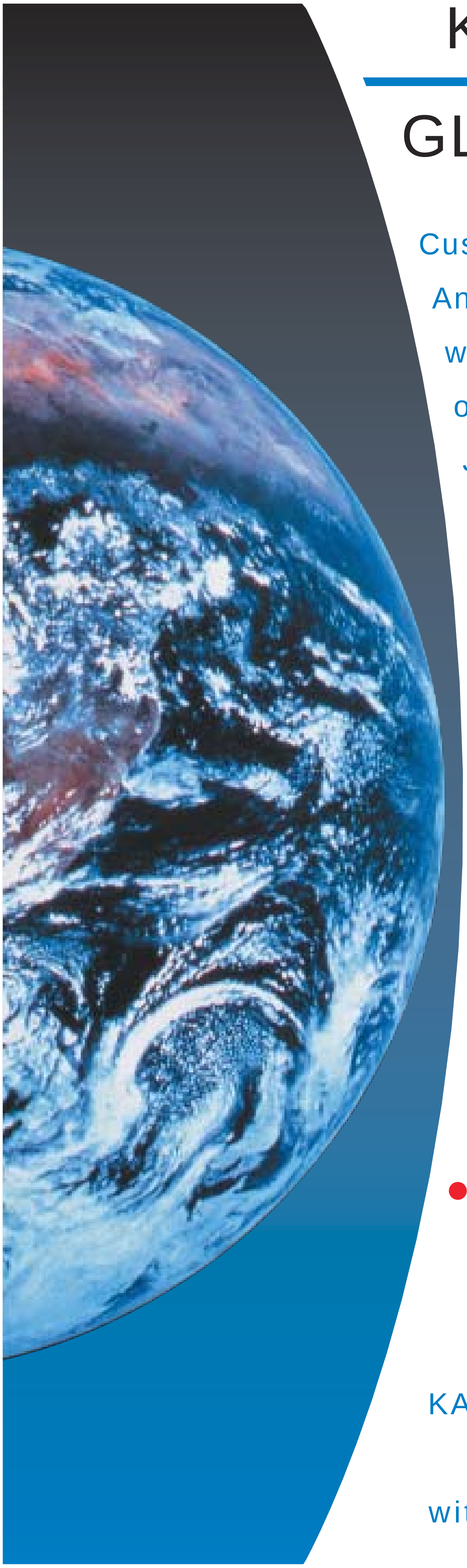
KABELSCHLEPP

Plastic Cable Carriers

01/2003

KabelSchlepp



KABELSCHLEPP...

GLOBAL STRENGTH

Customer requirements are specific.
And they are growing
with the demands
of a global market.
Just like our consultancy service.

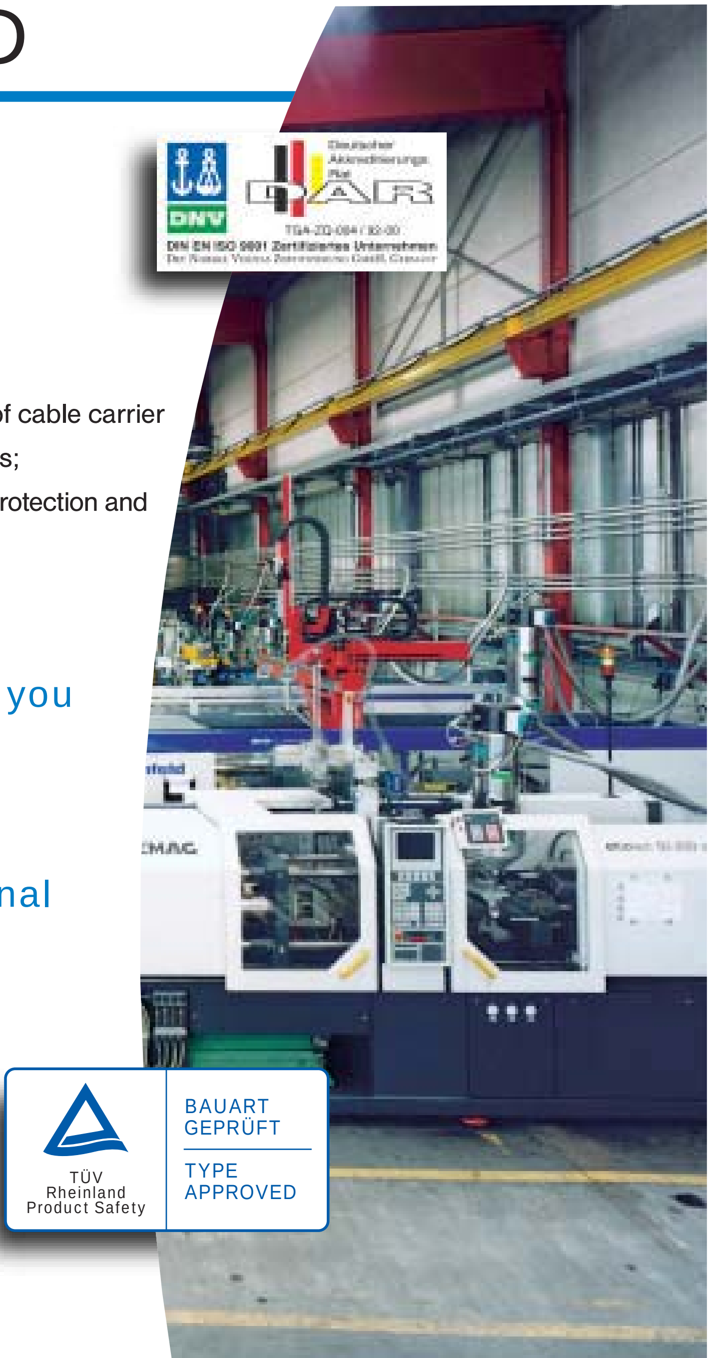
Ever since the company was founded in 1954 we have constantly been working on new cable carrier systems - over 100,000 different varieties are available.

The 11 subsidiary companies and approximately 50 agencies which make up our global sales network translate our immediate delivery concept into reality on a daily basis. We are always close at hand and available around the clock. World-wide.

- A wide variety of applications in all industries, world-wide – we have every solution that you need.
- Quicker information exchange thanks to the development of our KABELSCHLEPP Online connections - you can order and arrange delivery of our goods anywhere in the world.
- Our well-trained experts can offer advice wherever you are in the world and solve your cable carrying problems quickly and with the minimum of fuss.
- Decades of experience and international Standards permeate KABELSCHLEPP product developments –you always have the most up-to-date product solutions.

KABELSCHLEPP –
exploit the advantages of working
with a global player

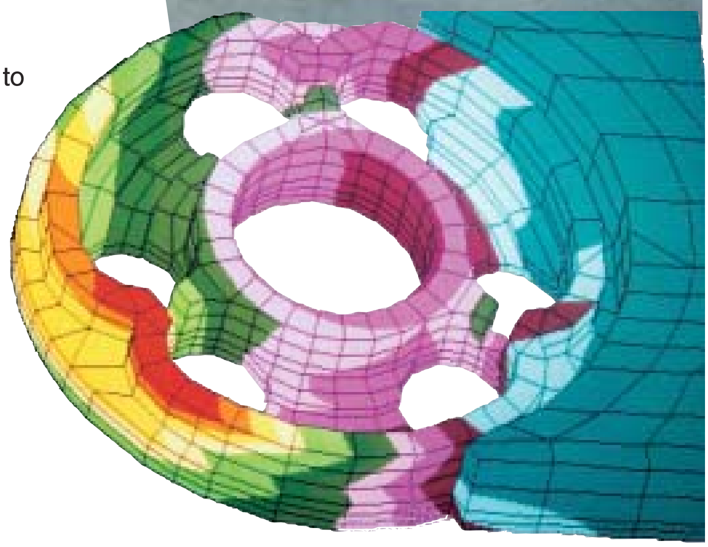
QUALITY AND PROGRESS



KABELSCHLEPP is certified to EN ISO 9001.
The certificate applies to:
the development, design, production and sale of cable carrier systems made of plastic and steel, and way wipers;
the development, design and sale of guideway protection and conveying systems.

You can rely on the fact that you are in receipt of first-class quality products which conform to international Standards.

KABELSCHLEPP cable carriers have been checked and approved by TÜV Rheinland Product Safety in accordance with the relevant machinery guidelines.
(Type check in accordance with 2PfG 1036 / 10.97)



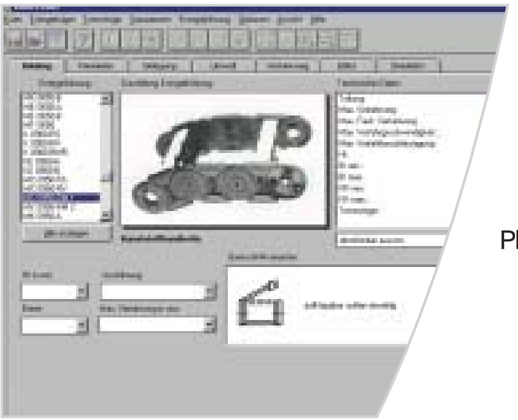
Quality is our top priority. From our products to customer service, and from consultancy to training. Whenever you need us, we are there for you:
dynamic, creative and extremely efficient.
With the vast experience of a company which is successful throughout the world.

CAD-DATA ON THE INTERNET

Visit us on the Internet at www.kabelschlepp.de

powerPARTS®

KABELSCHLEPP has subscribed to the “Power Parts” web2CAD component library. At www.kabelschlepp.de you will find a link to the library. Simply load the 2D or 3D data you require into your CAD application, or request the CD ROM, available free of charge.



KABELSCHLEPP KabelCAD

Our free-of-charge KabelCAD software allows you to select the correct chain type to suit your application quickly and easily, or even to design the chain cross-section yourself. The design data are available in various different data formats.

Please request a KabelCAD CD, available free of charge.

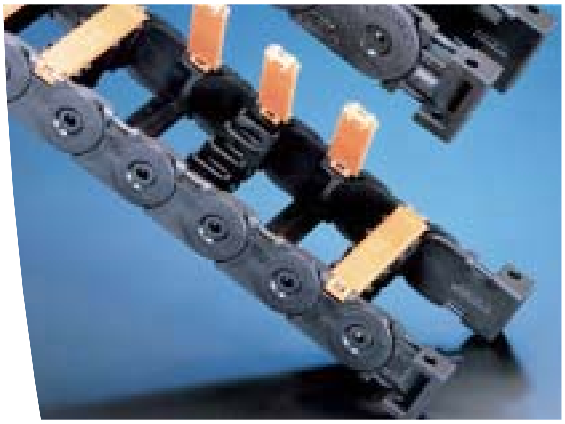
KABELSCHLEPP

COMPLETE SOLUTIONS

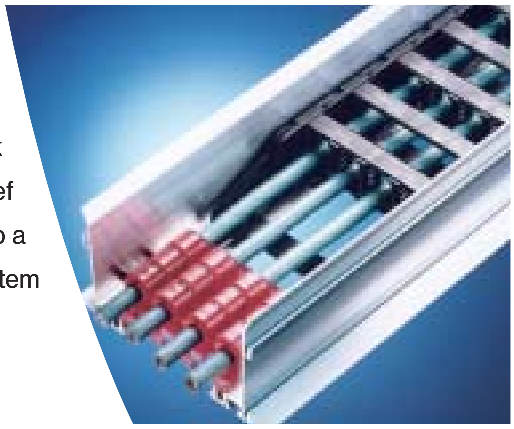
ARE OUR STRENGTH.

Never-ending variety

Need a cable carrier? Then talk to us. It is not only products but complete solutions which we can plan, design and produce for you. Our specialists can escort you from the first planning and conceptualisation phase via product selection and right up to assembly and installation with their well-grounded knowledge, experience and vision.
You can also benefit from our Software offer:
With KABELCAD planning is as simple as 1-2-3 –
it doesn't come any easier than this.



Work systematically, with KABELSCHLEPP cable carriers!



Would you like a specific solution especially for your particular application? No problem. We can also develop bespoke solutions, individually tailored to suit your application.
The KABELSCHLEPP product range offers everything you need.
The advantage: everything fits together perfectly, because we work on a modular basis. Our accessories range from strain relief components, divider systems, channels, hoses, cables and plugs to a large selection of stay systems and much more. Excellent system harmonisation and compatible accessories complete the picture.

THE RIGHT SOLUTION FOR EVERY SITUATION

KABELSCHLEPP cable carriers are being used successfully in installations throughout the world. From the production line operated remotely by computers to high-tech applications in space technology, in machinery and plant construction, on all handling systems and much more – everywhere cable carriers are necessary to protect and guide cables and hoses. KABELSCHLEPP cable carriers are in use for example in the Eiffel Tower in Paris, on hospital beds, in mini vans, in atomic reactors, on theatre stages, in sewage and irrigation plants. It does not matter whether the cable carrier is exposed to the harshest application situations or criteria such as clean rooms or low noise emissions are required. Even special designs for individual solutions are no obstacle to our teams of engineers. References from well-known industry giants such as Daimler Chrysler and DASA are convincing arguments in favour of KABELSCHLEPP.

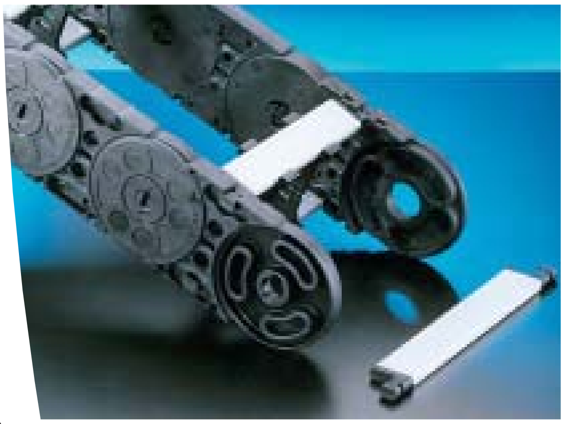
An endless number of special solutions are required, which KABELSCHLEPP provides for cost-effectively using standard elements.

TECHNICAL INFORMATION

Application

KABELSCHLEPP cable carriers and flexible conduits made of plastic or combined with other materials (a product which, by the way, only KABELSCHLEPP offers in such a wide range) can be used in industry almost anywhere. The environmental conditions should of course permit the use of plastic.

The extremely quiet Quantum cable carrier system has a link-free design. Because there are no moveable links the “Polygon Effect” is eliminated. There is no noise made by the chain links hitting the edge of the radius. Striking against the floor is also a thing of the past. This reduces the sound level practically to nil.

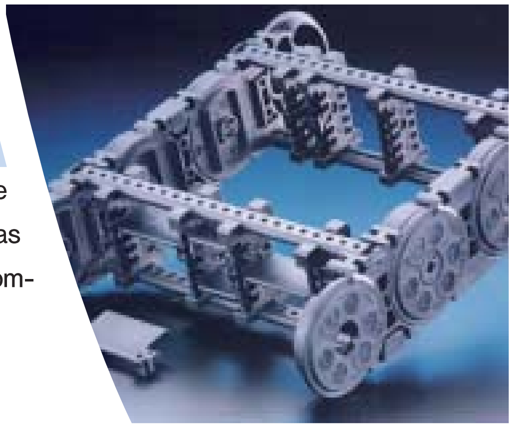


Durability

The longevity of the cable carriers depends on:

- **The type of cables / hoses used (additional load)**
- **The travel speed / acceleration**
- **The frequency of travel**
- **Ambient conditions**

As a general rule, the following applies: there is hardly any wear on KABELSCHLEPP cable carriers in self-supporting horizontal use. With KABELSCHLEPP cable carriers, even in the most extreme conditions, more than 25 million cycles have been achieved.



Travel speeds and high accelerations

The operationally safe and low-maintenance supply of moveable users with energy lines by way of modern cable carrier systems is, as a result of increasing travel speeds and higher accelerations, becoming ever more important.

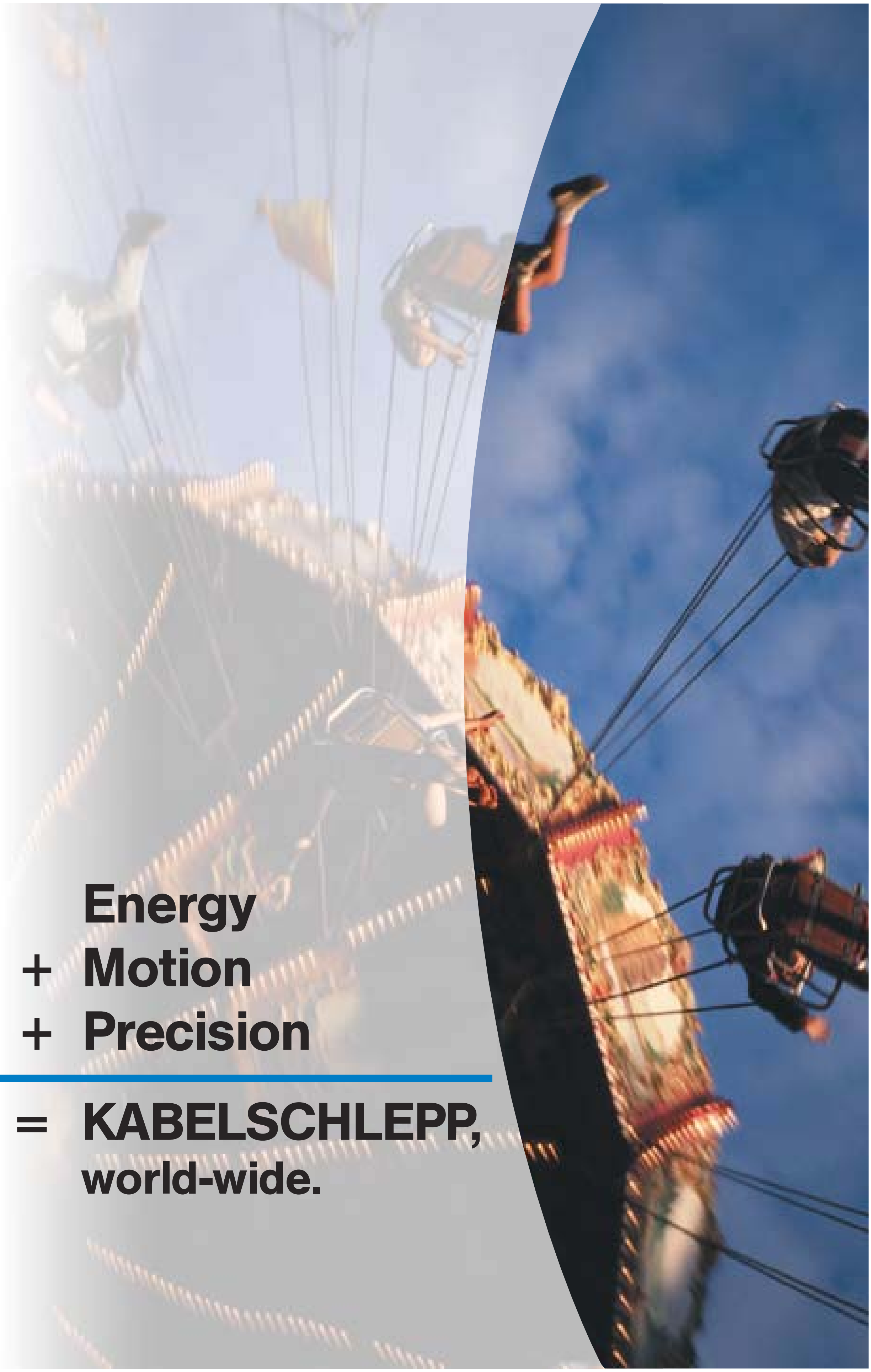
REASONS FOR USING

KABELSCHLEPP ...

- You can buy the real article from its inventor.
- 50 years' experience in cable carriers.
- Unique, client-specific solutions at no extra cost!
- Complete or special solutions on request.
- Our deliveries are immediate and reliable. One call is enough.
- Advice service, free of charge, available around the clock.
- World-wide availability.
- Our cable carriers can be installed quickly and easily.
- Cable carrier systems made entirely of plastic or of plastic combined with Aluminium.

- Lengthening or shortening of the cable carrier at a later date is possible with almost all types.
- Enormous selection of individual or complete solutions.
- Special material designs to resist heat, cold and acidity present no problem to us.

Give us a call!
Tel.: +49 (0) 271 5801-0 We are here for you around the clock.



Energy
+ Motion
+ Precision

= KABELSCHLEPP,
world-wide.

SELECTION OF

CABLE CARRIER

In order to prepare a technical quotation we need the following information:

1. Machine travel length
2. Maximum acceleration
3. Travel speed
4. Frequency of travel
5. Installation variant / installation sketch
6. Number and outer diameter of the cables to be laid (with / without integral fittings)
7. Smallest permissible bend radii of the cables (according to the cable manufacturer)
8. Weight of all cables and hoses (including hose content)
9. Chain / conduit cross section: enclosed or openable
10. Environmental influences (temperature, radiation, atmospheric humidity, dirt sediment, abrasive substances)
11. Available installation width

Our Tip:

Use the following guide to make your initial selection of our plastic cable carrier systems. It will assist you in choosing our systems especially for your application!

PRODUCT GROUP

CHARACTERISTICS

Cable carriers with fixed chain widths

MONO

- Solid plastic
- The lowest-priced and therefore most economical product group
- One-piece chain links with the option of either fixed or openable brackets
- Simple and quick assembly
- End connector with integrated strain relief
- Almost all types available immediately ex stock throughout the world

Inside widths B_i as standard widths

Types 0130, 0132, 0180, 0182
0202, 0320, 0450, 0625

B_i from 6 mm to 169 mm

H_i from 10 mm to 42 mm.

UNIFLEX

- Solid plastic
- Reasonably priced standard ranges
- Can be opened inside or outside according to preference
- Double stroke system for a longer self-supporting length
- High torsional rigidity
- Open, semi-enclosed and fully enclosed ranges
- Connecting brackets can be opened from the top as well as from the side, according to preference. Advantageous for installation and service.
- End connector with integrated strain relief
- Optimum basic design of chain links with regard to noise for particularly quiet operation

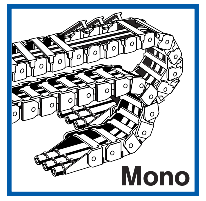
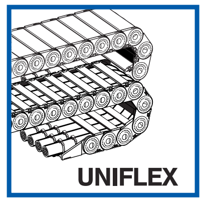
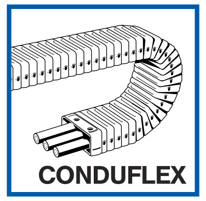
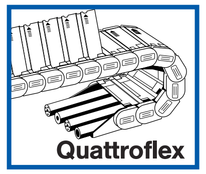
Inside widths B_i as standard widths

Types 0250, 0345, 0455, 0555, 0665

Types 0600 fully enclosed type, lightweight design

B_i from 15 mm to 250 mm

H_i from 17.5 mm to 44 mm.

Product Symbol	Series Type	Technical Data cf. Page	Inside Height h_i in mm	Inside width B_i in mm from	Inside width B_i in mm to	Bend radii in mm min.	Bend radii in mm max.	Travel length L_S in m (with average permitted additional load) with self-sup. arrangement	Travel length L_S in m with max. travel length	Opening variants 1	Opening variants 2	Opening variants 3	Opening variants 4	Opening variants 5	Opening variants 6	Cover system outside	Cover system inside+ outside	Dynamic: Travel speed v_{max} in m/s self-supporting arrangement	Travel speed v_{max} in m/s gliding in a channel*	Acceleration a_{max} in m/s² self-supporting arrangement	Acceleration a_{max} in m/s² gliding in a channel**
Cable Carriers with fixed widths																					
 Mono	**0130**	3.002	**10**	6	20	20	37	1.0	40				■					10	3.0	50	30
	0132	3.002	**10**	6	40	20	37	1.0	40	■								10	3.0	50	30
	0180	3.005	**15**	10	40	28	50	1.5	70				■					10	3.0	50	30
	0182	3.005	**15**	10	40	28	50	1.5	70	■								10	3.0	50	30
	0202	3.008	**11**	6	20	18	50	1.5	70	■								10	3.0	50	30
	0320	3.011	**19**	13	37	37	100	2.4	80	■	■							10	2.5	50	25
	0450	3.015	**28**	29	103	52	200	3.0	120	■			■					10	2.5	50	20
	0625	3.020	**42**	65	169	75	300	5.0	130	■			■					8	3.0	40	15
 UNIFLEX	**0250.030**	3.101	**17.5**	20	80	28	100	2.7	60				■					10	3.0	50	30
	0345.030/.040/.050	3.106	**20**	15	90	38	150	3.0	80		■	■		■	■	■•		10	2.5	50	25
	0345.060	3.111	**19.5**	15	65	75	150	3.0	80			■			■		■	10	2.5	50	25
	0455.030/.040/.050	3.114	**26**	25	130	52	225	4.0	120		■	■		■	■	■•		10	2.5	50	20
	0455.060	3.119	**25**	25	130	95	225	4.0	120			■			■		■	10	2.5	50	20
	0555.030/.040/.050	3.123	**38**	50	150	63	230	5.0	125		■	■		■	■	■•		9	3.0	45	20
	0555.060	3.127	**36**	50	150	100	230	5.0	125			■			■		■	9	3.0	45	20
	0665.030/.040/050	3.131	**44**	50	250	75	300	5.5	150		■	■		■	■	■•		8	3.0	40	15
	0665.060	3.141	**42**	50	175	120	300	5.5	150			■			■		■	8	3.0	40	15
	0600.080	3.143	**44**	50	125	100	200	3.5	100		■						■	6	2.5	35	15
 CONDUFLEX	**CF 055**	5.01	**25**	-	45	65	150	3.0	-	■								10	-	20	-
	CF 060	5.01	**40**	-	36	-	100	3.5	-	■								10	-	20	-
	CF 085	5.01	**38**	-	73	100	250	4.0	-	■								8	-	18	-
	CF115	5.01	**52**	-	102	140	300	5.0	-	■								8	-	16	-
	CF 120	5.01	**70**	-	100	155	200	5.5	-	■								6	-	15	-
	CF 175	5.01	**72**	-	162	185	350	6.0	-	■								6	-	12	-
 Quattroflex	**TKC 340**	3.902	**25**	50	130	70	150	3.5	80				■					10	3.5	40	18
	TKC 470	3.904	**36**	80	160	100	250	4.5	150				■					8	3.0	35	13
	TKC 640	3.906	**50**	110	220	135	300	6.0	200				■					6	2.5	25	8
	TKC 850	3.908	**68**	150	300	180	350	8.0	230				■					5	2.0	20	5

Key: ■ Standard production

■• Design .050

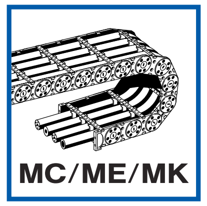
* The maximum travel speed in the case of an exceeded self-supporting length depends above all on the installed additional weight. For higher speeds than those indicated please consult our experts.

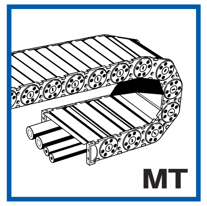
** The maximum travel acceleration in the case of an exceeded self-supporting length depends on the mass to be moved, ie on the instrinsic weight of the cable carrier and the additional weight (cables and hoses). The values given are guide values for the average lengths and widths.
When these values are exceeded please be sure to consult us!

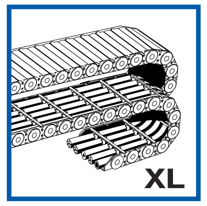
Cable carriers with variable widths →

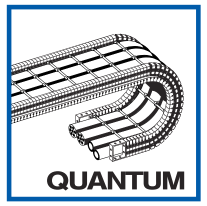
Cable Carriers with variable widths

Product Symbol









Series Type	Technical Data cf. Page	Inside Height h_i in mm	Inside width B_i in mm from	Inside width B_i in mm to	Bend radii in mm min.	Bend radii in mm max.	Travel length L_S in m (with average permitted additional load) with self-sup. arrangement	Travel length L_S in m with max. travel length	Stay variants RS	RV	RV	RV	RM	RMR	RE	RD	RD	RDD / RMD	RDD / RMD	RMA	LG	Dynamic: Travel speed v_{max} in m/s self-supporting arrangement	Travel speed v_{max} in m/s gliding in a channel*	Acceleration a_{max} in m/s² self-supporting arrangement	Acceleration a_{max} in m/s² gliding in a channel**
KC 0650	3.202	38	75	600	75	300	5.0	220	■												●	8	2.5	40	15
KE 0650	3.302	42	68	260	75	300	5.0	220							■							8	2.5	40	15
KC 0900	3.209	58	100	700	130	385	8.0	260	■			■	●								●	6	2.0	30	10
KE 0900	3.308	58	81	561	130	385	8.0	260							■							6	2.0	30	10
MC 0320	3.402	19	25	280	37	200	2.6	80		■	■											10	2.5	50	25
ME 0320	3.502	19	25	149	37	200	2.6	80							■							10	2.5	50	25
MK 0475	3.507	28	24	280	55	300	3.0	120								■	■					10	5.0	50	20
MT 0475	3.702	26	24	280	75	300	3.0	100										■	■			10	5.0	40	18
MC 0650	3.407	38	75	400	75	350	5.0	220	■											■	■	8	4.0	40	15
ME 0650	3.512	42	50	266	75	350	5.0	220							■							8	4.0	40	15
MK 0650	3.512	42	50	266	75	350	5.0	220									■					8	4.0	40	15
MT 0650	3.708	38.5	50	500	95	350	5.0	170											■			8	4.0	35	13
MC0950	3.415	58	100	600	140	380	8.0	260	■			■	■	■						■	■	6	3.0	30	10
ME 0950	3.519	58	45	557	140	380	8.0	260							■							6	3.0	30	10
MK 0950	3.519	58	45	557	140	380	8.0	260									■					6	3.0	30	10
MT 0950	3.715	54.5	77	600	140	380	8.0	230											■			6	3.0	25	8
MC 1250	3.427	72	100	800	180	500	10.0	320				■	■	■						■	■	5	2.5	25	6
ME 1250	3.527	72	71	551	180	500	10.0	320							■							5	2.5	25	6
MK 1250	3.527	72	71	551	180	500	10.0	320									■					5	2.5	25	6
MT 1250	3.724	68.5	103	800	220	500	10.0	270														5	2.5	20	5
XLC 1650	3.601	108	200	1000	250	550	12	350					■	■							■	4	2.5	25	6
XLT 1650	3.801	104	200	1000	250	550	11	300											■			4	2.5	20	5
Q 040	4.02	28	28	284	60	180	2.7	100							■							40	20	300	15
Q 060	4.06	38/42	38	500	100	300	4.0	150	■						■							30	15	160	7
Q 080	4.13	58	50	600	170	500	5.0	180	■			■			■							25	12	100	6
Q 100	4.23	72	70	600	180	600	6.0	200	■			■			■							20	10	70	5

K Series the compact cable carriers
Type KC with alloy stays, variable widths in 1-mm sections
Type KE with plastic insert stays, variable widths in 8- or 16-mm sections

Series M the multivariable cable carriers
Type MC with alloy stays, variable widths in 1-mm sections
Type ME with plastic insert stay, variable widths in 4-, 8- or 16-mm sections
Type MK Hinged joint design, variable widths in 8- or 16-mm sections
Type MT Enclosed cable carrier with plastic or alloy cover system; variable widths in 1-mm sections (alloy) and 8- or 16-mm sections (plastic)

XL Series
Type XLC with alloy stays, variable widths in 1-mm sections
Type XLT Enclosed cable carrier with alloy cover system
QUANTUM with alloy and plastic stay systems

Stay Designs:

- RS = Frame stay - standard design → Aluminium profiles, quickly and easily released on the inside and the outside
- RV = Frame stay - reinforced design → Aluminium/plastic profiles, detachable inside and/or outside - very stable
- RM = Frame stay - solid design → Aluminium profiles, bolted on both sides - the most stable
- RMR = Roller stay system → Aluminium profiles, bolted on both sides with plastic roller system
- RE = Plastic insert stay → Plastic profiles in grid segments - according to the type
- RD = Frame stay- hinge joint design → Plastic profiles - hinged and detachable to both sides
- RDD = Plastic cover system → Plastic cover - hinged and detachable to both sides
- RMD = Aluminium cover system → Aluminium cover system - hinged and detachable to both sides
- RMA = Mounting frame stay → Aluminium profiles with plastic adapters - for large Ø cables
- LG = Hole stay - split design → Aluminium profile - special customer-specific production

* The maximum travel speed in the case of an exceeded self-supporting length depends above all on the installed additional weight. For higher speeds than those indicated please consult our experts.

** The maximum travel acceleration in the case of an exceeded self-supporting length depends on the mass to be moved, ie on the instrinsic weight of the cable carrier and the additional weight (cables and hoses). The values given are guide values for the average lengths and widths. When these values are exceeded please be sure to consult us!

Key: ■ Standard production ● Special order

Cable Carriers with fixed widths

←

PRODUCT GROUP

CHARACTERISTICS

Cable Carriers with variable chain widths

K-Series

- Variable widths in 1 mm sections
- Solid plastic or combined with Aluminium stays
- Extremely robust owing to sturdy sidebar design
- Enclosed stroke system not sensitive to dirt / contamination
- Can be opened quickly on both sides

B_i from 68 mm to 700 mm, H_i from 38 mm to 58 mm

Types KC 0650, KC 0900 with Aluminium stays

Types KE 0650, KE 0900 with plastic stays

M-Series

- Variable widths in 1 mm sections
- Solid plastic or combined with Aluminium stays
- Fully enclosed types with Aluminium cover system
- Can be opened quickly on both sides
- Maximum choice of stay systems
- Horizontal cable separators made of plastic or Aluminium
- Enclosed stroke system not sensitive to dirt / contamination
- As standard universal connecting pieces made of die-cast Aluminium can be screwed directly onto the side wall of the guide channel.
- Accessories such as glide shoes, noise muffling elements, etc…

B_i from 24 mm to 800 mm, H_i from 19 mm to 72 mm

Types:

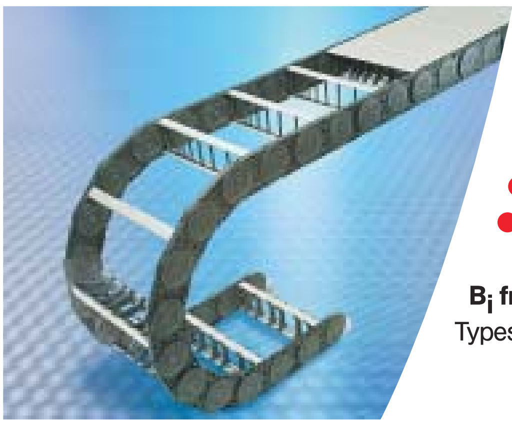
MC 0320, MC 0650, MC 0950, MC 1250 with Aluminium stays

Types:

ME/MK 0650, ME/MK 0950, ME/MK 1250 with plastic stays

Types:

MT, fully enclosed with plastic or Aluminium cover system



XL-Series

- Variable widths in 1mm sections
- Plastic chain bands combined with Aluminium stays
- Fully enclosed types with Aluminium cover system
- Large dimensions
- Low intrinsic weight
- Can be opened on both sides
- High degree of stability for a long self-supporting length
- Extremely wear-resistant glide shoes for long travel lengths
- Can be opened on both sides
- Large selection of stay systems and ways of separating the cables / hoses

B_i from 200 mm to 1000 mm, H_i 108/105 mm

Types: XLC 1650 with Aluminium stays

XLT 1650, fully enclosed with Aluminium cover system

PRODUCT GROUP

CHARACTERISTICS

Link-free Cable Carrier Systems
Quantum and Profile

- Vibration-free running – no ‘polygon effect’
  = low oscillation operation
- No links, no wear
  = suitable for clean room environments
- Extremely durable: >25 million
  cycles of operation = unbeaten service life
- For additional 3D-movements
- Kind to cables, since there is no polygon effect

QUANTUM

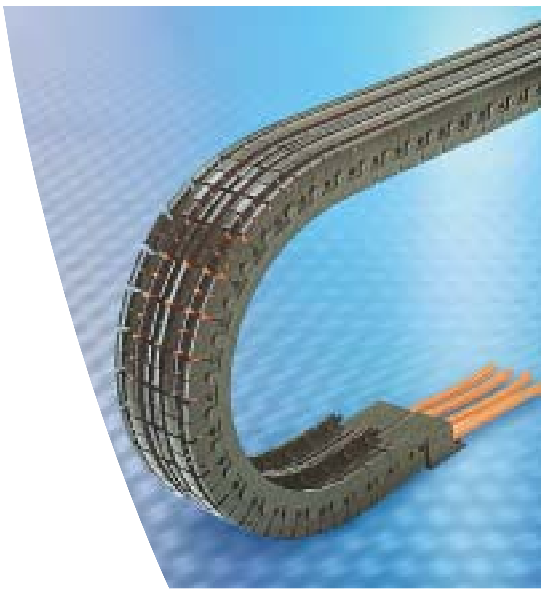
- Variable widths in 1 mm sections
- The quietest KABELSCHLEPP cable carrier <40 dB (A)
- Extremely lightweight
- For high accelerations up to 30 g
- For high operational speeds up to 40 m/s
- For long travel lengths up to 200 m
- 4 sizes (a size to suit every application situation)

Types: Q040, Q060, Q080, Q100

B_i from 28 mm to 600 mm

H_i from 28 mm to 72 mm.

PROFILE



- Modular cable carrier system
- Various combination options, from
  individual modules to a complete system
- Easy to equip with cables and hoses
  No opening of the modules required

Standard modules for combination however you like for
Cable diameter ∅
∅ = 6mm to ∅ = 30mm

Special modules for **cable diameter ∅**
∅ = 4mm to ∅ = 17mm

Special modules for **ribbon cables**

Please request a copy of our PROFILE brochure.

FURTHER SUPPLY

PROGRAMME

PROTUM extremely lightweight cable carrier with 'mini' dimensions

- Extremely lightweight
- Rational layout: Even standard manufactured cables can simply be inserted
- Vibration-free running – minimal Polygon effect = low-oscillation operation
- For additional 3D movements
- Protects the cables, since there is almost no polygon effect
- Long travel lengths are possible with gliding operations
- Connecting pieces with integrated strain relief
- 4 sizes available (a size to suit every application situation)

Types: P 0160, P 0240, P 0300, P 0450

B_i from 15 mm to 2x40 mm

H_i from 15 mm to 30 mm

Pitch t from 16 mm to 45 mm

FURTHER SUPPLY PROGRAMME

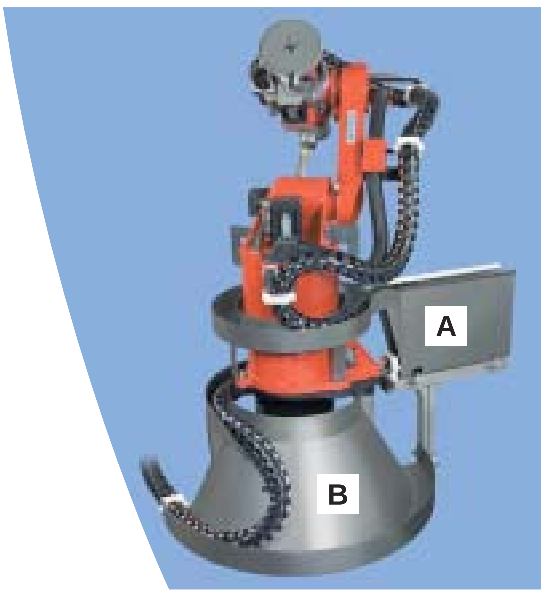
ROBOTRAX 3D-CABLE CARRIER

- For three-dimensional movements
- Rational layout: even standard manufactured cables can simply be inserted
- Simple control of all the cables owing to the open-plan design
- Precisely-defined mnimum bend radius
- Can be used on robots for swivel and turning movements: the same system for the robot “foot” and arm
- Optimum conditions for long cable life:
  – The mimimum bend radius is not undercut.
  – The cables are kept separate from each other in three chambers
- Quickly-opening clamps:
  For attaching individually to the robot

Channel systems for ROBOTRAX

- There is a choice of two variants:
- A) Linear operation
  - For angles of rotation up to 700°
  - Simple assembly
  - Value for money
  - Saves space
- B) Conical arrangement
  - For angles of rotation up to 360°

Please ask for a copy of our ROBOTRAX catalogue.



KABELSCHLEPP

FURTHER

SUPPLY PROGRAMME

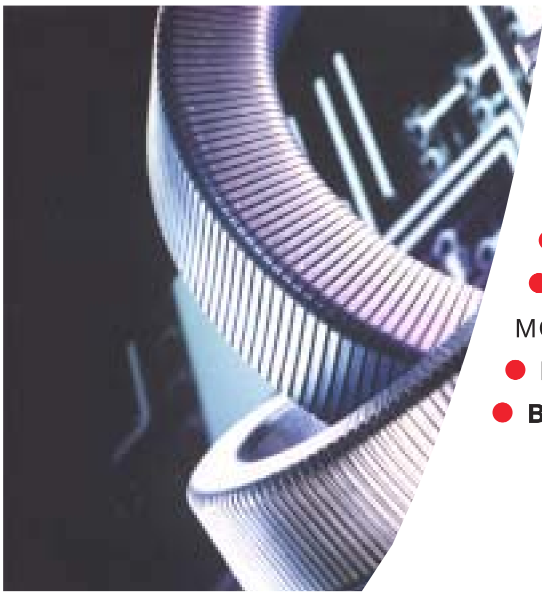
Steel Drag Chains

Drag chains with chain bands made of zinc-plated steel and high-grade stainless steel

- Maximum self-supporting lengths
- Variable widths in 1 mm sections
- Aluminium stay systems
- Fully enclosed types with Aluminium cover system
- Heat-resistant
- Multiple band chains for larger widths are possible
- Further information can be found on the following page and in the Steel Drag Chains catalogue

B_i from 70 mm to 1500 mm

H_i from 31 mm to 370 mm.



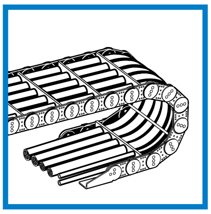
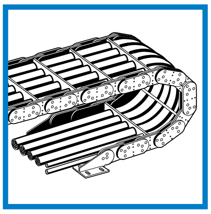
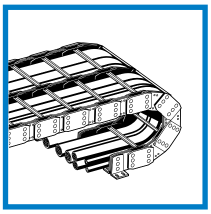
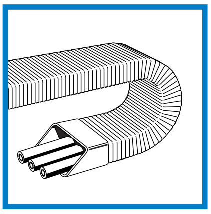
Flexible energy conduits

CONDUFLEX

- High-grade steel brackets and frame made of polyamide reinforced with glass fibre
- **B_i from 45 mm to 162 mm, H_i from 25 mm to 72 mm**
- For further details see Chapter 10

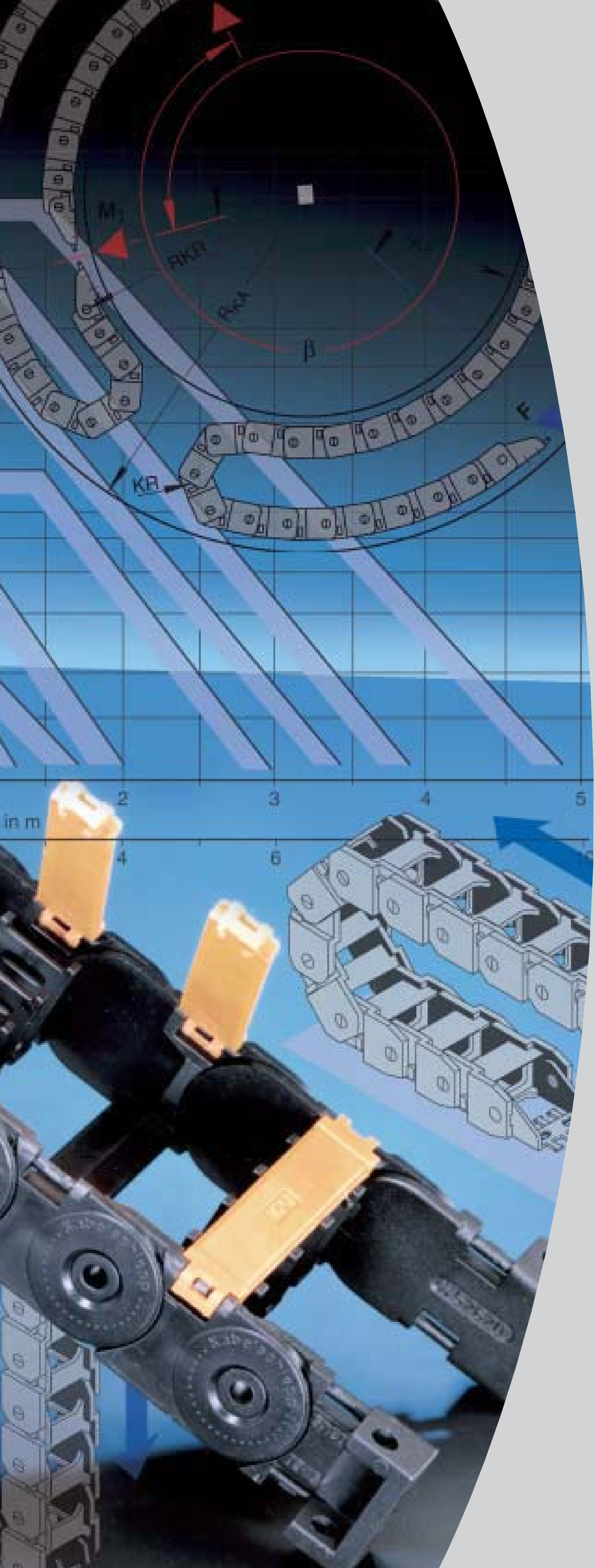
MOBIFLEX

- Flexible metal helical tubing combined with special steel band
- **B_i from 45 mm to 162 mm, H_i from 25 mm to 72 mm**

Product Symbol		Series	Type	Clearance Height h_i* in mm	Carrier width B_k* in mm from	Carrier width B_k* in mm to	Bend radii in mm min.	Bend radii in mm max.	Travel length L_S in m Unsupported Arrangement	Travel length L_S in m maximum travel length
	Cable Carriers with side bands made of zinc-plated steel*	0600	S 0650	31	70	400	75	300	6	60
		0900	S 0950	46	125	600	125	410	9	60
		1200	S 1250	72	130	800	145	1000	12	150
			S 1252	72	130	800	145	700	12	150
		1800	S 1800	104	180	1000	265	1405	18	200
			S 1802	104	180	1000	265	890	18	200
		2500	S 2500	180	250	1200	365	1395	24	✖
		3200	S 3200	220	250	1500	470	1785	25	✖
	Stahl verzinkt	5000	S 5000	150	150	1000	500	1200	12	✖
		6000	S 6000	240	200	1200	700	1500	18	✖
		7000	S 7000	370	300	1500	1100	2400	25	✖
	Cable Carriers with side bands made of stainless steel*	0600	SX 0650	31	70	400	75	300	4	60
		1200	SX 1252	72	130	800	145	700	8	80
		1800	SX 1802	104	180	1000	265	890	13	120
		2500	SX 2500	180	250	1200	365	1395	16	✖
		3200	SX 3200	220	250	1500	470	1785	17	✖
		5000	SX 5000	150	150	1000	500	1200	12	✖
	EDELSTAHL® Rost frei	6000	SX 6000	240	200	1200	700	1500	18	✖
		7000	SX 7000	370	300	1500	1100	2400	25	✖
	Flexible Energy Conduits made of steel or steel and plastic	MOBIFLEX	MF 030	24	----	26	----	80	3	---
			MF 050	44	----	45	75	200	3	---
			MF 080	78	----	80	100	200	4	---
			MF 110	108	----	109	150	300	4	---
			MF 170	167	----	170	190	365	5	---
	Further cable carriers		**PROTUM Cable Carrier System**							
			**ROBOTRAX Cable Carrier System**							
			Festoon systems / Cable reels							

Key: ✖ On request * maximum values

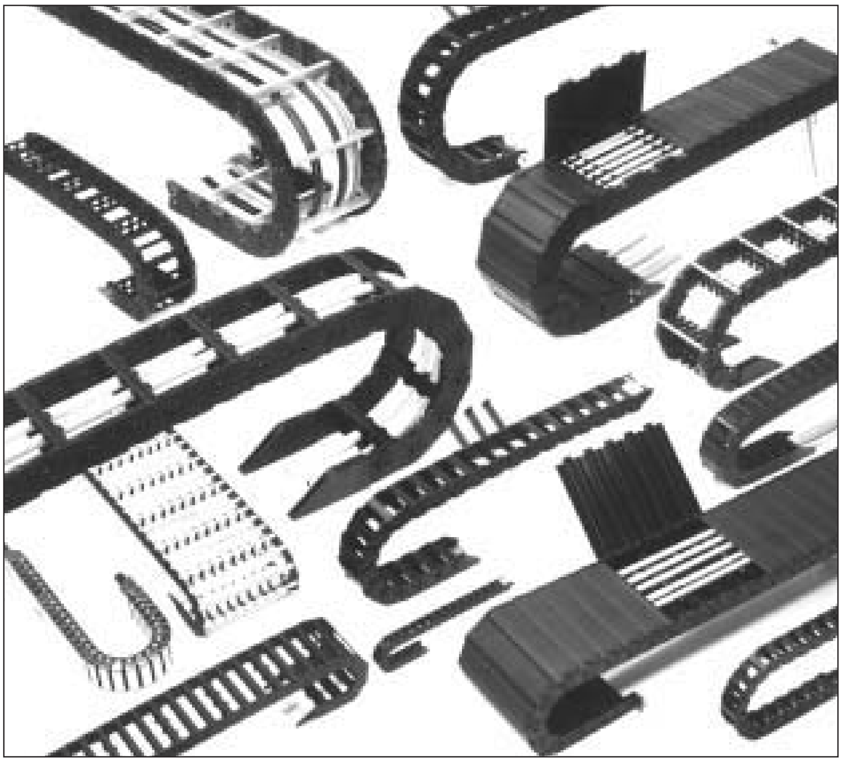
Please request detailed information for your specific application!



KABELSCHLEPP

Design Guidelines

The following information should assist you in the selection of the correct type of cable carrier or flexible energy conduit for your application.



In addition to the specific information about cable carriers in this handbook you will of course also find information about other necessary system components:

→ **Support Trays** ______ **Page 6.01**

→ **Guide Channels** ______ **Page 6.03**

→ **Electric Cables** ______ **Page 6.17**

→ **Strain Relief Devices** ______ **Page 6.19**

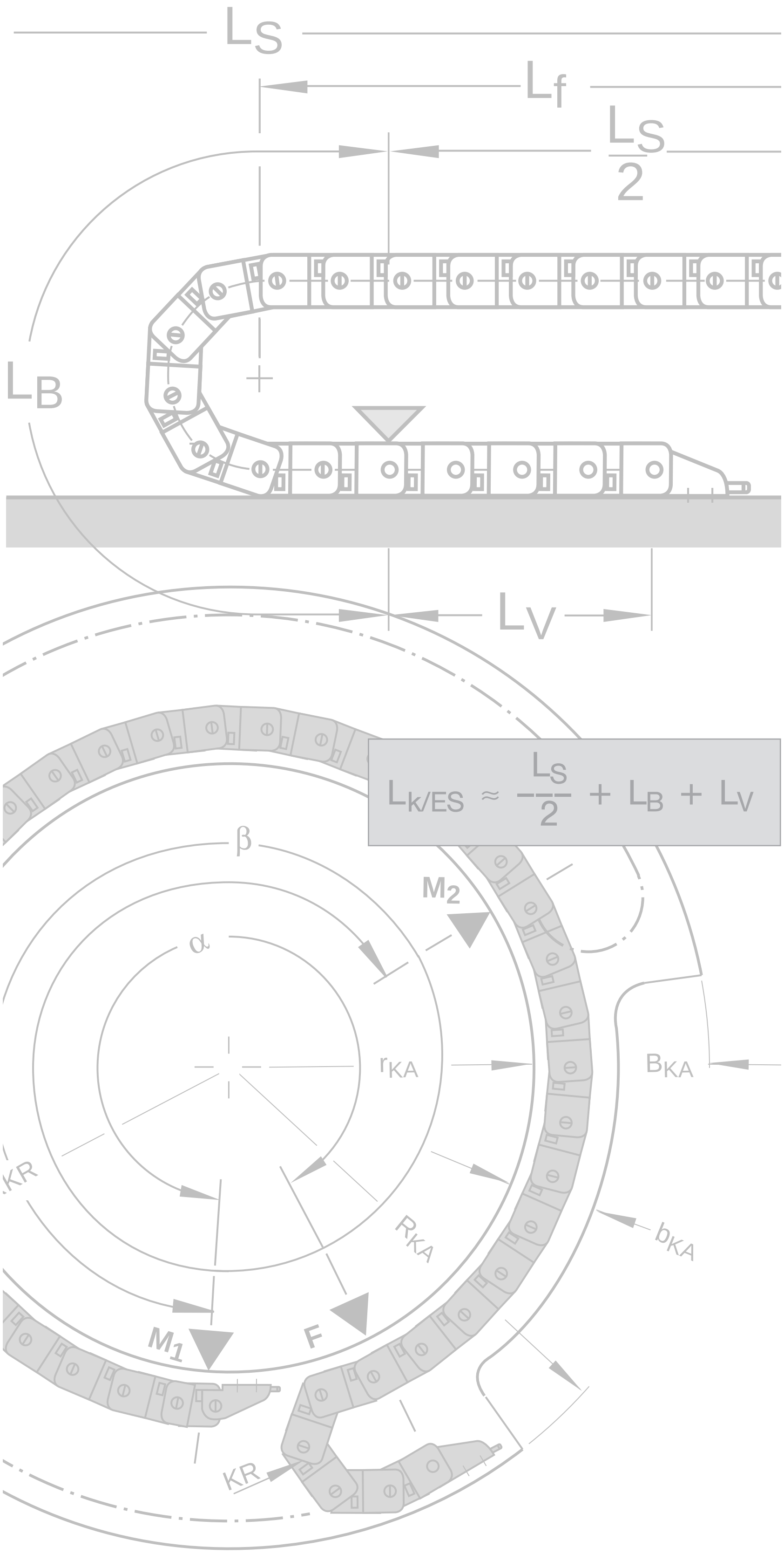
If your requirements cannot however be met in an optimum way by plastic cable carriers, please refer to our catalogue:

“KABELSCHLEPP –
Steel Cable Carriers”

or look on the Internet:
www.kabelschlepp.de

Please open out this page

Design Guidelines



Definitions

Please open out this page for ready reference when using the catalogue!

General Definitions

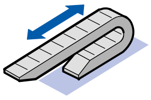
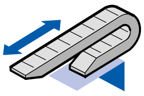
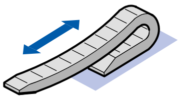
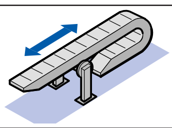
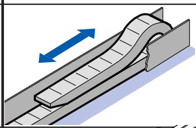
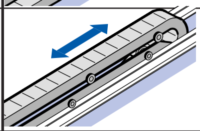
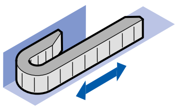
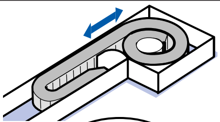
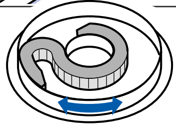
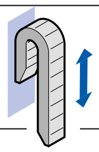
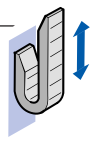
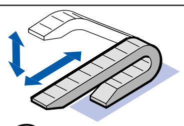
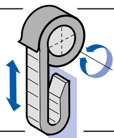
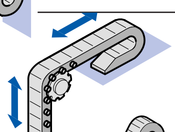
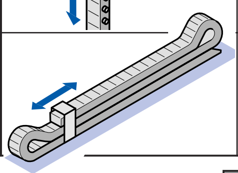
When reading and using this brochure you will find the following recurring terms:

a_T	=	Distance from the inside edge of the chain / conduit side bars to the centre of the first / last divider
a_x	=	Centre-to-centre spacing of dividers
a_{1-4}	=	Distance between height separators in the divider
B_{EF}	=	Maximum width of the cable carrier (including connectors)
$B_{EF'}$	=	Maximum width of the cable carrier over sliding discs
B_i	=	Cavity width inside the carrier / conduit cross section
B_k	=	Width of cable carrier (without connectors)
B_S	=	Width of flexible energy conduit
B_{St}	=	Stay width on hole stays
b_A	=	Width of the support tray
B_{KA}	=	Width of the guide channel
b_1	=	Clearance inside width of the support tray and / or guide channel
c	=	Distance between holes (on hole stays)
d	=	Outer diameter of cable or hose
d_R	=	Tube diameter on plastic roller stay
D	=	Hole diameter (in hole stay) $D \hat{=} 1.1\ d$ for electric cables $D \hat{=} 1.2\ d$ for hoses
H	=	Connection (mounting) height
h_A	=	Height of the support tray
h_G	=	Link height
h_G'	=	Link height including glide shoe
H_i	=	Clearance height inside the extended frame stay
h_i	=	Clearance height inside the carrier / conduit cross-section
h_i'	=	Clearance height in the hinge
h_{KA}	=	Height of the guide channel
h_1	=	Operating height of the upper part of the cable carrier in the guide channel
l_A	=	Length of the end connector
l_{1-4}	=	Connection dimensions
KR	=	Bending radius of the cable carrier
k	=	Travel length reserve
L_A	=	Length of the support tray
L_B	=	Length of carrier in the bend
L_D	=	Length with permitted sag
L_{ES}	=	Length of the flexible conduit (without connectors)
L_f	=	Self-supporting length
L_k	=	Length of the cable carrier (without connectors)
L_{KA}	=	Length of the guide channel
L_S	=	Maximum travel length of the application
L_V	=	Longitudinal offsets between cable carrier fixed point and centre of the travel length
L_Z	=	Additional dimension for the channel
l_1	=	Connection length
n_H	=	Number of height separators
n_T	=	Number of dividers per cross-section
n_Z	=	Number of teeth (strain relief)
q_K	=	Weight of the cable carrier (without connectors)
q_Z	=	Additional load in kg/m
RKR	=	Reverse bend radius
s	=	Sheet metal thickness
s_H	=	Thickness of height separator
s_T	=	Thickness of divider
t	=	Pitch
$Ü_B$	=	Loop overhang
X	=	Distance between the fixed points (in an opposing arrangement)

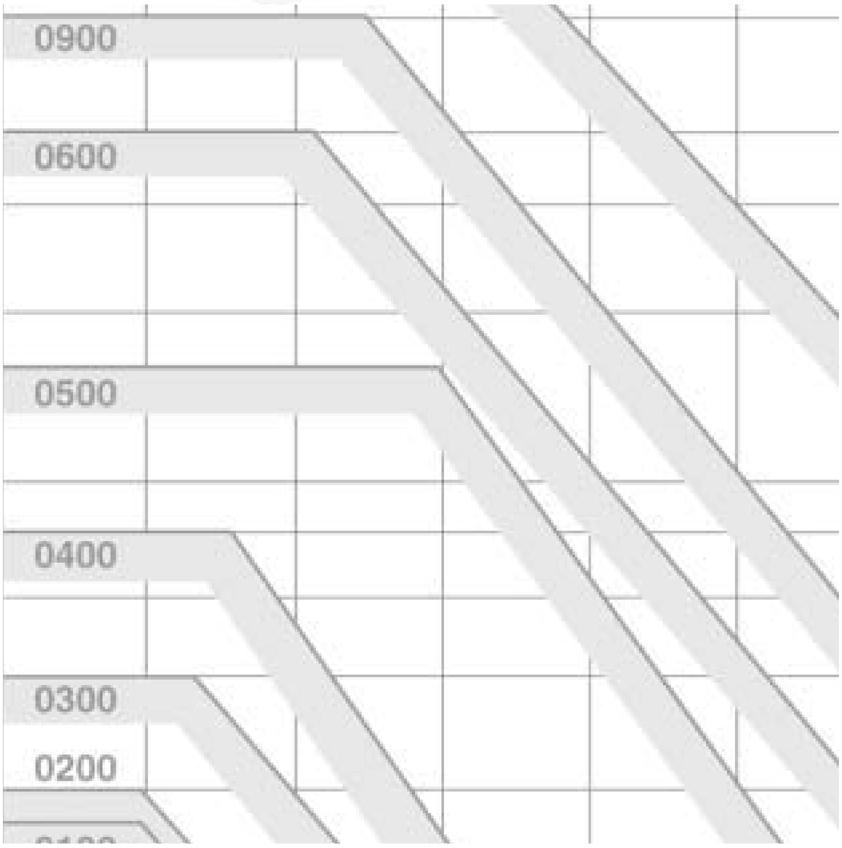
Further terms are given in the technical data for the carrier in each case.

Design Guidelines

* with restrictions for the QUANTUM and PROFILE cable carrier systems

Abbrev-iation	Symbol	Description	Steel cable carriers: Cable Carriers	Steel cable carriers: Flexible Conduits	Plastic cable carriers *
EBV 01		**Horizontal arrangement ”self-supporting”**	■	■	■
EBV 02		**Horizontal arrangement ”self-supporting – overhanging”**	■	■	■
EBV 03		**Horizontal arrangement ”with permitted sag”**	---	---	■
EBV 04		**Horizontal arrangement ”with support”**	◆	●	●
EBV 05		**Horizontal arrangement “sliding in a guide channel”**	◆	---	■
EBV 06		**Horizontal arrangement “with continuous support structure”**	◆	---	●
EBV 07		**Horizontal arrangement “turned through 90° - straight”**	◆	●	■
EBV 08		**Horizontal arrangement “turned through 90° - rolled”**	◆	●	■
EBV 09		**Horizontal arrangement “turned through 90° - circular”**	◆	---	◆
EBV 10		**Vertical arrangement “standing”**	■	■	■
EBV 11		**Vertical arrangement “hanging”**	■	■	■
EBV 12		**Horizontal / vertical arrangement “combined”**	■	■	■
EBV 13		**Vertical arrangement “coiled”**	■	■	■
EBV 14		**Vertical arrangement “hanging with supporting bolts”**	◆	---	---
EBV 15		**DYNAGLIDE Arrangement**	---	---	◆

Key: ■ **Standard** ◆ **Customised standard product** ● **Special order**

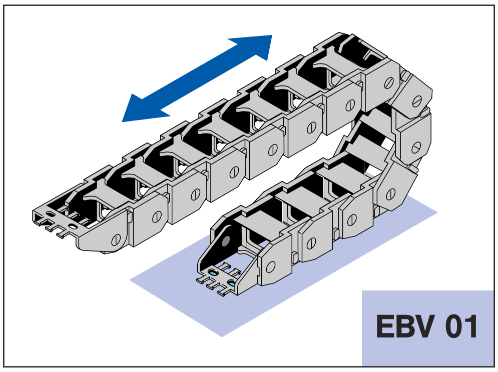


Design Guidelines

for the individual installation variants

Installation Variants

Horizontal arrangement "self-supporting"



Definition:

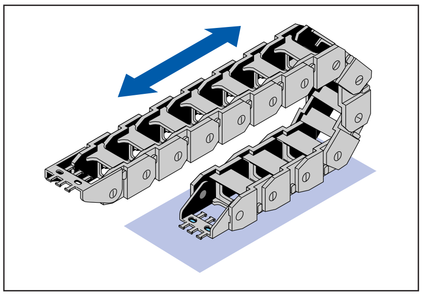
The upper run of the cable carrier moves freely, ie unsupported and without sag, parallel to or with a little pre-tension over the lower run and / or the support.

Application:

→ Dependent on the type of cable carrier and the additional load q_Z (weight of all cables and hoses)

→ To be used depending on the cable carrier type up to a travel length of about 10 m.

→ The application area in which the cable carrier operates in a self-supporting mode without sag is given in the respective load diagram for each carrier type. Should a larger additional load or a longer travel length be selected, then the upper run of the carrier will begin to sag. (Cf. EBV 03 Self-supporting horizontal arrangement with permitted, desired sag).



Absolutely essential

in all cases in which the self-supporting upper run of the cable carrier has to pass obstacles!

Acceleration / Speed

With this arrangement of the cable carrier maximum speeds and accelerations are possible.

In a self-supporting arrangement accelerations > **300 m/s²** and travel speeds > **40 m/s** can be achieved with KABELSCHLEPP cable carriers (values for Quantum).

Classification: Types – Series

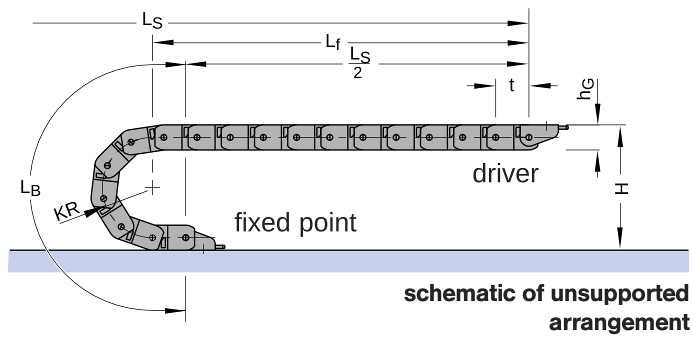
For a rough selection of the cable carrier according to the self-supporting length cable carriers having the same pitch (t) are grouped into chain series.

The classification of series and types follows the following table.

For the self-supporting lengths for QUANTUM, please see the QUANTUM Chapter.

Series	MICRO; MONO	UNIFLEX	K-SERIES	M-SERIES	XL-SERIES
100	0130/0132 0180/0182				
200	0202	0250			
300	0320	0345		MC 0320 ME 0320	
400	0450	0455		MK 0475 MT 0475	
500		0555			
600	0625	0600 0665	KC 0650 KE 0650	MC 0650 ME 0650 MK 0650 MT 0650	
900			KC 0900 KE 0900	MC 0950 ME 0950 MK 0950 MT 0950	
1250				MC 1250 ME 1250 MK 1250 MT 1250	
1650					XLC 1650 XLT 1650

Rough calculation of self-supporting lengths and travel lengths



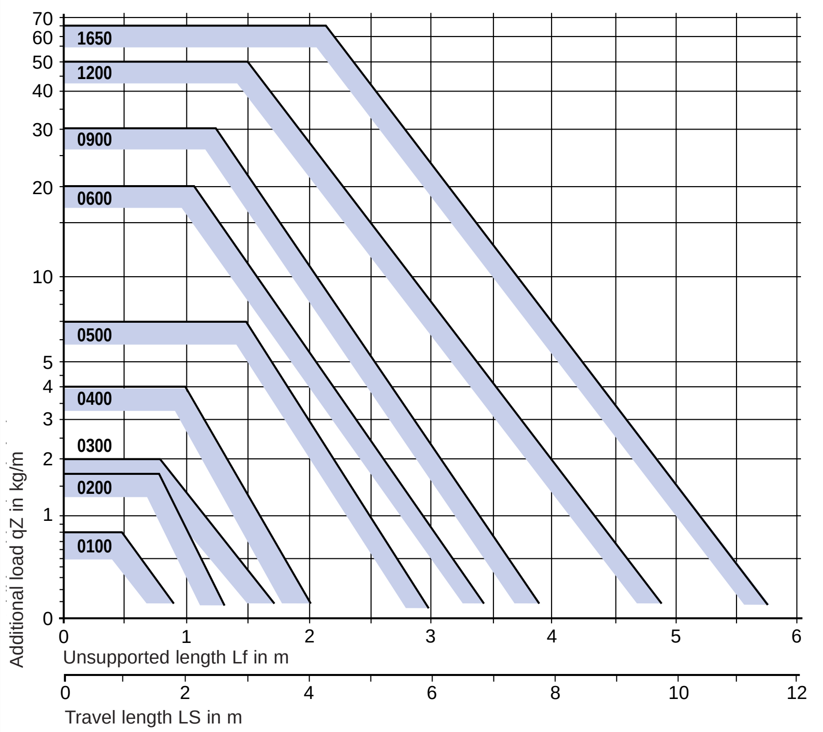
schematic of unsupported arrangement

Load diagram for two-band chains

Unsupported lengths / travel lengths
dependent on the additional load (maximum values)

- Cable Carrier Series **0100**
- Cable Carrier Series **0200**
- Cable Carrier Series **0300**
- Cable Carrier Series **0400**
- Cable Carrier Series **0500**
- Cable Carrier Series **0600**
- Cable Carrier Series **0900**
- Cable Carrier Series **1200**
- Cable Carrier Series **1650**

The values for each chain type are given in the corresponding load diagram.



Design Guidelines

Formulae for the calculation of the self-supporting length L_f and the chain length L_K and / or the conduit length L_{ES}

If the fixed point is located in the centre of the travel length L_S the following formulae apply:

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

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

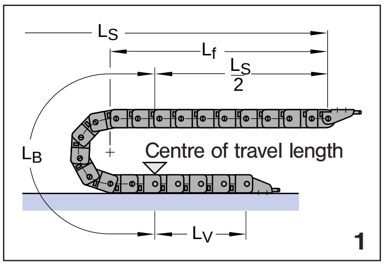
rounded to pitch t

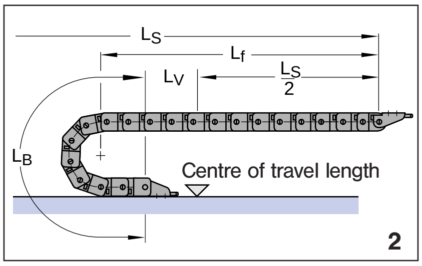
If the fixed point is located outside the centre of the travel length, the following applies:

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

rounded to pitch t

With variant 2 please consider the self-supporting length L_f! (relevant to the travel length)





Please select the suitable cable carrier taking into account the required **self-supporting length L_f** and the **additional load q_z** in accordance with the diagram.

Hint:

If you are unable to find a suitable cable carrier type for your particular application on the “unsupported arrangement” diagram we recommend that you carry out the following checks:

1. Select a cable carrier with the permitted (desired) sag (page 2.09)

2. Provide support for the cable carrier in the unsupported area (page 2.10)

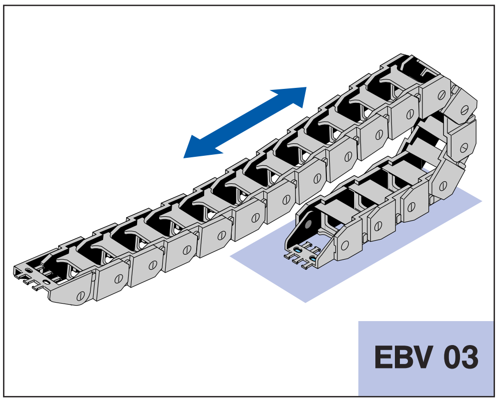
3. Select the “sliding in a guide channel” cable carrier system (page 2.11)

4. Use a cable carrier in a multi-band arrangement, an arrangement running inside each other or an arrangement running in an opposite direction

5. Select a steel cable carrier (see “Steel Cable Carriers” catalogue)

Horizontal arrangement "self-supporting"

with permitted (desired) sag



Owing to the elasticity of the material used it is in many cases possible to install a cable carrier with permitted (desired) sag.

A perfect functioning of the cable carrier is guaranteed!

Definition:
The upper run of the cable carrier "sags freely".

Application:
Depending on the type of cable carrier and the additional load (weight of all cables and hoses installed) it can be used up to a travel length of 12 – 14 m.

Not to be used:
→ if machine parts (obstacles) have to be passed
→ with CONDUFLEX flexible energy conduits

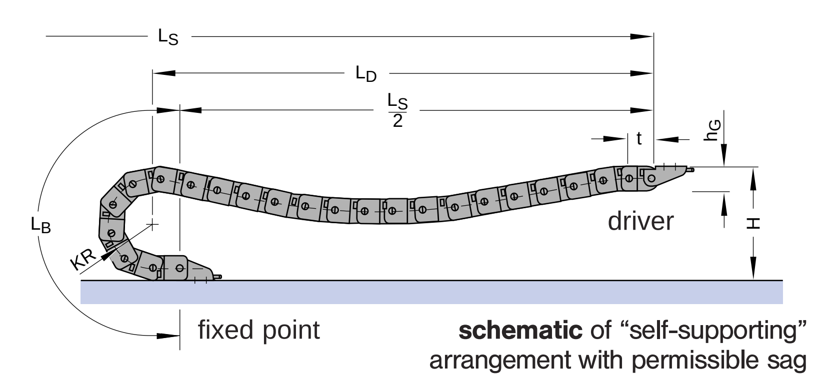
Rough calculation

of the carrier / conduit length and of the achievable travel lengths

Please note that with higher accelerations vertical vibrations may occur when cable carriers are used with permitted (desired) sag.

These possible vertical vibrations can be balanced by reducing the connection height of the driver.

Please consult us for accelerations >1 m/s² !



schematic of "self-supporting" arrangement with permissible sag

Formulae

for the rough calculation of the self-supporting length with sag L_D

If the fixed point is located in the centre of the travel length L_S the following applies:

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

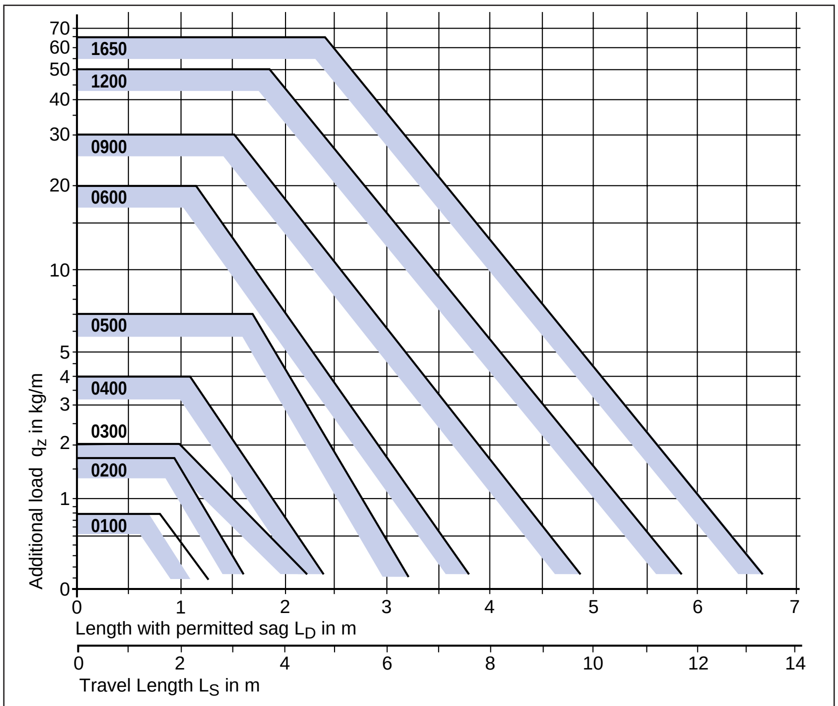
Calculation of the chain length L_k and / or conduit length L_{ES}

Select the suitable cable carrier series from the load diagram

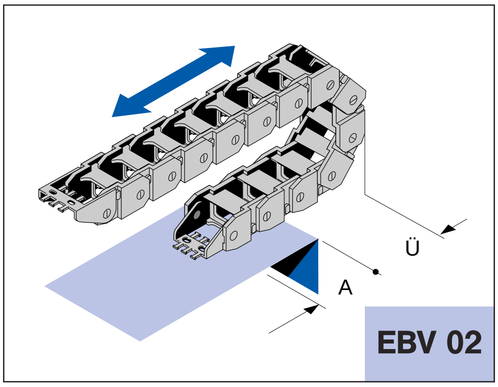
$$L_k/L_{ES} \approx \frac{L_S + KR}{2} + L_B$$

The formulae apply if the fixed point is located in the centre of the travel length! If the fixed point is located outside the centre of the travel length, the calculated carrier and / or conduit length should be extended by the offset length LV between the fixed point of the carrier and the centre of the travel length.
(cf. horizontal "self-supporting" arrangement, page 2.08)

Load diagram self-supporting with permitted sag (maximum values).
Classification: Series – Type see page 2.07



Horizontal arrangement "self-supporting – with overhang"



Definition:

The lower run of the cable carrier is not supported over its total travel length.

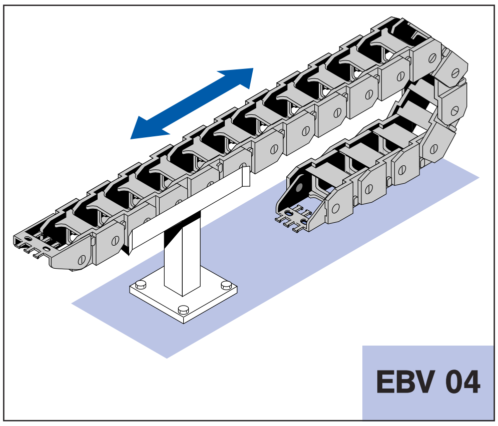
$$\ddot{U}_{max} = \frac{L_f}{4}$$

We will be happy to calculate the required measurements A and Ü for your individual application.

Application:

This kind of arrangement should only be selected for relatively short travel lengths and low additional loads.

Horizontal arrangement "with support"



Definition:

If the self-supporting length of the cable carrier is exceeded, support can be provided in the upper run area.

You should however consider whether, instead of using a KABEL-SCHLEPP cable carrier with support(s) you should perhaps use the next size up, if space permits.

In any case the support must have an inclination. The upper run should be supported as much as possible.

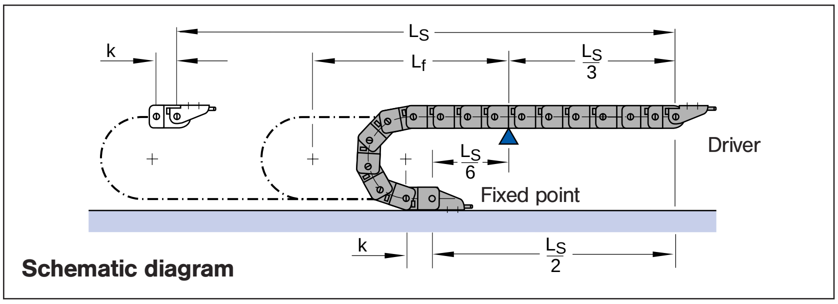
Support by trestle structure(s)

Arrangement of support

Arrangement with one support:

When $L_S < 3\ (L_f - k)$ k_{min} = pitch t

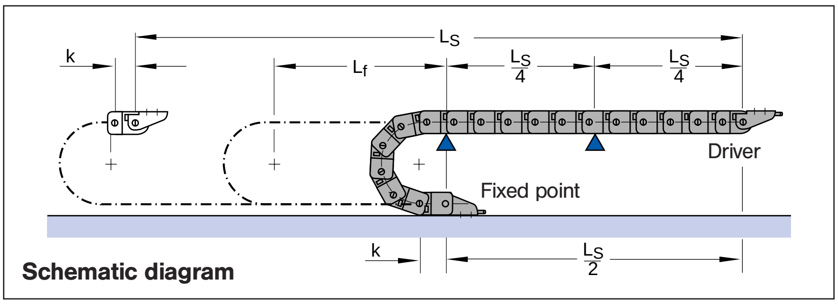
The distance of the support from the fixed point in this arrangement is approx. 1/6 of the total travel length.



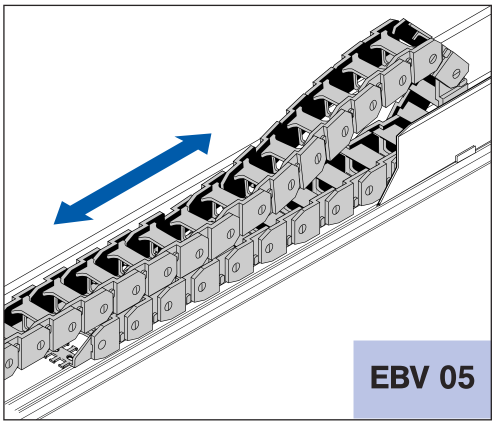
Arrangement with two supports:

When $L_S < 4\ (L_f - k)$ k_{min} = pitch t

The first support is over the fixed point, the second support is in the centre of the remaining length!



Horizontal arrangement "sliding in a guide channel"



Definition:
The upper run of the cable carrier sags and glides on the lower run or on a sliding surface of the relevant guide channel.

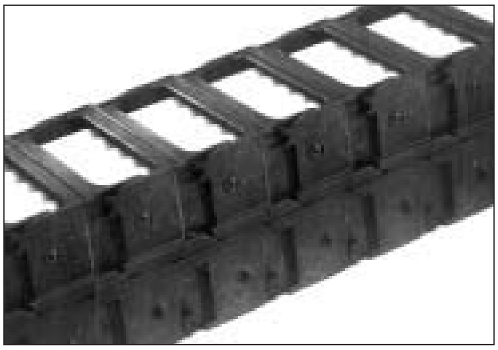
Application:
For long travel lengths which cannot be realised with a self-supporting design.

KABELSCHLEPP cable carrier systems used in this arrangement guarantee a low friction operation.

Condition:
The cable carriers must be guided in a channel!

You will find details about guide channels on page 6.03

Gliding Elements



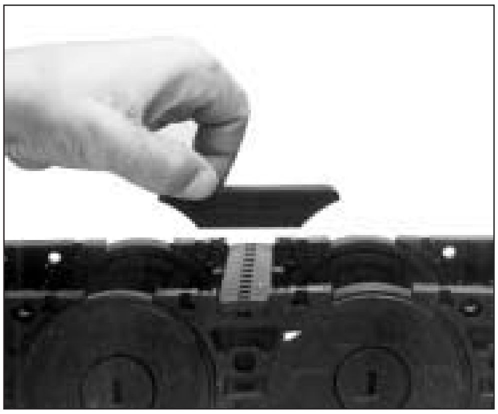
On the side chain links of the cable carrier there are either:

Directly moulded glide runners / skids!

The glide runners / skids are made of the same reinforced fibreglass material as the side chain links.

Gliding friction coefficient $\mu \approx$ **0.4**

or



Interchangeable mounted glide shoes!

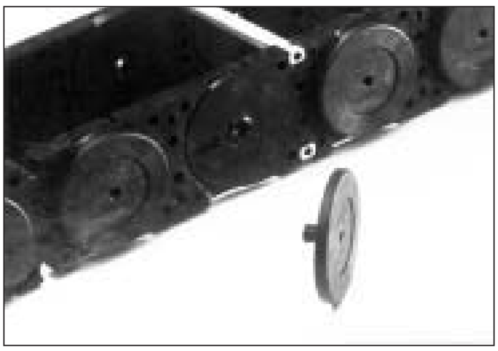
As a general rule, with travel speeds > 2.5 m/s glide shoes should always be used.

Only KABELSCHLEPP offers you interchangeable glide shoes made of special sliding plastics (KS-patent)

Theoretically the chain bands never need to be replaced.

The gliding friction coefficient can be reduced to a value of $\mu <$ **0.2** !

The glide shoes in the lower run can also be removed from the chain bands in the guide channel to permit easy access to the cables and hoses.



Sliding discs

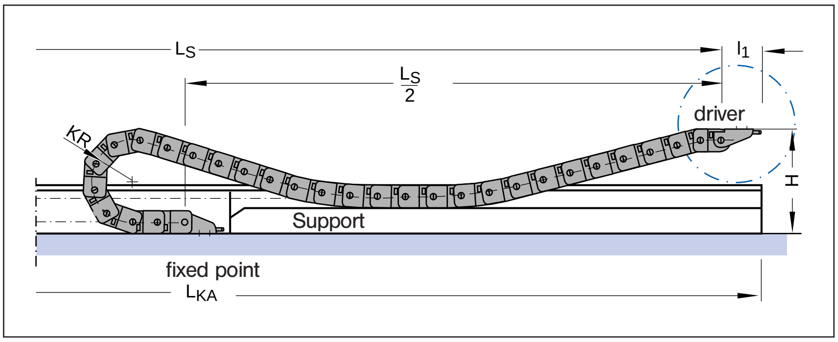
For types **KC 0650, KE 0650, KC 0900** und **KE 0900** sliding discs can be attached to the hinges of the side chain links to maintain clearance between the cable carrier and the channel wall.

This permits the friction and wear conditions to be optimised.

Design Guidelines

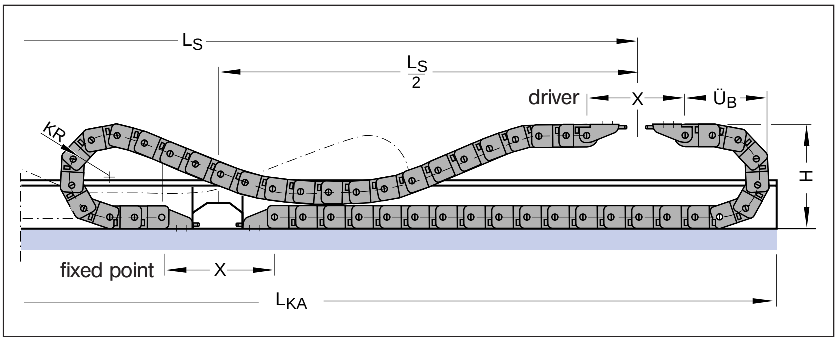
Single-sided arrangement of cable carrier

(with standard driver connection)



Opposing arrangement of cable carrier

(with standard driver connections)



Optimum Driver Connection Height

The longer the travel length and the longer the cable carrier, the greater the pushing and pulling forces required to move it.

