 CD		PUR	✓	10	-40 to +80 °C	c 
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	-30 to +90 °C	c 
SYSTEM M 700 C		PUR	✓	7.5/10	-30 to +90 °C	c 

Power One Heavy Duty High voltage cable

POWER ONE HEAVY DUTY 10 kV / 11 kV / 12 kV		PUR	✓	7.5	-40 to +80 °C	
POWER ONE HEAVY DUTY 15 kV / 24 kV / 30 kV		PUR	✓	7.5	-40 to +80 °C	



Cable overview after part numbers ► Page 525

Standards	Colour type-dependent	Halogen-free	Flame-retardant	Oil-resistant	V _{max} supported (m/s)	V _{max} gliding (m/s)	d _{max} (m/s ²)	Diameter mm ² /Type/Other	Core number	Page
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484

CE RoHS conform	purple	✓	✓	✓	3.5	2	10	0.64 mm	2	484
CE RoHS conform	black	✓	✓	✓	3	3	10	0.5 ²	2-4	486
CE RoHS conform	purple	✓	✓	✓	3.5	2	10	AWG 28 / 24 / 20	4	488
CE RoHS conform	purple	✓	✓	✓	3.5	2	10	0.25 ²	6	490
CE RoHS conform	green	✓	✓	✓	3	3	5	0.15 ²	8	492
CE RoHS conform	black	✓	✓	✓	3.5	3.5	10	HF 50/75 Ω	1-5	494
CE RoHS conform	black	✓	✓	–	3.5	3.5	10	50μ/62.5μ	6-12	496

498

CE RoHS conform	green	✓	✓	✓	5	5	50	0.14 ² to 0.1 ²	3-16	498
CE RoHS conform	orange	✓	✓	✓	5	5	50	1 ² to 50 ²	4	500




502

CE RoHS conform	red	✓	✓	✓	50	10, 6	50	10 ² to 400 ²	1	502
CE RoHS conform	red	✓	✓	✓	50	10, 6	50	10 ² to 400 ²	1	504





Overview TRAXLINE pre-assembled cables





USB / CAT.5E / CAT.6 506

USB 700 C pre-assembled		506
CAT.5E 700 CD pre-assembled		506
CAT.6 700 CD pre-assembled		506

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 Page

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TSUBAKI KABELSCHLEPP and EPLAN

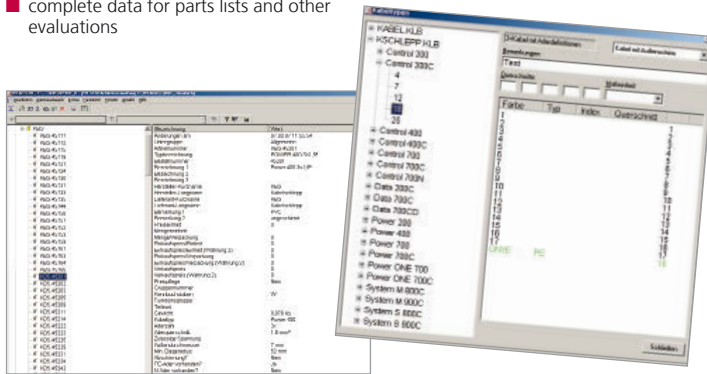
EPLAN has developed over more than 20 years into a leading E-CAD system and has become more-or-less established as a standard in some branches.

TRAXLINE cable database for EPLAN

As a provider of highly-flexible electrical cables for cable and hose carriers, we offer you the TSUBAKI KABELSCHLEPP TRAXLINE cable data bases as a superior tool for optimising your daily work with EPLAN.

The databases are optimized for use in EPLAN5 and for transmission according to EPLAN P8 electric.

- easy cable selection by construction
- automatic addition of core number, cross-section and core colour
- complete data for parts lists and other evaluations



TOTALTRAX turn-key systems

Fully harnessed cable carrier systems

The product you need – we support and supply it to you completely harnesses

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

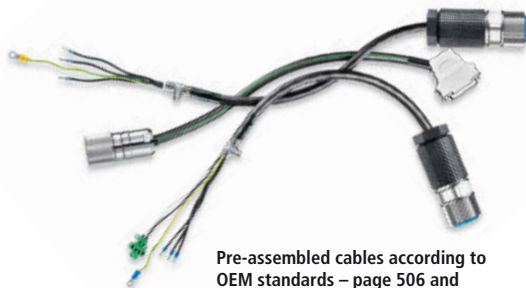


NOTE:

Harnesses 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 506 and following.

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



Core insulation
KS-PP
layered



Outer jacket
KS-PVC
valley-sealed extruded
hi-flex design
UV-resistant
ozone-resistant
high abrasion-resistant



Jacket colour black
ozone-resistant
UV-resistant

TRAXLINE CONTROL 200

Unshielded continuous bending hi-flex PVC control cables



More than
2 million
motion cycles!

TSUBARI KABELSCHLEPP
TRAXLINE

cables for
cable carriers



Up to
25 m
travel length!



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
- RoHS-conform
- ozone-resistant
- metermarked
- CFC-free
- flame-retardant
- silicone-free

Design

Conductor:	bare copper wires class 5 in an optimized hi-flex design
Center element:	type-dependent
Core insulation:	KS-PP
Core identification:	black with white numbers, protective conductor green/yellow
Core stranding:	conductor cores layered
Outer jacket:	KS-PVC
Jacket colour:	black

Technical Data

Temperature range while moved:	- 5 to + 80 °C
Minimum bend radius while moved:	$KR_{min} \geq 10 \times \varnothing$
v_{max} supported:	3.5 m/s
v_{max} gliding:	2 m/s
a_{max}:	10 m/s ²
Insulation resistance:	$\geq 30 \text{ M}\Omega \times \text{km}$
Rated voltage:	according to VDE 300/500 V according to UL 300 V
Approvals:	cULus, based on VDE

varying parameters possible – please contact us

Type selection

TRAXLINE CONTROL 200 – unshielded

core number x nominal-cross-section in mm ²	part number	max. Ø mm	cable weight kg/m	copper weight kg/m
2 x 0.5 ²	47351	4.5	0.026	0.010
3 G 0.5 ²	47352	4.7	0.031	0.014
4 G 0.5 ²	47353	5.1	0.037	0.019
5 G 0.5 ²	47354	5.5	0.045	0.024
7 G 0.5 ²	47356	6.5	0.062	0.034
12 G 0.5 ²	47360	7.6	0.090	0.058
18 G 0.5 ²	47364	9.0	0.131	0.086
25 G 0.5 ²	47367	11.4	0.195	0.120
3 G 0.75 ²	47372	5.5	0.043	0.022
4 G 0.75 ²	47373	6.1	0.055	0.029
5 G 0.75 ²	47374	6.6	0.066	0.036
7 G 0.75 ²	47376	7.7	0.088	0.050
12 G 0.75 ²	47380	9.3	0.134	0.086
18 G 0.75 ²	47384	11.2	0.197	0.130
25 G 0.75 ²	47387	13.9	0.290	0.180
3 G 1 ²	47392	6.0	0.054	0.029
4 G 1 ²	47393	6.5	0.067	0.038
5 G 1 ²	47394	7.0	0.079	0.048
7 G 1 ²	47396	8.2	0.107	0.067
12 G 1 ²	47400	10.2	0.168	0.115
18 G 1 ²	47404	12.0	0.243	0.173
25 G 1 ²	47407	15.1	0.363	0.240
3 G 1.5 ²	47412	6.6	0.071	0.044
4 G 1.5 ²	47413	7.1	0.087	0.058
5 G 1.5 ²	47414	7.7	0.105	0.072
7 G 1.5 ²	47416	9.2	0.144	0.101
12 G 1.5 ²	47420	11.5	0.230	0.173
18 G 1.5 ²	47424	13.4	0.330	0.259
25 G 1.5 ²	47427	16.8	0.491	0.360
4 G 2.5 ²	47433	8.7	0.136	0.096



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Questions about cable carrier cables? Fon: +49 (0)2762 4003-0

TRAXLINE CONTROL 200 C

Shielded continuous bending hi-flex PVC control cables



More than
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
- RoHS-conform
- ozone-resistant
- metermarked
- CFC-free
- silicone-free
- flame-retardant

Design

Conductor:	bare copper wires class 5 in an optimized hi-flex design
Center element:	type-dependent
Core insulation:	KS-PP
Core identification:	black with white numbers, protective conductor green/yellow
Core stranding:	conductor cores layered
Inner jacket:	KS-PVC
Shielding:	coverage nom. 85 %
Outer jacket:	KS-PVC
Jacket colour:	black

Technical Data

Temperature range while moved:	- 5 to + 80 °C
Minimum bend radius while moved:	$KR_{min} \geq 10 \times \varnothing$
v_{max} supported:	3.5 m/s
v_{max} gliding:	2 m/s
a_{max}:	10 m/s ²
Insulation resistance:	≥ 30 MΩ x km
Rated voltage:	according to VDE 300/500 V according to UL 300 V
Approvals:	cULus, based on VDE
varying parameters possible – please contact us	



Core insulation
KS-PP
layered



Inner jacket
KS-PVC
valley-sealed,
pressure extruded,
hi-flex design



Overall shield
high flexural strength,
tin-plated copper braiding
for small bend radii



Outer jacket
KS-PVC
pressure extruded
hi-flex design
high abrasion-resistant



Jacket colour black
ozone-resistant
UV-resistant

Type selection

TRAXLINE CONTROL 200 C – shielded

core number x nominal-cross-section in mm ²	part number	max. Ø mm	cable weight kg/m	copper weight kg/m
(2 x 0.5 ²)	47651	6.2	0.057	0.030
(3 G 0.5 ²)	47652	6.4	0.062	0.036
(4 G 0.5 ²)	47653	6.8	0.070	0.042
(5 G 0.5 ²)	47654	7.2	0.081	0.048
(7 G 0.5 ²)	47656	8.2	0.104	0.064
(12 G 0.5 ²)	47660	9.7	0.149	0.105
(18 G 0.5 ²)	47664	11.0	0.194	0.137
(25 G 0.5 ²)	47667	13.6	0.283	0.210
(3 G 0.75 ²)	47672	7.2	0.079	0.048
(4 G 0.75 ²)	47673	7.6	0.090	0.055
(5 G 0.75 ²)	47674	8.3	0.108	0.066
(7 G 0.75 ²)	47676	9.8	0.147	0.085
(12 G 0.75 ²)	47680	11.3	0.198	0.135
(18 G 0.75 ²)	47684	13.4	0.284	0.190
(25 G 0.75 ²)	47687	16.5	0.416	0.275
(3 G 1 ²)	47692	7.7	0.091	0.059
(4 G 1 ²)	47693	8.2	0.108	0.070
(5 G 1 ²)	47694	8.7	0.124	0.084
(7 G 1 ²)	47696	10.4	0.167	0.106
(12 G 1 ²)	47700	12.1	0.232	0.174
(18 G 1 ²)	47704	14.2	0.334	0.240
(25 G 1 ²)	47707	17.5	0.486	0.332
(3 G 1.5 ²)	47712	8.3	0.113	0.075
(4 G 1.5 ²)	47713	8.8	0.133	0.090
(5 G 1.5 ²)	47714	9.8	0.163	0.108
(7 G 1.5 ²)	47716	11.2	0.207	0.157
(12 G 1.5 ²)	47720	13.7	0.318	0.240
(18 G 1.5 ²)	47724	15.8	0.440	0.355
(25 G 1.5 ²)	47727	19.6	0.646	0.448



TRAXLINE CONTROL 400 600 V

Unshielded continuous bending hi-flex PVC control cables



More than
4 million
motion cycles!



Up to
100 m
travel length!



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
- RoHS-conform
- ozone-resistant
- metermarked
- CFC-free
- silicone-free
- flame-retardant
- long distance technology

Design

Conductor:	bare copper wires class 6 in an optimized hi-flex design
Center element:	type-dependent
Core insulation:	KS-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:	KS-PVC
Jacket colour:	black

Technical Data

Temperature range while moved:	– 5 to + 80 °C
Minimum bend radius while moved:	$KR_{min} \geq 7.5 \times \varnothing$
v_{max} supported:	5 m/s
v_{max} gliding:	3 m/s
a_{max}:	20 m/s ²
Insulation resistance:	≥ 30 MΩ x km
Rated voltage:	according to VDE 300/500 V according to UL 600 V
Approvals:	cULus, based on VDE

varying parameters possible – please contact us



Core insulation
KS-PP
bundled stranding
(> 8 cores)



Outer jacket
KS-PVC
valley-sealed extruded
hi-flex design
high abrasion-resistant



Jacket colour black
ozone-resistant
UV-resistant

Type selection

TRAXLINE CONTROL 400 600 V – unshielded

core number x nominal-cross-section in mm ²	part number	max. Ø mm	cable weight kg/m	copper weight kg/m
2 x 0.5 ²	48110	5.8	0.032	0.010
3 G 0.5 ²	48111	6.1	0.038	0.014
4 G 0.5 ²	48112	6.5	0.045	0.019
5 G 0.5 ²	48113	7.0	0.058	0.025
7 G 0.5 ²	48115	8.1	0.078	0.034
12 G 0.5 ²	48119	10.7	0.137	0.063
18 G 0.5 ²	48121	12.7	0.199	0.087
25 G 0.5 ²	48124	14.4	0.275	0.130
30 G 0.5 ²	48125	15.9	0.324	0.155
36 G 0.5 ²	48126	17.5	0.390	0.185
48 G 0.5 ²	48128	21.0	0.524	0.260
4 G 0.75 ²	48040	7.2	0.057	0.029
5 G 0.75 ²	48041	7.8	0.070	0.036
7 G 0.75 ²	48042	8.9	0.096	0.051
12 G 0.75 ²	48043	11.9	0.178	0.088
18 G 0.75 ²	48044	14.5	0.258	0.138
25 G 0.75 ²	48045	16.6	0.354	0.195
3 G 1 ²	48046	6.9	0.056	0.029
4 G 1 ²	48047	7.6	0.070	0.039
5 G 1 ²	48048	8.2	0.084	0.050
7 G 1 ²	48049	9.4	0.119	0.068
12 G 1 ²	48050	12.5	0.212	0.125
18 G 1 ²	48051	15.4	0.310	0.187
25 G 1 ²	48052	17.7	0.429	0.260
3 G 1.5 ²	48053	7.7	0.073	0.045
4 G 1.5 ²	48054	8.4	0.097	0.058
5 G 1.5 ²	48055	9.1	0.125	0.072
7 G 1.5 ²	48056	10.6	0.170	0.101
12 G 1.5 ²	48057	14.7	0.303	0.174
18 G 1.5 ²	48058	18.0	0.437	0.280
25 G 1.5 ²	48059	20.7	0.597	0.360
4 G 2.5 ²	48060	9.7	0.140	0.096



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Questions about cable carrier cables? Fon: +49 (0)2762 4003-0

TRAXLINE CONTROL 400 C 600 V

Shielded continuous bending hi-flex PVC control cables



Core insulation
KS-PP
bundled stranding
(> 8 cores)



Inner jacket
KS-PVC
valley-sealed,
pressure extruded,
hi-flex design



Overall shield
continuous bending hi-flex,
tin-plated copper braiding
for smallest bend radii



Outer jacket
KS-PVC
pressure extruded
hi-flex design
very abrasion-resistant



Jacket colour black
ozone-resistant
UV-resistant

More than
4 million
motion cycles!



Up to
100 m
travel length!



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
- RoHS-conform
- ozone-resistant
- metermarked
- CFC-free
- silicone-free
- flame-retardant
- long distance technology

Design

Conductor: bare copper wires class 6
in an optimized hi-flex design

Center element: type-dependent

Core insulation: KS-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: KS-PVC

Shielding: coverage nom. 85 %

Outer jacket: KS-PVC

Jacket colour: black

Technical Data

Temperature range
while moved: – 5 to + 80 °C

Minimum bend radius
while moved: $KR_{min} \geq 7.5 \times \varnothing$

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: cULus,
based on VDE

varying parameters possible – please contact us

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	8.2	0.103	0.052
(7 G 0.5²)	48666	9.3	0.128	0.066
(9 G 0.5²)	48668	10.9	0.167	0.090
(12 G 0.5²)	48670	12.7	0.223	0.106
(18 G 0.5²)	48674	15.1	0.320	0.169
(25 G 0.5²)	48678	17.2	0.401	0.223
(30 G 0.5²)	48679	19.1	0.555	0.272
(36 G 0.5²)	48680	20.8	0.577	0.302
(3 G 0.75²)	48682	7.8	0.088	0.045
(4 G 0.75²)	48070	8.4	0.105	0.055
(7 G 0.75²)	48071	10.6	0.159	0.085
(12 G 0.75²)	48072	14.3	0.274	0.151
(18 G 0.75²)	48073	17.1	0.374	0.225
(25 G 0.75²)	48074	19.8	0.531	0.295
(4 G 1²)	48075	9.0	0.122	0.073
(7 G 1²)	48076	11.3	0.186	0.115
(12 G 1²)	48077	15.1	0.316	0.198
(18 G 1²)	48078	18.4	0.460	0.272
(25 G 1²)	48079	21.0	0.612	0.357
(4 G 1.5²)	48080	10.1	0.157	0.085
(5 G 1.5²)	48081	10.8	0.179	0.103
(7 G 1.5²)	48082	12.7	0.241	0.148
(12 G 1.5²)	48083	17.5	0.444	0.269
(18 G 1.5²)	48084	21.3	0.626	0.382
(25 G 1.5²)	48085	24.3	0.831	0.503
(30 G 1.5²)	48086	26.7	0.977	0.635



TRAXLINE CONTROL 700 600 V

Unshielded continuous bending hi-flex PUR control cables



Core insulation
KS-PP
bundled stranding
(> 8 cores)



Outer jacket
KS-PUR
valley-sealed extruded
hi-flex design
extremely abrasion-
resistant



Jacket colour black
ozone-resistant
UV-resistant

More than
7 million
motion cycles!



Up to
500 m
travel length!



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
- RoHS-conform
- halogen-free
- metermarked
- CFC-free
- silicone-free
- flame-retardant
- ozone-resistant

Design

Conductor:	conductors class 6 of bare copper wires in an optimized hi-flex design
Center element:	type-dependent
Core insulation:	KS-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:	KS-PUR
Jacket colour:	black

Technical Data

Temperature range while moved:	– 30 to + 90 °C
Minimum bend radius while moved:	$KR_{min} \geq 7.5 \times \varnothing$
v_{max} supported:	20 m/s
v_{max} gliding:	5 m/s
a_{max} :	50 m/s ²
Insulation resistance:	≥ 30 MΩ x km
Rated voltage:	according to VDE 300/500 V according to UL 600 V
Approvals:	cULus, based on VDE

varying parameters possible – please contact us

Type selection

TRAXLINE CONTROL 700 600 V – unshielded

core number x nominal-cross-section in mm ²	part number	max. Ø mm	cable weight kg/m	copper weight kg/m
2 x 0.5 ²	45391	5.8	0.031	0.010
3 G 0.5 ²	45392	6.1	0.038	0.014
4 G 0.5 ²	45393	6.5	0.045	0.020
7 G 0.5 ²	45396	8.1	0.078	0.035
12 G 0.5 ²	45400	10.7	0.137	0.060
15 G 0.5 ²	45401	11.7	0.161	0.072
16 G 0.5 ²	45402	12.0	0.177	0.077
36 G 0.5 ²	45412	17.5	0.375	0.198
49 G 0.5 ²	45415	21.3	0.546	0.370
3 G 0.75 ²	45421	6.6	0.045	0.023
4 G 0.75 ²	45422	7.2	0.057	0.031
5 G 0.75 ²	45423	7.8	0.070	0.038
7 G 0.75 ²	45425	8.9	0.096	0.053
12 G 0.75 ²	45429	12.1	0.164	0.096
18 G 0.75 ²	45431	14.3	0.241	0.146
25 G 0.75 ²	45434	16.6	0.328	0.209
36 G 0.75 ²	45436	20.2	0.481	0.270
3 G 1 ²	45441	6.9	0.056	0.029
4 G 1 ²	45442	7.6	0.069	0.044
5 G 1 ²	45443	8.2	0.084	0.048
7 G 1 ²	45445	9.4	0.118	0.070
8 G 1 ²	45446	9.9	0.135	0.077
12 G 1 ²	45449	12.7	0.197	0.125
18 G 1 ²	45451	15.4	0.286	0.210
25 G 1 ²	45454	17.7	0.428	0.302



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Questions about cable carrier cables? Fon: +49 (0)2762 4003-0

TRAXLINE CONTROL 700 C 600 V

Shielded continuous bending hi-flex PUR control cables



More than
7 million
motion cycles!



Up to
500 m
travel length!

TSUBARI 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
- RoHS-conform
- halogen-free
- metermarked
- CFC-free
- silicone-free
- flame-retardant
- ozone-resistant

Design

Conductor:

conductors class 6
of bare copper wires
in an optimized hi-flex design

Center element:

type-dependent

Core insulation:

KS-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:

KS-TPE

Shielding:

coverage nom. 85 %

Outer jacket:

KS-PUR

Jacket colour:

black

Technical Data

Temperature range

while moved: – 30 to + 90 °C

Minimum bend radius

while moved: $KR_{min} \geq 7.5 \times \varnothing$

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:

cULus,
based on VDE

varying parameters possible – please contact us



**Core insulation
KS-PP**
bundled stranding
(> 8 cores)



**Inner jacket
KS-TPE**
valley-sealed,
pressure extruded,
hi-flex design



Overall shield
continuous bending hi-flex,
tin-plated copper braiding
for smallest bend radii



**Outer jacket
KS-PUR**
pressure extruded
hi-flex design
extremely abrasion-resistant



Jacket colour black
ozone-resistant
UV-resistant

Type selection

TRAXLINE CONTROL 700 C 600 V – shielded

core number x nominal-cross-section in mm ²	part number	max. Ø mm	cable weight kg/m	copper weight kg/m
(3 G 0.5 ²)	45701	7.1	0.073	0.036
(4 G 0.5 ²)	45702	7.5	0.081	0.042
(5 G 0.5 ²)	45703	8.0	0.095	0.048
(7 G 0.5 ²)	45705	9.3	0.125	0.064
(12 G 0.5 ²)	45709	12.5	0.209	0.109
(18 G 0.5 ²)	45712	14.5	0.274	0.167
(25 G 0.5 ²)	45715	16.6	0.364	0.212
(3 G 0.75 ²)	45721	7.8	0.085	0.048
(4 G 0.75 ²)	45722	8.4	0.103	0.055
(5 G 0.75 ²)	45723	9.0	0.119	0.066
(7 G 0.75 ²)	45725	10.4	0.152	0.087
(12 G 0.75 ²)	45729	13.5	0.242	0.147
(18 G 0.75 ²)	45732	15.9	0.328	0.222
(25 G 0.75 ²)	45735	19.0	0.482	0.293
(3 G 1 ²)	45741	8.3	0.102	0.059
(4 G 1 ²)	45742	9.0	0.120	0.070
(5 G 1 ²)	45743	9.6	0.137	0.084
(7 G 1 ²)	45745	11.3	0.181	0.106
(12 G 1 ²)	45749	14.3	0.281	0.174
(18 G 1 ²)	45752	17.8	0.496	0.240
(25 G 1 ²)	45755	20.8	0.585	0.332
(36 G 1 ²)	45757	25.4	0.851	0.485
(49 G 1 ²)	45759	30.0	1.136	0.660



TRAXLINE POWER 400 1 kV

Unshielded continuous bending hi-flex PVC power cables



Core insulation
KS-PP
bundled stranding
(> 8 cores)



Outer jacket
KS-PVC
valley-sealed extruded
hi-flex design
high abrasion-resistant



Jacket colour black
ozone-resistant
UV-resistant



More than
4 million
motion cycles!