The intrinsic weight, acceleration, additional load and friction factor determine the force required.

The connection height multiplied by this force results in a bending moment whose size can exceed the breaking force of the cable carrier.

The correct connection height is therefore an essential factor which determines the service life and function of the entire cable carrier system.

The correct connection height for the application situation must be calculated.

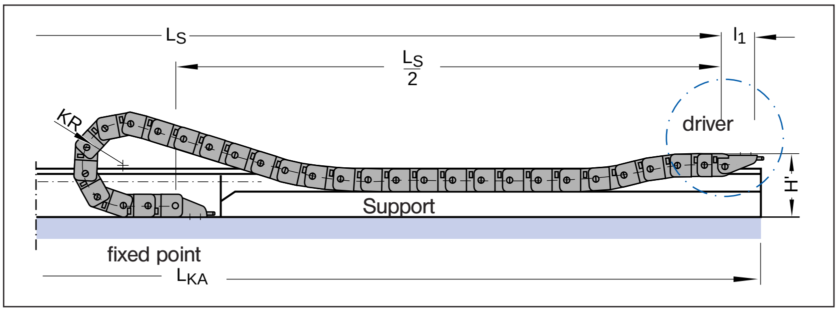
Our experience with many applications has shown that as a general rule a connection height of $H' = 3\ h_G$ results in a recommended size.

One-sided Arrangement

(with lower driver connection)

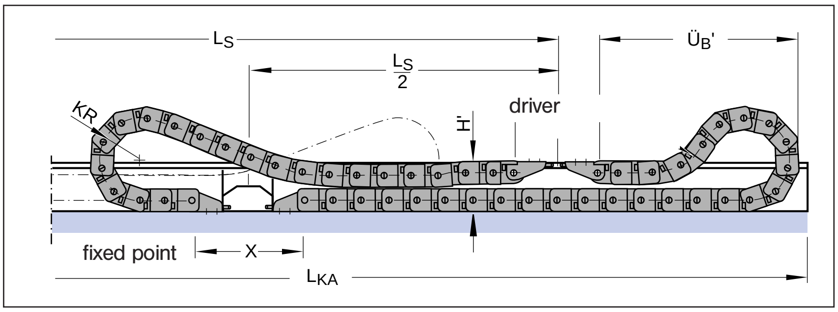
Connection Height with lower driver connection:

$H' = 3\ h_G$	Rough calculation



Opposing Arrangement

(with lower driver connections)



Openings for cables and hoses

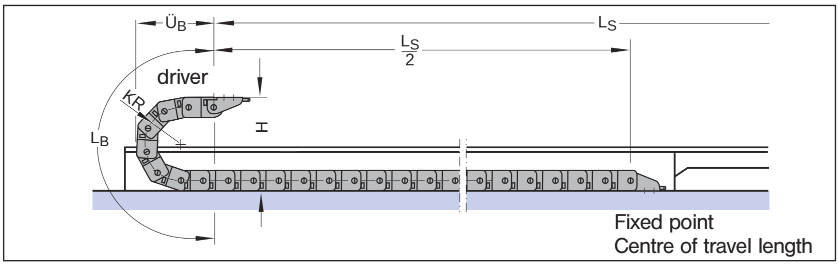
To facilitate cable installation, openings can be provided in the channel wall or in the area where the fixed point is located, in accordance with your requirements.

Design Guidelines

Loop Overhang $Ü_B$ and Bend Length L_B

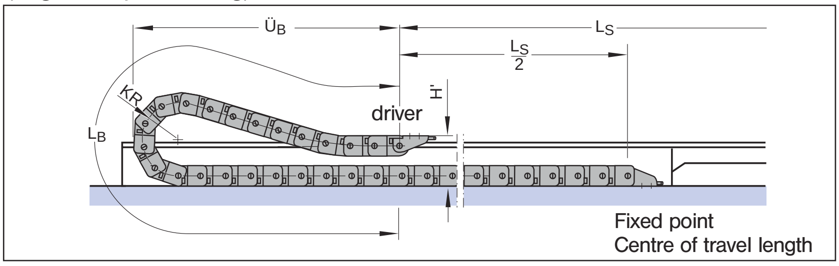
With a lower driver connection there is a larger loop overhang $Ü_B$ and therefore also a larger bend length L_B than with a standard driver connection height.

Standard Driver Connection Height
(smallest loop overhang)



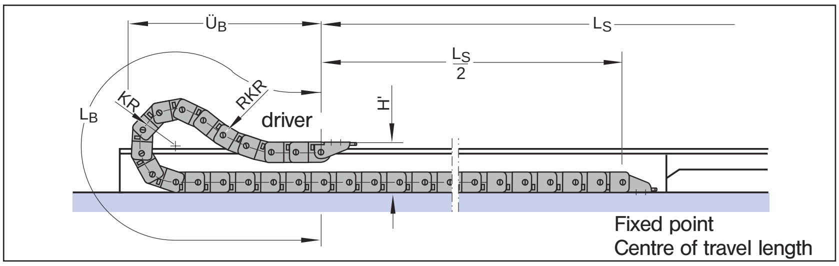
An arrangement with a flexible deflection curve bending line is recommended.

Lower Driver Connection with flexible deflection curve bending line
(largest loop overhang)



If space requirements mean that an arrangement with a flexible deflection curve bending line is not possible, RKR links can also be used with a lower driver connection.

Lower Driver Connection with RKR links
(reduced loop overhang)

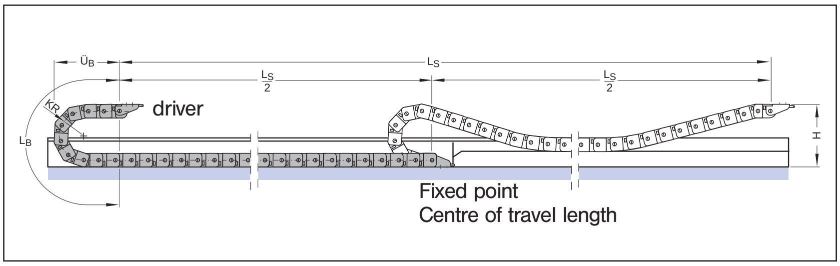


Calculation of Chain Length L_K

General formula for calculating the chain length L_K

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

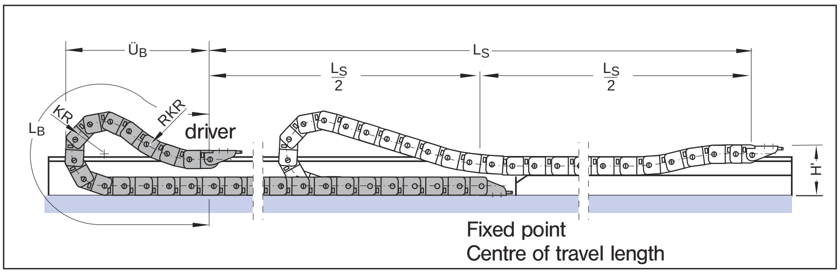
rounded to pitch t



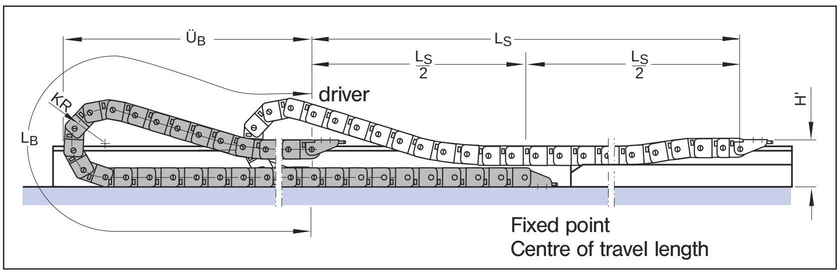
Calculation of Bend Length L_B

Recommended bend length L_B **with standard driver connection height**

$$L_B \approx KR\,\pi + 2\,t + KR$$



The calculation of the bend length with a **flexible deflection curve bending line and reverse bend radius** RKR depends on various factors such as the chain type, bend radius, number of the RKR links etc.



Our experts should design application layouts of this kind.

Design Guidelines

Determining the chain length L_K and / or conduit length L_{ES}
for opposing arrangement of the cable carrier

The calculation of the chain / conduit length is done in the same way as for the arrangement one-sided.

It is absolutely necessary to pay attention to the fact that where there are two moveable applications with a common driver, both cable carriers must be of the same width!

Design note:

The support construction of the guide channel must be designed with the necessary stability to guarantee a clean height separation between the active upper run and the passive lower run, especially where there is a lower driver connection.

”Technical data – dimensions of the guide channels”
⟶ see accessories

The achievable length of a system depends on the following parameters:

⟶ the load to be moved (intrinsic weight + additional load)
⟶ acceleration
⟶ travel speed
⟶ travel frequency
⟶ gliding friction coefficient
⟶ the permissible tensile force of the cable carrier

Because of the many design parameters which need to be considered such an installation as this should be planned and designed by our engineers!

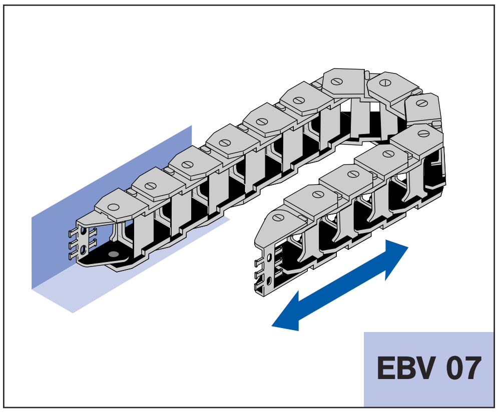
In this case please use the telefax questionnaire, which you will find in the Appendix to this handbook or send us an eMail to
info@kabelschlepp.de

Note:
For very long travel lengths and / or other extraordinary conditions which do not permit the installation of a gliding plastic cable carrier system, KABELSCHLEPP can also supply portable support devices.

Our engineers will be pleased to design a suitable solution for your application.

Horizontal arrangement “turned through 90° - straight”
(lying on its side)

This arrangement can be realised with almost all types of cable carrier!

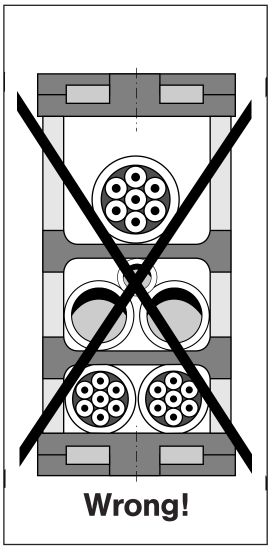


Definition:
The cable carrier installed in a normal horizontal arrangement is turned through 90°, ie it slides on the **outside of the band** or on special **sliding discs** on a support or in a channel.

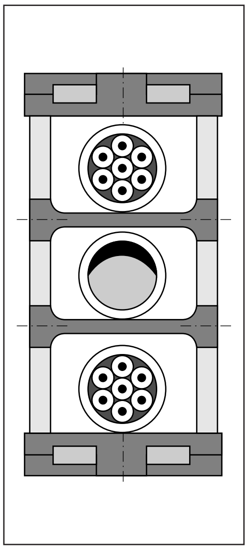
Application:
Generally, cable carriers “turned through 90°” are used if the installation area, particularly with regard to height, is so restricted that a “normal” horizontal installation is not possible.

The installed cables / hoses must be guided in the cross-section of the cable carrier, clearly separated from one another, by **fixed dividers** or **in a hole stay.** Only in this way can long term damage be avoided.

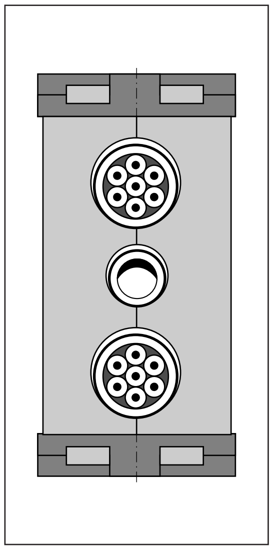
The best technical solution for this is the hole stay, which permits the optimum guidance of cables / hoses in the carrier.



Frame stay with adjustable dividers



Frame stay with fixed dividers



Optimum separation of the cables/hoses in a hole stay

Principally we differentiate between:

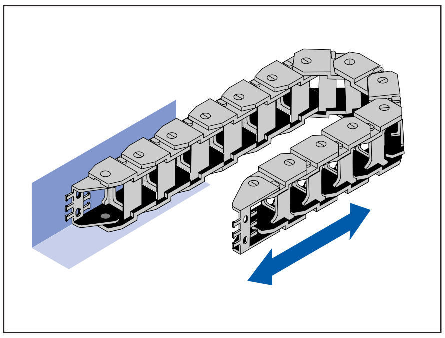
1. **Installations for short travel lengths** with or without support

2. **Installations for long travel lengths** with or without support

Installations for short travel lengths
with or without support

Arrangement without support:

KABELSCHLEPP cable carriers can be installed in a horizontal arrangement "turned through 90°" in a **"self-supporting"** application to a limited extent.



Even with this installation variant the permissible self-supporting length depends on the following factors:

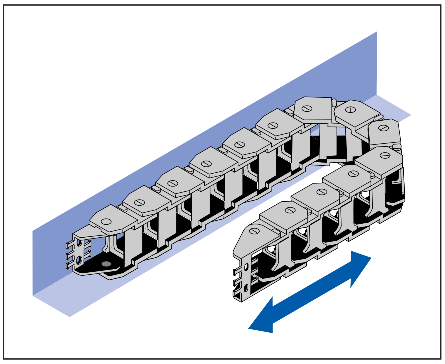
- additional load q_Z
- travel length L_S
- bend radius KR
- chain width B_k
- connection possibility

- the higher the additional load, the smaller the self-supporting length without support
- the larger the bend radius, the more unstable is the system
- the larger the chain width, the higher the bend and torsional rigidity of the cable carrier
- where the additional load is small, standard connection elements are sufficient for the connection, otherwise reinforced connections must be selected.

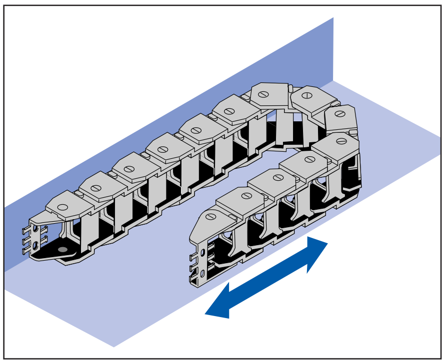
Arrangement with support:

If the additional load and the required self-supporting length are too high, the cable carrier must be supported either on one side or in its entirety.

Arrangement with one-sided support



Arrangement with complete support



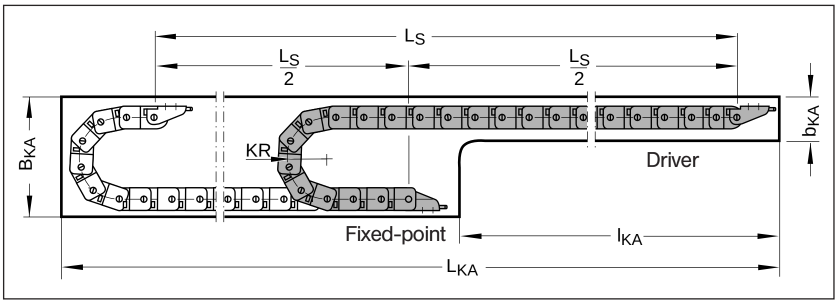
Owing to the complexity of problems which may arise with such an installation, please be sure to consult us for advice and assistance!

Installations for long travel lengths
sliding in a guide channel

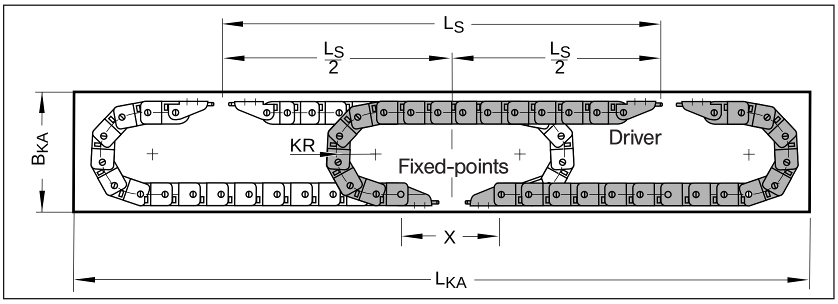
Plastic cable carriers can be installed in the arrangement “turned through 90° - straight” for travel lengths well in excess of 100 m.

“One-sided” or **“opposite”** arrangements have often been realised with or without special auxiliary devices during the course of the past 50 years.

Single-sided arrangement
(with offset guide channel)



Opposing arrangement



Explanation of Terms:

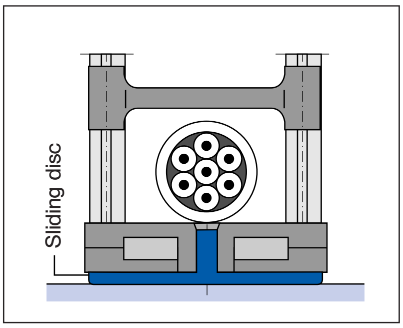
b_{KA} = Channel width in the narrow section

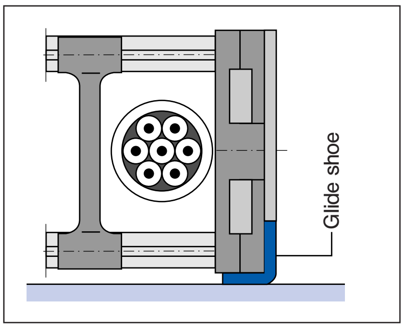
l_{KA} = Length of the narrow channel

The cable carrier “turned through 90°” for long travel lengths must **always** be guided in a channel.

The material and quality of the channel floor must be such that low-wear operation is guaranteed with the lowest frictional forces.

KABELSCHLEPP cable carriers can, according to their type, be equipped with **interchangeable** mounted gliding elements which guarantee optimum friction and wear conditions.



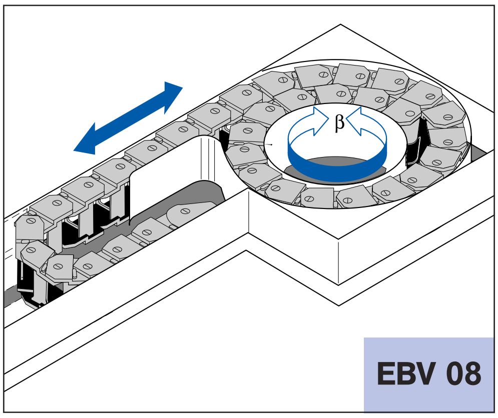


Design Guidelines

Horizontal arrangement turned through 90° - circular (lying on its side)

With this arrangement the cable carrier "turned through 90°" is connected with a machine performing circular operations.

The "travel length β" is indicated in angular degrees!

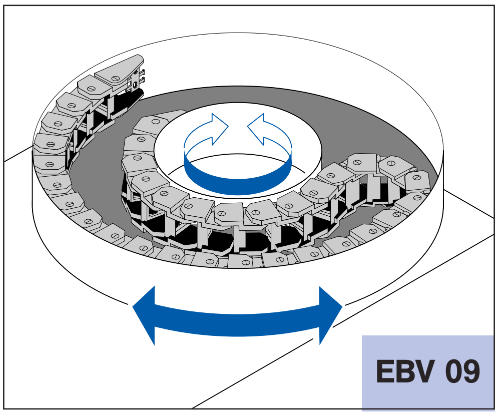


Application:

→ Cable carriers "turned through 90°" – for circular movements which are wound up on a "rotating body".

→ This kind of cable carrier is preferred for smaller systems, often with a high angular travel length.

Cable carriers
with reverse bend radius RKR



Note:

Cable carriers "turned through 90°" –

for circular movement, with bend radius KR and **"reverse bend radius RKR"** in a one-sided or opposing arrangement.

For angles of rotation > 180° the cables must not be arranged next to one another in the chain cross-section.

Through the combination of the bend radius KR and the reverse bend radius RKR, the cable carrier can deliberately move in two precisely defined circular movements.

In this way the most diverse circular movements can be realised.

The cable carrier system is attached to the inner and outer ring of a guide channel. The moving ring (inner or outer ring) is the driver.

As a general rule, cable carriers in this configuration must always be guided in a channel.

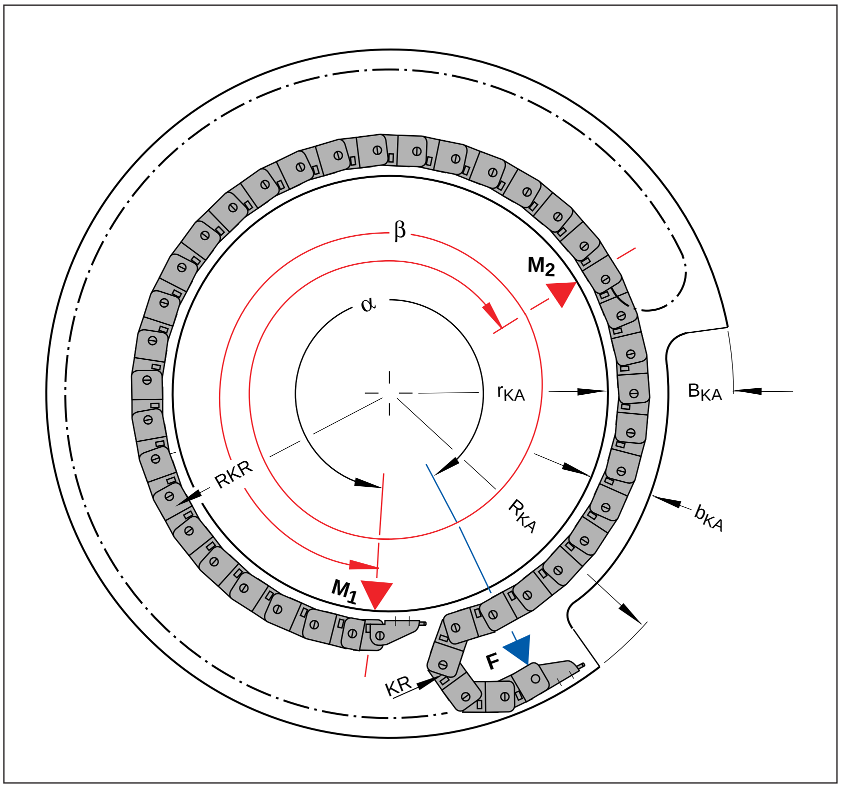
The channel floor must be designed so as to guarantee low-wear operation, since the cable carriers slide on the band side over the channel floor and are supported by the channel walls.

Furthermore, several KABELSCHLEPP cable carrier systems (carriers / conduits) can be fitted with **interchangeable mounted gliding elements.**

They are made of plastic with very high sliding properties and guarantee optimum gliding operation and long installation life.

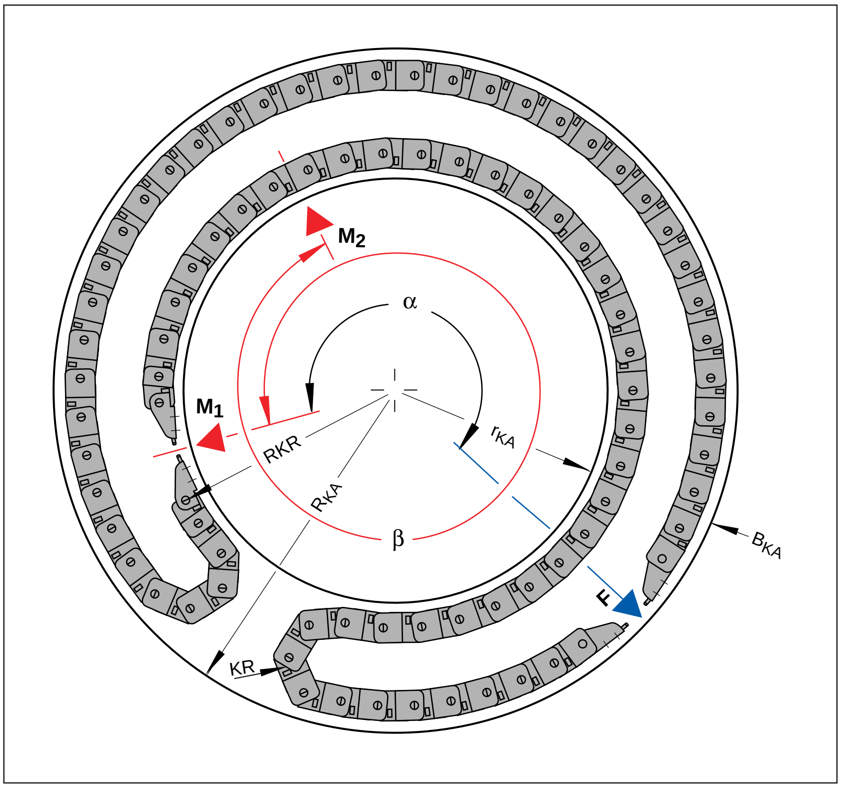
One-sided arrangement

with offset guide channel
(schematic illustration)



Opposing arrangement

(schematic illustration)



Explanation of Terms:

α = Fixed point angle
β = Travel length
b_{KA} = Channel width in the narrow section
B_{KA} = Channel width
K_R = Bend radius
RKR = Reverse bend radius
r_{KA} = Internal channel radius
R_{KA} = External channel radius

F = Fixed point
M_1 = Driver – End position 1
M_2 = Driver – End position 2

KABELSCHLEPP supplies the cable carrier and channel, cables and hoses and strain relief devices, ie we can supply the complete system solution!

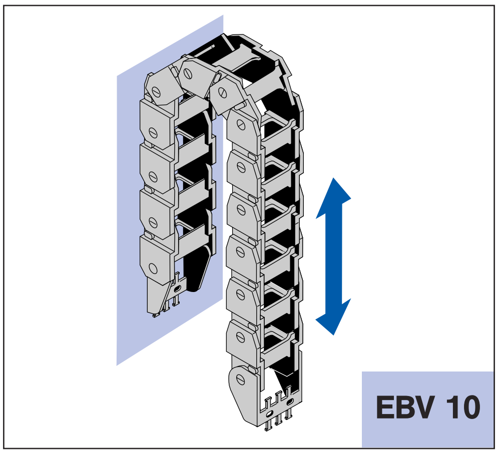
KABELSCHLEPP cable carrier systems in this configuration have been operating trouble-free in installations all over the world for decades.

Owing to the numerous design problems which may arise with this installation variant, we would ask that you consult us for assistance and advice.

We recommend that our engineers should guide you through the design process for this kind of installation.

Design Guidelines

Vertical arrangement - standing



With this kind of arrangement, the following points must be considered:

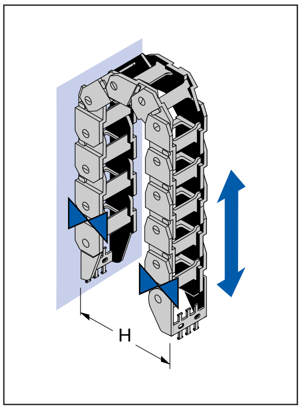
Cable Carrier

The cable carrier is to be mounted in such a way as to ensure the parallel movement of the active and passive runs.

Calculation of the chain length:

cf. Installation Variant EBV 01 (page 2.08)

Connection Elements:



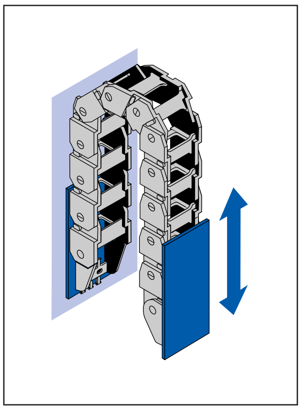
The connection elements should be attached to the machine (fixed point / driver) so as to prevent the cable carrier from breaking away to the outside, ie the connection must be rigid.

$$H = 2\ KR + h_G$$

The distance between the fixed-point and driver connection should correspond to the selected bend radius.

No or only minimal pre-tension should be applied to the cable carrier!

Support:

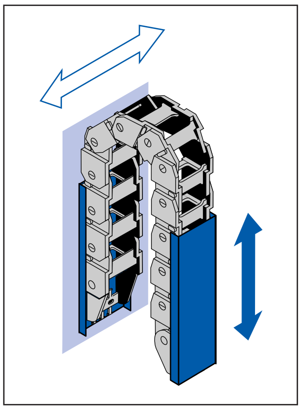


Generally, the cable carrier needs to be supported at the fixed point and at the driver on the outside.

The cable carrier should be able to lean against the support plates.

The length of the support is dependent upon the additional load, the degree to which the carrier is filled, the travel length and the selected cable carrier.

Direction of Movement:



In some instances, the complete unit moves crosswise to the vertically standing cable carrier.

In these cases the cable carrier needs in addition to be equipped with the appropriate guides to follow this sideways movement.

Vertical arrangement - standing

Installing the cables and hoses in a vertical standing arrangement

With this arrangement of the cable carrier the correct installation of the cables and hoses is very important.

Please ensure that:

1. Electric cables and hoses are installed in such a way that they can move **“freely”** in the cable carrier and do not exercise any pressure on the inside / outside stays.
Here it is most important to consider that the hose lengths change under increased pressure.

2. The cables/hoses must be fixed at both ends with a strain relief device.

3. Electric cables and hoses should be installed clearly separated from one another in the inside of the cable carrier.

The weight distribution in the cross section of the cable carrier should be as symmetrical as possible.

We recommend the use of KABELSCHLEPP divider systems.

Note:

Randomly / incorrectly installed cables / hoses often soon become damaged because of the continuous relative movement (of the cables between themselves).

Flexible control cables with small cross-sections are especially at risk!

4. The correct selection of the bend radius (often dependent on the extent to which the carrier is filled) and of the chain type is of great importance.

In extreme cases the support of the cable carrier should be raised.

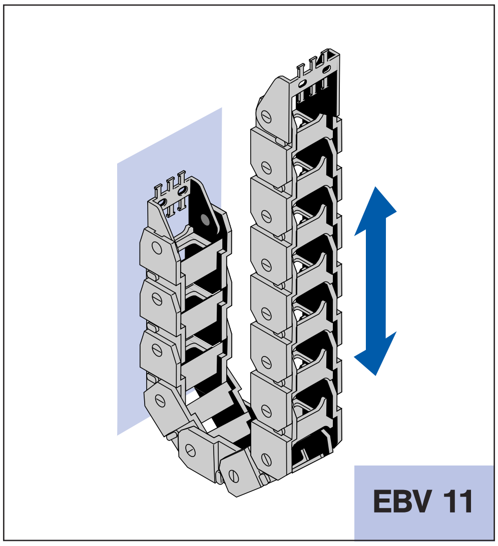
Owing to the multitude of design options which need to be considered, we would ask that you consult our technical team.

Our qualified engineers are always at your disposal to offer a detailed technical consultation.

Design Guidelines

Vertical arrangement – hanging

In many cases the vertical “hanging” cable carrier arrangement is subject to several directions of movement and / or loads.



We differentiate between:

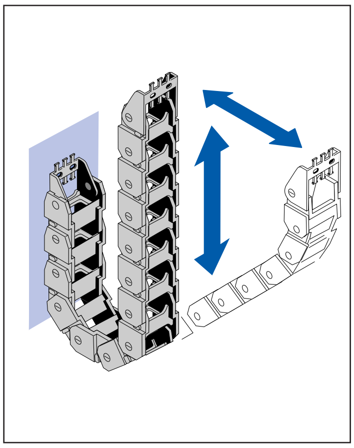
Vertical arrangement – hanging

Direction of movement of cable carrier:

vertical only

In the case of a purely vertical movement, the cable carrier can be installed without special side supports.

Calculation of the chain length according to installation variant EBV 01 (page 2.08)

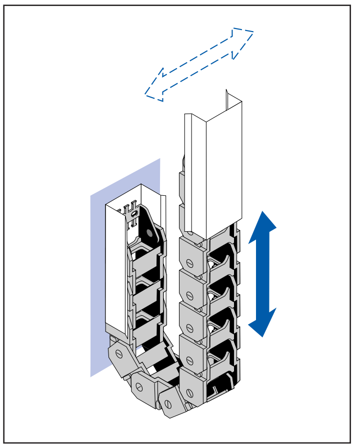


Vertical arrangement - hanging

Direction of movement of cable carrier:

vertical / horizontal combined

Even with a combined vertical / horizontal movement, the cable carrier can be installed without special side supports.



Vertical arrangement - hanging

Direction of movement of cable carrier:

vertical / horizontal combined

crosswise and along the hanging cable carrier.

If the entire unit moves crosswise and / or along to the “hanging” cable carrier, in many cases an additional side guide will need to be fitted.

The kind of guide depends on the given circumstances, whereby the guide does not always need to cover the entire travel length of the cable carrier.

The guide should however always protect the entire area in which the cable carrier can move.

Vertical arrangement - hanging

Pre-tension

No or **only the minimum pre-tension** should be applied to the cable carrier.

If we know the installation variant, for vertical "hanging" arrangements KABELSCHLEPP will only supply cable carriers without pre-tension!

Connections

Extreme care should be taken when fixing the cable carrier to the driver and to the fixed point.

It may be that a short support device will need to be provided!

Installation of cables / hoses

Also with this arrangement the proper installation of all electric cables and hoses is very important.

Please ensure that:

All cables / hoses are installed in such a way that they can move freely in the cable carrier, ie the weight of the cables / hoses should not place an additional strain on the cable carrier.

The cable carrier has a protective and guiding function!

In order to guarantee this, extreme care should be taken when hanging / fixing the cables / hoses to the driver and to the fixed point.

Please be sure to take into account the fact that hanging electric cables and hoses "extend" after a certain amount of time and will therefore need to be readjusted.

The cables / hoses must be installed clearly separated from one another in the cross-section of the cable carrier.

We recommend the use of frame stays with a divider system or of KABELSCHLEPP hole stays.

With this design the last two stays (at the driver and at the fixed point) can be designed as clamping stays, thus guaranteeing optimum strain relief.

Note:

Randomly / incorrectly installed cables / hoses often soon become damaged because of the continuous relative movement (of the cables between themselves).

Flexible control cables with small cross-sections are especially at risk!

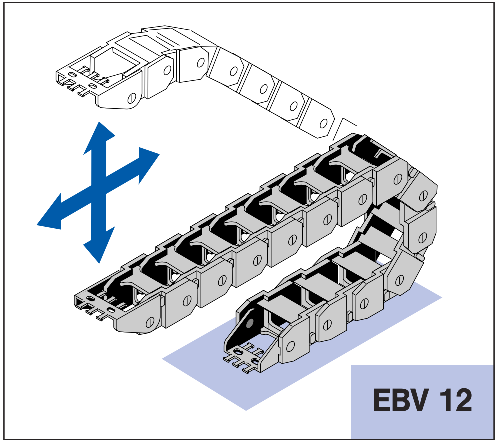
Owing to the multitude of design options which need to be considered, we would ask that you consult our design team.

We will be delighted to advise you!

Many installations of this kind have been delivered world-wide, whereby travel lengths in excess of 50 m have been realised using plastic and steel cable carriers.

Design Guidelines

Horizontal / vertical arrangement "combined"

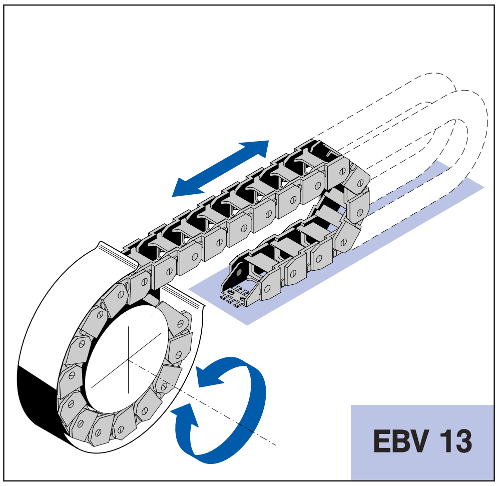


Apart from for standard horizontal and vertical movements, KABEL-SCHLEPP cable carriers can also be used for combined horizontal / vertical movements.

This arrangement requires no special structural preconditions.

Construction of length in accordance with installation variant EBV 01 (page 2.08)

Horizontal / vertical arrangement – coiled

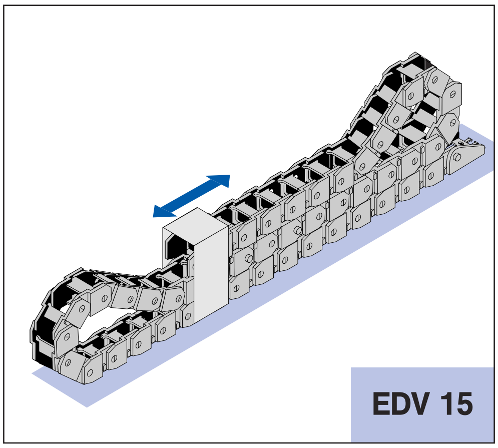


Cable carriers and conduits used in this arrangement are standard designs with the corresponding standard bend radii.

To ensure an optimum function of the installation, according to the structural and design conditions "flashings with inlet slopes" should be attached!

Construction of length in accordance with installation variant EBV 01 (page 2.08)

DYNAGLIDE Arrangement

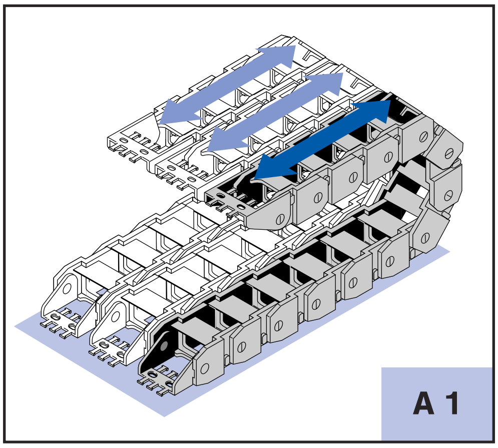


The DYNAGLIDE system is Kabelschlepp's solution for long travel lengths without a guide channel.

The following parameters must be observed:

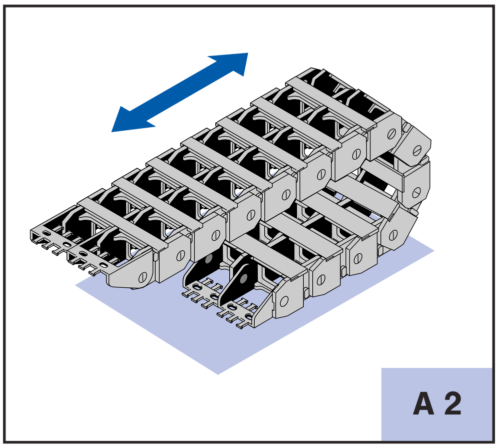
Travel length	<	50 m
Travel speed	<	1m/s
Acceleration	<	1.5 m/s^2

Such an arrangement should always be designed by us.

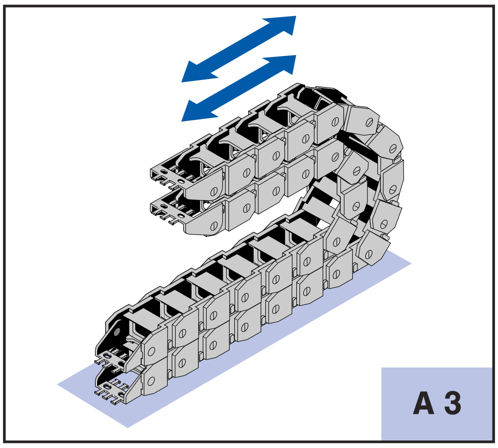


If the cable carrier cross section is inadequate to accommodate the number of cables / hoses, the following installation options are available:

Adjacent arrangement
possible with all cable carriers and conduits

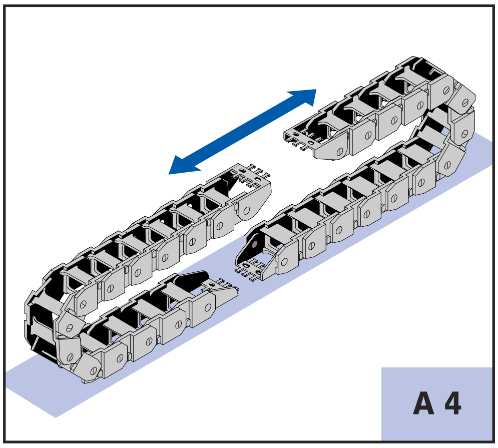


Multi-band arrangement
possible with all cable carriers (chains)



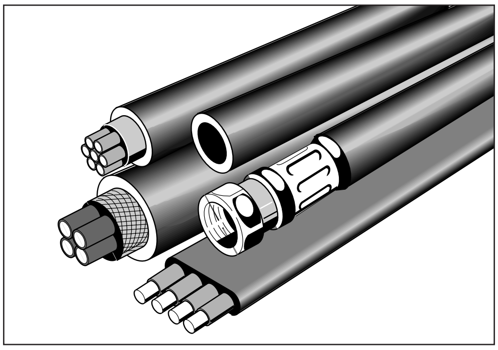
Nesting arrangement
possible with all cable carriers and conduits

If the available space will not permit the installation of a cable carrier system because of the required width, the systems can be installed in a **nesting** or **opposing** arrangement.



Opposing arrangement
possible with all cable carriers and conduits

Guidelines for the Laying of Cables / Hoses in the Carrier



Extreme care must be taken when installing supply cables in cable carriers or flexible conduits.

Please always observe the following:

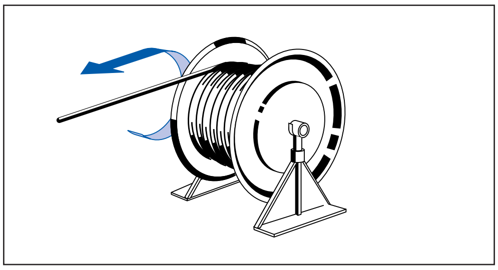
Only electric cables suitable for use in a cable carrier system should be used.

Take advantage of our system expertise and ask us to advise on the appropriate cables / hoses.

Hoses should be highly flexible and may only contract or expand slightly in length when under pressure.

Information on the properties of hoses with regard to length can be found in the hose manufacturer's catalogue.

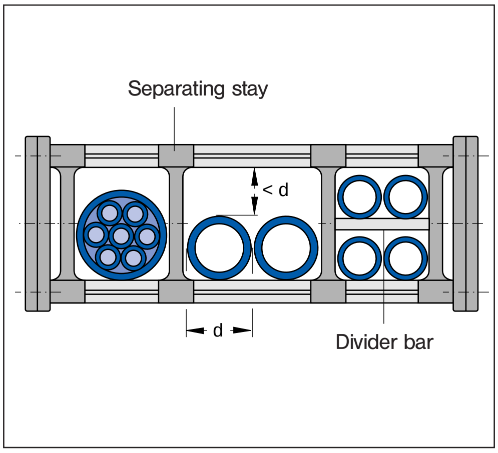
The weight distribution in the chain stay and / or the conduit cross section should be as symmetrical as possible!



Cables / hoses should be installed twist-free in the cable carrier!

Cables must be rolled tangentially off rings or drums.

Never take up cables in loops!



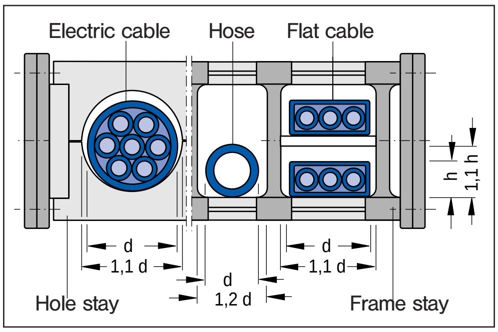
Install the cables individually and loosely side by side!

Installing several cables on top of one another and placing cables with different diameters adjacent to each other should be avoided. In the case of multi-layer installation, we recommend that provision be made for horizontal cavity dividers to be placed between the individual layers.

Each cable should be installed in a separate compartment.

Individually produced hole stays or sub-divisions through dividing stays in the frame stay prevent cables / hoses installed adjacent to each other from rubbing.

If several cables have to be installed next to each other without dividers, make sure that the remaining clearance is less than the cable diameter, to prevent the cables from twisting around each other.

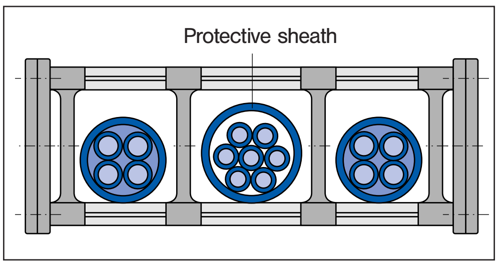


The supply cables must be able to move freely within the cable carrier. They must not be attached to the carrier, nor should they be bound together.

Divider bars **must always** be placed between layers of installed flat cables.

To calculate the required clearance, the following apply as reference values:

for round cables:	**10 %** of the cable diameter
for flat cables:	**10 %** each of either the cable width or the cable thickness
for hoses:	**20 %** of the hose diameter



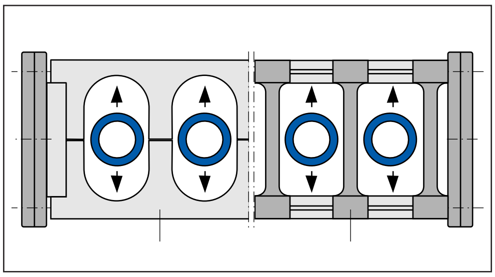
Highly flexible, thin cables with low bending strength should be installed loose side by side and arranged in a protective sheath.

The cross-section of the protective sheath should be chosen considerably larger than the total of the individual cable cross section.

As a reference value for measuring the cross section, each cable should have a clearance of approx. 10% of its diameter.

Please contact us for advice.

Guidelines for the Laying of Cables / Hoses in the Carrier

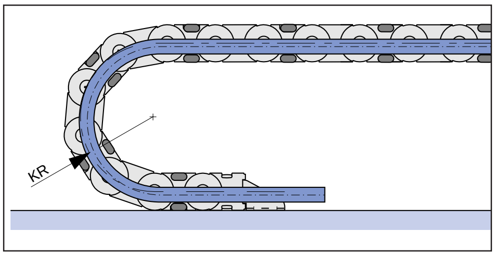


Regardless of the kind of divider used for chain stay cross-sections, the following details have to be taken into consideration:

Pressure hoses must be able to move freely, as they may contract or expand with pressure fluctuations.

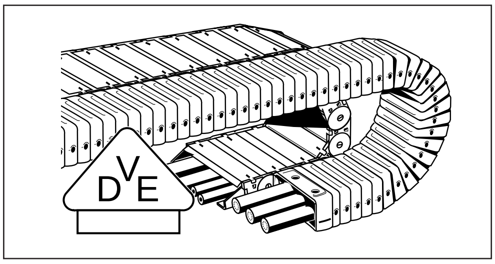
Contraction or expansion of the hoses can only be compensated for in the bend radius section of the carrier.

In order to calculate the necessary clearance, please refer to hose manufacturers' information with regard to linear expansion or contraction.



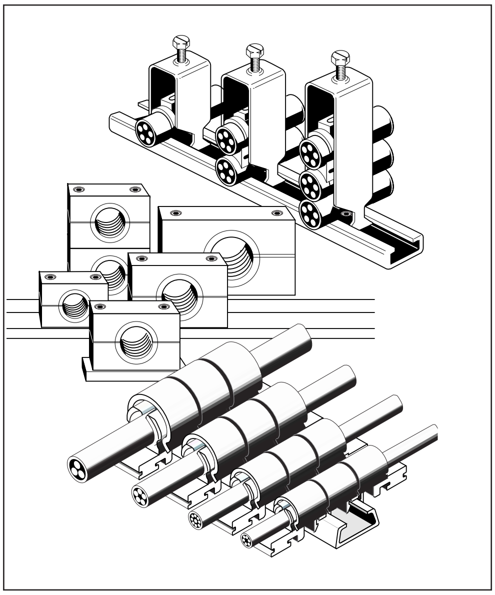
In general, it is very important that the cables / hoses pass through the neutral bend radius without any restriction.

In the case of multi-layer installation the cables / hoses must be installed in the carrier in such a way that there is enough slack to allow them to move freely side by side in the bend radius section.



When placing a large number of electric cables in covered cable carriers and flexible conduits the power ratings of the cables have to comply with VDE norm 0100 to avoid exceeding the maximum permissible temperatures for the respective cable and cable carrier materials.

The maximum sustained temperature should not exceed 80°C for covered cable carriers and flexible conduits.



Strain relief for cables is dependent upon the cable type, total carrier length and installation situation:

→ Cables with high flexibility and low instrinsic rigidity need to be firmly clamped **at the fixed point and driver**. Otherwise they might snake out in between the carrier chain stays.

→ With vertically hanging carriers the cables must likewise be clamped at the **fixed point and driver** of the carrier.

→ For travel lengths in the unsupported section of the carrier, we recommend that strain relief be provided at both the driver and fixed point of the carrier for electric cables.

→ For longer travel lengths strain relief for cables should only be provided at the driver end. In these cases generally only cables / hoses with sufficient intrinsic rigidity should be used.

→ Pressure hoses with threaded caps clamped in direct vicinity of the driver and fixed end of the carrier do not need strain relief. In cases where clamping is located further away from the driver and fixed end of the carrier, we recommend strain relief as for electric cables.

In general, take care to apply compression only to the outer sheath of the cable over a wide area in order to avoid shifting of cables and individual strands being squeezed!

KABELSCHLEPP
strain relief devices see page 6.17

KABELSCHLEPP

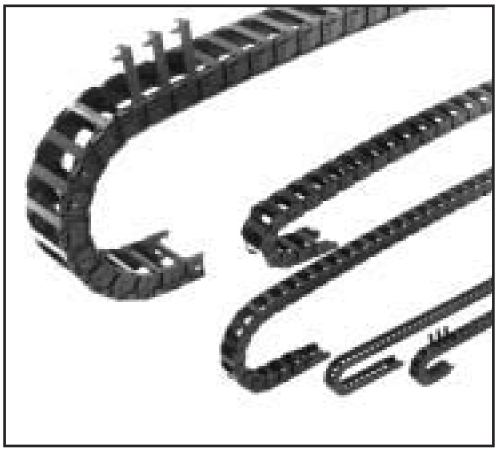
Plastic Cable Carriers

KabelSchlepp

MONO

Cable Carriers

KABELSCHLEPP



Profile

MONO
Cable Carriers

- Solid plastic
- Single unit chain links with the option of either fixed or openable brackets
- Simple and quick assembly
- End connector with integrated strain relief
- Various types available immediately ex stock all over the world
- TÜV type approved in accordance with 2PfG 1036/10.97
- 2D-/3D-CAD-Data can be found at www.kabelschlepp.de

Chain Band Material:	**K 7426 S (Standard)** → cf. Interesting Technical Information 7.14
6 bend radii available!	Intermediate radii available on request.

TÜV Rheinland Product Safety
BAUART GEPRÜFT
TYPE APPROVED

Type	Inside width		Chain width		Inside height	Pitch
	$B_{i\ min}$	$B_{i\ max}$	$B_{k\ min}$	$B_{k\ max}$	h_i	t
	mm	mm	mm	mm	mm	mm
0130	6	20	12	26	10	13
0132	6	40	12	46	10	13
0180	10	40	18	48	15	18
0182	10	40	18	48	15	18
0202	6	20	13	27	11	20
0320	13	37	24	48	19	32
0450	38	103	54	119	24/28	45
0625	65	169	93	197	34/42	62.5

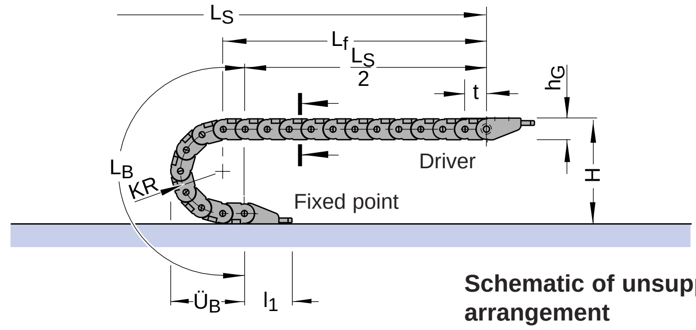
Subject to technical changes!

Type 0130 / 0132

Design of the Cable Carriers

Chain pitch t	= 13 mm
Chain link height h_G	= 12.5 mm
Connection height H_{min}	= 2 KR + 12.5 mm
Connection length l_1	= cf. Connection Dimensions

A flat and level surface is required for the carrier system to be installed properly. If necessary, a support tray should be installed. (cf. System Components section)



Schematic of unsupported arrangement

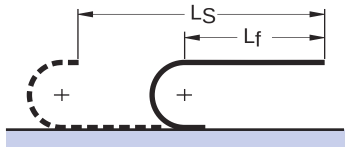
Variable sizes

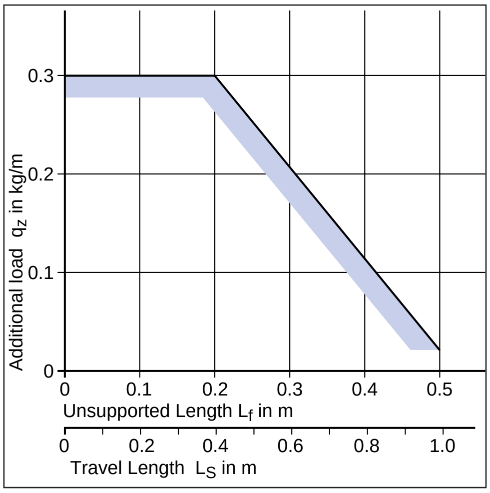
depending on bend radius

Bend radius KR	**20** mm	**28** mm	**37** mm
Bend length L_B	89	114	142
Loop overhang $Ü_B$	40	48	57
Height H_{min}	52.5	68.5	86.5

Load diagram

Unsupported length L_f and travel length L_S
depending on the additional load (cf. Construction Guidelines)





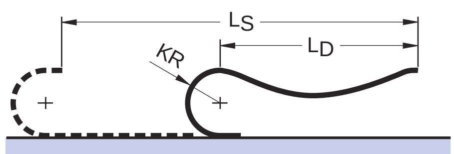
Load diagram for an intrinsic chain weight q_k of 0.15 kg/m. If the intrinsic chain weight exceeds q_k 0.15 kg/m, the permissible additional load is lower.

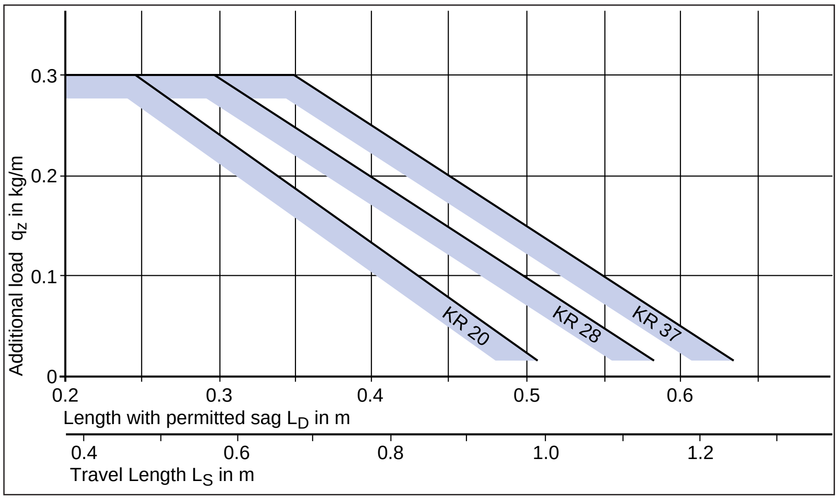
Calculation of chain length:

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

rounded to pitch 13 mm

Length with permitted sag L_D and travel length L_S
depending on the additional load (cf. Construction Guidelines)





Calculation of chain length:

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

rounded to pitch 13 mm

Long travel lengths

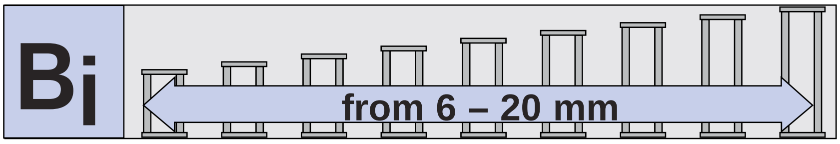
With long travel lengths the upper part of the cable carrier glides on its lower run in a guide channel.

Design → cf. Construction Guidelines

Guide channel → cf. System Components

We recommend that a system of this kind be planned by one of our engineers.

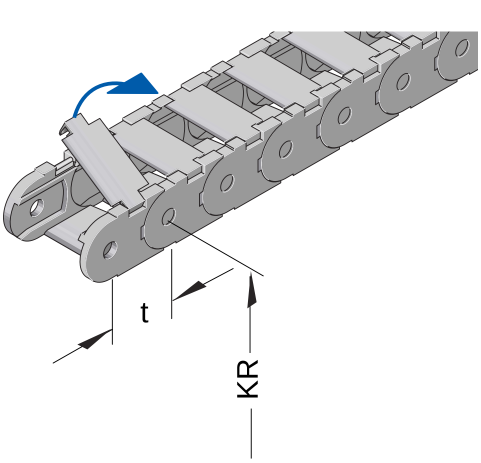
Type 0130

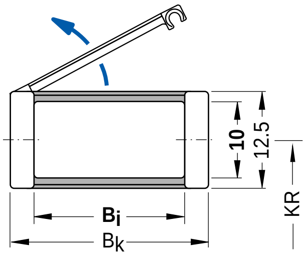


Chain cross sections

in accordance with section in schematic illustration

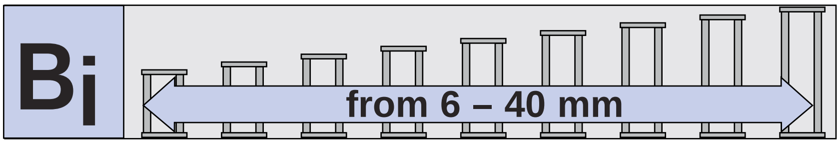
with openable hinged brackets made of plastic





Type	Bi mm	Bk mm	Intrinsic Chain Weight kg/m
0130.**06**	**6**	12	0.13
0130.**10**	**10**	16	0.14
0130.**15**	**15**	21	0.15
0130.**20**	**20**	26	0.16

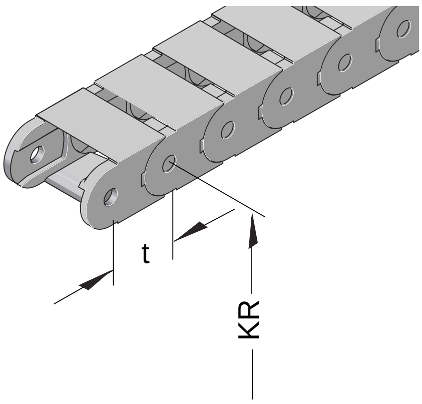
Type 0132

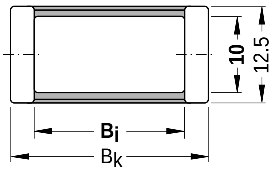


Chain cross sections

in accordance with section in schematic illustration

with closed frame





Type	Bi mm	Bk mm	Intrinsic Chain Weight kg/m
0132.**06**	**6**	12	0.13
0132.**10**	**10**	16	0.14
0132.**15**	**15**	21	0.15
0132.**20**	**20**	26	0.16
0132.**30**	**30**	36	0.18
0132.**40**	**40**	46	0.20

Subject to technical changes!

Types 0130 / 0132

Connection dimensions

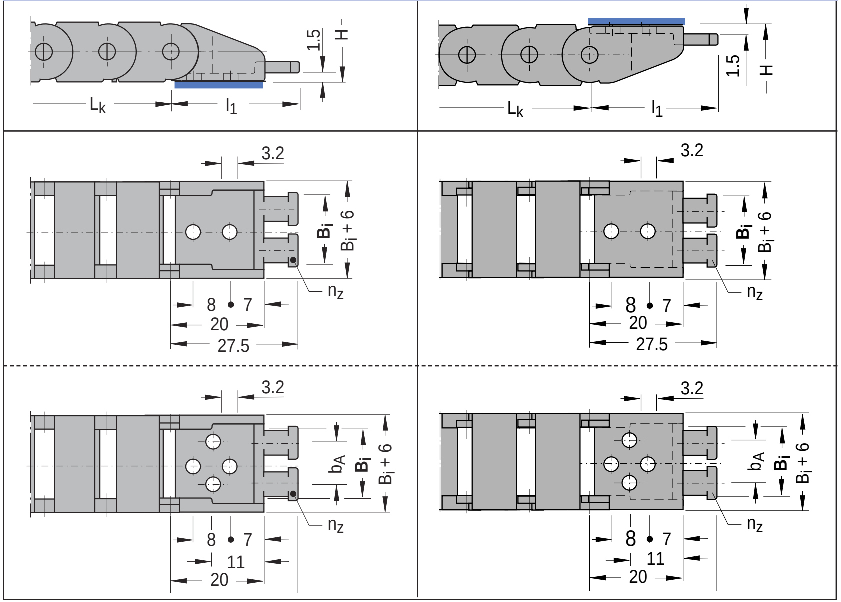
Connectors made of plastic with integrated strain relief

types 0130.06 up to 0132.20

only types 0132.30 0132.40

* These dimensions apply only to type 0132.30 and 0132.40

Fixed point connection	Driver connection



Type	B_i mm	B_k mm	b_A* mm	n_Z
0130.06 / 0132.06	**6**	12	-	1
0130.10 / 0132.10	**10**	16	-	1
0130.15 / 0132.15	**15**	21	-	2
0130.20 / 0132.20	**20**	26	-	2
0132.30	**30**	36	22	3
0132.40	**40**	46	32	4

Connection variants

Ordering Key for the connection:

X X

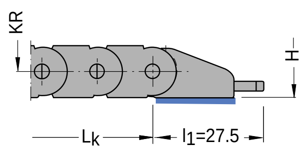
Connection point
F - Fixed point
M - Driver

Connection type
A - Threaded joint to the outside (Standard)
I - Threaded joint to the inside (towards KR)

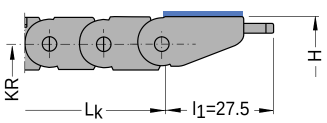
Please state the desired connection variant when ordering.

Example: FA/MA (Standard) or **FA/MI**

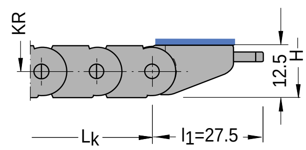
Fixed point connection	Driver connection



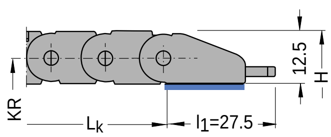
Connection **FA** (Standard)



Connection **MA** (Standard)



Connection **FI**



Connection **MI**

The connection variants at the fixed point and at the driver can be combined and subsequently changed if required.

Ordering Key for Cable Carrier:

0130.10 - 28 - 650

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

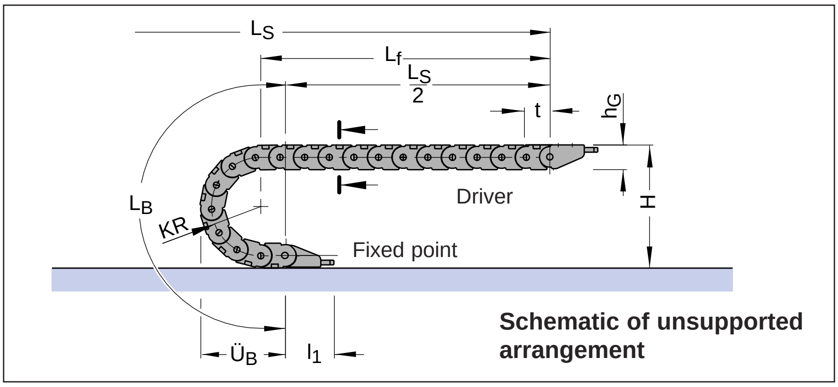
Example:
Cable Carrier type 0130 with openable hinged stay, inside width B_i 10 mm, with bend radius KR 28 mm, chain length L_k 650 mm

Types 0180 / 0182

Design of the Cable Carriers

Chain pitch t = 18 mm
Chain link height h_G = 18 mm
Connection height H_{min} = 2 KR +18 mm
Connection length l_1 = cf. Connection Dimensions

A flat and level surface is required for the carrier system to be installed properly. If necessary, a support tray should be installed. (cf. System Components section)



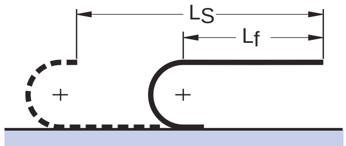
Schematic of unsupported arrangement

Variable sizes
depending on bend radius

Bend radius KR	**28** mm	**37** mm	**50** mm
Bend length L_B	124	153	194
Loop overhang $Ü_B$	55	64	77
Height H_{min}	74	92	118

Load diagram

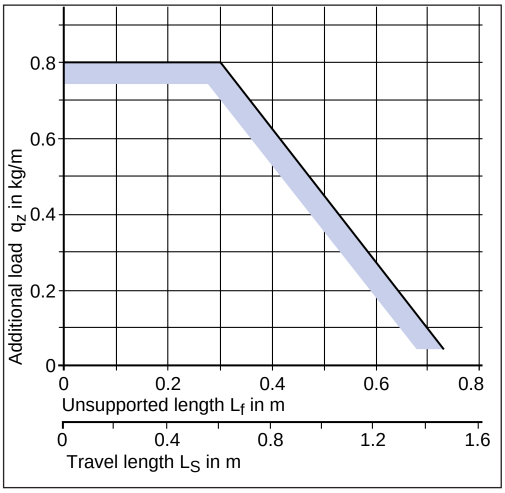
Unsupported length L_f and travel length L_S
depending on the additional load (cf. Construction Guidelines)



Calculation of chain length:

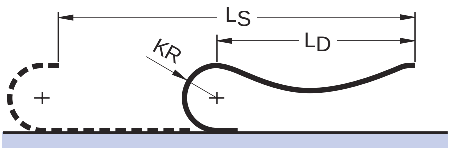
$$L_k \approx \frac{L_S}{2} + L_B$$

rounded to pitch 18 mm



Load diagram for an intrinsic chain weight q_k of 0.25 kg/m. If the intrinsic chain weight exceeds q_k 0.25 kg/m, the permissible additional load is lower.

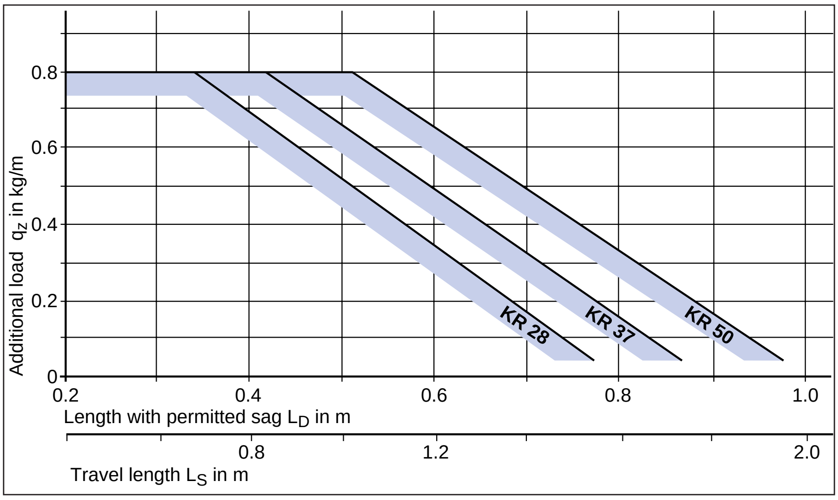
Length with permitted sag L_D and travel length L_S
depending on the additional load (cf. Construction Guidelines)



Calculation of chain length:

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

rounded to pitch 18 mm



Long travel lengths

With long travel lengths the upper part of the cable carrier glides on its lower run in a guide channel.

Design → cf. Construction Guidelines
Guide channel → cf. System Components

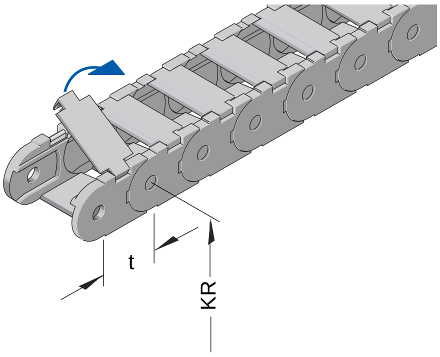
We recommend that a system of this kind be planned by one of our engineers.

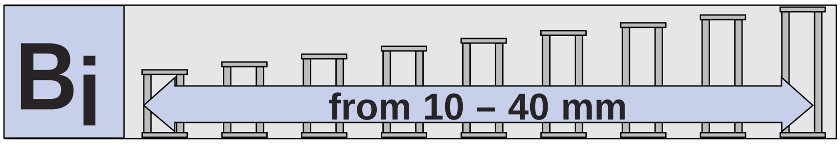
Technical Data — MONO Series

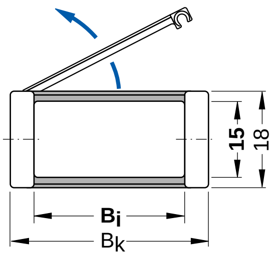
Type 0180

Chain cross sections
in accordance with section in schematic illustration

with openable hinged brackets made of plastic





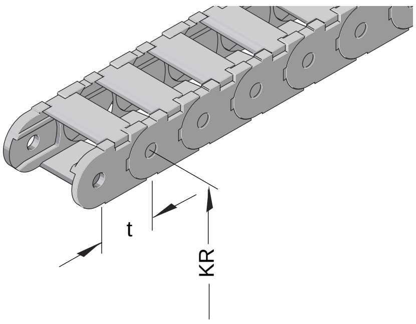


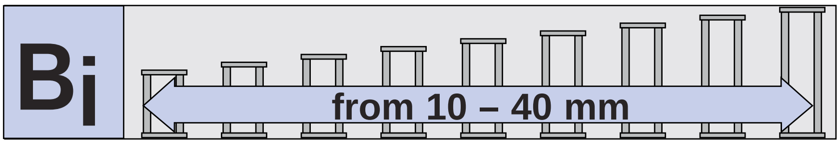
Type	B_i mm	B_k mm	Intrinsic Chain Weight kg/m
0180.**10**	**10**	18	0.23
0180.**15**	**15**	23	0.24
0180.**20**	**20**	28	0.25
0180.**30**	**30**	38	0.28
0180.**40**	**40**	48	0.30

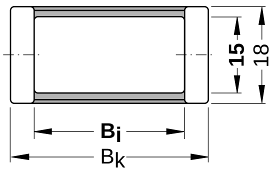
Type 0182

Chain cross sections
in accordance with section in schematic illustration

with closed frame







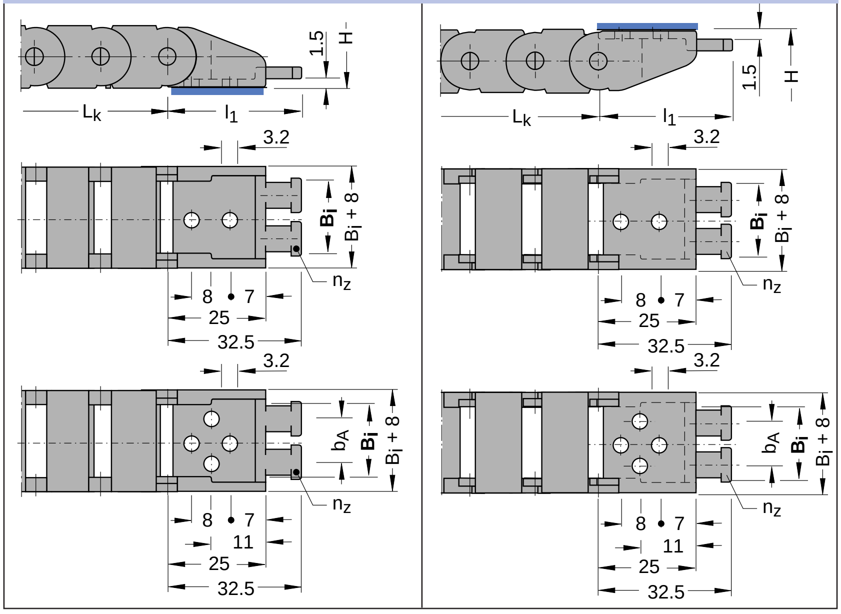
Type	B_i mm	B_k mm	Intrinsic Chain Weight kg/m
182.**10**	**10**	18	0.23
182.**15**	**15**	23	0.24
182.**20**	**20**	28	0.25
182.**30**	**30**	38	0.28
182.**40**	**40**	48	0.30

Types 0180 / 0182

Connection dimensions

Connectors made of plastic with integrated strain relief

Fixed point connection | **Driver connection**



Type	B_i mm	B_k mm	b_A mm	n_Z
0180.10 / 0182.10	**10**	18	-	1
0180.15 / 0182.15	**15**	23	-	2
0180.20 / 0182.20	**20**	28	-	2
0180.30 / 0182.30	**30**	38	-	3
0180.40 / 0182.40	**40**	48	32	4

Connection variants

Ordering Key for the connection:

X X

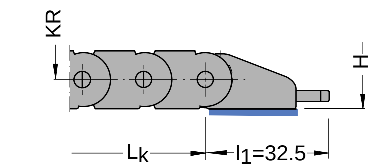
Connection point
F - Fixed point
M - Driver

Connection type
A - Threaded joint to the outside (Standard)
I - Threaded joint to the inside (towards KR)

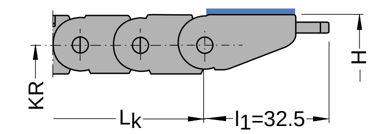
Please state the desired connection variant when ordering.

Example: FA/MA or **FI/MA**

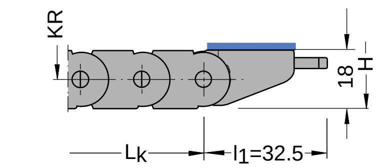
Fixed point connection | **Driver connection**



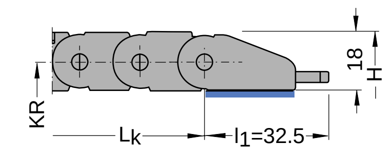
Connection **FA** (Standard)



Connection **MA** (Standard)



Connection **FI**



Connection **MI**

The connection variants at the fixed point and at the driver can be combined and subsequently changed if required.

Ordering Key for Cable Carrier:

0180.30 - 37 - 720

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

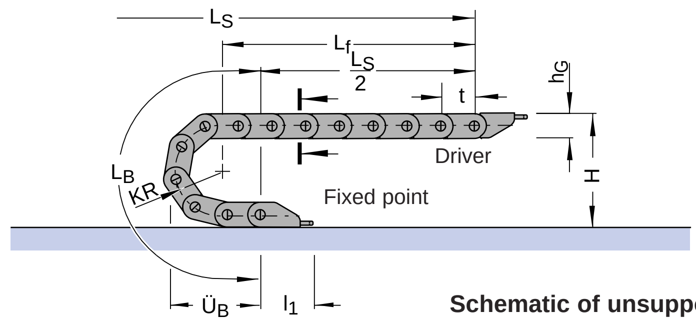
Example:
Cable Carrier type 0180 with openable hinged stay, inside width B_i 30 mm, with bend radius KR 37 mm, chain length L_k 720 mm

Type 0202

Design of the Cable Carriers

Chain pitch t = 20 mm
Chain link height h_G = 15 mm
Connection height H_{min} = 2 KR +15 mm
Connection length l_1 = cf. Connection Dimensions

A flat and level surface is required for the carrier system to be installed properly. If necessary, a support tray should be installed. (cf. System Components section)



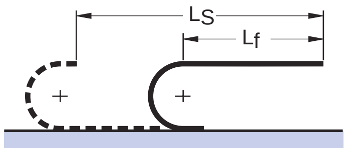
Schematic of unsupported arrangement

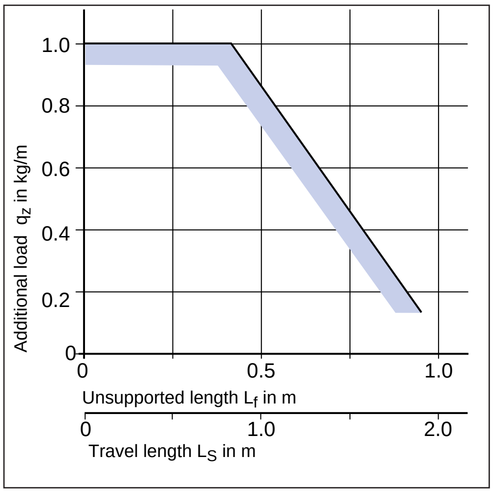
Variable sizes
depending on bend radius

Bend radius KR	18 mm	28 mm	38 mm	50 mm
Bend length L_B	97	128	160	198
Loop overhang $Ü_B$	45.5	55.5	65.5	77.5
Height H_{min}	51	71	91	115

Load diagram

Unsupported length L_f and travel length L_S
depending on the additional load (cf. Construction Guidelines)





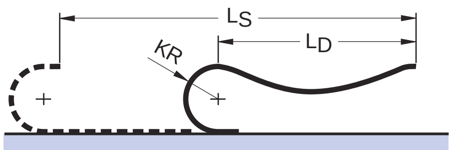
Load diagram for an intrinsic chain weight q_k of 0.15 kg/m. If the intrinsic chain weight exceeds q_k 0.15 kg/m, the permissible additional load is lower.

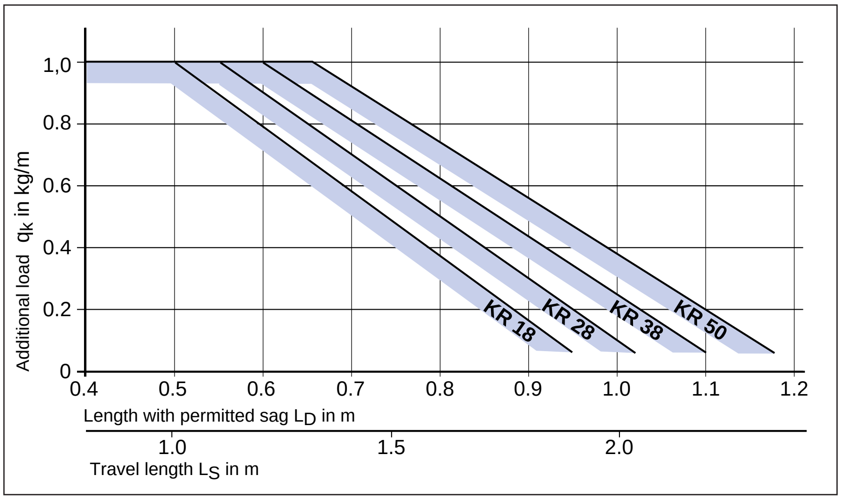
Calculation of chain length:

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

rounded to pitch 20 mm

Length with permitted sag L_D and travel length L_S
depending on the additional load (cf. Construction Guidelines)





Calculation of chain length:

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

rounded to pitch 20 mm

Long travel lengths

With long travel lengths the upper part of the cable carrier glides on its lower run in a guide channel.

Design → cf. Construction Guidelines
Guide channel → cf. System Components

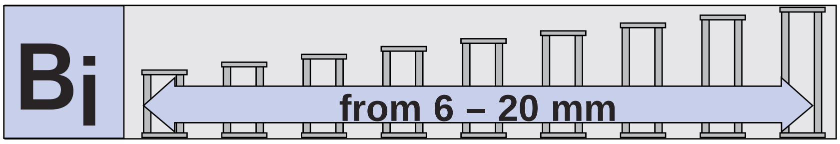
We recommend that a system of this kind be planned by one of our engineers.

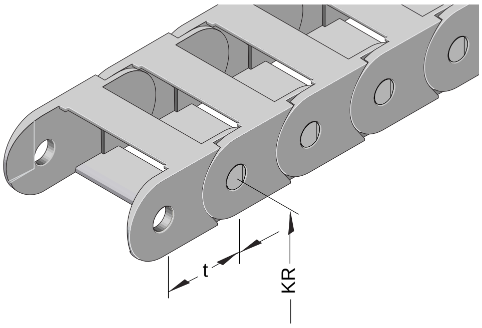
Type 0202

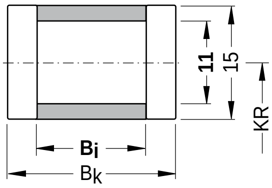
Chain cross sections

in accordance with section in schematic illustration

with closed frame







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

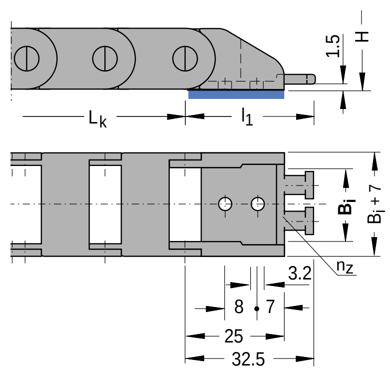
Subject to technical changes!

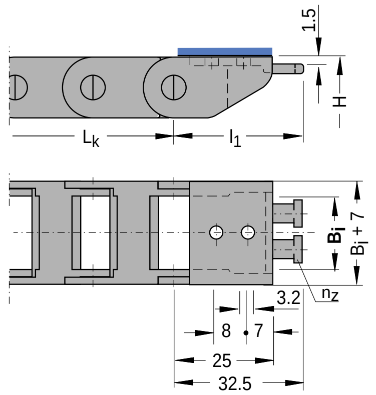
Type 0202

Connection dimensions

Connectors made of plastic with integrated strain relief

Fixed point connection | **Driver connection**





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

Connection variants

Ordering Key for the connection:

X X

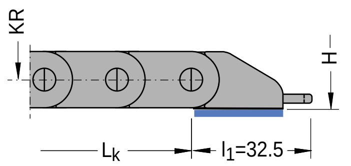
Connection point
F - Fixed point
M - Driver

Connection type
A - Threaded joint to the outside (Standard)
I - Threaded joint to the inside (towards KR)

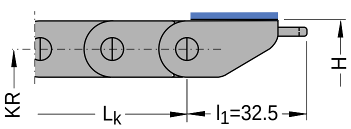
Please state the desired connection variant when ordering.

Example: FA/MA or **FI/MA**

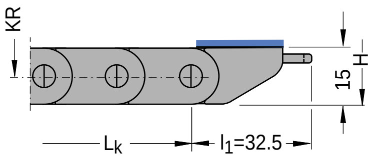
Fixed point connection | **Driver connection**



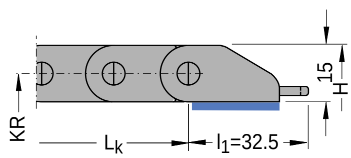
Connection **FA**



Connection **MA**



Connection **FI**



Connection **MI**

The connection variants at the fixed point and at the driver can be combined and subsequently changed if required.

Ordering Key for 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)

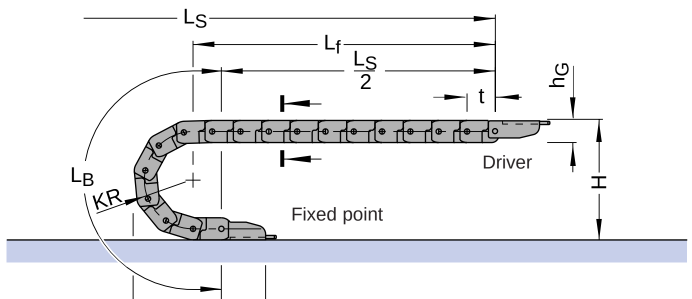
Example:
Cable Carrier type 0202, inside width B_i 10 mm, with bend radius KR 28 mm, chain length L_k 460 mm

Type 0320

Design of the Cable Carriers

Chain pitch t = 32 mm
Chain link height h_G = 25 mm (h_G' = 27 mm)
Connection height H_{min} = 2 KR +25 mm
Connection length l_1 = cf. Connection Dimensions

A flat and level surface is required for the carrier system to be installed properly. If necessary, a support tray should be installed. (cf. System Components section)



Schematic of unsupported arrangement

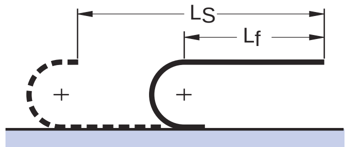
Variable sizes
depending on bend radius

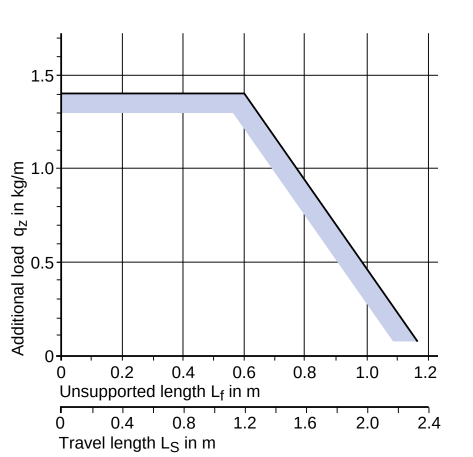
Bend radius KR*	37 mm	47 mm	77 mm	100 mm
Bend length L_B	181	212	306	379
Loop overhang $Ü_B$	82	92	122	145
Height H_{min}	99	119	179	225

* cf. Dimension table of chain cross sections

Load diagram

Unsupported length L_f and travel length L_S
depending on the additional load (cf. Construction Guidelines)





Load diagram for an intrinsic chain weight q_k of 0.4 kg/m. If the intrinsic chain weight exceeds q_k 0.4 kg/m, the permissible additional load is lower.