Up to
100 m
travel length!



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
- RoHS-conform
- ozone-resistant
- metermarked
- CFC-free
- silicone-free
- flame-retardant
- long distance technology

Design

Conductor:	conductors class 6 of bare copper wires in an optimized hi-flex design
Center element:	type-dependent
Core insulation:	KS-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:	KS-PVC
Jacket colour:	black (according to DESINA)

Technical Data

Temperature range while moved:	– 5 to + 80 °C
Minimum bend radius while moved:	$KR_{min} \geq 7.5 \times \varnothing$
v_{max} supported:	5 m/s
v_{max} gliding:	3 m/s
a_{max}:	20 m/s ²
Insulation resistance:	≥ 30 MΩ x km
Rated voltage:	according to VDE 0.6/1 kV according to UL 1 kV

Approvals: cULus,
based on VDE
varying parameters possible – please contact us

Type selection

TRAXLINE POWER 400 1 kV – unshielded

core number x nominal-cross-section in mm ²	part number	max. Ø mm	cable weight kg/m	copper weight kg/m
2 x 1,5 ²	45200	6.5	0.060	0.031
3 G 1,5 ²	45201	6.9	0.073	0.045
4 G 1,5 ²	45202	7.9	0.097	0.060
5 G 1,5 ²	45203	9.1	0.125	0.072
7 G 1,5 ²	45205	10.8	0.170	0.105
12 G 1,5 ²	45209	14.5	0.295	0.180
18 G 1,5 ²	45211	18.0	0.437	0.270
20 G 1,5 ²	45213	18.9	0.496	0.303
25 G 1,5 ²	45214	20.9	0.597	0.405
3 G 2,5 ²	45221	8.9	0.122	0.075
4 G 2,5 ²	45222	9.7	0.152	0.100
5 G 2,5 ²	45223	10.8	0.185	0.125
7 G 2,5 ²	45225	12.5	0.244	0.168
12 G 2,5 ²	45229	17.7	0.457	0.300
18 G 2,5 ²	45231	22.2	0.677	0.450
25 G 2,5 ²	45234	24.8	0.906	0.625
4 G 4 ²	45242	11.5	0.237	0.160
5 G 4 ²	45243	12.8	0.288	0.200
7 G 4 ²	45245	14.8	0.397	0.280
4 G 6 ²	45252	13.5	0.357	0.240
5 G 6 ²	45253	14.8	0.433	0.288
7 G 6 ²	45254	17.7	0.604	0.420
4 G 10 ²	45262	16.5	0.546	0.400
5 G 10 ²	45263	18.1	0.632	0.480
4 G 16 ²	45272	20.8	0.877	0.640
5 G 16 ²	45273	24.0	1.100	0.800
4 G 25 ²	45282	25.8	1.329	1.000
4 G 35 ²	45292	29.8	1.763	1.400
4 G 50 ²	45302	34.4	2.470	1.910
4 G 70 ²	45312	40.6	3.493	2.700



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Questions about cable carrier cables? Fon: +49 (0)2762 4003-0

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TRAXLINE Cables for Motion
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TRAXLINE POWER 400 C 1 kV

Shielded continuous bending hi-flex PVC power cables

More than
4 million
motion cycles!

Up to
100 m
travel length!



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
- RoHS-conform
- ozone-resistant
- metermarked
- CFC-free
- silicone-free
- flame-retardant
- long distance technology

Design

Conductor:	conductors class 6 of bare copper wires in an optimized hi-flex design
Center element:	type-dependent
Core insulation:	KS-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:	KS-PVC
Shielding:	coverage nom. 83 %
Outer jacket:	KS-PVC
Jacket colour:	black

Technical Data

Temperature range while moved:	- 5 to + 80 °C
Minimum bend radius while moved:	$KR_{min} \geq 7.5 \times \varnothing$
v_{max} supported:	5 m/s
v_{max} gliding:	3 m/s
a_{max}:	20 m/s ²
Insulation resistance:	≥ 30 MΩ x km
Rated voltage:	according to VDE 0.6/1 kV according to UL 1 kV
Approvals:	cULUS, based on VDE
varying parameters possible – please contact us	



Core insulation
KS-PP
bundled stranding
(> 8 cores)



Inner jacket
KS-PVC
valley-sealed,
pressure extruded,
hi-flex design



Overall shield
continuous bending
hi-flex, tin-plated
copper braiding
for smallest bend radii



Outer jacket
KS-PVC
pressure extruded
hi-flex design
high abrasion-resistant



Jacket colour black
ozone-resistant
UV-resistant

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	10.0	0.159	0.104
(4 G 2.5²)	47222	11.8	0.224	0.148
(5 G 2.5²)	47223	12.9	0.264	0.171
(7 G 2.5²)	47225	15.1	0.356	0.235
(4 G 4²)	47242	13.7	0.325	0.209
(5 G 4²)	47243	15.0	0.407	0.257
(7 G 4²)	47245	17.4	0.523	0.360
(4 G 6²)	47252	16.1	0.449	0.307
(5 G 6²)	47253	23.3	0.611	0.386
(4 G 10²)	47262	19.6	0.690	0.520
(5 G 10²)	47263	22.3	0.862	0.630
(4 G 16²)	47272	24.0	1.062	0.746
(5 G 16²)	47273	27.3	1.327	0.904
(4 G 25²)	47282	29.2	1.566	1.163
(4 G 35²)	47292	34.0	2.129	1.667



TRAXLINE POWER 700 1 kV

Unshielded continuous bending hi-flex PUR power cables



Core insulation
KS-PP
bundled stranding
(> 8 cores)



Outer jacket
KS-PUR
valley-sealed extruded
hi-flex design
extremely abrasion-resistant



Jacket colour black
ozone-resistant
UV-resistant

More than
7 million
motion cycles!



Up to
500 m
travel length!



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
- RoHS-conform
- halogen-free
- metermarked
- CFC-free
- silicone-free
- flame-retardant
- ozone-resistant

Design

Conductor:	conductors class 6 of bare copper wires in an optimized hi-flex design
Center element:	type-dependent
Core insulation:	KS-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:	KS-PUR
Jacket colour:	black (according to DESINA)

Technical Data

Temperature range while moved:	– 30 to + 90 °C
Minimum bend radius while moved:	$KR_{min} \geq 7.5 \times \varnothing$
v_{max} supported:	20 m/s
v_{max} gliding:	5 m/s
a_{max} :	50 m/s ²
Insulation resistance:	≥ 30 MΩ x km
Rated voltage:	according to VDE 0.6/1 kV according to UL 1 kV
Approvals:	cULus, based on VDE
varying parameters possible – please contact us	

Type selection

TRAXLINE POWER 700 1 kV – unshielded

core number x nominal-cross-section in mm ²	part number	max. Ø mm	cable weight kg/m	copper weight kg/m
2 x 1.5 ²	45500	7.5	0.071	0.031
3 G 1.5 ²	45501	7.7	0.084	0.045
4 G 1.5 ²	45502	8.4	0.105	0.058
5 G 1.5 ²	45503	9.1	0.125	0.072
7 G 1.5 ²	45505	10.8	0.171	0.105
12 G 1.5 ²	45509	14.5	0.294	0.195
18 G 1.5 ²	45511	18.0	0.447	0.270
25 G 1.5 ²	45514	20.9	0.596	0.405
36 G 1.5 ²	45516	26.2	0.894	0.540
2 x 2.5 ²	45520	8.4	0.107	0.050
3 G 2.5 ²	45521	8.9	0.122	0.075
4 G 2.5 ²	45522	9.7	0.151	0.108
5 G 2.5 ²	45523	10.8	0.185	0.125
7 G 2.5 ²	45525	12.7	0.254	0.175
12 G 2.5 ²	45529	17.7	0.456	0.300
18 G 2.5 ²	45531	22.2	0.676	0.450
25 G 2.5 ²	45534	24.8	0.904	0.625
36 G 2.5 ²	45536	30.0	1.265	0.900
2 x 4 ²	45540	9.9	0.147	0.080
3 G 4 ²	45541	10.6	0.182	0.120
4 G 4 ²	45542	11.5	0.226	0.154
5 G 4 ²	45544	12.9	0.274	0.240
7 G 4 ²	45543	15.3	0.395	0.268
12 G 4 ²	45546	22.1	0.748	0.508
30 G 4 ²	45549	33.3	1.774	1.440
3 G 6 ²	45551	12.2	0.259	0.173
4 G 6 ²	45552	13.5	0.330	0.240
5 G 6 ²	45553	15.1	0.410	0.288
7 G 6 ²	45555	18.2	0.577	0.403
3 G 10 ²	45561	15.1	0.420	0.288
4 G 10 ²	45562	16.9	0.537	0.384
5 G 10 ²	45563	18.9	0.669	0.500
3 G 16 ²	45564	18.8	0.672	0.480
4 G 16 ²	45565	21.0	0.842	0.640
5 G 16 ²	45566	23.7	1.054	0.800
3 G 25 ²	45567	22.9	1.019	0.750
4 G 25 ²	45568	25.8	1.292	1.000
5 G 25 ²	45569	28.8	1.599	1.200
3 G 35 ²	45570	26.6	1.361	1.008
4 G 35 ²	45571	29.8	1.760	1.344
5 G 35 ²	45560	33.4	2.187	1.750
3 G 50 ²	45559	30.5	1.957	1.440
4 G 50 ²	45572	34.4	2.471	1.920
4 G 70 ²	45573	40.6	3.493	2.700
4 G 95 ²	45574	45.1	4.481	3.800

TRAXLINE POWER ONE 700 1 kV

Unshielded continuous bending hi-flex PUR single-core cables



More than
7 million
motion cycles!



Up to
500 m
travel length!

TSUBARI 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
- RoHS-conform
- halogen-free
- metermarked
- CFC-free
- silicone-free
- flame-retardant
- ozone-resistant

Design

Conductor: conductors class 6
of bare copper wires
in an optimized hi-flex design

Core insulation: KS-PUR

Core stranding: single-core

Outer jacket: KS-PUR

Jacket colour: black (according to DESINA)

Technical Data

**Temperature range
while moved:** – 40 to + 90 °C

**Minimum bend radius
while moved:** $KR_{min} \geq 7.5 \times \varnothing$

v_{max} supported: 20 m/s

v_{max} gliding: 5 m/s

a_{max}: 50 m/s²

Insulation resistance: $\geq 100 \text{ k}\Omega \times \text{km}$

Rated voltage: according to VDE 0.6/1 kV
according to UL 1 kV

Approvals: cULus,
based on VDE

varying parameters possible – please contact us



Core insulation
KS-PUR
wire bundles
in short pitches



Outer jacket
KS-PUR
pressure extruded
hi-flex design
extremely abrasion-resistant



Jacket colour black
ozone-resistant
UV-resistant

Type selection

TRAXLINE POWER ONE 700 1 kV – unshielded

core number x nominal-cross-section in mm ²	part number	max. Ø mm	cable weight kg/m	copper weight kg/m
1 x 0.25 ²	45575	4.1	0.018	0.002
1 x 0.34 ²	45576	4.2	0.019	0.003
1 x 0.5 ²	45577	4.3	0.021	0.005
1 x 0.75 ²	45578	4.7	0.026	0.007
1 x 1 ²	45579	4.9	0.029	0.010
1 x 1.5 ²	45580	5.4	0.037	0.014
1 x 2.5 ²	45581	6.2	0.053	0.025
1 x 4 ²	45582	6.8	0.072	0.040
1 x 6 ²	45583	7.4	0.094	0.060
1 x 10 ²	45584	8.6	0.141	0.100
1 x 16 ²	45585	9.7	0.201	0.154
1 x 25 ²	45586	11.3	0.293	0.240
1 x 35 ²	45587	13.3	0.406	0.350
1 x 50 ²	45588	15.7	0.577	0.500
1 x 70 ²	45589	17.5	0.802	0.700
1 x 95 ²	45590	19.5	1.008	0.950
1 x 120 ²	45591	21.4	1.268	1.200
1 x 150 ²	45592	24.2	1.595	1.500
1 x 185 ²	45593	26.6	1.949	1.850
1 x 240 ²	45594	30.2	2.537	2.304
1 x 300 ²	45595	34.4	3.160	2.880
1 x 400 ²	45596	40.2	4.096	3.800
1 x 500 ²	45597	42.8	5.262	5.000
1 x 700 ²	45598	49.9	7.405	6.680



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Questions about cable carrier cables? Fon: +49 (0)2762 4003-0

TRAXLINE POWER ONE 700 PE

Unshielded, continuous bending highly-flexible PUR single-core cables with PE core identification



More than
7 million
motion cycles!



Up to
500 m
travel length!

TSUBARI 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
- RoHS-conform
- halogen-free
- metermarked
- CFC-free
- silicone-free
- flame-retardant
- ozone-resistant

Design

Conductor: conductors class 6
of bare copper wires
in an optimized hi-flex design

Core insulation:	KS-PUR
Core identification:	green/yellow
Core stranding:	single-core
Outer jacket:	KS-PUR
Jacket colour:	black

Technical Data

Temperature range while moved:	– 40 to + 90 °C
Minimum bend radius while moved:	$KR_{min} \geq 7,5 \times \varnothing$
V _{max} supported:	20 m/s
V _{max} gliding:	5 m/s
a _{max} :	50 m/s ²
Insulation resistance:	≥ 100 kΩ x km
Rated voltage:	according to VDE 0.6/1 kV according to UL 1 kV
Approvals:	cULus, based on VDE

varying parameters possible – please contact us



Core insulation
KS-PUR
wire bundles
in short pitches



Outer jacket
KS-PUR
pressure extruded
hi-flex design
extremely abrasion-resistant



Jacket colour black
ozone-resistant
UV-resistant

Type selection

TRAXLINE POWER ONE 700 PE – unshielded

core number x nominal-cross-section in mm ²	part number	max. Ø mm	cable weight kg/m	copper weight kg/m
1 G 1.5 ²	47580	5.4	0.037	0.135
1 G 2.5 ²	47581	6.2	0.053	0.025
1 G 4 ²	47582	6.8	0.072	0.040
1 G 6 ²	47583	7.4	0.094	0.060
1 G 10 ²	47584	8.6	0.141	0.100
1 G 16 ²	47585	9.7	0.201	0.154
1 G 25 ²	47586	11.3	0.293	0.213
1 G 35 ²	47587	13.3	0.406	0.302
1 G 50 ²	47588	15.7	0.577	0.434
1 G 70 ²	47589	17.5	0.802	0.700
1 G 95 ²	47590	19.5	1.008	0.950
1 G 120 ²	47591	21.4	1.268	1.200
1 G 150 ²	47592	24.2	1.595	1.500
1 G 185 ²	47593	26.6	1.949	1.850
1 G 240 ²	47594	30.2	2.537	2.304



TRAXLINE POWER 700 C 1 kV

Shielded continuous bending hi-flex PUR power cables

More than
7 million
motion cycles!



Up to
500 m
travel length!



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
- RoHS-conform
- halogen-free
- metermarked
- CFC-free
- silicone-free
- flame-retardant
- ozone-resistant

Design

Conductor:	conductors class 6 of bare copper wires in an optimized hi-flex design
Center element:	type-dependent
Core insulation:	KS-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:	KS-TPE
Shielding:	coverage nom. 85 %
Outer jacket:	KS-PUR
Jacket colour:	black

Technical Data

Temperature range while moved:	– 30 to + 90 °C
Minimum bend radius while moved:	$KR_{min} \geq 7.5 \times \varnothing$
v_{max} supported:	20 m/s
v_{max} gliding:	5 m/s
a_{max}:	50 m/s ²
Insulation resistance:	≥ 30 MΩ x km
Rated voltage:	according to VDE 0.6/1 kV according to UL 1 kV
Approvals:	cULus, based on VDE
varying parameters possible – please contact us	



Core insulation
KS-PP
bundled stranding
(> 8 cores)



Inner jacket
KS-TPE
valley-sealed,
pressure extruded,
hi-flex design



Overall shield
continuous bending
hi-flex, tin-plated
copper braiding for
smallest bend radii



Outer jacket
KS-PUR
pressure extruded,
hi-flex design, extremely
abrasion-resistant



Jacket colour black
ozone-resistant
UV-resistant

Type selection

TRAXLINE POWER 700 C 1 kV – shielded

core number x nominal-cross-section in mm ²	part number	max. Ø mm	cable weight kg/m	copper weight kg/m
(2 x 1.5 ²)	45760	9.1	0.114	0.064
(3 G 1.5 ²)	45761	9.7	0.134	0.075
(4 G 1.5 ²)	45762	10.5	0.161	0.089
(5 G 1.5 ²)	45763	11.2	0.183	0.108
(7 G 1.5 ²)	45765	12.7	0.235	0.148
(12 G 1.5 ²)	45769	17.3	0.420	0.264
(18 G 1.5 ²)	45772	21.7	0.716	0.362
(25 G 1.5 ²)	45775	25.2	0.852	0.564
(36 G 1.5 ²)	45777	30.0	1.170	0.698
(49 G 1.5 ²)	45778	35.9	1.633	0.950
(3 G 2.5 ²)	45780	11.0	0.179	0.110
(4 G 2.5 ²)	45781	11.8	0.216	0.142
(5 G 2.5 ²)	45783	12.9	0.254	0.170
(7 G 2.5 ²)	45785	15.1	0.365	0.268
(12 G 2.5 ²)	45787	21.6	0.648	0.421
(18 G 2.5 ²)	45789	26.2	0.919	0.607
(20 G 2.5 ²)	45790	26.8	1.003	0.621
(25 G 2.5 ²)	45791	28.8	1.176	0.765
(4 G 4 ²)	45801	13.7	0.313	0.211
(4 G 6 ²)	45802	16.1	0.432	0.298
(4 G 10 ²)	45803	19.6	0.666	0.526
(4 G 16 ²)	45804	24.6	1.100	0.781
(5 G 16 ²)	45812	27.7	1.368	0.904
(4 G 25 ²)	45805	29.2	1.516	1.145
(4 G 35 ²)	45806	34.0	2.060	1.667
(4 G 50 ²)	45807	38.9	2.833	2.306
(4 G 70 ²)	45808	45.6	3.974	3.045
(4 G 95 ²)	45809	50.5	5.056	4.060
(4 G 120 ²)	45810	55.9	6.424	5.128
(4 G 150 ²)	45811	62.5	7.783	6.525



TRAXLINE POWER ONE 700 C 1 kV

Shielded continuous bending hi-flex PUR single-core cables



More than
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
- RoHS-conform
- halogen-free
- metermarked
- CFC-free
- silicone-free
- flame-retardant
- ozone-resistant

Design

Conductor: conductors class 6
of bare copper wires
in an optimized hi-flex design

Core insulation:	KS-PUR
Core stranding:	single-core
Shielding:	coverage nom. 85 %
Outer jacket:	KS-PUR
Jacket colour:	black

Technical Data

Temperature range while moved:	– 40 to + 90 °C
Minimum bend radius while moved:	$KR_{min} \geq 7.5 \times \varnothing$
v_{max} supported:	20 m/s
v_{max} gliding:	5 m/s
a_{max}:	50 m/s ²
Insulation resistance:	≥ 100 kΩ x km
Rated voltage:	according to VDE 0.6/1 kV according to UL 1 kV
Approvals:	cULus, based on VDE

varying parameters possible – please contact us



Core insulation
KS-PUR
wire bundles
in short pitches



Overall shield
continuous bending hi-flex,
tin-plated copper braiding
for smallest bend radii



Outer jacket
KS-PUR
pressure extruded
hi-flex design
extremely abrasion-resistant



Jacket colour black
ozone-resistant
UV-resistant

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	6.4	0.055	0.029
(1 x 2.5²)	45815	6.8	0.072	0.041
(1 x 4²)	45816	7.4	0.093	0.059
(1 x 6²)	45817	8.0	0.119	0.071
(1 x 10²)	45818	9.2	0.169	0.122
(1 x 16²)	45819	10.4	0.236	0.190
(1 x 25²)	45820	11.9	0.333	0.289
(1 x 35²)	45821	13.9	0.451	0.393
(1 x 50²)	45822	16.5	0.651	0.560
(1 x 70²)	45823	18.3	0.883	0.873
(1 x 95²)	45824	20.3	1.099	1.029
(1 x 120²)	45825	22.2	1.373	1.272
(1 x 150²)	45826	25.0	1.716	1.578
(1 x 185²)	45827	27.4	2.081	1.911
(1 x 240²)	45828	31.1	2.685	2.451
(1 x 300²)	45829	35.4	3.393	2.997





Core insulation
KS-PP
bundled stranding
(> 8 cores)



Inner jacket
KS-PVC
valley-sealed,
pressure extruded,
hi-flex design



Overall shield
continuous bending hi-flex,
tin-plated copper braiding
for smallest bend radii



Outer jacket
KS-PVC
pressure extruded
hi-flex design
high abrasion-resistant



Jacket colour black
ozone-resistant
UV-resistant



More than
4 million
motion cycles!



Up to
50 m
travel length!

TSUBARO KABELSCHLEPP
TRAXLINE
cables for
cable carriers



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
- RoHS-conform
- ozone-resistant
- metermarked
- CFC-free
- silicone-free
- flame-retardant

Design

Conductor:	bare copper wires class 6 in an optimized hi-flex design
Center element:	type-dependent
Core insulation:	KS-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:	KS-PVC
Shielding:	coverage nom. 83 %
Outer jacket:	KS-PVC
Jacket colour:	coloured/black

Technical Data

Temperature range while moved:	– 5 to + 80 °C
Minimum bend radius while moved:	$KR_{min} \geq 7.5 \times \varnothing$
v_{max} supported:	5 m/s
v_{max} gliding:	3 m/s
a_{max}:	20 m/s ²
Insulation resistance:	≥ 10 MΩ x km
Rated voltage:	according to VDE 300/500 V according to UL 300 V
Approvals:	cULus, based on VDE

varying parameters possible – please contact us

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	0.065	0.029
(8 x 0.25²)	48627	9.1	0.109	0.056
(25 x 0.25²)	48638	15.3	0.286	0.134
(4 x 0.34²)	48647	7.3	0.077	0.041
(5 x 0.34²)	48648	7.7	0.085	0.046
(7 x 0.34²)	48649	9.0	0.116	0.058



TRAXLINE DATA 700

Unshielded continuous bending hi-flex PUR control cables



More than
7 million
motion cycles!



Up to
200 m
travel length!



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
- RoHS-conform
- halogen-free
- metermarked
- CFC-free
- silicone-free
- flame-retardant
- ozone-resistant

Design

Conductor:	conductors class 6 of bare copper wires in an optimized hi-flex design
Center element:	type-dependent
Core insulation:	KS-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:	KS-PUR
Jacket colour:	coloured/black

Technical Data

Temperature range	
while moved:	- 30 to + 90 °C
Minimum bend radius	
while moved:	$KR_{min} \geq 7.5 \times \varnothing$
v_{max} supported:	20 m/s
v_{max} gliding:	5 m/s
a_{max}:	50 m/s ²
Insulation resistance:	≥ 30 MΩ x km
Rated voltage:	according to VDE 300/500 V, according to UL 300 V
Approvals:	cULus, based on VDE
varying parameters possible – please contact us	



Core insulation
KS-PP
bundled stranding
(> 8 cores)



Outer jacket
KS-PUR
valley-sealed extruded
hi-flex design
extremely abrasion-resistant



Jacket colour black
ozone-resistant
UV-resistant

Type selection

TRAXLINE DATA 700 – unshielded

core number x nominal-cross-section in mm ²	part number	max. Ø mm	cable weight kg/m	copper weight kg/m
6 x 0.25 ²	45355	6.8	0.053	0.014
7 x 0.25 ²	45356	7.3	0.061	0.017
8 x 0.25 ²	45357	7.8	0.069	0.019
9 x 0.25 ²	45358	8.2	0.075	0.023
10 x 0.25 ²	45359	8.7	0.085	0.024
12 x 0.25 ²	45360	9.6	0.102	0.029
15 x 0.25 ²	45361	9.8	0.123	0.039
3 x 0.34 ²	45372	5.9	0.040	0.010
4 x 0.34 ²	45373	6.3	0.047	0.014
5 x 0.34 ²	45374	6.7	0.054	0.017
7 x 0.34 ²	45376	7.8	0.072	0.024
8 x 0.34 ²	45377	8.3	0.081	0.027
12 x 0.34 ²	45380	10.5	0.123	0.041
15 x 0.34 ²	45382	10.5	0.146	0.053



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Questions about cable carrier cables? Fon: +49 (0)2762 4003-0

TRAXLINE DATA 700 TPI C

Shielded continuous bending hi-flex PUR data cables

More than
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
- RoHS-conform
- halogen-free
- metermarked
- CFC-free
- silicone-free
- flame-retardant
- ozone-resistant

Design

Conductor: conductors class 6 of bare copper wires in an optimized hi-flex design

Core insulation: KS-PP

Core identification: according to DIN 47100

Core stranding: cores bundled in pairs in short pitches with minimal torsion

Inner jacket: KS-TPE

Shielding: coverage nom. 85 %

Outer jacket: KS-PUR

Jacket colour: black

Technical Data

Temperature range while moved: – 30 to + 90 °C

Minimum bend radius while moved: $KR_{min} \geq 7.5 \times \varnothing$

v_{max} supported: 20 m/s

v_{max} gliding: 5 m/s

a_{max}: 50 m/s²

Insulation resistance: $\geq 30 \text{ M}\Omega \times \text{km}$

Rated voltage: according to VDE 300/500 V according to UL 300 V

Approvals: cULus, based on VDE

varying parameters possible – please contact us



Core insulation
KS-PP
stranded in pairs



Inner jacket
KS-TPE
valley-sealed, pressure extruded, hi-flex design



Overall shield
continuous bending hi-flex, tin-plated copper braiding for smallest bend radii



Outer jacket
KS-PUR
pressure extruded hi-flex design extremely abrasion-resistant



Jacket colour black
ozone-resistant
UV-resistant

Picture obtainable.

Subject to change.

Type selection

TRAXLINE DATA 700 TPI C – shielded

core number x nominal-cross-section in mm ²	part number	max. Ø mm	cable weight kg/m	copper weight kg/m
(1 x 2 x 0.25 ²)	45622	5.4	0.050	0.016
(2 x 2 x 0.25 ²)	45623	7.0	0.061	0.023
(3 x 2 x 0.25 ²)	45624	8.3	0.091	0.037
(4 x 2 x 0.25 ²)	45625	8.8	0.102	0.045
(5 x 2 x 0.25 ²)	45626	9.4	0.118	0.057
(6 x 2 x 0.25 ²)	45627	10.0	0.129	0.061
(8 x 2 x 0.25 ²)	45628	11.7	0.168	0.086
(10 x 2 x 0.25 ²)	45629	12.1	0.179	0.095
(12 x 2 x 0.25 ²)	45630	12.2	0.184	0.100
(16 x 2 x 0.25 ²)	45632	13.6	0.229	0.124
(1 x 2 x 0.5 ²)	45634	7.4	0.071	0.024
(2 x 2 x 0.5 ²)	45635	9.2	0.106	0.050
(3 x 2 x 0.5 ²)	45636	9.8	0.128	0.058
(4 x 2 x 0.5 ²)	45637	10.4	0.144	0.078
(5 x 2 x 0.5 ²)	45638	11.4	0.171	0.091
(6 x 2 x 0.5 ²)	45639	12.2	0.191	0.106
(8 x 2 x 0.5 ²)	45640	13.7	0.225	0.142
(10 x 2 x 0.5 ²)	45641	15.3	0.287	0.178
(12 x 2 x 0.5 ²)	45642	15.3	0.291	0.204
(14 x 2 x 0.5 ²)	45643	16.2	0.353	0.218
(1 x 2 x 0.75 ²)	45646	7.9	0.085	0.029
(2 x 2 x 0.75 ²)	45647	10.1	0.136	0.068
(4 x 2 x 0.75 ²)	45649	11.5	0.180	0.105
(5 x 2 x 0.75 ²)	45650	12.4	0.216	0.124
(6 x 2 x 0.75 ²)	45651	13.4	0.245	0.155
(8 x 2 x 0.75 ²)	45652	15.9	0.348	0.215
(12 x 2 x 0.75 ²)	45654	17.8	0.433	0.293



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Questions about cable carrier cables? Fon: +49 (0)2762 4003-0

TRAXLINE DATA 700 TPi CD / POWER 700 TPi CD 1 kV

Double-shielded continuous bending hi-flex PUR data cables



Core insulation
KS-PP
stranded in pairs



Pair shield
continuous bending hi-flex,
tin-plated braided copper shield



Inner jacket
KS-TPE
valley-sealed,
pressure extruded,
hi-flex design



Overall shield
continuous bending hi-flex,
tin-plated copper braiding
for smallest bend radii



Outer jacket
KS-PUR
pressure extruded
hi-flex design
extremely abrasion-resistant



Jacket colour black
ozone-resistant
UV-resistant

More than
7 million
motion cycles!



TSUBARI KABELSCHLEPP
TRAXLINE
cables for
cable carriers

Up to
500 m
travel length!



Developed for

- measurement and control equipment
- sensor equipment
- data and signal cables
- extremely heavy loads

Properties

- hi-flex design
- oil-resistant
- UV-resistant
- RoHS-conform
- halogen-free
- metermarked
- CFC-free
- silicone-free
- flame-retardant
- ozone-resistant

Design

Conductor:	conductors class 6 of bare copper wires in an optimized hi-flex design
Center element:	type-optimized
Core insulation:	KS-PP
Core identification:	according to DIN 47100 part number 45669, 45679: black with white numbers
Core stranding:	cores bundled in pairs in short pitches with minimal torsion
Inner jacket pairs:	KS-TPE
Inner jacket:	KS-TPE
Shielding:	coverage nom. 85 %
Outer jacket:	KS-PUR
Jacket colour:	black

Technical Data

Temperature range while moved:	- 30 to + 90 °C
Minimum bend radius while moved:	$KR_{min} \geq 7.5 \times \varnothing$
v_{max} supported:	20 m/s
v_{max} gliding:	5 m/s
a_{max}:	50 m/s ²
Insulation resistance:	$\geq 30 \text{ M}\Omega \times \text{km}$
Rated voltage:	according to VDE 300/300 V according to UL 300 V part number 45668, 45669, 45679: according to VDE 0.6/1 kV according to UL 1 kV

Approvals:
cULus,
based on VDE
varying parameters possible – please contact us

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	0.970	0.335
(16 x (2 x 0.5²))	45665	27.5	1.280	0.632



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	0.460	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





Core insulation
KS-PP/TPE
concentrically
stranded



Inner jacket
KS-PP/TPE
valley-sealed,
pressure extruded,
hi-flex design



Overall shield
continuous bending hi-flex,
tin-plated copper braiding
Coverage: approx. 90 %
and foil shield



Outer jacket
KS-PUR
pressure extruded
hi-flex design
extremely abrasion-resistant

TRAXLINE PROFIBUS 700 C

Shielded continuous bending hi-flex Profibus PUR cables



More than
7 million
motion cycles!

TSUBAKI KABELSCHLEPP
TRAXLINE

cables for
cable carriers



Up to
100 m
travel length!

Developed for

- Profibus applications
- sensor equipment
- data and signal cables
- extremely heavy loads

Properties

- oil-resistant
- UV-stable
- RoHS-conform
- halogen-free
- CFC-free
- silicone-free
- flame-retardant
- ozone-resistant

Design

Conductor:	extremely fine stranded conductors of bare copper wires in an optimized hi-flex design
Center element:	type-optimized
Core insulation:	KS-PP/TPE
Core identification:	coloured, Profibus
Core stranding:	cores type-optimized stranded in short pitches with minimal torsion
Inner jacket:	KS-PP/TPE
Shielding:	coverage 85 %
Outer jacket:	KS-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:	$KR_{min} \geq 15 \times \varnothing$
v_{max} supported:	3.5 m/s
v_{max} gliding:	2 m/s
a_{max}:	10 m/s ²
Insulation resistance:	$\geq 10 \text{ M}\Omega \times \text{km}$
Rated voltage:	according to VDE 300/300 V
Approvals:	cULus, based on VDE

varying parameters possible – please contact us

Type selection

TRAXLINE PROFIBUS 700 C 90 °C – shielded

core number x nominal-diameter in mm	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



TRAXLINE PROFIBUS 700 C – shielded

core number x nominal-diameter in mm	part number	max. Ø mm	cable weight kg/m	copper weight kg/m
(1 x 2 x 0.64)	45690	8.2	0.065	0.025



TRAXLINE CAN-BUS 700 C

Shielded continuous bending hi-flex and robust PUR bus cables



More than
7 million
motion cycles!



Up to
200 m
travel length!

TSUBARI KABELSCHLEPP

TRAXLINE
cables for
cable carriers

Developed for

- CAN bus applications
- sensor equipment
- data and signal cables
- extremely heavy loads

Properties

- oil-resistant
- UV-stable
- RoHS-conform
- halogen-free
- CFC-free
- silicone-free
- flame-retardant
- ozone-resistant

Design

Conductor:	extremely fine stranded conductors of bare copper wires in an optimized hi-flex design
Center element:	type-optimized
Core insulation:	KS-PP/TPE
Core identification:	coloured, CAN-BUS
Core stranding:	cores type-optimized stranded in short pitches with minimal torsion
Inner jacket:	KS-PP/TPE
Shielding:	coverage 85 %
Outer jacket:	KS-PUR
Jacket colour:	black with ICC colour identification based on the DESINA colour code

Technical Data

Temperature range while moved:	- 20 to + 80 °C
Minimum bend radius while moved:	$KR_{min} \geq 7.5 \times \varnothing$ (- 5 to + 70 °C)
v_{max} supported:	3 m/s
v_{max} gliding:	3 m/s
a_{max}:	10 m/s ²
Insulation resistance:	≥ 10 MΩ x km
Rated voltage:	according to VDE 300/300 V according to UL 300 V
Approvals:	cULus, based on VDE

varying parameters possible – please contact us



Core insulation
KS-PP/TPE
star quad
stranded



Inner jacket
KS-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
KS-PUR
pressure extruded
hi-flex design
extremely abrasion-resistant



Jacket colour black
ozone-resistant
UV-resistant

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	8.0	0.085	0.033
(2 x 2 x 0.5²)	45672	8.4	0.095	0.044



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Questions about cable carrier cables? Fon: +49 (0)2762 4003-0

TRAXLINE USB S 700 C / USB L 700 C

Shielded continuous bending hi-flex USB PUR cables

More than
7 million
motion cycles!

Up to
5 / 10 m
travel length!

TSUBARI KABELSCHLEPP
TRAXLINE
cables for
cable carriers



Developed for

- USB applications
- data and image transmission
- transmission lengths up to 5/10 m
- extremely heavy loads

Properties

- oil-resistant
- UV-resistant
- RoHS-conform
- halogen-free
- ozone-resistant
- CFC-free
- silicone-free
- flame-retardant

Design

Conductor:	extremely fine stranded conductors of bare copper wires in an optimized hi-flex design
Center element:	type-optimized
Core insulation:	KS-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:	KS-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/s ²
Insulation resistance:	$\geq 10 \text{ M}\Omega \times \text{km}$
Rated voltage:	according to VDE 300 V according to UL 300 V
Transmission length:	nom. 5 m nom. 10 m
Approvals:	cULus, based on VDE

varying parameters possible – please contact us



Core insulation
KS-PP/TPE
concentrically
stranded



Overall shield
continuous bending hi-flex,
tin-plated copper braiding
Coverage: approx. 90 %
and foil shield



Outer jacket
KS-PUR
pressure extruded
hi-flex design
UV-resistant
extremely abrasion-resistant

Type selection

TRAXLINE USB S 700 C

core number x nominal-cross-section in AWG	part number	max. Ø mm	cable weight kg/m	copper weight kg/m
(1 x 2 x 28 AWG + 1 x 2 x 20 AWG)	45686	5.2	0.045	0.030



TRAXLINE USB L 700 C

core number x nominal-cross-section in AWG	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	6.0	0.056	0.034



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Questions about cable carrier cables? Fon: +49 (0)2762 4003-0

TRAXLINE INTERBUS 700 C

Shielded continuous bending hi-flex Interbus PUR cables



Core insulation
KS-PP/TPE
concentrically
stranded



Inner jacket
KS-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
KS-PUR
pressure extruded
hi-flex design
UV-resistant
extremely abrasion-resistant

More than
7 million
motion cycles!



Up to
200 m
travel length!



Developed for

- Interbus applications
- sensor equipment
- data and signal cables
- extremely heavy loads

Properties

- oil-resistant
- UV-stable
- RoHS-conform
- halogen-free
- CFC-free
- silicone-free
- flame-retardant
- ozone-resistant

Design

Conductor:	extremely fine stranded conductors of bare copper wires in an optimized hi-flex design
Core insulation:	KS-PP/TPE
Core identification:	coloured, Interbus
Core stranding:	cores type-optimized stranded in short pitches with minimal torsion
Inner jacket:	KS-PP/TPE
Shielding:	coverage 85 %
Outer jacket:	KS-PUR
Jacket colour:	purple (according to DESINA)

Technical Data

Temperature range while moved:	- 30 to + 70 °C
Minimum bend radius while moved:	$KR_{min} \geq 10 \times \varnothing$
v_{max} supported:	3.5 m/s
v_{max} gliding:	2 m/s
a_{max}:	10 m/s ²
Insulation resistance:	$\geq 10 \text{ M}\Omega \times \text{km}$
Rated voltage:	according to VDE, $\varnothing 0.25 \text{ mm}^2$ 30 V $\varnothing 1 \text{ mm}^2$ 300/300 V according to UL 300 V

Approvals: cULus,
based on VDE

varying parameters possible – please contact us

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



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Questions about cable carrier cables? Fon: +49 (0)2762 4003-0

TRAXLINE CAT.5E / CAT.6 700 CD

Double-shielded continuous bending hi-flex CAT.5E / CAT.6 PUR cable



Core insulation
KS-PP/TPE
concentrically
stranded



Overall double-shielding
continuous bending hi-flex,
tin-plated copper braiding
Coverage: approx. 90 %
and foil shield



Outer jacket
KS-PUR
pressure extruded
hi-flex design
UV-resistant
extremely abrasion-resistant

More than
7 million
motion cycles!



Up to
60 m
travel length!



Developed for

- computer cables
- sensor equipment
- data and signal cables
- extremely heavy loads

Properties

- oil-resistant
- UV-resistant
- RoHS-conform
- halogen-free
- CFC-free
- silicone-free
- flame-retardant

Design

Conductor:	extremely fine stranded conductors of bare copper wires in an optimized hi-flex design
Core insulation:	KS-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:	KS-PUR
Jacket colour:	green (according to DESINA)

Technical Data

Temperature range while moved:	– 40 to + 80 °C
Minimum bend radius while moved:	$KR_{min} \geq 10 \times \varnothing$
v_{max} supported:	3 m/s
v_{max} gliding:	3 m/s
a_{max}:	5 m/s ²
Insulation resistance:	≥ 10 MΩ x km
Rated voltage:	according to VDE 30 V according to UL 30 V
Approvals:	cULus, based on VDE

varying parameters possible – please contact us

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 0.15²))	45693	7.1	0.055	0.030



TRAXLINE CAT.6 700 CD – double-shielded

core number x nominal-cross-section in AWG	part number	max. Ø mm	cable weight kg/m	copper weight kg/m
((4 x 2 x AWG 26))	45684	7.8	0.065	0.034



TRAXLINE KOAX 700 CD

Double-shielded continuous bending hi-flex PUR data cables



More than
2 million
motion cycles!



Up to
50 m
travel length!

TSUBAKI KABELSCHLEPP
TRAXLINE

cables for
cable carriers



Developed for

- image transmission
- sensor equipment
- data and signal cables
- extremely heavy loads

Properties

- oil-resistant
- UV-resistant
- RoHS-conform
- flame-retardant
- CFC-free
- silicone-free
- halogen-free

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:	KS-PUR
Jacket colour:	black

Technical Data

Temperature range while moved:	- 20 to + 70 °C
Minimum bend radius while moved:	$KR_{min} \geq 10 \times \varnothing$
V_{max} supported:	3.5 m/s
V_{max} gliding:	3.5 m/s
a_{max}:	10 m/s ²
Rated voltage:	type dependent
Approvals:	type dependent

varying parameters possible – please contact us



Coax cable
flexible,
continuous bending hi-flex



Core insulation
KS-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
KS-PUR
pressure extruded
hi-flex design
extremely abrasion-resistant



Jacket colour black
ozone-resistant
UV-resistant

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	0.021
(3 x (1HF50)) 50 Ohm	45683	11.8	0.140	0.063
(5 x (1HF50)) 50 Ohm	45685	14.0	0.230	0.099



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	0.022
(3 x (1HF75)) 75 Ohm	45694	11.8	0.142	0.065
(5 x (1HF75)) 75 Ohm	45695	14.0	0.234	0.102



TRAXLINE FOC 700

Continuous bending hi-flex multi-mode glass fiber optic cable



More than
7 million
motion cycles!



Up to
500 m
travel length!