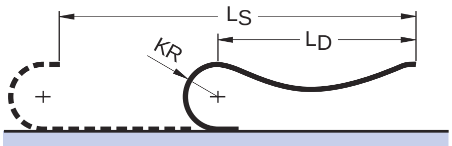
Calculation of chain length:

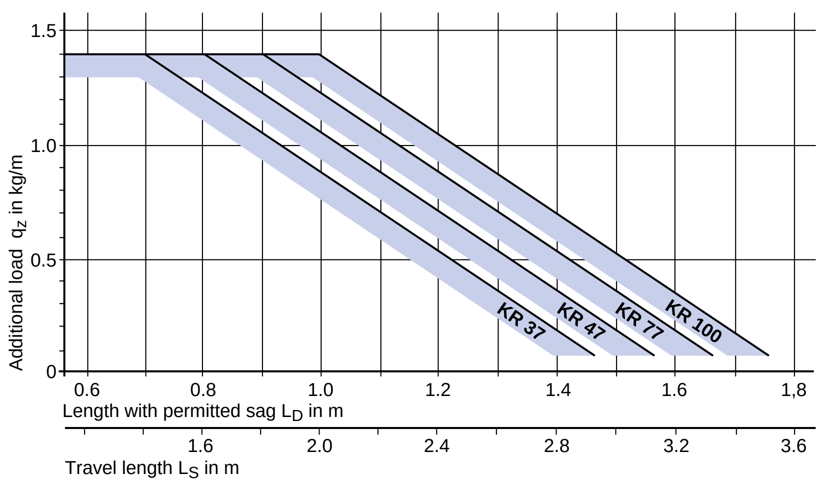
$$L_k \approx \frac{L_S}{2} + L_B$$

rounded to pitch 32 mm

KR/RKR combinations are possible for circular movements. In these cases please contact us!

Length with permitted sag L_D and travel length L_S
depending on the additional load (cf. Construction Guidelines)





Calculation of chain length:

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

rounded to pitch 32 mm

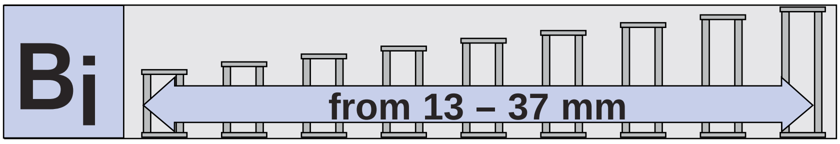
Long travel lengths

With long travel lengths the upper part of the cable carrier glides on its lower run in a guide channel.

Design → cf. Construction Guidelines
Guide channel → cf. System Components

We recommend that a system of this kind be planned by one of our engineers.

Technical Data — MONO Series

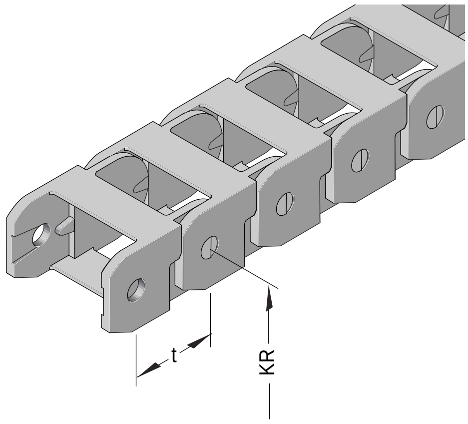


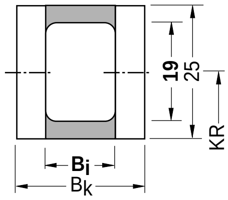
Type 0320

Chain cross sections

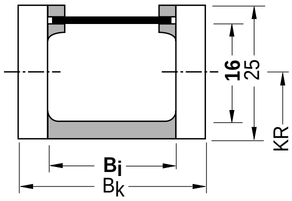
in accordance with section in schematic illustration

with closed frame made of plastic and open frame with plastic closing band

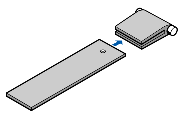




Type 0320.20 / .30
Closed frame

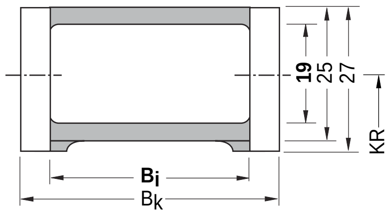


Type 0320.41
Open frame



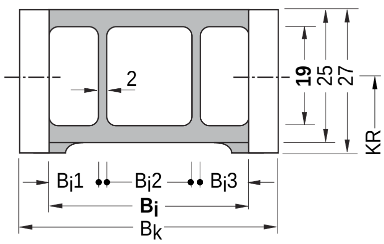
with closing band, clamped at both ends

Type	B_i mm	B_k mm	Bend radius mm			Intrinsic Chain Weight kg/m
0320.**20**	**13**	24	37	47	77	0.32
0320.**30**	**19**	30	37	47	77	0.35
0320.**41**	**24**	35	37	–	77	0.38



Type 0320 / .42 / .52 / .62
Closed frame, with glide runners

Type	B_i mm	B_k mm	Bend radius mm				Intrinsic Chain Weight kg/m
0320.**42**	**24**	35	37	47	77	100	0.39
0320.**52**	**29**	40	37	47	77	100	0.44
0320.**62**	**37**	48	37	47	77	100	0.47



Type 0320 / .44 / .46 / .64
Closed frame, with glide runners and fixed dividers

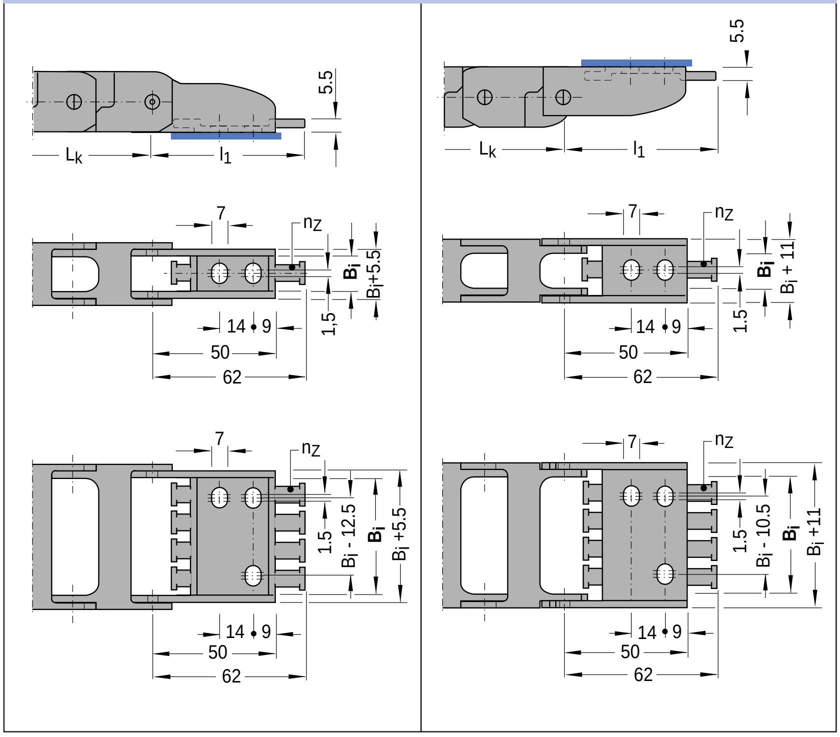
Type	B_i mm	B_i1 mm	B_i2 mm	B_i3 mm	Bk mm	Bend radius mm				Intrinsic Chain Weight kg/m
0320.**44**	**24**	**9**	**13**	**-**	35	-	-	77	100	0.40
0320.**46**	**24**	**11**	**11**	**-**	35	37	47	77	100	0.40
0320.**64**	**37**	**10**	**14**	**9**	48	37	47	77	100	0.49

Type 0320

Connection dimensions

Connectors made of plastic with integrated strain relief

Fixed point connection	Driver connection



Type	B_i mm	n_Z
0320.20	**13**	1
0320.30	**19**	2
0320.41	**24**	2
0320.42	**24**	2
0320.44	**24**	2
0320.46	**24**	2
0320.52	**29**	3
0320.62	**37**	4
0320.64	**37**	4

Ordering Key for Cable Carrier:

0320.42 - 77 - 800

- Chain type
- Bend radius KR in mm
- Chain length L_k in mm (without connection)

Example:
Cable Carrier type 0320.42, with bend radius KR 77 mm, chain length L_k 800 mm

Type 0320

Connection variants

Ordering Key for the connection:

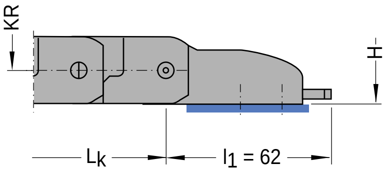
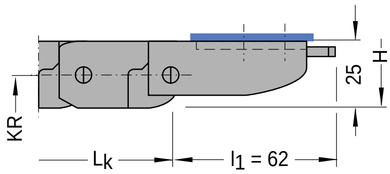
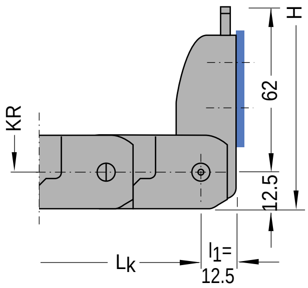
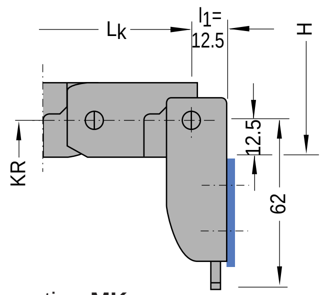
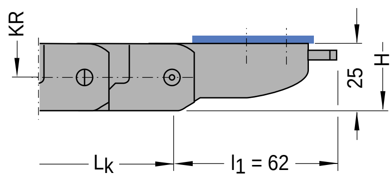
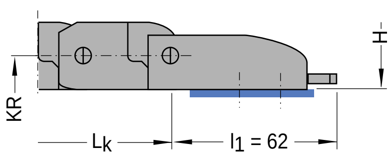
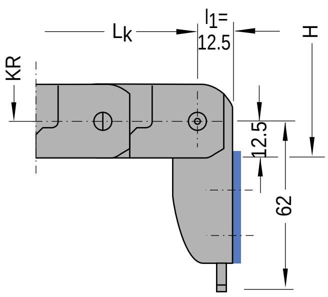
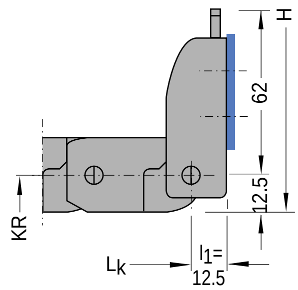
X X

Connection point
F - Fixed point
M - Driver

Connection type
A - Threaded joint to the outside (Standard)
I - Threaded joint to the inside (towards KR)
H - Connection element turned through 90° to the outside
K - Connection element turned through 90° to the inside (towards KR)

The connection variants at the fixed point and at the driver can be combined and subsequently changed if required.
Please state the desired connection variant when ordering.

Example: FA/MA or **FA/MK**

Fixed point connection	Driver connection
 Connection **FA**(Standard)	 Connection **MA**(Standard)
 Connection **FK**	 Connection **MK**
 Connection **FI**	 Connection **MI**
 Connection **FH**	 Connection **MH**

Type 0450

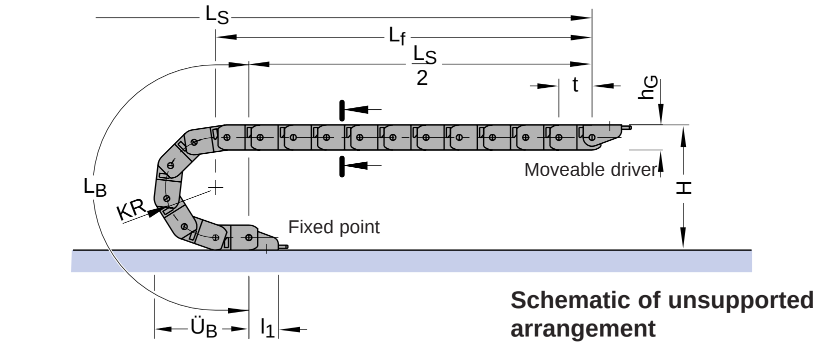
Design of the Cable Carriers

Chain pitch t = 45 mm
Chain link height h_G = 34/40 mm
Connection height H_{min} = 2KR + h_G
Connection length l_1 = cf. Connection Dimensions

A flat and level surface is required for the carrier system to be installed properly. If necessary, a support tray should be installed. (cf. System Components section)

$Ü_B$ = Loop overhang
H_{min} = Connection height

Variable sizes
depending on bend radius



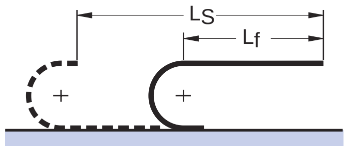
Schematic of unsupported arrangement

Bend radius KR*	52 mm	60 mm	75 mm	94 mm	110 mm	125 mm	150 mm	200 mm
Bend length L_B	254	284	326	386	436	483	562	719
$Ü_B$ at h_G = 34 mm	114	122	137	156	---	187	212	262
$Ü_B$ at h_G = 40 mm	117	125	140	159	175	190	215	265
H_{min} at h_G = 34 mm	138	154	184	222	---	284	334	434
H_{min} at h_G = 40 mm	144	160	190	228	260	290	340	440

* cf. dimension table of chain cross sections

Load diagrams

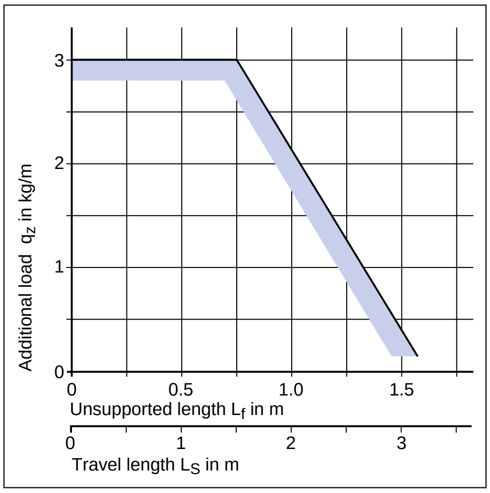
Unsupported length L_f and travel length L_S
depending on the additional load (cf. Construction Guidelines)



Calculation of chain length:

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

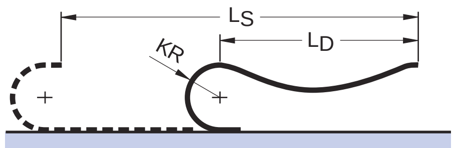
rounded to pitch 45 mm



Load diagram for an intrinsic chain weight q_k of 0.8 kg/m. If the intrinsic chain weight exceeds q_k 0.8 kg/m, the permissible additional load is lower.

KR/RKR combinations are possible for circular movements. In these cases please contact us!

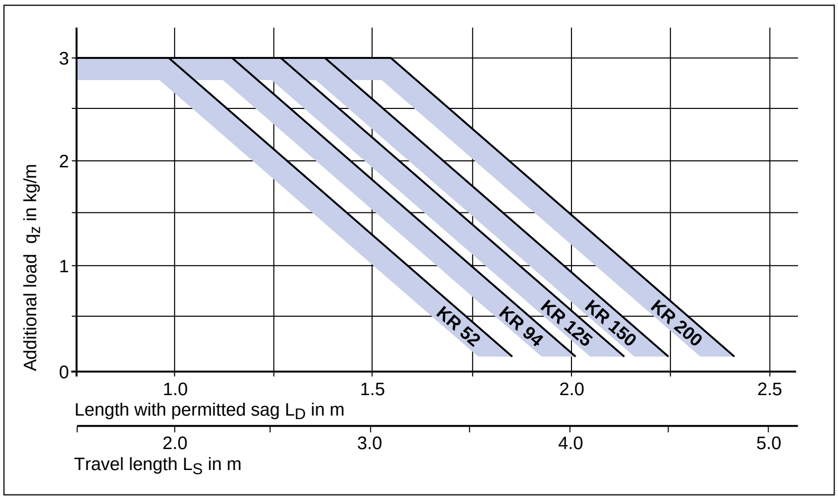
Length with permitted sag L_D and travel length L_S
depending on the additional load (cf. Construction Guidelines)



Calculation of chain length:

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

rounded to pitch 45 mm



Long travel lengths

With long travel lengths the upper part of the cable carrier glides on its lower run in a guide channel.

Design → cf. Construction Guidelines
Guide channel → cf. System Components

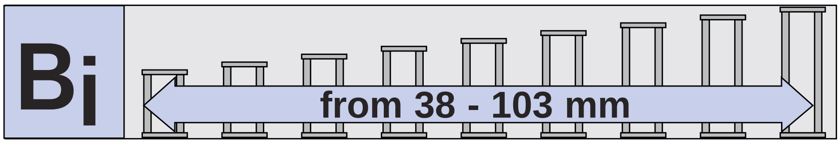
We recommend that a system of this kind be planned by one of our engineers.

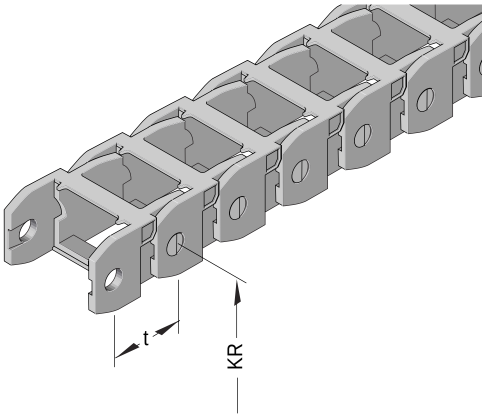
Type 0450

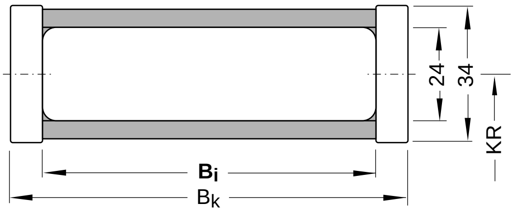
Chain cross sections

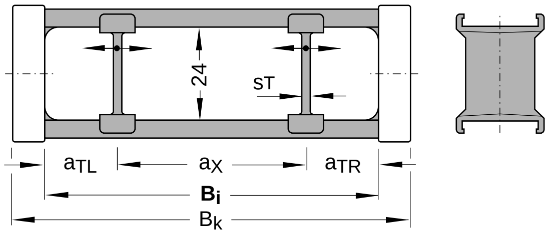
in accordance with section in schematic illustration

with closed frame
Internal height hi = 24 mm









Divider system TS 0

with closed frame without height subdivision

s_T	=	2.5 mm
$a_{T\ min}$	=	13.5 mm
$a_{x\ min}$	=	9 mm

Type	B_i mm	B_K mm	Bend radius mm					Intrinsic Chain Weight kg/m
0450.**20**	**38**	54	52	94	125	150	200	0.65
0450.**40**	**58**	74	52	94	125	150	200	0.78
0450.**60**	**78**	94	52	94	125	150	200	0.92
0450.**85**	**103**	119	52	94	125	150	200	1.20

Please state the number of dividers/cross section when ordering.

The chain types 0450.20, 0450.40 and 0450.60 can be supplied with movable dividers for separating the cables/hoses in the cross section.

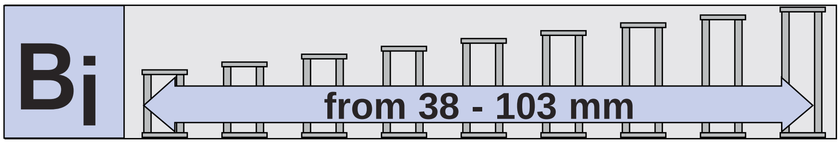
As standard, the dividers are fitted in every 2nd chain cross section.

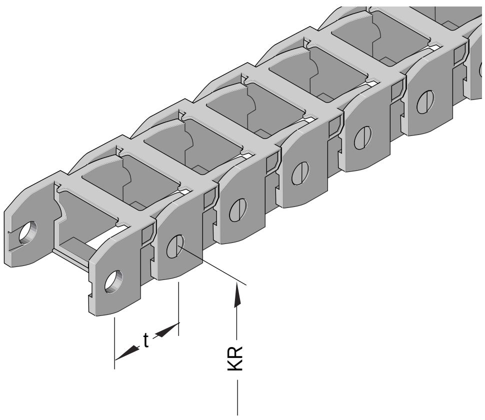
Sample order:

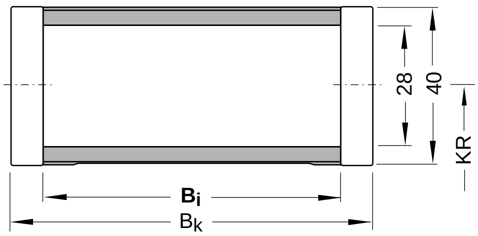
Divider system T_S 0/n_T3

Chain cross sections

with closed frame
Internal height h_i = 28 mm







Type	B_i mm	B_k mm	Bend radius mm								Intrinsic Chain Weight kg/m
0450.**22**	**38**	54	52	60	75	94	110	125	150	200	0.75
0450.**32**	**48**	64	52	60	75	94	110	125	150	200	0.80
0450.**42**	**58**	74	52	60	75	94	110	125	150	200	0.85
0450.**62**	**78**	94	52	60	75	94	110	125	150	200	0.95
0450.**82**	**103**	119	52	60	75	94	110	125	150	200	1.10

KABELSCHLEPP

Type 0450

Divider systems

with closed frame
internal height h_i = 28 mm

The divider system can be planned by you or by our engineers on the basis of the information you supply about the configuration of the cable carrier.

As standard, the divider system is fitted on every 2nd chain cross section!

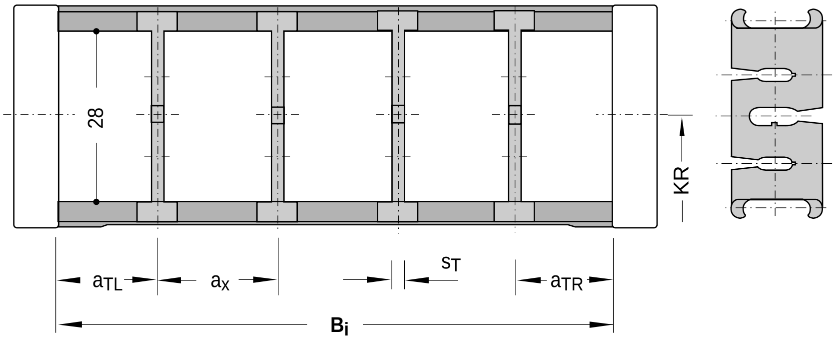
Divider system TS 0

without height subdivision

s_T	=	4.2 mm
$a_{T\ min}$	=	4.0 mm
$a_{x\ min}$	=	7.8 mm

Please state the number of dividers/cross section n_T when ordering.

Sample order:
Divider system T 0/n_T 3



The dividers can slide along the chain cross section!

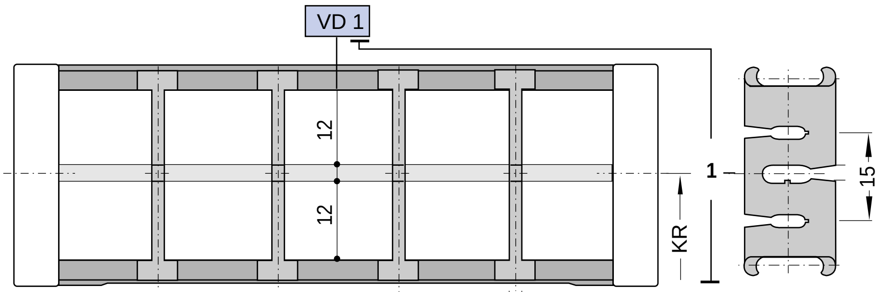
Divider system TS 1

with continuous height subdivision
Height subdivision:
Plastic profile 11 x 4 mm

s_T	=	4.2 mm
$a_{T\ min}$	=	4.0 mm
$a_{T\ max}$	=	20.0 mm
$a_{x\ min}$	=	7.8 mm
$n_{T\ min}$	=	2

Please state the type of height subdivisions and the number of dividers/cross section n_T when ordering.

Sample order:
Divider system TS 1 – VD 1
Please indicate assembly spacing a_T and a_x when ordering.



Position of the sub-divisions in the divider

The dividers can be fixed by the height subdivision profile in 4 mm grid sections!

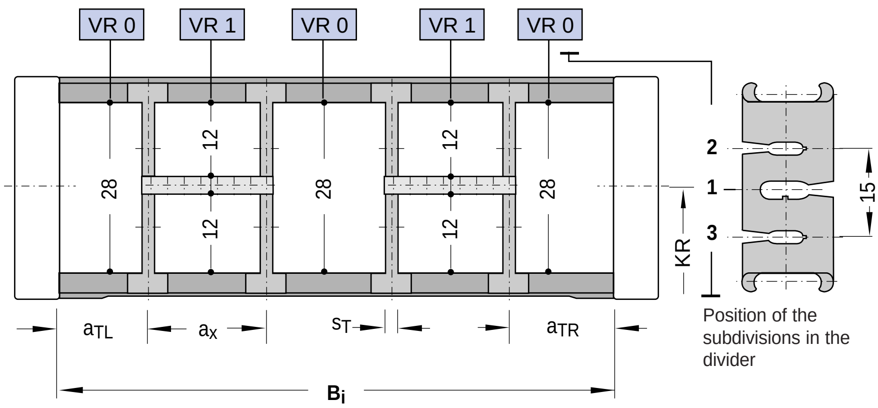
Divider system TS 2

with grid subdivision (4 mm sections)
Height subdivision:
Plastic profile 11 x 4 mm

s_T	=	4.2 mm	
$a_{T\ min}$	=	4.0 mm	
$a_{x\ min}$	=	7.8 mm	(with VR O)
$a_{x\ min}$	=	8.0 mm	(with VR 1)
$a_{x\ grid}$	=	continuous	(with VR O)
$a_{x\ grid}$	=	4 mm	(with VR 1)

Please indicate the cavities (from left to right), the relevant subdivision variant and the assembly spacing a_T and a_x when ordering.

Sample order: Divider system TS 2
K (cavity) 1-VR 0/19 mm
K 2-VR 1/40 mm
K 3-VR 0/19 mm



Position of the subdivisions in the divider

The dividers are fixed by height subdivision profiles, the grid segments can slide along the chain cross section!

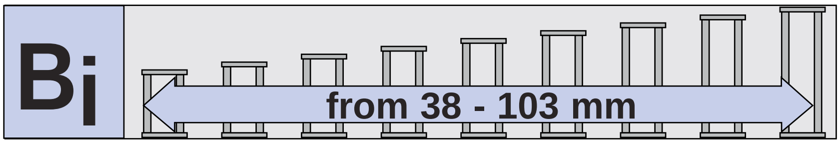
Type 0450

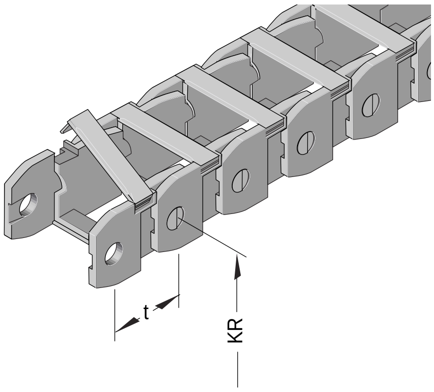
Chain cross sections

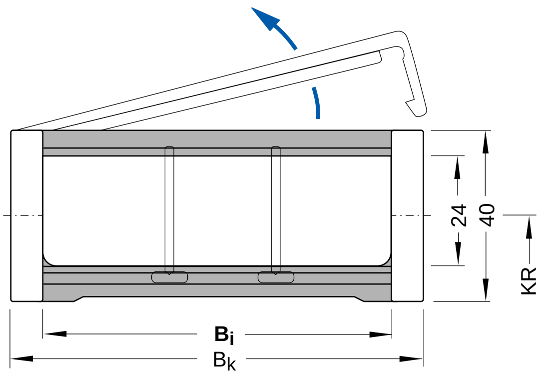
in accordance with section in schematic illustration

with openable hinged brackets

Internal height h_i = 24 mm





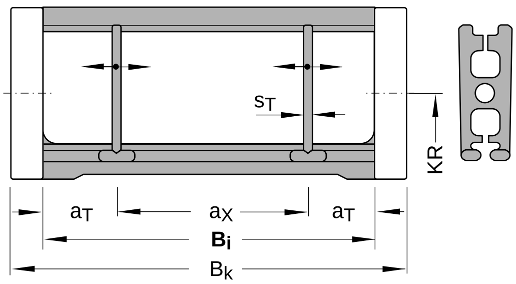


Type	B_i mm	B_k mm	Bend radius mm						Intrinsic Chain Weight kg/m
0450.**21**	**38**	54	52	94	-	125	150	200	0.75
0450.**41**	**58**	74	52	94	110	125	150	200	0.85
0450.**61**	**78**	94	52	94	-	125	150	200	0.92
0450.**81**	**103**	119	52	94	-	125	150	200	1.20

Divider system TS 0

without height subdivision

All chain types can be supplied with movable dividers for separating the cables in the cross section. Please state the number of dividers/cross section when ordering.



The divider system can be planned by you or by our engineers on the basis of the information you supply about the configuration of the cable carrier.

As standard, the divider system is fitted on every 2nd chain cross section!

s_T	=	2.5 mm
$a_{T\ min}$	=	4 mm
$a_{x\ min}$	=	8 mm

Sample order:
Divider system T_S 0/n_T3

Ordering Key for cable carrier:

0450.61 - 94 - 900

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

Example:
Cable Carrier type 0450.61, with bend radius KR 94 mm, chain length L_K 900 mm

KABELSCHLEPP

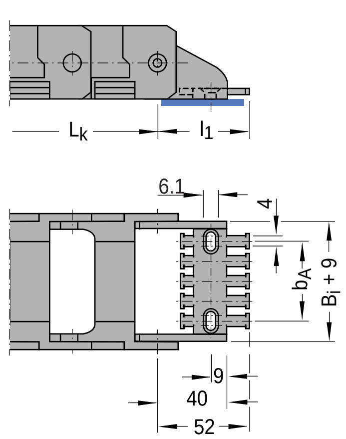
Type 0450

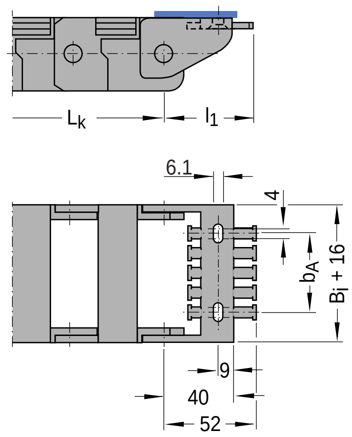
Connection dimensions

Connectors made of plastic with integrated strain relief

Special end connector made of sheet steel available on request

Fixed point connection	Driver connection





Type	B_i mm	b_A mm	n_Z
0450.20/.21/.22	**38**	24	3
0450.40/.41/.42	**58**	44	5
0450.60/.61/.62	**78**	64	7
0450.81/.82/.85	**103**	89	9

Connection variants

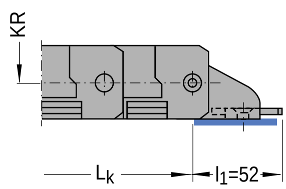
Ordering Key for the connection:

X X

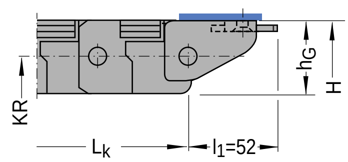
Connection point
F - Fixed point
M - Driver

Connection type
A - Threaded joint to the outside (Standard)
I - Threaded joint to the inside (towards KR)

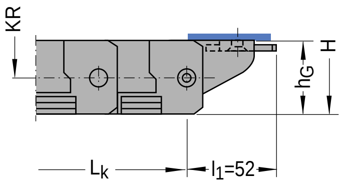
Fixed point connection	Driver connection



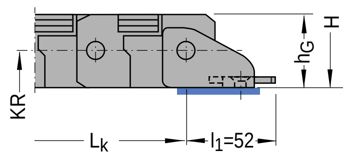
Connection **FA** (Standard)



Connection **MA** (Standard)



Connection **FI**



Connection **MI**

The connection variants at the fixed point and at the driver can be combined and subsequently changed if required.

Please state the desired connection variant when ordering.

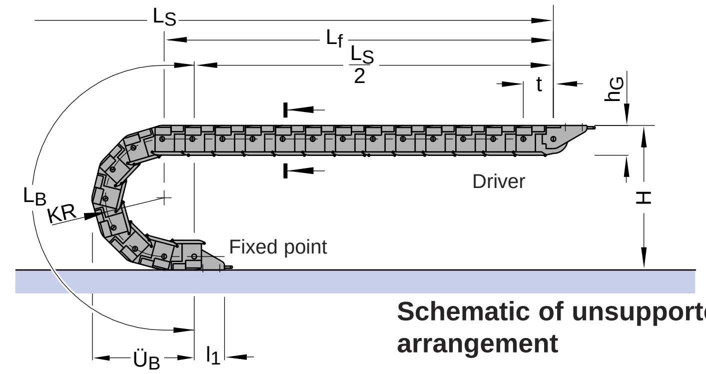
Example: FA/MA or **FI/MI**

Type 0625

Design of the Cable Carriers

Chain pitch t	=	62.5 mm
Chain link height h_G	=	56 mm / h_G' = 62 mm
Connection height H_{min}	=	2KR + 56 mm
Connection length l_1	=	cf. Connection Dimensions

A flat and level surface is required for the carrier system to be installed properly. If necessary, a support tray should be installed. (cf. System Components section)



Schematic of unsupported arrangement

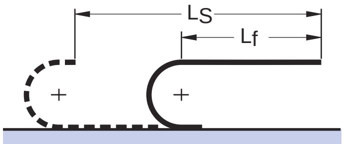
Variable sizes
depending on bend radius

Bend radius KR*	**75** mm	**90** mm	**125** mm	**150** mm	**200** mm	**250** mm	**300** mm
Bend length L_B	361	408	518	596	754	910	1068
Loop overhang $Ü_B$	165	180	215	240	290	340	390
Height H_{min}	206	236	306	356	456	556	656

* cf. Dimension table of chain cross section

Load diagrams

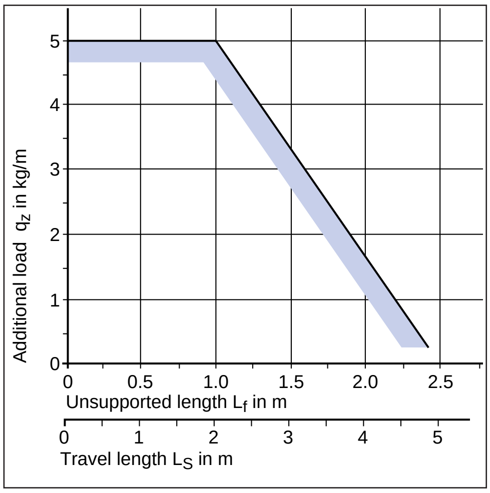
Unsupported length L_f and travel length L_S
depending on the additional load
(cf. Construction Guidelines)



Calculation of chain length:

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

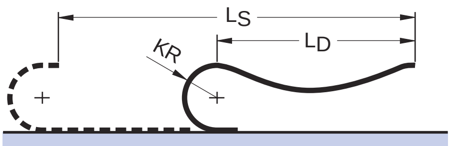
rounded to pitch 62.5 mm



Load diagram for an intrinsic chain weight q_k of 1.7 kg/m. If the intrinsic chain weight exceeds q_k 1.7 kg/m, the permissible additional load is lower.

KR/RKR combinations are possible for circular movements. In these cases please contact us!

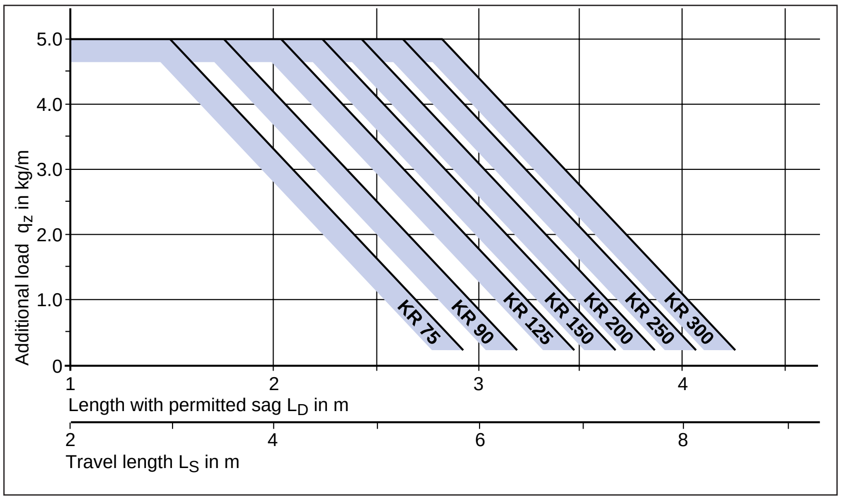
Length with permitted sag L_D and travel length L_S
depending on the additional load
(cf. Construction Guidelines)



Calculation of chain length:

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

rounded to pitch 62.5 mm



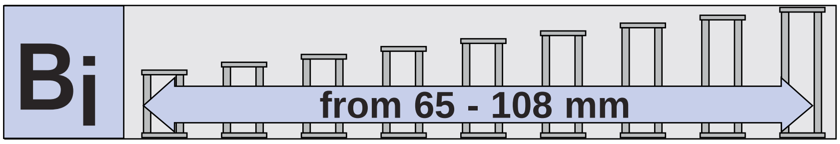
Long travel lengths

With long travel lengths the upper part of the cable carrier glides on its lower run in a guide channel.

Design	→	cf. Construction Guidelines
Guide channel	→	cf. System Components

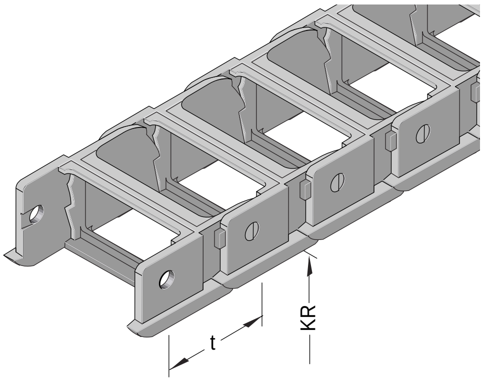
We recommend that a system of this kind be planned by one of our engineers.

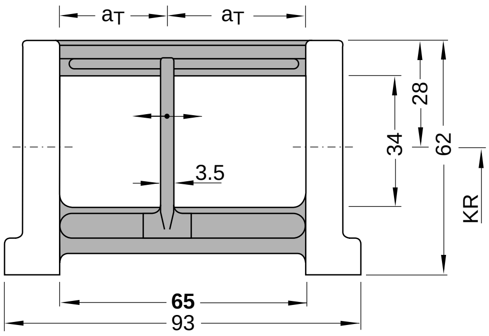
Type 0625



Chain cross sections

with closed frame
internal height h_i = 34 mm

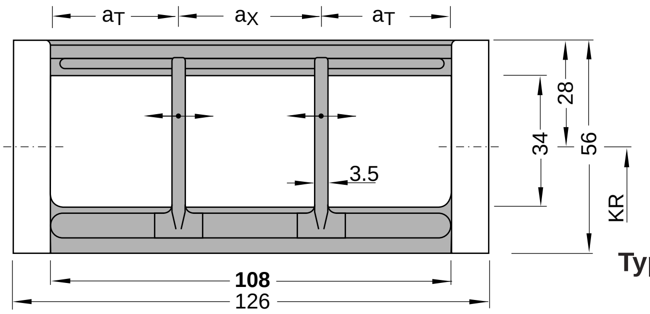




Type 0625.22
with glide runners for long travel lengths

All chain types can be supplied with movable dividers for separating the cables in the cross section.

As standard, the dividers are fitted on every 2nd chain cross section.



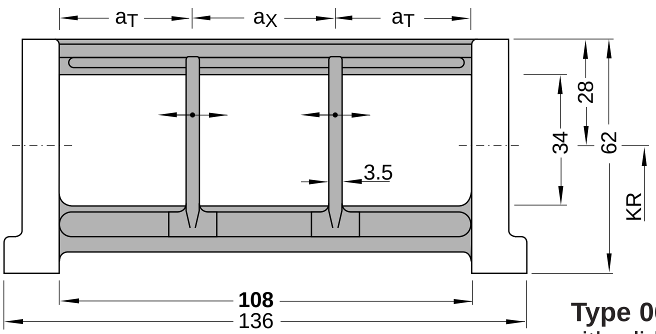
Type 0625.40

Divider system TS 0

with closed frame without height subdivision

s_T	=	3.5 mm
$a_{T\,min}$	=	6 mm
$a_{x\,min}$	=	12 mm

Please state the number of dividers/cross section when ordering.

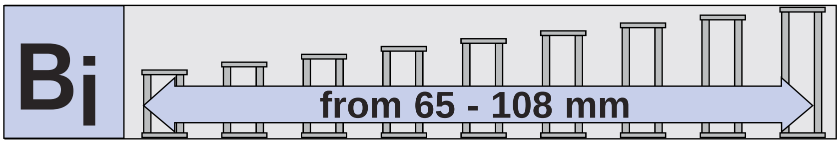


Type 0625.42
with glide runners for long travel lengths

Bend radii/weights:

Type	Bend radius mm					Intrinsic Chain Weight in kg/m
0625.**22**	90	125	200	300		1.55
0625.**40**	75	90	125	200	300	1.40
0625.**42**	75	90	125	200	300	1.70

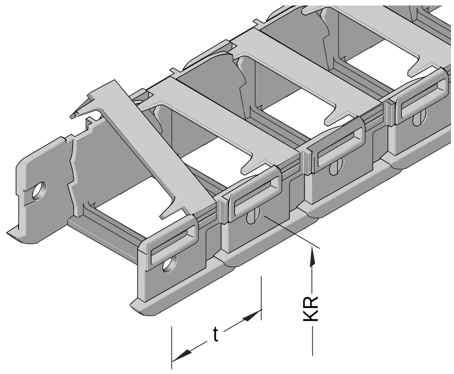
Technical Data — MONO Series



Type 0625

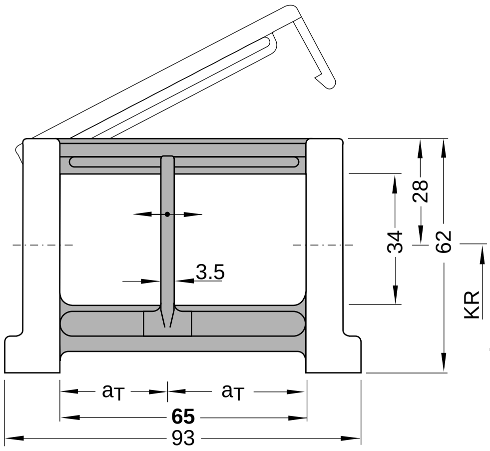
Chain cross sections

with openable hinged brackets
Internal height h_i = 34 mm



All chain types can be supplied with movable dividers for separating the cables in the cross section.

As standard, the dividers are fitted on every 2nd chain cross section.



Type 0625.23

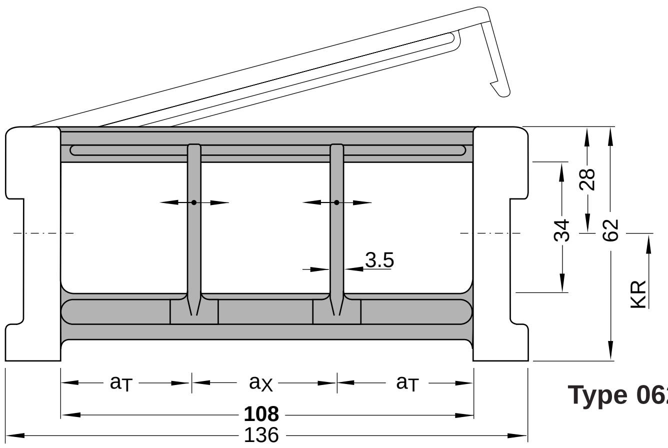
Both chain types with injection moulded glide runners for long travel lengths!

Divider system TS 0

without height subdivision

s_T	=	3.5 mm
$a_{T\ min}$	=	10 mm
$a_{x\ min}$	=	12 mm

Please state the number of dividers/cross section when ordering.



Type 0625.43

Bend radii/weights:

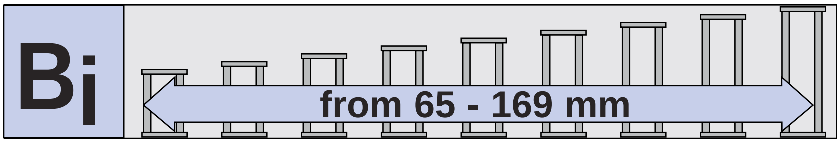
Type	Bend radius mm							Intrinsic Chain Weight in kg/m
0625.**23**	90	125	150	200	250	300		1.55
0625.**43**	75	90	125	150	200	250	300	1.70

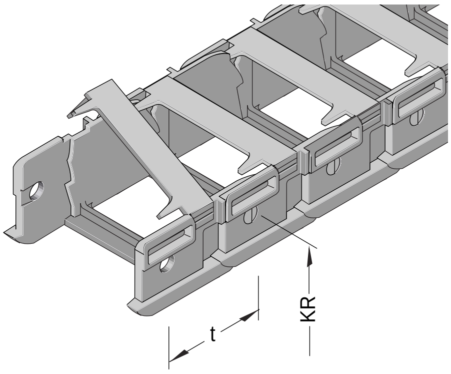
KABELSCHLEPP

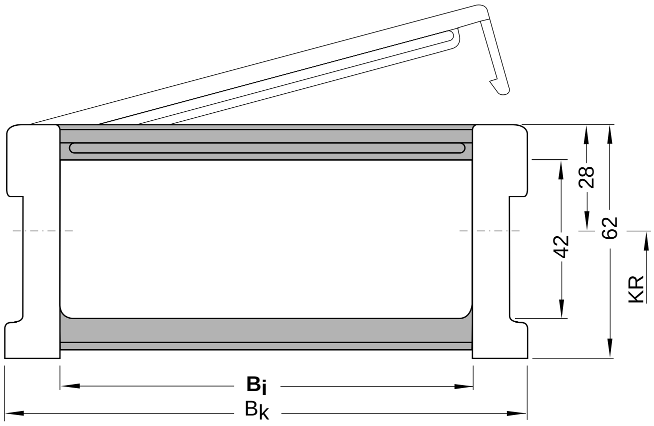
Type 0625

Chain cross sections

with openable hinged brackets
Internal height h_i = 42 mm







All chain types with injection moulded glide runners for long travel lengths.

Bend radii / weights:

Type	B_i mm	B_k mm	Bend radius mm						Intrinsic Chain Weight kg/m
0625.25	**65**	93	90	125	150	200	250	300	1.74
0625.45	**108**	136	90	125	150	200	250	300	2.06
0625.55	**125**	153	90	125	150	200	250	300	2.07
0625.65	**150**	178	90	125	150	200	250	300	2.15
0625.75	**169**	197	90	125	150	200	250	300	2.37

Technical Data — MONO Series

Type 0625

Divider systems
with openable hinged brackets
Internal height h_i = 42 mm

The divider system can be planned by you or by our engineers on the basis of the information you supply about the configuration of the cable carrier.

As standard, the divider system is fitted on every 2nd chain cross section!

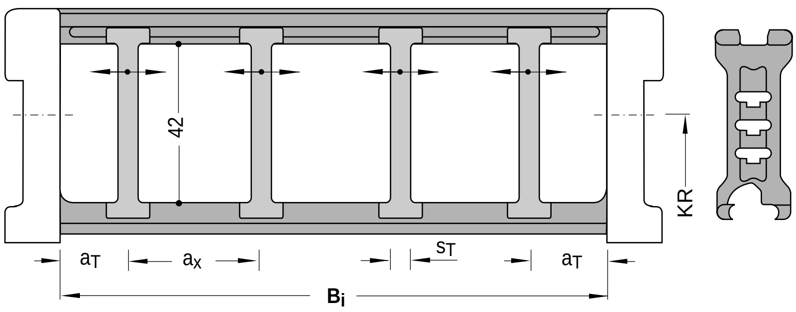
Divider system TS 01

without height subdivision

s_T	=	4 mm
$a_{T\,min}$	=	11 mm
$a_{x\,min}$	=	11 mm

Please state the number of dividers/cross section n_T when ordering.

Sample order:
Divider system T 0/n_T 4



The dividers can slide along the chain cross section!

Divider system TS 1

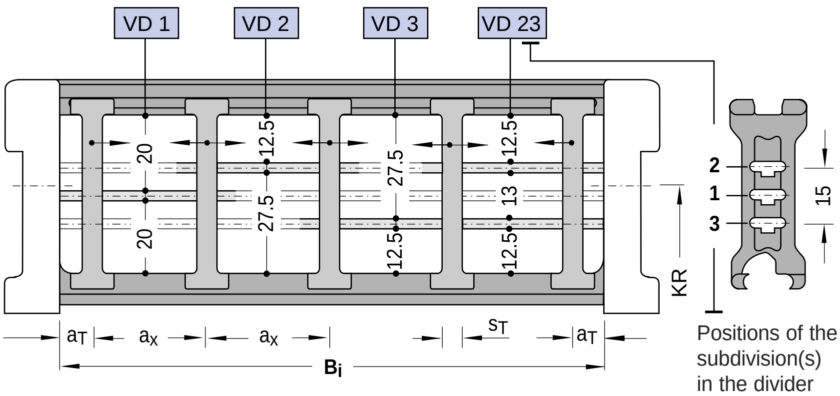
with continuous height subdivision

Height subdivision: **Al profile 9 x 2 mm**

s_T	=	4 mm
$a_{T\,min}$	=	11 mm
$a_{T\,max}$	=	20 mm
$a_{x\,min}$	=	11 mm
$n_{T\,min}$	=	2

Please state the type of height subdivisions and the number of dividers/cross section n_T when ordering.

Sample order:
Divider system TS 1 – VD 23/n_T 4



Technically recommended variant: VD 1
The dividers can slide along the chain cross section!

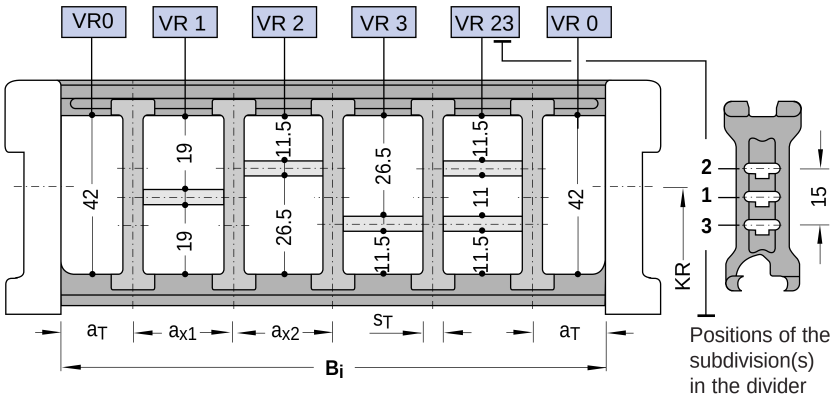
Divider system TS 2

with grid subdivision (1 mm sections)
Height subdivision: **Al profile 11 x 4 mm**

s_T	=	6 mm	
$a_{T\,min}$	=	12 mm	
$a_{x\,min}$	=	20 mm	(with VR O)
$a_{x\,min}$	=	13 mm	(with VR 1)

Please indicate the cavities (from left to right), the relevant subdivision variant and the assembly spacing a_T and a_x when ordering.

Sample order: Divider system TS 2
K (cavity) 1-VR 0/15 mm
K 2-VR 1 / 40 mm
K 3-VR 23 / 40 mm
K 4-VR 1 / 40 mm
K 5-VR 0 /15 mm



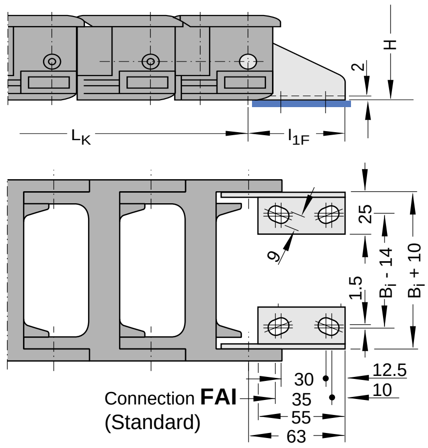
Technically recommended variants: VR 0 and VR 1
The dividers are fixed by height subdivision, the grid segments can slide along the chain cross section!

Type 0625

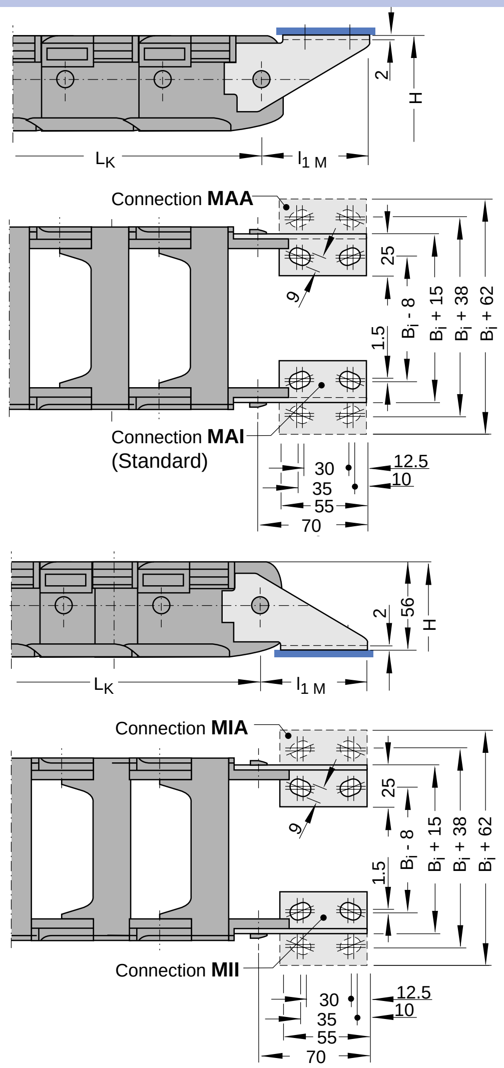
Connection dimensions

Standard end connector made of steel

Fixed point connection



Driver connection



Ordering Key for the connection:

X X X

Connection point
F - Fixed point
M - Driver

Connection type
A - Threaded joint to the outside (Standard)
I - Threaded joint to the inside (towards KR)

Connection surface
I - Connection surface inside (< B_i)
A - Connection surface outside (> B_i)

The connection variants at the fixed point and at the driver can be combined and subsequently changed if required.

Please state the desired connection (standard or special connection piece with strain relief) and the connection variant when ordering!

Example: FAI/MAA or **FAI/MII**

Ordering Key for cable carrier:

0625.65 - 125 - 1250

Example: Cable Carrier type 0625.65, with bend radius KR 125 mm and chain length L_K = 1250 mm

- Chain type
- Bend radius KR in mm
- Chain length L_K in mm (without connection)

KABELSCHLEPP

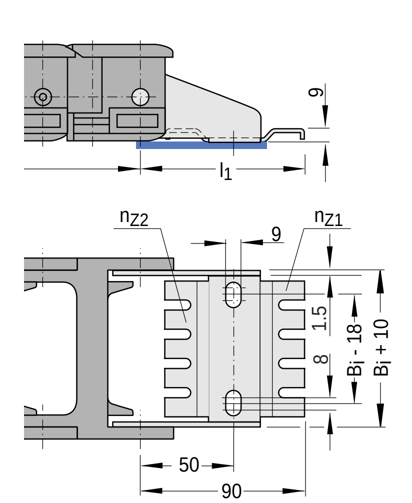
Technical Data — MONO Series

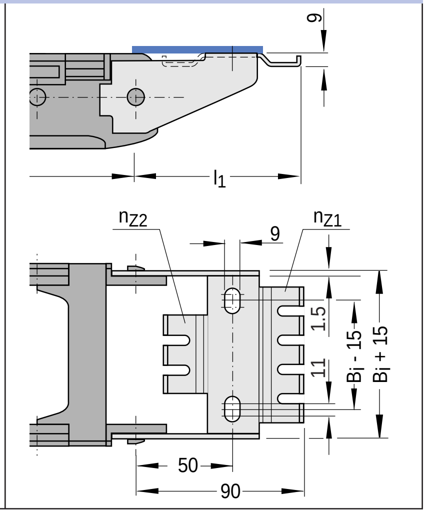
Type 0625

Connection dimensions

Special connection pieces made of steel with integrated strain relief

Fixed point connection | **Driver connection**





Type	B_i mm	n_Z1 Fixed point	n_Z2 Fixed point	n_Z1 Driver	n_Z2 Driver
0625.22/.23/.25	**65**	5	5	5	3
0625.40/.42/.43/.45	**108**	9	9	9	7
0625.55	**125**	10	10	10	8
0625.65	**150**	11	11	11	9
0625.75	**169**	13	13	13	11

Connection variants

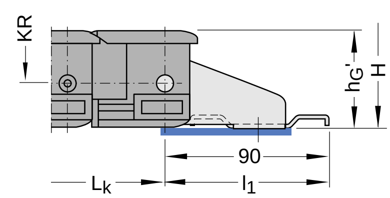
Ordering Key for the connection:

X X

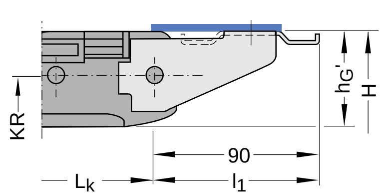
Connection point
F - Fixed point
M - Driver

Connection type
A - Threaded joint to the outside (Standard)
I - Threaded joint to the inside (towards KR)

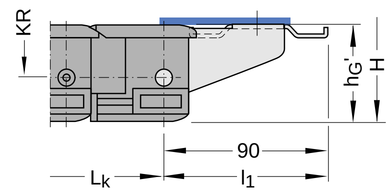
Fixed point connection | **Driver connection**



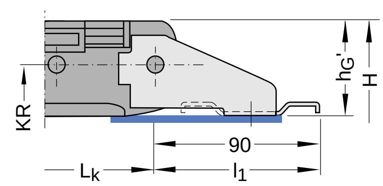
Connection **FA** (Standard)



Connection **MA** (Standard)



Connection **FI***



Connection **MI**

The connection variants at the fixed point and at the driver can be combined and subsequently changed if required.

Example: FA/MA or **FA/MI**

* The one-piece end connector with integrated strain relief should be fed in underneath FI.6mm.

Please state the desired connection (standard or special connecting piece with strain relief) and the connection variant when ordering!

Ordering Key for cable carrier:

0625.65 - 125 - 1250

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

Example:

Cable Carrier type 0625.65, with bend radius KR 125 mm and chain length L_k = 1250 mm

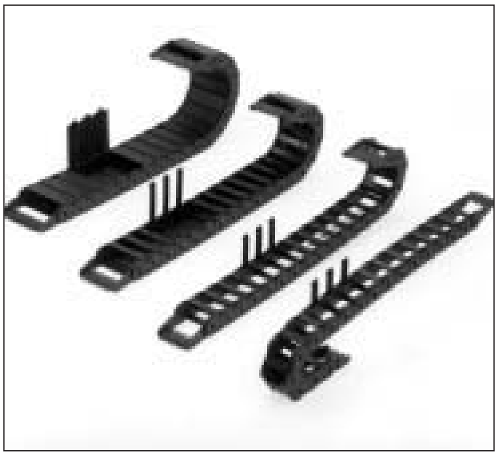
Subject to technical changes!

KabelSchlepp

UNIFLEX

Cable Carriers

KABELSCHLEPP



Profile

UNIFLEX
Cable Carriers

- Solid plastic
- Can be opened inside or outside according to preference
- Robust double stroke system for long self-supporting lengths
- High torsional rigidity
- End connector with integrated strain relief
- Open, semi-enclosed and fully enclosed ranges
- Low cost standard ranges
- TÜV type approved in accordance with 2PfG 1036/10.97
- 2D-/3D-CAD-Data can be found at www.kabelschlepp.de

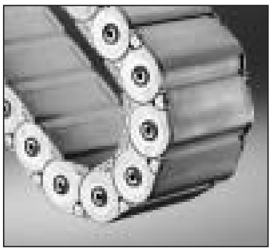
Designs

Design 030 – **Cable carriers** with removable hinged brackets, openable on both sides **to the outside.**

Design 040 – **Cable carriers** with removable hinged brackets, openable on both sides **to the inside.**

Design 050 – **Cable carriers**
- covered **on the outside**
- with **removable** hinged brackets, openable on both sides **to the inside.**

Design 060 – **Enclosed Cable carriers**
- covered **on the outside**
- with **removable** hinged covers, openable on both sides **to the inside.**



Enclosed cable carrier – 080 Design
cf. also page 3.141

Chain Band Material:	**K 7426 S (Standard)** → cf. Interesting Technical Information 7.14
Connecting Profile Material:	**K 7426 S (Standard)** → cf. Interesting Technical Information 7.14
8 bend radii available!	Intermediate radii available on request, reverse bend radii are possible!

Type	Inside width $B_{i\,min}$ mm	Inside width $B_{i\,max}$ mm	Chain width $B_{k\,min}$ mm	Chain width $B_{k\,max}$ mm	Inside height h_i mm	Pitch t mm
0250	20	80	30	90	17.5	25.0
0345	15	90*	28	103	20/19.5	34.5
0455	25	130	43	148	26/25	45.5
0555	50	150	72	172	38/36	55.5
0665	50	250**	77	277	44/42	66.5

* for type 050/060 = 65 mm. ** for type 050/060 = 175 mm

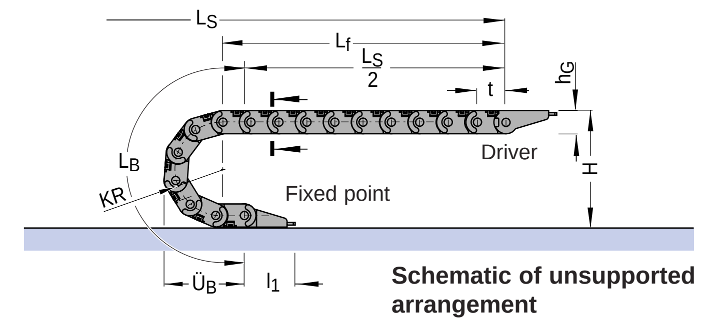
TÜV Rheinland Product Safety
BAUART GEPRÜFT
TYPE APPROVED

Type 0250

Design of the Cable Carriers

Chain pitch t = 25 mm
Chain link height h_G = 23 mm
Connection height H_{min} = 2 KR + 23 mm
Connection length l_1 = cf. Connection Dimensions

A flat and level surface is required for the carrier system to be installed properly. If necessary, a support tray should be installed. (cf. System Components section)



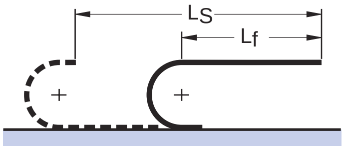
Schematic of unsupported arrangement

Variable sizes
depending on bend radius

Bend radius KR	**28** mm	**38** mm	**45** mm	**60** mm	**75** mm	**100** mm
Bend length L_B	138	169	191	238	286	364
Loop overhang $Ü_B$	65	75	82	97	112	137
Height H_{min}	79	99	113	143	173	223

Load diagram

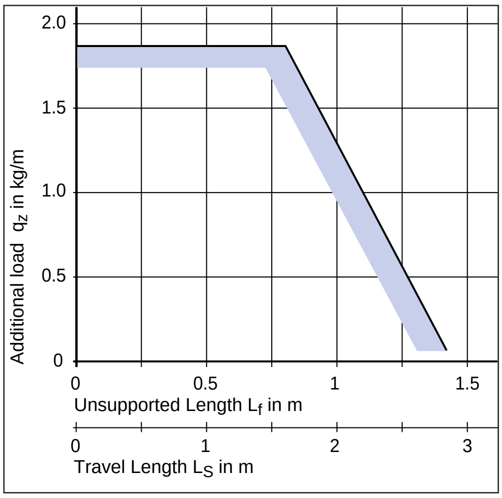
Unsupported length L_f and travel length L_S
depending on the additional load (cf. Construction Guidelines)



Calculation of chain length:

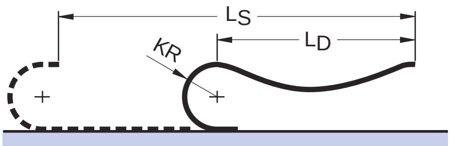
$$L_k \approx \frac{L_S}{2} + L_B$$

rounded to pitch 25 mm



Load diagram for an intrinsic chain weight q_k of 0.35 kg/m. If the intrinsic chain weight exceeds q_k 0.35 kg/m, the permissible additional load is lower.

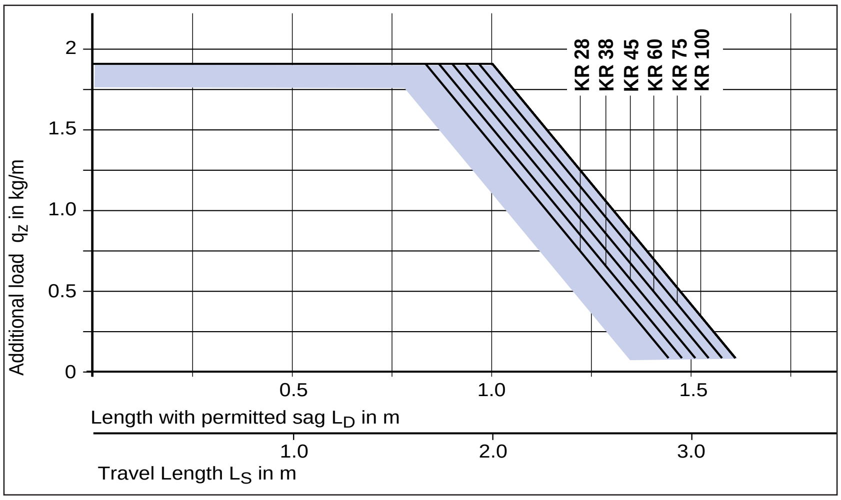
Length with permitted sag L_D and travel length L_S
depending on the additional load (cf. Construction Guidelines)



Calculation of chain length:

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

rounded to pitch 25 mm



Long travel lengths

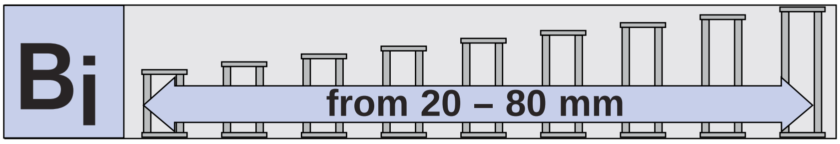
With long travel lengths the upper part of the cable carrier glides on its lower run in a guide channel.

Design → cf. Construction Guidelines

Guide channel → cf. System Components

We recommend that a system of this kind be planned by one of our engineers.

Type 0250

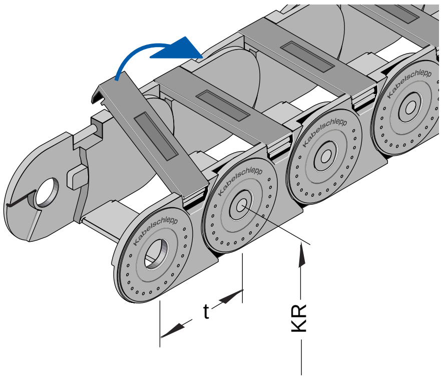


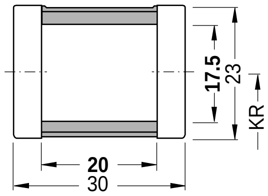
Chain cross sections

in accordance with section in schematic illustration

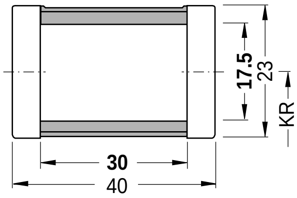
Design 0250.030

Hinged on one side,
openable **to the outside**

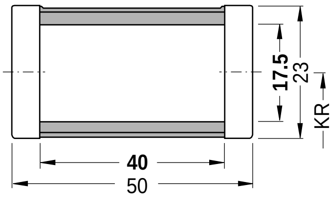




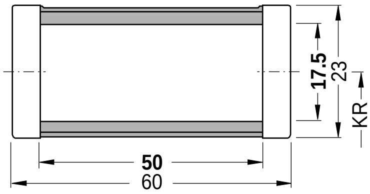
0250.030.**020**
G_k = 0.26 kg/m



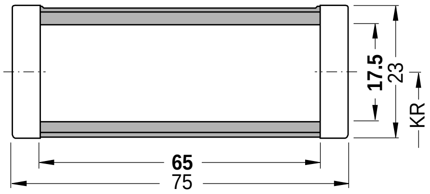
0250.030.**030**
G_k = 0.31 kg/m



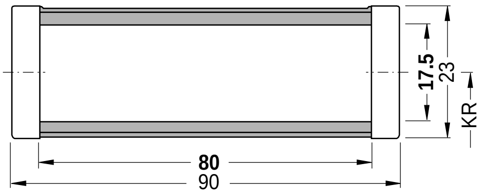
0250.030.**040**
G_k = 0.33 kg/m



0250.030.**050**
G_k = 0.35 kg/m



0250.030.**065**
G_k = 0.38 kg/m



0250.030.**080**
G_k = 0.41 kg/m

Divider system TS 0

without height subdivision

s_T	=	2 mm
$a_{T\,min}$	=	3 mm
$a_{x\,min}$	=	6 mm

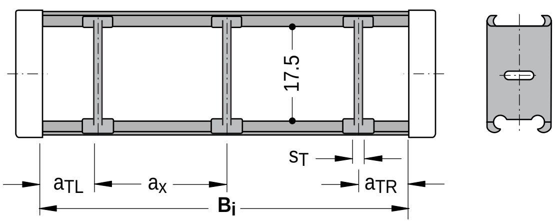
Please state the number of dividers/cross section n_T when ordering.

Sample order:

Divider system T_S 0/n_T3

The divider system can be planned by you or by our engineers on the basis of the information you supply about the configuration of the cable carrier.

As standard, the divider system is fitted on every 2nd chain cross section!



The dividers can slide along the chain cross section!

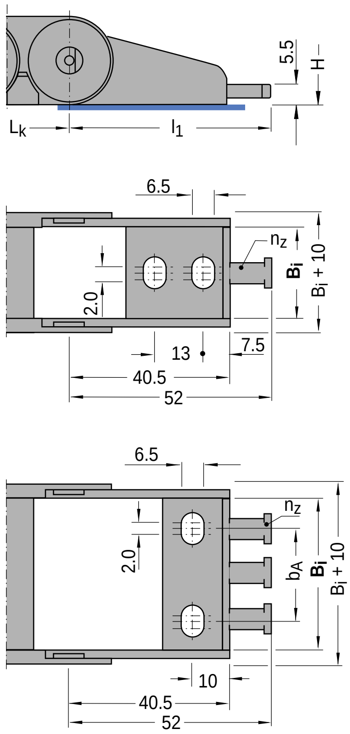
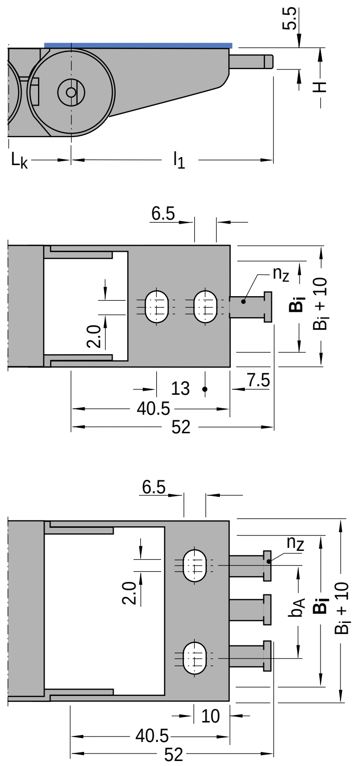
Type 0250

Connection dimensions

Connectors made of plastic with integrated strain relief

For chain width B_i = 20 mm

For chain width B_i = 30 - 80 mm

Fixed point connection	Driver connection
	

Type	B_i mm	B_k mm	b_A mm	n_Z
0250.30.20	**20**	30	–	1
0250.30.30	**30**	40	15	2
0250.30.40	**40**	50	23	3
0250.30.50	**50**	60	33	4
0250.30.65	**65**	75	48	5
0250.30.80	**80**	90	63	6

Ordering Key for Cable Carrier:

0250.030.040.045 - 650

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

Example:
Cable carrier type 0250, design 030 - hinged brackets openable on both sides to the outside - inside width B_i 40 mm, bend radius KR 45 mm and chain length L_k 650 mm

Type 0250

Connection variants

Ordering Key for the connection:

X X

Connection point
M - Driver
F - Fixed point

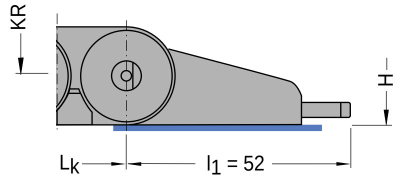
Connection type
A - Threaded joint to the outside (Standard)
I - Threaded joint to the inside (towards KR)
H - Connection element turned through 90° to the outside
K - Connection element turned through 90° to the inside (towards KR)

Please state the desired connection variant when ordering.

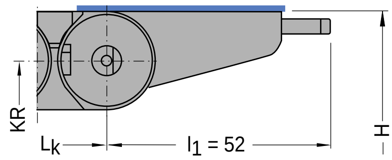
Example: FA/MA (Standard) or **FA/MI**

The connection variants at the fixed point and at the driver can be combined and subsequently changed if required.

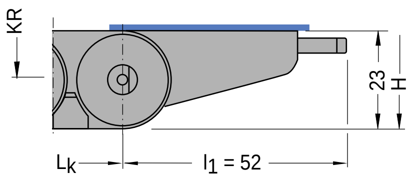
Fixed point connection	Driver connection



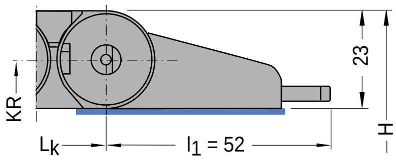
Connection **FA** (Standard)



Connection **MA** (Standard)

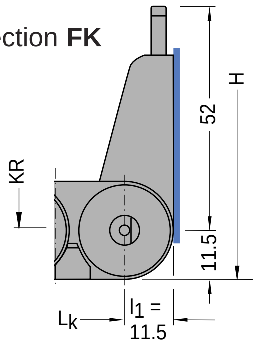


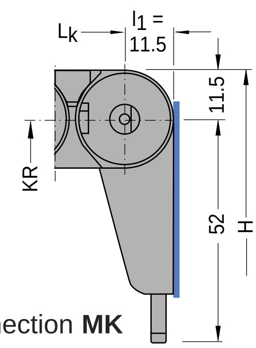
Connection **FI**



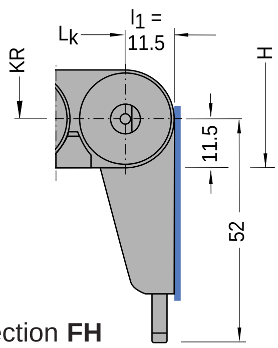
Connection **MI**

Connection **FK**



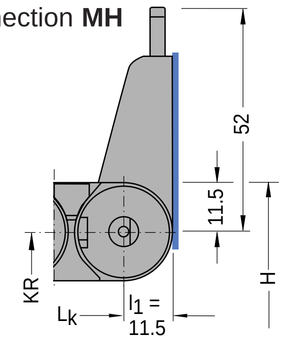


Connection **MK**



Connection **FH**

Connection **MH**



Subject to technical changes!

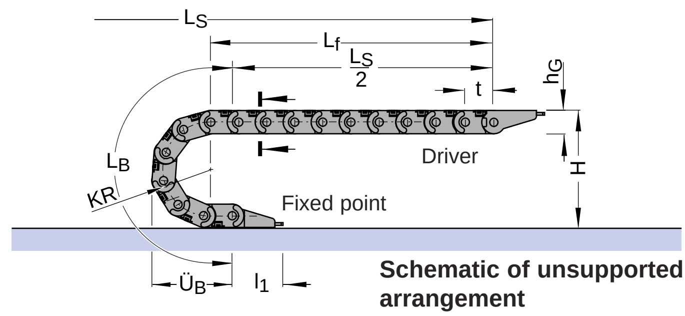
Technical Data — UNIFLEX Series

Type 0345

Design of the Cable Carriers

Chain pitch t	=	34.5 mm
Chain link height h_G	=	28 mm
Connection height H_{min}	=	2 KR + 28 mm
Connection length l_1	=	cf. Connection Dimensions

A flat and level surface is required for the carrier system to be installed properly. If necessary, a support tray should be installed. (cf. System Components section)



Schematic of unsupported arrangement

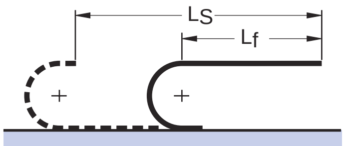
Variable sizes

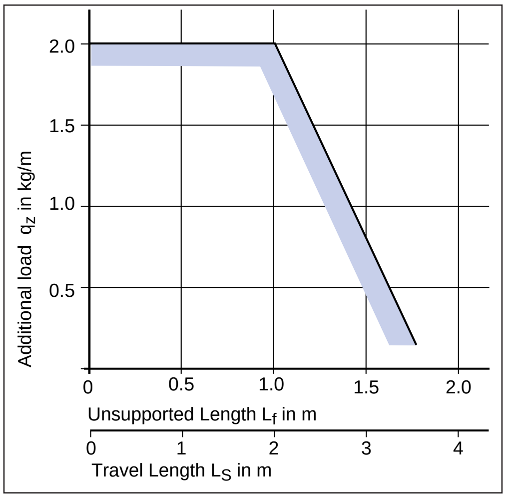
depending on bend radius

Bend radius KR	**38** mm	**50** mm	**75** mm	**100** mm	**125** mm	**150** mm
Bend length L_B	188	226	305	383	462	540
Loop overhang $Ü_B$	87	99	124	149	174	199
Height H_{min}	104	128	178	228	278	328

Load diagram

Unsupported length L_f and travel length L_S
depending on the additional load (cf. Construction Guidelines)





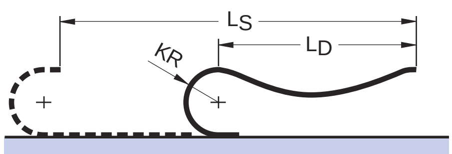
Load diagram for an intrinsic chain weight q_k of 0.5 kg/m. If the intrinsic chain weight exceeds q_k 0.5 kg/m, the permissible additional load is lower.

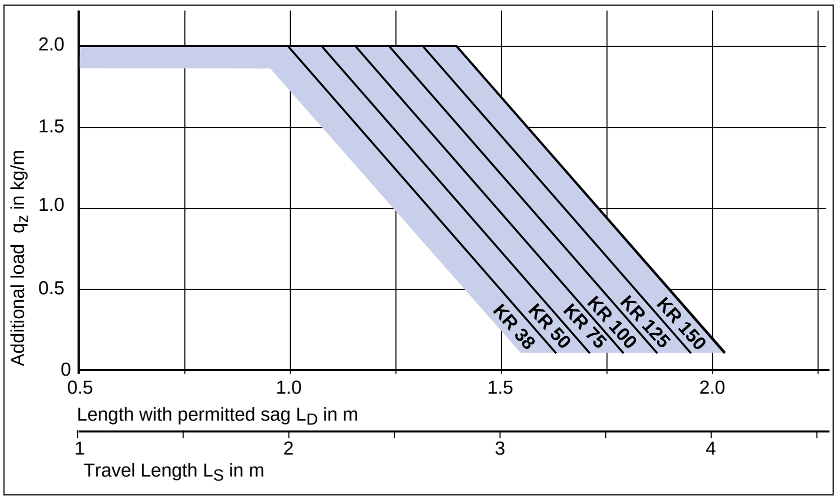
Calculation of chain length:

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

rounded to pitch 34.5 mm

Length with permitted sag L_D and travel length L_S
depending on the additional load (cf. Construction Guidelines)





Calculation of chain length:

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

rounded to pitch 34.5 mm

Long travel lengths

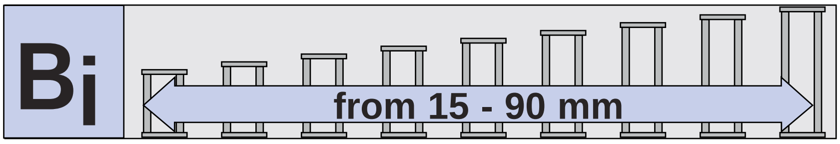
With long travel lengths the upper part of the cable carrier glides on its lower run in a guide channel.

Design → cf. Construction Guidelines

Guide channel → cf. System Components

We recommend that a system of this kind be planned by one of our engineers.

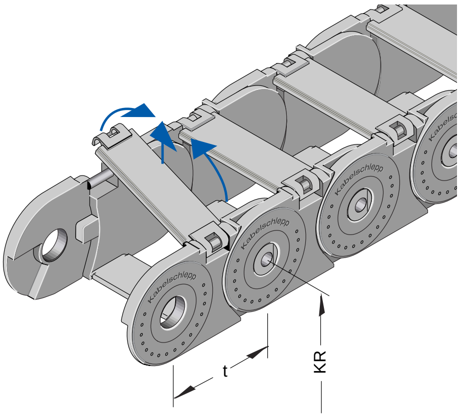
Type 0345

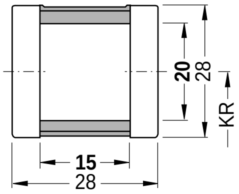


Chain cross sections
in accordance with section in schematic illustration

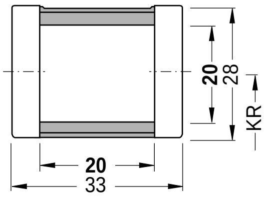
Design 0345.030

On the outside with removable hinged brackets, openable on both sides.

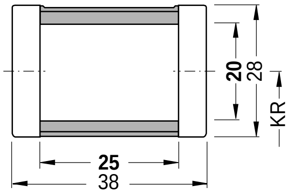




0345.030.**015**
G_k = 0.43 kg/m



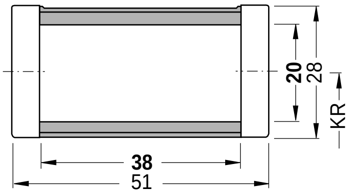
0345.030.**020**
G_k = 0.45 kg/m



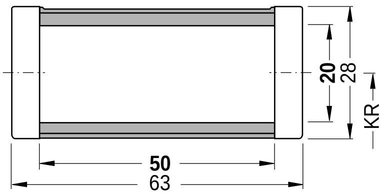
0345.030.**025**
G_k = 0.46 kg/m

Design 0345.035

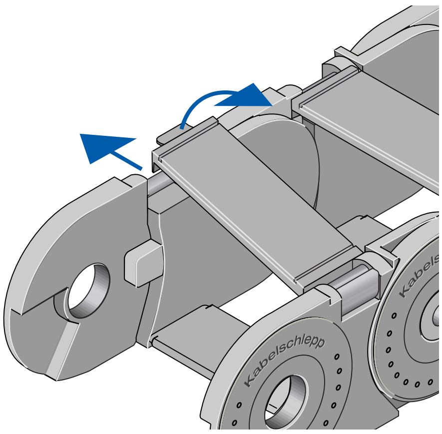
Connecting bracket with locking mechanism for additional strength. Especially for use with hydraulic hoses with small bend radii.

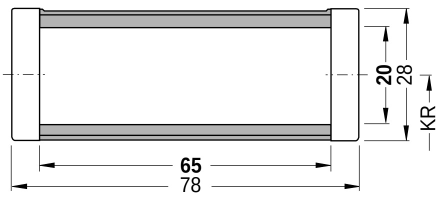


0345.030.**038**
G_k = 0.50 kg/m

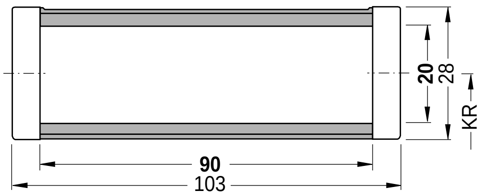


0345.030.**050**
G_k = 0.53 kg/m





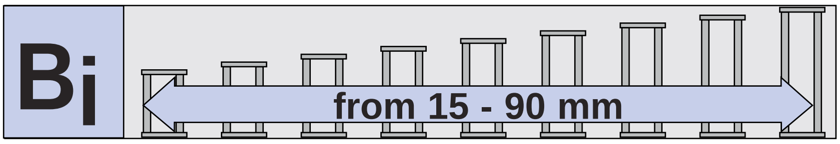
0345.030.**065**
G_k = 0.57 kg/m



0345.030.**090**
G_k = 0.71 kg/m

Available Bend Radii KR (mm)					
38	50	75	100	125	150

Subject to technical changes!