TSUBARI KABELSCHLEPP
TRAXLINE

cables for
cable carriers



Developed for

- light signal transmission
- sensor equipment
- data and signal cables
- extremely heavy loads

Properties

- halogen-free
- Multimode 1300 nm
- RoHS-conform
- absolutely EMC safety
- CFC-free
- silicone-free
- flame-retardant
- metal-free

Design

Conductor:	glass
Conductor insulation:	KS-PP/TPE
Conductor identification:	coloured, colour coded
Conductor stranding:	concentrically around center element
Outer jacket:	KS-PUR
Jacket colour:	black

Technical Data

Temperature range	
while moved:	- 30 to + 90 °C
Minimum bend radius	
while moved:	$KR_{min} \geq 7.5 \times \varnothing$
v_{max} supported:	3.5 m/s
v_{max} gliding:	3.5 m/s
a_{max} :	10 m/s ²
Approvals:	IEC 60794 IEC 61300

varying parameters possible – please contact us



Fiber-optic cable glass
flexible, continuous
bending hi-flex,
aramid fiber protection



Core insulation
KS-PP/TPE
concentrically
stranded



Outer jacket
KS-PUR
pressure extruded
hi-flex design
UV-resistant
extremely abrasion-resistant



Jacket colour black
ozone-resistant
UV-resistant

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Questions about cable carrier cables? Fon: +49 (0)2762 4003-0

Type selection

TRAXLINE FOC 700

number of conductors x nominal-cross-section in µm	part number	max. Ø mm	cable weight kg/m
6G50/125	45696	13.4	0.140
6G62.5/125	45697	13.4	0.140
12G50/125	45698	13.4	0.140
12G62.5/125	45699	13.4	0.140



Outer jacket
KS-PUR
pressure extruded
hi-flex design
UV-resistant
extremely abrasion-resistant

Type selection

TRAXLINE SYSTEM S 700 C – shielded

KS alternative to OEM standard	core number x nominal-cross-section in mm ²	part number	max. Ø mm	cable weight kg/m	copper weight kg/m
6FX8008 1BD11	(8 x 2 x 0.18 ²)	46100	8.7	0.100	0.054
6FX8008 1DC00	(2 x 2 x 0.25 ² + 1 x 2 x 0.38 ²)	46104	7.0	0.72	0.041
6FX8008 1BD21	(4 x 2 x 0.38 ² + 4 x 0.5 ²)	46105	9.3	0.115	0.083
6FX8008 1BD31	(3 x (2 x 0.14 ²) + 2 x (0.5 ²))	46110	10.0	0.125	0.074
6FX8008 1BD41	(3 (2 x 0.14 ²) + 4 x 0.14 ² + 2 x 0.5 ²)	46115	9.5	0.105	0.066
6FX8008 1BD51	(3 x (2 x 0.14 ²) + 2 x 0.5 ² + 4 x 0.14 ² + 4 x 0.22 ²)	46120	10.4	0.135	0.075
6FX8008 1BD61	(4 x 2 x 0.18 ²)	46125	6.9	0.061	0.035
6FX8008 1BD71	(2 x 2 x 0.18 ²)	46130	5.3	0.035	0.024
6FX8008 1BD81	(12 x 0.22 ²)	46135	8.5	0.098	0.065

KS alternative to OEM standard	core number x nominal-cross-section in mm ²	part number	max. Ø mm	cable weight kg/m	copper weight kg/m
INK 0448	(4 x 2 x 0.25 ² + 2 x 0.5 ²)	46400	9.1	0.100	0.051
INK 0209	(4 x 2 x 0.25 ² + 2 x 1 ²)	46410	9.1	0.120	0.064
INK 0280	(3 x 0.25 ² + 3 x (2 x 0.25 ²) + 2 x 1 ²)	46412	11.5	0.160	0.084
INK 0532	(4 x 2 x 0.14 ² + 4 x 1 ² + (4 x 0.14 ²))	46415	10.3	0.120	0.081

KS alternative to OEM standard	core number x nominal-cross-section in mm ²	part number	max. Ø mm	cable weight kg/m	copper weight kg/m
–	(4 x 2 x 0.14 ² + 4 x 0.5 ²)	46505	8.4	0.095	0.052

KS alternative to OEM standard	core number x nominal-cross-section in mm ²	part number	max. Ø mm	cable weight kg/m	copper weight kg/m
–	(5 x 2 x 0.14 ² + 2 x 0.5 ²)	46090	9.0	0.105	0.072



TRAXLINE SYSTEM M 700 C

Shielded continuous bending hi-flex PUR motor/servo drive cables



More than
5 million
motion cycles!



Up to
50 m
travel length

TSUBARI KABELSCHLEPP
TRAXLINE
cables for
cable carriers



Developed for

- KS alternative to OEM standards
- long transmission distances
- motors/servo drives
- extremely heavy loads

Properties

- oil-resistant
- UV-resistant
- RoHS-conform
- halogen-free
- CFC-free
- silicone-free
- flame-retardant
- DESINA

Design

Conductor:	finely stranded conductors of bare copper wires in an optimized hi-flex design
Center element:	NEW – OEM types-optimized
Core insulation:	KS-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:	KS-PUR
Jacket colour:	orange (according to DESINA)

Technical Data

Temperature range while moved:	– 30 to + 90 °C
Minimum bend radius while moved*:	≤ 16 mm²: KR _{min} ≥ 7.5 x Ø ≥ 25 mm²: KR _{min} ≥ 10 x 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:	type-dependent
Approvals:	cULus, based on VDE

varying parameters possible – please contact us



Core insulation
KS-PP/TPE
hybrid stranded



Element shield
continuous bending hi-flex,
in-finely 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
KS-PUR
pressure extruded
hi-flex design
UV-resistant
extremely abrasion-resistant

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 1.5 ²)	46200	9.4	0.144	0.080
6FX8008 1BB21	(4 G 2.5 ²)	46205	10.9	0.209	0.120
6FX8008 1BB31	(4 G 4 ²)	46210	12.2	0.275	0.195
6FX8008 1BB41	(4 G 6 ²)	46215	14.7	0.439	0.296
6FX8008 1BB51	(4 G 10 ²)	46220	18.1	0.660	0.445
6FX8008 1BB61	(4 G 16 ²)	46225	21.9	1.025	0.730
6FX8008 1BB25	(4 G 25 ²)	46230	25.2	1.225	1.100
6FX8008 1BB35	(4 G 35 ²)	46235	28.9	1.685	1.522
6FX8008 1BB50	(4 G 50 ²)	46240	33.4	2.405	2.165
6FX8008 1BA11	(4 G 1,5 ² + (2 x 1.5 ²))	46150	11.9	0.233	0.136
6FX8008 1BA21	(4 G 2,5 ² + (2 x 1.5 ²))	46155	13.7	0.313	0.187
6FX8008 1BA31	(4 G 4 ² + (2 x 1.5 ²))	46160	15.1	0.416	0.268
6FX8008 1BA41	(4 G 6 ² + (2 x 1.5 ²))	46165	17.1	0.546	0.358
6FX8008 1BA51	(4 G 10 ² + (2 x 1.5 ²))	46170	19.7	0.757	0.515
6FX8008 1BA61	(4 G 16 ² + (2 x 1.5 ²))	46175	24.7	1.074	0.802
6FX8008 1BA25	(4 G 25 ² + (2 x 1.5 ²))	46250	27.9	1.460	1.144
6FX8008 1BA35	(4 G 35 ² + (2 x 1.5 ²))	46255	32.0	1.890	1.850
6FX8008 1BA50	(4 G 50 ² + (2 x 1.5 ²))	46260	35.8	2.690	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 1 ² 2 + 2 x (2 x 0.75 ²))	46300	12.7	0.225	0.136
INK 0650	(4 G 1.5 ² + 2 x (2 x 0.75 ²))	46305	12.7	0.255	0.170
	(4 G 2.5 ² + 2 x (2 x 1 ²))	46315	15.8	0.370	0.229
	(4 G 4 ² + (2 x 1 ²) + (2 x 1.5 ²))	46323	17.5	0.475	0.328
INK 0604	(4 G 6 ² + (2 x 1 ²) + (2 x 1.5 ²))	46330	18.6	0.570	0.445
INK 0605	(4 G 10 ² + (2 x 1.5 ²) + (2 x 1 ²))	46345	23.3	0.875	0.626
INK 0606	(4 G 16 ² + 2 x (2 x 1.5 ²))	46350	26.5	1.170	0.922
INK 0607	(4 G 25 ² + 2 x (2 x 1.5 ²))	46355	30.8	1.590	1.280
INK 0667	(4 G 35 ² + 2 x (2 x 1.5 ²))	46360	32.8	2.080	1.621
INK 0668	(4 G 50 ² + 2 x (2 x 1.5 ²))	46365	37.3	3.000	2.600



kabelschlepp.de

Questions about cable carrier cables? Fon: +49 (0)2762 4003-0

TRAXLINE POWER ONE HEAVY DUTY 10 kV / 11 kV / 12 kV

Shielded continuous bending hiflex PUR high performance cables



Core insulation
KS-EPR
wire bundles
in short pitches



Overall shield
strong durable, twisted
shielding for small bending
and best grounding



Outer jacket
KS-PUR
pressure extruded,
superb flexible,
extremely tough,
ultra abrasion proof



Jacket colour red
Top outdoor-quality

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
- UV-resistant
- ozone-resistant
- metermarked
- RoHS-conform
- halogen-free
- silicone-free
- CFC-free

Design

Conductor: conductor class 6 tinned high flex design as per EN 60288

Inner conductor: inner x outer semiconductive compounds

Semi insulation: KS-EPR

Core stranding: EN 60228 class 6

Inner jacket: KS-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: – 40 to + 80 °C

Minimum bend radius while moved: $KR_{min} \geq 7.5 \times \varnothing$

Fix assembling radius: $KR_{min} \geq 5 \times \varnothing$

v_{max} supported: 50 m/s

v_{max} gliding: 10 m/s, 6 m/s

a_{max}: 50 m/s²

Insulation resistance: $\geq 20 M\Omega \times km$

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

Type selection

TRAXLINE POWER ONE HEAVY DUTY 6/10 kV – shielded

core number x nominal-cross-section in mm ²	part number	max. Ø mm	cable weight kg/m	copper weight kg/m
(1 x 10 ² /10 ²)	49817	21.5	0.571	0.219
(1 x 16 ² /16 ²)	49818	23.0	0.712	0.369
(1 x 25 ² /16 ²)	49819	24.6	0.826	0.458
(1 x 35 ² /16 ²)	49820	26.2	0.962	0.572
(1 x 50 ² /16 ²)	49821	28.1	1.218	0.722
(1 x 70 ² /16 ²)	49822	30.3	1.414	0.921
(1 x 95 ² /16 ²)	49823	32.6	1.723	1.165
(1 x 120 ² /25 ²)	49824	35.5	1.996	1.550
(1 x 150 ² /25 ²)	49825	37.6	2.407	1.847
(1 x 185 ² /25 ²)	49826	40.2	2.984	2.542
(1 x 240 ² /25 ²)	49827	43.4	3.662	3.149
(1 x 300 ² /35 ²)	49828	46.7	4.423	3.463
(1 x 400 ² /35 ²)	49829	52.9	5.897	3.883

TRAXLINE POWER ONE HEAVY DUTY 6.7/11 kV – shielded

core number x nominal-cross-section in mm ²	part number	max. Ø mm	cable weight kg/m	copper weight kg/m
(1 x 10 ² /10 ²)	49837	22.4	0.626	0.245
(1 x 16 ² /16 ²)	49838	24.0	0.753	0.371
(1 x 25 ² /16 ²)	49839	25.4	0.889	0.460
(1 x 35 ² /16 ²)	49840	27.2	1.097	0.548
(1 x 50 ² /16 ²)	49841	28.9	1.308	0.725
(1 x 70 ² /16 ²)	49842	31.1	1.514	0.926
(1 x 95 ² /16 ²)	49843	33.4	1.748	1.170
(1 x 120 ² /25 ²)	49844	36.3	2.083	1.557
(1 x 150 ² /25 ²)	49845	39.0	2.553	1.856
(1 x 185 ² /25 ²)	49846	41.0	3.026	2.554
(1 x 240 ² /25 ²)	49847	44.2	3.657	3.164
(1 x 300 ² /35 ²)	49848	47.7	4.367	3.480
(1 x 400 ² /35 ²)	49849	54.0	5.822	4.002

TRAXLINE POWER ONE HEAVY DUTY 7.2/12 kV – shielded

core number x nominal-cross-section in mm ²	part number	max. Ø mm	cable weight kg/m	copper weight kg/m
(1 x 10 ² /10 ²)	49857	22.8	0.630	0.246
(1 x 16 ² /16 ²)	49858	24.6	0.770	0.373
(1 x 25 ² /16 ²)	49859	25.4	0.909	0.462
(1 x 35 ² /16 ²)	49860	27.8	1.116	0.578
(1 x 50 ² /16 ²)	49861	29.5	1.335	0.729
(1 x 70 ² /16 ²)	49862	31.7	1.561	0.930
(1 x 95 ² /16 ²)	49863	34.0	1.797	1.176
(1 x 120 ² /25 ²)	49864	36.9	2.134	1.565
(1 x 150 ² /25 ²)	49865	39.6	2.632	1.865
(1 x 185 ² /25 ²)	49866	41.6	3.086	2.566
(1 x 240 ² /25 ²)	49867	44.8	3.719	3.179
(1 x 300 ² /35 ²)	49868	48.3	4.425	3.497
(1 x 400 ² /35 ²)	49869	54.8	5.905	4.021

TRAXLINE POWER ONE HEAVY DUTY 15 kV / 24 kV / 30 kV

Shielded continuous bending hiflex PUR high performance cables



Core insulation
KS-EPR
wire bundles
in short pitches



Overall shield
strong durable, twisted
shielding for small bending
and best grounding



Outer jacket
KS-PUR
pressure extruded,
superb flexible,
extremely tough,
ultra abrasion proof



Jacket colour red
Top outdoor-quality

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
- UV-resistant
- ozone-resistant
- metermarked
- RoHS-conform
- halogen-free
- silicone-free
- CFC-free

Design

Conductor: conductor class 6 tinned high flex design as per EN 60288

Inner conductor: inner x outer semiconductive compounds

Semi insulation: KS-EPR

Core stranding: EN 60228 class 6

Inner jacket: KS-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: – 40 to + 80 °C

Minimum bend radius while moved: $KR_{min} \geq 7.5 \times \varnothing$

Fix assembling radius: $KR_{min} \geq 5 \times \varnothing$

v_{max} supported: 50 m/s

v_{max} gliding: 10 m/s, 6 m/s

a_{max}: 50 m/s²

Insulation resistance: $\geq 20 M\Omega \times km$

Rated voltage: 10 kV / 11 kV / 12 kV

Test voltage: 30 kV / 50 kV / 63 kV

Approvals: CE, in style of VDE

varying parameters possible – please contact us

Type selection

TRAXLINE POWER ONE HEAVY DUTY 8.7/15 kV – shielded

core number x nominal-cross-section in mm ²	part number	max. Ø mm	cable weight kg/m	copper weight kg/m
(1 x 10 ² /10 ²)	49917	25.1	0.773	0.374
(1 x 16 ² /16 ²)	49918	26.6	0.891	0.448
(1 x 25 ² /16 ²)	49919	28.2	1.027	0.560
(1 x 35 ² /16 ²)	49920	30.6	1.235	0.688
(1 x 50 ² /16 ²)	49921	32.3	1.438	0.859
(1 x 70 ² /16 ²)	49922	34.5	1.697	1.082
(1 x 95 ² /16 ²)	49923	36.8	1.918	1.361
(1 x 120 ² /25 ²)	49924	39.3	2.374	1.901
(1 x 150 ² /25 ²)	49925	41.6	2.754	2.232
(1 x 185 ² /25 ²)	49926	43.2	3.229	2.630
(1 x 240 ² /25 ²)	49927	47.2	3.879	3.245
(1 x 300 ² /35 ²)	49928	51.3	4.619	3.910
(1 x 400 ² /35 ²)	49929	58.1	6.221	5.250

TRAXLINE POWER ONE HEAVY DUTY 14.4/24 kV – shielded

core number x nominal-cross-section in mm ²	part number	max. Ø mm	cable weight kg/m	copper weight kg/m
(1 x 10 ² /10 ²)	49937	31.3	1.179	0.451
(1 x 16 ² /16 ²)	49938	33.0	1.340	0.539
(1 x 25 ² /16 ²)	49939	34.4	1.492	0.657
(1 x 35 ² /16 ²)	49940	36.0	1.696	0.775
(1 x 50 ² /16 ²)	49941	37.9	1.957	0.953
(1 x 70 ² /16 ²)	49942	40.3	2.322	1.254
(1 x 95 ² /16 ²)	49943	42.6	2.701	1.541
(1 x 120 ² /25 ²)	49944	45.9	3.137	2.032
(1 x 150 ² /25 ²)	49945	48.0	3.599	2.373
(1 x 185 ² /25 ²)	49946	50.2	4.139	2.764
(1 x 240 ² /25 ²)	49947	53.4	4.862	3.376
(1 x 300 ² /35 ²)	49948	56.9	5.663	4.037
(1 x 400 ² /35 ²)	49949	63.5	7.850	5.680

TRAXLINE POWER ONE HEAVY DUTY 18/30 kV – shielded

core number x nominal-cross-section in mm ²	part number	max. Ø mm	cable weight kg/m	copper weight kg/m
(1 x 10 ² /10 ²)	49957	34.3	1.440	0.488
(1 x 16 ² /16 ²)	49958	35.8	1.531	0.574
(1 x 25 ² /16 ²)	49959	37.2	1.688	0.681
(1 x 35 ² /16 ²)	49960	39.0	1.921	0.797
(1 x 50 ² /16 ²)	49961	40.9	2.248	1.047
(1 x 70 ² /16 ²)	49962	43.1	2.574	1.267
(1 x 95 ² /16 ²)	49963	45.4	2.818	1.548
(1 x 120 ² /25 ²)	49964	48.9	3.327	2.054
(1 x 150 ² /25 ²)	49965	50.8	3.695	2.389
(1 x 185 ² /25 ²)	49966	53.0	4.199	2.772
(1 x 240 ² /25 ²)	49967	56.4	5.074	3.568
(1 x 300 ² /35 ²)	49968	59.9	5.883	4.260
(1 x 400 ² /35 ²)	49969	66.5	7.850	5.680

TRAXLINE pre-assembled OEM high flex cables

You need connection-ready harnesses **bus cables**?
Or harnesses **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 harnesses 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:



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 $10 \times \varnothing$
 - halogen-free
 - flame-retardant
- Approvals:
UL,
based on VDE,
RoHS conform



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	6.0	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 $7.5 \times \varnothing$
 - halogen-free
 - flame-retardant
- Approvals:
UL,
based on VDE,
RoHS conform



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	7.8	10 x Ø
CAT.6 8-stranded cross-over	7.8	10 x Ø

Smaller bend radii are possible in many cases – contact us about options.

TRAXLINE pre-assembled PUR signal cables

Cables with connections compatible with the OEM standards

Properties of the TRAXLINE cables:

- UV-resistant

■ CFC-free

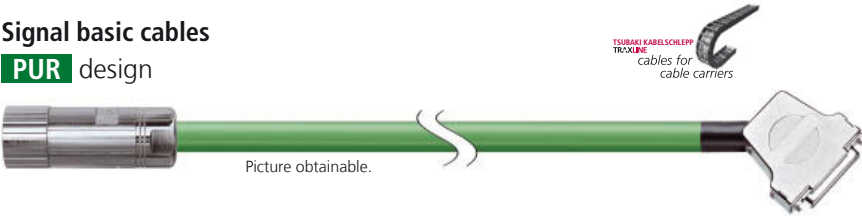
■ Minimum bend radius 7.5 x Ø

■ halogen-free

■ flame-retardant
- Approvals:
UL, CSA,
based on VDE,
RoHS conform



Signal basic cables PUR design



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



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.

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 $7.5 \times \varnothing$
 - halogen-free
 - flame-retardant
- Approvals:
UL, CSA,
based on VDE,
RoHS conform



Power basic cables without brake wires

PUR design

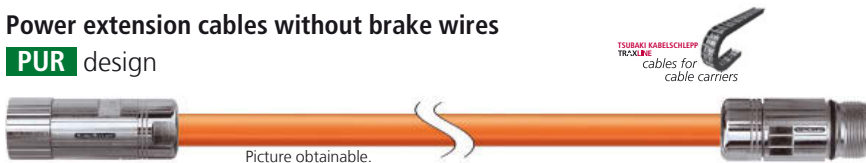


KS alternative to OEM standard	approx. diameter mm	minimum bend radius moved KR_{min}
6FX8002 5CA01	10.4	$7.5 \times \varnothing$
6FX8002 5CA11	11.7	$7.5 \times \varnothing$
6FX8002 5CA21	10.4	$7.5 \times \varnothing$
6FX8002 5CA31	11.7	$7.5 \times \varnothing$
6FX8002 5CA41	13.5	$7.5 \times \varnothing$
6FX8002 5CA51	16.3	$7.5 \times \varnothing$
6FX8002 5CA61	19.7	$7.5 \times \varnothing$

Varying parameters possible – contact us about options.

Power extension cables without brake wires

PUR design



KS alternative to OEM standard	approx. diameter mm	minimum bend radius moved KR_{min}
6FX8002 5CA05	10.4	$7.5 \times \varnothing$
6FX8002 5CA15	11.7	$7.5 \times \varnothing$
6FX8002 5CA28	10.4	$7.5 \times \varnothing$
6FX8002 5CA38	11.7	$7.5 \times \varnothing$
6FX8002 5CA48	13.5	$7.5 \times \varnothing$
6FX8002 5CA58	16.3	$7.5 \times \varnothing$
6FX8002 5CA68	19.7	$7.5 \times \varnothing$

Varying parameters possible – contact us about options.

Questions about cable carrier cables? Fon: +49 (0)2762 4003-0

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

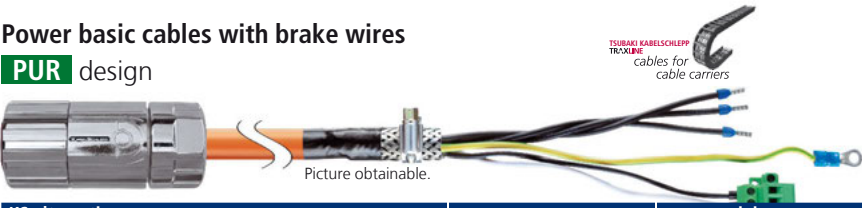
■ flame-retardant

■ Approvals:
UL, CSA,
based on VDE,
RoHS conform



Power basic cables with brake wires

PUR design

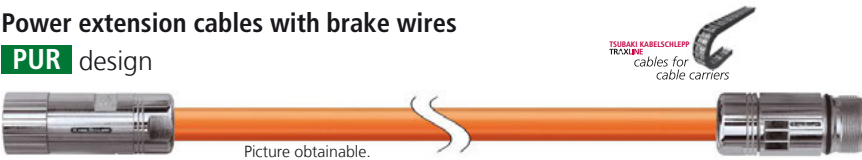


KS alternative to OEM standard	approx. diameter mm	minimum bend radius moved KR _{min}
6FX8002 5DA01	12.6	7.5 x Ø
6FX8002 5DA11	14.0	7.5 x Ø
6FX8002 5DA21	12.6	7.5 x Ø
6FX8002 5DA31	14.0	7.5 x Ø

Varying parameters possible – contact us about options.

Power extension cables with brake wires

PUR design



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

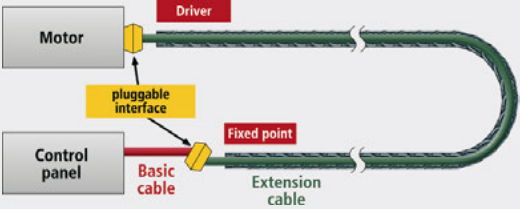
Varying parameters possible – contact us about options.

Extension cables


In addition to connection-ready harnesssed 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.



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/s ²	up to 20 m/s ²	up to 20 m/s ²	up to 50 m/s ²	up to 50 m/s ²
Speed v, self-supporting	up to 3.5 m/s ²	up to 5 m/s ²	up to 5 m/s ²	up to 20 m/s ²	up to 5 m/s ²
Speed v, gliding	up to 2 m/s ²	up to 3.5 m/s ²	up to 3.5 m/s ²	up to 5 m/s ²	up to 5 m/s ²
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 	+	+	+	+	+
Operating temperature range	- 5 to + 80 °C	- 5 to + 80 °C	- 5 to + 80 °C	- 30 to + 90 °C	subject to cable type to
UV-resistance	+	+	+	• jacket coloured ••• jacket black	• jacket coloured ••• jacket black
OEM specification	–	–	–	–	+
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.

kabelschlepp.de

Questions about cable carrier cables? Fon: +49 (0)2762 4003-0

Electrical load capacity

Cross section	PVC	PUR	PUR Single cores
0.75 mm²	12 A		15 A
1 mm²	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
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

Ambient temperatures in °C	Permitted/recommended operating temperature at conductor					
	40 °C	60 °C	70 °C	80 °C	85 °C	90 °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	–	–	–	–	–	–

Colour codes, copper surcharge, AWG table

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 according to AWG

AWG-No.	Cross section mm ²	Diameter mm	AWG-No.	Cross section mm ²	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

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):

$$\frac{\text{Copper weight (kg/m)} \times ((\text{DEL quote (€/100 kg)} + 1 \% \text{ procurement costs}) - \text{copper basis (€/100 kg)})}{100}$$

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

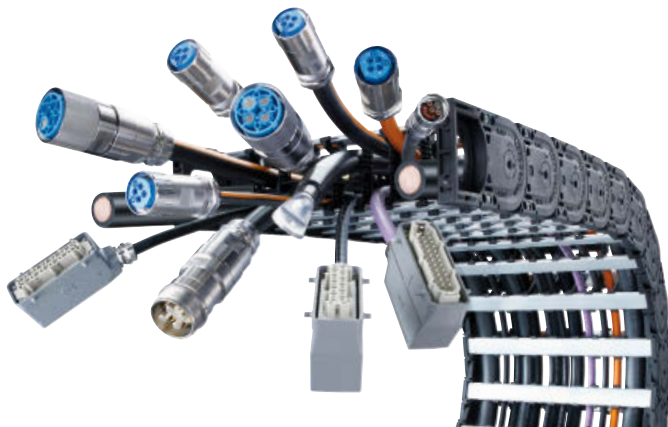
DEL notation: € 300.00/100 kg

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.

$$\frac{0.152 \text{ kg/m} \times ((\text{€ } 300.00/100 \text{ kg} + \text{€ } 3.00/100 \text{ kg}) - \text{€ } 150.00/100 \text{ kg})}{100}$$


$$= \text{€ } 0.23/\text{m copper surcharge per meter of cable}$$



Definitions

Definition	Description	Example
Design	number of cores x nominal cross-section in mm ²	3 G 1.5 ²
Design AWG	American Wire Gauge	18AWG/2c
Shielding	without	4 G 1.5 ²
	total	(4 G 1.5 ²)
	total and pair	(4 x (2 x 0.5 ²))
	total and pair and single element	((2 x 0.75 ²) + 2 x (1 ²))
DESINA	decentral and standardized installation technology on machine tools	
Flame-retardant	according to UL or equal specification	c  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 2.5 ² = 25 x 2.5 ²
	core stranding mixed, in hybrid technology	((4 G 50 ²) + 2 x (2 x 1.5 ²))
	core stranding in layer design	7 x 1.5 ²
	core stranding in pairs	(8 x 2 x 0.75 ²)

Abbreviations

Abbreviation	Description	Note
C	total shield with Copper-braid	optical coverage
D	double-shielded	CD identification
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
KS-PUR	special KABELSCHLEPP compound	e.g. 11 Y
KS-TPE-E	Thermoplastic Polyester Elastomer	12 Y
KS-PP/TPE	special KABELSCHLEPP compound	e.g. 9 Y
KS-PVC	special KABELSCHLEPP PVC compound	Y
Approvals	USA/Canada approval	c  US

You don't know just how good a cable is until you see it in the carrier

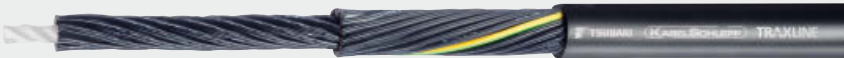
Nothing proves the excellent performance of our products better than an uncompromising test



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/s ²	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/s ²	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/s ²	Radius:	7.5 x cable diameter

Result: over seven million cycles

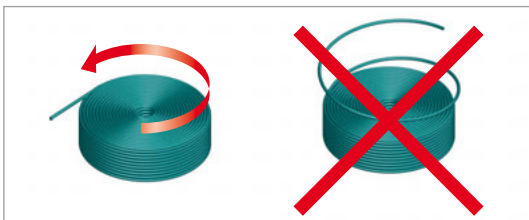
With a TRAXLINE cable from KABELSCHLEPP, you play it safe!

Questions about cable carrier cables? Fon: +49 (0)2762 4003-0

Installing cables into the cable carrier

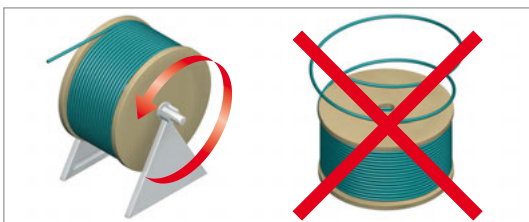
Do not cut ring-coiled cables

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.



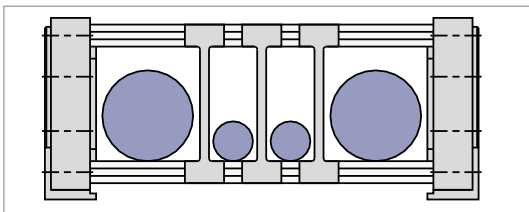
Uncoil cables from reels torsion-free

When cutting cables prior to installation into the cable carrier, drum-coiled cables must be unreeled, twist- and torsion-free.

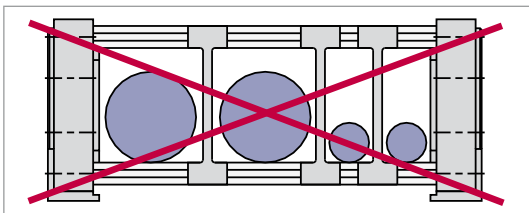


Weight distribution inside the carrier cavity

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.



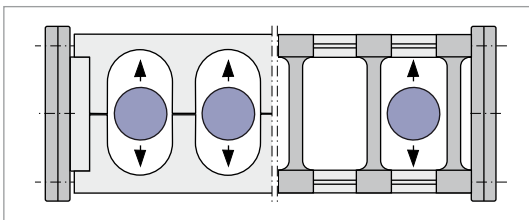
■ Right weight distribution



■ 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.

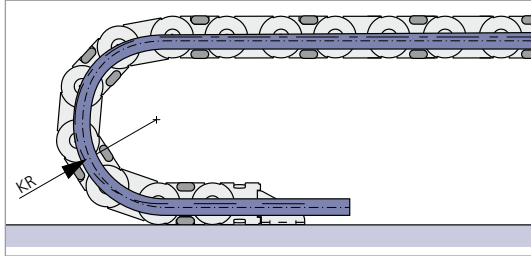


Installing cables into the carrier

The cables must be inserted into the carrier system in a way to allow them to move independently through the carrier's bend radius.

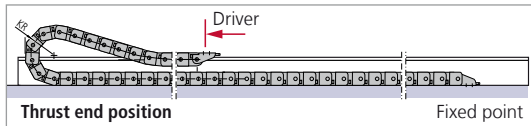
How to do it:

- 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!



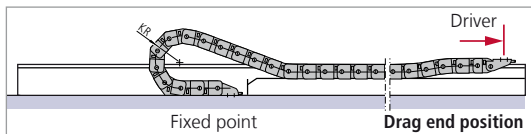
Strain relief at the driven end of the carrier

After positioning the driven end (moving end) in the **retracted position** the cables are strain-relieved at the moving end.



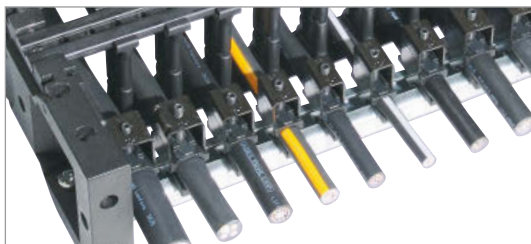
Correct cable length inside the carrier

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.



TRAXLINE cable scout

Cable dimensioning for your cable carrier application

Inquiring party:

Company:

Contact person:

Telephone:

E-mail:

ZIP code:

Town:

Street address:

Cable application:

Is the cable being used in a cable carrier?

yes

no

Number of cables:

_____ please attach cable list

Carrier application:

Machine type:

Carrier type:

Free installation height H (mm):

Bend radius of carrier KR (mm):

Operational parameters:

Travel length L₅ (m):

Speed v (m/s):

Acceleration a (m/s²):

approx. number of cycles (per year):

Cable design:

No. of cores:

Core cross-section:

Shielding:

unshielded

shielded

doubled shielded

Purchases & delivery:

approx. requirements per yea (m):

Lot size (m):

coil

reel

Desired date for 1st delivery:

Length of 1st delivery:

I would like a sample of a similar TRAXLINE part no.:

Core identification:

numbers + 1x gn/ye

colour acc. to DIN 47100

Voltage:

Rated voltage U (V):

Capacitance:

core/core c (nF/m):

core/shield c (nF/m):

Operating conditions:

Operating temperature range: T_{min} (°C):

T_{max} (°C):

Ambient conditions:

indoor application

outdoor application

Chemical resistance:

UV radiation:

other radiation:

Approvals:

UL

UL/CSA

other

Other:

Subject to change.

Application examples



- TOTALTRAX – the system solution for time-saving final assembly and short rework



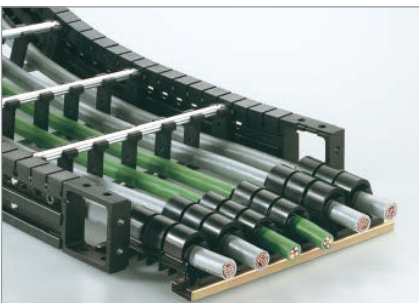
- Complete systems with a total weight of up to 10+ tons
- Customer inspection, if desired, at the factory
- Special packaging and transportation logistics for delivery to the construction site
- Up to 50 % time saving during final assembly



- 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

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.

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.

Questions about cable carrier cables? Fon: +49 (0)2762 4003-0

Definitions

ICC

Integrated Colour Code

Part-extruded colour code based on the DESINA colour code. Cable types are easy to distinguish, thus greater safety and shorter assembly times.

TOTALTRAX

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. KS-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 – 30 °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 – 30 °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.

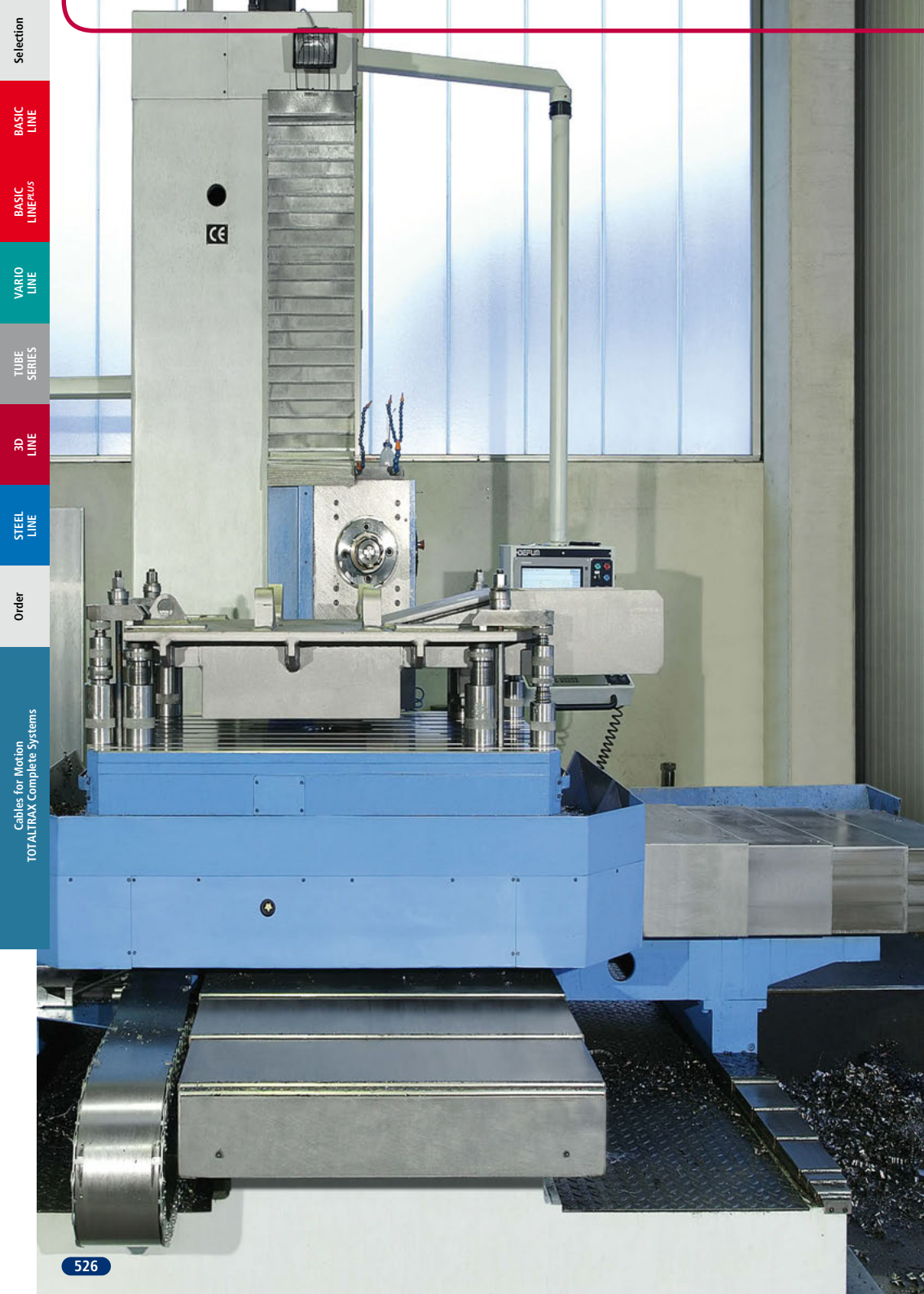
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525

Overview as per part numbers

part no.	page	part no.	page	part no.	page	part no.	page	part no.	page	part no.	page
45200	463	45542	467	45685	495	46125	499	47588	471	48648	477
45201	463	45543	467	45686	489	46130	499	47589	471	48649	477
45202	463	45544	467	45687	489	46135	499	47590	471	48654	457
45203	463	45546	467	45689	485	46150	501	47591	471	48666	457
45205	463	45549	467	45690	485	46155	501	47592	471	48668	457
45209	463	45551	467	45691	495	46160	501	47593	471	48670	457
45211	463	45552	467	45693	493	46165	501	47594	471	48674	457
45213	463	45553	467	45694	495	46170	501	47651	453	48678	457
45214	463	45555	467	45695	495	46175	501	47652	453	48679	457
45221	463	45559	467	45696	497	46200	501	47653	453	48680	457
45222	463	45560	467	45697	497	46205	501	47654	453	48682	457
45223	463	45561	467	45698	497	46210	501	47656	453	49817	503
45225	463	45562	467	45699	497	46215	501	47660	453	49818	503
45229	463	45563	467	45701	461	46220	501	47664	453	49819	503
45231	463	45564	467	45702	461	46225	501	47667	453	49820	503
45234	463	45565	467	45703	461	46230	501	47672	453	49821	503
45242	463	45566	467	45705	461	46235	501	47673	453	49822	503
45243	463	45567	467	45709	461	46240	501	47674	453	49823	503
45245	463	45568	467	45712	461	46250	501	47676	453	49824	503
45252	463	45569	467	45715	461	46255	501	47680	453	49825	503
45253	463	45570	467	45721	461	46260	501	47684	453	49826	503
45254	463	45571	467	45722	461	46300	501	47687	453	49827	503
45262	463	45572	467	45723	461	46305	501	47692	453	49828	503
45263	463	45573	467	45725	461	46315	501	47693	453	49829	503
45272	463	45574	467	45729	461	46323	501	47694	453	49837	503
45273	463	45575	469	45732	461	46330	501	47696	453	49838	503
45282	463	45576	469	45735	461	46345	501	47700	453	49839	503
45292	463	45577	469	45741	461	46350	501	47704	453	49840	503
45302	463	45578	469	45742	461	46355	501	47707	453	49841	503
45312	463	45579	469	45743	461	46360	501	47712	453	49842	503
45355	479	45580	469	45745	461	46365	501	47713	453	49843	503
45356	479	45581	469	45749	461	46400	499	47714	453	49844	503
45357	479	45582	469	45752	461	46410	499	47716	453	49845	503
45358	479	45583	469	45755	461	46412	499	47720	453	49846	503
45359	479	45584	469	45757	461	46415	499	47724	453	49847	503
45360	479	45585	469	45759	461	46505	499	47727	453	49848	503
45361	479	45586	469	45760	473	47202	465	48040	455	49849	503
45372	479	45587	469	45761	473	47222	465	48041	455	49857	503
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45380	479	45592	469	45772	473	47245	465	48046	455	49862	503
45382	479	45593	469	45775	473	47252	465	48047	455	49863	503
45391	459	45594	469	45777	473	47253	465	48048	455	49864	503
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45393	459	45596	469	45780	473	47263	465	48050	455	49866	503
45396	459	45597	469	45781	473	47272	465	48051	455	49867	503
45400	459	45598	469	45783	473	47273	465	48052	455	49868	503
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45429	459	45630	481	45804	473	47364	451	48070	457	49924	505
45431	459	45632	481	45805	473	47367	451	48071	457	49925	505
45434	459	45634	481	45806	473	47372	451	48072	457	49926	505
45436	459	45635	481	45807	473	47373	451	48073	457	49927	505
45441	459	45636	481	45808	473	47374	451	48074	457	49928	505
45442	459	45637	481	45809	473	47376	451	48075	457	49929	505
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45502	467	45649	481	45819	475	47404	451	48084	457	49945	505
45503	467	45650	481	45820	475	47407	451	48085	457	49946	505
45505	467	45651	481	45821	475	47412	451	48086	457	49947	505
45509	467	45652	481	45822	475	47413	451	48110	455	49948	505
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45514	467	45661	483	45824	475	47416	451	48112	455	49957	505
45516	467	45662	483	45825	475	47420	451	48113	455	49958	505
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45522	467	45667	483	45828	475	47433	451	48121	455	49961	505
45523	467	45669	483	45829	475	47580	471	48124	455	49962	505
45525	467	45670	487	46090	499	47581	471	48125	455	49963	505
45529	467	45672	487	46100	499	47582	471	48126	455	49964	505
45531	467	45676	491	46104	499	47583	471	48128	455	49965	505
45534	467	45679	493	46105	499	47584	471	48623	477	49966	505
45536	467	45680	495	46110	499	47585	471	48627	477	49967	505
45540	467	45683	495	46115	499	47586	471	48638	477	49968	505
45541	467	45684	493	46120	499	47587	471	48647	477	49969	505



Selection

BASIC
LINE

BASIC
LINEPLUS

VARIO
LINE

TUBE
SERIES

3D
LINE

STEEL
LINE

Order

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.



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 general overhauls 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

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

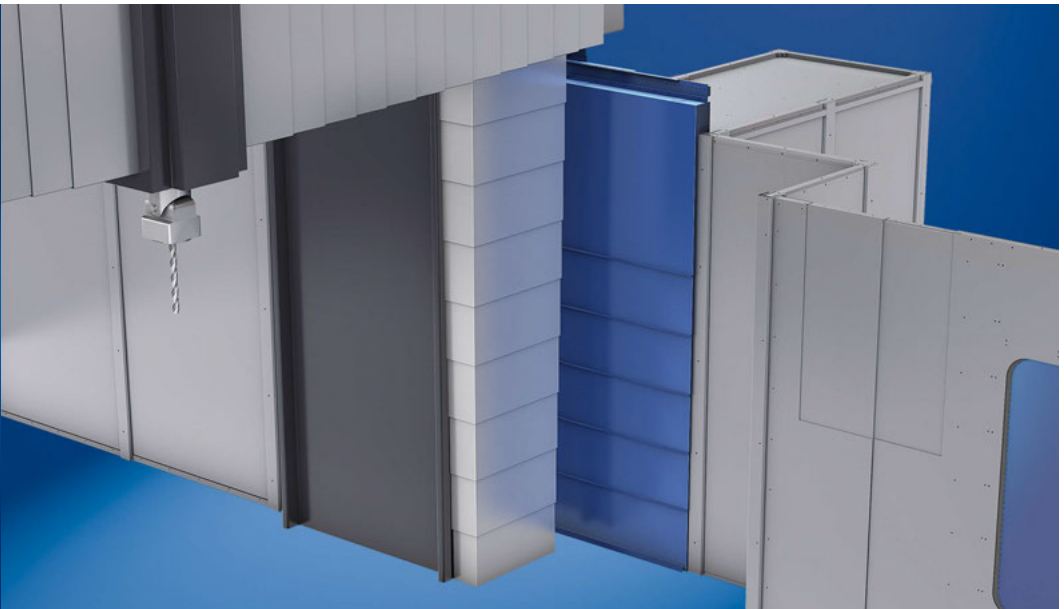
The parts conveyor provides the option of gently transporting parts with high standards for surface quality out into the required parts depot. The brush rollers in the discharge area ensure that the materials being transported are transferred to the parts depot virtually horizontally.



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

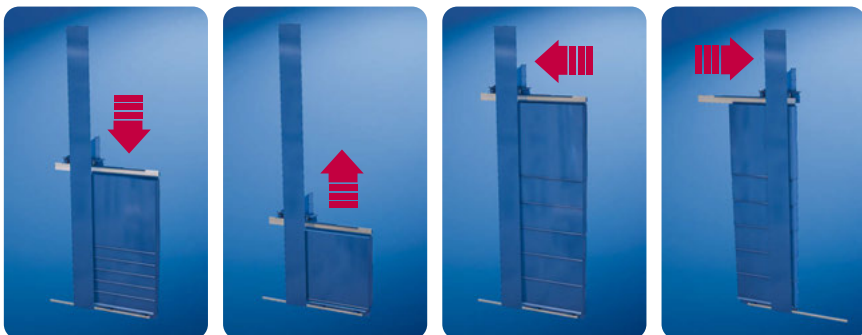
Chip protection wall can be traversed horizontally and vertically – variable chip protection

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.