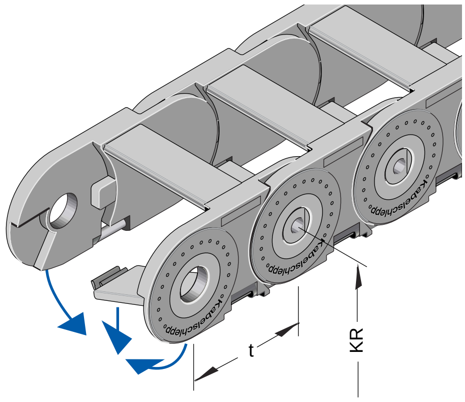
Type 0345

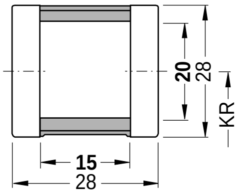
Chain cross sections

in accordance with section in schematic illustration

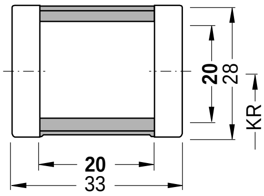
Design 0345.040

On the inside with removable hinged brackets, openable on both sides.

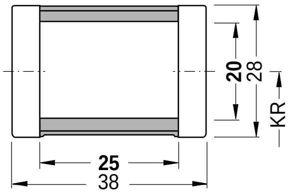




0345.040.**015**
G_k = 0.43 kg/m



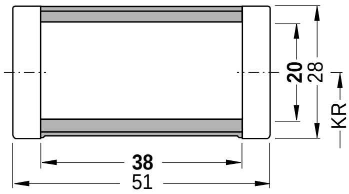
0345.040.**020**
G_k = 0.45 kg/m



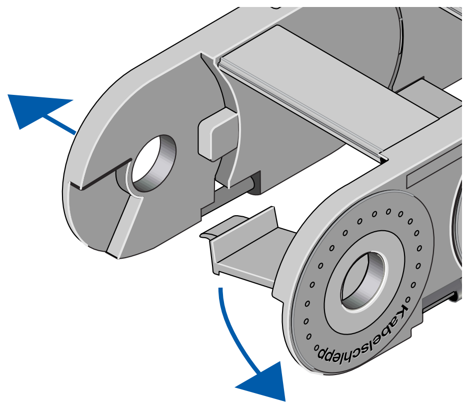
0345.040.**025**
G_k = 0.46 kg/m

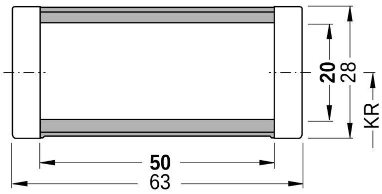
Design 0345.045

Connecting bracket with locking mechanism for additional strength. Especially for use with hydraulic hoses with small bend radii.

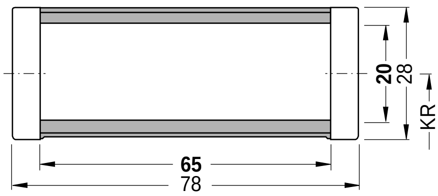


0345.040.**038**
G_k = 0.50 kg/m

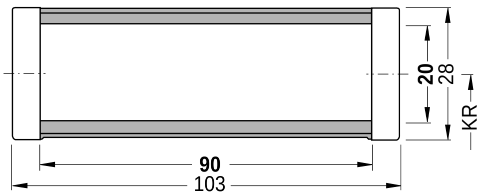




0345.040.**050**
G_k = 0.53 kg/m



0345.040.**065**
G_k = 0.57 kg/m



0345.040.**090**
G_k = 0.71 kg/m

Available Bend Radii KR (mm)					
38	50	75	100	125	150

Subject to technical changes!

Type 0345

Divider system for Design 0345.030/035/040/045

The divider system can be planned by you or by our engineers on the basis of the information you supply about the configuration of the cable carrier.

As standard, the divider system is fitted on every 2nd chain cross section!

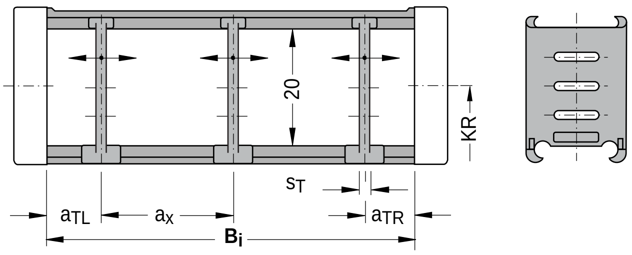
Divider system TS 0

without height subdivision

s_T	=	2 mm
$a_{T\,min}$	=	4 mm
$a_{x\,min}$	=	8 mm

Please state the number of dividers/cross section n_T when ordering.

Sample order:
Divider system TS 0/n_T 3



The dividers can slide along the chain cross section!

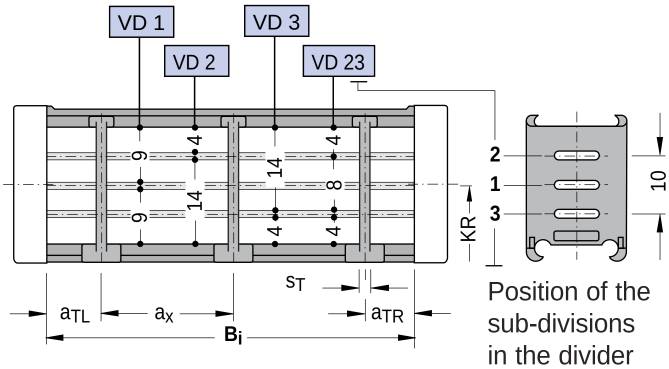
Divider system TS 1

with continuous height subdivision
Height subdivision: **Al-Profile 9 x 2 mm**

s_T	=	2 mm
$a_{T\,min}$	=	4 mm
$a_{T\,max}$	=	20 mm
$a_{x\,min}$	=	8 mm
$n_{T\,min}$	=	2

Please state the type of height subdivisions and the number of dividers/cross section n_T when ordering.

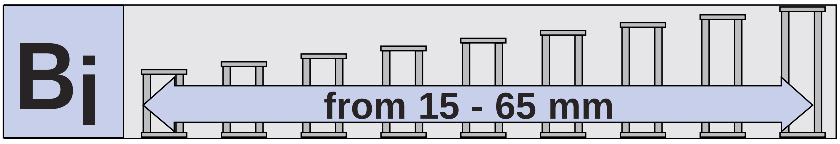
Sample order:
Divider system TS 1 - VD 1 / n_T 3



Position of the sub-divisions in the divider

Technically recommended variant: VD 1
The dividers can slide along the chain cross section!

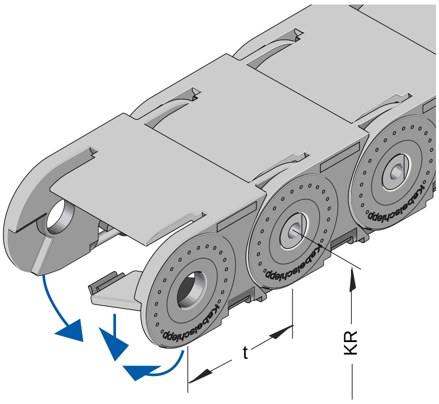
Type 0345

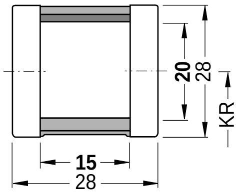


Chain cross sections
in accordance with section in schematic illustration

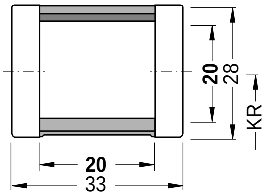
Design 0345.050

- design enclosed on one side
- covered on the outside
- with removable hinged brackets, openable on both sides to the inside

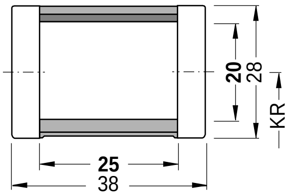




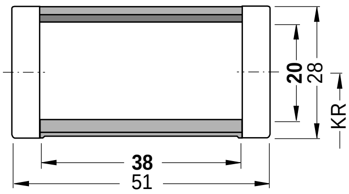
0345.050.**015**
G_k = 0.46 kg/m



0345.050.**020**
G_k = 0.49 kg/m



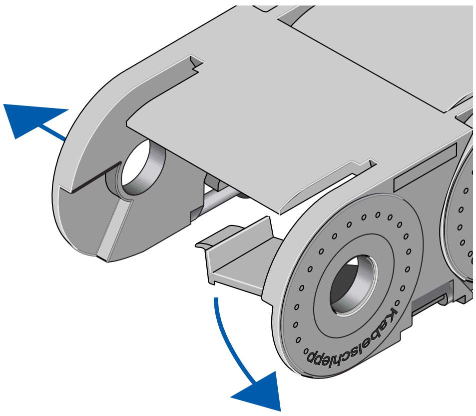
0345.050.**025**
G_k = 0.52 kg/m

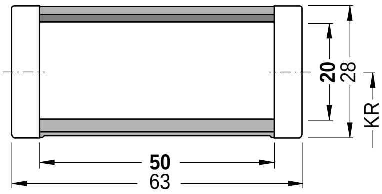


0345.050.**038**
G_k = 0.59 kg/m

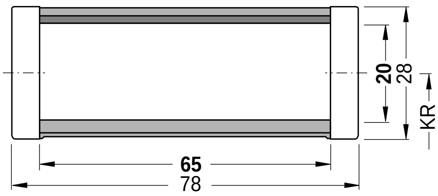
Design 0345.055

Connecting bracket with locking mechanism for additional strength. Especially for use with hydraulic hoses with small bend radii.





0345.050.**050**
G_k = 0.66 kg/m



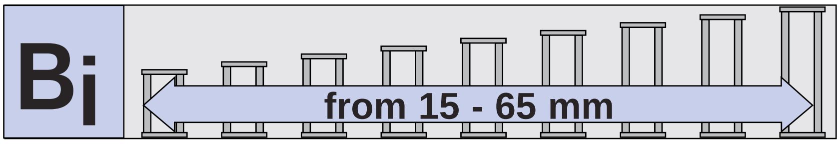
0345.050.**065**
G_k = 0.75 kg/m

Available Bend Radii KR (mm)					
38	**50**	**75**	**100**	**125**	**150**

KABELSCHLEPP

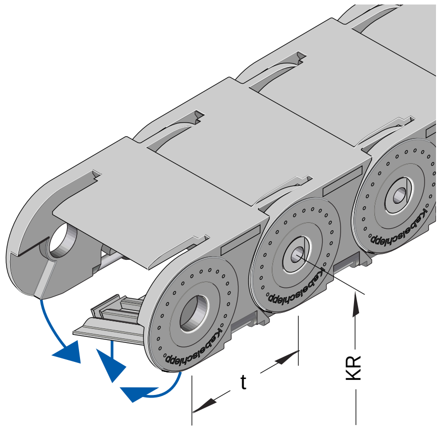
Type 0345

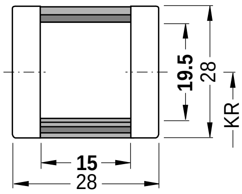
Chain cross sections
in accordance with section in schematic illustration



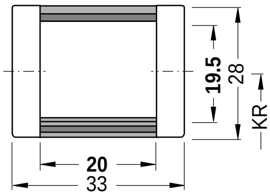
Design 0345.060

- enclosed design
- covered on the outside
- with removable hinged covers, openable on both sides to the inside

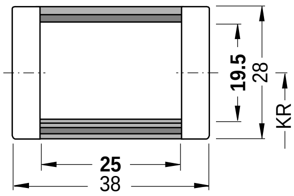




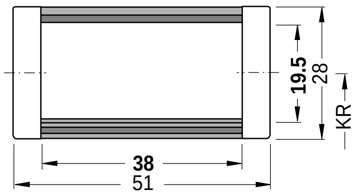
0345.060.**015**
G_k = 0.48 kg/m



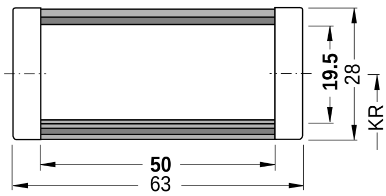
0345.060.**020**
G_k = 0.52 kg/m



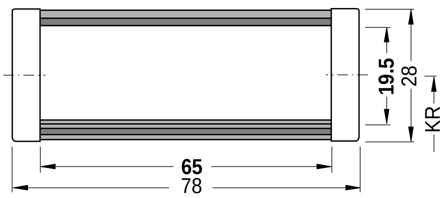
0345.060.**025**
G_k = 0.56 kg/m



0345.060.**038**
G_k = 0.65 kg/m



0345.060.**050**
G_k = 0.74 kg/m



0345.060.**065**
G_k = 0.85 kg/m

Available Bend Radii KR (mm)			
75	100	125	150

Subject to technical changes!

Type 0345

Connection dimensions

Connectors made of plastic with integrated strain relief.

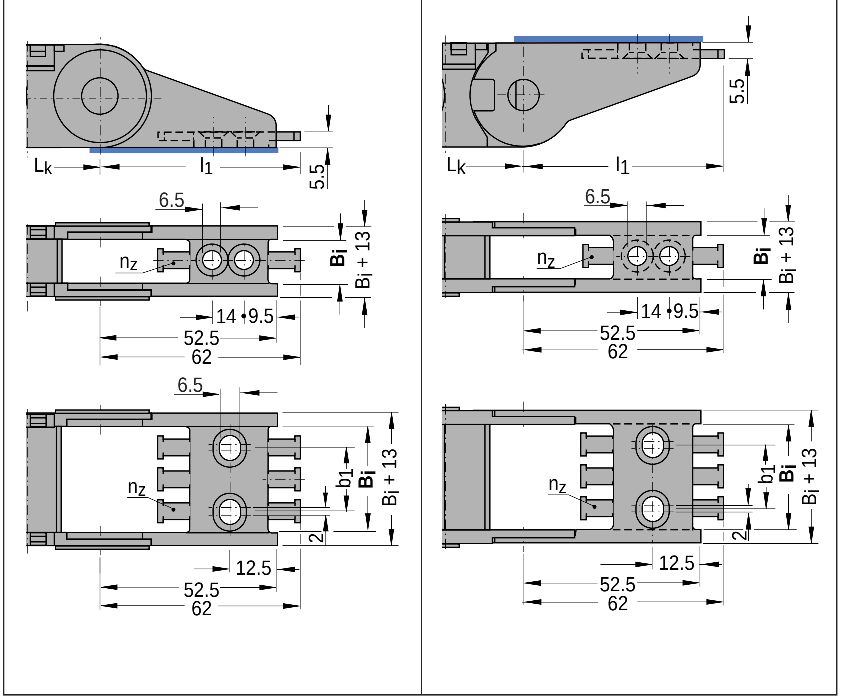
Two-sided strain relief device for fixing the cables/hoses securely.

For chain width B_i = 15 - 20 mm

For chain width B_i = 25 - 65 mm

Special end connector made of steel plate available on request.

Fixed point connection | **Driver connection**



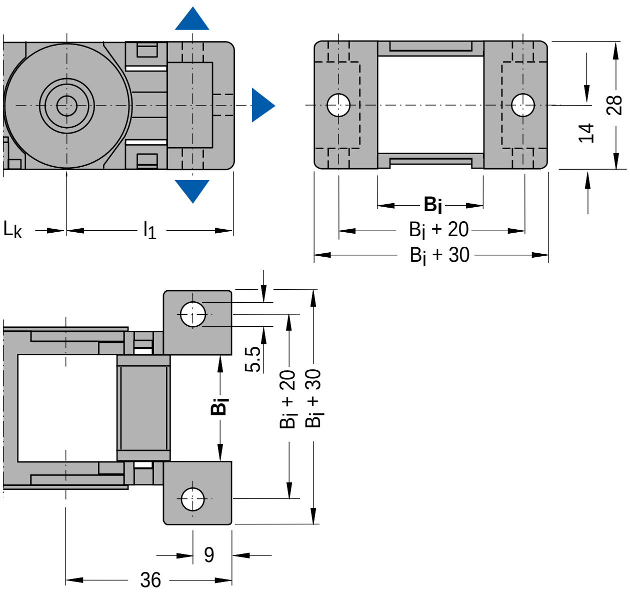
Type	B_i mm	B_k mm	b_1 mm	n_z
0345. … .15	**15**	28	--	1
0345. … .20	**20**	33	--	1
0345. … .25 *	**25**	38	13	2
0345. … .38	**38**	51	24	3
0345. … .50	**50**	63	36	4
0345. … .65	**65**	78	51	5

* Type 0345. ... .25 with 6.5 mm borehole (not a slotted hole)

Connection dimensions

Universal connector made of die cast Aluminium.

The dimensions for the fixed point and driver connection are identical!



Ordering Key for the connection:

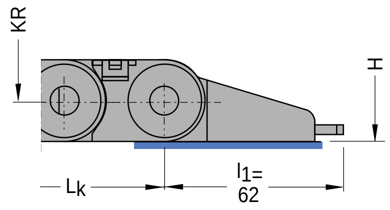
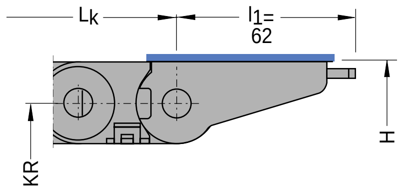
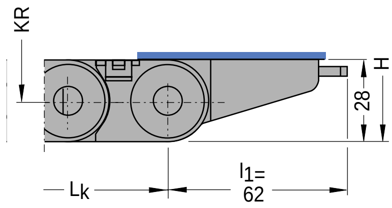
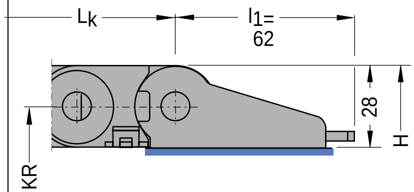
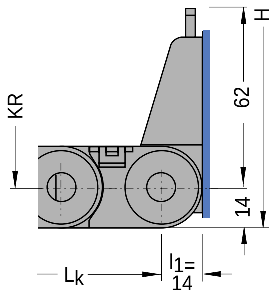
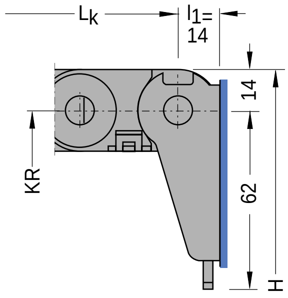
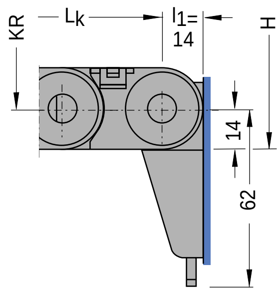
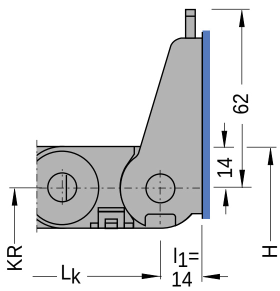
X U

Connection point
F - Fixed point
M - Driver

U - Universal connector

Type 0345

Connection variants

Fixed point connection	Driver connection
 Connection **FA** (Standard)	 Connection **MA** (Standard)
 Connection **FI**	 Connection **MI**
 Connection **FK**	 Connection **MK**
 Connection **FH** (not possible with .060)	 Connection **MH** (not possible with .060)

Ordering Key for the connection:

X X

Connection point
M - Driver
F - Fixed point

Connection type
A - Threaded joint to the outside (Standard)
I - Threaded joint to the inside (towards KR)
H - Connection element turned through 90° to the outside
K - Connection element turned through 90° to the inside (towards KR)

Please state the desired connection variant when ordering.

Example: FA/MA (Standard) or **FA/MK**

The connection variants at the fixed point and at the driver can be combined and subsequently changed if required.

Ordering Key for Cable Carrier:

0345.040.038.050 - 1380

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

Example:
Cable carrier type 0345, variant 040 - hinged brackets openable on both sides to the inside - inside width $\mathbf{B_i}$ 38 mm, bend radius KR 50 mm and chain length L_k 1380 mm

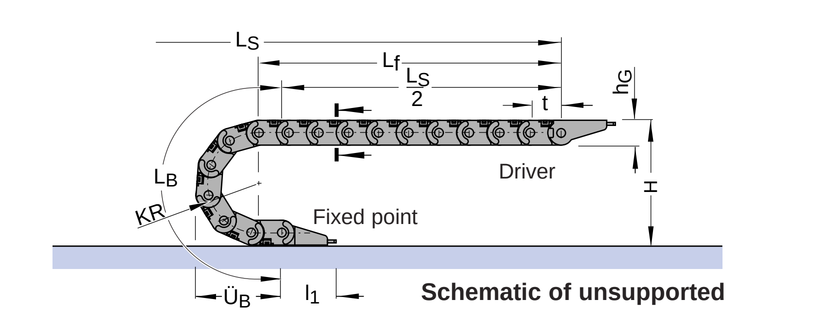
Technical Data — UNIFLEX Series

Type 0455

Design of the Cable Carriers

Chain pitch t	= 45.5 mm
Chain link height h_G	= 36 mm
Connection height H_{min}	= 2 KR + 36 mm
Connection length l_1	= cf. Connection Dimensions

A flat and level surface is required for the carrier system to be installed properly. If necessary, a support tray should be installed. (cf. System Components section)

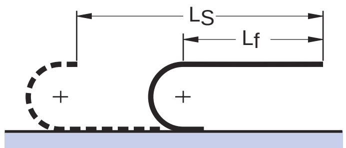


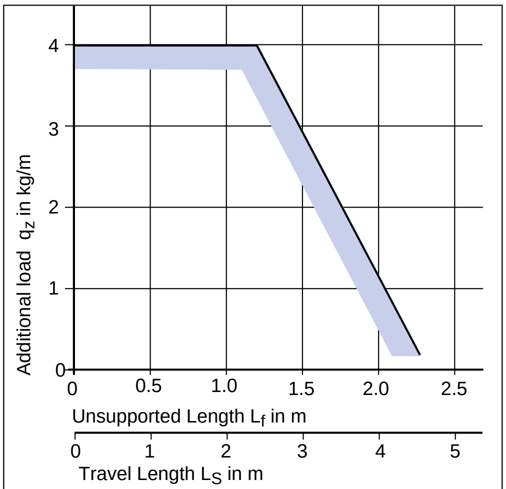
Schematic of unsupported arrangement

Variable sizes
depending on bend radius

Bend radius KR	52 mm	65 mm	95 mm	125 mm	150 mm	180 mm	200 mm	225 mm
Bend length L_B	254	295	390	484	562	657	720	798
Loop overhang $Ü_B$	116	129	159	189	214	244	264	289
Height H_{min}	140	166	226	286	336	396	436	486

Unsupported length L_f and travel length L_S
depending on the additional load (cf. Construction Guidelines)





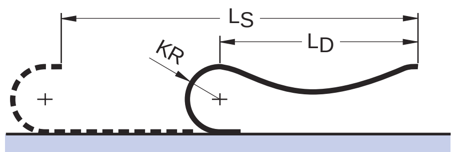
Load diagram for an intrinsic chain weight q_k of 1.0 kg/m. If the intrinsic chain weight exceeds q_k 1.0 kg/m, the permissible additional load is lower.

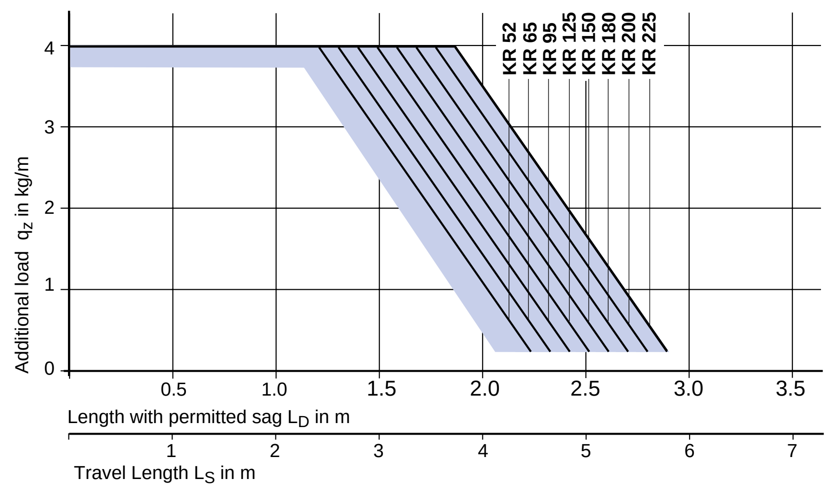
Calculation of chain length:

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

rounded to pitch 45.5 mm

Length with permitted sag L_D and travel length L_S
depending on the additional load (cf. Construction Guidelines)





Calculation of chain length:

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

rounded to pitch 45.5 mm

Long travel lengths

With long travel lengths the upper part of the cable carrier glides on its lower run in a guide channel.

Design → cf. Construction Guidelines

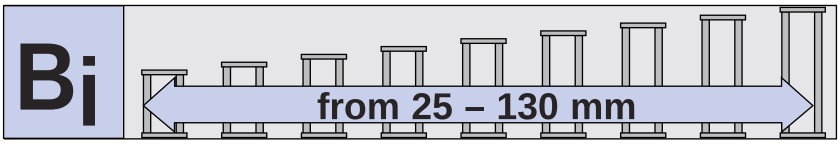
Guide channel → cf. System Components

We recommend that a system of this kind be planned by one of our engineers.

Type 0455

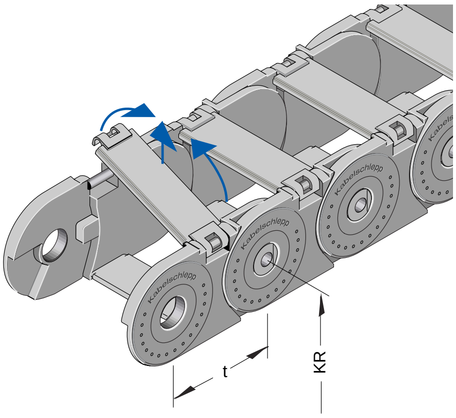
Chain cross sections

in accordance with section in schematic illustration



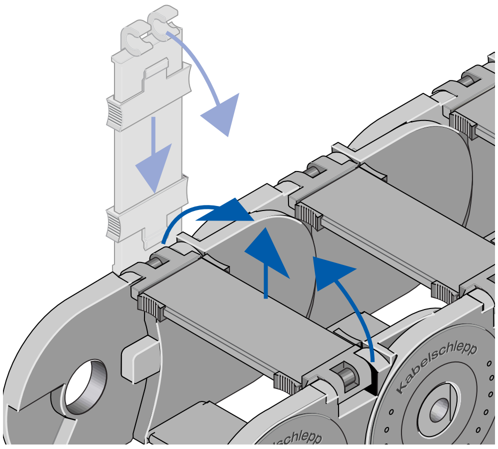
Design 0455.030

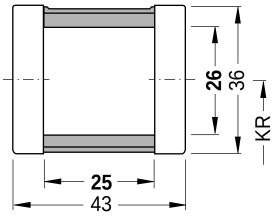
On the outside with removable hinged brackets, openable on both sides.



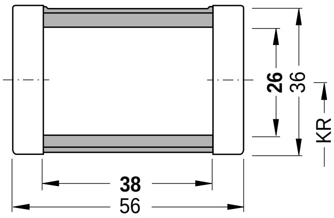
Design 0455.035

Connecting bracket with locking mechanism for additional strength. Especially for use with hydraulic hoses with small bend radii (not for B_i = 25 mm).

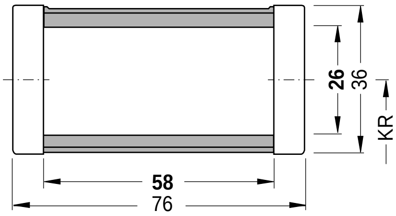




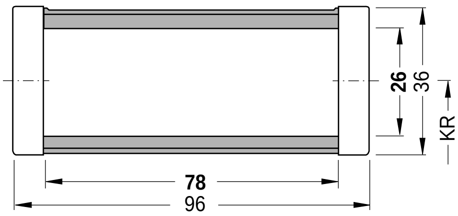
0455.030.**025**
G_k = 0.81 kg/m



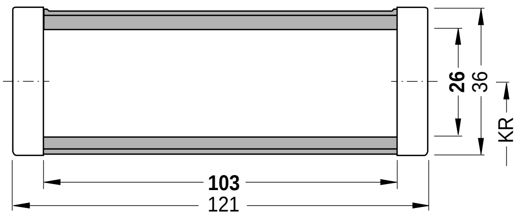
0455.030.**038**
G_k = 0.88 kg/m



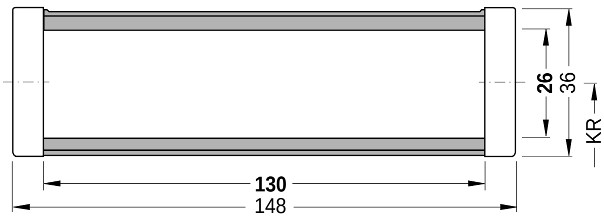
0455.030.**058**
G_k = 0.95 kg/m



0455.030.**078**
G_k = 1.02 kg/m



0455.030.**103**
G_k = 1.15 kg/m



0455.030.**130**
G_k = 1.27 kg/m

Available Bend Radii KR (mm)							
52	65	95	125	150	180	200	225

Subject to technical changes!

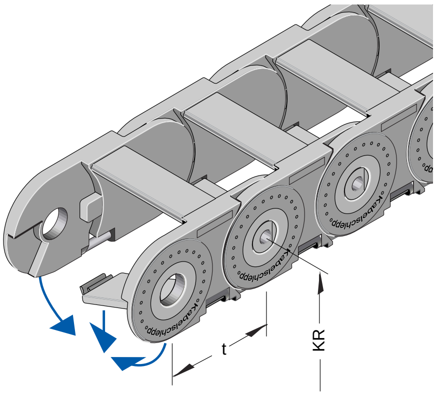
Type 0455

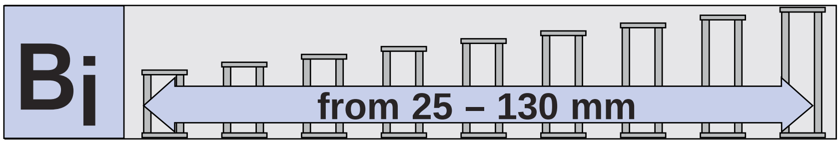
Chain cross sections

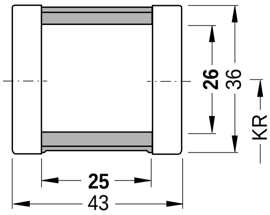
in accordance with section in schematic illustration

Design 0455.040

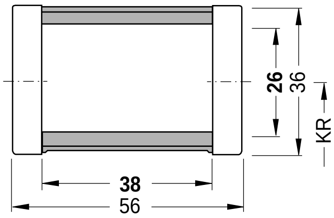
On the inside with removable hinged brackets, openable on both sides.



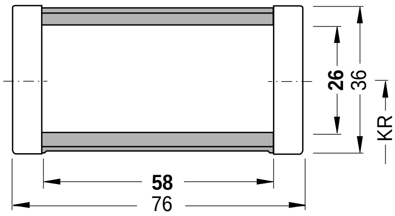




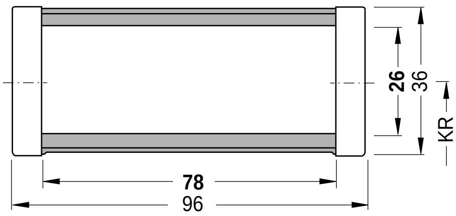
0455.040.**025**
G_k = 0.81 kg/m



0455.040.**038**
G_k = 0.88 kg/m



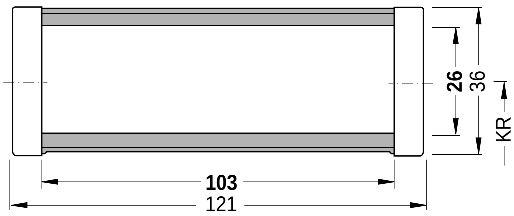
0455.040.**058**
G_k = 0.95 kg/m



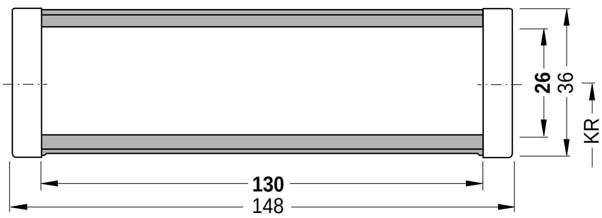
0455.040.**078**
G_k = 1.02 kg/m

Design 0455.045

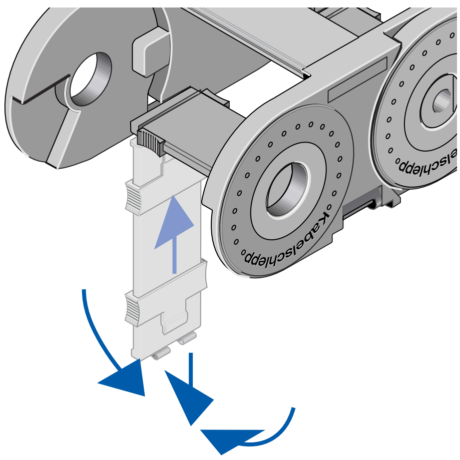
Connecting bracket with locking mechanism for additional strength. Especially for use with hydraulic hoses with small bend radii (not for B_i = 25 mm).



0455.040.**103**
G_k = 1.15 kg/m



0455.040.**130**
G_k = 1.27 kg/m



Available Bend Radii KR (mm)							
52	65	95	125	150	180	200	225

KABELSCHLEPP

Type 0455

Divider system for Design 0455.030/035/040/045

The divider system can be planned by you or by our engineers on the basis of the information you supply about the configuration of the cable carrier.

As standard, the divider system is fitted on every 2nd chain cross section!

Divider system TS 0

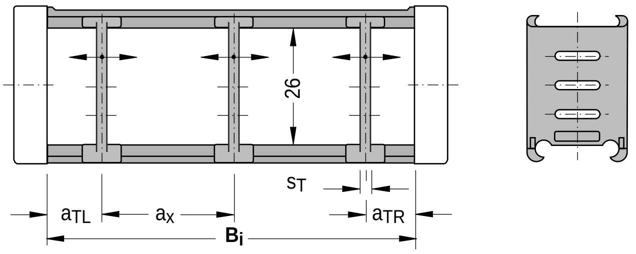
without height subdivision

s_T	=	2.5 mm
$a_{T\,min}$	=	5 mm*
$a_{x\,min}$	=	10 mm

* $a_{T\,min}$ = 19 mm with Design 035 and 045

Please state the number of dividers/cross section n_T when ordering.

Sample order:
Divider system TS 0 / n_T 3



The dividers can slide along the chain cross section!

Divider system TS 1

with continuous height subdivision

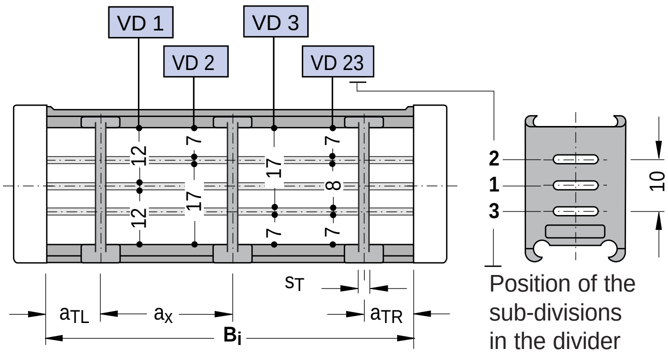
Height subdivision: **Al-Profile 9 x 2 mm**

s_T	=	2.5 mm
$a_{T\,min}$	=	5 mm*
$a_{T\,max}$	=	20 mm
$a_{x\,min}$	=	10 mm
$n_{T\,min}$	=	2

* $a_{T\,min}$ = 19 mm with Design 035 and 045

Please state the type of height subdivisions and the number of dividers/cross section n_T when ordering.

Sample order:
Divider system TS 1 - VD 3 / n_T 3



Position of the sub-divisions in the divider

Technically recommended variant: VD 1

The dividers can slide along the chain cross section!

Divider system TS 3

with grid subdivision
Height subdivision:

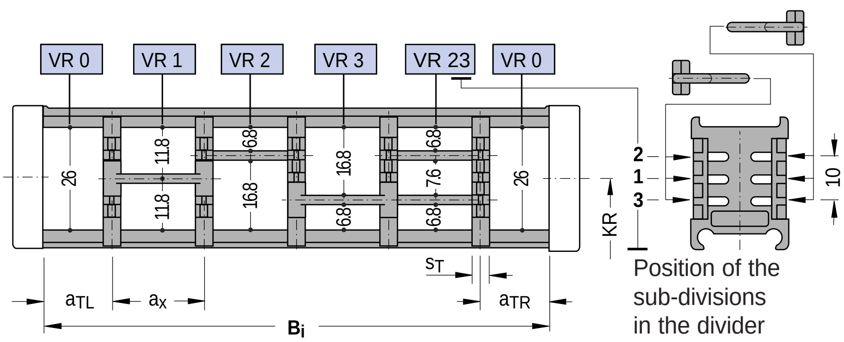
Plastic partitions
2.4 mm thick - in grid dimensions a_x

s_T	=	5 mm
$a_{T\,min}$	=	2.5 mm*
$a_{x\,min}$	=	5 mm (without height subdivision)
$a_{x\,min}$	=	15 mm (with height subdivision)

* $a_{T\,min}$ = 18 mm with Design 035 and 045

Please indicate the cavities (from left to right), the relevant subdivision variant and the assembly spacing a_T and a_x when ordering.

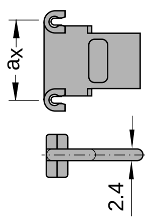
Sample order: Divider system TS 3
K(cavity) 1 - VR 0/19 mm
K 2 - VR 1/40 mm
K 3 - VR 0/25 mm



Position of the sub-divisions in the divider

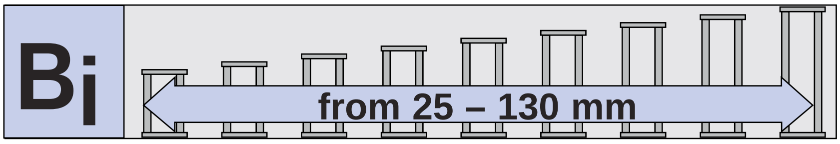
Technically recommended variant: VB 1

a_x mm									
15	20	25	30	35	40	45	55	65	75



Please indicate the cavities (from left to right), the relevant subdivision variant and the assembly spacing a_T and a_x when ordering.

Subject to technical changes!

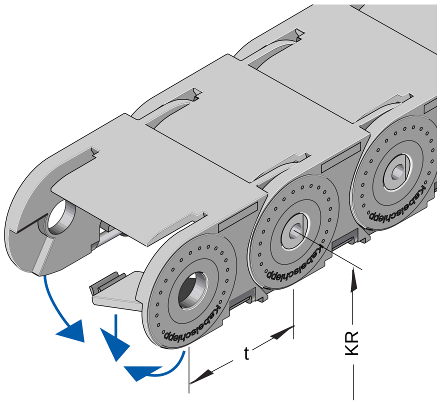


Type 0455

Chain cross sections

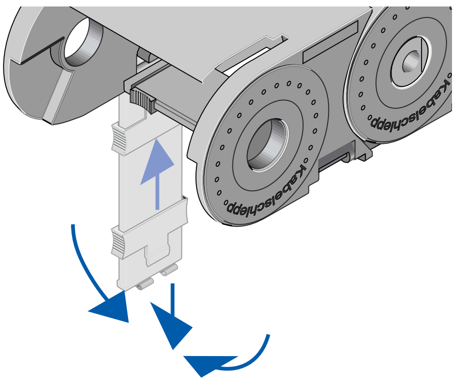
Design 0455.050

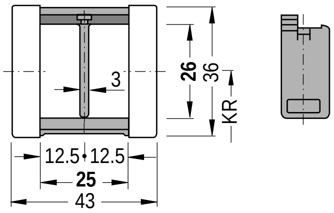
- design enclosed on one side
- covered on the outside
- with removable hinged brackets, openable on both sides to the inside



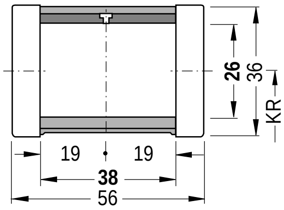
Design 0455.055

Connecting bracket with locking mechanism for additional strength. Especially for use with hydraulic hoses with small bend radii (not for B_i = 25 mm).

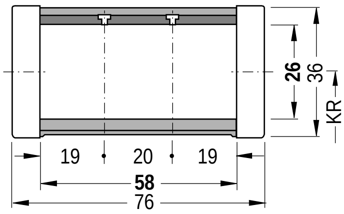




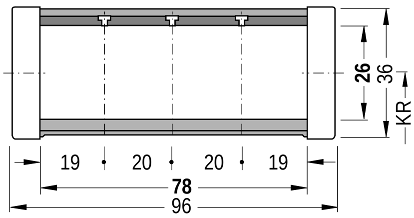
0455.50.**025**
G_k = 0.89 kg/m



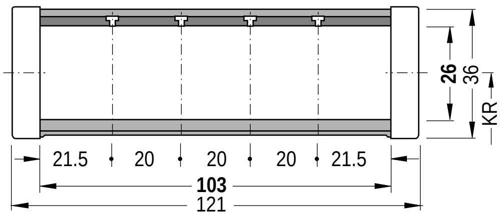
0455.50.**038**
G_k = 0.97 kg/m



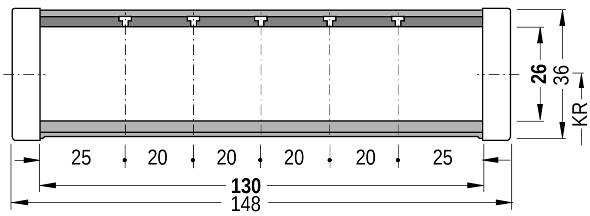
0455.50.**058**
G_k = 1.10 kg/m



0455.50.**078**
G_k = 1.22 kg/m



0455.50.**103**
G_k = 1.40 kg/m

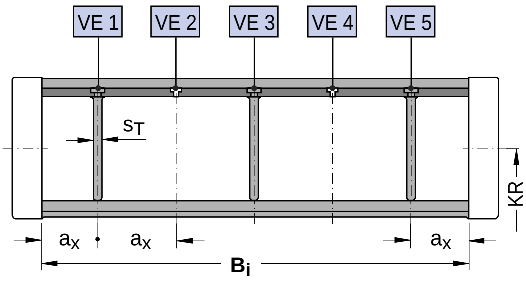


0455.50.**130**
G_k = 1.58 kg/m

Divider system TS 0

without height subdivision

s_T	=	3 mm
a_x	=	cf. chain cross sections



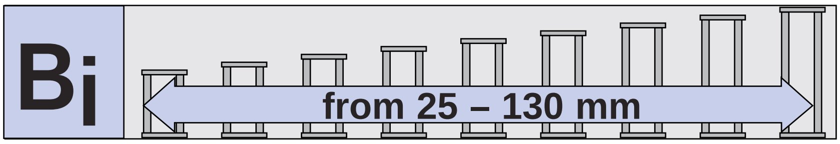
Please state the number of dividers n_T when ordering.

Sample order:
Divider system TS 1 - VE 135 / n_T 3

Available Bend Radii KR (mm)							
52	**65**	**95**	**125**	**150**	**180**	**200**	**225**

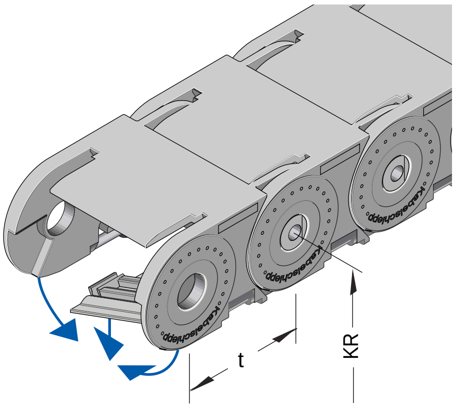
Type 0455

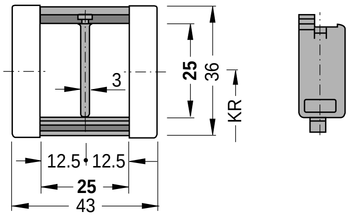
Chain cross sections



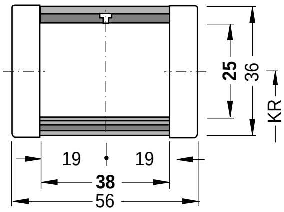
Design 0455.060

- enclosed design
- covered on the outside
- with removable hinged covers, openable on both sides to the inside

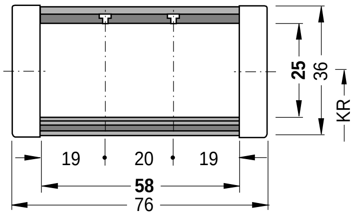




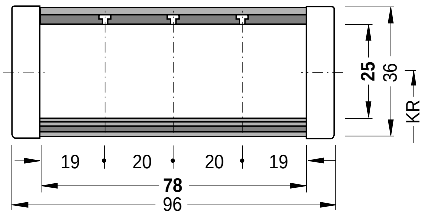
0455.60.**025**
G_k = 0.92 kg/m



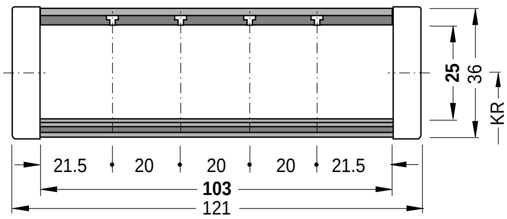
0455.60.**038**
G_k = 1.01 kg/m



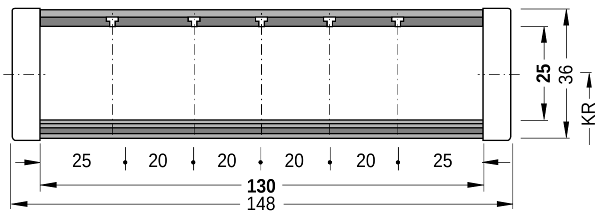
0455.60.**058**
G_k = 1.16 kg/m



0455.60.**078**
G_k = 1.31 kg/m



0455.60.**103**
G_k = 1.51 kg/m

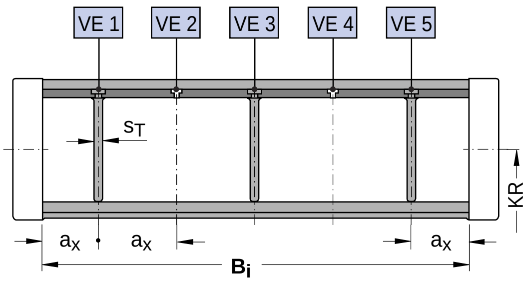


0455.60.**130**
G_k = 1.72 kg/m

Divider system TS 0

without height subdivision

s_T	=	3 mm
a_x	=	cf. chain cross sections



Please state the number of dividers n_T when ordering.

Sample order:
Divider system TS 1 - VE 135 / n_T 3

Available Bend Radii KR (mm)					
95	125	150	180	200	225

Subject to technical changes!

Type 0455

Connection dimensions

Connectors made of plastic with integrated strain relief.

Connectors made of plastic with attached strain relief devices.

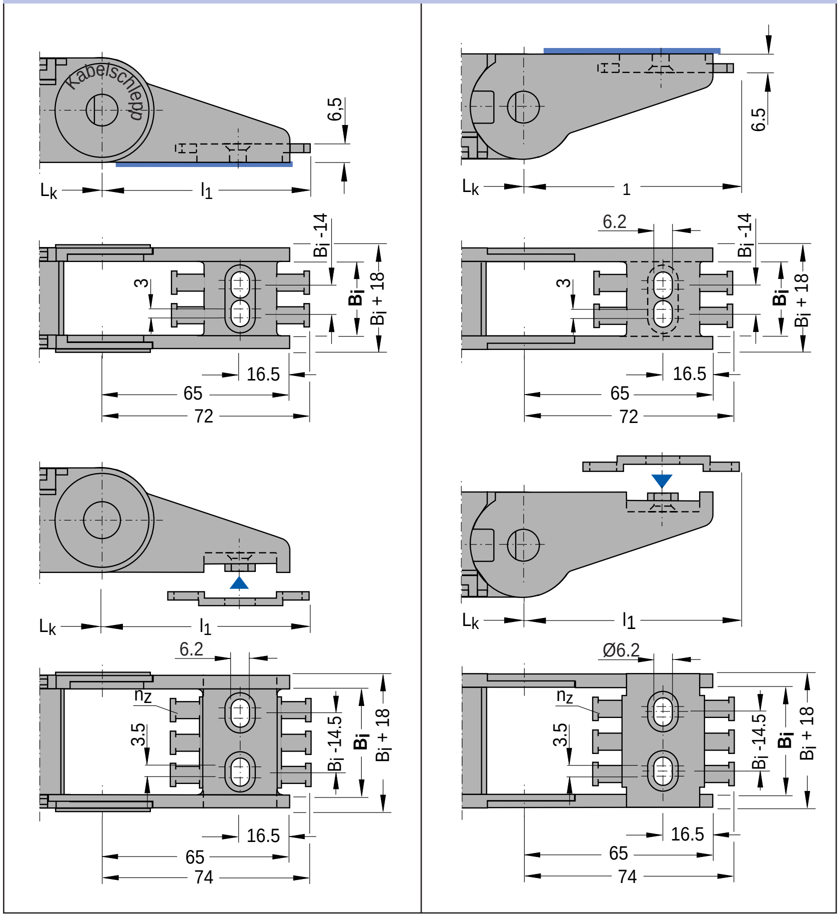
Two-sided strain relief device for fixing the cables/hoses securely.

For chain width B_i = 25 mm

For chain width B_i = 38 - 130 mm

Special end connector made of steel plate available on request.

Fixed point connection | **Driver connection**

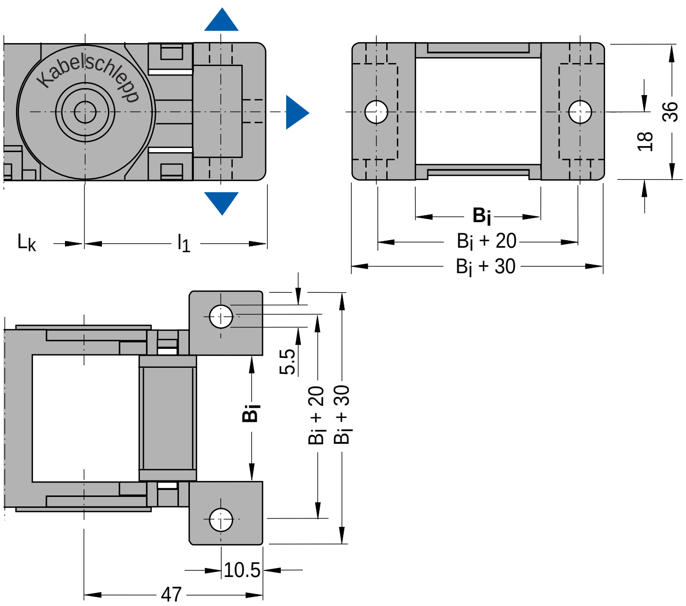


Type	B_i mm	B_k mm	n_z
0455....25	**25**	43	2
0455....38	**38**	56	3
0455....58	**58**	76	4
0455....78	**78**	96	6
0455....103	**103**	121	8
0455....130	**130**	148	10

Connection dimensions

Universal connector made of die cast Aluminium.

The dimensions for the fixed point and driver connection are identical!



Ordering Key for the connection:

X U

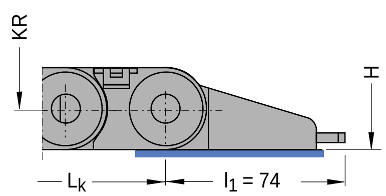
Connection point
F - Fixed point
M - Driver

U - Universal connector

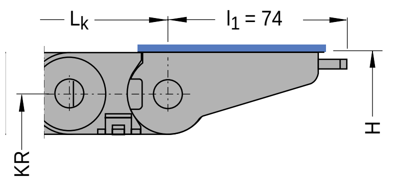
Type 0455

Connection variants

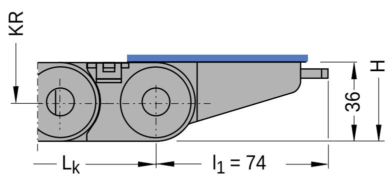
Fixed point connection	Driver connection



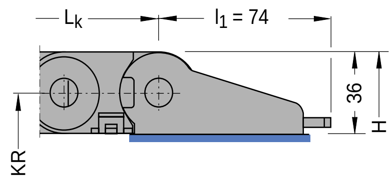
Connection **FA** (Standard)



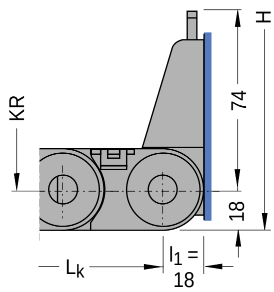
Connection **MA** (Standard)



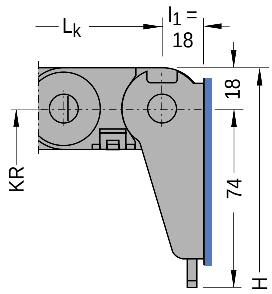
Connection **FI**



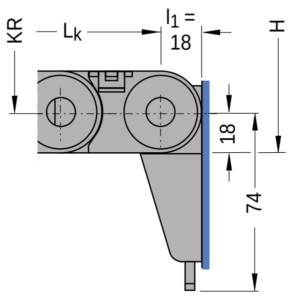
Connection **MI**



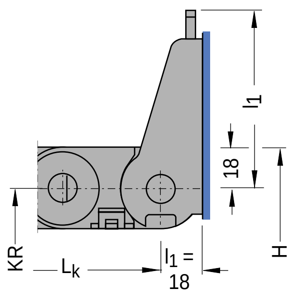
Connection **FK**



Connection **MK**



Connection **FH**
(not possible with design 060)



Connection **MH**
(not possible with design 060)

Ordering Key for the connection:

X X

Connection point
M - Driver
F - Fixed point

Connection type
A - Threaded joint to the outside (Standard)
I - Threaded joint to the inside (towards KR)
H - Connection element turned through 90° to the outside
K - Connection element turned through 90° to the inside (towards KR)

Please state the desired connection variant when ordering.

Example: FA/MA (Standard) or **FA/MK**

The connection variants at the fixed point and at the driver can be combined and subsequently changed if required.

Ordering Key for Cable Carrier:

0455.050.078.095 - 1092

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

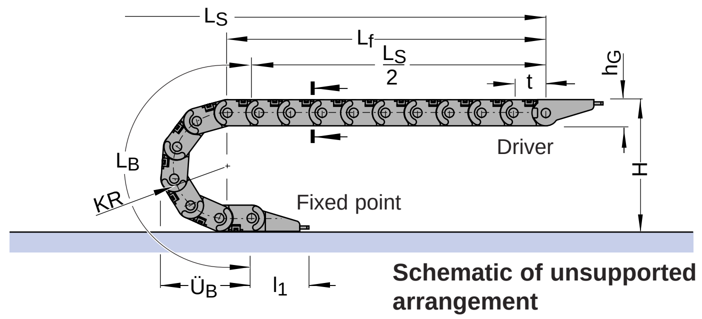
Example:
Cable carrier type 0455, design 050 - hinged brackets openable both sides to the inside - inside width B_i 78 mm, bend radius KR 95 mm and chain length L_k 1092 mm

Type 0555

Design of the Cable Carriers

Chain pitch t	= 55.5 mm
Chain link height h_G	= 50 mm
Connection height H_{min}	= 2 KR + 50 mm
Connection length l_1	= cf. Connection Dimensions

A flat and level surface is required for the carrier system to be installed properly. If necessary, a support tray should be installed. (cf. System Components section)



Schematic of unsupported arrangement

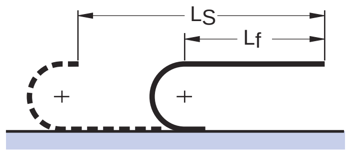
Variable sizes

depending on bend radius

Bend radius KR	63 mm	80 mm	100 mm	125 mm	160 mm	200 mm	230 mm
Bend length L_B	309	362	425	504	614	740	834
Loop overhang $Ü_B$	144	161	181	206	241	281	311
Height H_{min}	176	210	250	300	370	450	510

Load diagram

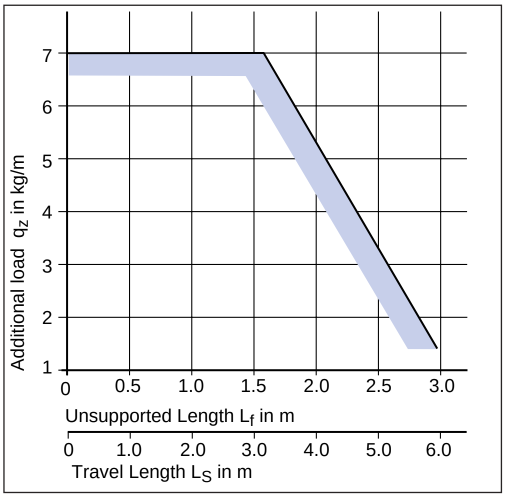
Unsupported length L_f and travel length L_S
depending on the additional load
(cf. Construction Guidelines)



Calculation of chain length:

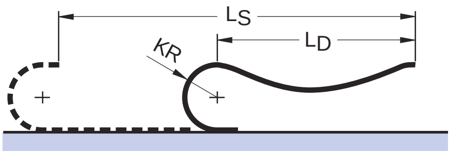
$$L_k \approx \frac{L_S}{2} + L_B$$

rounded to pitch 55.5 mm



Load diagram for an intrinsic chain weight q_k of 1.72 kg/m. If the intrinsic chain weight exceeds q_k 1.72 kg/m, the permissible additional load is lower.

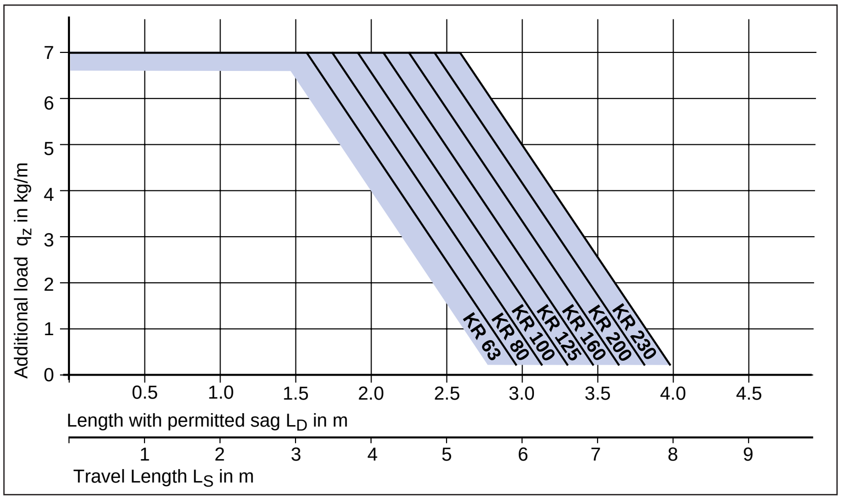
Length with permitted sag L_D and travel length L_S
depending on the additional load
(cf. Construction Guidelines)



Calculation of chain length:

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

rounded to pitch 55.5 mm



Long travel lengths

With long travel lengths the upper part of the cable carrier glides on its lower run in a guide channel.

Design → cf. Construction Guidelines

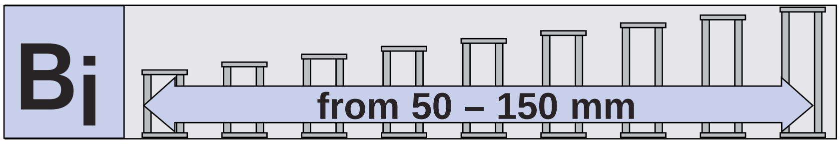
Guide channel → cf. System Components

We recommend that a system of this kind be planned by one of our engineers.

Type 0555

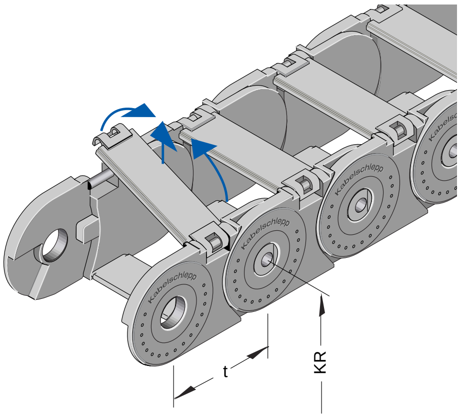
Chain cross sections

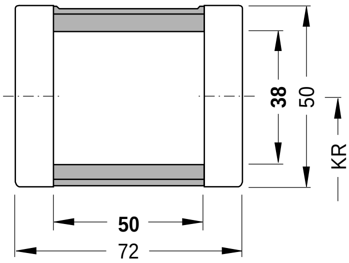
in accordance with section in schematic illustration



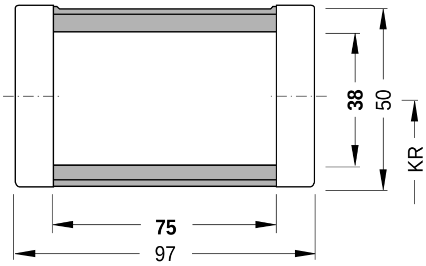
Design 0555.030

On the outside with removable hinged brackets, openable on both sides.

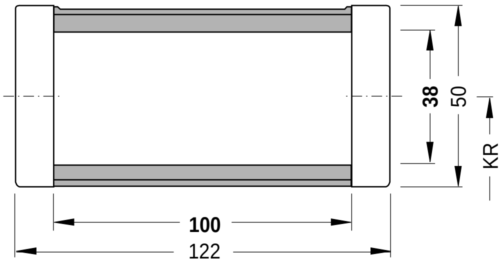




0555.030.**050**
G_k = 1.47 kg/m



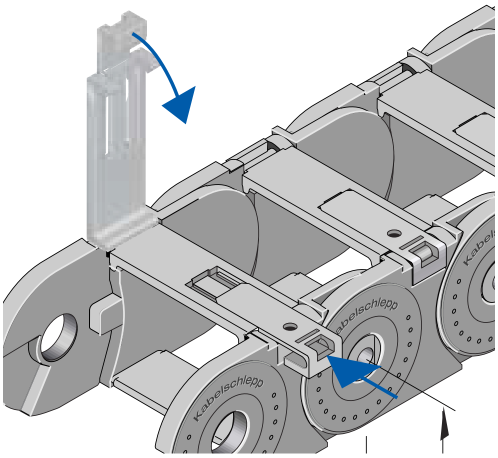
0555.030.**075**
G_k = 1.60 kg/m

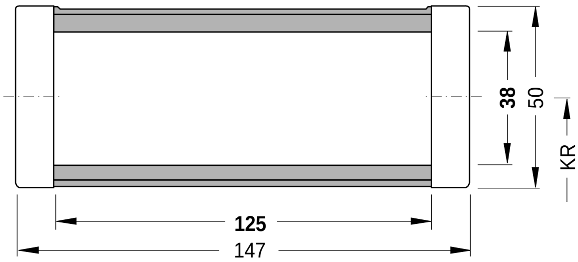


0555.030.**100**
G_k = 1.72 kg/m

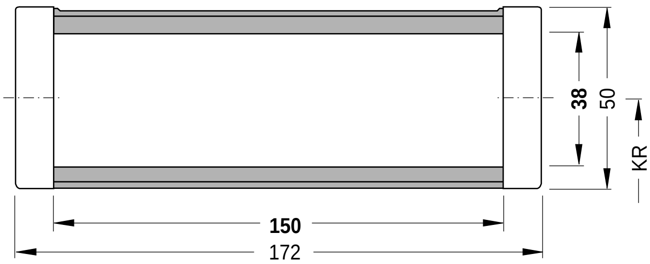
Design 0555.035

Connecting bracket with locking mechanism for additional strength. Especially for use with hydraulic hoses with small bend radii.





0555.030.**125**
G_k = 1.86 kg/m



0555.030.**150**
G_k = 1.98 kg/m

Available Bend Radii KR (mm)						
63	80	100	125	160	200	230

Subject to technical changes!

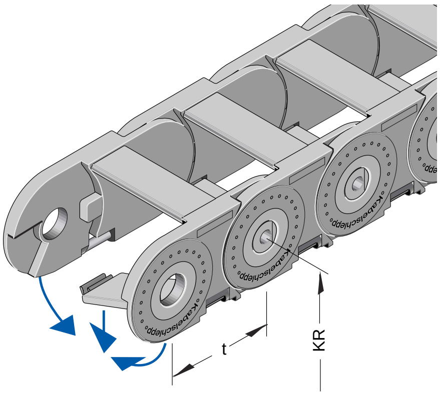
Type 0555

Chain cross sections

in accordance with section in schematic illustration

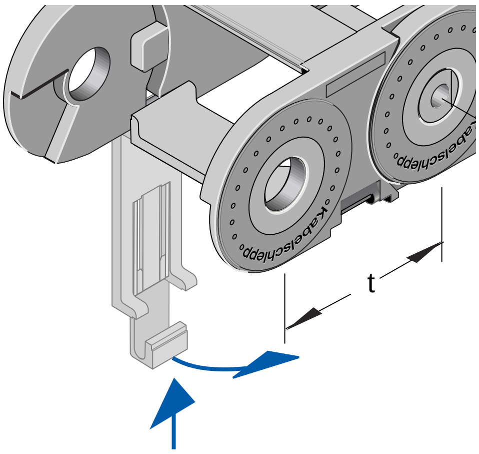
Design 0555.040

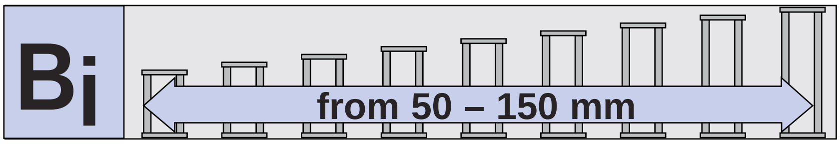
On the inside with removable hinged brackets, openable on both sides.

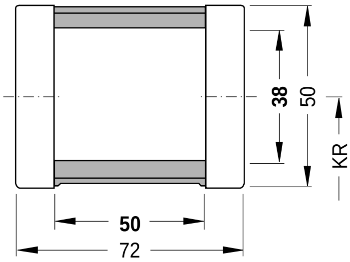


Design 0555.045

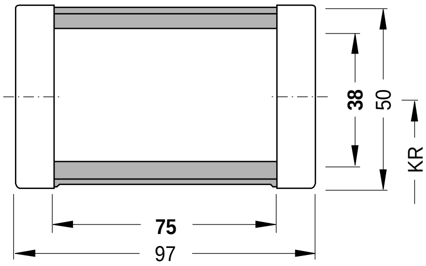
Connecting bracket with locking mechanism for additional strength. Especially for use with hydraulic hoses with small bend radii.



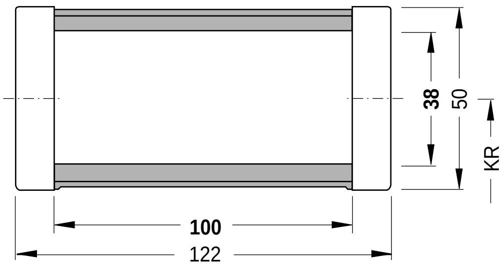




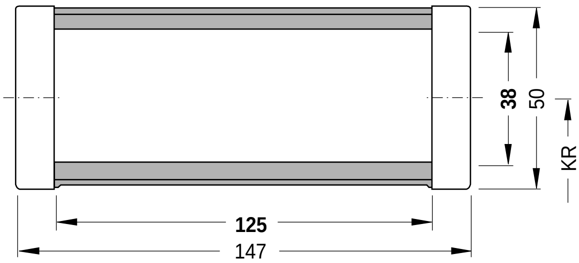
0555.040.**050**
G_k = 1.47 kg/m



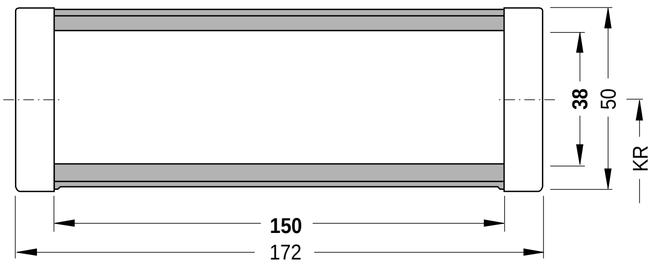
0555.040.**075**
G_k = 1.60 kg/m



0555.040.**100**
G_k = 1.72 kg/m



0555.040.**125**
G_k = 1.86 kg/m



0555.040.**150**
G_k = 1.98 kg/m

Available Bend Radii KR (mm)						
63	80	100	125	160	200	230

Type 0555

Divider system for Design 0555.030/035/040/045

The divider system can be planned by you or by our engineers on the basis of the information you supply about the configuration of the cable carrier.

As standard, the divider system is fitted on every 2nd chain cross section!

Divider system TS 0

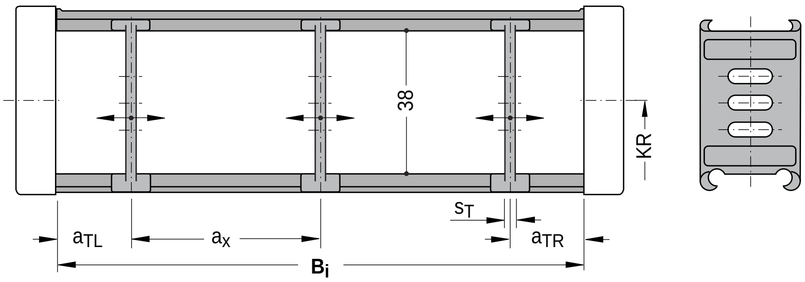
without height subdivision

s_T	=	2.5 mm
$a_{T\,min}$	=	5 mm*
$a_{x\,min}$	=	10 mm

* $a_{T\,min}$ = 11 mm with Design 035 and 045

Please state the number of dividers/cross section n_T when ordering.

Sample order:
Divider system TS 0 / n_T 3



The dividers can slide along the chain cross section!

Divider system TS 1

with continuous height subdivision

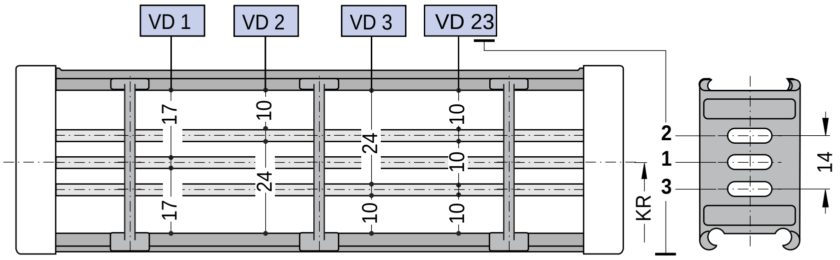
Height subdivision: **Al-Profile 11 x 4 mm**

s_T	=	2.5 mm
$a_{T\,min}$	=	5 mm*
$a_{T\,max}$	=	20 mm
$a_{x\,min}$	=	10 mm
$n_{T\,min}$	=	2

* $a_{T\,min}$ = 11 mm with Design 035 and 045

Please state the type of height subdivisions and the number of dividers/cross section n_T when ordering.

Sample order:
Divider system TS 1 - VD 3 / n_T 3



Position of the sub-divisions in the divider

Technically recommended variants: VD 1, VD 2 and VD 3
The dividers can slide along the chain cross section!

Divider system TS 3

with grid subdivision
Height subdivision:

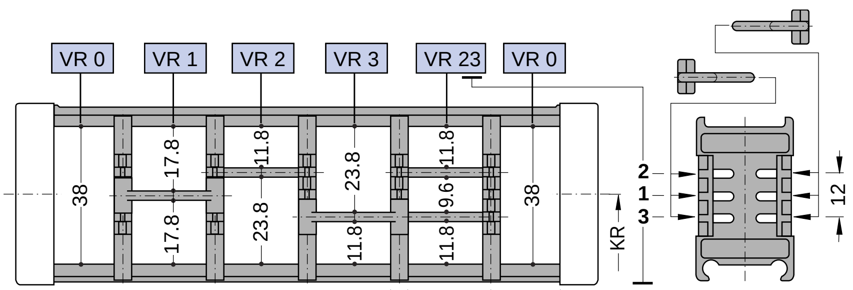
Plastic partitions
2.4 mm thick - in grid dimensions a_x

s_T	=	5 mm
$a_{T\,min}$	=	2.5 mm*
$a_{x\,min}$	=	5 mm (without height subdivision)
$a_{x\,min}$	=	15 mm (with height subdivision)

* $a_{T\,min}$ = 8,5 mm with Design 035 and 045

Please indicate the cavities (from left to right), the relevant subdivision variant and the assembly spacing a_T and a_x when ordering.

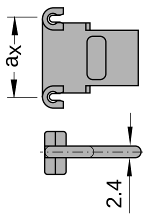
Sample order: Divider system TS 3
K(cavity) 1 - VR 0 / 30 mm
K 2 - VR 1 / 65 mm
K 3 - VR 0 / 30 mm



Position of the sub-divisions in the divider

Technically recommended variant: VB 1

a_x mm									
15	20	25	30	35	40	45	55	65	75



Please indicate the cavities (from left to right), the relevant subdivision variant and the assembly spacing a_T and a_x when ordering.

Subject to technical changes!

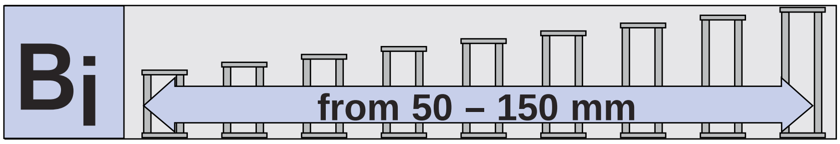
Type 0555

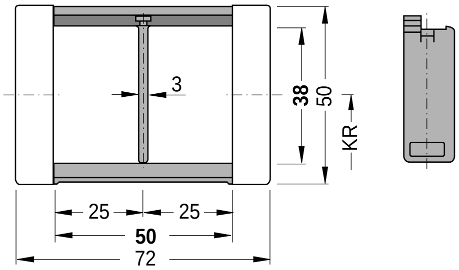
Chain cross sections

in accordance with section in schematic illustration

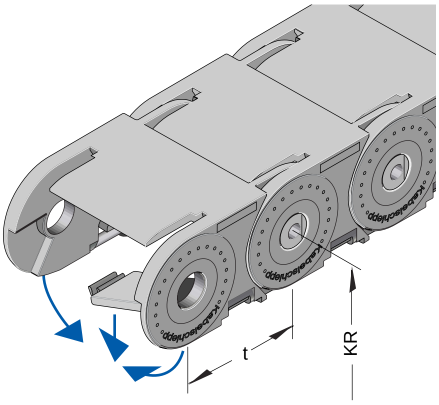
Design 0555.050

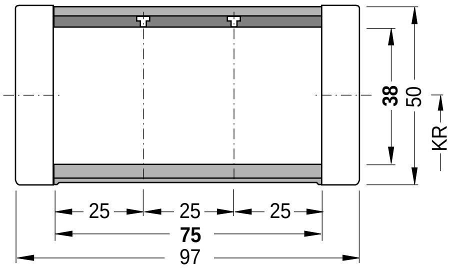
- design enclosed on one side
- covered on the outside
- with removable hinged brackets, openable on both sides to the inside



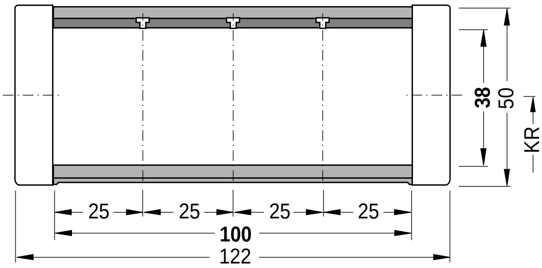


0555.50.**050**
G_k = 1.64 kg/m





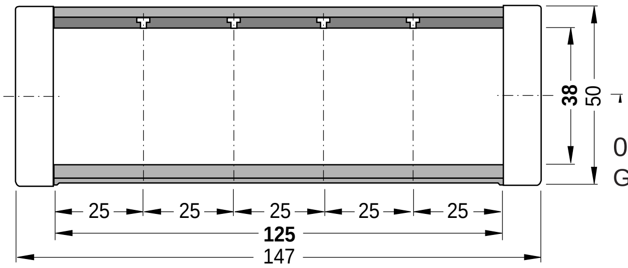
0555.50.**075**
G_k = 1.81 kg/m



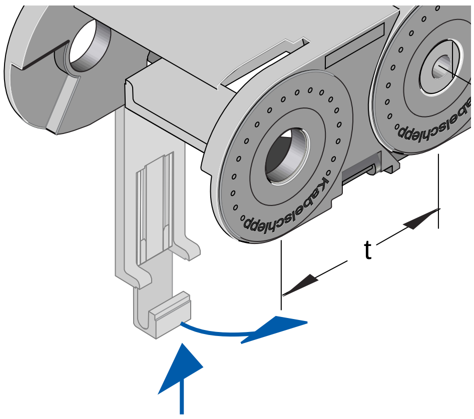
0555.50.**100**
G_k = 1.98 kg/m

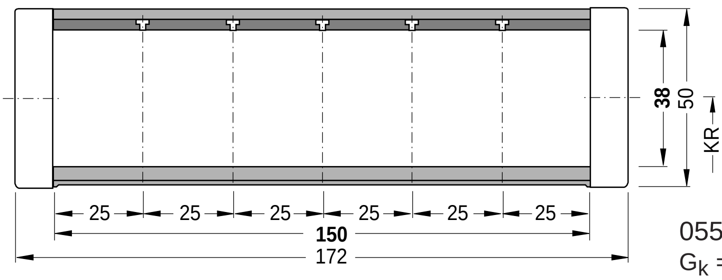
Design 0555.055

Connecting bracket with locking mechanism for additional strength. Especially for use with hydraulic hoses with small bend radii.



0555.50.**125**
G_k = 2.16 kg/m



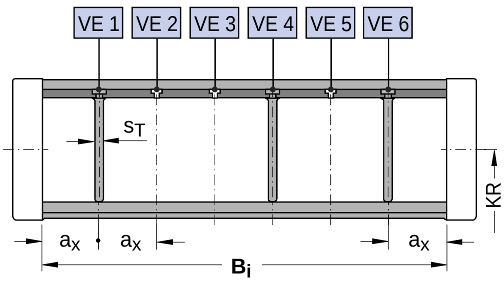


0555.50.**150**
G_k = 2.33 kg/m

Divider system TS 0

without height subdivision

s_T	=	3 mm
a_x	=	25 mm grid division



Please state the number of dividers n_T when ordering.

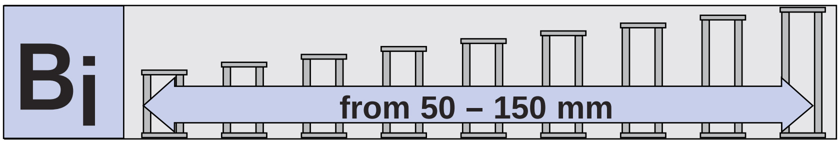
Sample order:
Divider system TS 1 - VE 146 / n_T 3

Available Bend Radii KR (mm)						
63	80	100	125	160	200	230

Type 0555

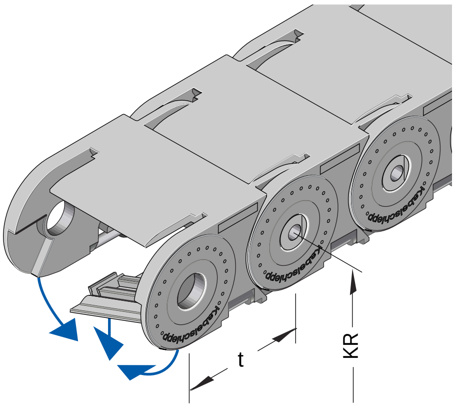
Chain cross sections

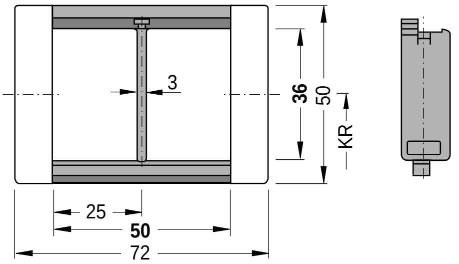
in accordance with section in schematic illustration



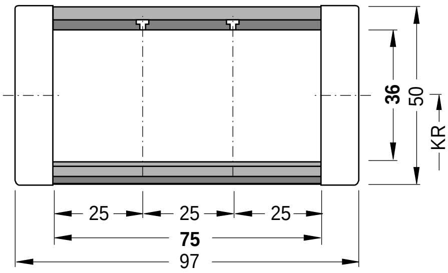
Design 0555.060

- enclosed design
- covered on the outside
- with removable hinged covers openable on both sides to the inside

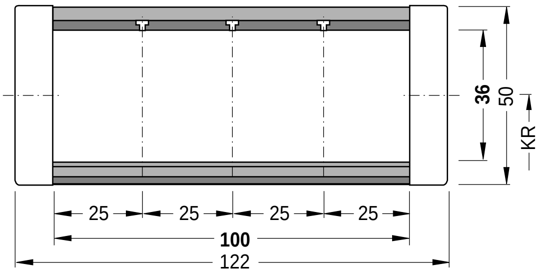




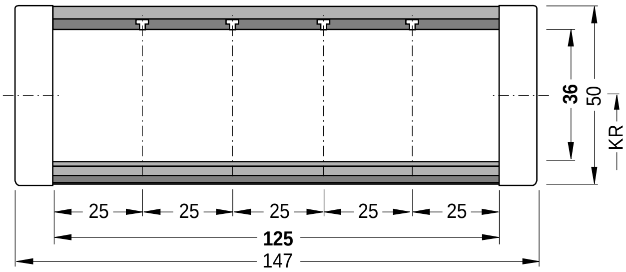
0555.60.**050**
G_k = 1.72 kg/m



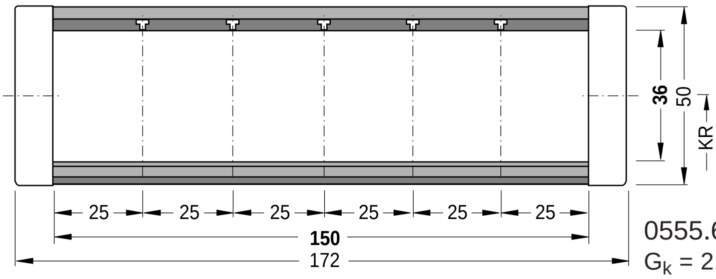
0555.60.**075**
G_k = 1.95 kg/m



0555.60.**100**
G_k = 2.17 kg/m



0555.60.**125**
G_k = 2.39 kg/m

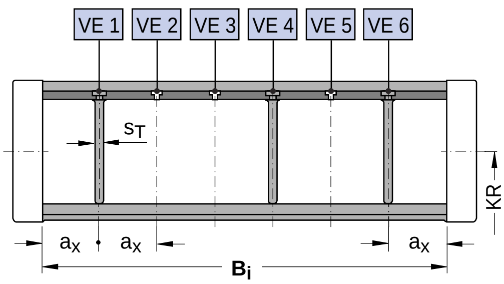


0555.60.**150**
G_k = 2.61 kg/m

Divider system TS 0

without height subdivision

s_T	=	3 mm
a_x	=	25 mm grid division



Please state the number of dividers n_T when ordering.

Sample order:
Divider system TS 1 - VE 146 / n_T 3

Available Bend Radii KR (mm)				
100	**125**	**160**	**200**	**230**

Subject to technical changes!