Selection

BASIC
LINE

BASIC
LINEPLUS

VARIO
LINE

TUBE
SERIES

3D
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STEEL
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Order

Cables for Motion
TOTALTRAX Complete Systems

Conveyor Systems

KABELSCHLEPP

Conveyor systems

Reliability and experience based on tradition



Hinged belt conveyors

page 536

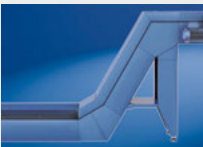
Proven for a wide range of disposal tasks



Scraper conveyors

page 544

For disposal of small materials



Modular conveyors

page 548

Hinged belt conveyors with modular construction



Belt conveyors

page 550

The all-rounders – also for parts with sharp edges

Conveyor systems

Reliability and experience based on tradition

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.

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.

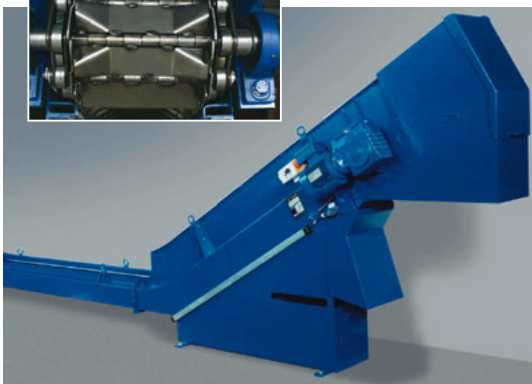
- For disposal of chips at machine tools
- For transporting metal scrap and chips away from saws
- For disposal at stamping presses and laser cutting systems
- For disposal of edge scrap at trimming shears in coil cutting systems
- For transporting away casting waste in foundry lines



■ 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 Trumf TUBEMATIC laser cutting machine. Special hinged belt plates prevent jamming of the material to be conveyed.

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 into 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



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

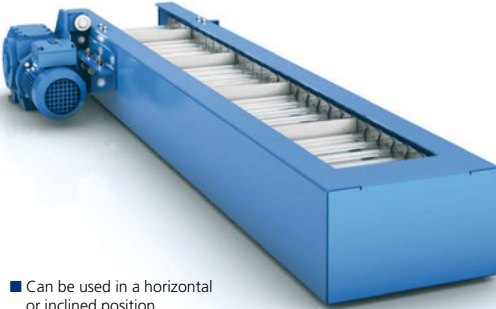
- Stable metal plate construction
- Standardized housing cross-section with variable width
- Robust worm gear motor with torque switching
- Customized discharge height
- Customized incline standards = 30°, 45° and 60°
- Floor mounting or as a push-in version into the machine base

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.

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°



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.

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

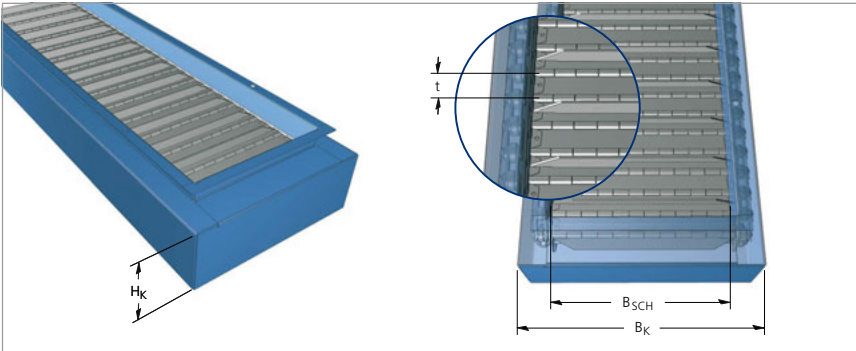


- **Hinged belt with perforations**
for pre-separation of coolant for materials with a high proportion of coolant



- **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	$B_{SCH} + 75 \text{ mm}$
SRF 063.00	63	216	150, 300, 450, 600, 750, 900	$B_{SCH} + 120 \text{ mm}$
SRF 100.00	100	360	150, 300, 450, 600, 750, 900	$B_{SCH} + 150 \text{ mm}$
SRF 150.00	150	540	300, 450, 600, 750, 900	$B_{SCH} + 190 \text{ mm}$

Special widths on request.



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

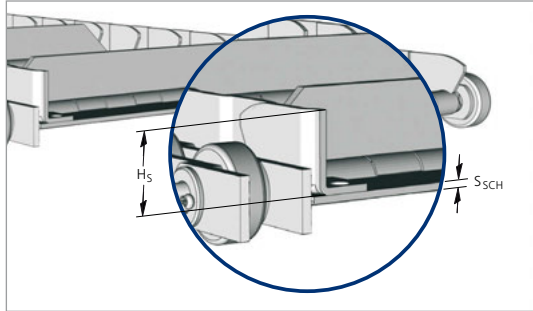
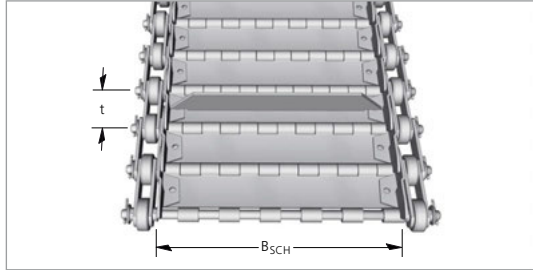
Definitions:

t = Pitch

B_{SCH} = Hinged belt width

S_{SCH} = Plate thickness of the conveyor

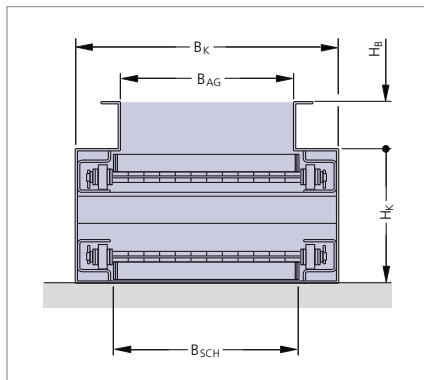
H_S = Height of the side rim



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

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Hinged belt conveyor with WAVE-BELT System

No hinge – low wear

Chips and dirt can accumulate in the hinges with conventional hinge belt conveyors.

The WAVE-BELT System has no hinges on the top side of the belt and is smooth in this area. Chips and dirt cannot get trapped. Due to the **"WAVE-FORM"** of the belt plates, there is hardly any gap between the plates. **This makes the hinge belts tighter, have a longer service life and require less maintenance.**

The side rims have also been further developed so that almost no conveyed material can get trapped in this area. **In this way, wear and the risk of failure are reduced.**

Hinged belt conveyor with WAVE-BELT System

- Longer service life due to optimized belt design
- Tighter than conventional belts, as there are no hinges
- Extremely stable due to special shaping of the individual belt plates
- Easy to maintain due to bolted and thus very easily replaceable belt plates



- Due to the special form of the plates, the complete belt is extremely flexurally rigid and highly stressable.

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Enquiry forms – page 598

WBS
KABELSCHLEPP
WAVE-BELT-System

With this sign the use of the latest generation of KABELSCHLEPP hinged belts in conveyors can be recognized.

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**.

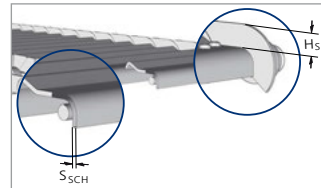
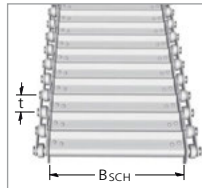
Dimensions of hinge belt conveyor WBC 063

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



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

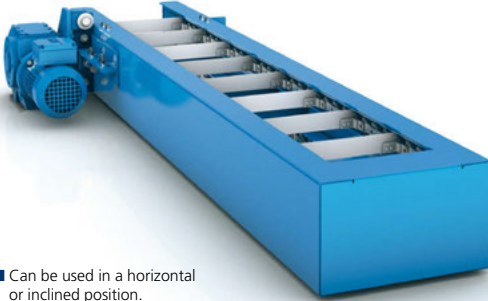
- Stable metal plate construction
- Standardized housing cross-section with variable width
- Robust worm gear motor with torque switching
- Customized discharge height
- Customized incline standards = 30°, 45° and 60°
- Floor mounting or as a push-in version into the machine base

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.

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°





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

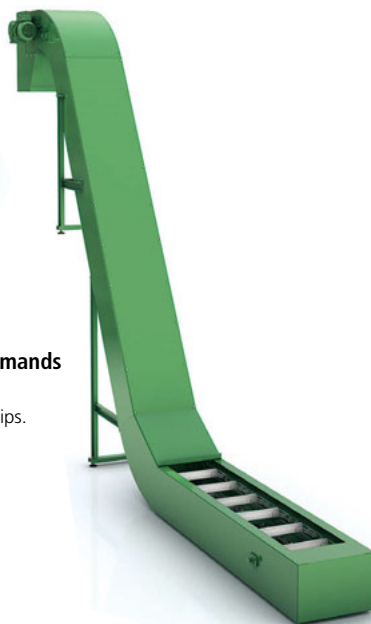
For larger machines and larger quantities of chips.



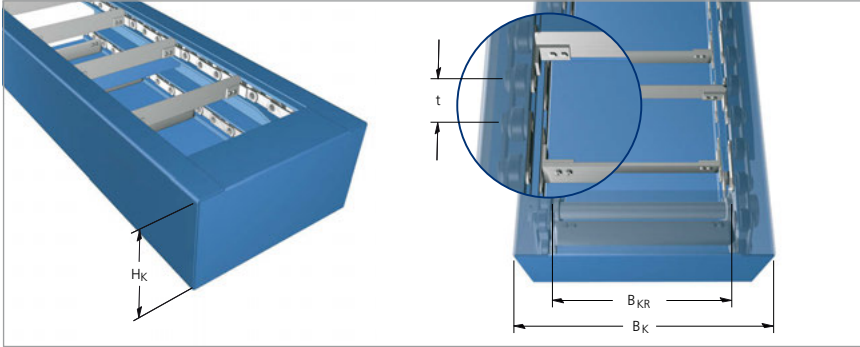
KRF 100 – the “Jumbo” for highest demands

Pitch of the scraper belt $t = 100$ mm

Special solution for very large quantities of chips.



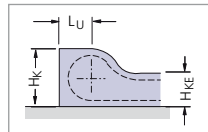
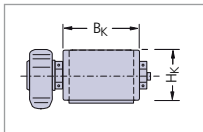
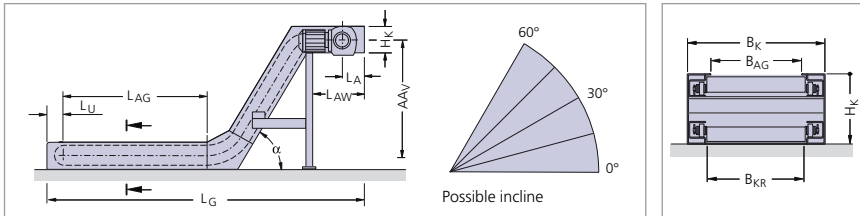
Standard dimensions



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
axes, 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)

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Modular conveyors

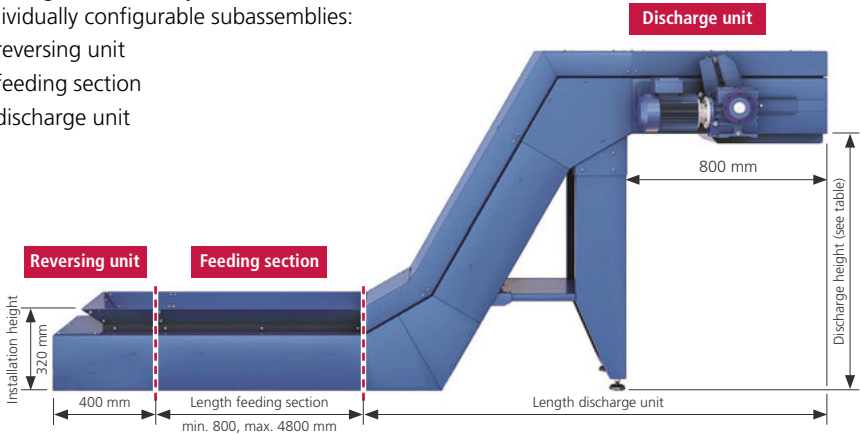
Hinged belt conveyors with modular construction

Our hinged belt conveyors are also available with modular design construction. Thanks to the use of standard subassemblies, you can benefit from significantly shorter delivery times than with conventionally constructed conveyors.

The conveyors are delivered ready for operation.

The hinged-belt conveyors feature three individually configurable subassemblies:

- reversing unit
- feeding section
- discharge unit



Dimensions of standard modules

On the basis of **conveyor type SRF 063 (belt width 300 mm)**, the standard modules can be assembled and delivered on short notice. Fixed discharge heights cover the most common container sizes. With length sections of 400 mm, the feed length can be adapted to various machines.

Should you require a conveyor system with different dimensions, please contact us – we are constantly expanding our range of standard modules.

Modular hinged belt conveyors with modular system design

- short delivery times
- cost-efficient
- configurable with standard subassemblies
- delivered ready for operation (no on-site assembly necessary)
- stable conveyor housing(welded modular connections)

Standard subassembly	Discharge height H _F	Belt width B _{SCH}	Box width B _K	Panel height H _B	Length L	Installation height H _E
Discharge unit 800	1115	300	420	80	1845	–
Discharge unit 1200	1460	300	420	80	2045	–
Discharge unit 1600	1810	300	420	80	2245	–
Feeding section 800	–	300	420	80	800	320
Feeding section 1200	–	300	420	80	1200	320
Feeding section 1600	–	300	420	80	1600	320
Reversing unit	–	300	420	80	400	320

all dimensions in mm

Modular conveyors

Selection

BASIC LINE

**BASIC
LINEPLUS**

VARIO
LINETUBE
SERIES

3D LINE

STEEL
LINE

Order

**Cables for Motion
TOTALTRAX Complete Systems**

Conveyor Systems

Notes



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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.**

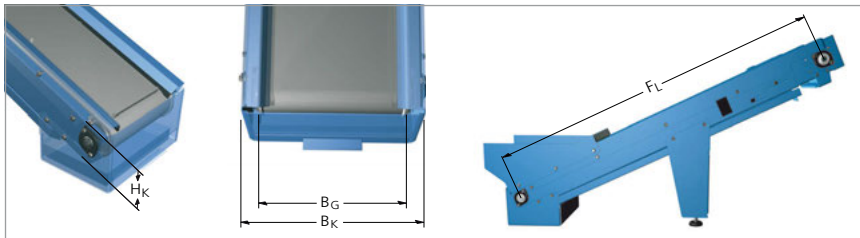
- Also suitable for parts with sharp edges
- Not suitable for transporting hot chips

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



Selection

BASIC
LINE

BASIC
LINEPLUS

VARIO
LINE

TUBE
SERIES

3D
LINE

STEEL
LINE

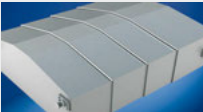
Order

Cables for Motion
TOTALTRAX Complete Systems

Conveyor Systems

Guideway protection systems

Perfect protection for guideways on machine tools



Telescopic covers

page 554

Perfect protection for guideways on machine tools



Way wipers

page 568

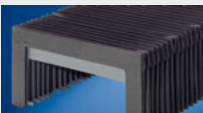
The cleanup crew



Link apron covers

page 577

Solutions for limited spaces



Bellows

page 581

Guideway protection solutions with very little compression



Conical spring covers

page 583

Protection under extreme conditions



Roll-up covers

page 586

Protection in a minimum of space

Telescopic covers

Perfect protection for guideways on machine tools

Wherever guideways on machines have to be protected, we have a suitable solution. Our guideway protection 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



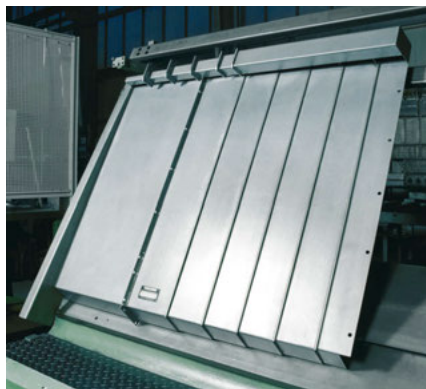
■ Telescopic cover at a milling machine

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

Designs and areas of application

Until the 1970s, telescopic covers seldom moved in speed ranges any greater than 15 m/min.

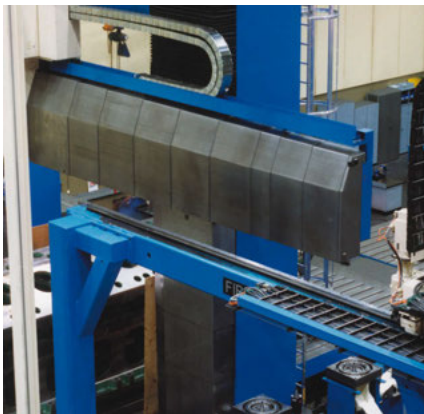
The expansion and compression of the individual boxes took place sequentially. Due to the low speed, there was hardly any impact pulse that caused interfering vibrations.

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 for wheel grinders

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 telescopic covers also allow the use of semi-finished products with surface finishings such as:

- Plates with pure zinc coatings
- Plates with zinc/nickel coatings
- Plates with lead/zinc coatings

This ensures substantial protection against corrosion.

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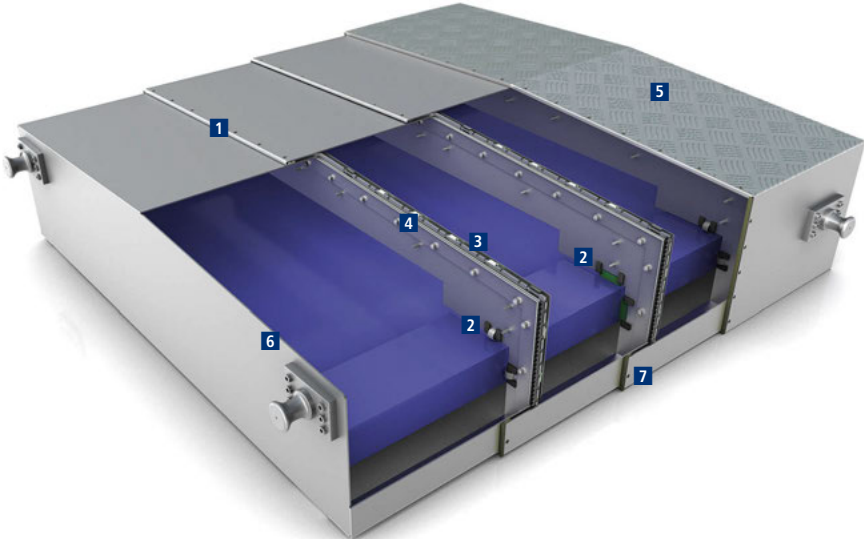
Telescopic covers

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



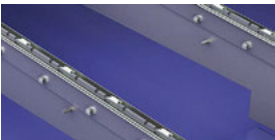
1 Wiper systems in various designs



2 Rollers



2 Sliders



3 Gully in various designs



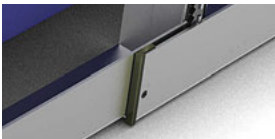
4 Damping systems in various designs



5 Structural metal plates to prevent slipping (on the largest box)



6 Lifting element

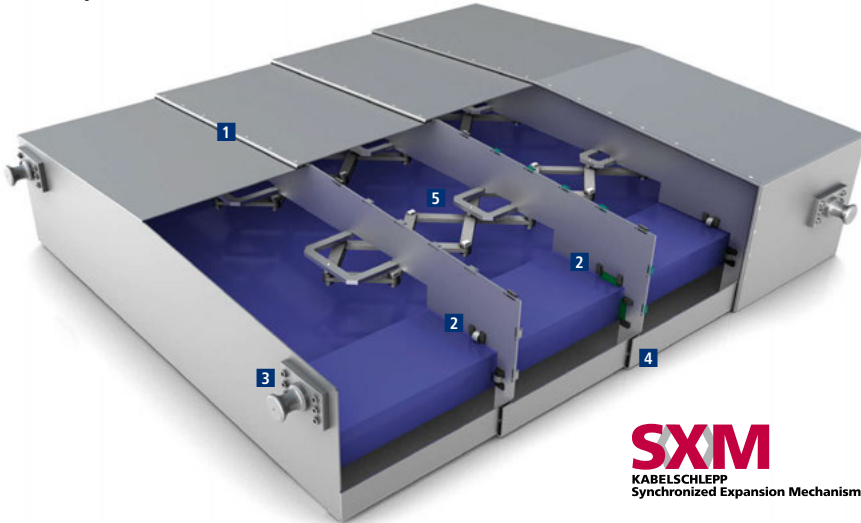


7 Locking system

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



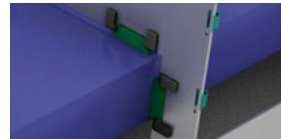
SXM
KABELSCHLEPP
Synchronized Expansion Mechanism



1 Wiper systems in various designs



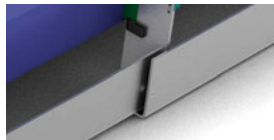
2 Rollers



2 Sliders



3 Lifting element



4 Locking system



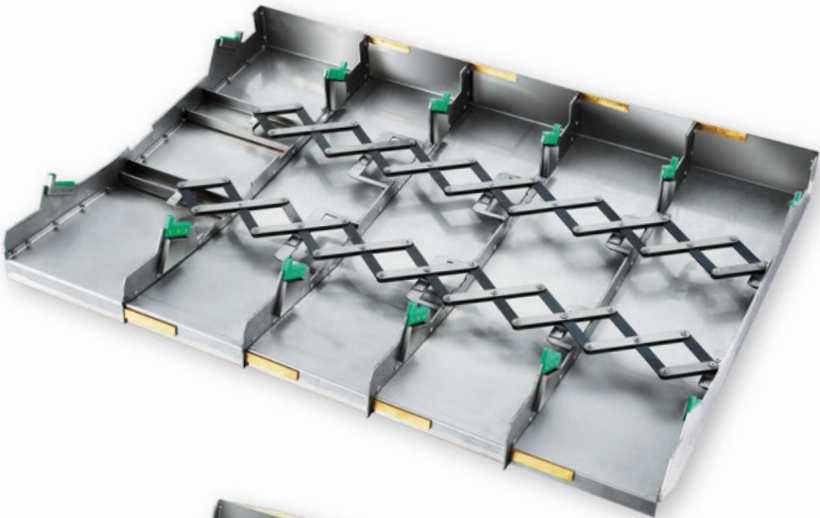
5 Synchronising device (harnesses) for fast-running telescopic covers

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**.

Cover with two harnesses

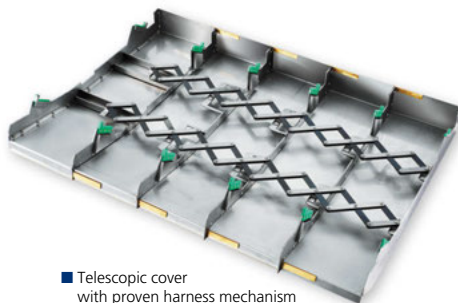
This solution has been developed for travel speeds greater than 100 m/min. Two harnesses ensure synchronization. In the example shown here the cover plates are made of 1 mm thick stainless steel.

The cover plates are riveted to the rear wall. Welding and the resulting heat effects have been avoided. Only the wiper is spot-welded.



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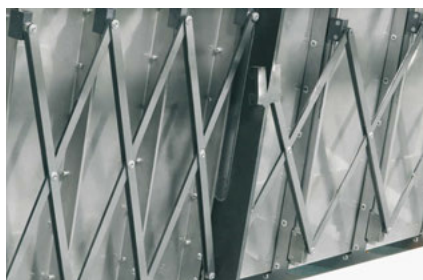


■ Telescopic cover with proven harness mechanism

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

Telescopic covers

Perfect protection for guideways on machine tools



Photograph: Heinrich Georg GmbH Maschinenfabrik

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Enquiry forms – page 604

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.



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

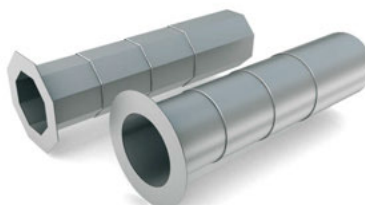
These covers are predominantly used on large gantry machine tools on a cross beam to the left and right of the support. The boxes are suspended vertically and protect the support guides from chips and cooling lubricants.



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!

Wipers on telescopic covers

Wipers on telescopic covers keep the cover boxes clean and prevent the penetration of dirt and chips.

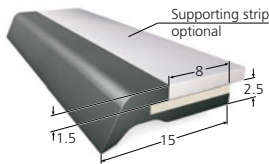
Welded-on and riveted-on wipers

With these types the support profile is spot-welded or riveted to the cover box.

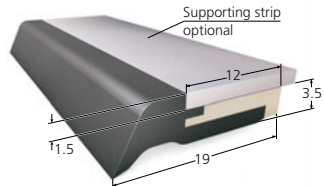
Type MA 8 / MA 12

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

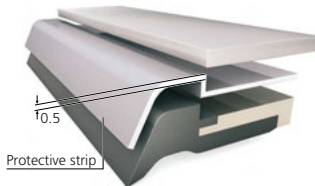


■ Wiper type MA 12

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

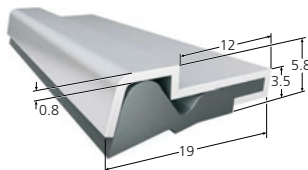


■ Wiper type MA -S

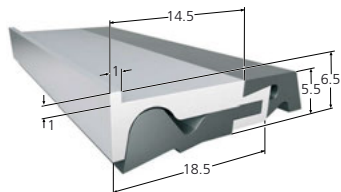
Type MA 12.1 / MA 18

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

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 new generation

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

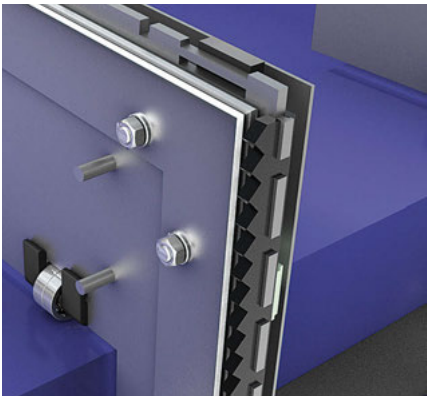
Brass strips are used primarily on standing covers. The damping profile described above can likewise be mounted on an appropriately drawn brass profile.

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.



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 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.



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.



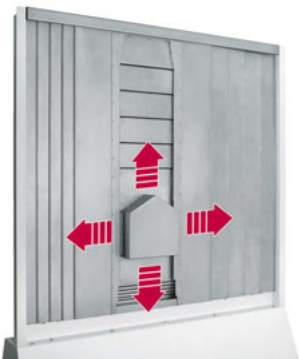
Re-Design CROSS-COVER

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
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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).

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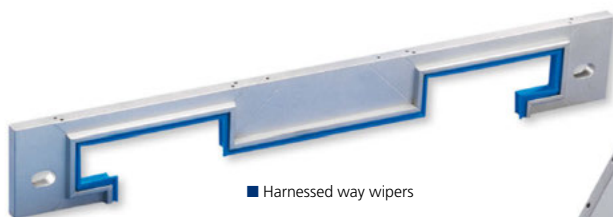
Way wipers on guideways

The cleanup crew

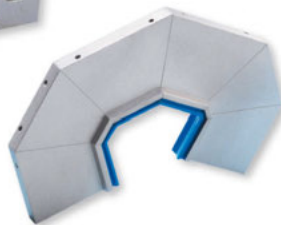
Way wipers are essential to keep the guideways in a proper functional state, and thus to keep the machine tool permanently in operation. Even if the guideways are already protected by a telescopic cover, it is necessary to wipe fine, penetrating particles off of the vulnerable ways.



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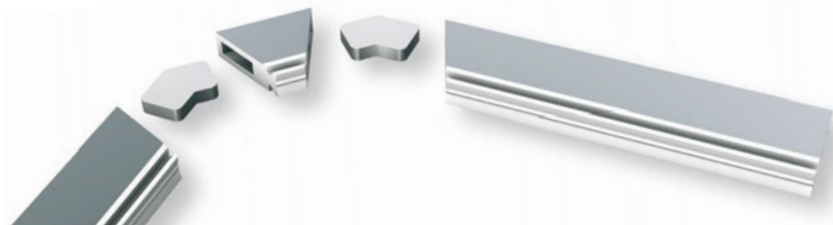
■ Harnessed way wipers



■ Cast wiper with steel support strip



■ Way wipers in a modular system



■ BAY-WIPE way wiper with optimised corner design.

Enquiry forms – page 608

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Order

Cables for Motion
TOTALTRAX Complete Systems

Conveyor Systems

Guideway
Protection Systems

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.



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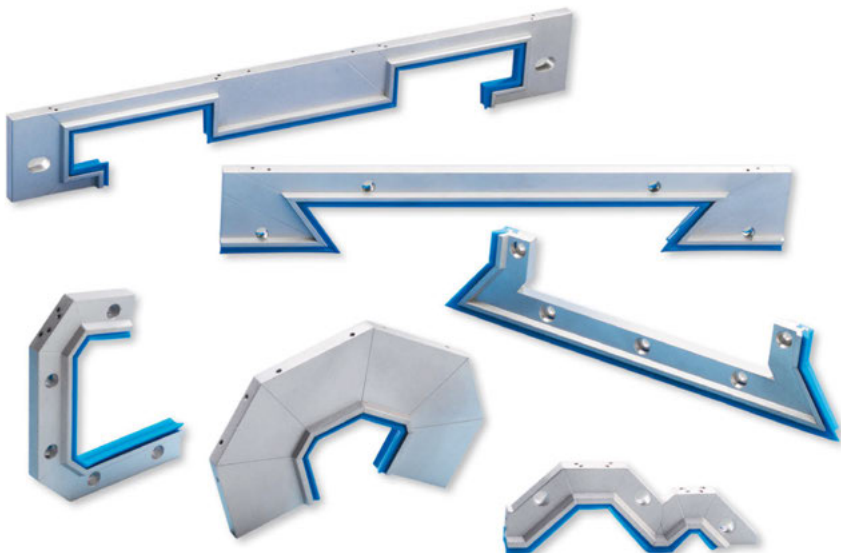
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Way wiper types BA and BAS

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



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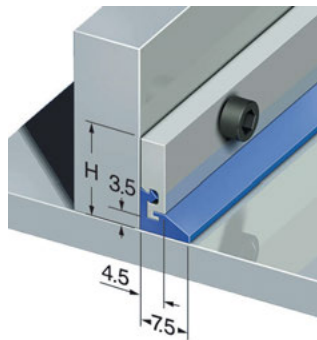
Dimensions and types

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

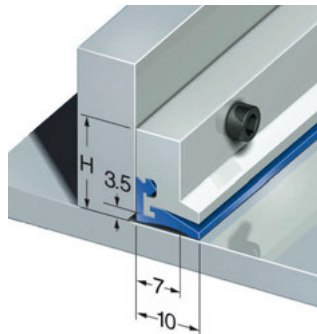


Type BAS

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 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.

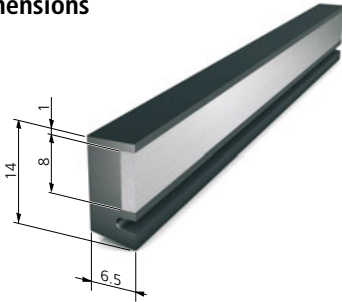
Way wiper BA 65 – bar material

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.

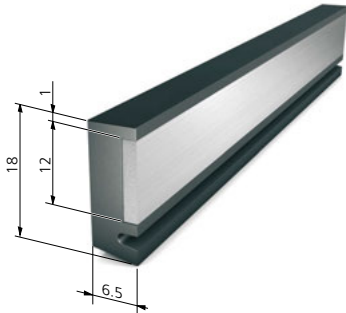
Properties

- 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

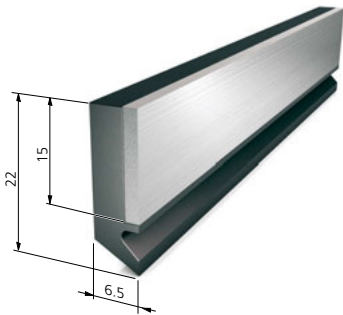
Dimensions



■ 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

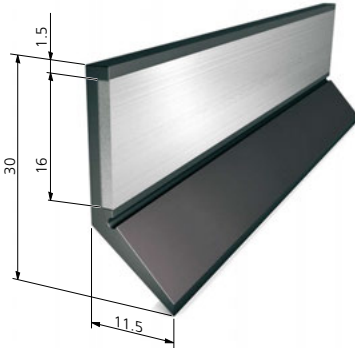
Way wiper BA 115 – bar material

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

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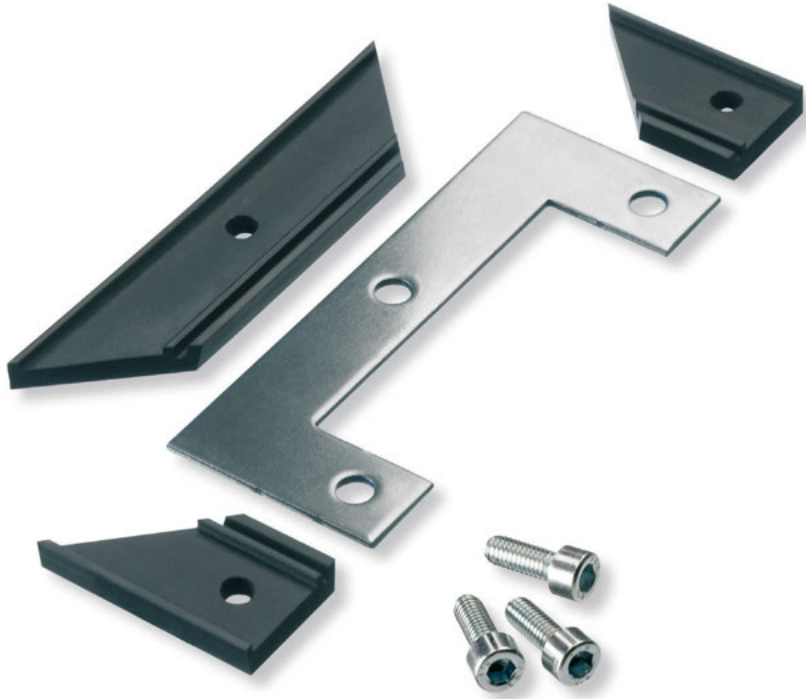
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Way wiper BA 65 VARIO

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



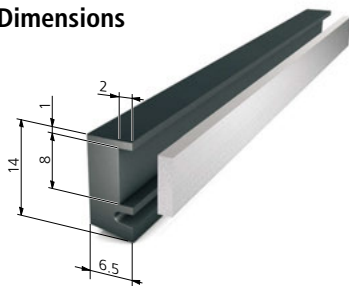
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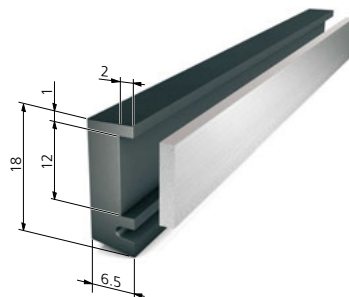
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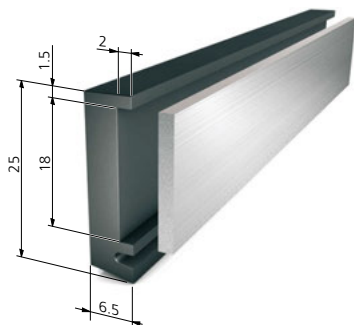
Dimensions



■ 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

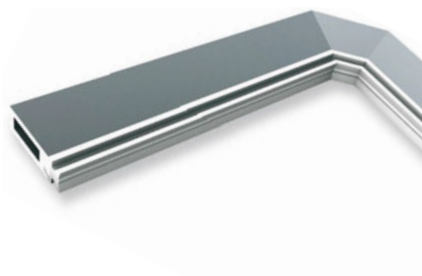
Way wiper BAY-WIPE

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.

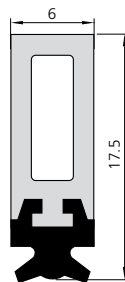


Properties

- 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.

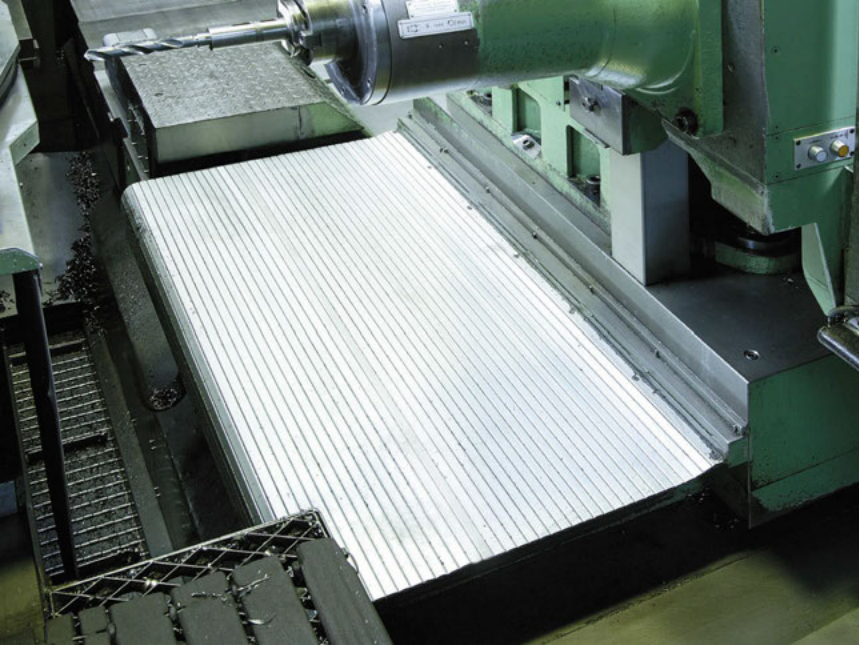
A wiper lip that works in both directions is affixed directly to the support profile by means of a plastic injection moulding process. The straight sections of this profile, which have been cut to length, are then non-positively joined with pre-assembled corner elements. This allows a wiper system to be created from the individual parts, exactly suited to the contours of the guideway.



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





Link apron covers

Solutions for limited spaces

Designs

Design 1

Lightweight, highly flexible solid profile link apron covers, thin design.

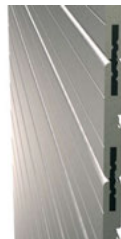
$B_{\min} = 100 \text{ mm}$

$B_{\max} = 950 \text{ mm}$

$R_{\min} = 25 \text{ mm}$

Weight = 5.6 kg/m^2

Solid aluminum profile $19 \times 3.0 \text{ mm}$
with PU connecting elements



Design 2N

Lightweight, stable hollow profile link apron covers, extremely stress-resistant, even in large widths.

$B_{\min} = 100 \text{ mm}$

$B_{\max} = 2950 \text{ mm}$

$R_{\min} = 50 \text{ mm}$

Weight = 10 kg/m^2

Hollow aluminum profile $20 \times 5.5 \text{ mm}$
with PU connecting elements



Design 3

Flexible solid metal link apron cover, with hinges and one-sided bend radius.

$B_{\min} = 100 \text{ mm}$

$B_{\max} = 2000 \text{ mm}$

$R_{\min} = 60 \text{ mm}$

Weight = 16.5 kg/m^2

Hollow aluminum profile $18.5 \times 6.8 \text{ mm}$
with integrated hinge



Fastenings / connecting elements

Examples of fastening profiles



■ Standard end profile



■ Standard profile with mounting bracket

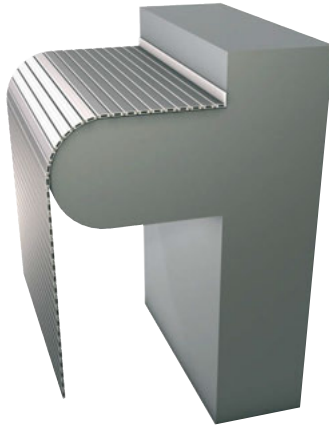
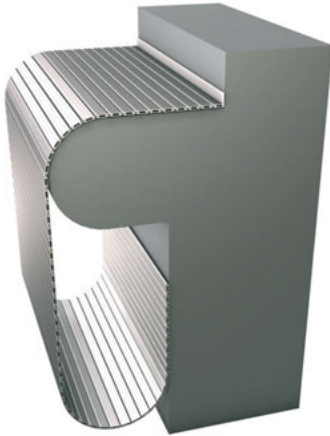


■ Straight end profile



■ 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.




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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



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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

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.





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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.



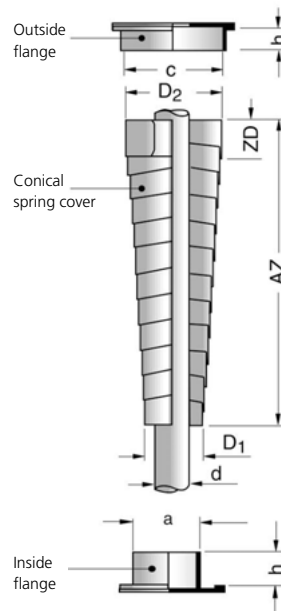
Retrofitting

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:

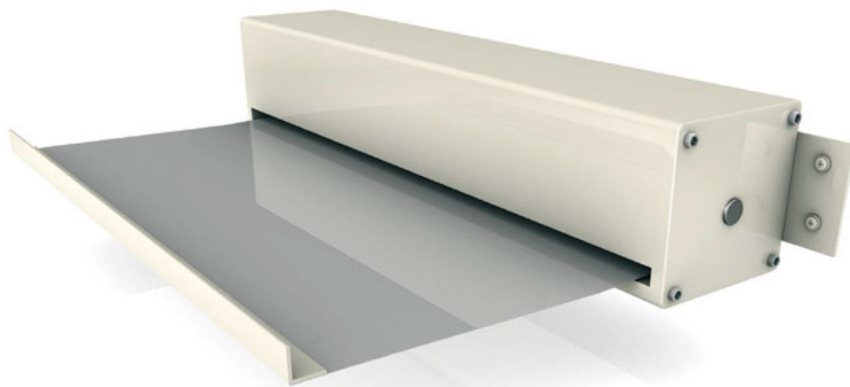
- Internal diameter D_1
- Expansion AZ (vertical / horizontal)
- Compression ZD



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.



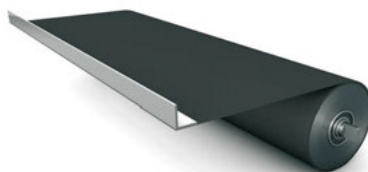
Properties

- For high travel speeds
- Minimal space required
- Customized production
- Simple installation
- Long service life
- Cost-effective

Designs

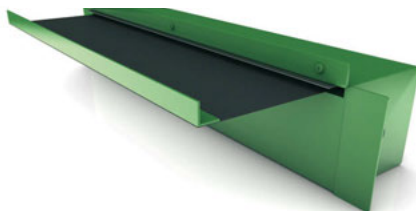
Roll-up cover without housing

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.



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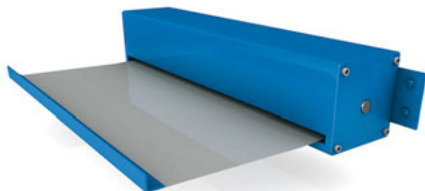
Roll-up covers with plastic band

- 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



Selection

BASIC
LINE

BASIC
LINEPLUS

VARIO
LINE

TUBE
SERIES

3D
LINE

STEEL
LINE

Order

Cables for Motion
TOTALTRAX Complete Systems

Conveyor Systems

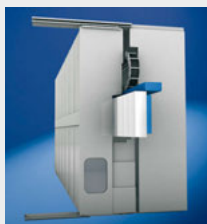
Guideway
Protection Systems

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Protective devices

according to EN ISO 12100



PROTECT-PANEL

The "impenetrable" housing for your machines

page 590

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 irregularities.