Type 0555

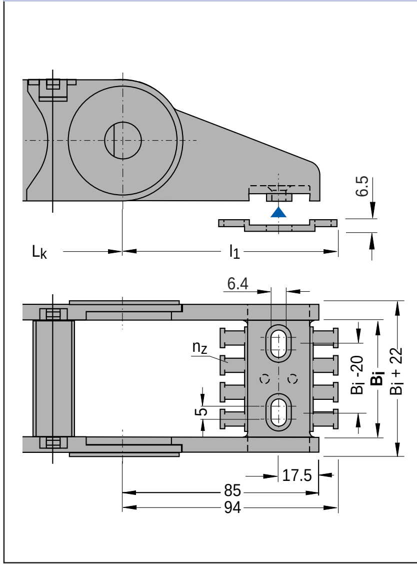
Connection dimensions

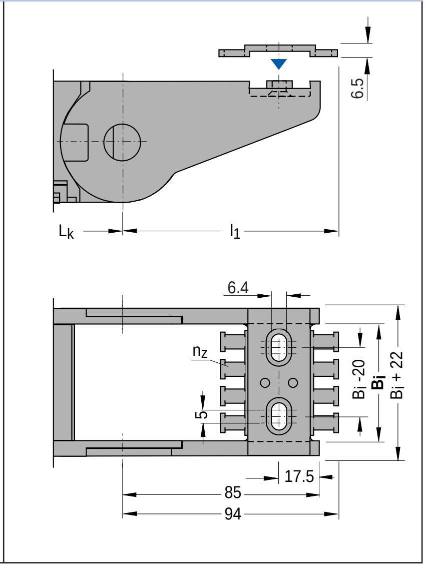
Connectors made of plastic with attached strain relief devices.

Two-sided strain relief device for fixing the cables/hoses securely.

Special end connector made of steel plate available on request.

Fixed point connection	Driver connection



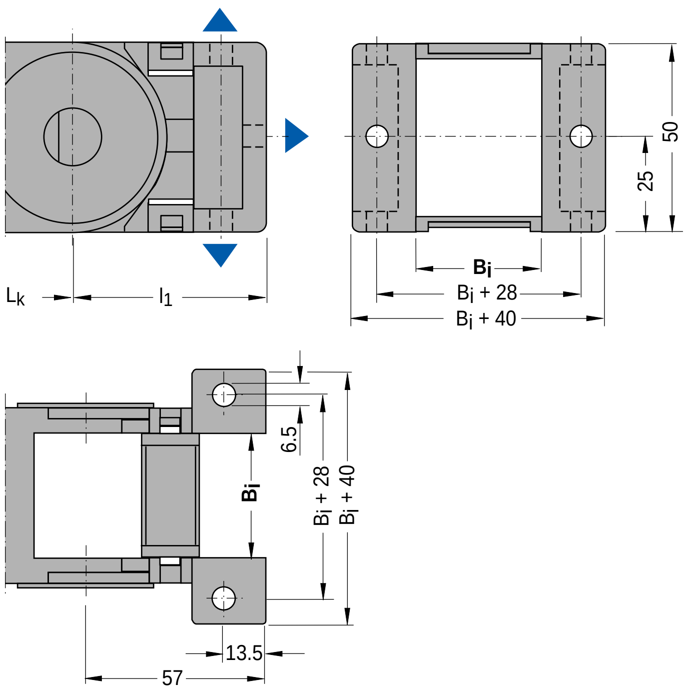


Type	B_i mm	B_k mm	n_Z mm
0555......50	**50**	72	2
0555......75	**75**	97	3
0555......100	**100**	122	4
0555......125	**125**	147	6
0555......150	**150**	172	8

Connection dimensions

Universal connector made of die cast Aluminium.

The dimensions for the fixed point and driver connection are identical!



Ordering Key for the connection:

X U

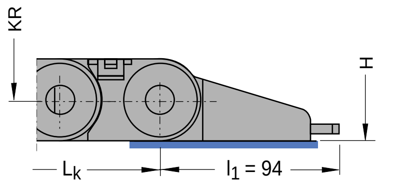
Connection point
F - Fixed point
M - Driver

U - Universal connector

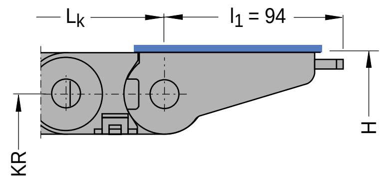
Type 0555

Connection variants

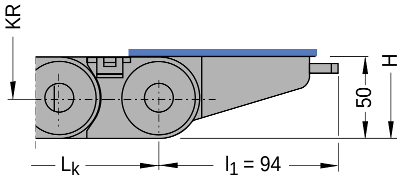
Fixed point connection	Driver connection



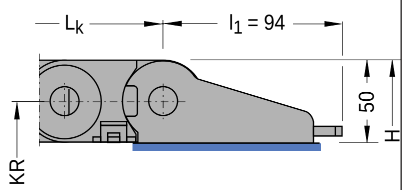
Connection **FA** (Standard)



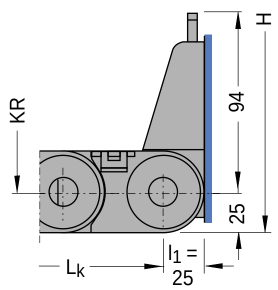
Connection **MA** (Standard)



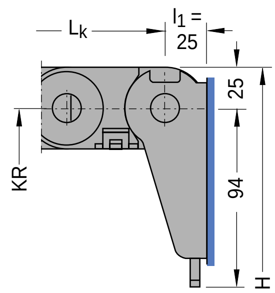
Connection **FI**



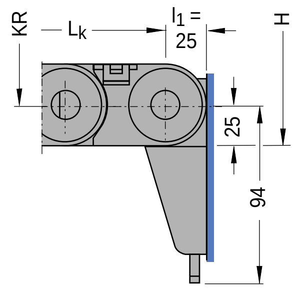
Connection **MI**



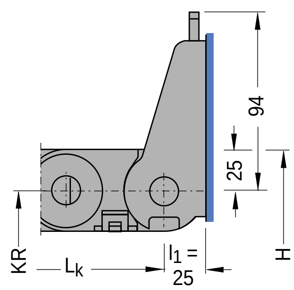
Connection **FK**



Connection **MK**



Connection **FH**
(not possible with design 060)



Connection **MH**
(not possible with design 060)

Ordering Key for the connection:

X X

Connection point
- M - Driver
- F - Fixed point

Connection type
- A - Threaded joint to the outside (Standard)
- I - Threaded joint to the inside (towards KR)
- H - Connection element turned through 90° to the outside
- K - Connection element turned through 90° to the inside (towards KR)

The connection variants at the fixed point and at the driver can be combined and subsequently changed if required.

Please state the desired connection variant when ordering.

Example: FA/MA (Standard) or **FA/MK**

Ordering Key for Cable Carrier:

0555.040.100.125 - 1332

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

Example:
Cable carrier type 0555, design 040 - hinged brackets openable both sides to the inside - inside width B_i 100 mm, bend radius KR 125 mm and chain length L_k 1332 mm

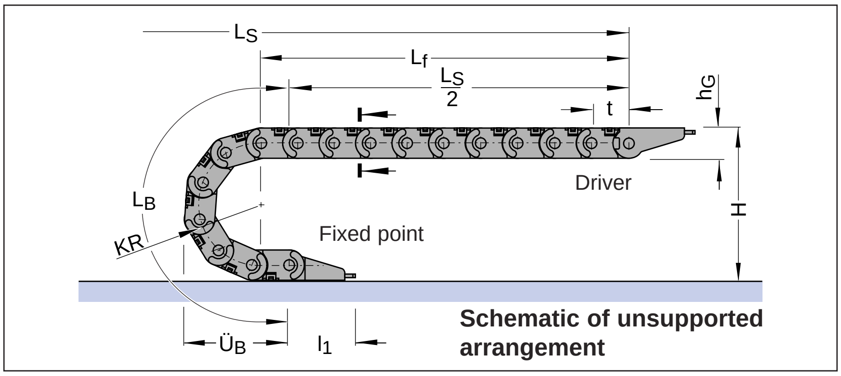
Subject to technical changes!

Type 0665

Design of the Cable Carriers

Chain pitch t	= 66.5 mm
Chain link height h_G	= 60 mm
Connection height H_{min}	= 2 KR + 60 mm
Connection length l_1	= cf. Connection Dimensions

A flat and level surface is required for the carrier system to be installed properly. If necessary, a support tray should be installed. (cf. System Components section)



Schematic of unsupported arrangement

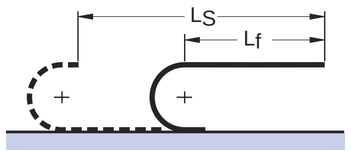
Variable sizes

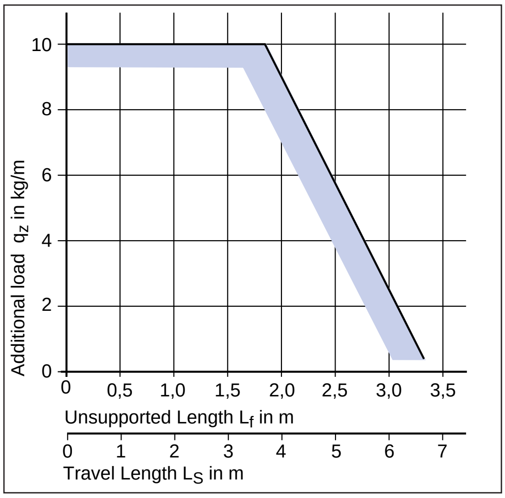
depending on bend radius

Bend radius KR	75 mm	100 mm	120 mm	140 mm	200 mm	250 mm	300 mm
Bend length L_B	369	448	510	573	762	919	1076
Loop overhang $Ü_B$	172	197	217	237	297	347	397
Height H_{min}	210	260	300	340	460	560	660

Load diagram

Unsupported length L_f and travel length L_S
depending on the additional load (cf. Construction Guidelines)





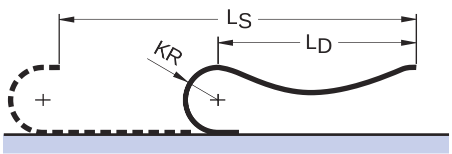
Load diagram for an intrinsic chain weight q_k of 2.85 kg/m. If the intrinsic chain weight exceeds q_k 2.85 kg/m, the permissible additional load is lower.

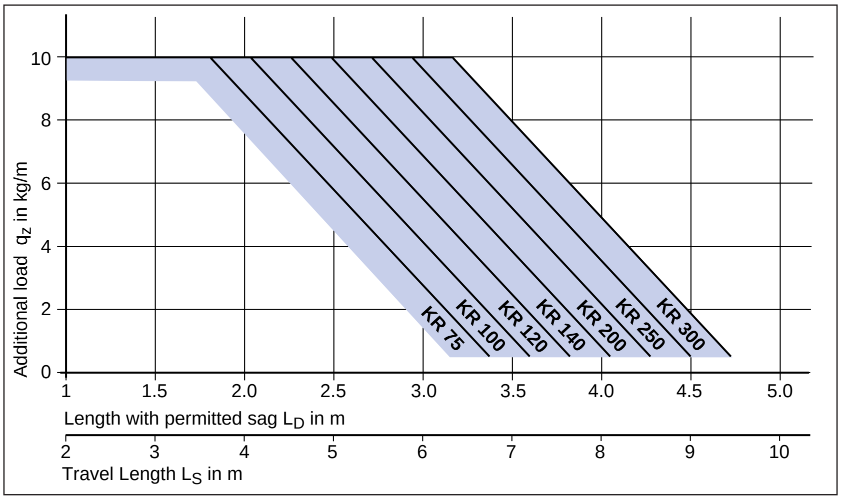
Calculation of chain length:

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

rounded to pitch 66.5 mm

Length with permitted sag L_D and travel length L_S
depending on the additional load (cf. Construction Guidelines)





Calculation of chain length:

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

rounded to pitch 66.5 mm

Long travel lengths

With long travel lengths the upper part of the cable carrier glides on its lower run in a guide channel.

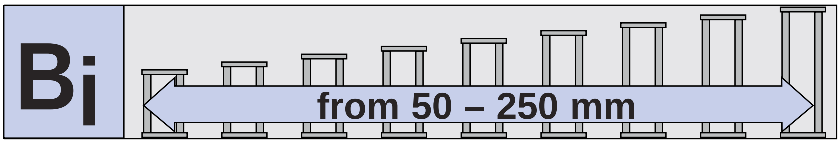
Design	→	cf. Construction Guidelines
Guide channel	→	cf. System Components

We recommend that a system of this kind be planned by one of our engineers.

Subject to technical changes!

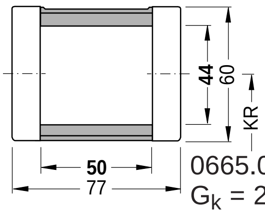
KABELSCHLEPP

Type 0665

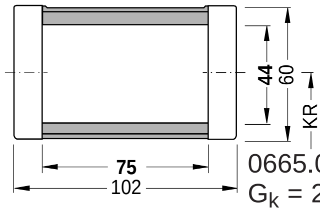


Chain cross sections

in accordance with section in schematic illustration



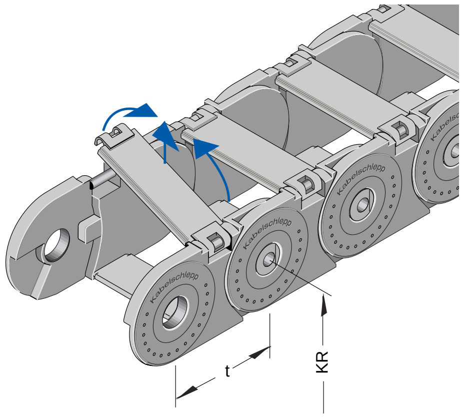
0665.030.**050**
G_k = 2.06 kg/m

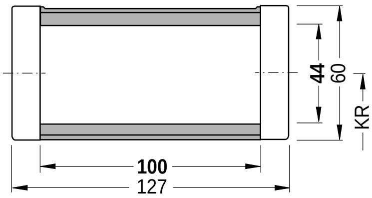


0665.030.**075**
G_k = 2.22 kg/m

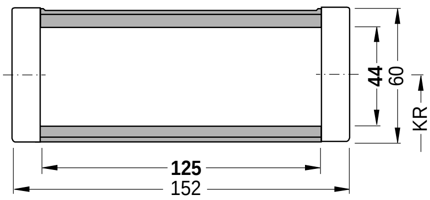
Design 0665.030

On the outside with removable hinged brackets, openable on both sides.

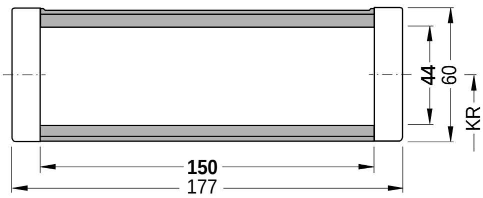




0665.030.**100**
G_k = 2.37 kg/m



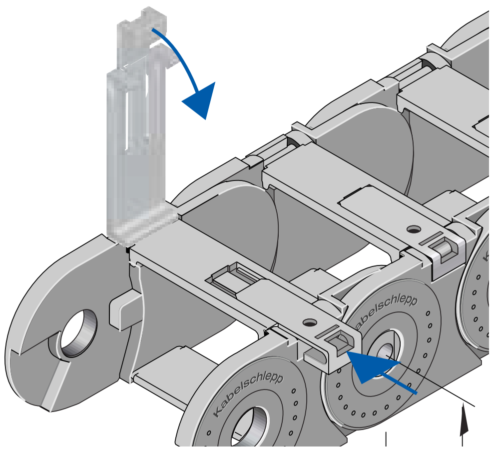
0665.030.**125**
G_k = 2.53 kg/m

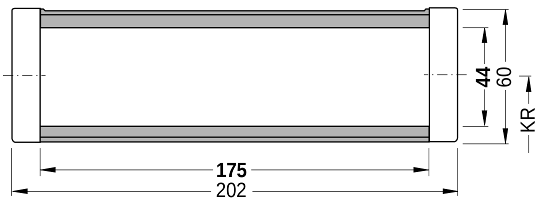


0665.030.**150**
G_k = 2.68 kg/m

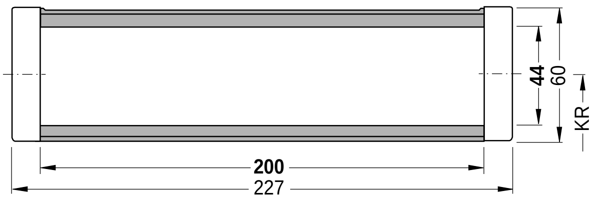
Design 0665.035

Connecting bracket with locking mechanism for additional strength. Especially for use with hydraulic hoses with small bend radii.

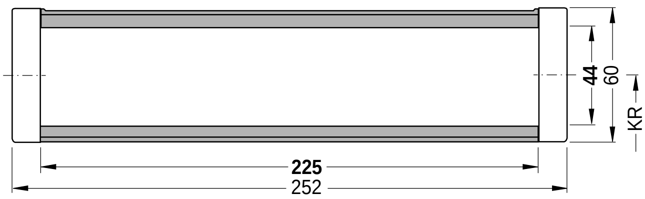




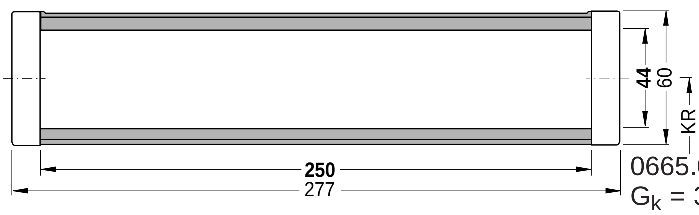
0665.030.**175**
G_k = 2.85 kg/m



0665.030.**200**
G_k = 3.00 kg/m



0665.030.**225**
G_k = 3.16 kg/m



0665.030.**250**
G_k = 3.31 kg/m

Available Bend Radii KR (mm)						
75	100	120	140	200	250	300

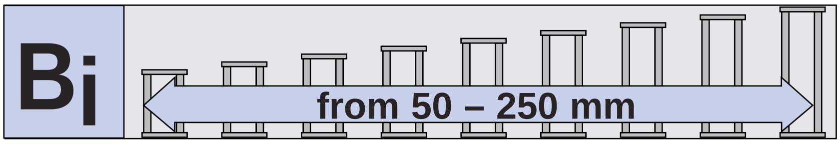
Subject to technical changes!

Technical Data — UNIFLEX Series

Type 0665

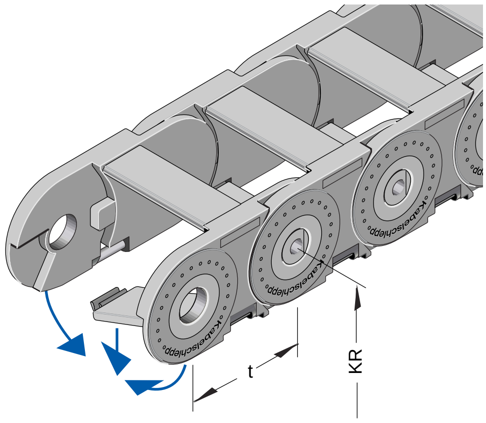
Chain cross sections

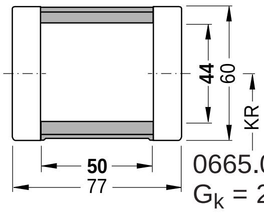
in accordance with section in schematic illustration



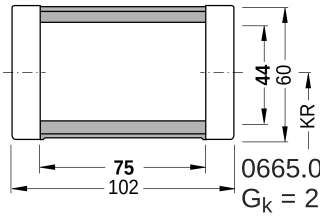
Design 0665.040

On the inside with removable hinged brackets, openable on both sides.

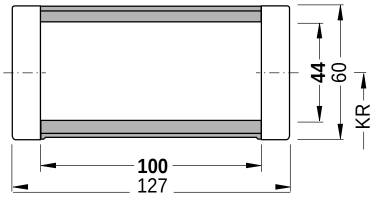




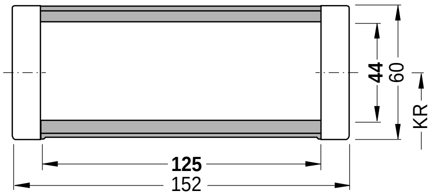
0665.040.**050**
G_k = 2.06 kg/m



0665.040.**075**
G_k = 2.22 kg/m



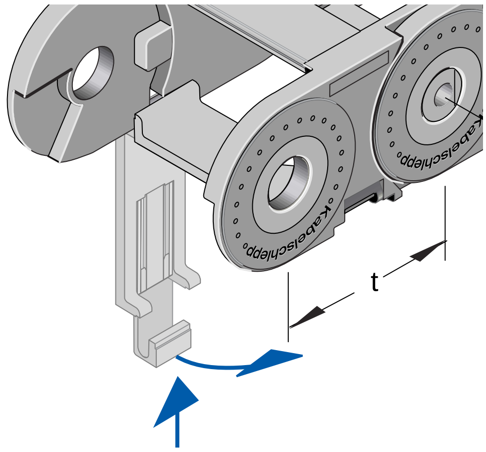
0665.040.**100**
G_k = 2.37 kg/m

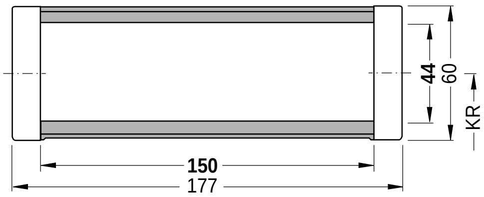


0665.040.**125**
G_k = 2.53 kg/m

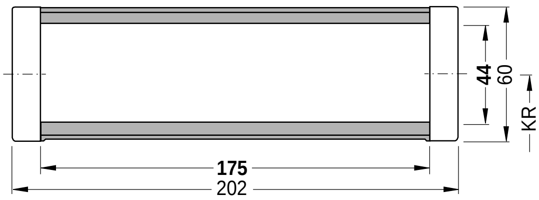
Design 0665.045

Connecting bracket with locking mechanism for additional strength. Especially for use with hydraulic hoses with small bend radii.

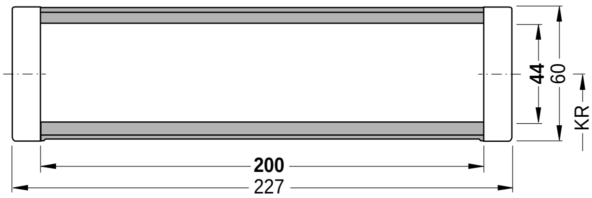




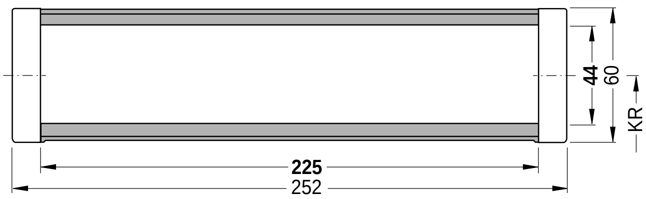
0665.040.**150**
G_k = 2.68 kg/m



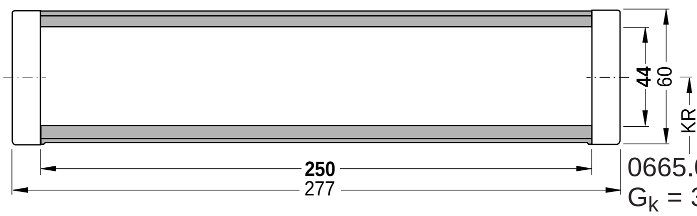
0665.040.**175**
G_k = 2.85 kg/m



0665.040.**200**
G_k = 3.00 kg/m



0665.040.**225**
G_k = 3.16 kg/m



0665.040.**250**
G_k = 3.31 kg/m

Available Bend Radii KR (mm)						
75	100	120	140	200	250	300

Type 0665

Divider system

for design 0665.030/035/040/045
in accordance with section in schematic illustration

The divider system can be planned by you or by our engineers on the basis of the information you supply about the configuration of the cable carrier.

As standard, the divider system is fitted on every 2nd chain cross section!

Divider system TS 0

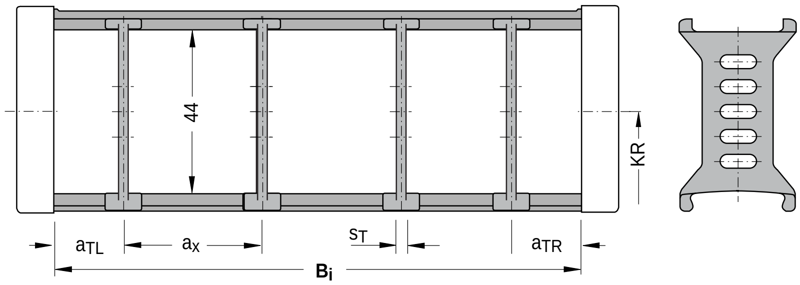
without height subdivision

s_T	=	3 mm
$a_{T\,min}$	=	6.5 mm*
$a_{x\,min}$	=	13 mm

* $a_{T\,min}$ = 12.5 mm with Design 035 and 045

Please state the number of dividers/cross section n_T when ordering.

Sample order:
Divider system TS 0 / n_T 4



The dividers can slide along the chain cross section!

Divider system TS 1

with continuous height subdivision

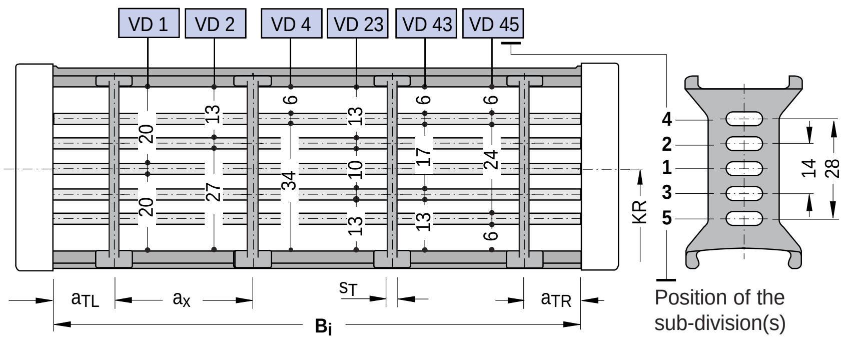
Height subdivision: **Al-Profile 11 x 4 mm**

s_T	=	3 mm
$a_{T\,min}$	=	6.5 mm*
$a_{T\,max}$	=	40 mm
$a_{x\,min}$	=	13 mm
$n_{T\,min}$	=	2

* $a_{T\,min}$ = 12.5 mm with Design 035 and 045

Please state the type of height subdivisions and the number of dividers/cross section n_T when ordering.

Sample order:
Divider system TS 1 - VD 4 / n_T 4



Technically recommended variants: VD 1, VD 2 and VD 3
The dividers can slide along the chain cross section!

Subject to technical changes!

Type 0665

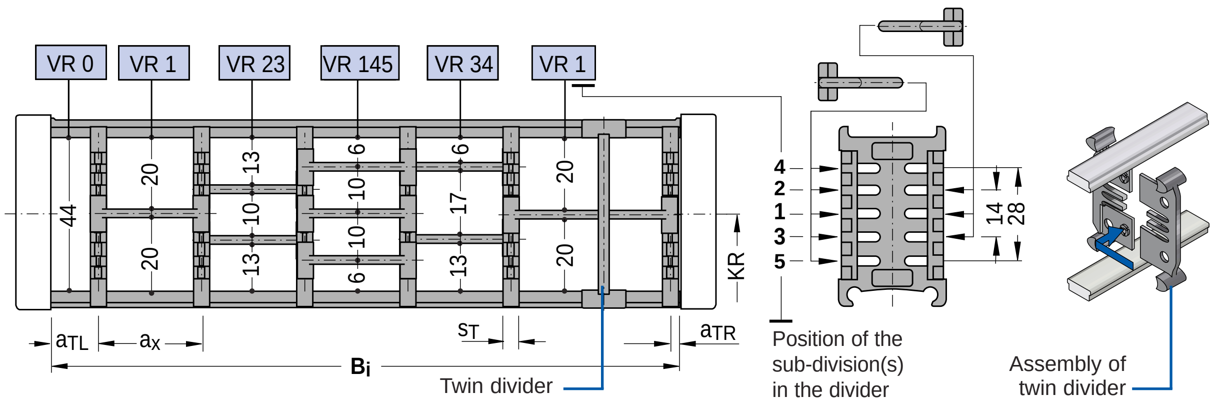
Divider system

for design 0665.030/035/040/045
in accordance with section in schematic illustration

Divider system TS 3

with height subdivision:
Plastic partitions

Technically recommended variants: VR 1, VR 2 and VR 3
Dividers fixed by height sub-division, the grids can slide along the chain cross section!



s_T	=	8 mm
$a_{T\,min}$	=	4 mm*
$a_{x\,min}$	=	8 mm (without height subdivision)
$a_{x\,min}$	=	16 mm (with height subdivision)

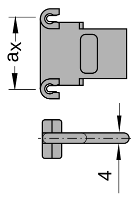
* $a_{T\,min}$ = 10 mm with Design 035 and 045

The twin divider can be moved, suitable for later assembly/fitting.

s_T	=	3 mm

a_x mm (centre-to-centre distance of dividers)														
16	18	23	28	32	33	38	43	48	58	64	68	78	80	88
96	112	128	144	160	176	192	208							

When using partitions with a_x > 112 mm, a twin divider should be used to provide an additional central support.



Please indicate the cavities (from left to right), the relevant subdivision variant and the assembly spacing a_T and a_x when ordering.

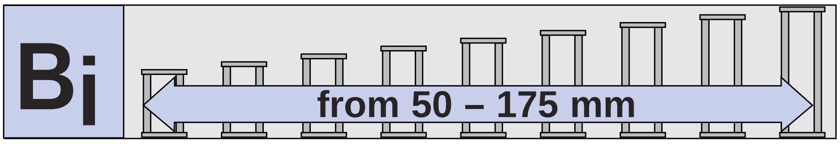
Sample order:

Divider system TS 3
K(cavity) 1 - VR 0 / 80 mm
K 2 - VR 1 / 38 mm
K 3 - VR 3 / 68 mm
with twin divider
K 4 - VR 1 / 43 mm

Type 0665

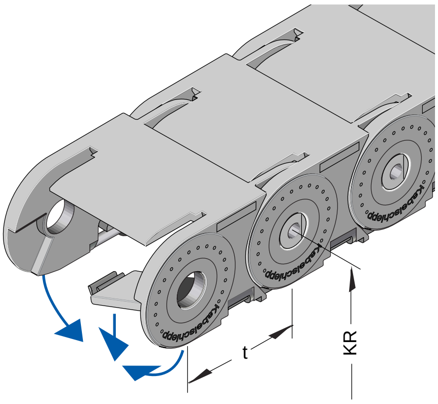
Chain cross sections

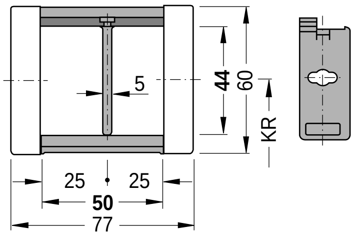
in accordance with section in schematic illustration



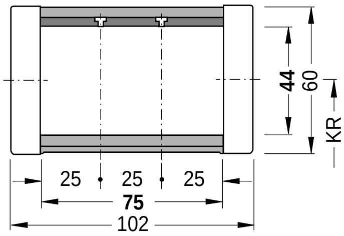
Design 0665.050

- design enclosed on one side
- covered on the outside
- with removable hinged brackets, openable on both sides to the inside

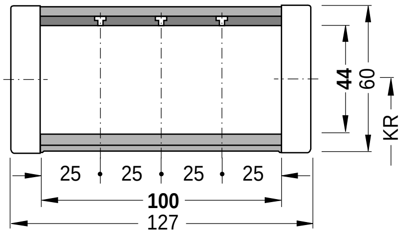




0665.50.**050**
G_k = 2.26 kg/m



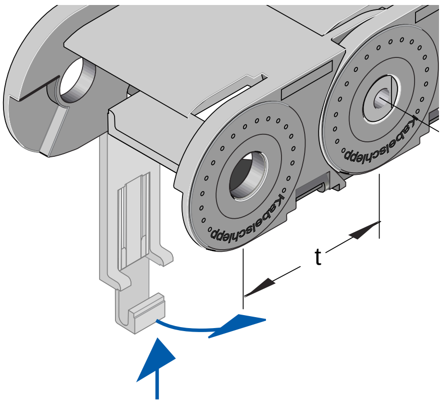
0665.50.**075**
G_k = 2.53 kg/m

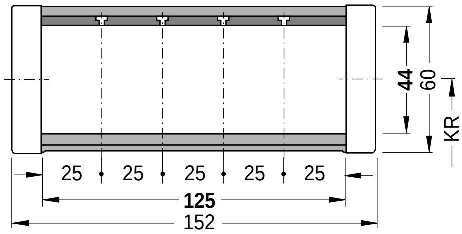


0665.50.**100**
G_k = 2.79 kg/m

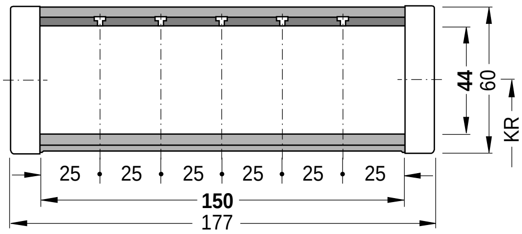
Design 0665.055

Connecting bracket with locking mechanism for additional strength. Especially for use with hydraulic hoses with small bend radii.

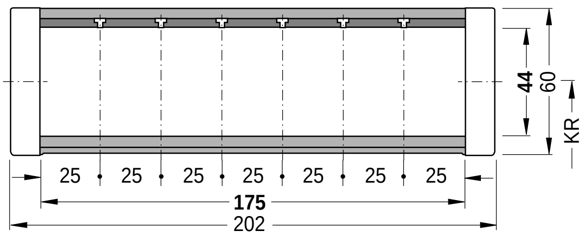




0665.50.**125**
G_k = 3.06 kg/m



0665.50.**150**
G_k = 3.33 kg/m



0665.50.**175**
G_k = 3.60 kg/m

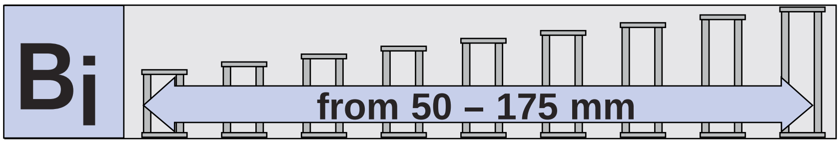
Available Bend Radii KR (mm)						
75	100	120	140	200	250	300

Subject to technical changes!

Type 0665

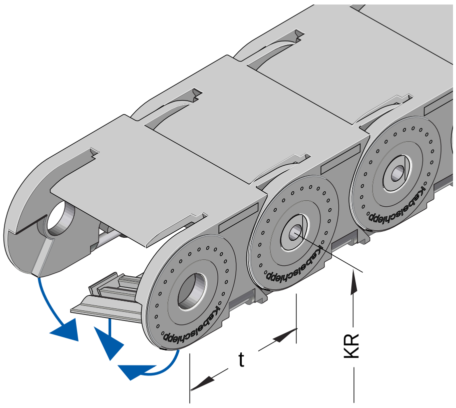
Conduit Cross Sections

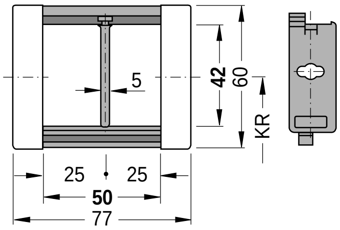
in accordance with section in schematic illustration



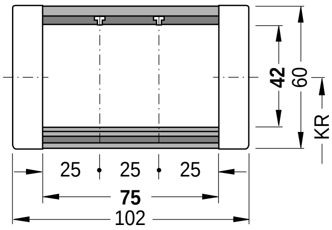
Design 0665.060

- enclosed design
- covered on the outside
- with removable hinged covers, openable on both sides to the inside

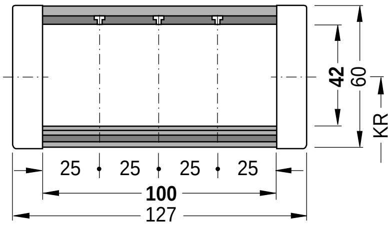




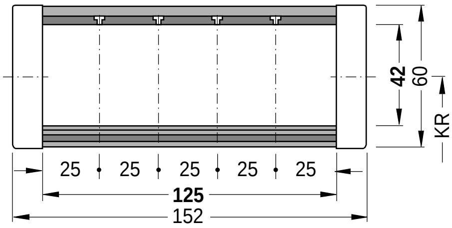
0665.60.**050**
G_k = 2.36 kg/m



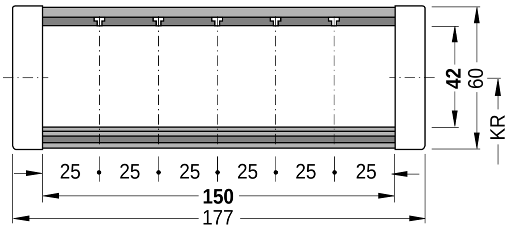
0665.60.**075**
G_k = 2.69 kg/m



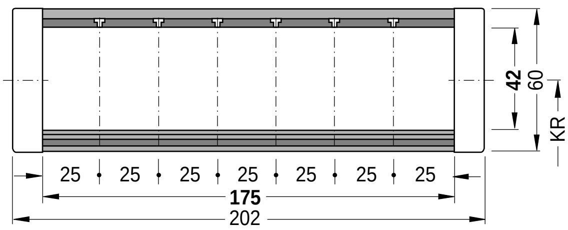
0665.60.**100**
G_k = 3.00 kg/m



0665.60.**125**
G_k = 3.32 kg/m



0665.60.**150**
G_k = 3.64 kg/m



0665.60.**175**
G_k = 3.95 kg/m

Available Bend Radii KR (mm)				
120	140	200	250	300

Subject to technical changes!

Type 0665

Divider system

for design 0665.050/055/060
in accordance with section in schematic illustration

The divider system can be planned by you or by our engineers on the basis of the information you supply about the configuration of the cable carrier.

As standard, the divider system is fitted on every 2nd chain cross section!

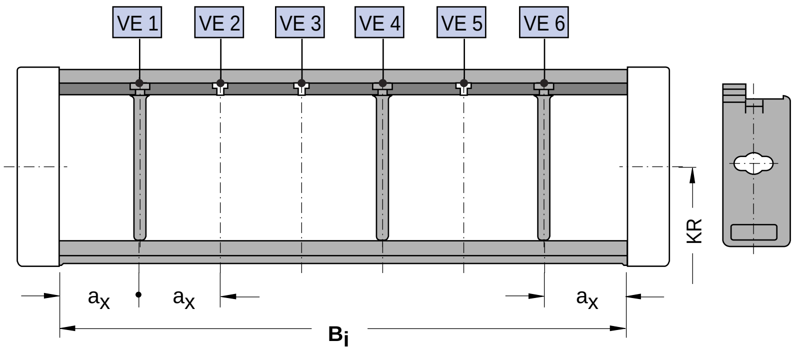
Divider system TS 0

without height subdivision

s_T	=	5 mm
a_x	=	25 mm grid

Please state the number of dividers/cross section n_T when ordering.

Sample order:
Divider system TS 0 / n_T 4



The dividers are fixed in the chain cross section!

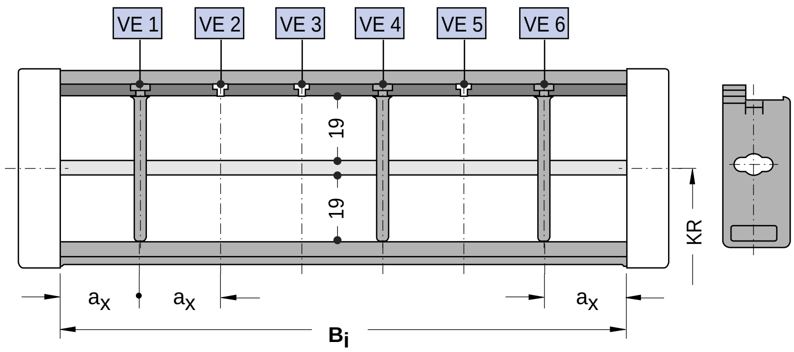
Divider system TS 1

with continuous height subdivision
Height subdivision: **Al-Profile 11 x 4 mm**

s_T	=	5 mm
a_x	=	25 mm grid
n_{Tmin}	=	2

Please state the number of dividers/cross section n_T when ordering.

Sample order:
Divider system TS 1 - VE 146 / n_T 3



The dividers are fixed in the chain cross section!

Type 0665

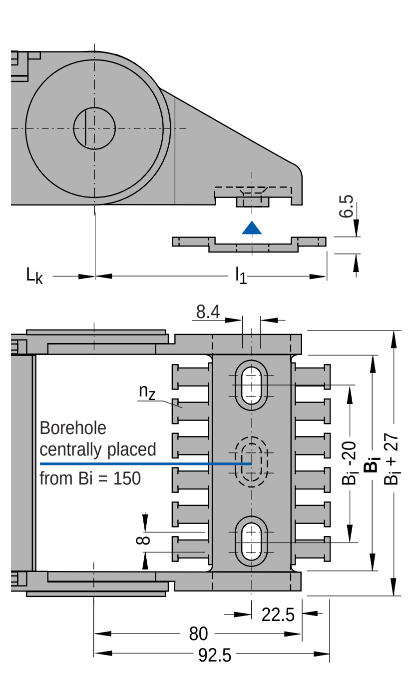
Connection dimensions

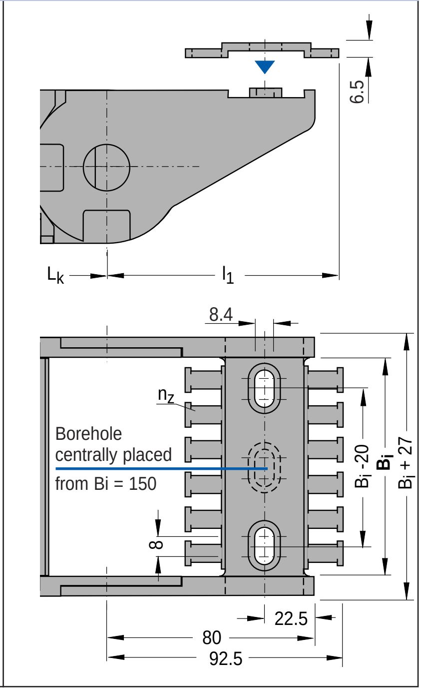
Connectors made of plastic with attached strain relief devices.

Two-sided strain relief device for fixing the cables/hoses securely.

Special end connector made of steel plate available on request.

Fixed point connection	Driver connection





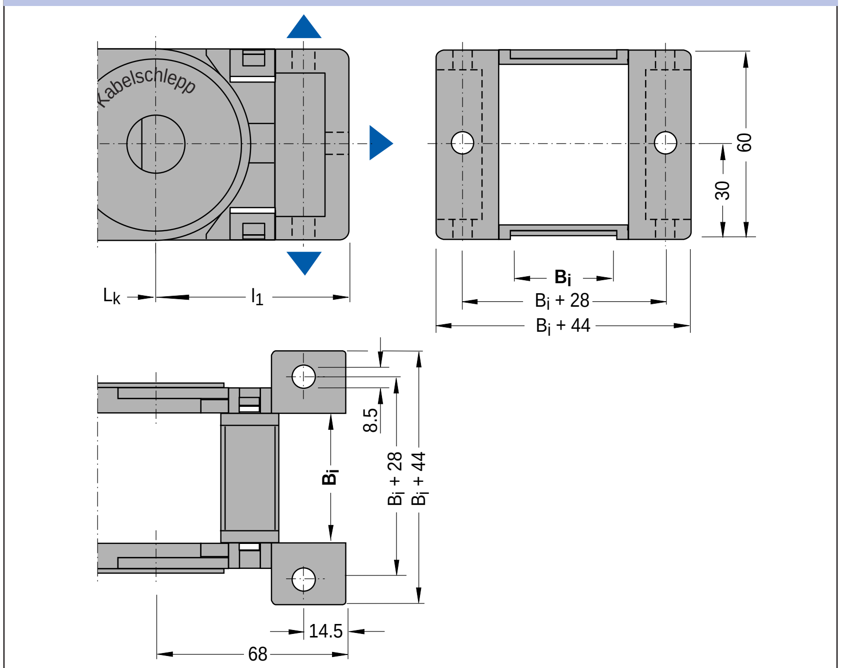
Type	B_i mm	B_k mm	n_Z
0665......50	**50**	77	4
0665......75	**75**	102	6
0665......100	**100**	127	8
0665......125	**125**	152	10
0665......150	**150**	177	12
0665......175	**175**	202	14
0665......200	**200**	227	16
0665......225	**225**	252	18
0665......250	**250**	277	20

Connection dimensions

Universal connector made of die cast Aluminium.

The dimensions for the fixed point and driver connection are identical!

Universal Connector



Ordering Key for the connection:

X U

Connection point
F - Fixed point
M - Driver

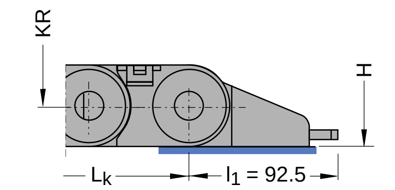
U - Universal connector

KABELSCHLEPP

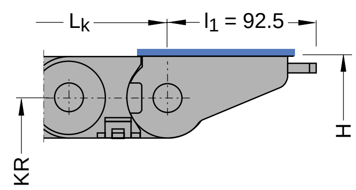
Type 0665

Connection variants

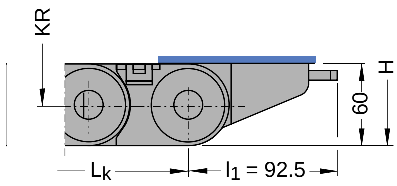
Fixed point connection	Driver connection



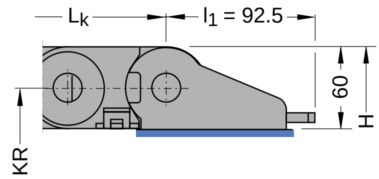
Connection **FA** (Standard)



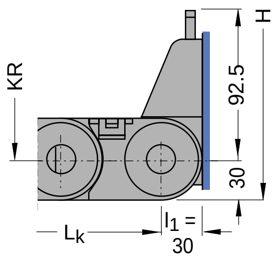
Connection **MA** (Standard)



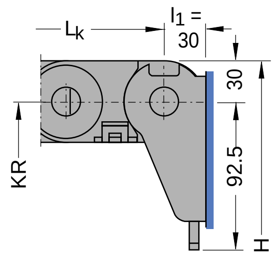
Connection **FI**



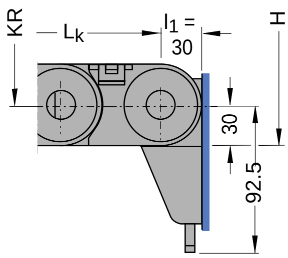
Connection **MI**



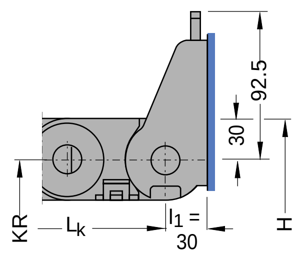
Connection **FK**



Connection **MK**

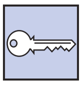


Connection **FH**
(not possible with design 060)



Connection **MH**
(not possible with design 060)

Ordering Key for the connection:



X X

Connection point
M - Driver
F - Fixed point

Connection type
A - Threaded joint to the outside (Standard)
I - Threaded joint to the inside (towards KR)
H - Connection element turned through 90° to the outside
K - Connection element turned through 90° to the inside (towards KR)

The connection variants at the fixed point and at the driver can be combined and subsequently changed if required.

Please state the desired connection variant when ordering.

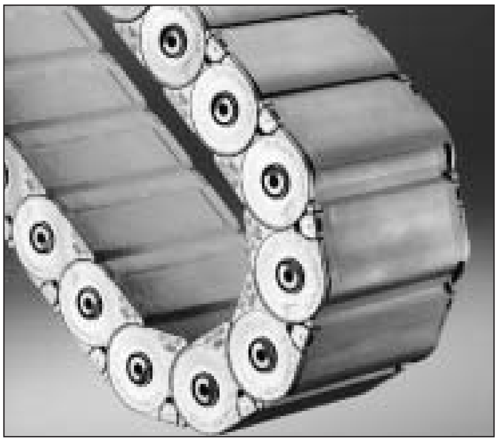
Example: FA/MA (Standard) or **FA/MK**

Ordering Key for cable carrier:

0665.060.150.125 - 2650

Example:
Cable carrier type 0665, design 060 - enclosed design, with hinged covers openable on both sides to the inside - inside width B_i 150 mm, bend radius KR 125 mm and chain length L_k 2650 mm

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



Type 0600

Profile

Enclosed Cable Carriers in a lightweight design UNIFLEX Type

- Low intrinsic weight for high accelerations
- Solid plastic
- With cover system opening to the outside
- Robust double stroke system for long self-supporting lengths
- High torsional rigidity
- Fully enclosed by way of universal connector even at connection points
- Reduced outer width
- TÜV type approved in accordance with 2PfG 1036/10.97
- 2D-/3D-CAD-Data can be found at www.kabelschlepp.de

Design:

Design 080 – Cable Carriers with cover system opening to the outside

Chain Band Material:	**K 7426 S (Standard)** → cf. Interesting Technical Information 7.14
Connecting Profile Material:	**K 7426 S (Standard)** → cf. Interesting Technical Information 7.14
5 bend radii available!	Intermediate radii available on request, reverse bend radii are possible!

TÜV Rheinland Product Safety
BAUART GEPRÜFT
TYPE APPROVED

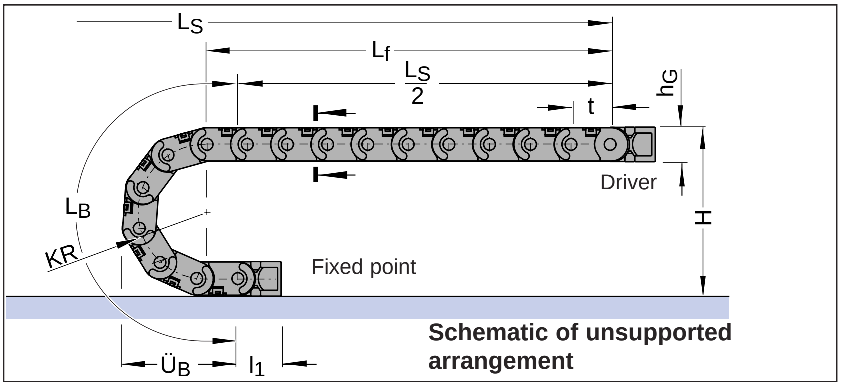
Type	Inside width		Chain width		Inside height	Pitch
	$B_{i\ min}$ mm	$B_{i\ max}$ mm	$B_{k\ min}$ mm	$B_{k\ max}$ mm	h_i mm	t mm
0600	50	125	68	143	44	60

Type 0600

Design of the Cable Carriers

Chain pitch t	= 60.0 mm
Chain link height h_G	= 61 mm
Connection height H_{min}	= 2 KR + 61 mm
Connection length l_1	= cf. Connection Dimensions

A flat and level surface is required for the carrier system to be installed properly. If necessary, a support tray should be installed. (cf. System Components section)



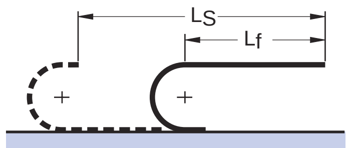
Schematic of unsupported arrangement

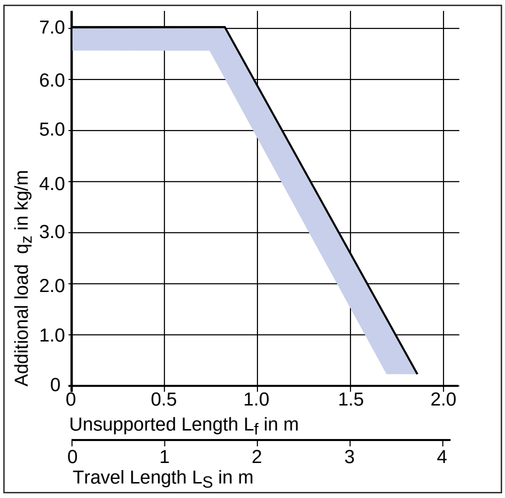
Variable sizes
depending on bend radius

Bend radius KR	**100** mm	**125** mm	**150** mm	**175** mm	**200** mm
Bend length L_B	434	513	591	670	748
Loop overhang $Ü_B$	191	216	241	266	291
Height H_{min}	261	311	361	411	461

Load diagram

Unsupported length L_f and travel length L_S
depending on the additional load (cf. Construction Guidelines)





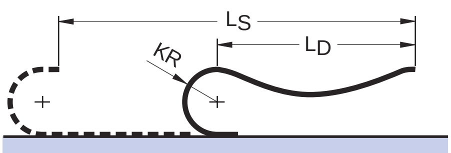
Load diagram for an intrinsic chain weight q_k of 1.88 kg/m. If the intrinsic chain weight exceeds q_k 1.88 kg/m, the permissible additional load is lower.

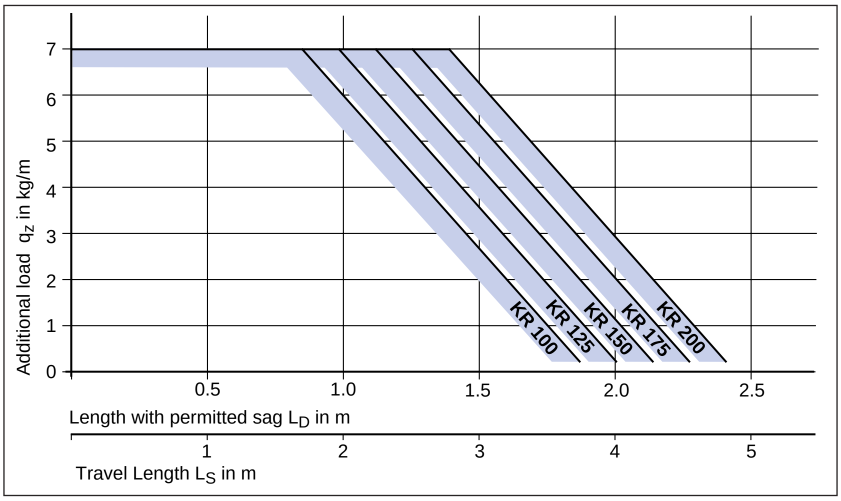
Calculation of chain length:

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

rounded to pitch 60 mm

Length with permitted sag L_D and travel length L_S
depending on the additional load (cf. Construction Guidelines)





Calculation of chain length:

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

rounded to pitch 60 mm

Long travel lengths

With long travel lengths the upper part of the cable carrier glides on its lower run in a guide channel.

Design → cf. Construction Guidelines

Guide channel → cf. System Components

We recommend that a system of this kind be planned by one of our engineers.

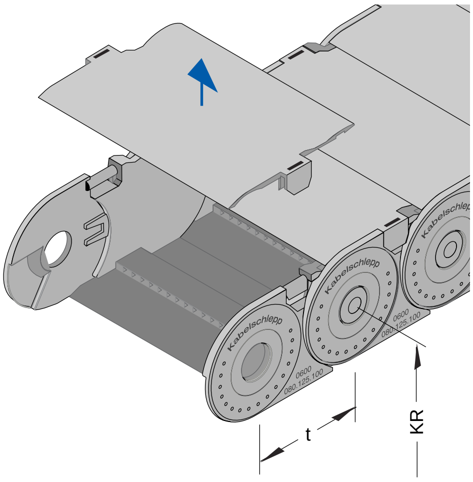
Type 0600

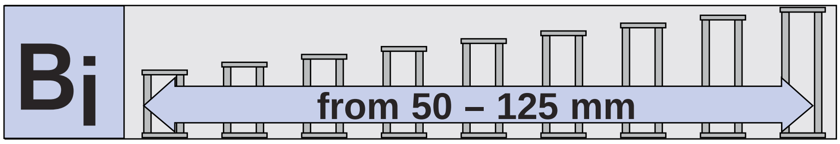
Chain cross sections

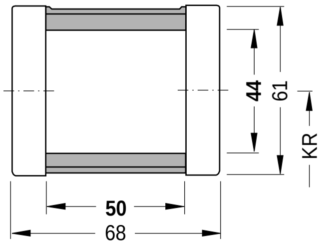
in accordance with section in schematic illustration

Design 0600.080

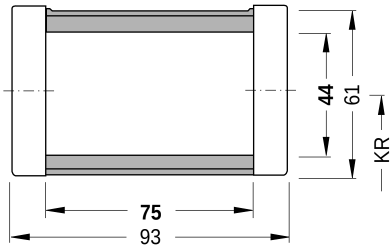
with cover system opening to the outside



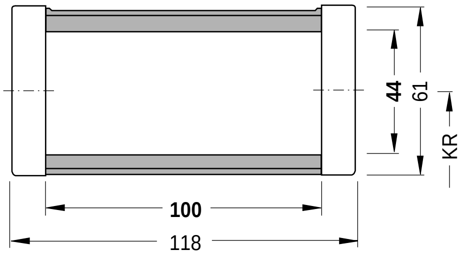




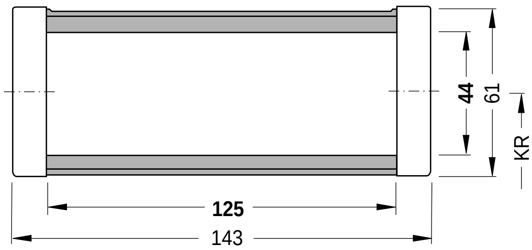
0600.080.**050**
G_k = 1.60 kg/m



0600.080.**075**
G_k = 1.88 kg/m



0600.080.**100**
G_k = 2.15 kg/m



0600.080.**125**
G_k = 2.42 kg/m

Subject to technical changes!

Type 0600

Divider systems

The divider system can be planned by you or by our engineers on the basis of the information you supply about the configuration of the cable carrier.

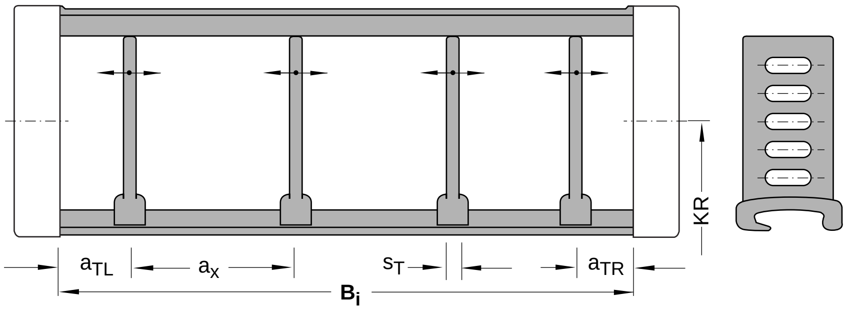
As standard, the divider system is fitted on every frame stay (with stay assembly on every second chain link).

Divider system TS 0

without height subdivision

	Version A	Version B
s_T	3 mm	3 mm
$a_{T\,min}$	4.1 mm	
$a_{x\,min}$	8.2 mm	4 mm
$a_{x\,grid}$	continuous	10 mm

In version A the dividers can slide along the chain cross section.
In version B the dividers can be fixed at intervals of 10 mm.

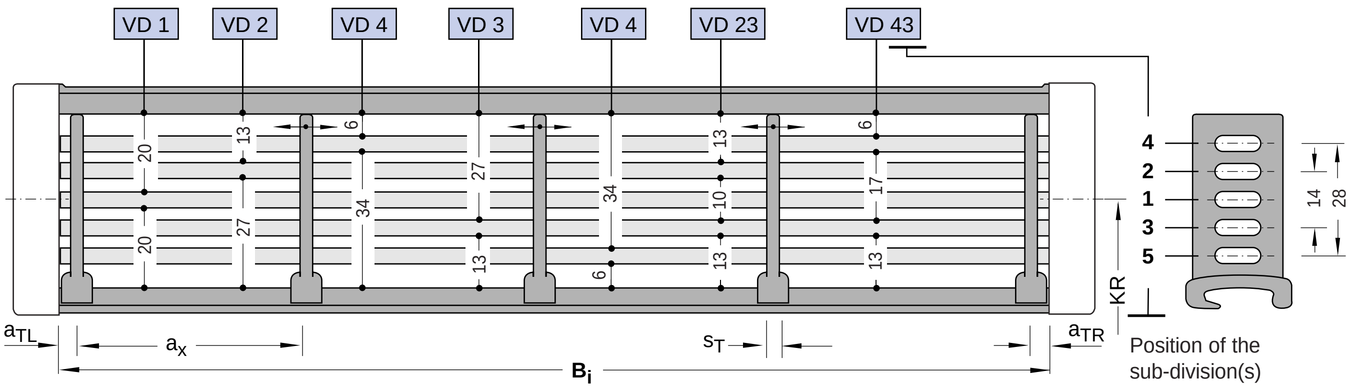


Please state the number of dividers/cross section n_T when ordering.

Sample order:
Divider system TS 0/n_T 3

Divider system TS 1

with continuous height subdivision
Height subdivision: **Al-Profile 11 x 4 mm**



Position of the sub-division(s) in the divider

	Version A	Version B
s_T	3 mm	3 mm
$a_{T\,min}$	4.1 mm	
$a_{x\,min}$	8.2 mm	4 mm
$a_{x\,grid}$	continuous	10 mm
$n_{T\,min}$	2	2

Technically recommended variants: VD 1, VD 2 and VD 3
The dividers can slide along the chain cross section!

Please state the type of height subdivisions and the number of dividers/cross section n_T when ordering.

Sample order:
Divider system TS 1– VD 2/n_T 5

Connection dimensions

Universal connector made of die cast Aluminium

The dimensions for the fixed point and driver connection are identical!

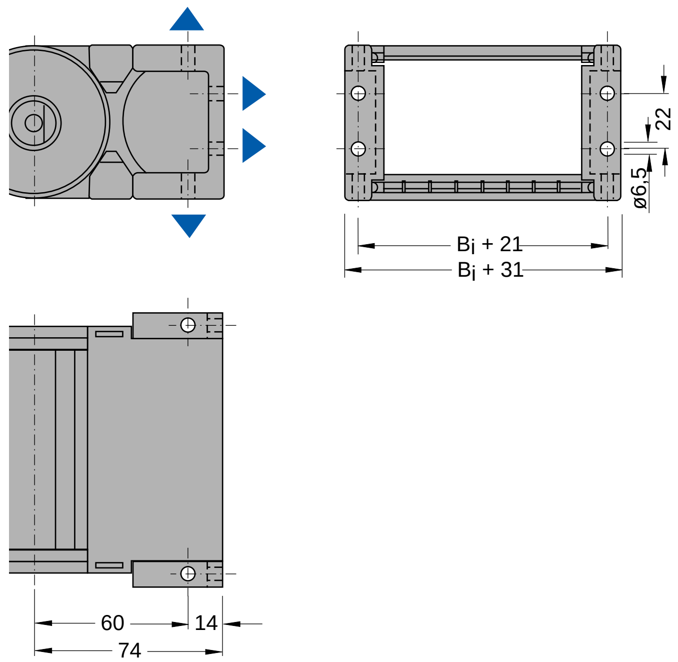
Ordering Key for the connection:

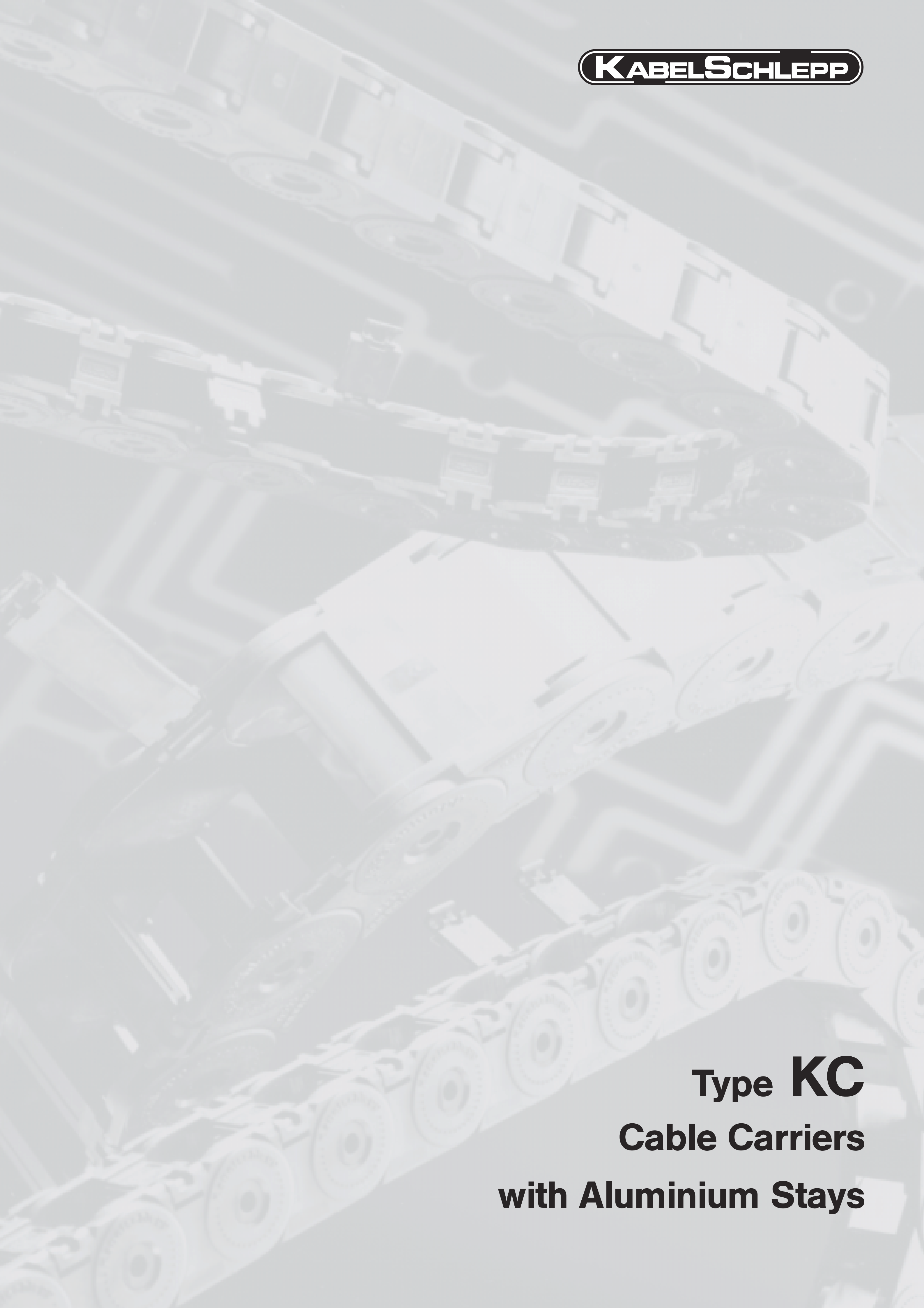
X U

Connection point
F - Fixed point
M - Driver

U - Universal connector

Universal Connector

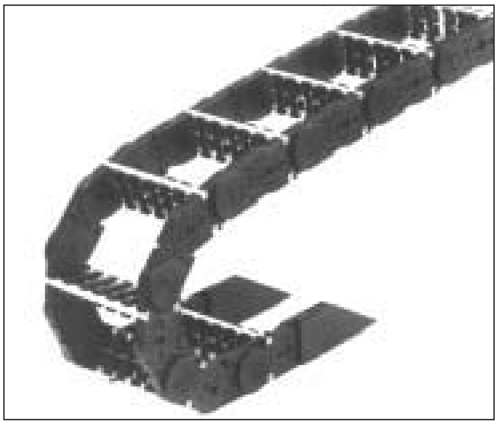




KABELSCHLEPP

Type KC
Cable Carriers
with Aluminium Stays

KABELSCHLEPP



Profile

Cable Carriers
Type KC with Aluminium Stays (K-series)

- Variable widths in 1 mm sections
- Plastic chain bands combined with Aluminium stays
- Extremely robust owing to sturdy sidebar design
- Enclosed stroke system not sensitive to dirt/contamination
- Can be opened quickly on both sides
- With optional strain relief
- TÜV type approved in accordance with 2PfG 1036/10.97
- 2D-/3D-CAD-Data can be found at www.kabelschlepp.de

Stay variants:

RS – Standard design

RV – Reinforced design

LG – Hole stay, split design

Chain Band Material:	**K 7426 S (Standard)** → cf. Interesting Technical Information 7.14
Connecting Profile Material:	**Aluminium Alloy** → cf. Interesting Technical Information 7.14
6 bend radii available!	Intermediate radii available on request, reverse bend radii are possible!

TÜV Rheinland Product Safety

BAUART GEPRÜFT

TYPE APPROVED

Type	Inside width $B_{i\,min}$ mm	$B_{i\,max}$ mm	Chain width $B_{k\,min}$ mm	$B_{k\,max}$ mm	Inside height h_i mm	Pitch t mm
KC 0650	75	600	103	628	38	65
KC 0900	100	700	131	731	58	90

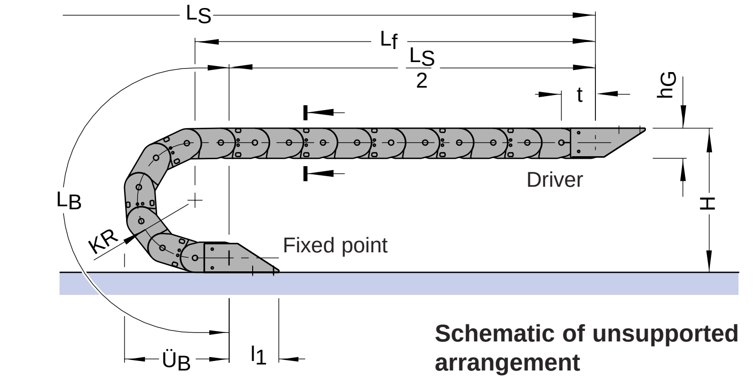
Subject to technical changes!

Type KC 0650

Design of the Cable Carriers

Chain pitch t	= 65 mm
Chain link height h_G	= 57.5 mm
Connection height H_{min}	= 2 KR + 55 mm
Connection length l_1	= cf. Connection Dimensions

A flat and level surface is required for the carrier system to be installed properly. If necessary, a support tray should be installed. (cf. System Components section)



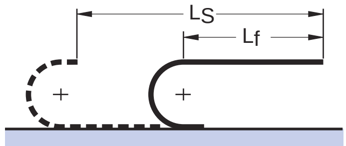
Schematic of unsupported arrangement

Variable sizes
depending on bend radius

Bend radius KR	75 mm	115 mm	145 mm	175 mm	220 mm	300 mm
Bend length L_B	366	492	586	680	822	1073
Loop overhang $Ü_B$	168	208	238	268	313	393
Height H_{min}	205	285	345	405	495	655

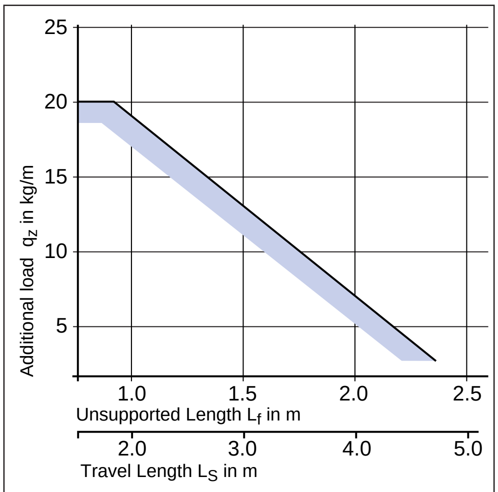
Load diagrams

Unsupported length L_f and travel length L_S
depending on the additional load (cf. Construction Guidelines)



Calculation of chain length:

$$L_k \approx \frac{L_S}{2} + L_B$$ rounded to pitch 65 mm

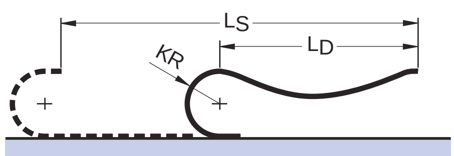


Load diagram for an intrinsic chain weight q_k of 2.5 kg/m. If the intrinsic chain weight exceeds q_k 2.5 kg/m, the permissible additional load is lower.

KR/RKR combinations are possible for circular movements.

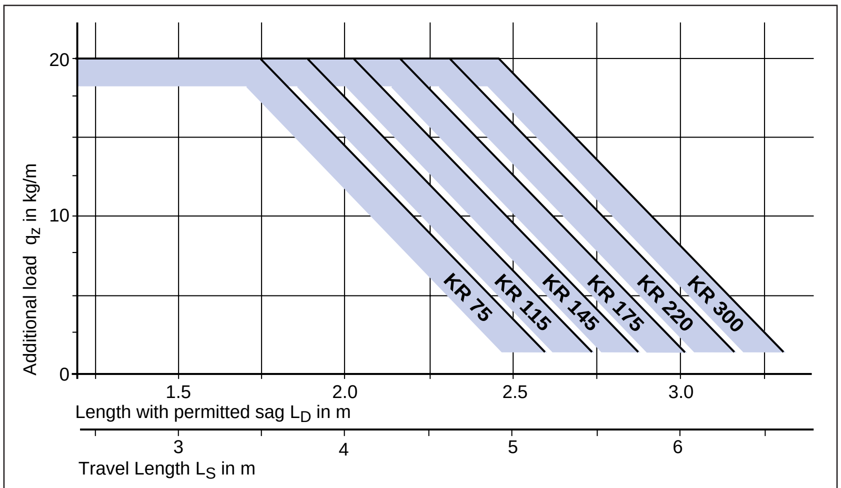
In these cases please contact us!

Length with permitted sag L_D and travel length L_S
depending on the additional load (cf. Construction Guidelines)



Calculation of chain length:

$$L_k \approx \frac{L_S + KR}{2} + L_B$$ rounded to pitch 65 mm



Long travel lengths

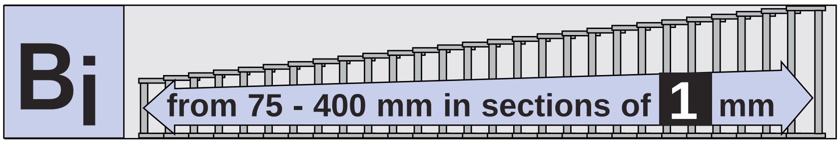
With long travel lengths the upper part of the cable carrier glides on its lower run in a guide channel.

Design → cf. Construction Guidelines

Guide channel → cf. System Components

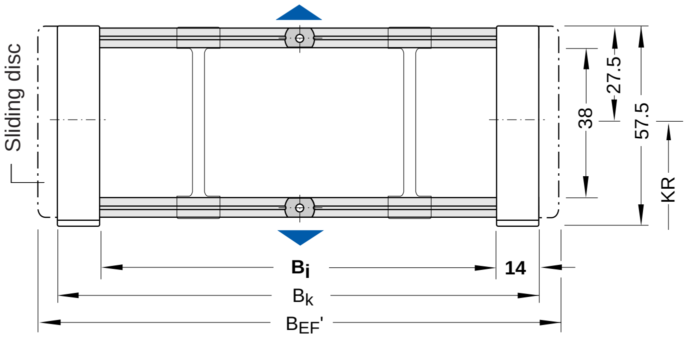
We recommend that a system of this kind be planned by one of our engineers.

Type KC 0650



Chain cross sections

in accordance with section in schematic illustration



Stay variant "RS"

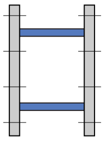
Frame stay – Standard design

Aluminium profile bars, detachable inside and outside

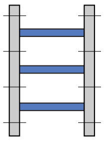
Not a bolted connection!

Profile bars can be released by turning them through 90°.

Stay configuration:



1/2 Arrangement – Standard
Stays on every 2nd chain link



1/1 Arrangement
Stays on every chain link.
Please specify when placing order.

Calculation of chain width:

$B_k = \mathbf{B_i} + 28$ mm

Calculation of chain width over connecting piece:

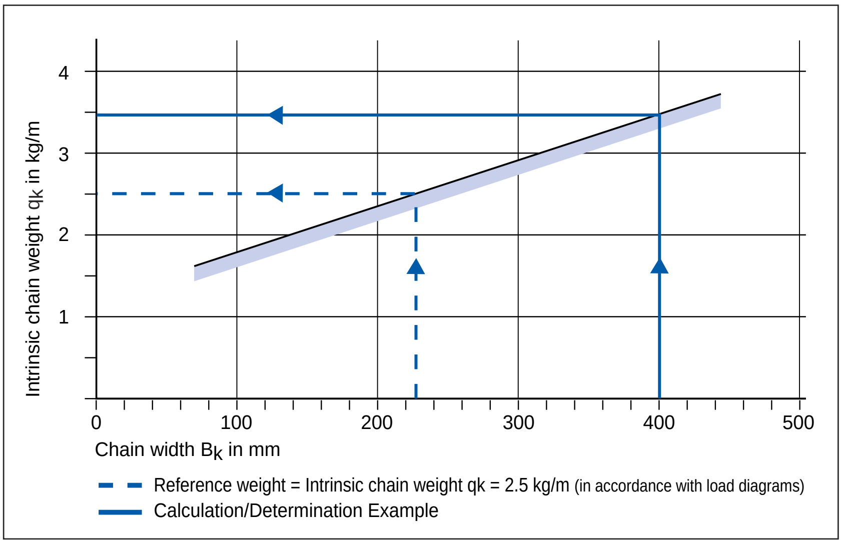
$B_{EF} = \mathbf{B_i} + 35.5$ mm

Calculation of chain width with sliding disc:

$B_{EF}' = \mathbf{B_i} + 36$ mm

Calculation/Determination Example:

Inside width	$\mathbf{B_i}$ =	372 mm
Chain width	B_k =	400 mm
Chain width with connecting piece	B_{EF} =	407.5 mm
Chain width over sliding disc	B_{EF}' =	408 mm
Intrinsic chain weight	q_k =	3.4 kg/m



Intrinsic chain weight depending on chain width B_k

Sliding discs

With long travel lengths sliding discs must be attached to the joint of the side bars in order to maintain a distance between the cable carrier and channel wall (observe the installation width B_{EF}'!)

This helps to achieve the optimum friction and wear ratios.

Type KC 0650

Divider systems

for Stay Variant ”RS“

The divider system can be planned by you or by our engineers on the basis of the information you supply about the configuration of the cable carrier.

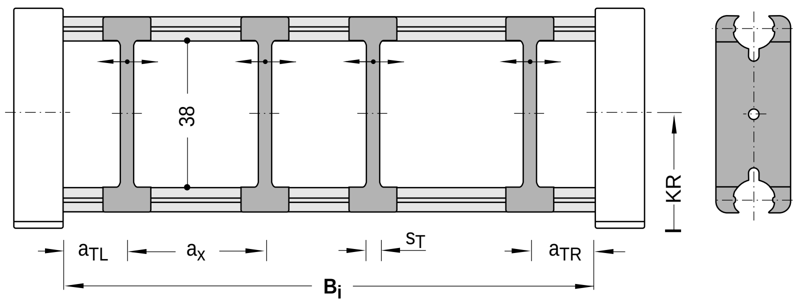
As standard, the divider system is fitted on every frame stay (with stay assembly on every 2nd chain link).

Divider system TS 0

without height subdivision

s_T	=	3 mm
$a_{T\ min}$	=	6.5 mm
$a_{x\ min}$	=	13 mm

The dividers can slide along the chain cross section!



Please state the number of dividers/cross section n_T when ordering.

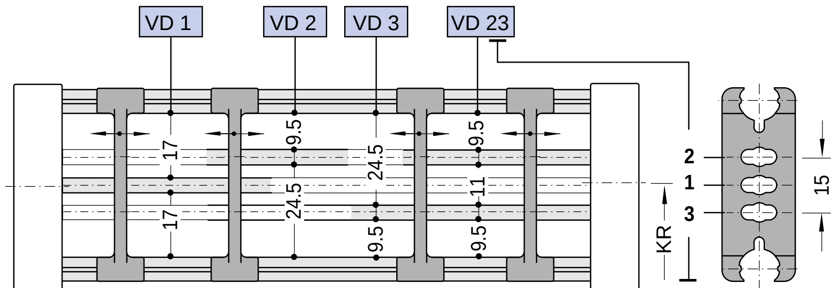
Sample order:
Divider system TS 0/n_T 4

Divider system TS 1

with continuous height subdivision
Height subdivision:
Al-Profile 11 x 4 mm

s_T	=	3 mm
$a_{T\ min}$	=	6.5 mm
$a_{T\ max}$	=	25 mm
$a_{x\ min}$	=	13 mm
$n_{T\ min}$	=	2

Technically recommended variants: VD 1, VD 2 and VD 3
The dividers can slide along the chain cross section!



Position of the sub-division(s) in the divider

Please state the type of height subdivision and the number of dividers/cross section n_T when ordering.

Sample order:
Divider system TS 1 – VD 1/n_T 4

KABELSCHLEPP

Type KC 0650

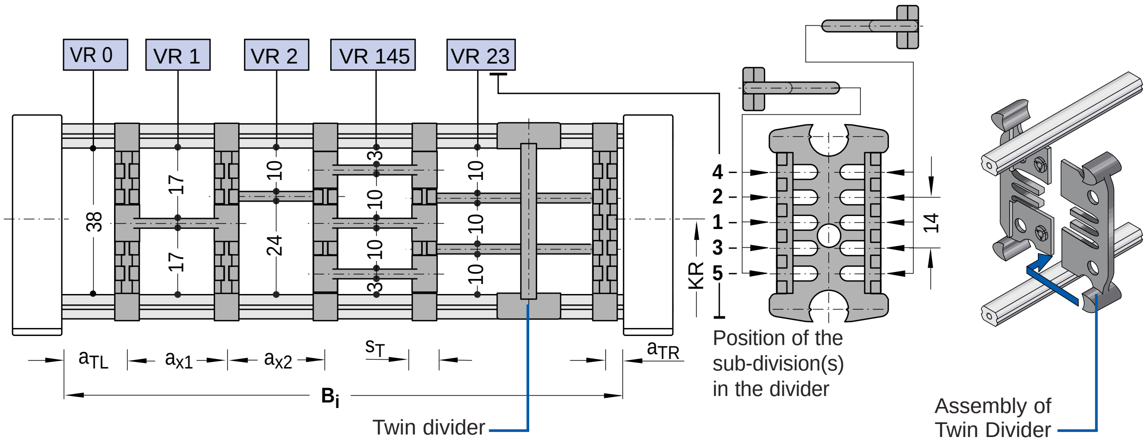
Divider systems

for Stay Variant ”RS“

Divider system TS 3

with height subdivision:
Plastic Partitions

Technically recommended variants: VR 0 and VR 1
Dividers fixed by height subdivision, the grids can slide along the chain cross section!



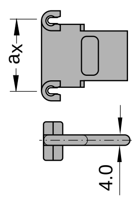
s_T	=	8 mm
$a_{T\ min}$	=	4 mm
$a_{x\ min}$	=	16 mm (with subdivision)
$a_{x\ grid}$	=	see a_x-table

a_x mm (Centre-to-centre distance of dividers)														
16	18	23	28	32	33	38	43	48	58	64	68	78	80	88
96	112	128	144	160	176	192	208							

When using partitions with a_x > 112 mm, a twin divider should be used to provide an additional central support.

The twin divider can be moved, suitable for later assembly/fitting.

s_T	=	3 mm



Please indicate the cavities (from left to right), the relevant subdivision variant and the assembly spacing a_T and a_x when ordering.

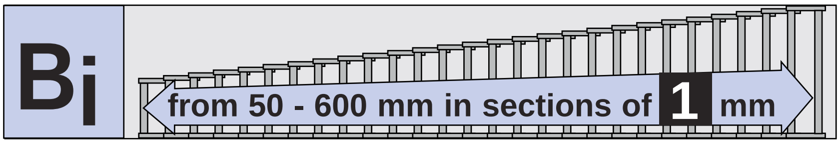
Sample order:

Divider system TS 3
K(cavity) 1 - VR 0 / 23 mm
K 2 - VR 1 / 48 mm
K 3 - VR 23 / 58 mm
with twin divider
K 4 - VR 1 / 33 mm

Type KC 0650

Chain cross sections

in accordance with section in schematic illustration



Stay Variant LG

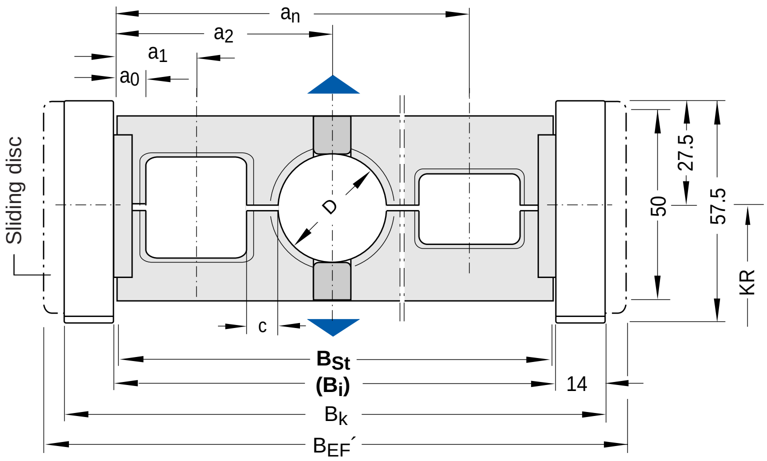
Hole Stay – split design (Standard)

Fitted to every 2nd chain link

No standard widths!