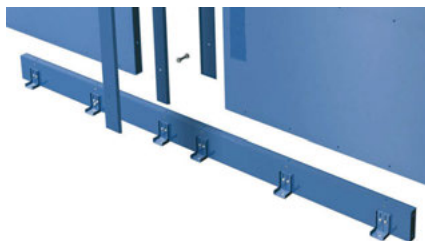
KABELSCHLEPP PROTECT-PANEL – modules:

- 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

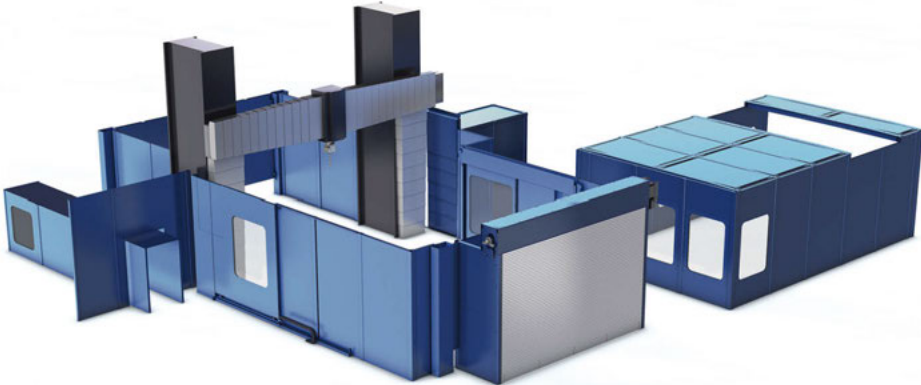
The unique connecting element means that the wall elements are sealed against water spray, and are joined to each other in an extra-sturdy manner. Each pair of modules is joined by specially-formed plates held together by bolts. An additional plate on the inside forms a labyrinth seal. In order to direct 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.

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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)



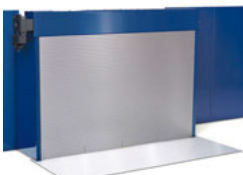
■ **Folding doors**
(electric motor-driven
under PLC control)



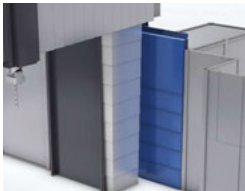
■ **Lift gates**
(up to six segments)



■ **Roll gates**
(vertical/vertical-
horizontal motion)



■ **Roll gates with stainless steel lamellas**
(opens quickly, lightweight design)



■ **Movable chip protection walls**
(vertical and horizontal)

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.



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 synthetic seals. The 90° corner constructed in this way is extremely stable.

Multiple colours – as shown in the picture – require separately produced elements, since otherwise a powder coating would not be possible.



Roof modules

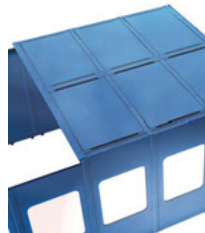
The machine tools had to be secured at the top for reasons of job safety.

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 light-weight 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.





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 particularly 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.



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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.

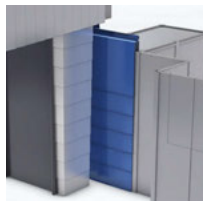


Movable chip protection walls

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.



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: _____ m³/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



■ **Straight design**
Horizontal or rising.
Max. incline 45°



■ **Straight/rising design**
Max. incline 45°



■ **Straight/rising/straight design**
Max. incline 60°

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

Enquiry forms

Question forms and technical information



Hinged belt conveyors

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Question form



Scraper conveyors

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Question form



Modular conveyors

page 602

Question form



Belt conveyors

page 603

Question form



Telescopic covers

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Question form



Telescopic covers

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Technical information question form



Way wipers

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Question form



Link apron covers

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Question form



Bellows

page 610

Question form



Conical spring covers

page 611

Question form



Roll-up covers

page 612

Question form

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: _____ m³/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)

Varnish coating

Primer _____

Paint – RAL _____

(if not otherwise specified, RAL 7035 – light-grey – will be delivered)

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°

Straight design

Construction dimensions:

Overall length L_G : _____ mm

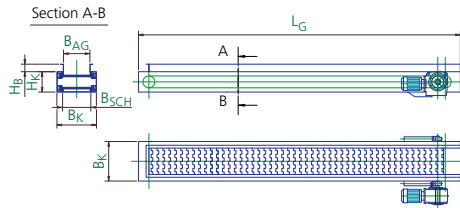
Box height H_K : ☐ 140 mm (SRF 040.00)
☐ 216 mm (SRF 063.00)
☐ 360 mm (SRF 100.00)

Box width B_K : _____ mm

Belt width B_{SCH} : _____ mm

Panel height H_B : _____ mm

Additional information



Straight/rising design

Construction dimensions:

Overall length L_G : _____ mm

Feed length L_{AG} : _____ mm

Distance between axles, vertical A_{AV} : _____ mm

Box height H_K : ☐ 140 mm (SRF 040.00)
☐ 216 mm (SRF 063.00)
☐ 360 mm (SRF 100.00)

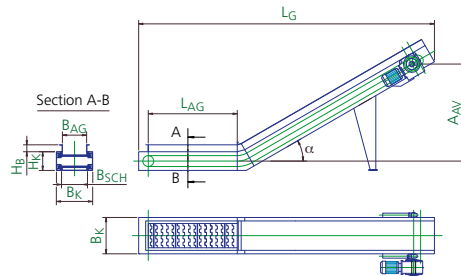
Box width B_K : _____ mm

Belt width B_{SCH} : _____ mm

Panel height H_B : _____ mm

α : _____ mm

Additional information



Straight/rising/straight design

Construction dimensions:

Overall length L_G : _____ mm

Feed length L_{AG} : _____ mm

Distance between axles, vertical A_{AV} : _____ mm

Box height H_K : ☐ 140 mm (SRF 040.00)
☐ 216 mm (SRF 063.00)
☐ 360 mm (SRF 100.00)

Box width B_K : _____ mm

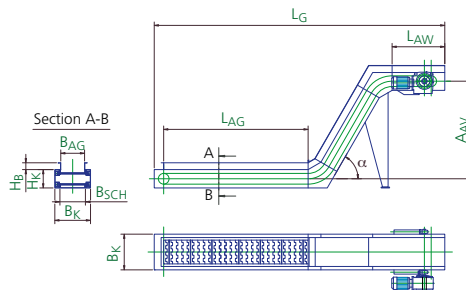
Belt width B_{SCH} : _____ mm

Panel height H_B : _____ mm

α : _____ mm

Discharge length L_{AW} : _____ mm

Additional information



Scraper 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: _____ m³/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)

Varnish coating

Primer _____

Paint – RAL _____

(if not otherwise specified, RAL 7035 – light-grey –
will be delivered)

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°

Straight design

Construction dimensions:

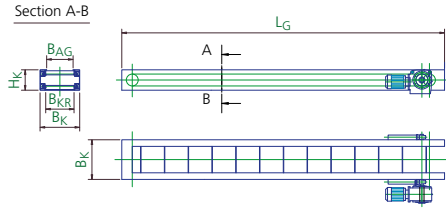
Overall length L_G : _____ mm

Box height H_K : ☐ 140 mm (KRF 040.00)
☐ 216 mm (KRF 063.00)
☐ 360 mm (KRF 100.00)

Box width B_K : _____ mm

Belt width B_{KR} : _____ mm

Additional information



Straight/rising design

Construction dimensions:

Overall length L_G : _____ mm

Feed length L_{AG} : _____ mm

Distance between axles, vertical A_{AV} : _____ mm

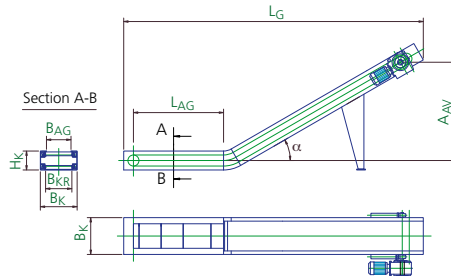
Box height H_K : ☐ 140 mm (KRF 040.00)
☐ 216 mm (KRF 063.00)
☐ 360 mm (KRF 100.00)

Box width B_K : _____ mm

Belt width B_{KR} : _____ mm

α : _____ mm

Additional information



Straight/rising/straight design

Construction dimensions:

Overall length L_G : _____ mm

Feed length L_{AG} : _____ mm

Distance between axles, vertical A_{AV} : _____ mm

Box height H_K : ☐ 140 mm (KRF 040.00)
☐ 216 mm (KRF 063.00)
☐ 360 mm (KRF 100.00)

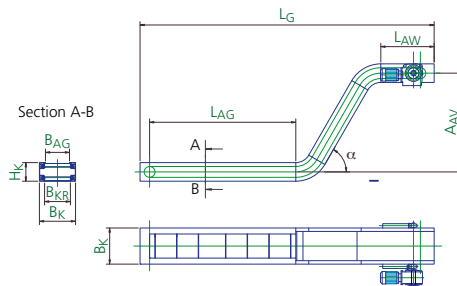
Box width B_K : _____ mm

Belt width B_{KR} : _____ mm

α : _____ mm

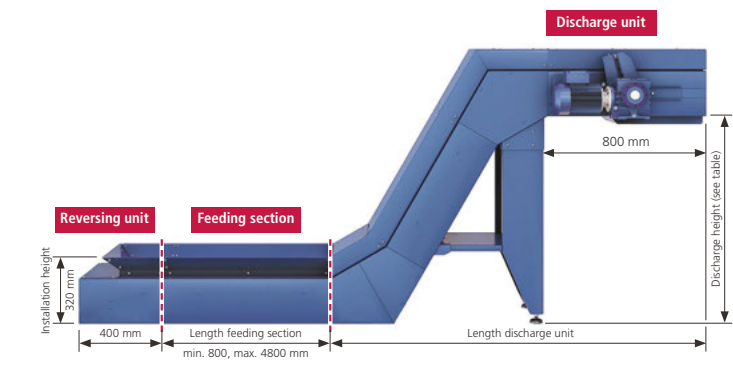
Discharge length L_{AW} : _____ mm

Additional information

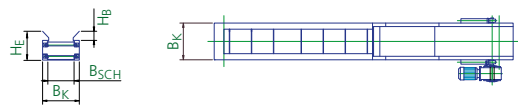




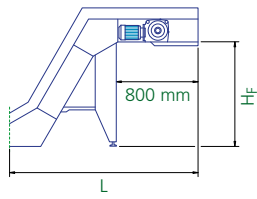
Modular conveyors question form



Section A-B

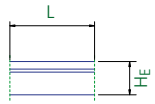


Discharge unit



Discharge unit modul	Choice
Discharge unit 800	
Discharge unit 1200	
Discharge unit 1600	

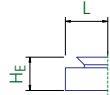
Feeding section



Feeding section modul	Quantity
Feeding section 800	
Feeding section 1200	
Feeding section 1600	

Total length feeding section _____ (mm)

Reversing unit



Reversing unit modul	Choice
Reversing unit	<input checked="" type="radio"/>

Standard subassembly	Discharge height H_E	Belt width B_{SCH}	Box width, B_K	Panel height H_B	Length L	Installation height H_E
Discharge unit 800	1115	300	420	80	1845	–
Discharge unit 1200	1460	300	420	80	2045	–
Discharge unit 1600	1810	300	420	80	2245	–
Feeding section 800	–	300	420	80	800	320
Feeding section 1200	–	300	420	80	1200	320
Feeding section 1600	–	300	420	80	1600	320
Reversing unit	–	300	420	80	400	320

all dimensions in mm



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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: _____ m³/h _____ kg/h

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 FL: _____ mm

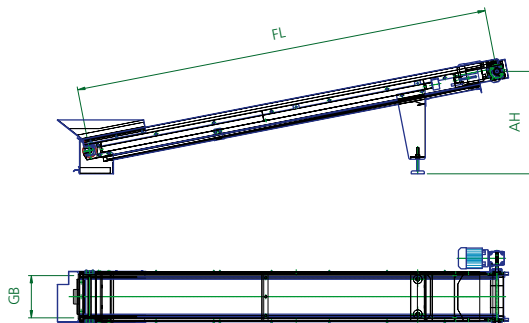
Discharge height AH: _____ mm

Belt width GB: _____ mm

Additional information



■ **Standard design**
Horizontal or rising.
Max. incline 30°



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/s²

Width of guideway B_g : _____ mm

Guideway lubrication:

- ☐ Hydrostatic
☐ Aerostatic
☐ Other _____



Photograph: Waldrich Siegen Werkzeugmaschinen GmbH

Data for the design of the telescopic cover:

Travel length of telescopic cover LS : _____ 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 $H_{1,x}$: _____ 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

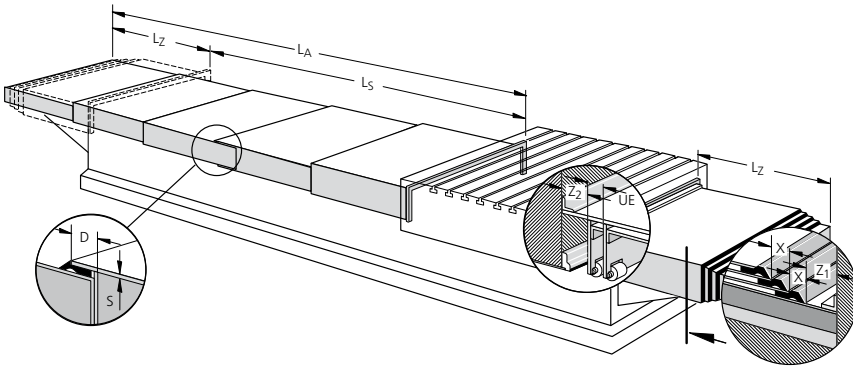
Can consoles be attached? ☐ Yes ☐ No

Should consoles be attached? ☐ Yes ☐ No

Other information

Horizontally-installed telescopic covers

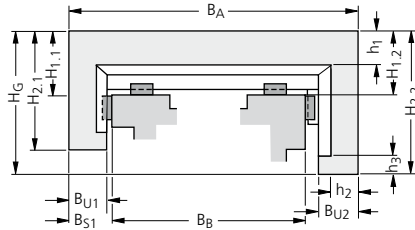
Technical information



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

$$L_S = L_{SK} + \text{reserve}$$

- 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.

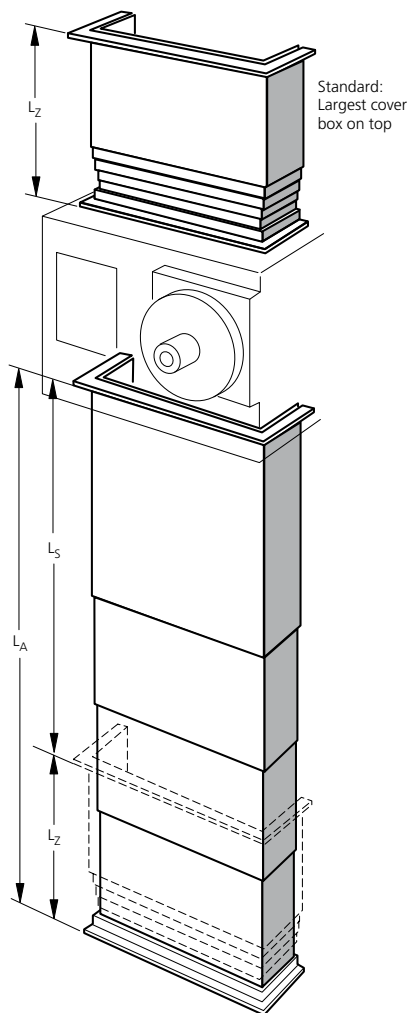
- n = Number of plates
- s = Plate thickness
- D = Sheathing (non-expandable plate length)
- UE = Distance between the plates at the support
- X = Gradation of metal plate at the driver wipe
- l = Plate length

The relationship between the plate length and plate width is selectable up to a ratio of 1:8.

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Vertically-installed telescopic covers

Technical information



Standard:
Largest cover
box on top

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

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

$$L_S = L_{SK} + \text{reserve}$$

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

I = Plate length

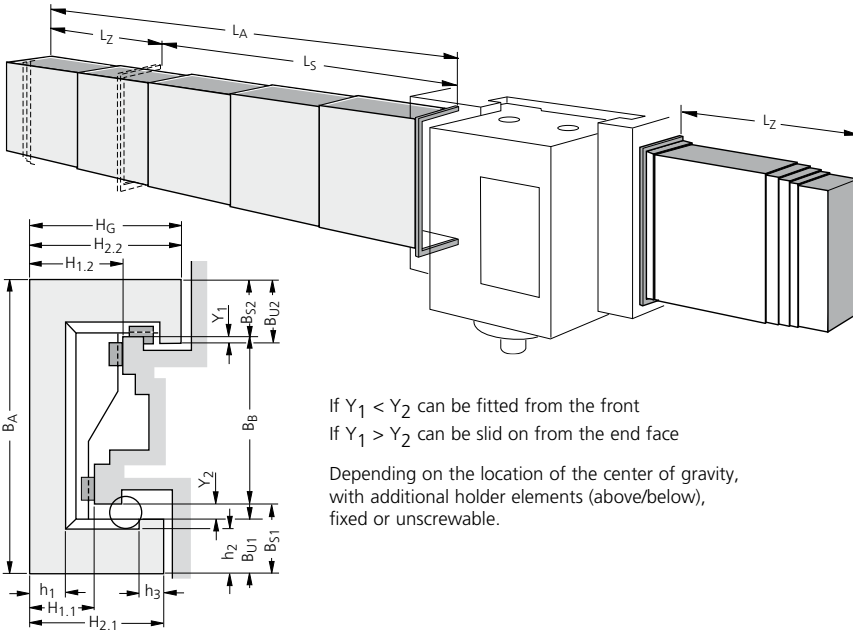
The relationship between the plate length and plate width is selectable up to a ratio of 1:8.

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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

- L_S = Travel length of telescopic cover

$$L_S = L_{SK} + \text{reserve}$$

- 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.

The travel length of the machine is the distance that a moving machine component travels from one end position to the other.

Selection

BASIC LINE

BASIC LINEPLUS

VARIO LINE

TUBE SERIES

3D LINE

STEEL LINE

Order

Cables for Motion


TOTALTRAX Complete Systems

Conveyor Systems

Guideway Protection Systems

Protective Devices

Question forms



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Way wipers question form

Standard design:

Type	Standard length	Quantity
Type BA 18	1000 mm	<input type="text"/>
Type BA 25	1000 mm	<input type="text"/>
Type BAS 18	1000 mm	<input type="text"/>
Type BAS 25	1000 mm	<input type="text"/>
Type BAS 40	1000 mm	<input type="text"/>
Type BA 65-14	500 mm	<input type="text"/>
Type BA 65-18	500 mm	<input type="text"/>
Type BA 65-25	500 mm	<input type="text"/>
Type BA 115-30	500 mm	<input type="text"/>
BAY-WIPE	516 mm	<input type="text"/>

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.



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Link apron covers question form

Travel speed: _____ m/min

Length: _____ mm

Width: _____ mm

Designs:

☐ Design 1

$B_{min} = 100 \text{ mm}$

$B_{max} = 950 \text{ mm}$

$R_{min} = 25 \text{ mm}$

Weight = 5.6 kg/m^2

Solid aluminum profile $19 \times 3.0 \text{ mm}$
with PU connecting elements



■ Design 1



☐ Design 2N

$B_{min} = 100 \text{ mm}$

$B_{max} = 2950 \text{ mm}$

$R_{min} = 50 \text{ mm}$

Weight = 10 kg/m^2

Hollow aluminum profile $20 \times 5.5 \text{ mm}$
with PU connecting elements



■ Design 2N



☐ Design 3

$B_{min} = 100 \text{ mm}$

$B_{max} = 2000 \text{ mm}$

$R_{min} = 60 \text{ mm}$

Weight = 16.5 kg/m^2

Hollow aluminum profile $18.5 \times 6.8 \text{ mm}$
without PU connecting elements



■ Design 3



End attachment:

Comments:

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:

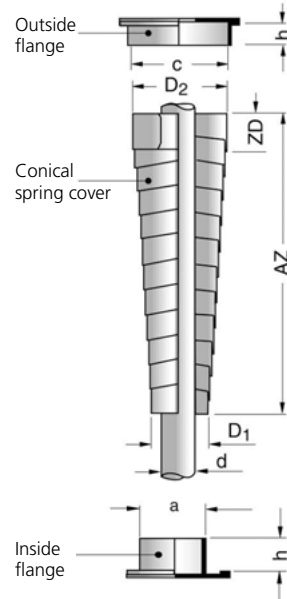
- ☐ Spring band steel, blue polished
☐ Stainless steel

Installation position:

Environmental conditions (temperature, etc.):

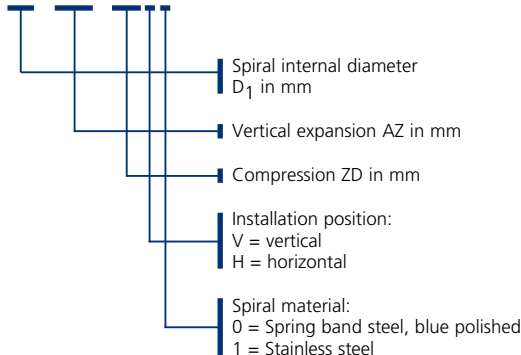
Use of emulsions (type and quantity in l/min):

Annual requirements:



Type designation

025 – 0100 – 020 V 0



Conical spring cover

- d = Shaft/spindle diameter
 a = Diameter of the guide sleeve
 = Hole diameter in the external flange
 $a \leq D_1 - 4 \text{ mm}$
 D_1 = Spiral internal diameter
 D_2 = Spiral external diameter
 c = External diameter of the internal flange
 Internal diameter of the external flange
 $c \geq D_2 + 6 \text{ mm}$
 h = Flange height
 $(0.6 \times ZD \leq h \leq (ZD - 2 \text{ mm}))$
 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".



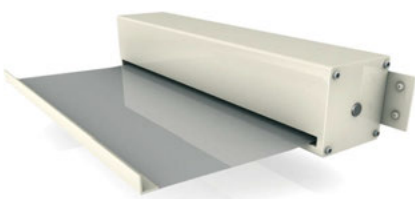
Roll-up covers question form

Travel speed: _____ m/min

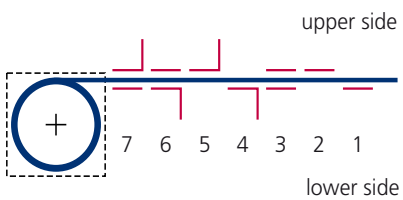
Total expansion: _____ mm

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:

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Selection				
STEEL LINE		3D LINE		TUBE SERIES
VARIO LINE		BASIC LINE ^{plus}		BASIC LINE
Notes				
<div></div>				

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ksh@kabelschlepp.de

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