Customised, contract-specific manufacture of hole pattern in accordance with your specifications

Stay variant LU –
hole stay in unsplit design.
Please specify when placing order!



D_{max}	= 40 mm
$a_{0\ min}$	= 9 mm
c_{min}	= 4 mm

Calculation of chain width:

B_k = $\mathbf{B_i}$ + 28 mm

Calculation of chain width over connecting piece:

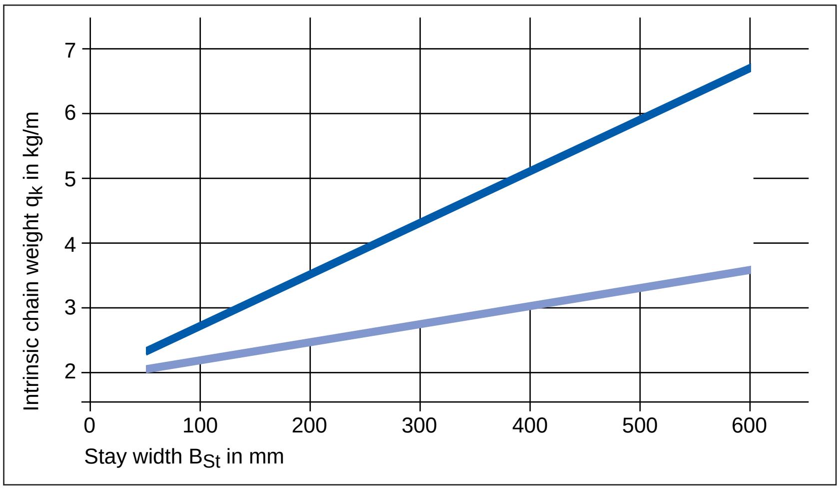
B_{EF} = $\mathbf{B_i}$ + 35.5 mm

Calculation of chain width with sliding disc:

B_{EF}' = $\mathbf{B_i}$ + 36 mm

Calculation of B_{ST}:

B_{ST} = $\mathbf{B_i}$ - 2 mm



Intrinsic chain weight depending on stay width B_{St}

- Hole stays with 40 % hole area
- Hole stays with 60 % hole area

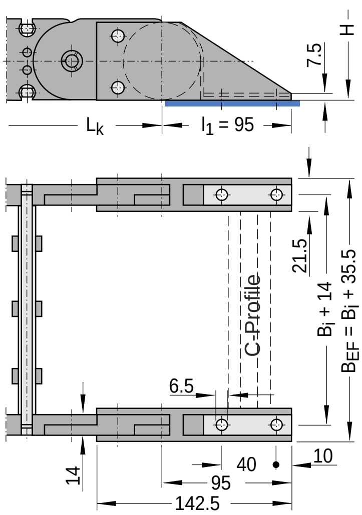
Type KC 0650

Connection dimensions

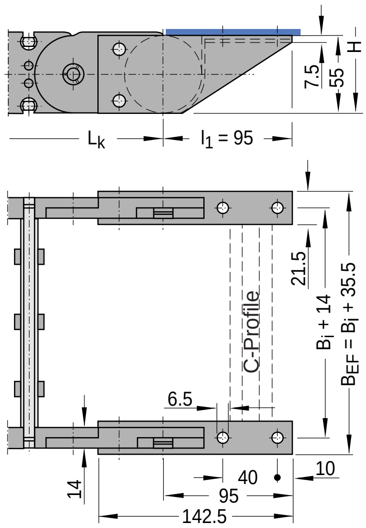
Connectors made of plastic

Optionally with C-Profile, slit width 11-12 mm. Suitable for all commercial saddle-type clamps with small base and KABELSCHLEPP SLZ Strain Relief Devices (cf. System Components).

Fixed point connection



Connection **FA** (Standard)



Connection **FI**
With connection surface (>l1) distancing pieces are required

Ordering Key for the connection:

X X

Connection point
F - Fixed point
M - Driver

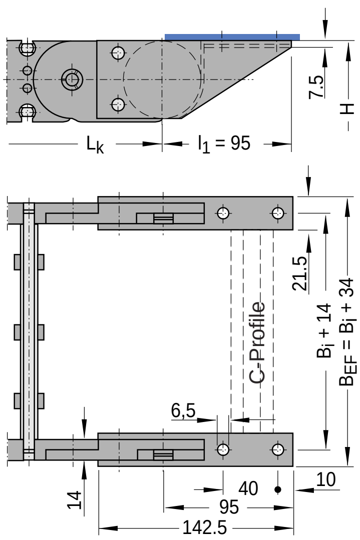
Connection type
A - Threaded joint to the outside (Standard)
I - Threaded joint to the inside (towards KR)

The connection variants at the fixed point and at the driver can be combined and subsequently changed if required.

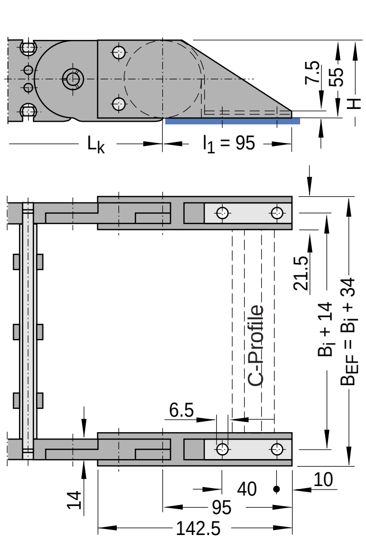
Please state the desired connection variant when ordering.

Example: FA/MI or **FA/MA**

Driver connection



Connection **MA** (Standard)



Connection **MI**
With connection surface (>l1) distancing pieces are required

Ordering Key for cable carrier:

KC 0650.176 - RS - 115 - 1430

Example:
Cable carrier type KC 0650, inside width B_i 176 mm, with narrow frame stay, bend radius KR 115 mm and chain length L_k = 1430 mm

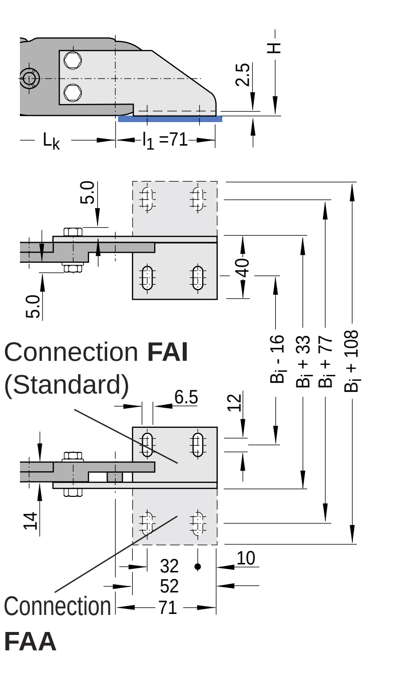
- Type
- Inside width Bi in mm (with frame stays)
  Stay width B_{St} in mm (with hole stays)
- Stay variant
- Bend radius KR in mm
- Chain length L_k in mm (without connection)

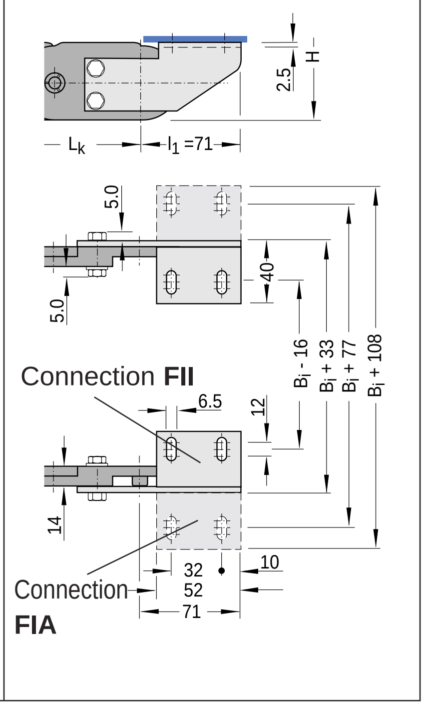
Type KC 0650

Connection dimensions

End connector made of steel plate

Fixed point connection





Ordering Key for the connection:

X X X

Connection point
F - Fixed point
M - Driver

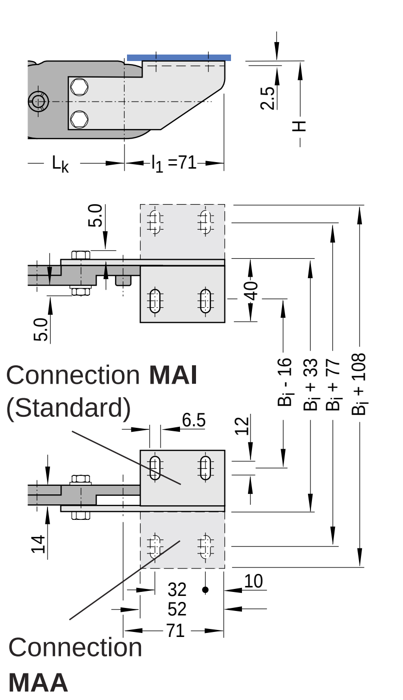
Connection type
A - Threaded joint to the outside (Standard)
I - Threaded joint to the inside (towards KR)

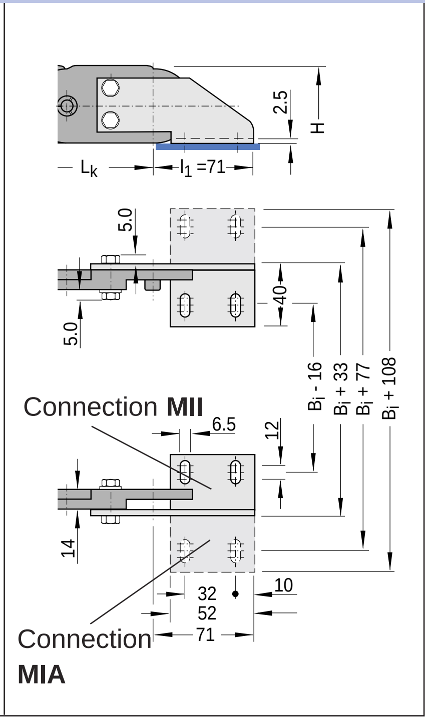
Connection surface
I - Connection surface inside (< B_i)
A - Connection surface outside (> B_i)

The connection variants at the fixed point and at the driver can be combined and subsequently changed if required.
Please state the desired connection variant when ordering.

Example: FAI/MAA or **FIA/MAI**

Driver connection





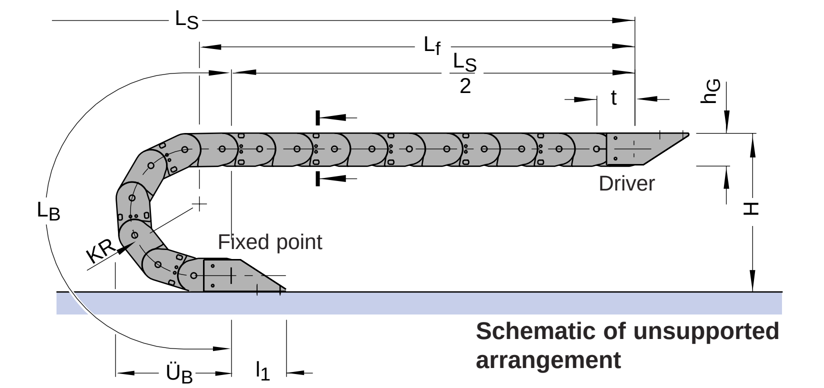
KABELSCHLEPP

Type KC 0900

Design of the Cable Carriers

Chain pitch t	= 90 mm
Chain link height h_G	= 78.5 mm
Connection height H_{min}	= 2 KR + 76 mm
Connection length l_1	= cf. Connection Dimensions

A flat and level surface is required for the carrier system to be installed properly. If necessary, a support tray should be installed. (cf. System Components section)



Schematic of unsupported arrangement

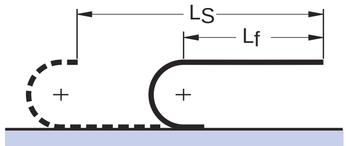
Variable sizes

depending on bend radius

Bend radius KR	130 mm	150 mm	190 mm	245 mm	300 mm	385 mm
Bend length L_B	589	652	777	950	1123	1390
Loop overhang $Ü_B$	258	278	318	373	428	513
Height H_{min}	336	376	456	566	676	846

Load diagrams

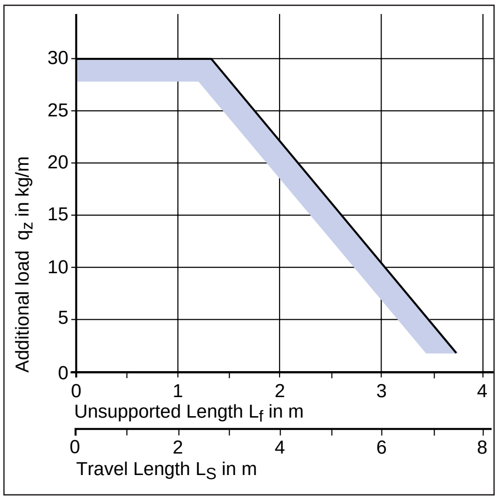
Unsupported length L_f and travel length L_S
depending on the additional load (cf. Construction Guidelines)



Calculation of chain length:

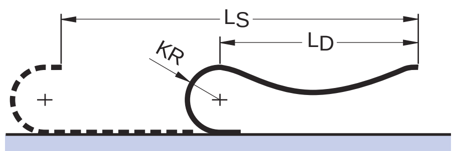
$$L_k \approx \frac{L_S}{2} + L_B$$

rounded to pitch 90 mm



Load diagram for an intrinsic chain weight q_k of 4.05 kg/m. If the intrinsic chain weight exceeds q_k 4.05 kg/m, the permissible additional load is lower.

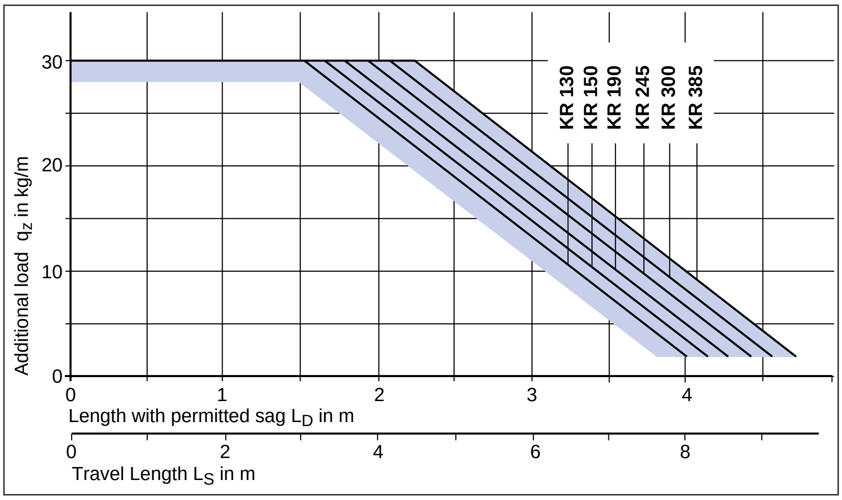
Length with permitted sag L_D and travel length L_S
depending on the additional load (cf. Construction Guidelines)



Calculation of chain length:

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

rounded to pitch 90 mm



Long travel lengths

With long travel lengths the upper part of the cable carrier glides on its lower run in a guide channel.

Design → cf. Construction Guidelines

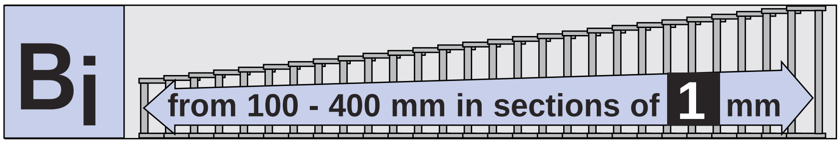
Guide channel → cf. System Components

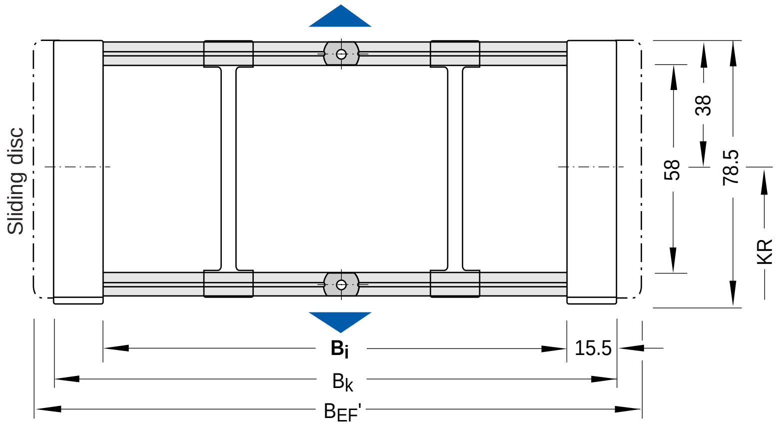
We recommend that a system of this kind be planned by one of our engineers.

Type KC 0900

Chain cross sections

in accordance with section in schematic illustration





Stay variant ”RS“

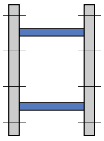
Frame stay – Standard design

Aluminium profile bars, detachable inside and outside

Not a bolted connection!

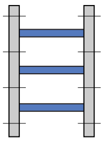
Profile bars can be released by turning them through 90°.

Stay configuration:



1/2 Arrangement – Standard

Stays on every 2nd chain link



1/1 Arrangement

Stays on every chain link. Please specify when placing order.

Calculation of chain width:

B_k = $\mathbf{B_i}$ + 31 mm

Calculation of chain width over connecting piece:

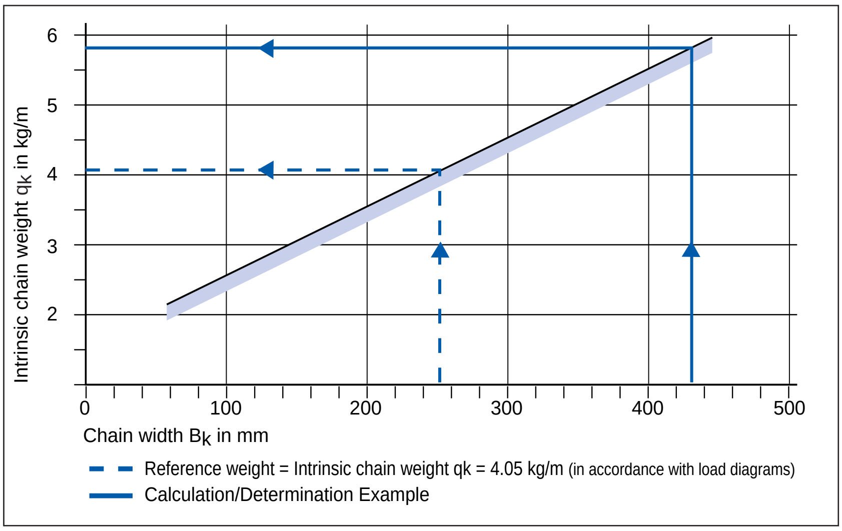
B_{EF} = $\mathbf{B_i}$ + 41 mm

Calculation of chain width with sliding disc:

B_{EF}' = $\mathbf{B_i}$ + 45 mm

Calculation/Determination Example:

Inside width	$\mathbf{B_i}$ =	400 mm
Chain width	B_k =	431 mm
Chain width with connecting piece	B_{EF} =	441 mm
Chain width over sliding disc	B_{EF}' =	445 mm
Intrinsic chain weight	q_k =	5.8 kg/m



Intrinsic chain weight depending on chain width B_k

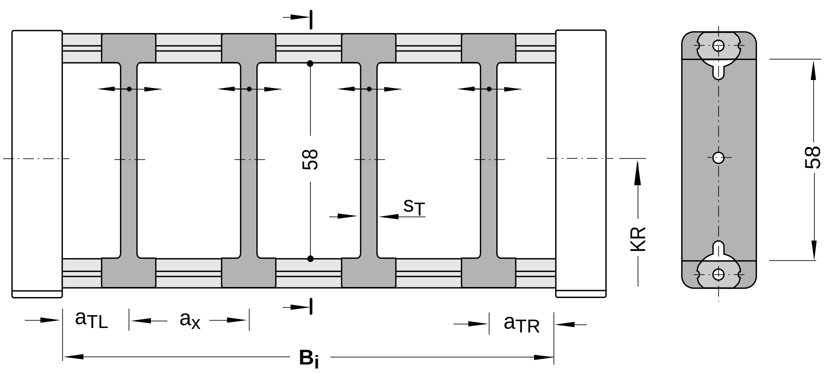
Divider system for „RS“

without height subdivision

Movable dividers can be used to separate the cables.

s_T	=	4 mm
$a_{T\,min}$	=	7 mm
$a_{x\,min}$	=	14 mm

Please state the number of dividers/cross section n_T when ordering.



As standard these are fitted to every stay cross section.

Sliding discs

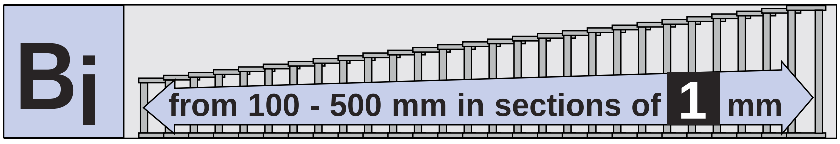
With long travel lengths sliding discs must be attached to the joint of the side bars in order to maintain a distance between the cable carrier and channel wall (observe the installation width B_{EF}'!)

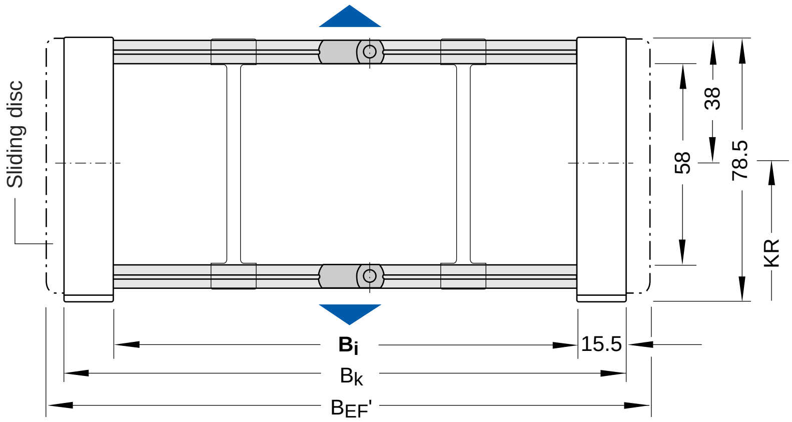
This helps to achieve the optimum friction and wear ratios.

Type KC 0900

Chain cross sections

in accordance with section in schematic illustration





Stay variant ”RV“

Frame stay – reinforced design with plastic adapter

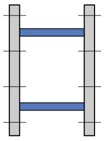
Aluminium profile bars, detachable inside and outside

Not a bolted connection

Profile bars can be released by turning them through 90°

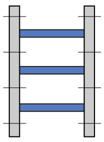
With stay variant ”RV“ at least 2 dividers **must** always be used.

Stay configuration:



1/2 Arrangement – Standard

Stays on every 2nd chain link



1/1 Arrangement

Stays on every chain link. Please specify when placing order.

Calculation of chain width:

$B_k = \mathbf{B_i} + 31$ mm

Calculation of chain width over connecting piece:

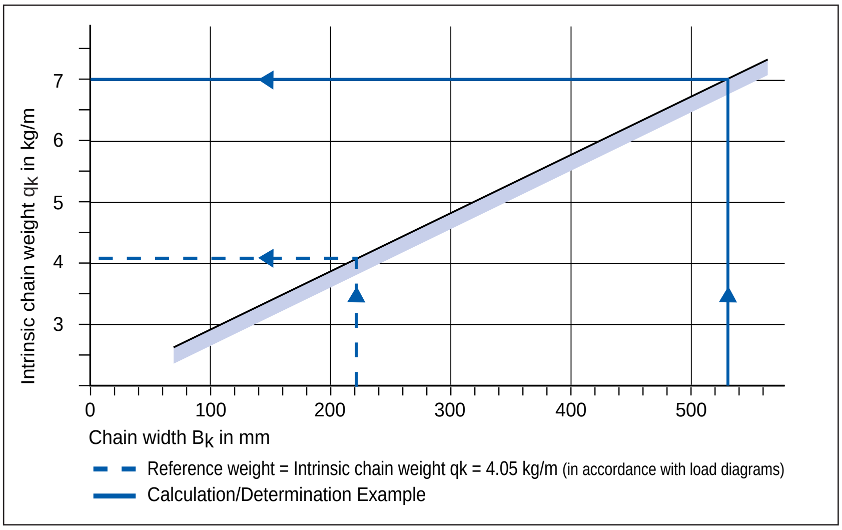
$B_{EF} = \mathbf{B_i} + 41$ mm

Calculation of chain width with sliding disc:

$B_{EF}' = \mathbf{B_i} + 45$ mm

Calculation/Determination Example:

Inside width	$\mathbf{B_i}$ =	500 mm
Chain width	B_k =	531 mm
Chain width with connecting piece	B_{EF} =	541 mm
Chain width over sliding disc	B_{EF}' =	545 mm
Intrinsic chain weight	q_k =	7.0 kg/m



Intrinsic chain weight depending on chain width B_k

Sliding discs

With long travel lengths sliding discs must be attached to the joint of the side bars in order to maintain a distance between the cable carrier and channel wall (observe the installation width B_{EF}'!)

This helps to achieve the optimum friction and wear ratios.

Type KC 0900

Divider systems
for Stay variant “RV“

The divider system can be planned by you or by our engineers on the basis of the information you supply about the configuration of the cable carrier.

As standard, the divider system is fitted on every 2nd chain cross section! (with stay assembly on every 2nd chain link).

Divider system TS 0

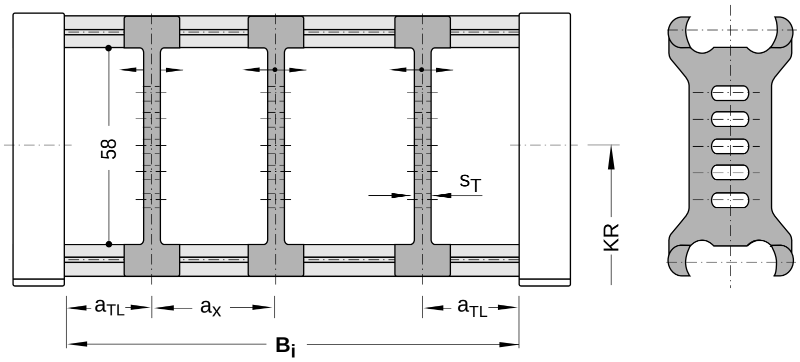
without height subdivision

s_T	=	4 mm
$a_{T\ min}$	=	7 mm
$a_{x\ min}$	=	14 mm
$n_{T\ min}$	=	2

Please state the number of dividers/cross section n_T when ordering.

Sample order:
Divider system TS 0/n_T 3

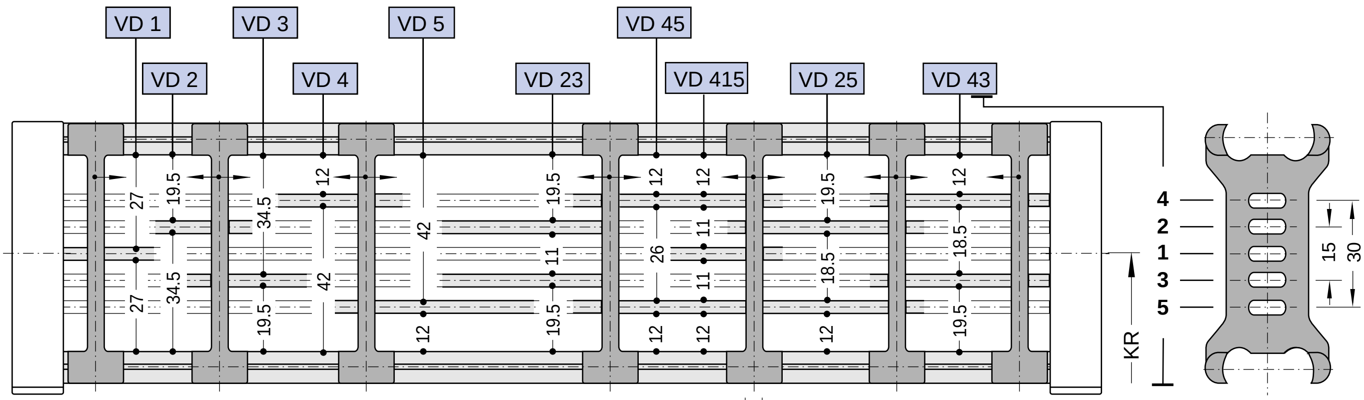
The dividers can slide along the chain cross section!



Divider system TS 1

with continuous height subdivision
Height subdivision:
Al-Profile 11 x 4 mm

Technically recommended variants: VD 1, VD 2, VD 3 and VD 23
The dividers can slide along the chain cross section!



Position of the sub-division(s) in the divider

s_T	=	4 mm
$a_{T\ min}$	=	7 mm
$a_{T\ max}$	=	25 mm
$a_{x\ min}$	=	14 mm
$n_{T\ min}$	=	2

Please state the type of height subdivisions and the number of dividers/cross section n_T when ordering.

Sample order: Divider system TS 1 – VD 23/n_T 7

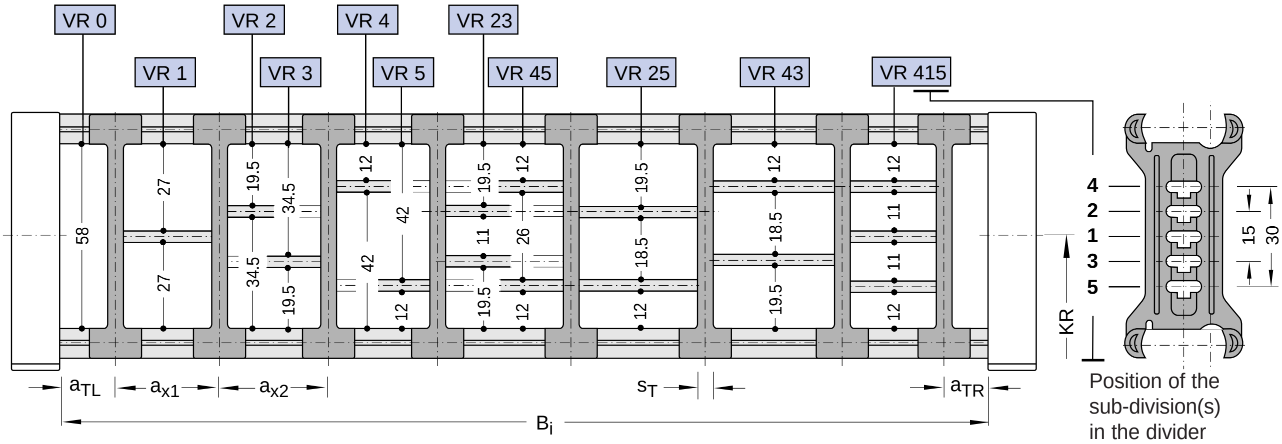
Type KC 0900

Divider systems
for Stay variant “RV“

Divider system TS 2

with grid sub-division (1 mm sections)
Height subdivision: **Al-Profile 11 x 4 mm**

Technically recommended variants: VR 1, VR 2, VR 3 and VR 23
The dividers can slide along the chain cross section!



s_T	=	6 mm
$a_{T\,min}$	=	8 mm
$a_{x\,min}$	=	20 mm (with height subdivision)
$a_{x\,min}$	=	16 mm (with VR 0)
$n_{T\,min}$	=	2

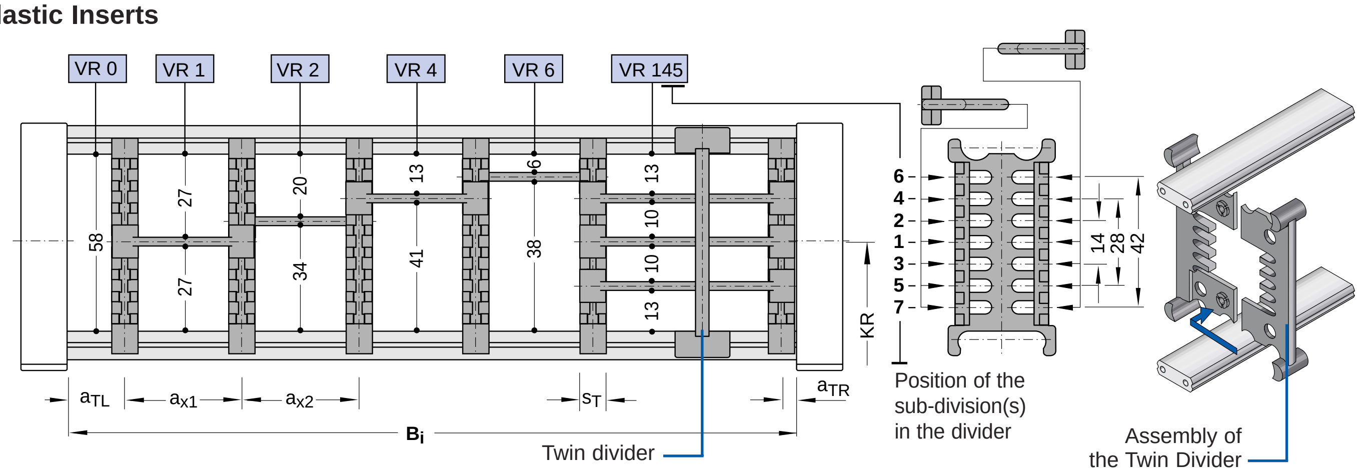
Please indicate the cavities (from left to right), the relevant sub-division variant and the assembly spacing a_T and a_x when ordering.

Sample order: Divider system TS 2
K(cavity) 1 - VR 0 / 50 mm
K 2 - VR 0 / 50 mm
K 3 - VR 23 / 100 mm

Divider system TS 3

with height subdivision
Plastic Inserts

Technically recommended variants: VR 0, VR 1 and VR 2
Dividers fixed by height subdivisions, the grids can slide along the chain cross section!



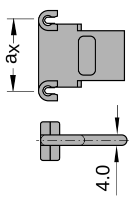
s_T	=	8 mm
$a_{T\,min}$	=	4 mm
$a_{x\,min}$	=	16 mm (with height subdivision)
$a_{x\,grid}$	=	see a_x-table
$n_{T\,min}$	=	2

a_x mm (Centre-to-centre distance of dividers)														
16	18	23	28	32	33	38	43	48	58	64	68	78	80	88
96	112	128	144	160	176	192	208							

When using partitions with a_x > 112 mm, a twin divider should be used to provide an additional central support.

The twin divider can be moved, suitable for later assembly/fitting.

s_T	=	4 mm



Please indicate the cavities (from left to right), the relevant subdivision variant and the assembly spacing a_T and a_x when ordering.

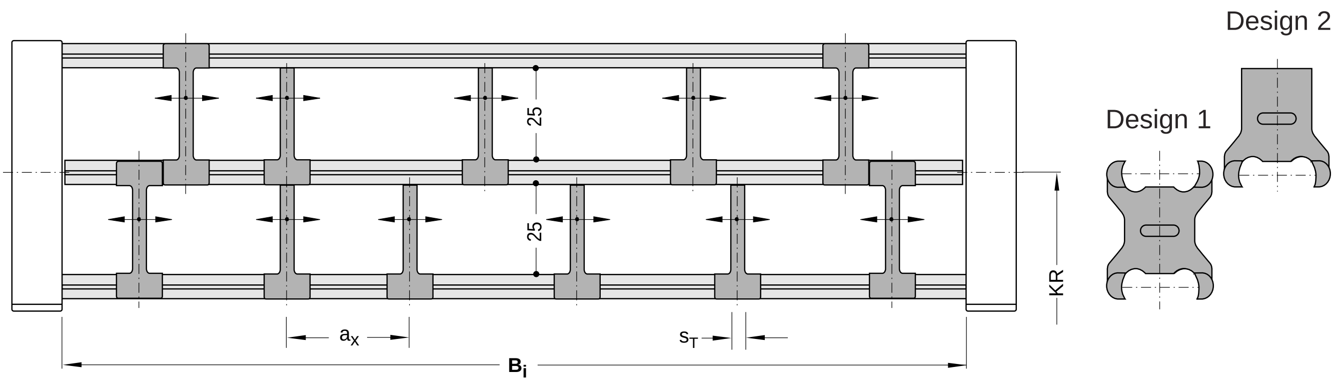
Sample order: Divider system TS 3
K(cavity) 1 - VR 0 / 80 mm
K 2 - VR 1 / 38 mm
K 3 - VR 1 / 58 mm
with twin divider

Type KC 0900

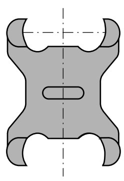
Divider systems
for Stay variant “RV“

Divider system TS 4

with continuous height subdivision
Height subdivision: **Al-Profile 27 x 8 mm**



s_T	=	4 mm
$a_{x\,min}$	=	15 mm



Half dividers can slide along the chain cross-section. At least 2 half dividers with clasp grips on both sides (Design 1) should be fitted in the upper and lower chamber near to the chain band.

Please state the type and the number of dividers/cross section when ordering.

Sample order: Divider system TS 4
Please enclose a sketch

Type KC 0900

Chain cross sections

in accordance with section in schematic illustration

Stay variant LG

Hole stay – split design (Standard)

Fitted to every 2nd chain link

No standard widths!

Customised, contract-specific manufacture of hole pattern in accordance with your specifications

Stay variant LU – hole stay in unsplit design.

Please specify when placing order!

D_{max}	=	53 mm
$a_{0\ min}$	=	11 mm
c_{min}	=	4 mm

Calculation of chain width:

$B_k = \mathbf{B_i} + 31$ mm

Calculation of chain width over connecting piece:

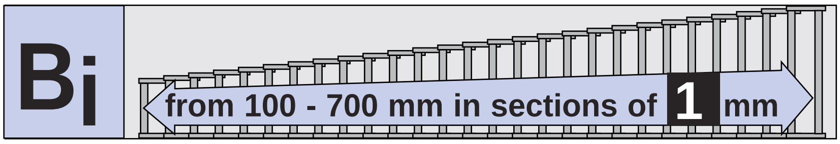
$B_{EF} = \mathbf{B_i} + 41$ mm

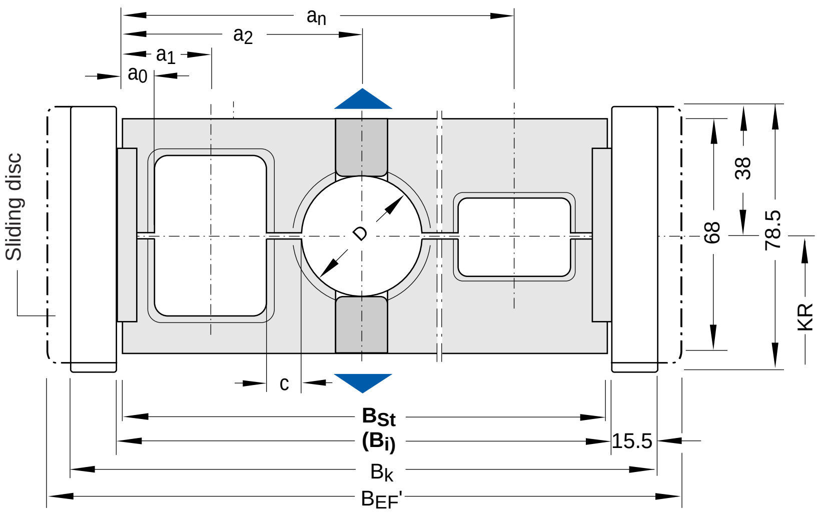
Calculation of chain width with sliding disc:

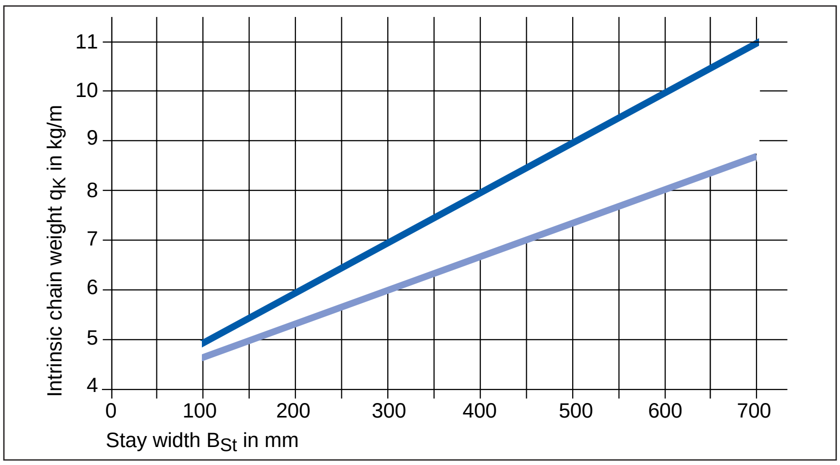
$B_{EF}' = \mathbf{B_i} + 45$ mm

Calculation of B_{ST}:

$B_{ST} = \mathbf{B_i} - 2$ mm







Intrinsic chain weight depending on stay width B_{St}

- Hole stays with 40 % hole area
- Hole stays with 60 % hole area

Sliding discs

With long travel lengths sliding discs must be attached to the joint of the side bars in order to maintain a distance between the cable carrier and channel wall (observe the installation width B_{EF}'!)

This helps to achieve the optimum friction and wear ratios.

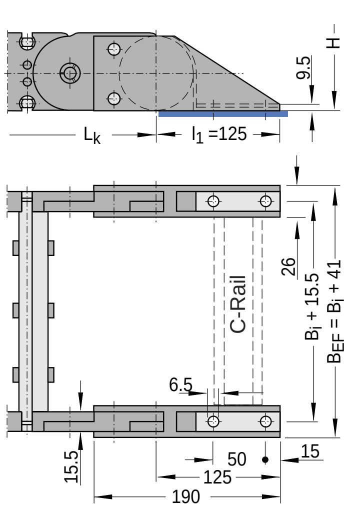
Type KC 0900

Connection dimensions

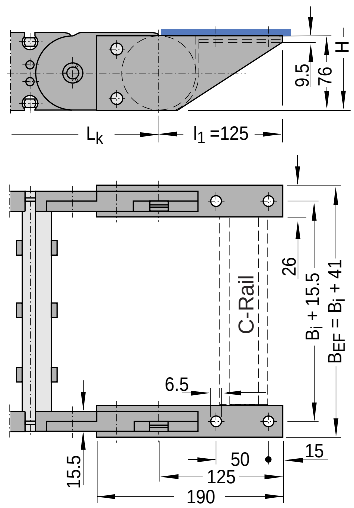
Connectors made of plastic

Optionally with C-Rail, slit width 16–17 mm.
Suitable for all commercial saddle-type clamps with large base and KABELSCHLEPP SLZ-Strain Relief Devices (cf. System Components).

Fixed point connection



Connection **FA** (Standard)



Connection **FI**
with connection surface (>l1)
distancing pieces are required.

Ordering Key for the connection:

X X

Connection point
F - Fixed point
M - Driver

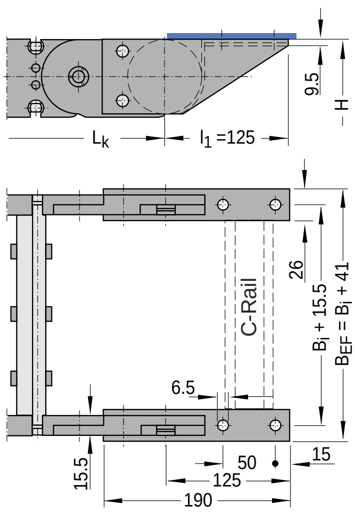
Connection type
A - Threaded joint to the outside (Standard)
I - Threaded joint to the inside (towards KR)

The connection variants at the fixed point and at the driver can be combined and subsequently changed if required.

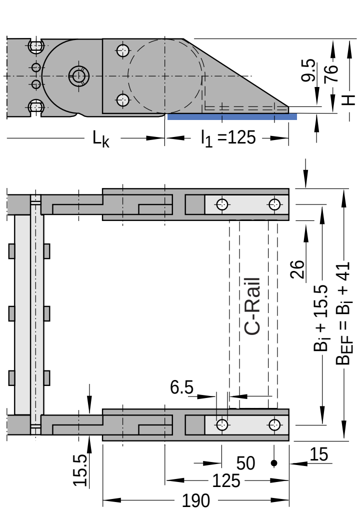
Please state the desired connection variant when ordering.

Example: FA/MA or **FA/MI**

Driver connection



Connection **MA** (Standard)



Connection **MI**
with connection surface (>l1)
distancing pieces are required.

Ordering Key for cable carrier:

KC 0900.225 - RV - 150 - 1890

- Type
- Inside width Bi in mm (with frame stays)
  Stay width B_{St} in mm (with hole stays)
- Stay variant
- Bend radius KR in mm
- Chain length L_k in mm (without connection)

Example:

Cable carrier type KC 0900, inside width B_i 225 mm, with narrow frame stay, with bend radius KR 150 mm and chain length L_k = 1890 mm

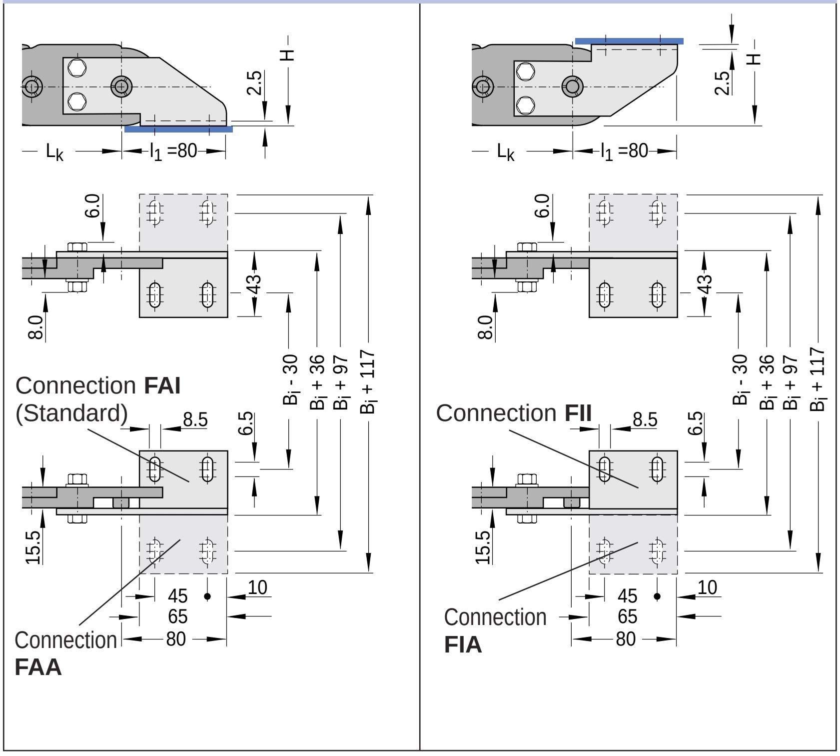
KABELSCHLEPP

Type KC 0900

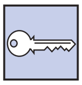
Connection dimensions

End connector made of steel plate

Fixed point connection



Ordering Key for the connection:



X X X

Connection point
F - Fixed point
M - Driver

Connection type
A - Threaded joint to the outside (Standard)
I - Threaded joint to the inside (towards KR)

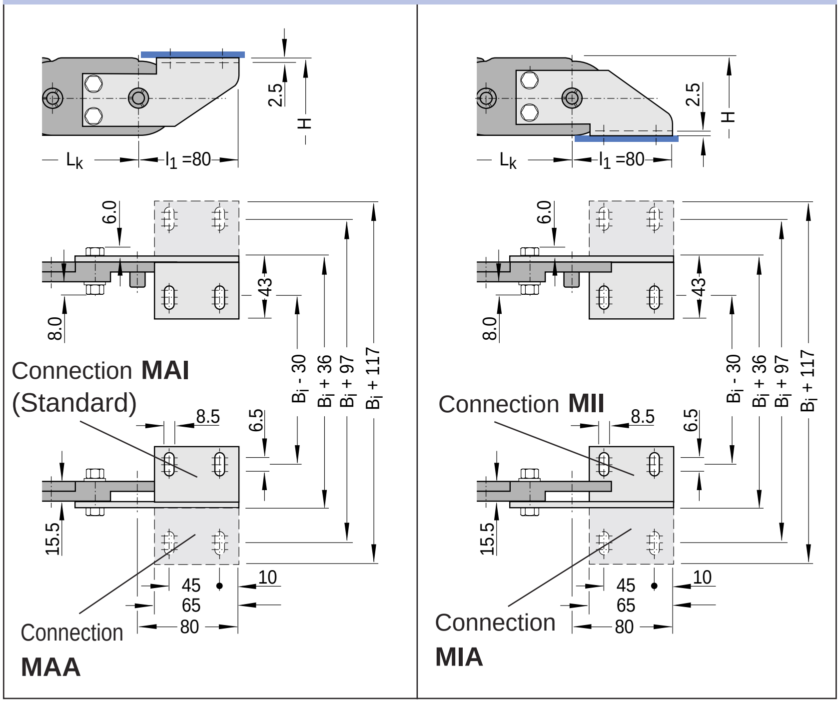
Connection surface
I - Connection surface inside ($< B_i$)
A - Connection surface outside ($> B_i$)

The connection variants at the fixed point and at the driver can be combined and subsequently changed if required.

Please state the desired connection variant when ordering.

Example: FAI/MAA or **FIA/MAI**

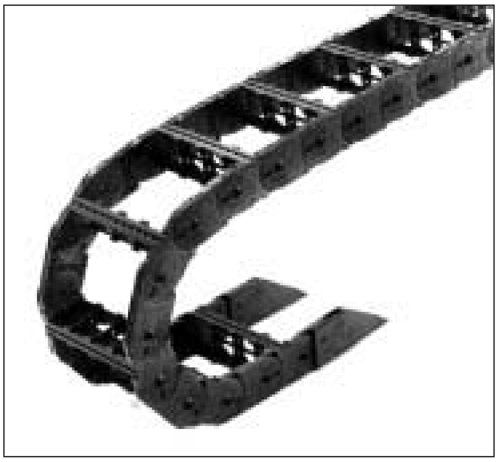
Driver connection



KABELSCHLEPP

Type KE
Cable Carriers
with Plastic Stays

KABELSCHLEPP



Profile

Cable Carriers with Plastic Stays Type KE

- Variable widths in 8 and 16 mm sections
- Plastic chain bands combined with plastic stays
- Extremely robust owing to sturdy sidebar design
- Enclosed stroke system not sensitive to dirt/contamination
- Can be opened quickly on both sides
- With optional strain relief
- TÜV type approved in accordance with 2PfG 1036/10.97
- 2D-/3D-CAD-Data can be found at www.kabelschlepp.de

Stay variant:

RE - Plastic insert stay

Chain Band Material:	**K 7426 S (Standard)** → cf. Interesting Technical Information 7.14
Connecting Profile Material:	**K 7426 S (Standard)** → cf. Interesting Technical Information 7.14
6 bend radii available!	Intermediate radii available on request, reverse bend radii are possible!

BAUART GEPRÜFT
TYPE APPROVED
TÜV Rheinland Product Safety

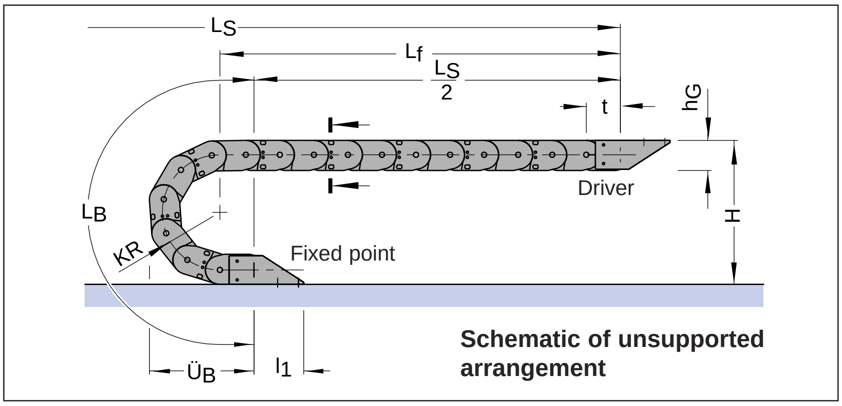
Type	Inside width		Chain width		Inside height	Pitch
	$B_{i\ min}$	$B_{i\ max}$	$B_{k\ min}$	$B_{k\ max}$	h_i	t
	mm	mm	mm	mm	mm	mm
KE 0650	68	260	96	288	42	65
KE 0900	81	561	112	592	58	90

Type KE 0650

Design of the Cable Carriers

Chain pitch t	= 65 mm
Chain link height h_G	= 57.5 mm
Connection height H_{min}	= 2 KR + 55 mm
Connection length l_1	= cf. Connection Dimensions

A flat and level surface is required for the carrier system to be installed properly. If necessary, a support tray should be installed. (cf. System Components section)



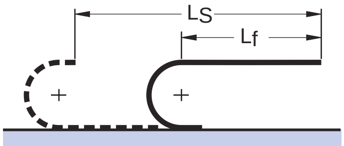
Schematic of unsupported arrangement

Variable sizes
depending on bend radius

Bend radius KR	75 mm	115 mm	145 mm	175 mm	220 mm	300 mm
Bend length L_B	366	492	586	680	822	1073
Loop overhang $Ü_B$	168	208	238	268	313	393
Height H_{min}	205	285	345	405	495	655

Load diagrams

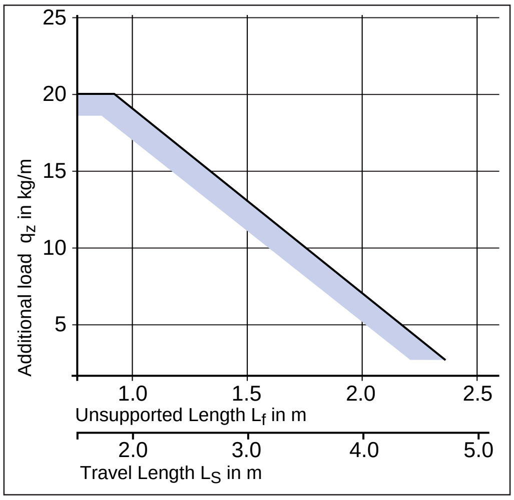
Unsupported length L_f and travel length L_S
depending on the additional load (cf. Construction Guidelines)



Calculation of chain length:

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

rounded to pitch 65 mm

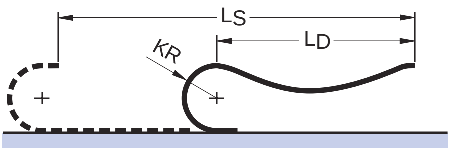


Load diagram for an intrinsic chain weight q_k of 2.5 kg/m. If the intrinsic chain weight exceeds q_k 2.5 kg/m, the permissible additional load is lower.

KR/RKR combinations are possible for circular movements.

In these cases please contact us!

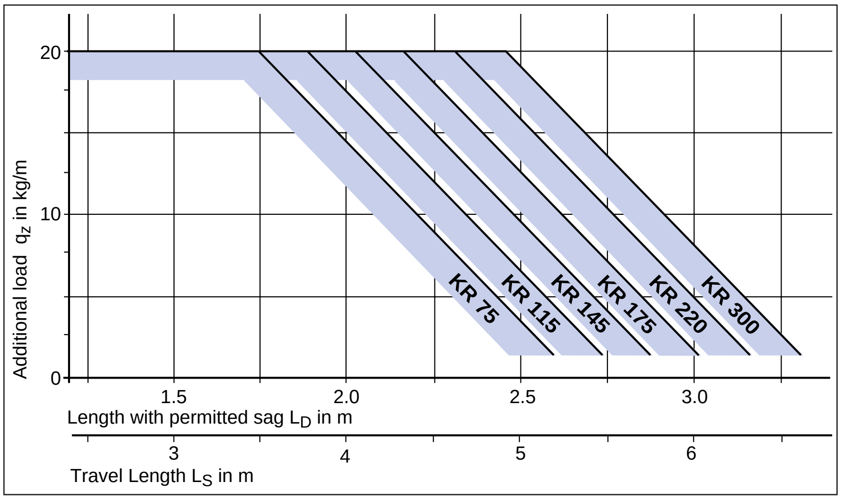
Length with permitted sag L_D and travel length L_S
depending on the additional load (cf. Construction Guidelines)



Calculation of chain length:

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

rounded to pitch 65 mm



Long travel lengths

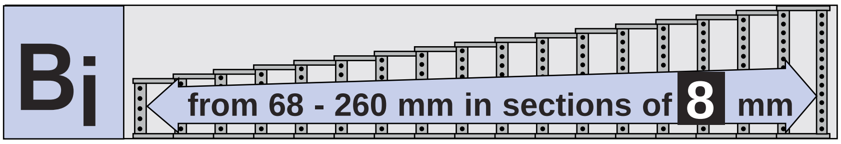
With long travel lengths the upper part of the cable carrier glides on its lower run in a guide channel.

Design → cf. Construction Guidelines

Guide channel → cf. System Components

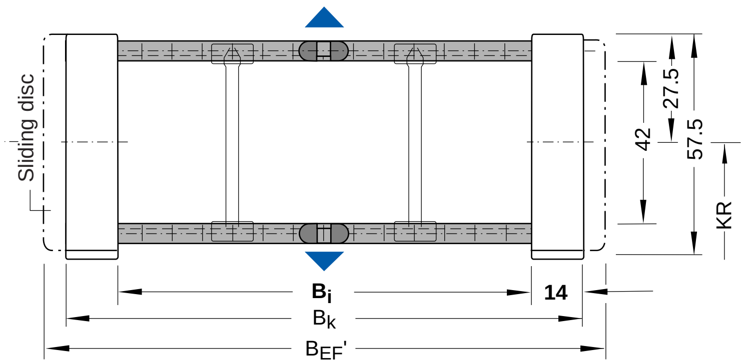
We recommend that a system of this kind be planned by one of our engineers.

Type KE 0650



Chain cross sections

in accordance with section in schematic illustration



Stay variant “RE“

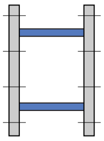
Plastic insert stay

Plastic profile bars, detachable inside and outside

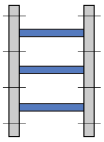
Not a bolted connection!

Profile bars can be released by turning them through 90°.

Stay configuration:



1/2 Arrangement – Standard
Stays on every 2nd chain link



1/1 Arrangement
Stays on every chain link. Please specify when placing order.

Calculation of chain width:

B_k = $\mathbf{B_i}$ + 28 mm

Calculation of chain width over connecting piece:

B_{EF} = $\mathbf{B_i}$ + 35.5 mm

Calculation of chain width with sliding disc:

B_{EF}' = $\mathbf{B_i}$ + 36 mm

Intrinsic chain weight
depending on chain width

Reference weight = Intrinsic chain weight q_k = 2.5 kg/m (cf. load diagrams)

25 chain widths are available

B_i mm	B_k mm	q_k kg/m
68	96	1.75
76	104	1.79
84	112	1.83
92	120	1.87
100	128	1.91
108	136	1.95
116	144	1.99
124	152	2.03
132	160	2.07
140	168	2.11

B_i mm	B_k mm	q_k kg/m
148	176	2.15
156	184	2.19
164	192	2.23
172	200	2.27
180	208	2.31
188	216	2.35
196	224	2.39
204	232	2.43
212	240	2.47
220	248	2.51

B_i mm	B_k mm	q_k kg/m
228	256	2.55
236	264	2.59
244	272	2.63
252	280	2.67
260	288	2.71

Sliding discs

With long travel lengths sliding discs must be attached to the joint of the side bars in order to maintain a distance between the cable carrier and channel wall (observe the installation width B_{EF}'!)

This helps to achieve the optimum friction and wear ratios.

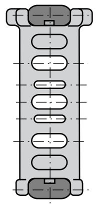
Subject to technical changes!

Type KE 0650

Divider systems

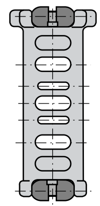
The divider system can be planned by you or by our engineers on the basis of the information you supply about the configuration of the cable carrier.

As standard, the divider system is fitted on every frame stay (with stay assembly on every 2nd chain link).



Version **A**
Notch in connecting profile to the inside
(Standard)

The dividers can slide along the section.



Version **B**
Notch in connecting profile to the outside

The dividers are fixed in the section
(a_x-grid 8 mm)

Divider system TS 0

without height subdivision

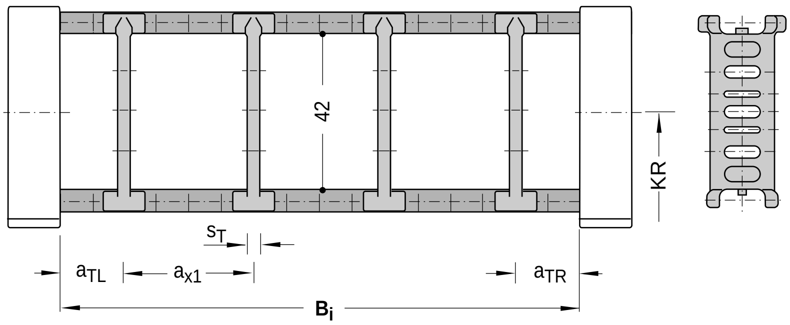
	Version **A**	Version **B**
s_T	4.2 mm	4.2 mm
$a_{T\ min}$	6.5 mm	22 mm
$a_{x\ min}$	13 mm	16 mm
$a_{x\ grid}$	continuous	8 mm

With version B a_x must be divisible by 8!

Please state the type of height subdivisions and the number of dividers/cross section n_T when ordering.

Sample order:
Divider system TS 0-A / n_T 4

Dividers can slide along the cross-section (Version A) or are fixed (Version B). For divider version B please state fitting intervals a_T and a_x!



Divider system TS 1

with continuous height subdivision
Height subdivision: **Al-Profile 11 x 4 mm**

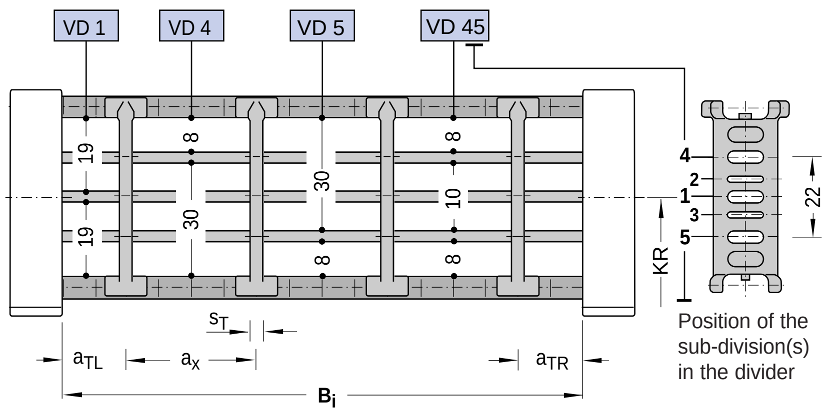
	Version **A**	Version **B**
s_T	4.2 mm	4.2 mm
$a_{T\ min}$	6.5 mm	22 mm
$a_{T\ max}$	20 mm	21 mm
$a_{x\ min}$	13 mm	16 mm
$a_{x\ grid}$	continuous	8 mm
$n_{T\ min}$	2	2

With version B a_x must be divisible by 8!

Please state the type of height subdivisions and the number of dividers/cross section n_T when ordering.

Sample order:
Divider system TS 1-A-VD 4 / n_T 4

Technically recommended variants: VR 1, VR 4 and VR 5
Dividers can slide along the cross-section (Version A) or are fixed (Version B). For divider version B please state fitting intervals a_T and a_x!



Subject to technical changes!

Type KE 0650

Divider systems

Divider system TS 2

with grid subdivision

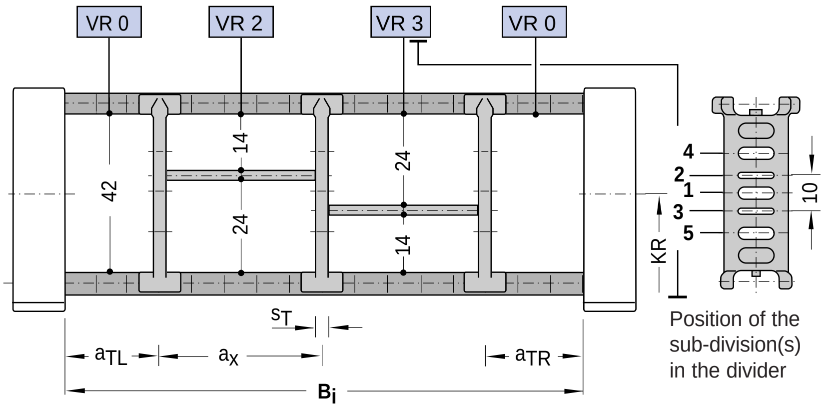
Height subdivision: **Al-Profile 11 x 4 mm**

	Version **A**	Version **B**
s_T	4.2 mm	4.2 mm
$a_{T\ min}$	6.5 mm	22 mm
$a_{x\ min}$ (with subdivision)	13 mm	16 mm
$a_{x\ min}$ (at VR 0)	13 mm	16 mm
$a_{x\ grid}$	1 mm	8 mm

With version B a_x must be divisible by 8!

Please indicate the cavities (from left to right), the relevant subdivision variant and the assembly spacing a_T and a_x when ordering.

Technically recommended variants: VR 0, VR 2 and VR 3
Dividers fixed by height subdivision profiles, the grid segments can slide along the cross-section (Version A) or are fixed (Version B)!

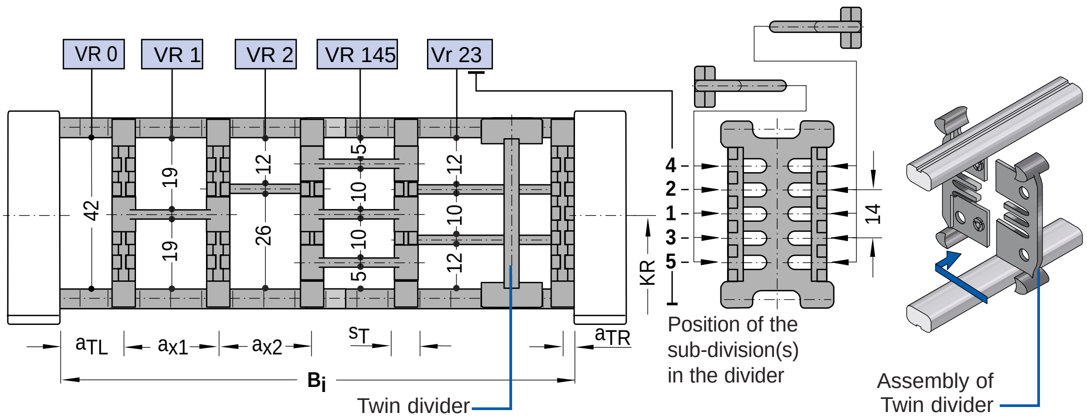


Sample order: Divider system TS 2 A
K(cavity) 1 - VR 0 / 30 mm
K 2 - VR 0 / 30 mm
K 3 - VR 3 / 80 mm

Divider system TS 3

with height subdivision
Plastic Partitions

Technically recommended variants: VR 0, VR 1 and VR 23
Dividers fixed by height subdivision, the grids can slide along the chain cross section!



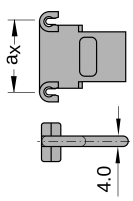
s_T	=	8 mm
$a_{T\ min}$	=	4 mm
$a_{x\ min}$	=	16 mm (with height subdivision)
$a_{x\ grid}$	=	see a_x-table

a_x mm (Centre-to-centre distance of dividers)														
16	18	23	28	32	33	38	43	48	58	64	68	78	80	88
96	112	128	144	160	176	192	208							

The twin divider can be moved, suitable for later assembly/fitting.

When using partitions with a_x > 112 mm, a twin divider should be used to provide an additional central support.

s_T	=	3 mm



Please indicate the cavities (from left to right), the relevant subdivision variant and the assembly spacing a_T and a_x when ordering.

Sample order: Divider system TS 3
K(cavity) 1 - VR 0 / 24 mm
K 2 - VR 1 / 38 mm
K 3 - VR 23 / 68 mm with twin divider
K 4 - VR 1 / 43 mm

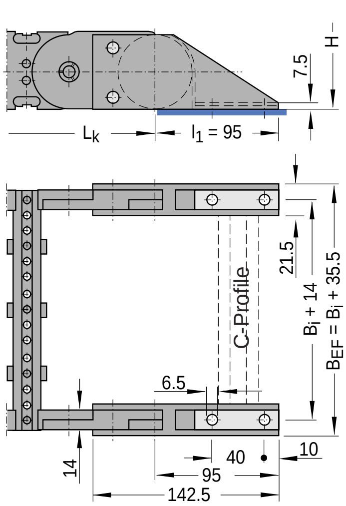
Type KE 0650

Connection dimensions

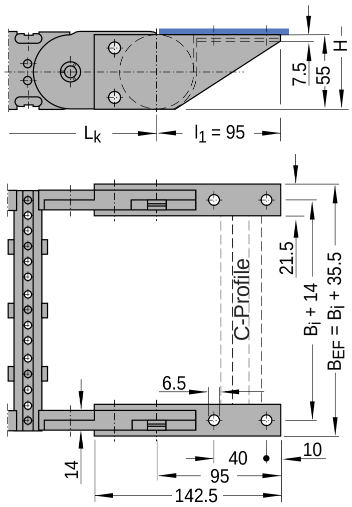
Connectors made of plastic

Optionally with C-Profile, slit width 11-12 mm. Suitable for all commercial saddle-type clamps with small base and KABELSCHLEPP SLZ Strain Relief Devices (cf. System Components.).

Fixed point connection



Connection **FA** (Standard)



Connection **FI**
With connection surface > l1
distancing pieces are required.

Ordering Key for the connection:

X.X

Connection point
F - Fixed point
M - Driver

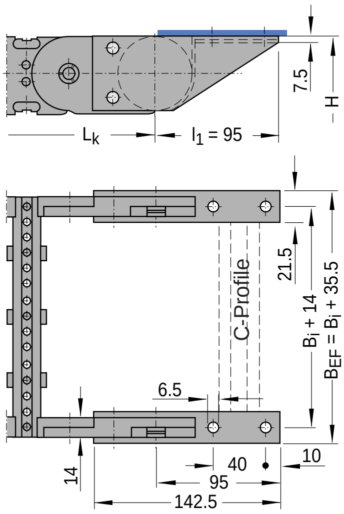
Connection type
A - Threaded joint
to the outside (Standard)
I - Threaded joint
to the inside (towards KR)

The connection variants at the fixed point and at the driver can be combined and subsequently changed if required.

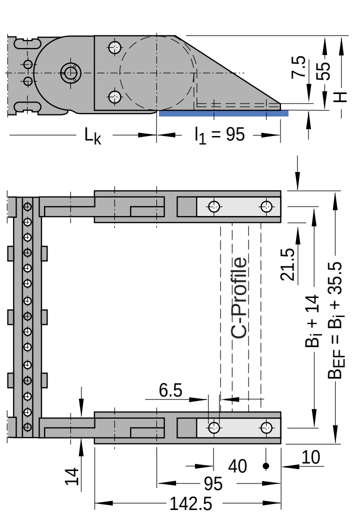
Please state the desired connection variant when ordering.

Example: FA/MA or **FA/MI**

Driver connection



Connection **MA** (Standard)



Connection **MI**
With connection surface > l1
distancing pieces are required.

Ordering Key for cable carrier:

KE 0650.140 - 115 - 2600

Example

Cable carrier type KE 0650 with plastic insert stay, inside width B_i 140 mm, with bend radius KR 115 mm and chain length L_k = 2600 mm

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

Subject to technical changes!

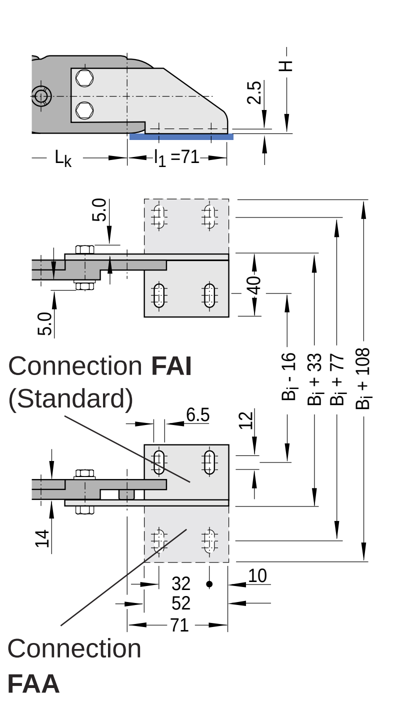
KABELSCHLEPP

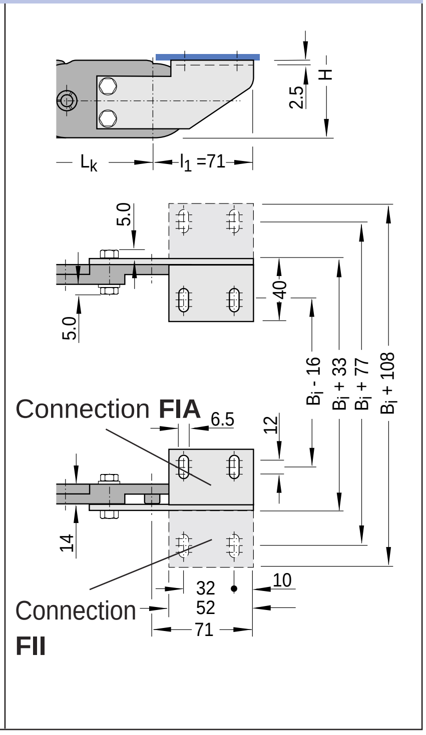
Type KE 0650

Connection dimensions

End connector made of steel plate

Fixed point connection





Ordering Key for the connection:

X X X

Connection point
F - Fixed point
M - Driver

Connection type
A - Threaded joint
to the outside (Standard)
I - Threaded joint
to the inside (towards KR)

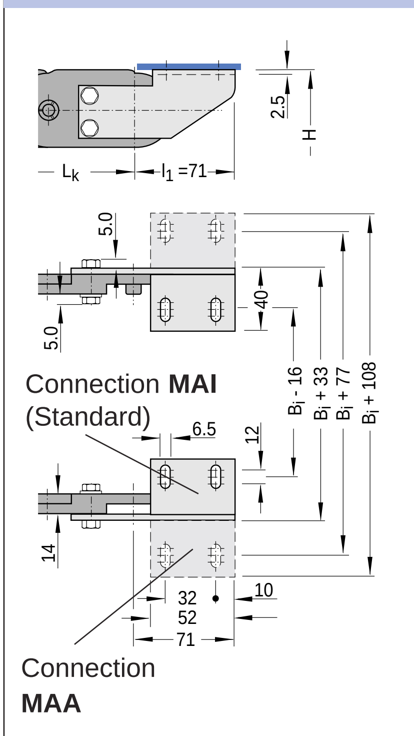
Connection surface
I - Connection surface
inside (< B_i)
A - Connection surface
outside (> B_i)

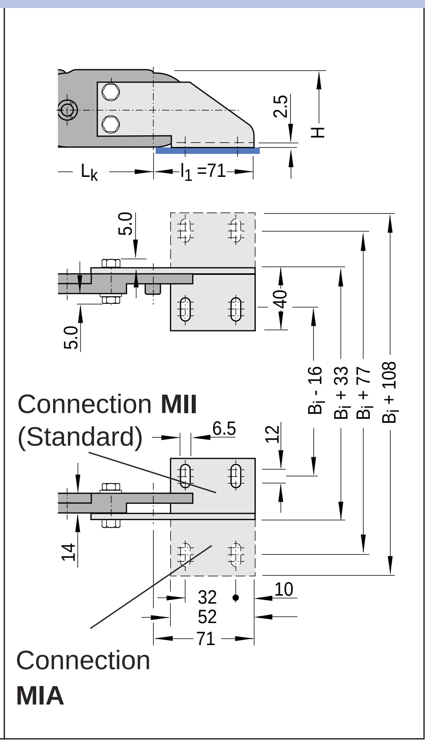
The connection variants at the fixed point and at the driver can be combined and subsequently changed if required.

Please state the desired connection variant when ordering.

Example: FAI/MAA or **FIA/MAI**

Driver connection



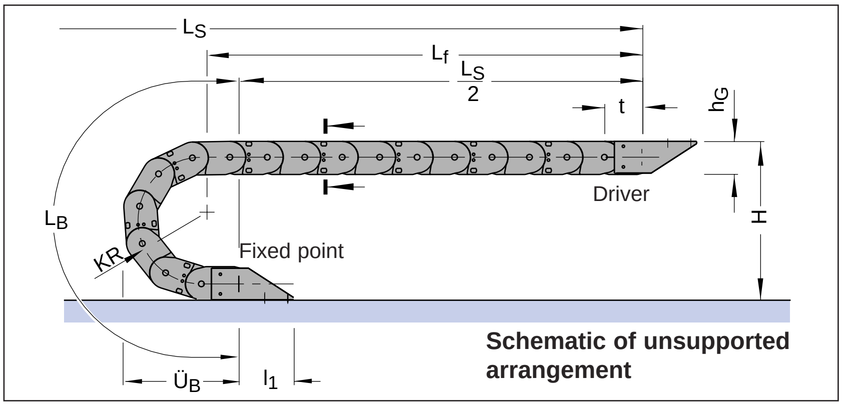


Type KE 0900

Design of the Cable Carriers

Chain pitch t	= 90 mm
Chain link height h_G	= 78.5 mm
Connection height H_{min}	= 2 KR + 76 mm
Connection length l_1	= cf. Connection Dimensions

A flat and level surface is required for the carrier system to be installed properly.
If necessary, a support tray should be installed. (cf. System Components section)



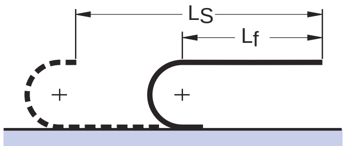
Schematic of unsupported arrangement

Variable sizes
depending on bend radius

Bend radius KR	130 mm	150 mm	190 mm	245 mm	300 mm	385 mm
Bend length L_B	589	652	777	950	1123	1390
Loop overhang $Ü_B$	258	278	318	373	428	513
Height H_{min}	336	376	456	566	676	846

Load diagrams

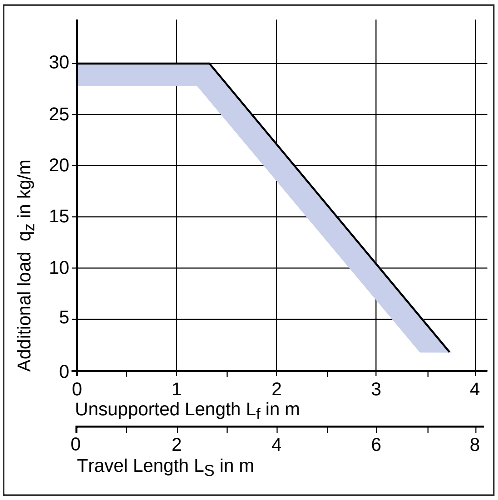
Unsupported length L_f and travel length L_S
depending on the additional load
(cf. Construction Guidelines)



Calculation of chain length:

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

rounded to pitch 90 mm

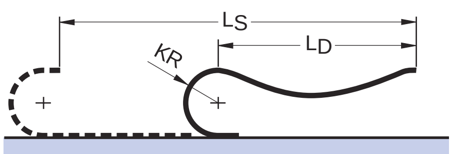


Load diagram for an intrinsic chain weight q_k of 4.05 kg/m. If the intrinsic chain weight exceeds q_k 4.05 kg/m, the permissible additional load is lower.

KR/RKR combinations are possible for circular movements.

In these cases please contact us!

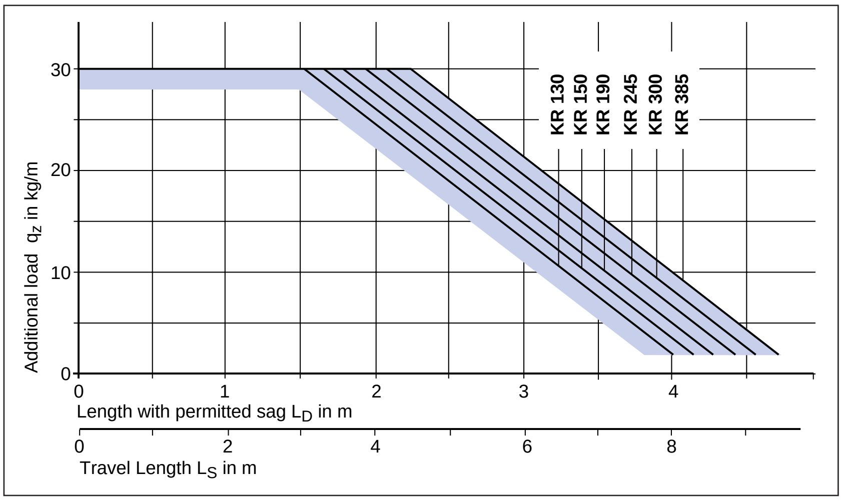
Length with permitted sag L_D and travel length L_S
depending on the additional load
(cf. Construction Guidelines)



Calculation of chain length:

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

rounded to pitch 90 mm



Long travel lengths

With long travel lengths the upper part of the cable carrier glides on its lower run in a guide channel.

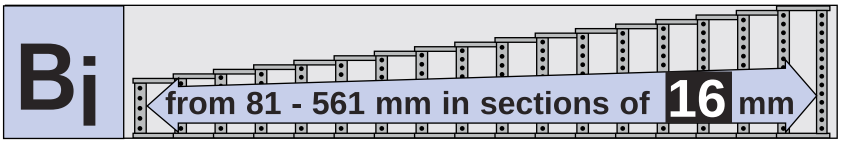
Design	→	cf. Construction Guidelines
Guide channel	→	cf. System Components

We recommend that a system of this kind be planned by one of our engineers.

Type KE 0900

Chain cross sections

in accordance with section in schematic illustration



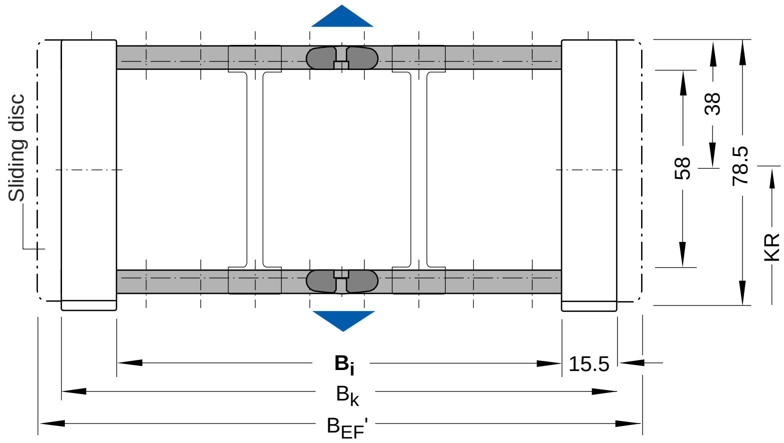
Stay variant "RE"

Plastic insert stay

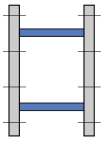
Plastic profile bars, detachable inside and outside

Not a bolted connection!

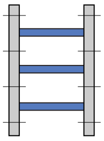
Profile bars can be released by turning them through 90°.



Stay configuration:



1/2 Arrangement – Standard
Stays on every 2nd chain link



1/1 Arrangement
Stays on every chain link.
Please specify when placing order.

Calculation of chain width:

$B_k = \mathbf{B_i} + 31$ mm

Calculation of chain width over connecting piece:

$B_{EF} = \mathbf{B_i} + 41$ mm

Calculation of chain width with sliding disc:

$B_{EF}' = \mathbf{B_i} + 45$ mm

Reference weight = Intrinsic chain weight q_k = 4.05 kg/m (cf. load diagrams)

31 chain widths are available

B_i mm	B_k mm	q_k kg/m
81	112	2.95
97	128	3.05
113	144	3.15
129	160	3.25
145	176	3.35
161	192	3.45
177	208	3.55
193	224	3.65
209	240	3.75
225	256	3.85
241	272	3.95

B_i mm	B_k mm	q_k kg/m
257	288	4.05
273	304	4.15
289	320	4.25
305	336	4.35
321	352	4.45
337	368	4.55
353	384	4.65
369	400	4.75
385	416	4.85
401	432	4.95

B_i mm	B_k mm	q_k kg/m
417	448	5.05
433	464	5.15
449	480	5.25
465	496	5.35
481	512	5.45
497	528	5.55
513	544	5.65
529	560	5.75
545	576	5.85
561	592	5.95

Intrinsic chain weight
depending on chain width

Sliding discs

With long travel lengths sliding discs must be attached to the joint of the side bars in order to maintain a distance between the cable carrier and channel wall (observe the installation width B_{EF}'!)

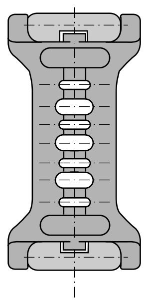
This helps to achieve the optimum friction and wear ratios.

Type KE 0900

Divider systems

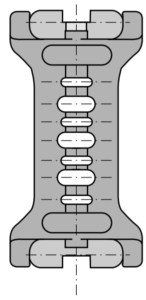
The divider system can be planned by you or by our engineers on the basis of the information you supply about the configuration of the cable carrier.

As standard, the divider system is fitted on every frame stay (with stay assembly on every 2nd chain link).



Version A
Notch in connecting profile to the inside
(Standard)

The dividers can slide along the section.



Version B
Notch in connecting profile to the outside

The dividers are fixed in the section (a_x-grid 16 mm)

Divider system TS 0

without height subdivision

	Version **A**	Version **B**
s_T	6 mm	6 mm
$a_{T\ min}$	7.5 mm	8.5 mm
$a_{x\ min}$	14.5 mm	16 mm
$a_{x\ grid}$	continuous	16 mm

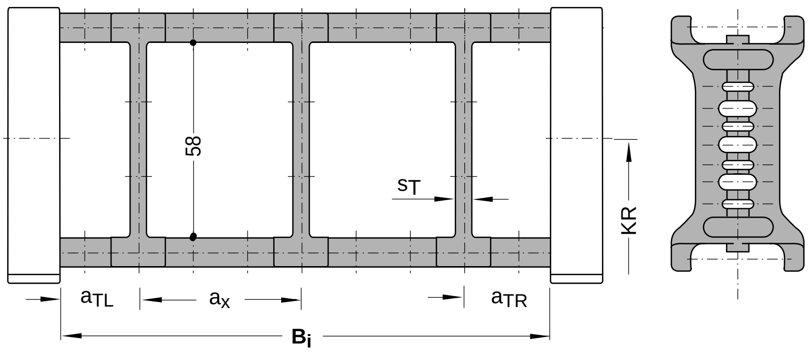
With version B a_x must be divisible by 16!

Please state the type and the number of dividers/cross section n_T when ordering.

For version A dividers with s_T = 4 mm are also available.

Sample order:
Divider system TS 0-A / n_T 3

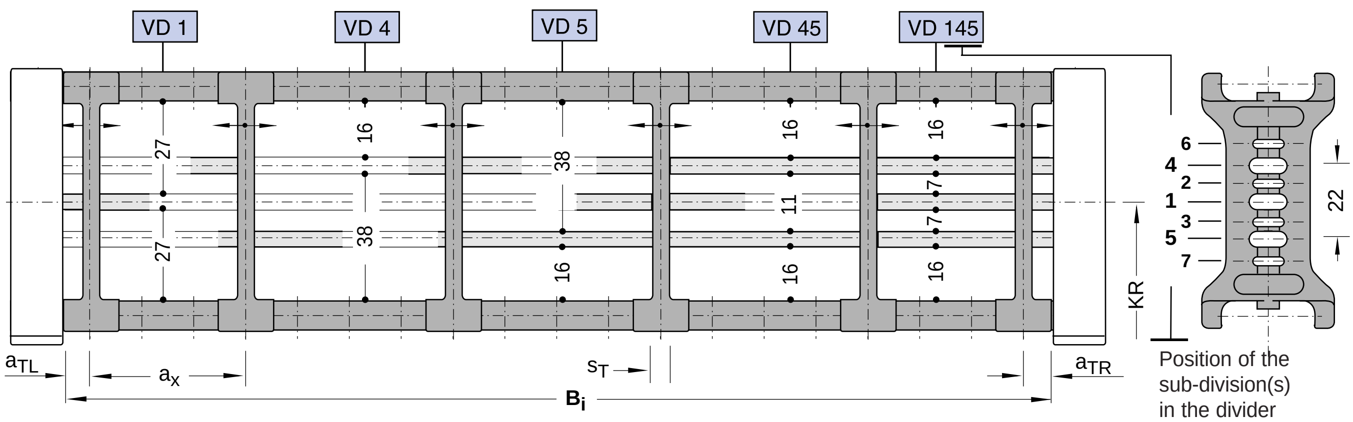
Dividers can slide along the cross-section (Version A) or are fixed (Version B). For divider version B please state fitting intervals a_T and a_x!



Divider system TS 1

with grid subdivision (1 mm grid)
Height subdivision: **Al-Profile 11 x 4 mm**

Technically recommended variants: VR 1, VR 4, VR 5 and VR 45
Dividers can slide along the cross-section (Version A) or are fixed (Version B). For divider version B please state fitting intervals a_T and a_x!



Position of the sub-division(s) in the divider

	Version **A**	Version **B**
s_T	6 mm	6 mm
$a_{T\ min}$		24.5 mm
$a_{T\ max}$	25mm	24.5 mm
$a_{x\ min}$	14.5 mm	16 mm
$a_{x\ grid}$	continuous	16 mm
$n_{T\ min}$	2	2

Please indicate the cavities (from left to right), the relevant subdivision variant and the assembly spacing a_T and a_x when ordering.

For version A dividers with s_T = 4 mm are also available.

Sample order: Divider system TS 1– VD 55/n_T 5

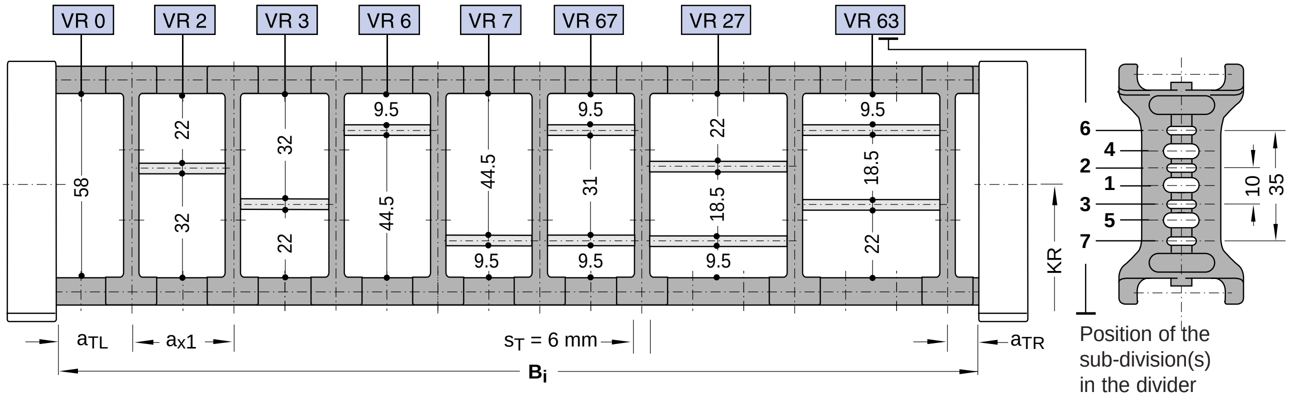
Type KE 0900

Divider systems

Divider system TS 2

with grid subdivision (1 mm grid)
Height subdivision: **Al-Profile 11 x 4 mm**

Technically recommended variants: VR 0, VR 2 and VR 3
Dividers fixed by height subdivision profiles, the grid segments can slide along the cross-section (Version A) or are fixed (Version B)!



Position of the sub-division(s) in the divider

	Version **A**	Version **B**
s_T	6 mm	6 mm
$a_{T\ min}$	7.5 mm	8.5 mm
$a_{x\ min}$ (with subdivision)	20 mm	32 mm
$a_{x\ min}$ (at VR 0)	14.5 mm	16 mm
$a_{x\ grid}$	1 mm	16 mm

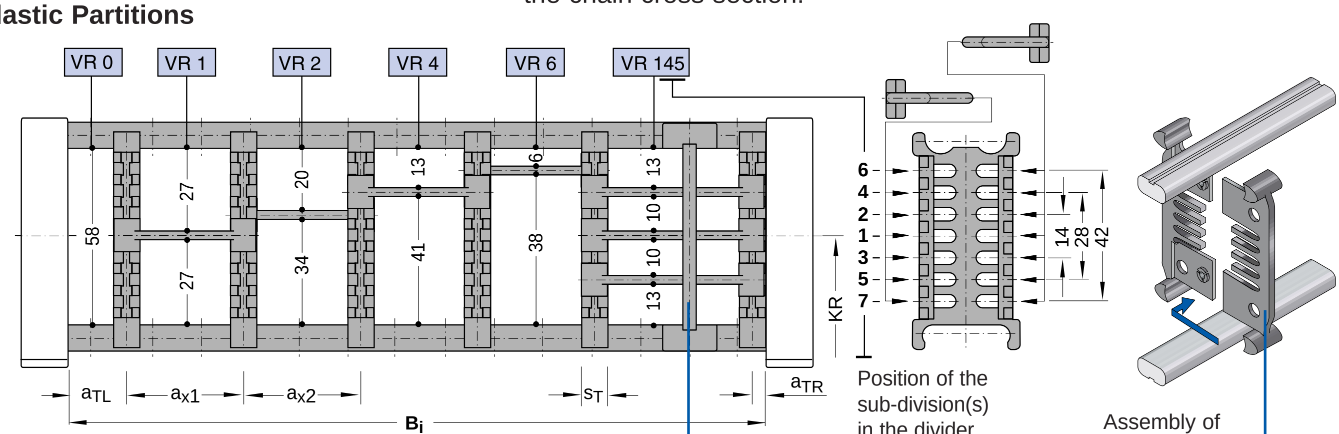
With Version B a_x must be divisible by 16! Please indicate the cavities (from left to right), the relevant subdivision variant and the assembly spacing a_T and a_x when ordering.

Sample order: Divider system TS 2 A
K(cavity) 1 - VR 0 / 40 mm
K 2 - VR 67 / 117 mm
K 3 - VR 0 / 40 mm

Divider system TS 3

with height subdivision:
Plastic Partitions

Technically recommended variants: VR 0, VR 1 and VR 2
Dividers fixed by height subdivision, the grids can slide along the chain cross section!



Twin divider

Position of the sub-division(s) in the divider

Assembly of Twin divider

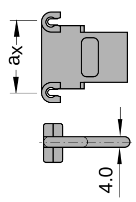
s_T	=	8 mm
$a_{T\ min}$	=	4 mm
$a_{x\ min}$	=	16 mm (with subdivision)
$a_{x\ grid}$	=	see a_x-table

a_x mm (Centre-to-centre distance of dividers)														
16	18	23	28	32	33	38	43	48	58	64	68	78	80	88
96	112	128	144	160	176	192	208							

The twin divider can be moved, suitable for later assembly/fitting.

When using partitions with a_x > 112 mm, a twin divider should be used to provide an additional central support.

s_T	=	4 mm



Please indicate the cavities (from left to right), the relevant subdivision variant and the assembly spacing a_T and a_x when ordering.

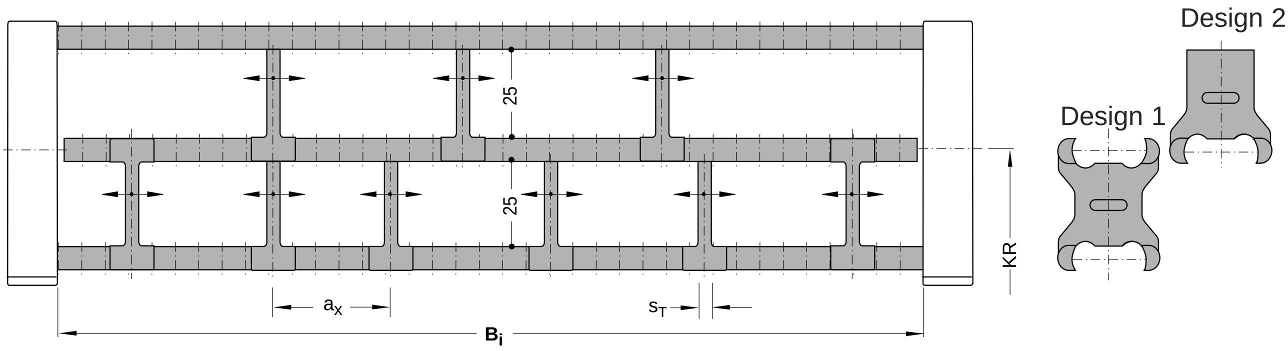
Sample order: Divider system TS 3
K(cavity) 1 - VR 0 / 24 mm
K 2 - VR 1 / 38 mm
K 3 - VR 6 / 68 mm
with twin divider

Type KE 0900

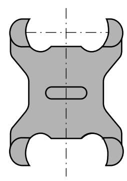
Divider systems

Divider system TS 4

with continuous height subdivision
Height subdivision:
Plastic 27 x 8 mm



s_T	=	4 mm
$a_{x\ min}$	=	15 mm



Half-dividers can slide along the chain cross-section. At least 2 half-dividers with clasp grips on both sides (Design 1) should be fitted in the lower chamber near to the chain band.

Please state the type of height subdivisions and the number of dividers/cross section when ordering.

Sample order:
Divider system TS 4
Please enclose a sketch

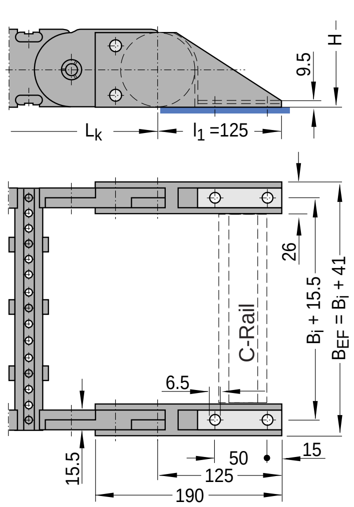
Type KE 0900

Connection dimensions

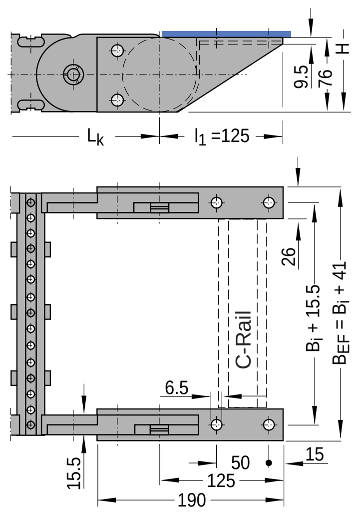
Connectors made of plastic

Optionally with C-Rail, slit width 16-17 mm. Suitable for all commercial saddle-type clamps with large base and KABELSCHLEPP SLZ Strain Relief Devices (cf. System Components.).

Fixed point connection



Connection **FA** (Standard)



Connection **FI**
With connection surface > l1 distancing pieces are required.

Ordering Key for the connection:

X X

Connection point
F - Fixed point
M - Driver

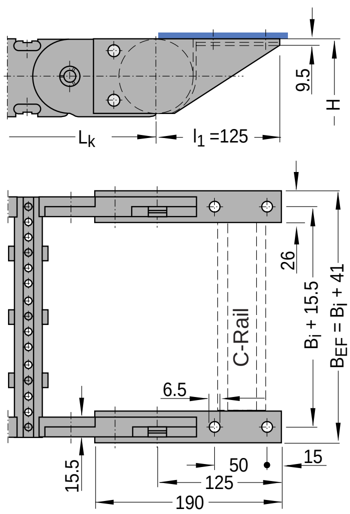
Connection type
A - Threaded joint to the outside (Standard)
I - Threaded joint to the inside (towards KR)

The connection variants at the fixed point and at the driver can be combined and subsequently changed if required.

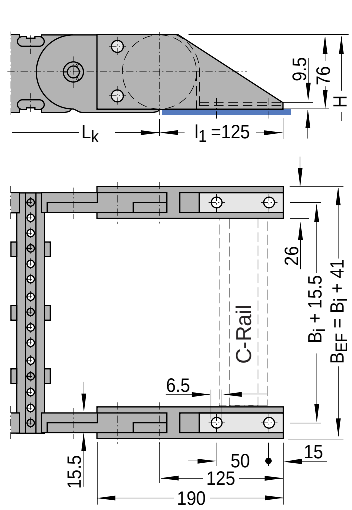
Please state the desired connection variant when ordering.

Example: FA/MA or **FA/MI**

Driver connection



Connection **MA** (Standard)



Connection **MI**
With connection surface > l1 distancing pieces are required.

Ordering Key for cable carrier:

KE 0900.209 - 190 - 2250

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

Example:
Cable carrier type KE 0900 with plastic insert stay, inside width B_i 209 mm, with bend radius KR 190 mm and chain length L_k = 2250 mm

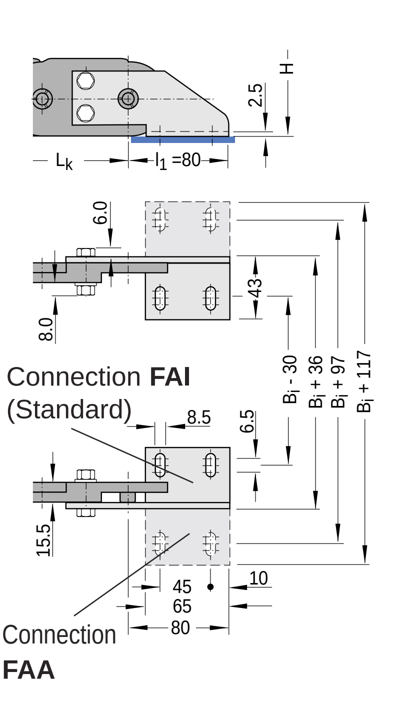
Subject to technical changes!

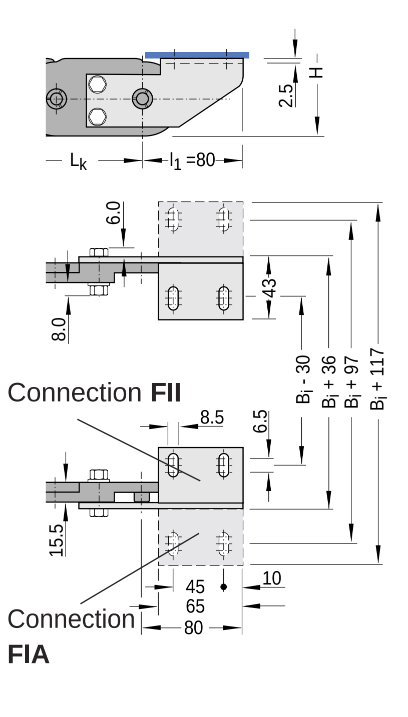
Type KE 0900

Connection dimensions

End connector made of steel plate

Fixed point connection





Ordering Key for the connection:

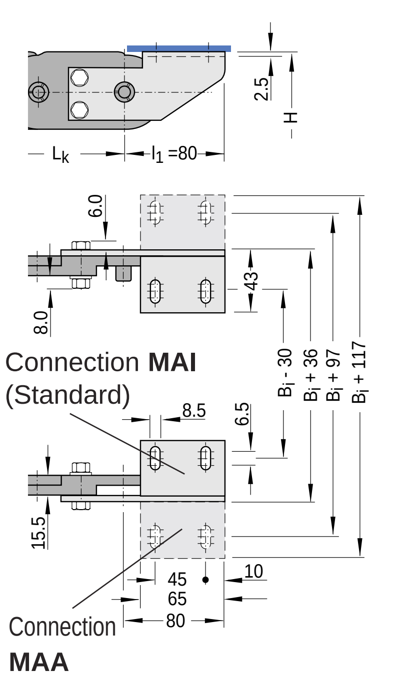
X X X

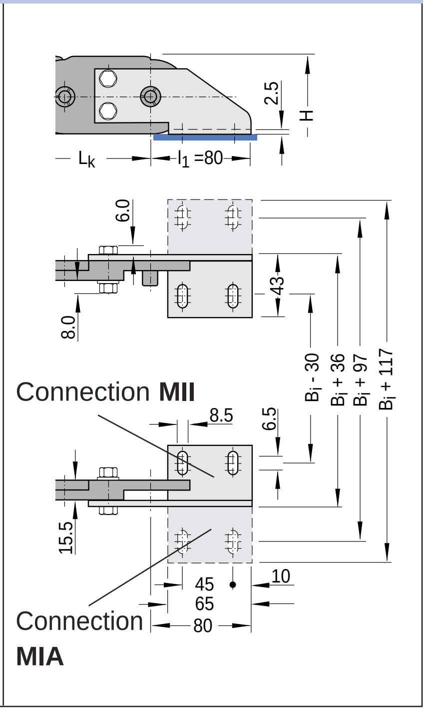
Connection point
F - Fixed point
M - Driver

Connection type
A - Threaded joint
to the outside (Standard)
I - Threaded joint
to the inside (towards KR)

Connection surface
I - Connection surface
inside (< B_i)
A - Connection surface
outside (> B_i)

Driver connection





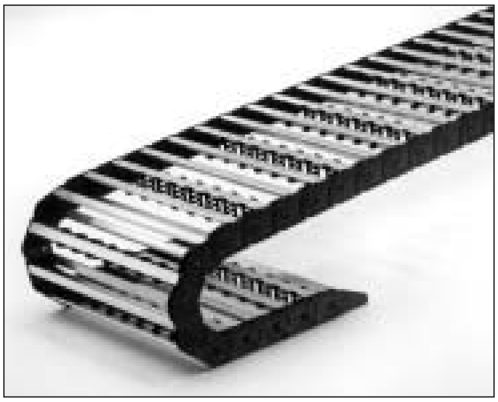
The connection variants at the fixed point and at the driver can be combined and subsequently changed if required.

Please state the desired connection variant when ordering.

Example: FAI/MAA or **FIA/MAI**

KABELSCHLEPP

Type MC
Cable Carriers
with Aluminium Stays



Profile

Cable Carriers with Aluminium Stays Type MC

- Variable widths in 1 mm sections
- Plastic chain bands combined with Aluminium stays
- Extremely robust owing to sturdy sidebar design
- Enclosed stroke system not sensitive to dirt/contamination
- Can be opened quickly on both sides
- As standard universal connecting pieces made of die-cast Aluminium suit every assembly situation
- Maximum choice of stay systems and ways to separate the cables
- From MC 0475 highly abrasion-resistant glide shoes are available, causing minimal wear
- Minimal noise emissions with types MCL 0650, MCL 0950 and MCL 1250 (cf. also Interesting Technical Information)
- With optional strain relief
- TÜV type approved in accordance with 2PfG 1036/10.97
- For completely enclosed types with Aluminium or Plastic cover system see Chapter MT
- 2D-/3D-CAD-Data can be found at www.kabelschlepp.de

Stay variants:

RS – Standard design
RV – Reinforced design
RM – Solid design
RMR – Plastic roller stay
RMA – Mounting frame stay
LG – Hole stay, split design

Chain Band Material:	**K 7426 S (Standard)** → cf. Interesting Technical Information 7.14
Connecting Profile Material:	**Aluminium Alloy** → cf. Interesting Technical Information 7.14
7 bend radii available!	Intermediate radii available on request, reverse bend radii are possible!

TÜV Rheinland Product Safety
BAUART GEPRÜFT
TYPE APPROVED

Type	Inside width		Chain width		Inside height	Pitch
	$B_{i\,min}$	$B_{i\,max}$	$B_{k\,min}$	$B_{k\,max}$	h_i	t
	mm	mm	mm	mm	mm	mm
MC 0320	25	280	36	291	19	32
MC 0650	75	500	109	543	38	65
MC 0950	100	600	139	639	58	95
MC 1250	100	800	145	845	72/69	125

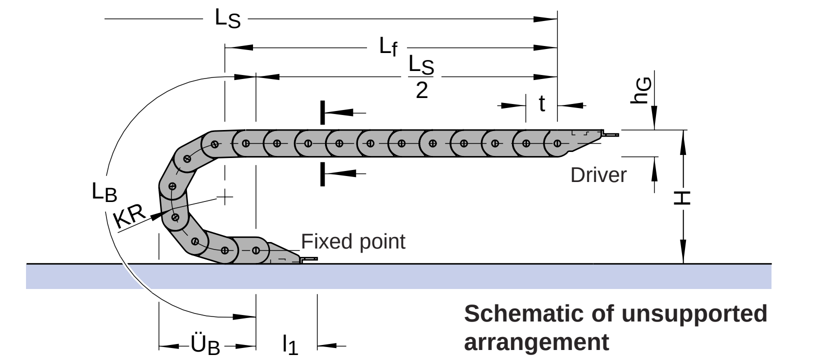
Subject to technical changes!

Type MC 0320

Design of the Cable Carriers

Chain pitch t = 32 mm
Chain link height h_G = 27.5 mm
Connection height H_{min} = 2 KR + 27.5 mm
Connection length l_1 = cf. Connection Dimensions

A flat and level surface is required for the carrier system to be installed properly. If necessary, a support tray should be installed. (cf. System Components section)



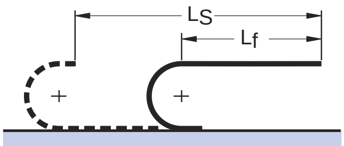
Schematic of unsupported arrangement

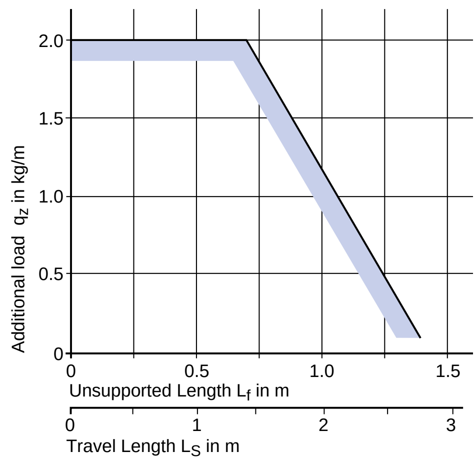
Variable sizes
depending on bend radius

Bend radius KR	37 mm	47 mm	77 mm	100 mm	200 mm
Bend length L_B	181	212	306	379	693
Loop overhang $Ü_B$	83	93	123	146	246
Height H_{min}	101.5	121.5	181.5	227.5	427.5

Load diagram

Unsupported length L_f and travel length L_S
depending on the additional load (cf. Construction Guidelines)





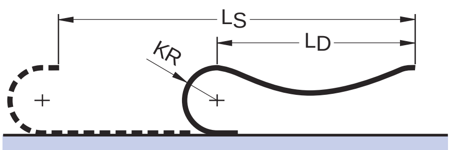
Load diagram for an intrinsic chain weight q_k of 0.52 kg/m. If the intrinsic chain weight exceeds q_k 0.52 kg/m, the permissible additional load is lower.

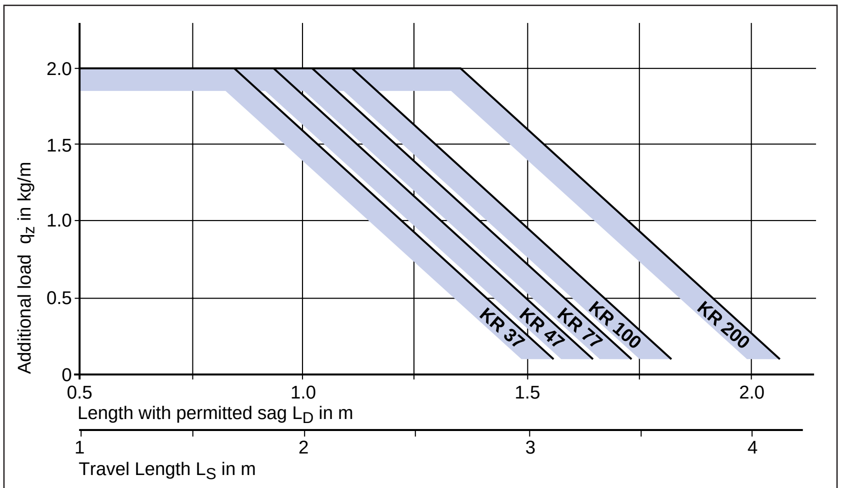
Calculation of chain length:

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

rounded to pitch 32 mm

Length with permitted sag L_D and travel length L_S
depending on the additional load (cf. Construction Guidelines)





Calculation of chain length:

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

rounded to pitch 32 mm

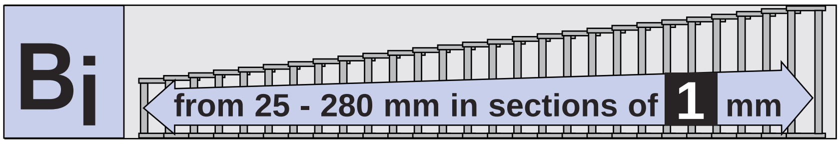
Long travel lengths

With long travel lengths the upper part of the cable carrier glides on its lower run in a guide channel.

Design → cf. Construction Guidelines
Guide channel → cf. System Components

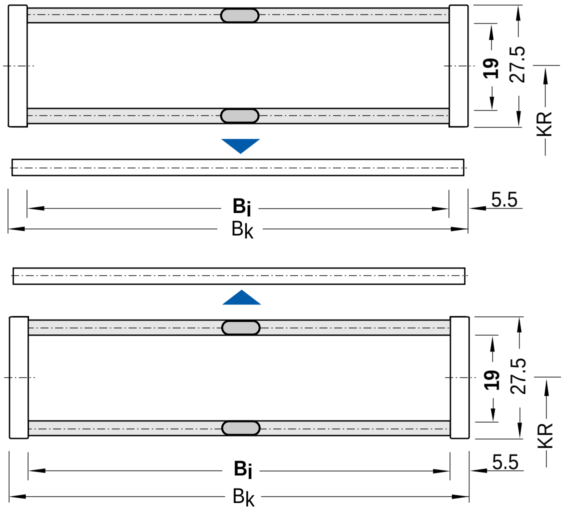
We recommend that a system of this kind be planned by one of our engineers.

Type MC 0320



Chain cross sections

in accordance with section in schematic illustration



Opening variant 01:

Connecting profile detachable **inside**!

Calculation of chain width:

B_k = $\mathbf{B_i}$ + 11 mm

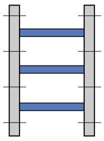
Opening variant 02 (Standard):

Connecting profile detachable **outside**!

Calculation of chain width:

B_k = $\mathbf{B_i}$ + 11 mm

Stay configuration:



1/1 Arrangement
Stays on every chain link.

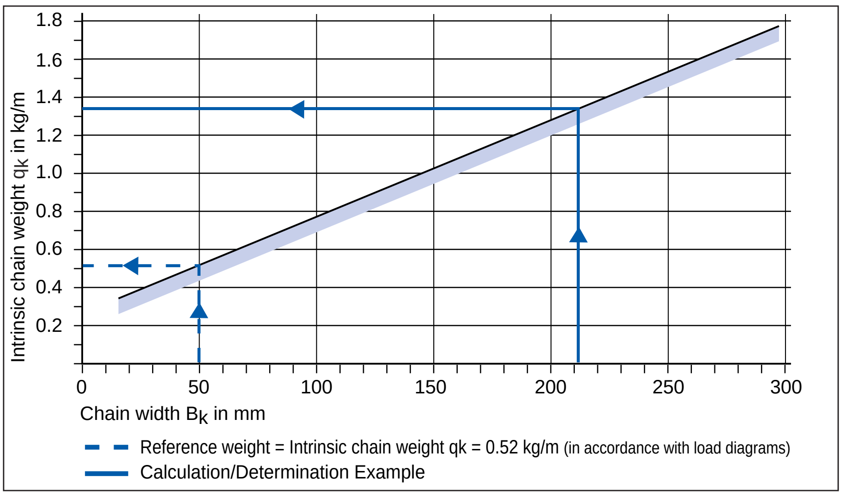
Type	B_i mm	B_k mm	Intrinsic chain weight kg/m
MC 0320.25	**25**	36	0.47
MC 0320.29	**29**	40	0.49
MC 0320.37	**37**	48	0.53
MC 0320.39	**39**	50	0.54
MC 0320.49	**49**	60	0.59
MC 0320.69	**69**	80	0.69
MC 0320.89	**89**	100	0.79
MC 0320.109	**109**	120	0.89
MC 0320.124	**124**	135	0.98
MC 0320.149	**149**	160	1.08

Chain width

The chain widths given in the table can be supplied with plastic/Aluminium connecting elements with integrated strain relief.
Any intermediate widths are supplied in plastic/Aluminium without integrated strain relief.

Calculation example:

Inside width	$\mathbf{B_i}$	=	200 mm
Chain width	B_k	=	211 mm
Intrinsic chain weight	q_k	=	1.34 kg/m



Intrinsic chain weight depending on chain width B_k

Type MC 0320

Divider system

The divider system can be planned by you or by our engineers on the basis of the information you supply about the configuration of the cable carrier.

As standard, the divider system is fitted on every 2nd chain cross-section.

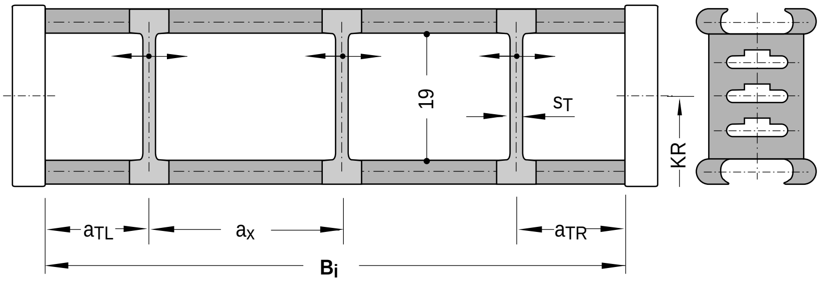
Divider system TS 0

without height subdivision

s_T	=	2 mm
$a_{T\,min}$	=	3 mm
$a_{x\,min}$	=	6 mm

Please state the number of dividers/cross section n_T when ordering.

Sample order:
Divider system TS 0/n_T 4



The dividers can slide along the chain cross section!

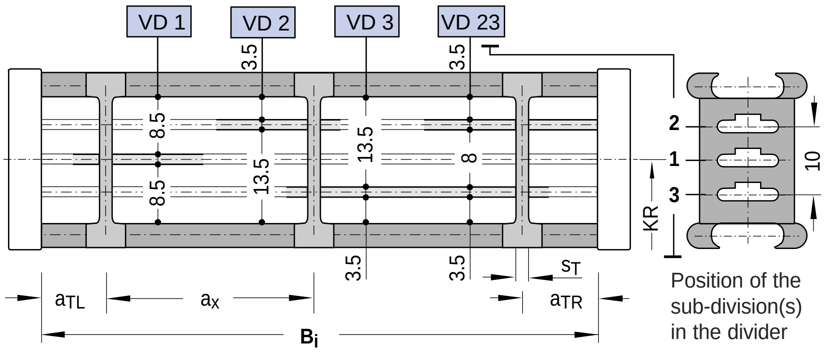
Divider system TS 1

with continuous height subdivision
Height subdivision: **Al-Profile 9 x 2 mm**

s_T	=	2 mm
$a_{T\,min}$	=	3 mm
$a_{T\,max}$	=	20 mm
$a_{x\,min}$	=	6 mm
n_T	=	2 mm

Please state the type of height subdivision and the number of dividers/cross section n_T when ordering.

Sample order:
Divider system TS 1 – VD 1/n_T 3



Technically recommended variant: VD 1
The dividers can slide along the chain cross section!

Divider system TS 2

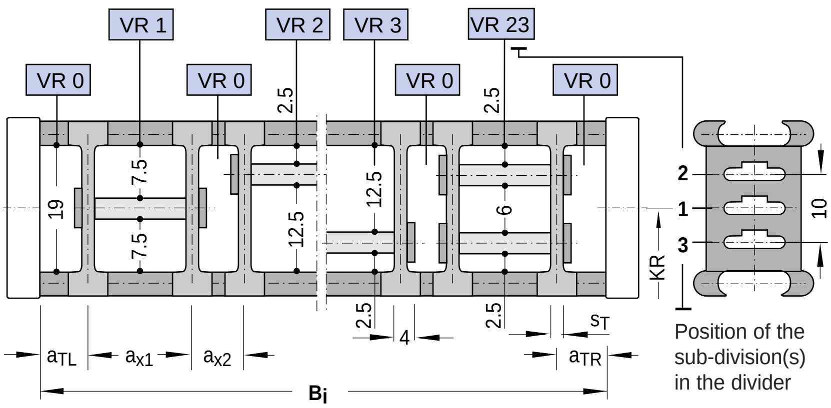
with grid subdivision (1 mm grid)
Height subdivision: **Al-Profile 11 x 4 mm**

s_T	=	2 mm
$a_{T\,min}$	=	3 mm
$a_{x\,min}$	=	20 mm (with height subdivision)
$a_{x\,min}$	=	6 mm (at VR O)

Please indicate the cavities (from left to right), the relevant subdivision variant and the assembly spacing a_T and a_x when ordering.

Sample order:

Divider system TS 2
K(cavity) 1 - VR 0 / 20 mm
K 2 - VR 1 / 50 mm
K 3 - VR 0 / 20 mm
K 4 - VR 0 / 20 mm



Technically recommended variants: VR 0 and VR 1

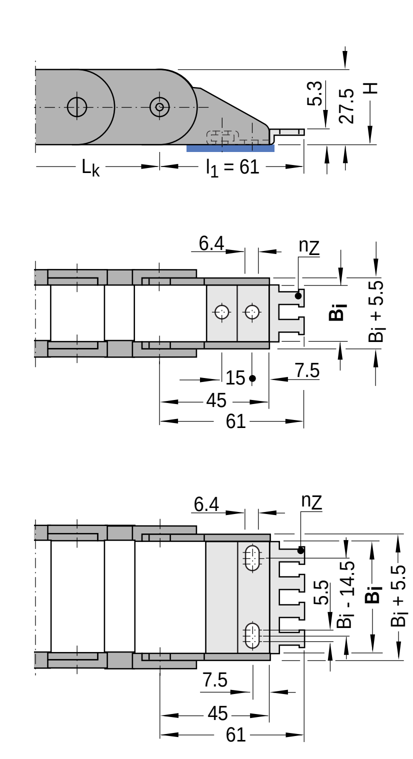
Dividers fixed by height subdivision, the grids can slide along the chain cross section!

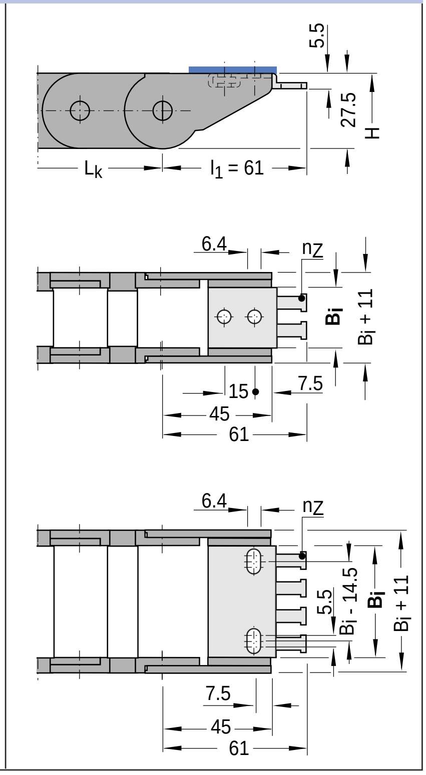
Type MC 0320

Connection dimensions

Plastic/Aluminium connecting elements with integrated strain relief.

Fixed point connection	Driver connection





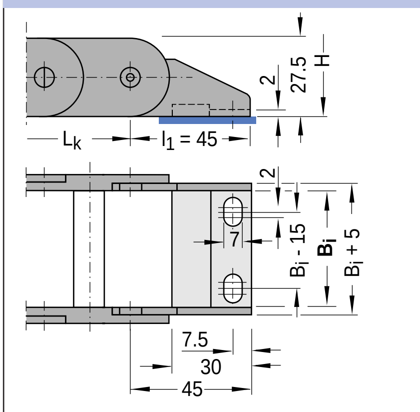
Type	B_i mm	Number of Teeth n_z
MC 0320.25	**25**	2
MC 0320.29	**29**	2
MC 0320.37	**37**	3
MC 0320.39	**39**	4
MC 0320.49	**49**	4
MC 0320.69	**69**	5
MC 0320.89	**89**	7
MC 0320.109	**109**	8
MC 0320.124	**124**	10
MC 0320.149	**149**	11

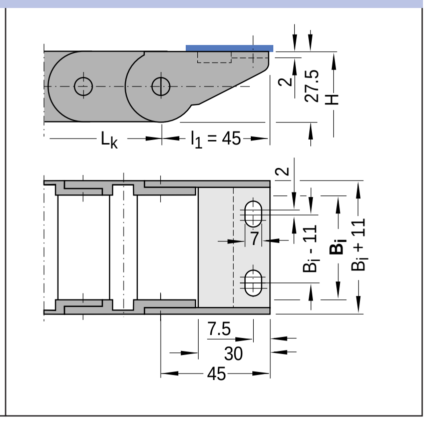
Chain widths which differ from the inside chain widths B_i stated are supplied with connecting pieces without strain relief.

Connection dimensions

Plastic/Aluminium connecting pieces without integrated strain relief.

Fixed point connection	Driver connection





Subject to technical changes!

Type MC 0320

Connection variants

Ordering Key for the connection:

X X

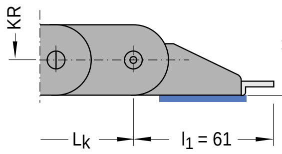
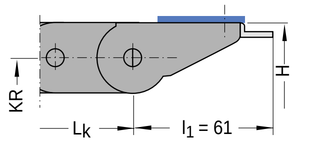
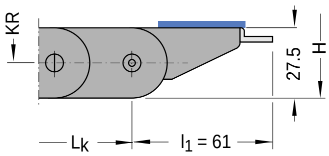
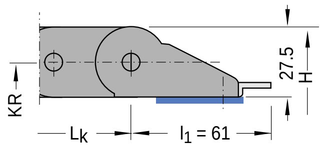
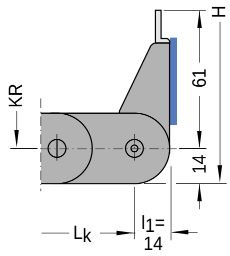
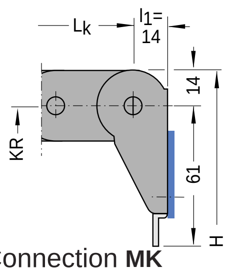
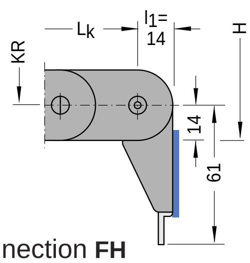
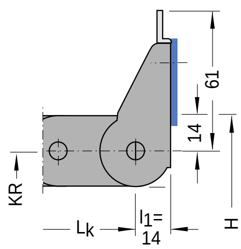
Connection point
F - Fixed point
M - Driver

Connection type
A - Threaded joint to the outside (Standard)
I - Threaded joint to the inside (towards KR)
H - Connection element turned through 90° to the outside
K - Connection element turned through 90° to the inside (towards KR)

The connection variants at the fixed point and at the driver can be combined and subsequently changed if required.

Please state the desired connection variant when ordering.

Example: FA/MA or **FH/MK**

Fixed point connection	Driver connection
 Connection **FA** (Standard)	 Connection **MA** (Standard)
 Connection **FI**	 Connection **MI***
 Connection **FK**	 Connection **MK**
 Connection **FH**	 Connection **MH *)**

*) Connectors with the last chain link are fitted turned through 180° (only with KR 37, 47, 77 and 100 mm).

Ordering Key for cable carrier:

MC 0320.200 - 02 - 77 - 1280

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

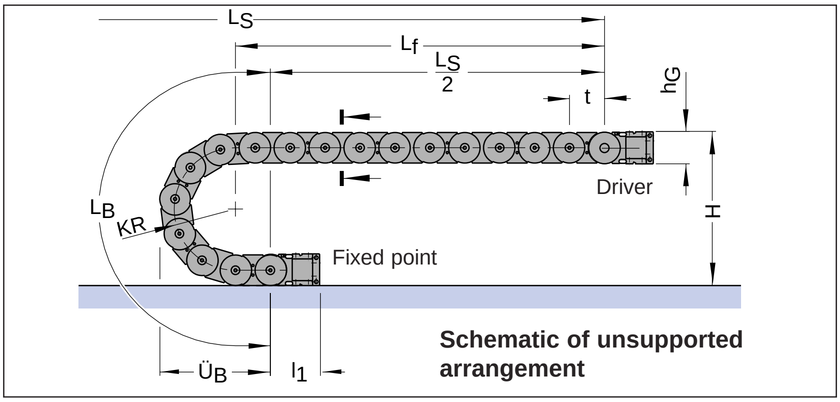
Example
Cable carrier type MC 0320, inside width B_i 200 mm, opening variant 02, connecting profile detachable on the outside, with bend radius KR 77 mm and chain length L_k = 1280 mm.

Type MC 0650

Design of the Cable Carriers

Chain pitch t = 65 mm
Chain link height h_G = 57.5 mm
(h_G' = 60.2 mm)
Connection height H_{min} = 2 KR + 57 mm
Connection length l_1 = cf. Connection Dimensions

A flat and level surface is required for the carrier system to be installed properly. If necessary, a support tray should be installed. (cf. System Components section)



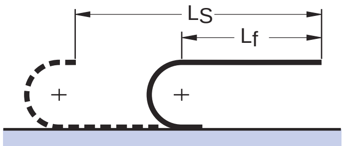
Schematic of unsupported arrangement

Variable sizes
depending on bend radius

Bend radius KR	**75** mm	**95** mm	**115** mm	**145** mm	**175** mm	**220** mm	**275** mm	**300** mm	**350** mm
Bend length L_B	366	429	492	586	680	822	994	1073	1230
Loop overhang $Ü_B$	169	189	209	239	269	314	369	394	444
Height H_{min}	207	247	287	347	407	497	607	657	757

Load diagrams

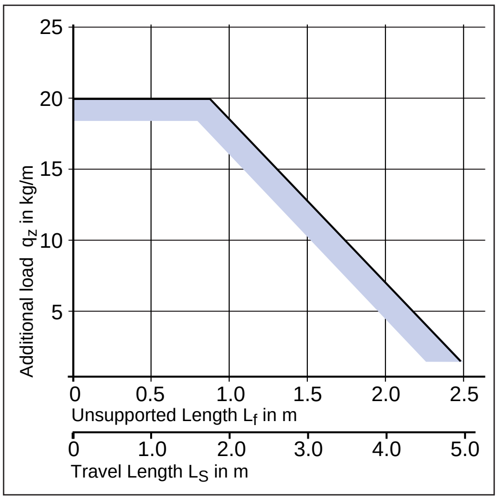
Unsupported length L_f and travel length L_S
depending on the additional load
(cf. Construction Guidelines)



Calculation of chain length:

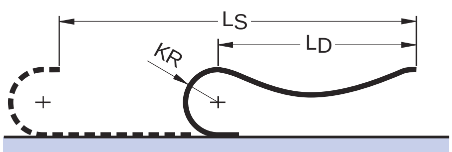
$$L_k \approx \frac{L_S}{2} + L_B$$

rounded to pitch 65 mm



Load diagram for an intrinsic chain weight q_k of 3.5 kg/m. If the intrinsic chain weight exceeds q_k 3.5 kg/m, the permissible additional load is lower.

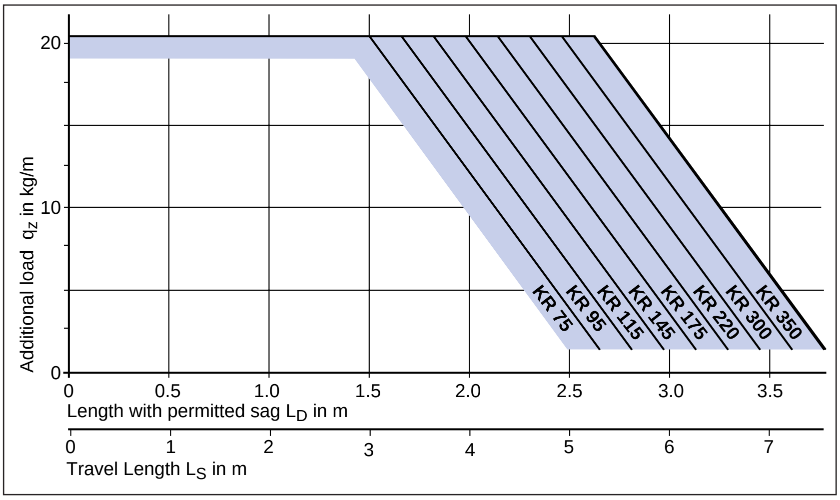
Length with permitted sag L_D and travel length L_S
depending on the additional load
(cf. Construction Guidelines)



Calculation of chain length:

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

rounded to pitch 65 mm



Long travel lengths

With long travel lengths the upper part of the cable carrier glides on its lower run in a guide channel.

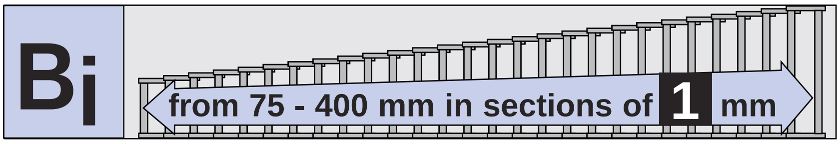
Design → cf. Construction Guidelines
Guide channel → cf. System Components

We recommend that a system of this kind be planned by one of our engineers.

Type MC 0650

Chain cross sections

in accordance with section in schematic illustration



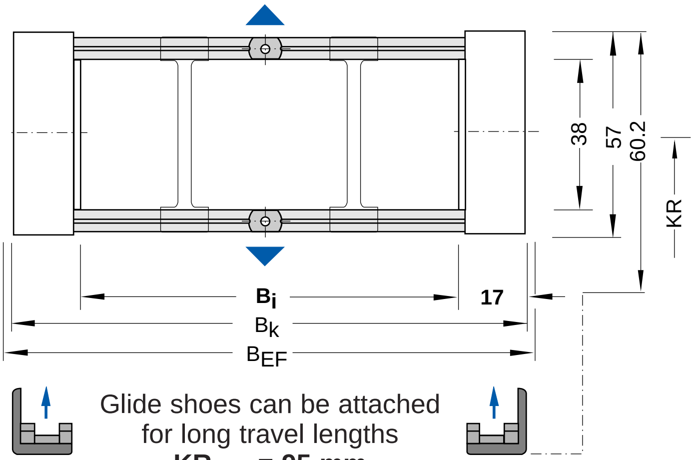
Stay variant “RS“

Frame stay – standard design

Aluminium profile bars detachable on the inside and the outside

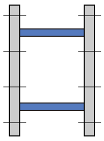
Not a bolted connection!

Profile bars can be released by turning them through 90°.

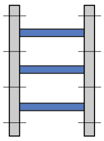


Glide shoes can be attached for long travel lengths
KR_{min} = 95 mm

Stay configuration:



1/2 Arrangement – Standard
Stays on every 2nd chain link



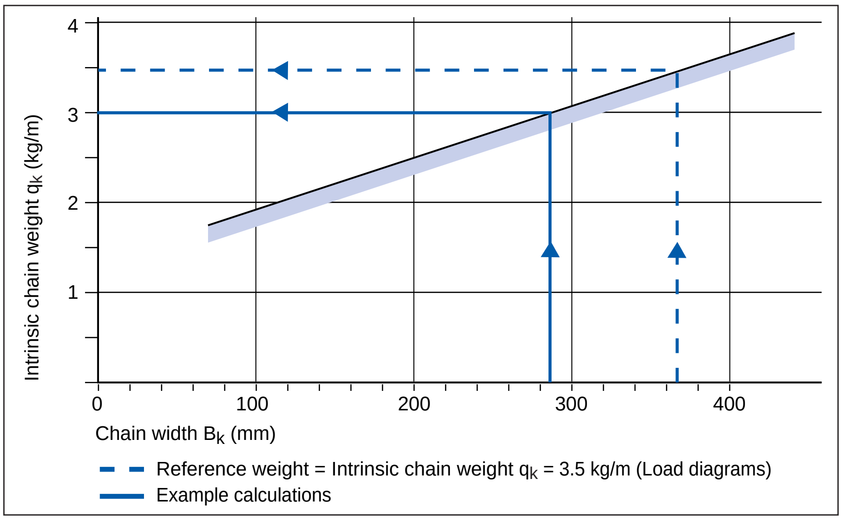
1/1 Arrangement
Stays on every chain link.
Please specify when placing order.

Calculation of chain width:

B_k = $\mathbf{B_i}$ + 34 mm

Calculation of chain width over universal connector:

B_{EF} = $\mathbf{B_i}$ + 37 mm



Intrinsic chain weight depending on chain width B_k

Calculation Example:

Inside width	$\mathbf{B_i}$	=	250 mm
Chain width	B_k	=	284 mm
Chain width over universal connector	B_{EF}	=	287 mm
Intrinsic chain weight	q_k	=	3.0 kg/m

Glide shoes

For long travel lengths, gliding in a channel, interchangeable glide shoes are used. These can be produced from different plastics and guarantee optimum friction and wear ratios. For travel speeds > 2.5 m/s highly wear-resistant plastic is used.

Type MC 0650

Divider systems

for Stay variant "RS"

The divider system can be planned by you or by our engineers on the basis of the information you supply about the configuration of the cable carrier.

As standard, the divider system is fitted on every frame stay (with stay assembly on every 2nd chain link).

Divider system TS 0

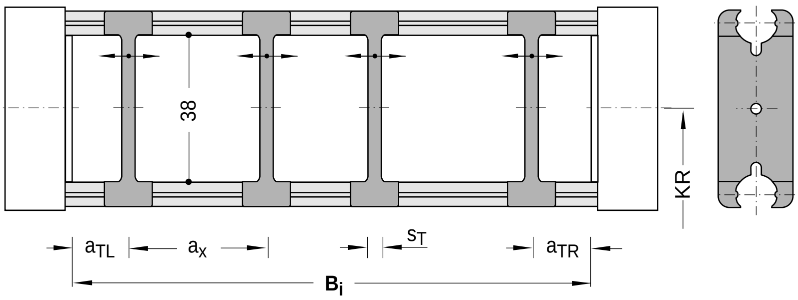
without height subdivision

s_T	=	3 mm
$a_{T\,min}$	=	4.5 mm
$a_{x\,min}$	=	13 mm

Please state the number of dividers/cross section n_T when ordering.

Sample order:
Divider system TS 0/n_T 4

The dividers can slide along the chain cross section!



Divider system TS 1

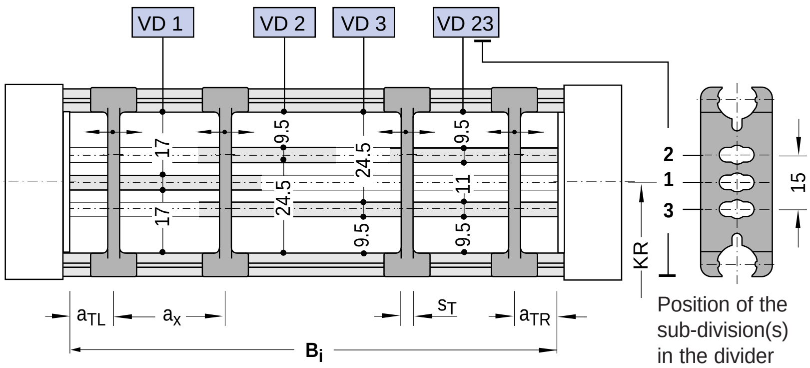
with continuous height subdivision
Height subdivision: **Al-Profile 11 x 4 mm**

s_T	=	3 mm
$a_{T\,min}$	=	4.5 mm
$a_{T\,max}$	=	40 mm
$a_{x\,min}$	=	13 mm
$n_{T\,min}$	=	2

Please state the type of height subdivisions and the number of dividers/cross section n_T when ordering.

Sample order:
Divider system TS 1 – VD 1/n_T 4

Technically recommended variant: VD 1
The dividers can slide along the chain cross section!



Position of the sub-division(s) in the divider

Divider system TS 2

with grid subdivision (1 mm grid)

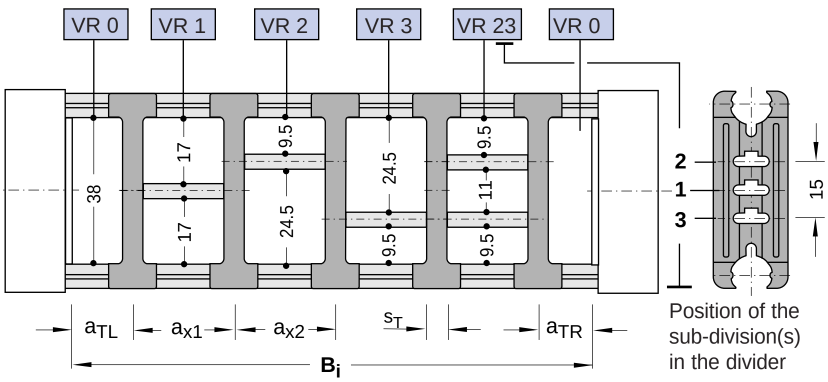
Height subdivision: **Al-Profile 11 x 4 mm**

s_T	=	6 mm
$a_{T\,min}$	=	4.5 mm
$a_{x\,min}$	=	13 mm (with height subdivision)
$a_{x\,min}$	=	13 mm (at VR 0)
$a_{x\,grid}$	=	continuous
$n_{T\,min}$	=	2

Sample order:

Divider system TS 2
K(cavity) 1 - VR 0 / 20 mm
K 2 - VR 1 / 50 mm
K 3 - VR 0 / 60 mm
K 4 - VR 1 / 40 mm
K 5 - VR 0 / 20 mm

Technically recommended variants: VD 0 and VD 1
Dividers fixed by height subdivision, the grids can slide along the chain cross section!



Position of the sub-division(s) in the divider

Please indicate the cavities (from left to right), the relevant subdivision variant and the assembly spacing a_T and a_x when ordering.

Type MC 0650

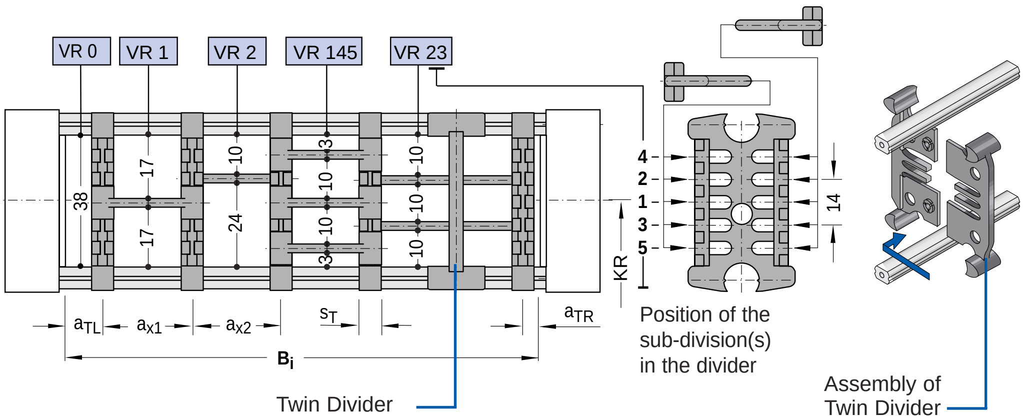
Divider systems

for stay variant “RS“

Divider system TS 3

with height subdivision
Plastic Partitions

Technically recommended variants: VR 0, VR 1, VR 2, VR 23 and VR 3
Dividers fixed by height subdivision, the grids can slide along the chain cross section!



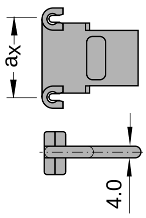
s_T	=	8 mm
$a_{T\ min}$	=	4 mm
$a_{x\ min}$	=	16 mm (with height subdivision)
$a_{x\ grid}$	=	see a_x-table

a_x mm (Centre-to-centre distance of dividers)														
16	18	23	28	32	33	38	43	48	58	64	68	78	80	88
96	112	128	144	160	176	192	208							

When using partitions with a_x > 112 mm, a twin divider should be used to provide an additional central support.

The twin divider can be moved, suitable for later assembly/fitting.

s_T	=	3 mm



Please indicate the cavities (from left to right), the relevant subdivision variant and the assembly spacing a_T and a_x when ordering.

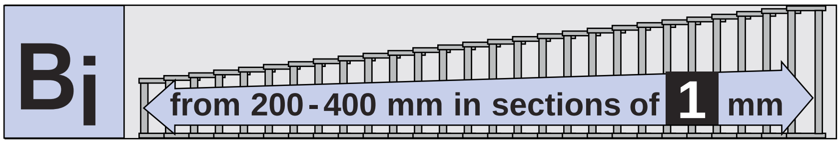
Sample order:

Divider system TS 3
K(cavity) 1 - VR 0 / 23 mm
K 2 - VR 1 / 48 mm
K 3 - VR 23 / 58 mm
K 4 - VR 1 / 33 mm

Type MC 0650

Chain cross sections

in accordance with section in schematic illustration



Stay variant RMA

The stay variant RMA serves to guide particularly **large** cable diameters within the cable carrier.

The mounting frame stay can be fitted **inside** or **outside** in the bend radius according to preference.

Profile bar material: **Aluminium Alloy**

Divider material: **Plastic**

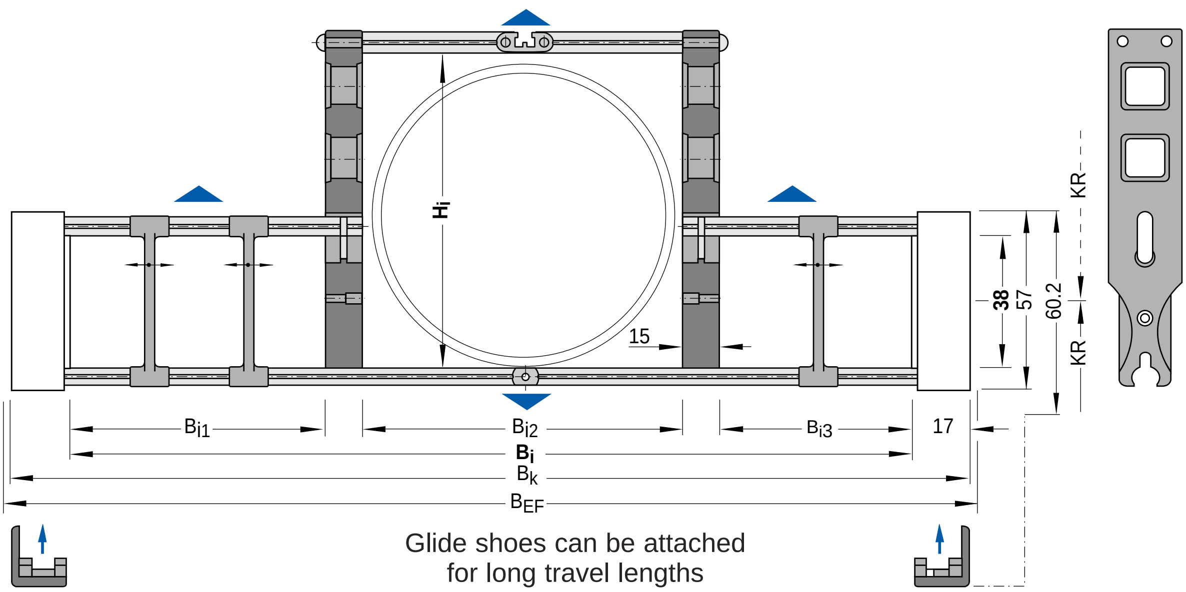
The cable carrier must lie on the chain bands and not on the stays.

Fitting to the inside – observe the minimum KR:			
H_i = 130 mm	–	KR_{min}	= 220 mm
H_i = 160 mm	–	KR_{min}	= 300 mm
H_i = 200 mm	–	KR_{min}	= 300 mm
B_{i1min} , $B_{i3\ min}$			= 15 mm

Fitting to the outside –
consider the operating and installation heights.

The cable carrier must lie on the chain bands and not on the stays.

Because of the design and layout parameters which need to be considered we would ask that you consult our technical department.

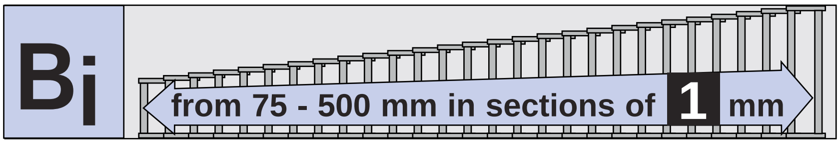


Glide shoes can be attached for long travel lengths
KR_{min} = 95 mm

Type MC 0650

Chain cross sections

in accordance with section in schematic illustration



Stay variant LG

Hole stay – split design (Standard)

Fitted to every 2nd chain link

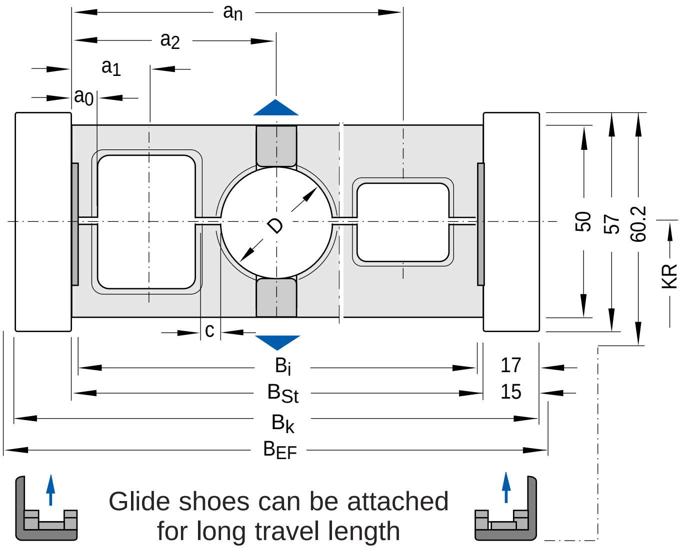
No standard widths!

Customised, contract-specific manufacture of hole pattern in accordance with your specifications

Stay variant LU – hole stay in unsplit design.

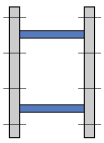
Please specify when placing order!

D_{max}	=	40 mm
$a_{0\ min}$	=	10 mm
c_{min}	=	4 mm

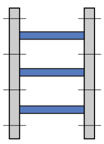


Glide shoes can be attached for long travel length
KR_{min} = 95 mm

Stay configuration:



1/2 Arrangement – Standard
Stays on every 2nd chain link



1/1 Arrangement
Stays on every chain link.
Please specify when placing order.

Calculation of B_i

$B_i = B_{St} - 4$ mm

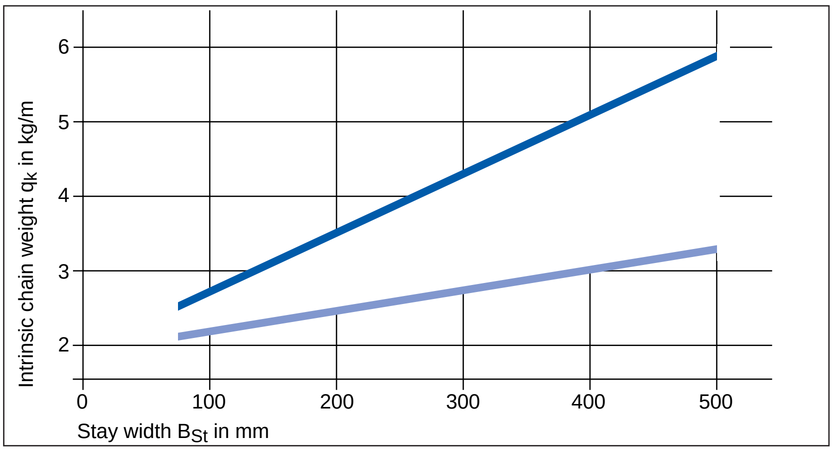
Calculation of chain width:

$B_k = B_{St} + 30$ mm

Calculation of chain width over universal connector:

$B_{EF} = B_i + 37$ mm

- Hole stays with 40 % hole area
- Hole stays with 60 % hole area



Intrinsic chain weight depending on stay width B_{St}

Glide shoes

For long travel lengths, gliding in a channel, interchangeable glide shoes are used. These can be produced from different plastics and guarantee optimum friction and wear ratios. For travel speeds > 2.5 m/s highly wear-resistant plastic is used.

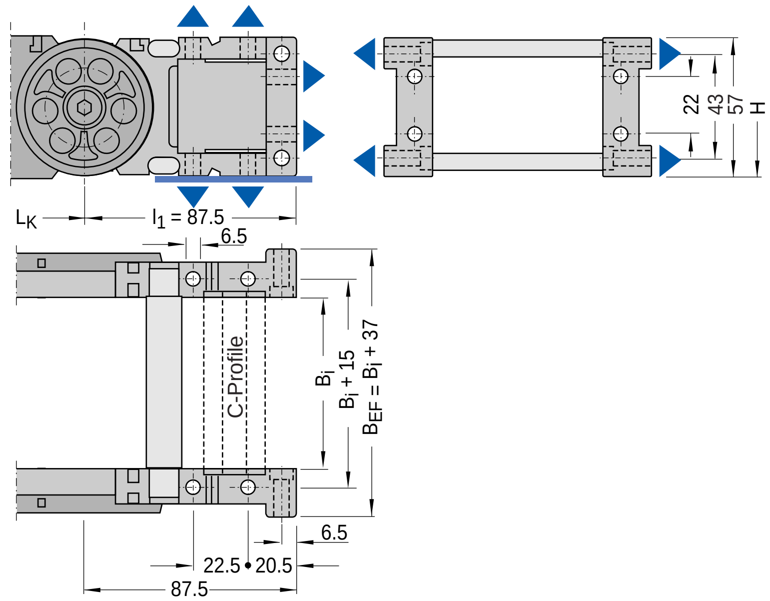
Type MC 0650

Connection dimensions

Universal connectors made of die-cast Aluminium

Optionally with C-Profile, slit width 11-12 mm. Suitable for all commercial saddle-type clamps with small base and KABELSCHLEPP SLZ Strain Relief Devices (cf. System Components).

Fixed point connection



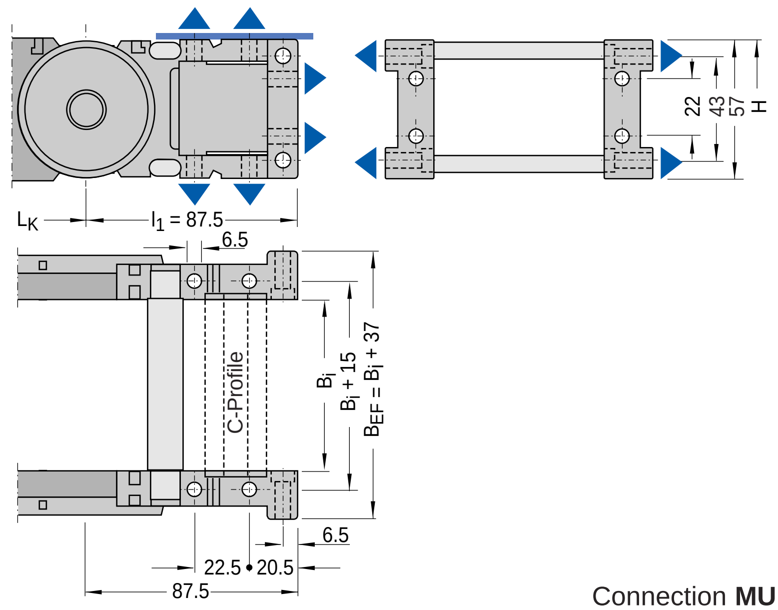
Connection **FU**

Ordering Key for the connection:

X U

- **Connection point**
  - F - Fixed point
  - M - Driver
- U - Universal connection

Driver connection



Connection **MU**

Ordering Key for cable carrier:

MC 0650.200 - LG - 115 - 1430

- Type
- Stay width B_{St} in mm (for hole stays) / Inside width B_i in mm (for frame stays)
- Stay variant
- Bend radius KR in mm
- Chain length L_k in mm (without connection)

Example:

Cable carrier type MC 0650, stay width B_{St} 200 mm, with hole stay LG – split design (hole in accordance with your specifications) with bend radius KR 115 mm and chain length L_k = 1430 mm

Type MC 0650

Connection dimensions

End link made of plastic
End connector made of steel plate

Ordering Key for the connection:

X X X

Connection point
F - Fixed point
M - Driver

Connection type
A - Threaded joint to the outside (Standard)
I - Threaded joint to the inside (towards KR)
F - Flange connection

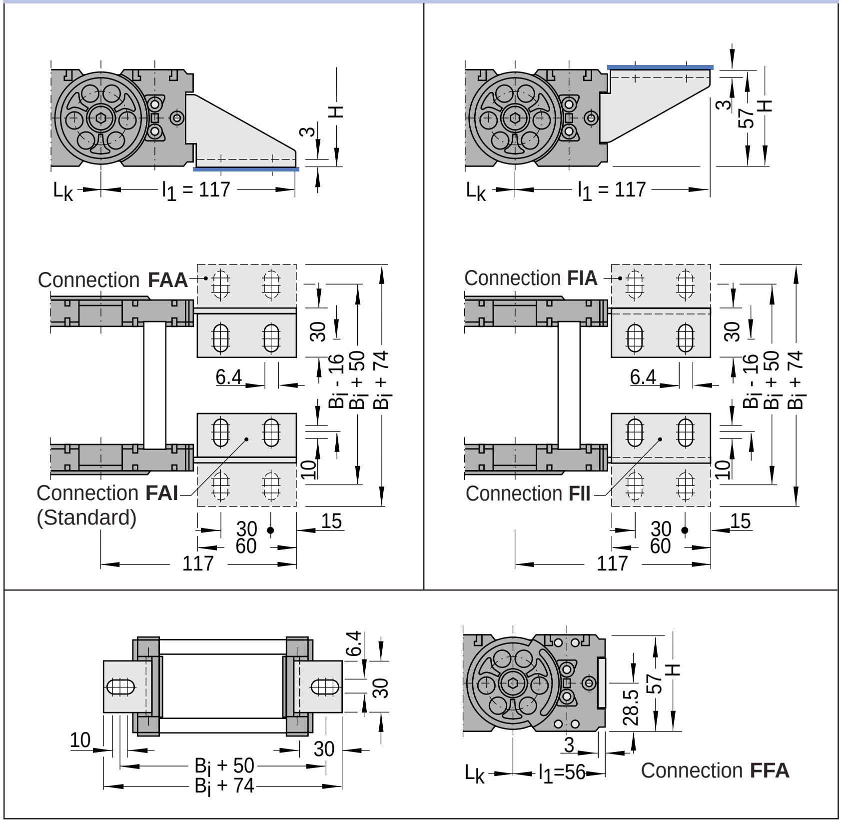
Connection surface
I - Connection surface inside (< B_i)
A - Connection surface outside (> B_i)

The connection variants at the fixed point and at the driver can be combined and subsequently changed if required.

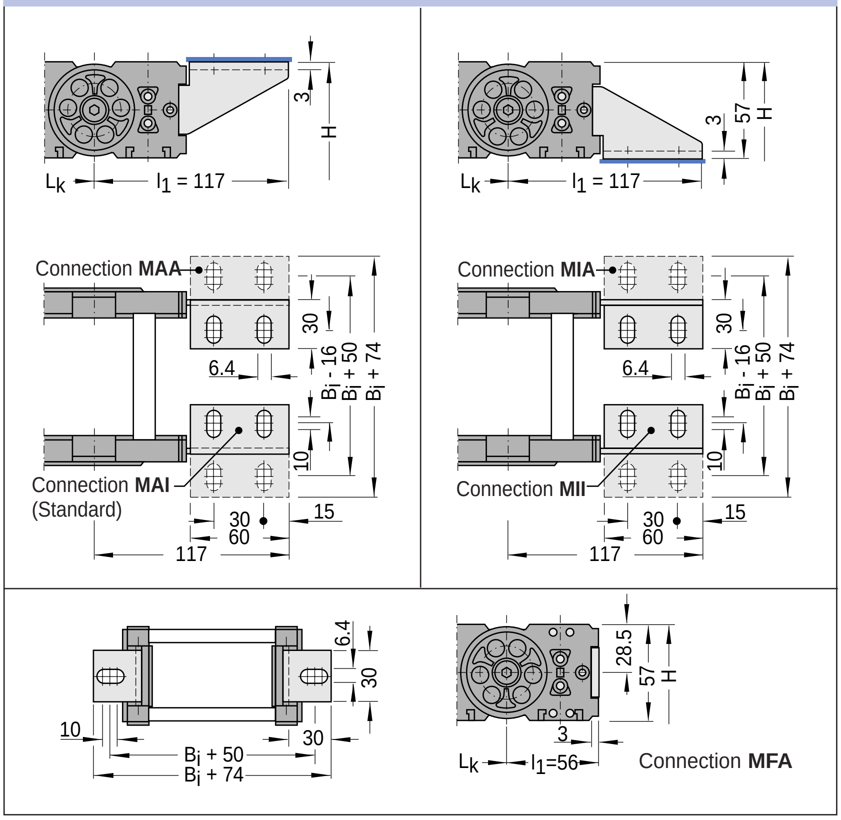
Please state the desired connection variant when ordering.

Example: FAI/MAA or **FIA/MAI**

Fixed point connection



Driver connection



Subject to technical changes!

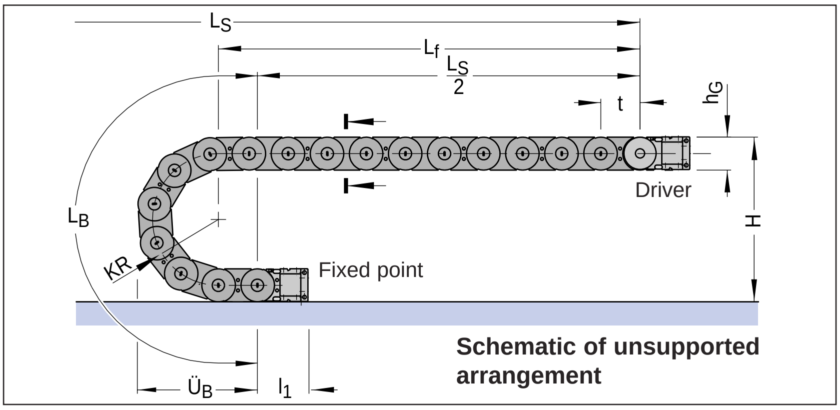
KABELSCHLEPP

Type MC 0950

Design of the Cable Carriers

Chain pitch t	= 95 mm
Chain link height h_G	= 80 mm
	(h_G' = 83.5 mm)
Connection height H_{min}	= 2 KR + 80 mm
Connection length l_1	= cf. Connection Dimensions

A flat and level surface is required for the carrier system to be installed properly. If necessary, a support tray should be installed. (cf. System Components section)



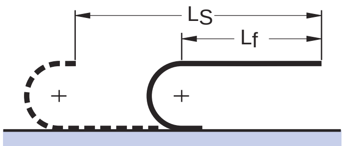
Schematic of unsupported arrangement

Variable sizes
depending on bend radius

Bend radius KR	**140** mm	**170** mm	**200** mm	**260** mm	**290** mm	**320** mm	**380** mm
Bend length L_B	630	725	819	1007	1102	1196	1384
Loop overhang $Ü_B$	275	305	335	395	425	455	515
Height H_{min}	360	420	480	600	660	720	840

Load diagrams

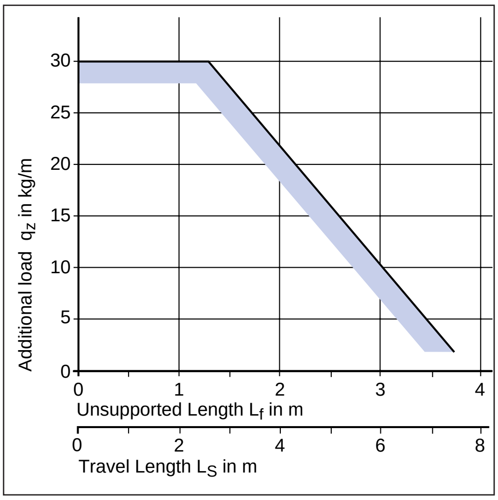
Unsupported length L_f and travel length L_S
depending on the additional load (cf. Construction Guidelines)



Calculation of chain length:

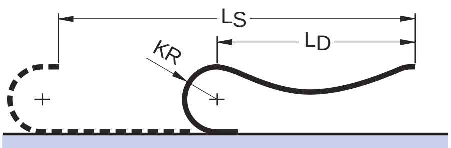
$$L_k \approx \frac{L_S}{2} + L_B$$

rounded to pitch 95 mm



Load diagram for an intrinsic chain weight q_k of 4.5 kg/m. If the intrinsic chain weight exceeds q_k 4.5 kg/m, the permissible additional load is lower.

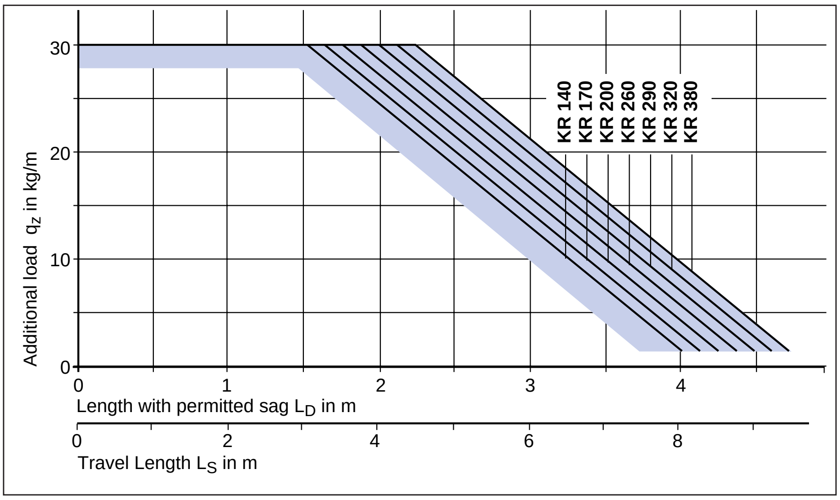
Length with permitted sag L_D and travel length L_S
depending on the additional load (cf. Construction Guidelines)



Calculation of chain length:

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

rounded to pitch 95 mm



Long travel lengths

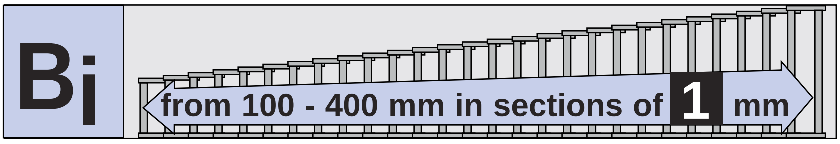
With long travel lengths the upper part of the cable carrier glides on its lower run in a guide channel.

Design → cf. Construction Guidelines

Guide channel → cf. System Components

We recommend that a system of this kind be planned by one of our engineers.

Type MC 0950



Chain cross sections

in accordance with section in schematic illustration

Stay variant "RS"

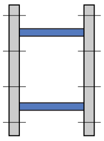
Frame stay – standard design

Aluminium profile bars detachable on the inside and the outside

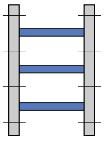
Not a bolted connection!

Profile bars can be released by turning them through 90°.

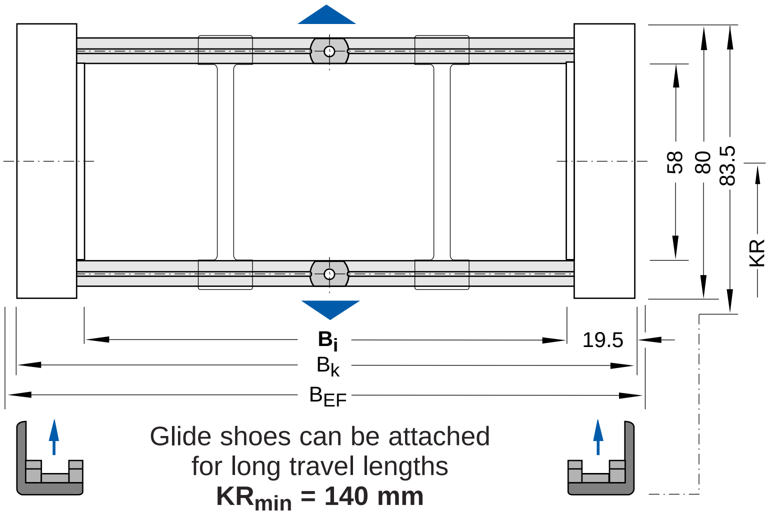
Stay configuration:



1/2 Arrangement – Standard
Stays on every 2nd chain link



1/1 Arrangement
Stays on every chain link.
Please specify when placing order.



Calculation of chain width:

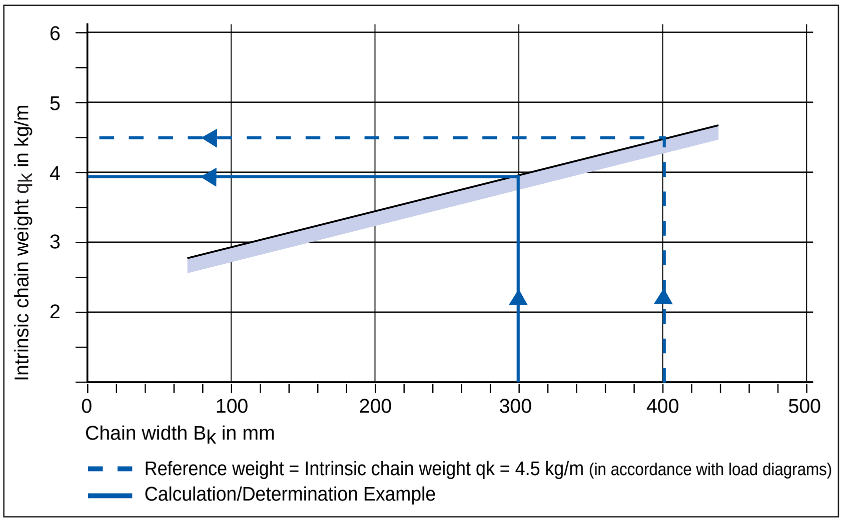
$B_k = \mathbf{B_i} + 39$ mm

Calculation of chain width over universal connector:

$B_{EF} = \mathbf{B_i} + 44$ mm

Calculation Example:

Inside width	$\mathbf{B_i}$ =	261 mm
Chain width	B_k =	300 mm
Chain width over universal connector	B_{EF} =	305 mm
Intrinsic chain weight	q_k =	3.9 kg/m



Intrinsic chain weight depending on chain width B_k

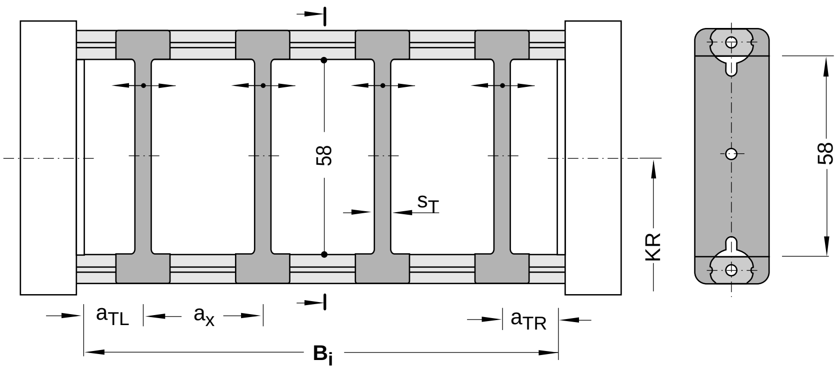
Divider system for "RS"

without height subdivision

Movable dividers can be used to separate the cables and hoses from one another.

As standard these are fitted on every stay cross section.

s_T	=	4 mm
$a_{T\,min}$	=	4.5 mm
$a_{x\,min}$	=	14 mm



Please state the number of dividers/cross section n_T when ordering.

Glide shoes

For long travel lengths, gliding in a channel, interchangeable glide shoes are used. These can be produced from different plastics and guarantee optimum friction and wear ratios. For travel speeds > 2.5 m/s highly wear-resistant plastic is used.

Type MC 0950

Chain cross sections

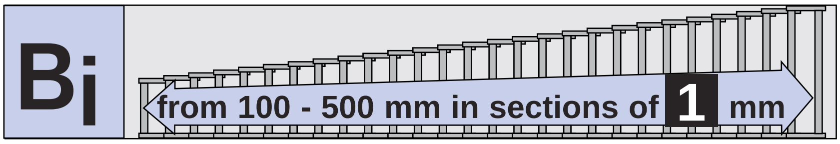
in accordance with section in schematic illustration

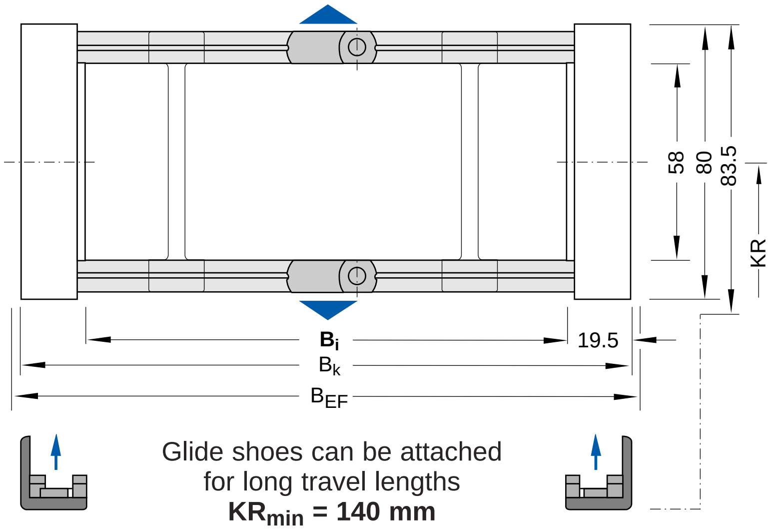
Stay variant “RV“

Frame stay – reinforced design with plastic adapter

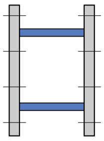
Aluminium profile bars detachable on the inside and the outside

Not a bolted connection!
Profile bars can be released by turning them through 90°.
With stay variant “RV“ at least 2 dividers **must** always be used.

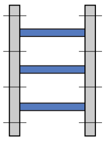




Stay configuration:



1/2 Arrangement – Standard
Stays on every 2nd chain link



1/1 Arrangement
Stays on every chain link.
Please specify when placing order.

Calculation of chain width:

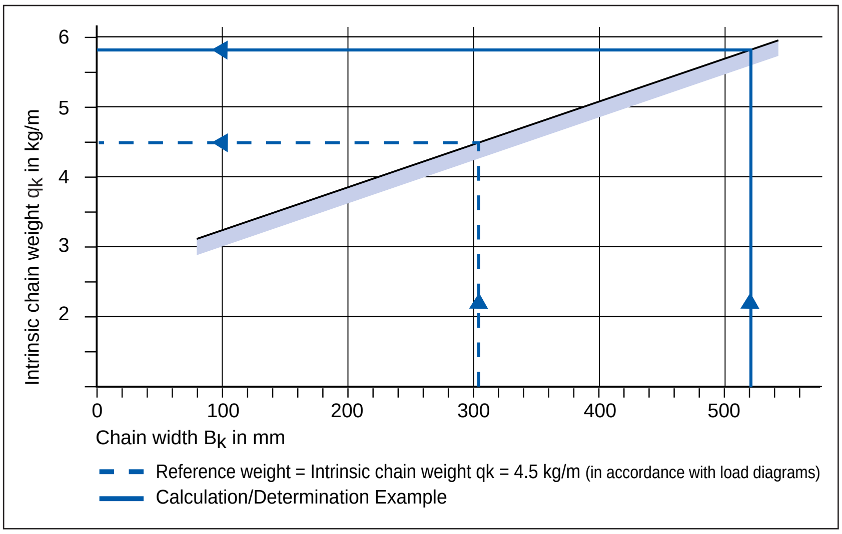
B_k	=	$\mathbf{B_i}$	+	39 mm

Calculation of chain width over universal connector:

B_{EF}	=	$\mathbf{B_i}$	+	44 mm

Calculation Example:

Inside width	$\mathbf{B_i}$	=	481 mm
Chain width	B_k	=	520 mm
Chain width over universal connector	B_{EF}	=	525 mm
Intrinsic chain weight	q_k	=	5.8 kg/m



Intrinsic chain weight depending on chain width B_k

Glide shoes

For long travel lengths, gliding in a channel, interchangeable glide shoes are used. These can be produced from different plastics and guarantee optimum friction and wear ratios. For travel speeds > 2.5 m/s highly wear-resistant plastic is used.

Type MC 0950

Divider systems

for Stay variant “RV“

The divider system can be planned by you or by our engineers on the basis of the information you supply about the configuration of the cable carrier.

As standard, the divider system is fitted on every frame stay! (with stay assembly on every 2nd chain link)

Divider system TS 0

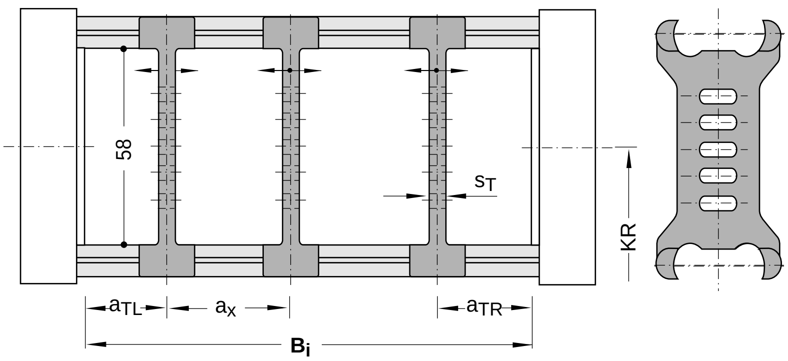
without height subdivision

s_T	=	4 mm
$a_{T\,min}$	=	4.5 mm
$a_{x\,min}$	=	14 mm
n_{Tmin}	=	2 mm

Please state the number of dividers/cross section n_T when ordering.

Sample order:
Divider system TS 0/n_T 3

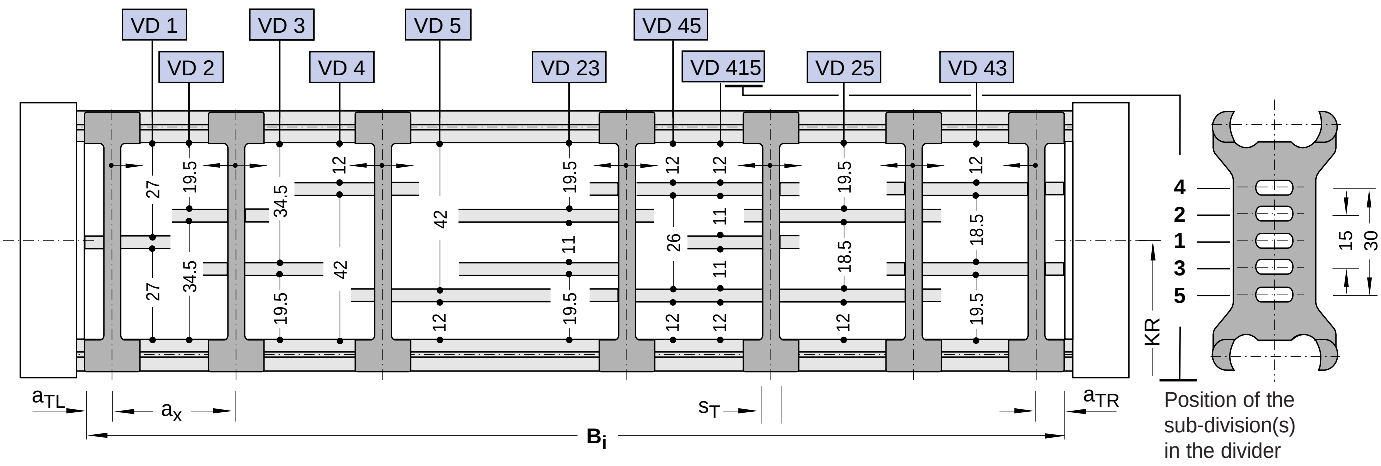
The dividers can slide along the chain cross section!



Divider system TS 1

with continuous height subdivision
Height subdivision: **Al-Profile 11 x 4 mm**

Technically recommended variants: VD 1, VD 2 and VD 3
The dividers can slide along the chain cross section!



s_T	=	4 mm
$a_{T\,min}$	=	4.5 mm
$a_{T\,max}$	=	25 mm
$a_{x\,min}$	=	14 mm
$n_{T\,min}$	=	2

Please state the type of height subdivision and the number of dividers/cross section n_T when ordering.

Sample order:
Divider system TS 1– VD 131/n_T 7

KABELSCHLEPP

Type MC 0950

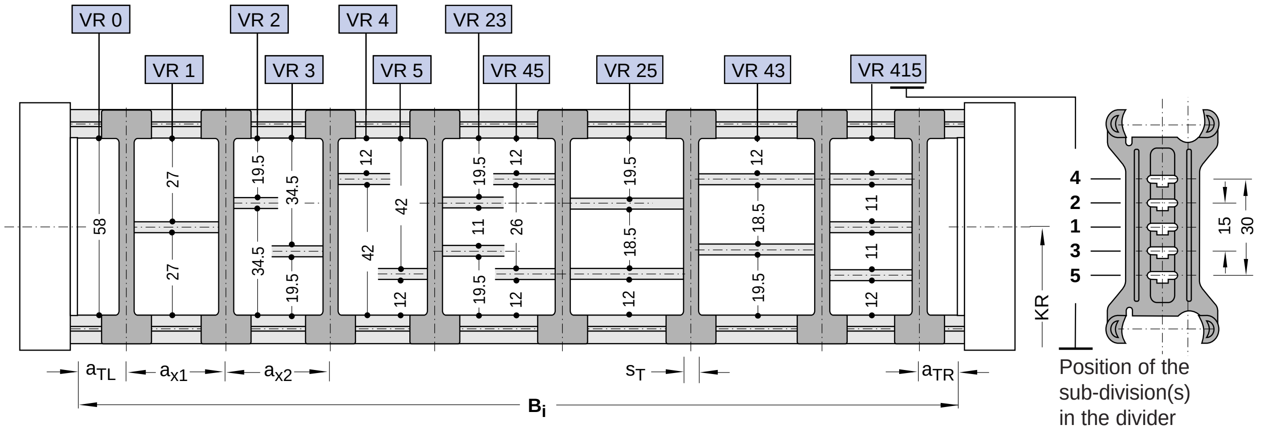
Divider systems

for Stay variant “RV“

Divider system TS 2

with grid subdivision (1 mm grid)
Height subdivision: **Al-Profile 11 x 4 mm**

Technically recommended variants: VR 1, VR 2 and VR 3
Dividers fixed by height subdivision, the grids can slide along the chain cross section!



Position of the sub-division(s) in the divider

s_T	=	6 mm
$a_{T\,min}$	=	5.5 mm
$a_{x\,min}$	=	20 mm (with height subdivision)
$a_{x\,min}$	=	16 mm (at VR 0)
$n_{T\,min}$	=	2

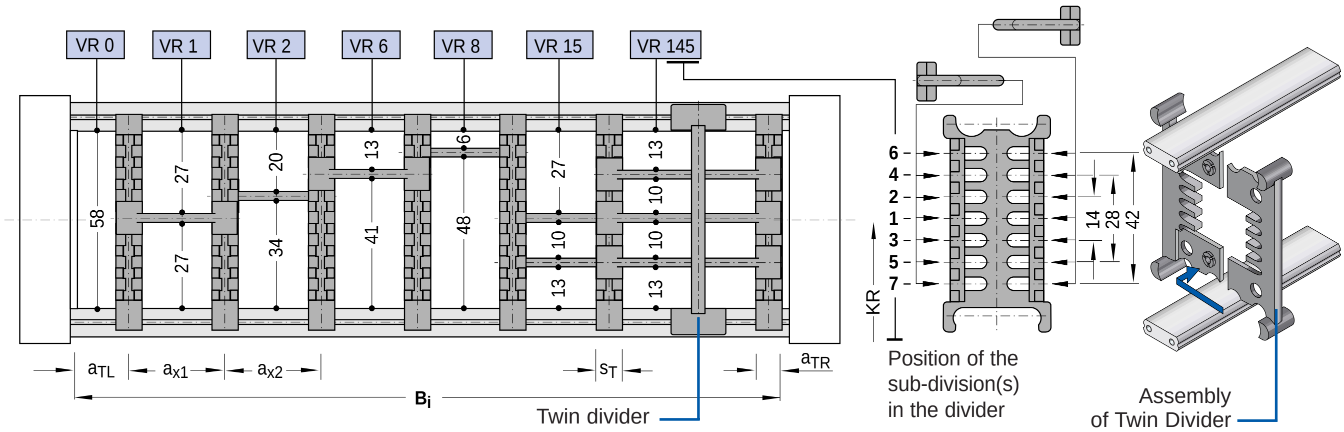
Please indicate the cavities (from left to right), the relevant subdivision variant and the assembly spacing a_T and a_x when ordering.

Sample order: Divider system TS 2
K(cavity) 1 - VR 0 / 40 mm
K 2 - VR 23 / 120 mm
K 3 - VR 0 / 60 mm

Divider system TS 3

with height subdivision
Plastic Partitions

Technically recommended variants: VR 0, VR 1, VR 2 and VR 3
Dividers fixed by height subdivision, the grids can slide along the chain cross section!



Twin divider

Position of the sub-division(s) in the divider

Assembly of Twin Divider

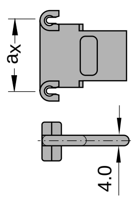
s_T	=	8 mm
$a_{T\,min}$	=	4 mm
$a_{x\,min}$	=	16 mm (with height subdivision)
$a_{x\,grid}$	=	see a_x-table
$n_{T\,min}$	=	2

a_x mm (Centre-to-centre distance of dividers)														
16	18	23	28	32	33	38	43	48	58	64	68	78	80	88
96	112	128	144	160	176	192	208							

The twin divider can be moved, suitable for later assembly/fitting.

When using partitions with a_x > 112 mm, a twin divider should be used to provide an additional central support.

s_T	=	4 mm



Please indicate the cavities (from left to right), the relevant subdivision variant and the assembly spacing a_T and a_x when ordering.

Sample order: Divider system TS 3
K(cavity) 1 - VR 0 / 80 mm
K 2 - VR 1 / 38 mm
K 3 - VR 2 / 68 mm
with twin divider

Subject to technical changes!

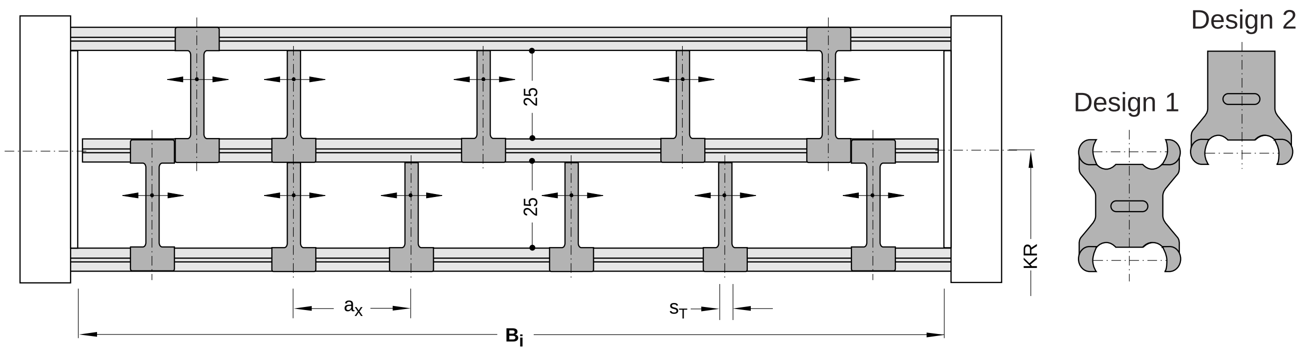
Type MC 0950

Divider systems

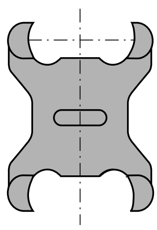
for Stay variant "RV"

Divider system TS 4

with continuous height subdivision
Height subdivision: **Al-Profile 27 x 8 mm**



s_T	=	4 mm
$a_{x\ min}$	=	15 mm



Half dividers can slide along the chain cross-section. At least 2 half-dividers with clasp grips on both sides (Design 1) should be fitted in the upper and lower chambers near to the chain band.

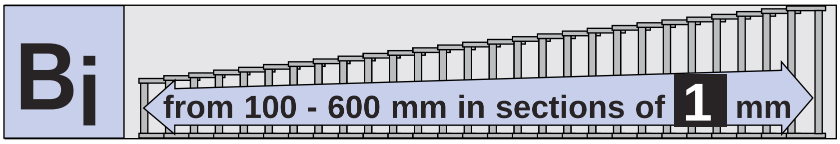
Please state the type of height subdivisions and the number of dividers/cross section when ordering.

Sample order:
Divider system TS 4
Please enclose a sketch

Type MC 0950

Chain cross sections

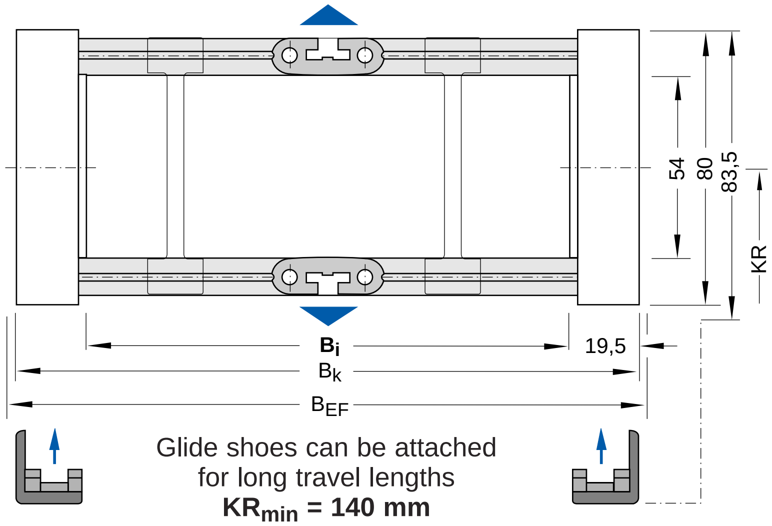
in accordance with section in schematic illustration



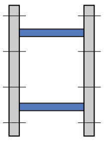
Stay variant “RM“

Frame stay – solid design

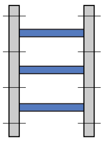
All profile bars on the inside and outside have double bolt fittings on both sides.



Stay configuration:



1/2 Arrangement – Standard
Stays on every 2nd chain link



1/1 Arrangement
Stays on every chain link.
Please specify when placing order.

Calculation of chain width:

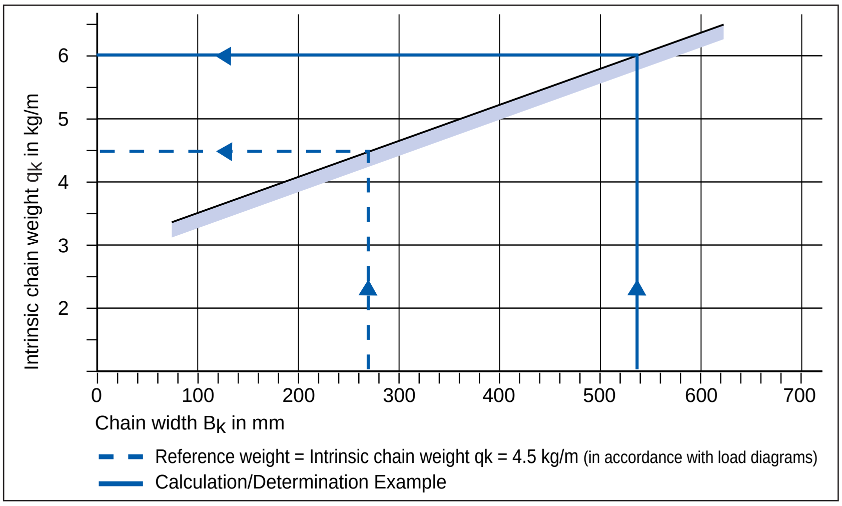
B_k = $\mathbf{B_i}$ + 39 mm

Calculation of chain width over universal connector:

B_{EF} = $\mathbf{B_i}$ + 44 mm

Calculation Example:

Inside width	$\mathbf{B_i}$	=	500 mm
Chain width	B_k	=	539 mm
Chain width over universal connection	B_{EF}	=	544 mm
Intrinsic chain weight	q_k	=	6.0 kg/m



Intrinsic chain weight depending on chain width B_k

Glide shoes

For long travel lengths, gliding in a channel, interchangeable glide shoes are used. These can be produced from different plastics and guarantee optimum friction and wear ratios. For travel speeds > 2.5 m/s highly wear-resistant plastic is used.

Type MC 0950

Divider systems
for Stay variant “RM“

Divider system TS 0

without height subdivision

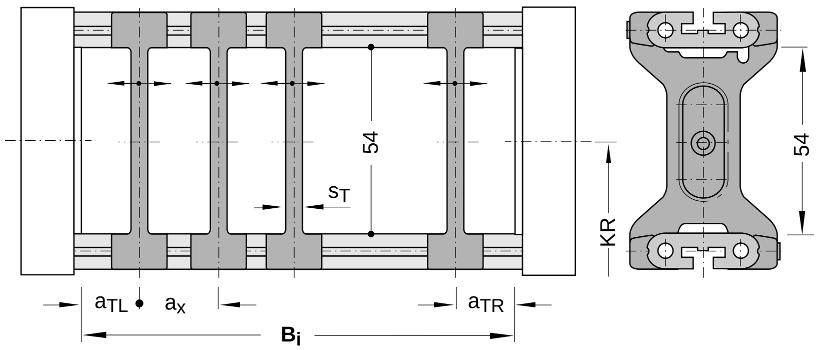
s_T	=	4 mm
$a_{T\,min}$	=	7 mm
$a_{x\,min}$	=	14 mm

Please state the number of dividers/cross section n_T when ordering.

Sample order:
Divider system TS 0/n_T 3

The divider system can be planned by you or by our engineers on the basis of the information you supply about the configuration of the cable carrier.

As standard, the divider system is fitted on every frame stay! (with stay assembly on every 2nd chain link)



The dividers can slide along the chain cross section!

Divider system TS 5

Hole stay – split design

Calculation of B_i

$$B_i = \Sigma\, n_p\, B_p - 3 \text{ mm}$$

n_p = Number of hole stay inserts
B_p = Width of hole stay inserts

Calculation of chain width:

$$B_k = B_i + 39 \text{ mm}$$

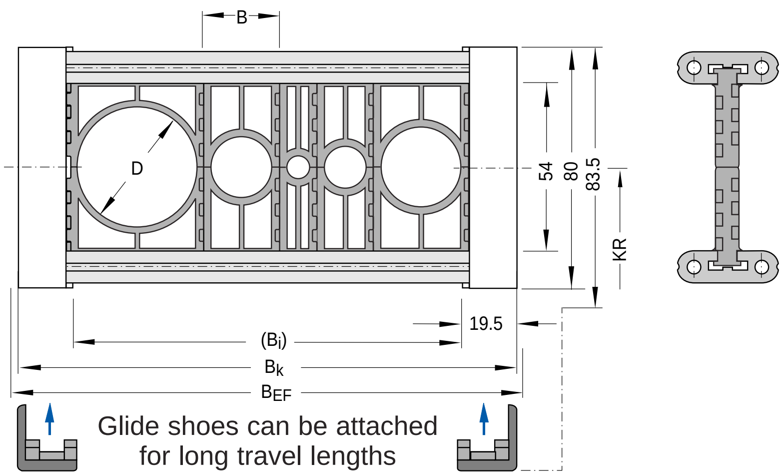
Calculation of chain width over universal connector:

$$B_{EF} = \mathbf{B_i} + 44 \text{ mm}$$

Please state the hole diameter and position (from left to right) when placing your order.

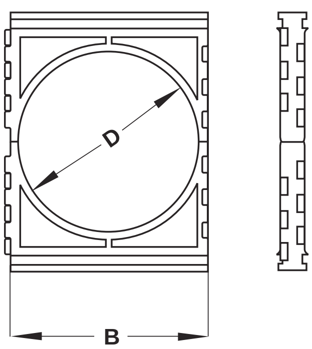
Sample order: Divider System TS 5
B_1 = 45 mm, B_2 = 30 mm, B_3 = 25 mm, B_4 = 45 mm

If possible please enclose a sketch.



Glide shoes can be attached for long travel lengths
KR_{min} = 140 mm

Size D	Width B
10	15
15	20
20	25
25	30
30	35
40	45
45	50



The hole stay inserts can be combined according to preference.

The cables and hoses must be able to move freely in the cable carrier.
In order to calculate the required free space the following values apply:

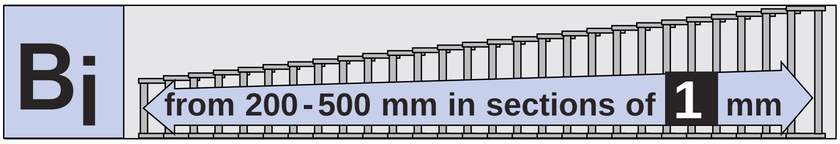
for round cables:	**10 %** of the cable diameter
for hoses:	**20 %** of the hose diameter

KABELSCHLEPP

Type MC 0950

Chain cross sections

in accordance with section in schematic illustration



Stay variant RMA

The stay variant RMA serves to guide particularly large cable diameters within the cable carrier.

The mounting frame stay can be fitted **inside** or **outside** in the bend radius according to preference.

Profile bar material: **Aluminium Alloy**

Divider material: **Plastic**

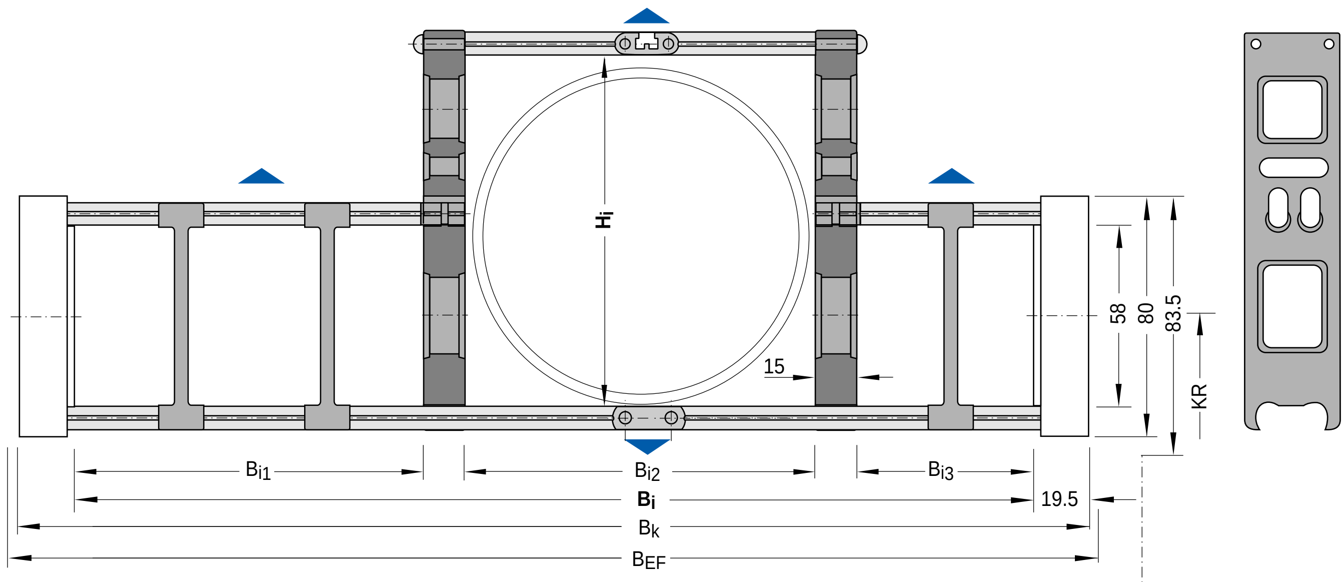
The cable carrier must lie on the chain bands and not on the stays.

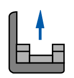
Fitting to the inside – observe the minimum KR:			
H_i = 130 mm	–	KR_{min}	= 170 mm
H_i = 160 mm	–	KR_{min}	= 200 mm
H_i = 200 mm	–	KR_{min}	= 260 mm
$B_{i\ 1min}$, $B_{i\ 3min}$,			= 40 mm

Fitting to the outside –
Consider the operating and installation heights.

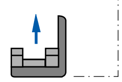
The cable carrier must lie on the chain bands and not on the stays.

Because of the design and layout parameters which need to be considered we would ask that you consult our technical department.





Glide shoes can be attached
for long travel lengths
KR_{min} = 140 mm



Type MC 0950

Chain cross sections

in accordance with section in schematic illustration

Stay variant RMR

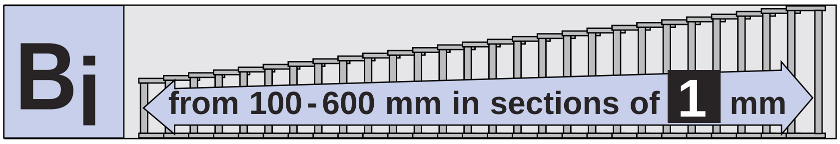
Plastic roller stay for the highest specifications – protecting the cables and hoses.

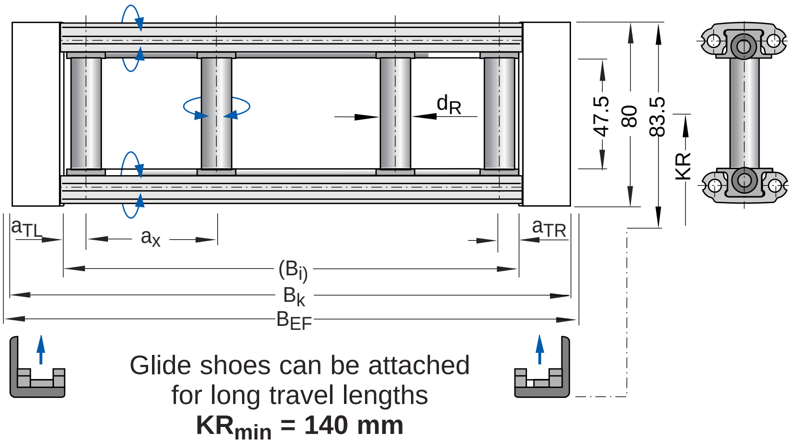
Aluminium connecting profiles with plastic roller system.

Movable dividers and roller stays can be used to separate the cables and hoses from one another.

Customised, contract-specific manufacture in accordance with your specifications.

d_R	=	10 mm
s_T	=	4 mm
$a_{T\,min}$	=	6.5 mm
$a_{x\,min}$	=	13 mm





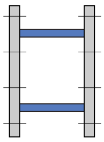
Calculation of chain width:

$B_k = \mathbf{B_i} + 39$ mm

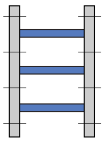
Calculation of chain width over universal connector:

$B_{EF} = \mathbf{B_i} + 44$ mm

Stay configuration:



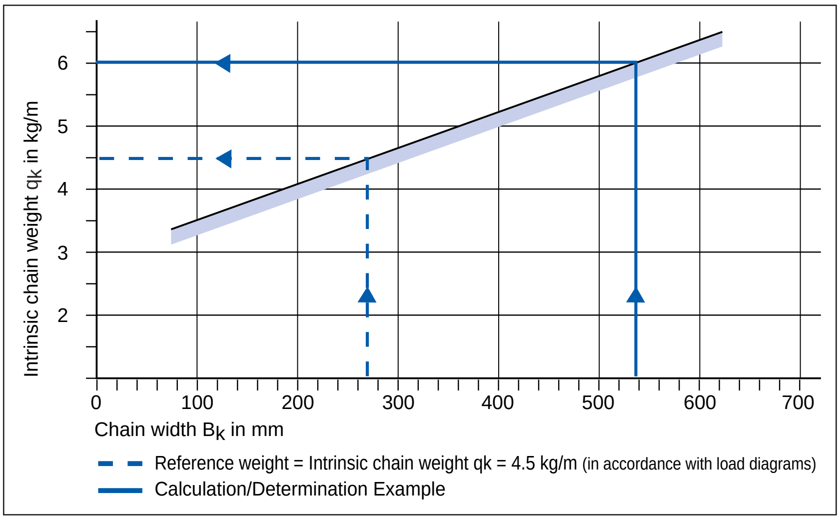
1/2 Arrangement – Standard
Stays on every 2nd chain link



1/1 Arrangement
Stays on every chain link.
Please specify when placing order.

Calculation Example:

Inside width	$\mathbf{B_i}$	=	500 mm
Chain width	B_k	=	539 mm
Chain width over universal connection	B_{EF}	=	544 mm
Intrinsic chain weight	q_k	=	6.0 kg/m

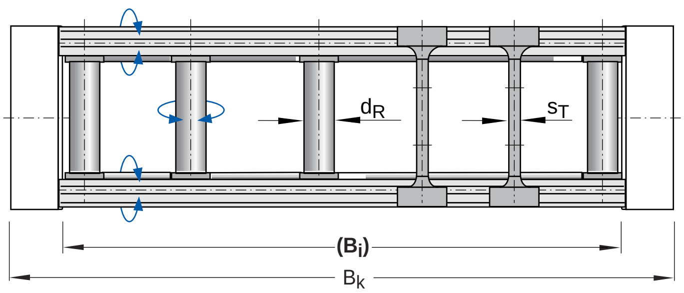


Intrinsic chain weight depending on chain width B_k

Combination Example:

Roller stay combined with dividers

Please state the number of roller stays n_T and dividers n_T when ordering.



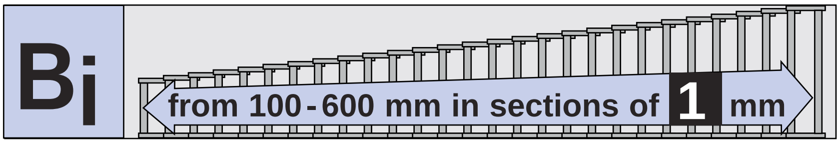
Glide shoes

For long travel lengths, gliding in a channel, interchangeable glide shoes are used. These can be produced from different plastics and guarantee optimum friction and wear ratios. For travel speeds > 2.5 m/s highly wear-resistant plastic is used.

Type MC 0950

Chain cross sections

in accordance with section in schematic illustration



Stay variant LG

Hole stay – split design (Standard)

Fitted to every 2nd chain link

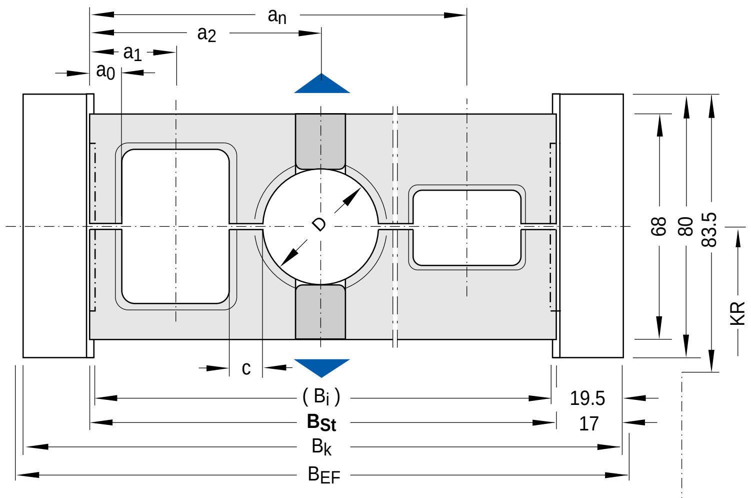
No standard widths!

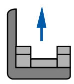
Customized, contract-specific manufacture of hole pattern in accordance with your specifications

Stay variant LU – hole stay in unsplit design.

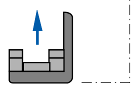
Please specify when placing order!

D_{max}	=	53 mm
$a_{0\ min}$	=	12 mm
c_{min}	=	4 mm

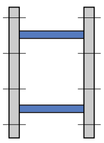




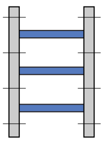
Glide shoes can be attached for long travel lengths
KR_{min} = 140 mm



Stay configuration:



1/2 Arrangement – Standard
Stays on every 2nd chain link



1/1 Arrangement
Stays on every chain link. Please specify when placing order.

Calculation of B_i

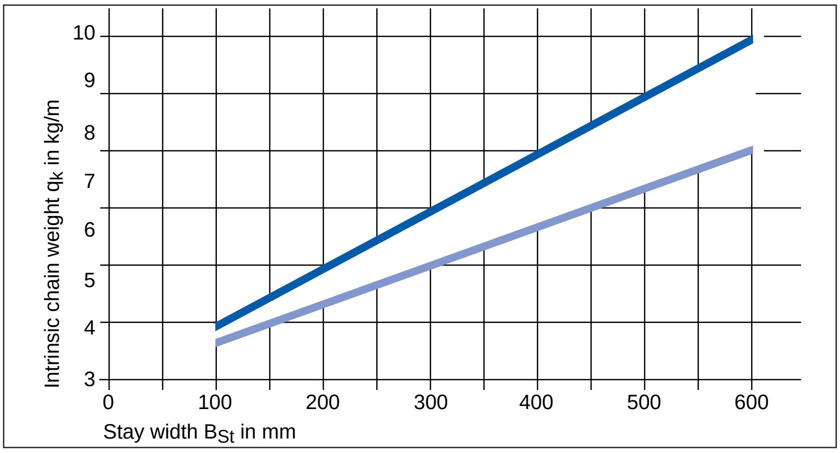
$B_i = B_{St} - 5$ mm

Calculation of chain width:

$B_k = B_{St} + 34$ mm

Calculation of chain width over universal connector:

$B_{EF} = B_i + 44$ mm



Intrinsic chain weight depending on stay width B_{St}

- Hole stays with 40 % hole area
- Hole stays with 60 % hole area

Glide shoes

For long travel lengths, gliding in a channel, interchangeable glide shoes are used. These can be produced from different plastics and guarantee optimum friction and wear ratios. For travel speeds > 2.5 m/s highly wear-resistant plastic is used.

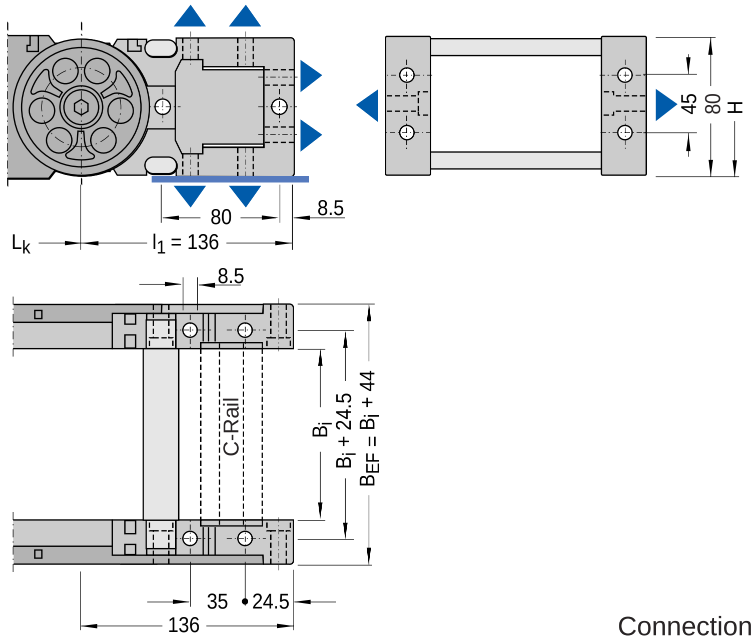
Type MC 0950

Connection dimensions

Universal connectors made of die-cast Aluminium

Optionally with C-Rail, slit width 16-17 mm. Suitable for all commercial saddle-type clamps with large base and KABELSCHLEPP SLZ Strain Relief Devices (cf. System Components).

Fixed point connection



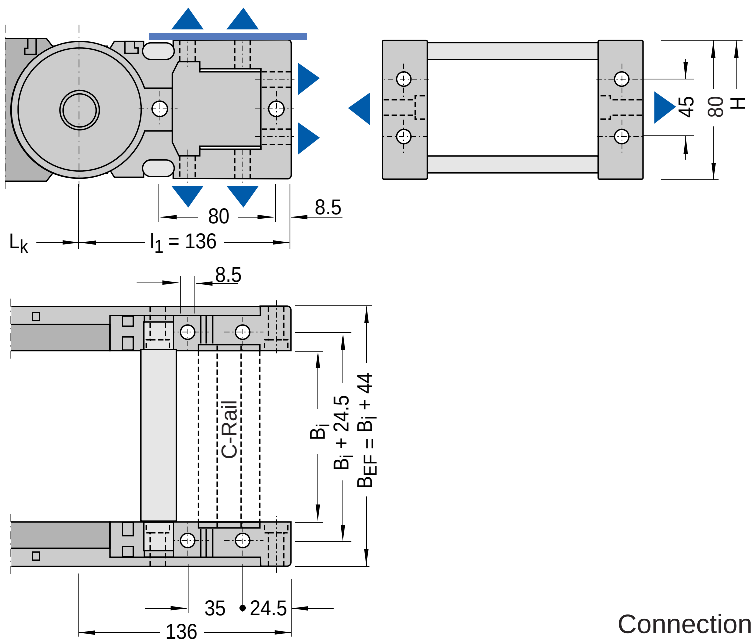
Connection **FU**

Ordering Key for the connection:

X U

- **Connection point**
  - F - Fixed point
  - M - Driver
- U - Universal connection

Driver connection



Connection **MU**

Ordering Key for cable carrier:

MC 0950.300 - RM - 200 - 4180

- MC 0950 – Type
- 300 – Inside width B_i in mm (for frame stays) / Stay width B_{St} in mm (for hole stays)
- RM – Stay variant
- 200 – Bend radius KR in mm
- 4180 – Chain length L_k in mm (without connection)

Example:

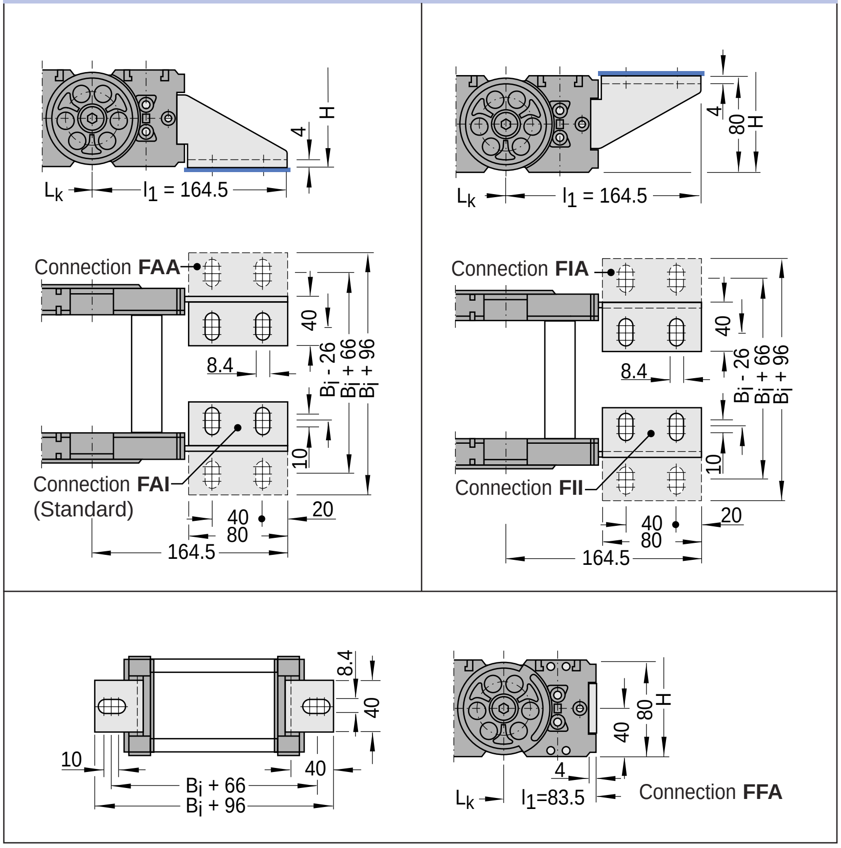
Cable carrier type MC 0950, inside width B_i 300 mm, with frame stay RM – solid design, with bend radius KR 200 mm and chain length L_k = 4180 mm

Type MC 0950

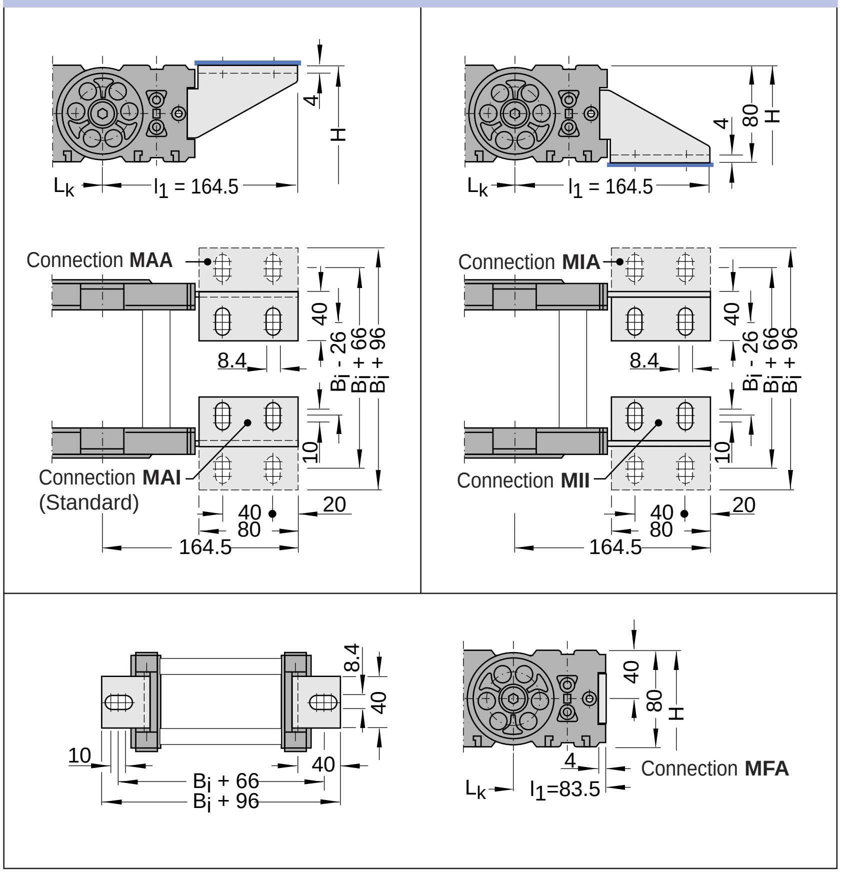
Connection dimensions

End link made of plastic
End connector made of steel plate

Fixed point connection



Driver connection



Ordering Key for the connection:

X X X

Connection point
F - Fixed point
M - Driver

Connection type
A - Threaded joint to the outside (Standard)
I - Threaded joint to the inside (towards KR)
F - Flange connection

Connection surface
I - Connection surface inside (< B_i)
A - Connection surface outside (> B_i)

The connection variants at the fixed point and at the driver can be combined and subsequently changed if required.

Please state the desired connection variant when ordering.

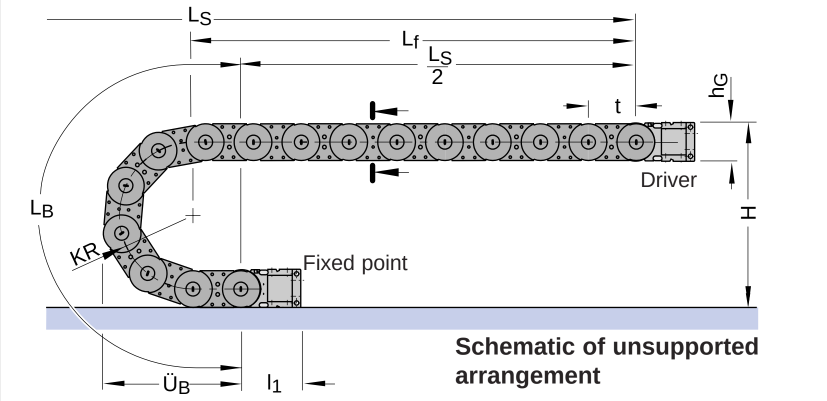
Example: FAI/MAI or **FAI/MAA**

Type MC 1250

Design of the Cable Carriers

Chain pitch t	= 125 mm
Chain link height h_G	= 96 mm (h_G' = 99.5 mm)
Connection height H_{min}	= 2 KR + 96 mm
Connection length l_1	= cf. Connection Dimensions

A flat and level surface is required for the carrier system to be installed properly. If necessary, a support tray should be installed. (cf. System Components section)



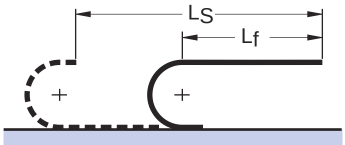
Schematic of unsupported arrangement

Variable sizes
depending on bend radius

Bend radius KR	**180** mm	**220** mm	**260** mm	**300** mm	**340** mm	**380** mm	**500** mm
Bend length L_B	816	942	1067	1193	1319	1444	1821
Loop overhang $\ddot{U}_B$	353	393	433	473	513	553	673
Height H_{min}	456	536	616	696	776	856	1096

Load diagrams

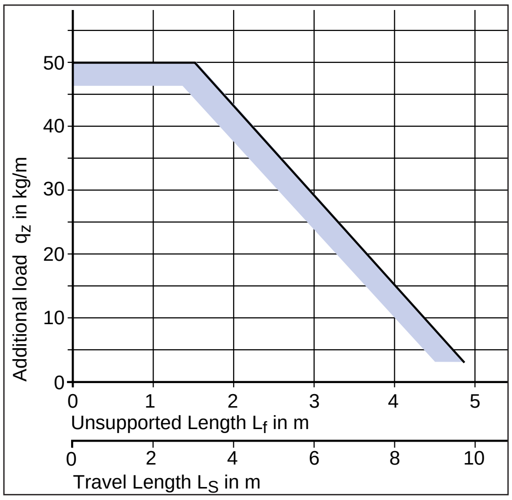
Unsupported length L_f and travel length L_S
depending on the additional load
(cf. Construction Guidelines)



Calculation of chain length:

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

rounded to pitch 125 mm

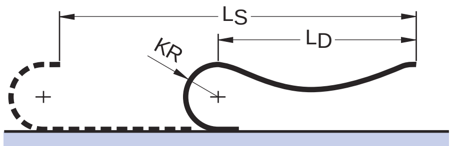


Load diagram for an intrinsic chain weight q_k of 5.0 kg/m. If the intrinsic chain weight exceeds q_k 5.0 kg/m, the permissible additional load is lower.

KR/RKR combinations are possible for circular movements.

In these cases please contact us!

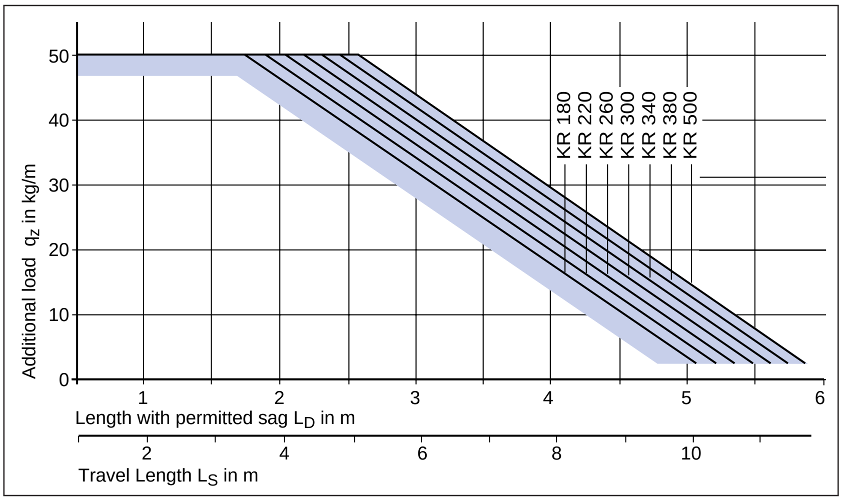
Length with permitted sag L_D and travel length L_S
depending on the additional load
(cf. Construction Guidelines)



Calculation of chain length:

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

rounded to pitch 125 mm



Long travel lengths

With long travel lengths the upper part of the cable carrier glides on its lower run in a guide channel.

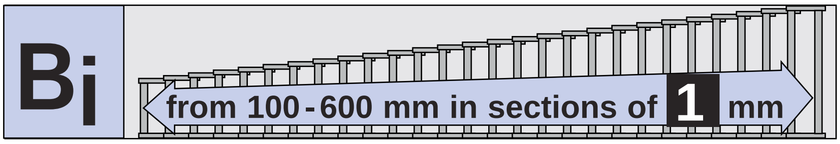
Design	→	cf. Construction Guidelines
Guide channel	→	cf. System Components

We recommend that a system of this kind be planned by one of our engineers.

Type MC 1250

Chain cross sections

in accordance with section in schematic illustration



Stay variant "RV"

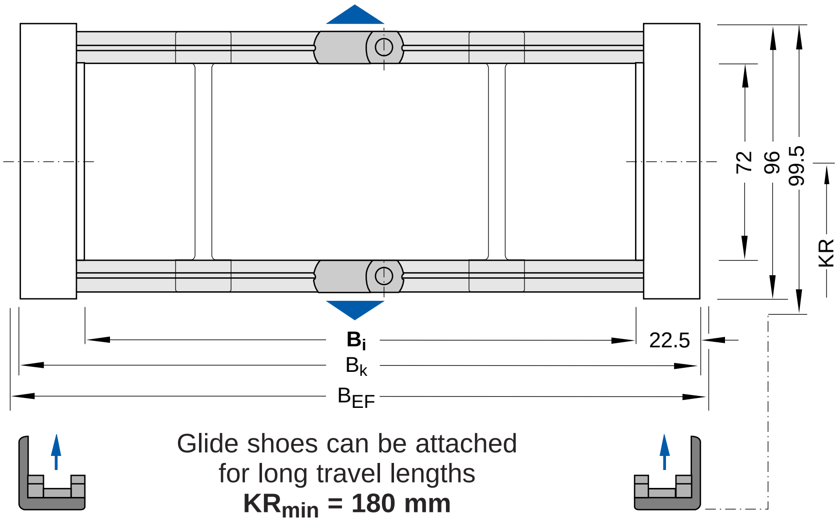
Frame stay – reinforced design with plastic adapter

Aluminium profile bars detachable on the inside and the outside

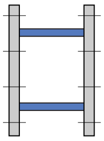
Not a bolted connection!

Profile bars can be released by turning them through 90°.

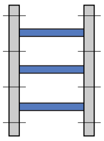
With stay variant "RV" at least 2 dividers **must** always be used.



Stay configuration:



1/2 Arrangement – Standard
Stays on every 2nd chain link



1/1 Arrangement
Stays on every chain link.
Please specify when placing order.

Calculation of chain width:

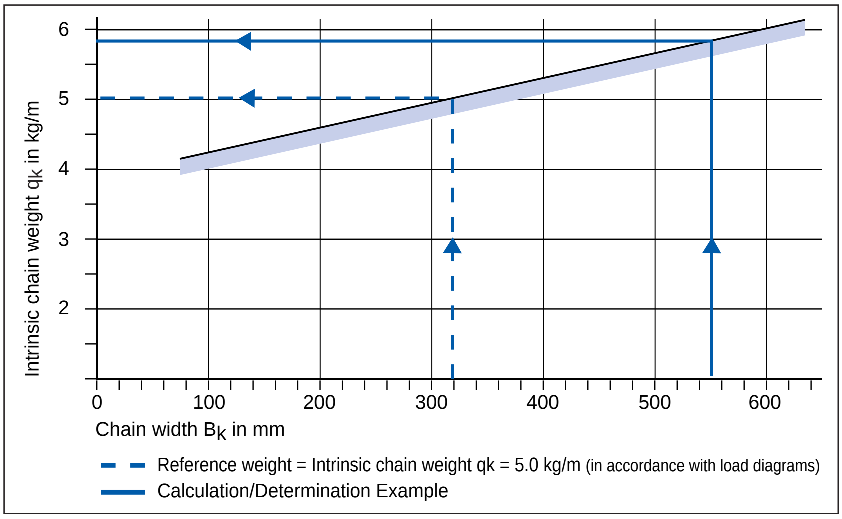
$B_k = \mathbf{B_i} + 45$ mm

Calculation of chain width over universal connector:

$B_{EF} = \mathbf{B_i} + 51$ mm

Calculation Example:

Inside width	$\mathbf{B_i}$ =	500 mm
Chain width	B_k =	545 mm
Chain width over universal connector	B_{EF} =	551 mm
Intrinsic chain weight	q_k =	5.8 kg/m



Intrinsic chain weight depending on chain width B_k

Glide shoes

For long travel lengths, gliding in a channel, interchangeable glide shoes are used. These can be produced from different plastics and guarantee optimum friction and wear ratios. For travel speeds > 2.5 m/s highly wear-resistant plastic is used.

Type MC 1250

Divider systems

for stay variant “RV“

The divider system can be planned by you or by our engineers on the basis of the information you supply about the configuration of the cable carrier.

As standard, the divider system is fitted on every frame stay! (with stay assembly on every 2nd chain link)

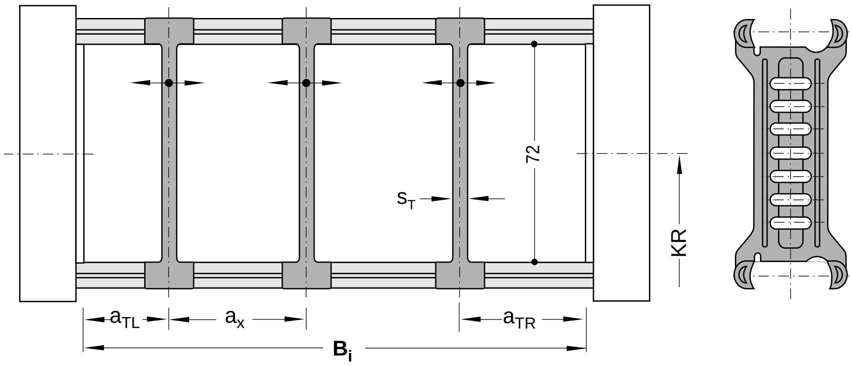
Divider system TS 0

without height subdivision

s_T	=	6 mm
$a_{T\,min}$	=	8 mm
$a_{x\,min}$	=	16 mm
$n_{T\,min}$	=	2

Please state the number of dividers/cross section n_T when ordering.

Sample order:
Divider system TS 0/n_T 3

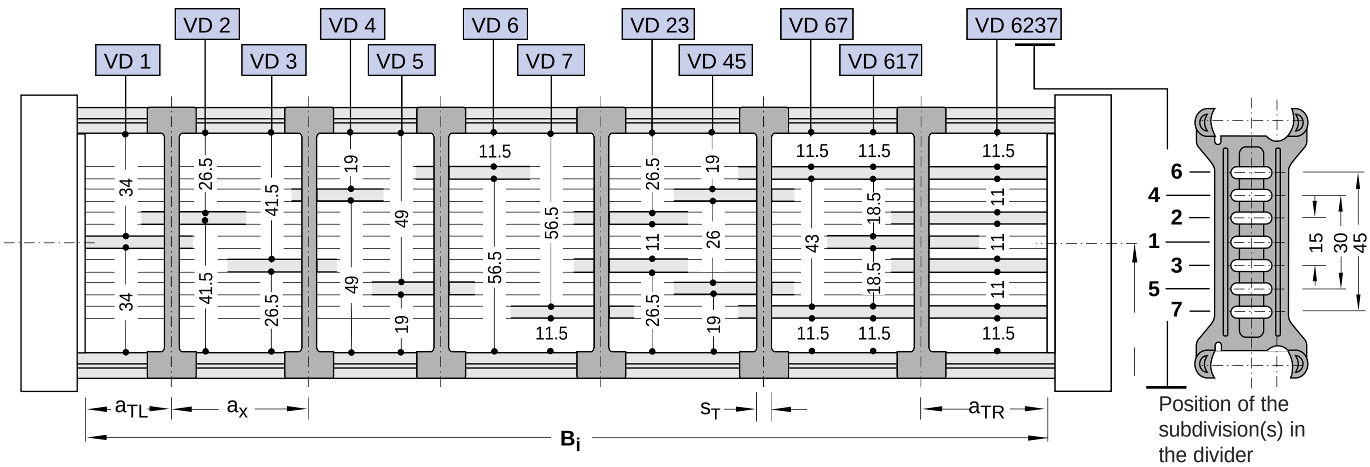


The dividers can slide along the chain cross section!

Divider system TS 1

with continuous height subdivision
Height subdivision: **Al-Profile 11 x 4 mm**

Technically recommended variants: VD 1, VD 2 and VD 3
The dividers can slide along the chain cross section!



s_T	=	6 mm
$a_{T\,min}$	=	8 mm
$a_{T\,max}$	=	25 mm
$a_{x\,min}$	=	16 mm
$n_{T\,min}$	=	2

Please state the type of height subdivisions and the number of dividers/cross section n_T when ordering.

Sample order:
Divider system TS 1– VD 1/n_T 6

Type MC 1250

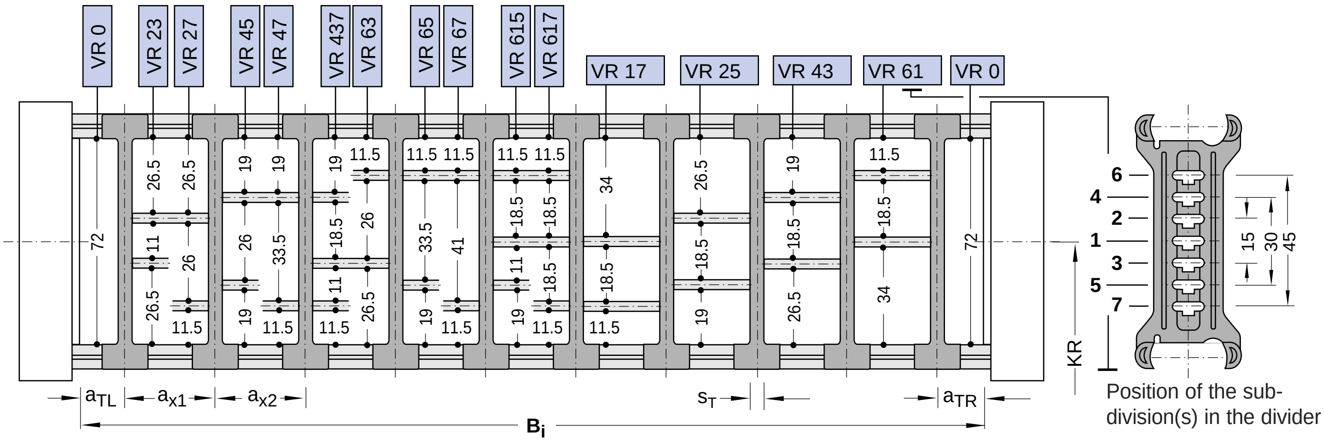
Divider systems

for Stay variant “RV“

Divider system TS 2

with grid subdivision (1 mm grid)
Height subdivision: **Al-Profile 11 x 4 mm**

Technically recommended variants: VR 0, VR 1, VR 2 and VR 3
Dividers fixed by height subdivision, the grids can slide along the chain cross section!



s_T	=	6 mm
$a_{T\ min}$	=	8 mm
$a_{x\ min}$	=	20 mm (with height subdivision)
$a_{x\ min}$	=	16 mm (at VR 0)
$n_{T\ min}$	=	2

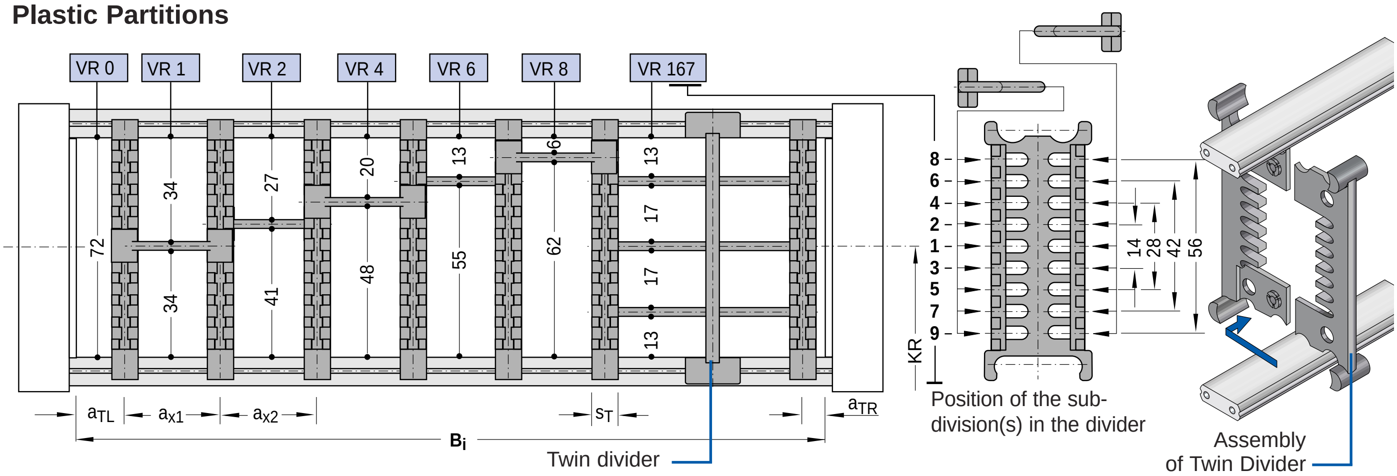
Please indicate the cavities (from left to right), the relevant sub-division variant and the assembly spacing a_T and a_x when ordering.

Sample order: Divider system TS 2
K(cavity) 1 - VR 0 / 40 mm
K 2 - VR 1 / 98 mm
K 3 - VR 2 / 62 mm

Divider system TS 3

with height subdivision:
Plastic Partitions

Technically recommended variants: VR 0, VR 1, VR 2 and VR 3
Dividers fixed by height subdivision, the grids can slide along the chain cross section!



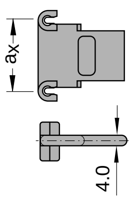
s_T	=	8 mm
$a_{T\ min}$	=	4 mm
$a_{x\ min}$	=	16 mm (with height subdivision)
$a_{x\ grid}$	=	see a_x-table
$n_{T\ min}$	=	2

a_x mm (Centre-to-centre distance of dividers)														
16	18	23	28	32	33	38	43	48	58	64	68	78	80	88
96	112	128	144	160	176	192	208							

The twin divider can be moved, suitable for later assembly/fitting.

When using partitions with a_x > 112 mm, a twin divider should be used to provide an additional central support.

s_T	=	4 mm



Please indicate the cavities (from left to right), the relevant subdivision variant and the assembly spacing a_T and a_x when ordering.

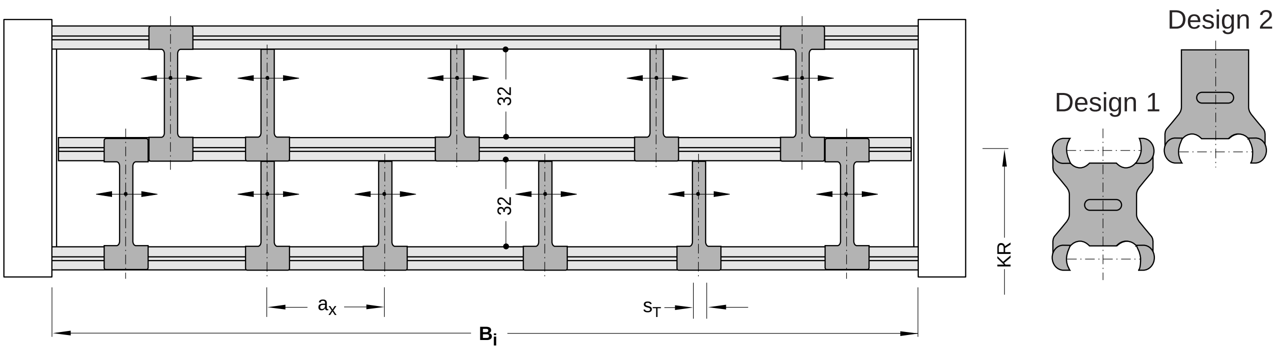
Sample order: Divider system TS 3
K(cavity) 1 - VR 0 / 80 mm
K 2 - VR 1 / 38 mm
K 3 - VR 1 / 68 mm
with twin divider

Type MC 1250

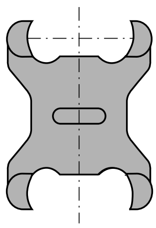
Divider systems
for Stay variant "RV"

Divider system TS 4

with continuous height subdivision
Height subdivision: **Al-Profile 27 x 8 mm**



s_T	=	4 mm
$a_{x\ min}$	=	15 mm

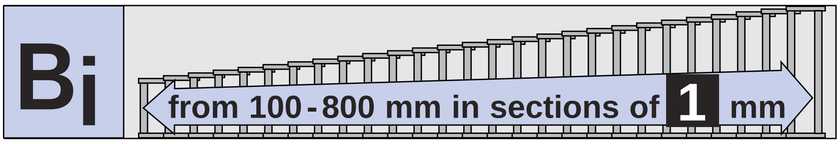


Half dividers can slide along the chain cross-section. At least 2 half dividers with clasp grips on both sides (Design 1) should be fitted in the upper and lower chambers near to the chain band.

Please state the type of height subdivisions and the number of dividers/cross section when ordering.

Sample order: Divider system TS 4
Please enclose a sketch

Type MC 1250



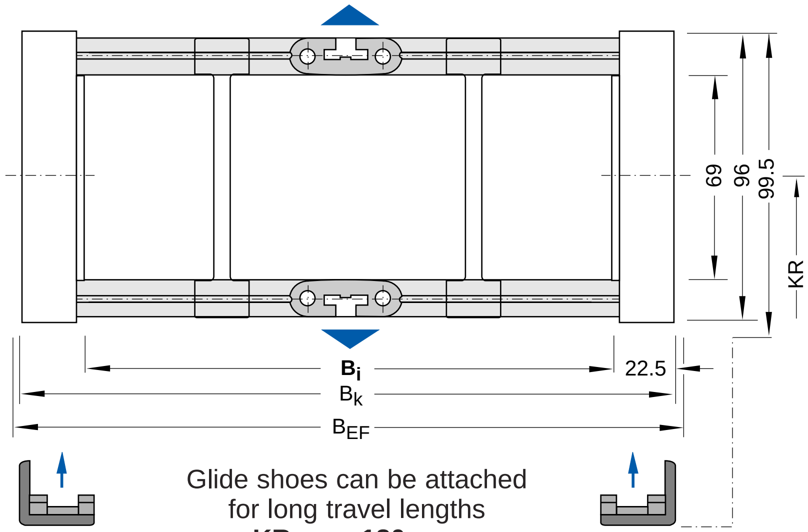
Chain cross sections

in accordance with section in schematic illustration

Stay variant “RM“

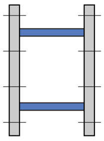
Frame stay – solid design

All profile bars on the inside and outside have double bolt fittings on both sides.

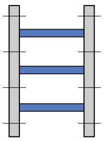


Glide shoes can be attached for long travel lengths
KR_{min} = 180 mm

Stay configuration:



1/2 Arrangement – Standard
Stays on every 2nd chain link



1/1 Arrangement
Stays on every chain link.
Please specify when placing order.

Calculation of chain width:

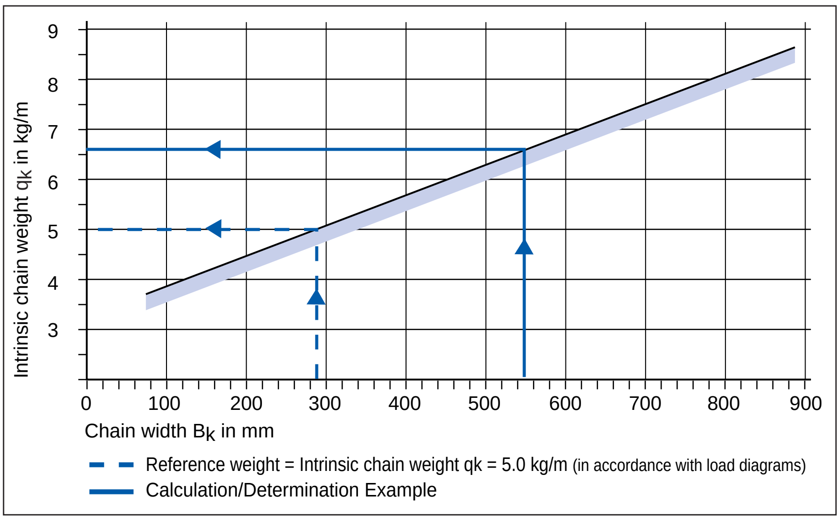
B_k	=	$\mathbf{B_i}$	+	45 mm

Calculation of chain width over universal connector:

B_{EF}	=	$\mathbf{B_i}$	+	51 mm

Calculation Example:

Inside width	$\mathbf{B_i}$	=	500 mm
Chain width	B_k	=	545 mm
Chain width over universal connector	B_{EF}	=	551 mm
Intrinsic chain weight	q_k	=	6.7 kg/m



Intrinsic chain weight depending on chain width B_k

Glide shoes

For long travel lengths, gliding in a channel, interchangeable glide shoes are used. These can be produced from different plastics and guarantee optimum friction and wear ratios. For travel speeds > 2.5 m/s highly wear-resistant plastic is used.

Type MC 1250

Divider systems
for stay variant “RM“

Divider system TS 0

without height subdivision

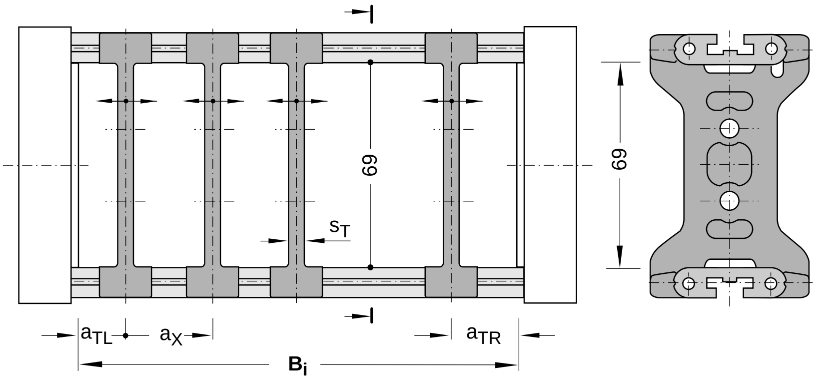
s_T	=	5 mm
$a_{T\,min}$	=	10 mm
$a_{x\,min}$	=	20 mm

Please state the number of dividers/cross section n_T when ordering.

Sample order:
Divider system TS 0/n_T 3

The divider system can be planned by you or by our engineers on the basis of the information you supply about the configuration of the cable carrier.

As standard, the divider system is fitted on every frame stay! (with stay assembly on every 2nd chain link)



The dividers can slide along the chain cross section!

Divider system TS 5

Hole stay – split design

Calculation of B_i

$$B_i = \Sigma\, n_p\, B_p - 3\text{ mm}$$

n_p = Number of hole stay inserts
B_p = Width of hole stay inserts

Calculation of chain width:

$$B_k = B_i + 45\text{ mm}$$

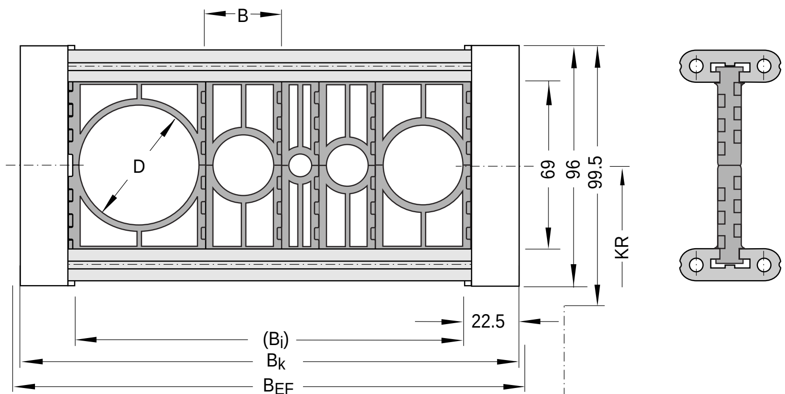
Calculation of chain width over universal connector:

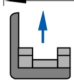
$$B_{EF} = \mathbf{B_i} + 51\text{ mm}$$

Please state the hole diameter and position (from left to right) when placing your order.

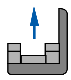
Sample order: Divider System TS 5
B_1 = 50 mm, B_2 = 30 mm, B_3 = 25 mm, B_4 = 45 mm

If possible please enclose a sketch.

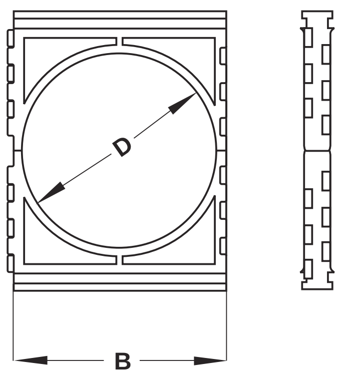




Glide shoes can be attached
for long travel lengths
KR_{min} = 180 mm



Size D	Width B
10	15
15	20
20	25
25	30
30	35
40	45
50	55
55	60



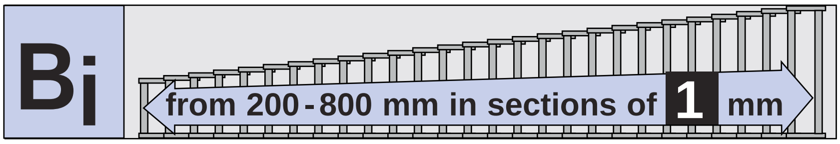
The hole stay inserts can be combined according to preference.

The cables and hoses must be able to move freely in the cable carrier.
In order to calculate the required free space the following values apply:

for round cables:	**10 %**	of the cable diameter
for hoses:	**20 %**	of the hose diameter

KABELSCHLEPP

Type MC 1250



Chain cross sections

in accordance with section in schematic illustration

Stay variant RMA

The stay variant RMA serves to guide particularly **large** cable diameters within the cable carrier.

The mounting frame stay can be fitted **inside** or **outside** in the bend radius according to preference.

Profile bar material: **Aluminium Alloy**

Divider material: **Plastic**

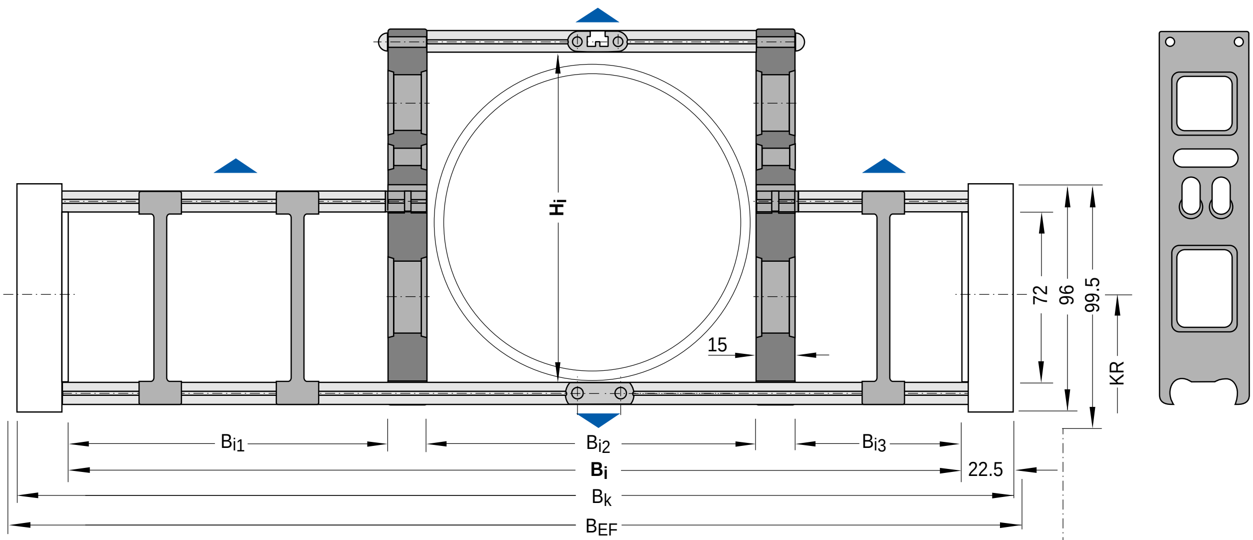
The cable carrier must lie on the chain bands and not on the stays.

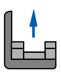
Fitting to the inside – observe the minimum KR:				
H_i = 130 mm	–	KR_{min}	=	180 mm
H_i = 160 mm	–	KR_{min}	=	180 mm
H_i = 200 mm	–	KR_{min}	=	220 mm
$B_{i\,1min}$, $B_{i\,3min}$,			=	40 mm

Fitting to the outside –
Consider the operating and installation heights.

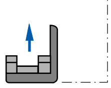
The cable carrier must lie on the chain bands and not on the stays.

Because of the design and layout parameters which need to be considered we would ask that you consult our technical department.





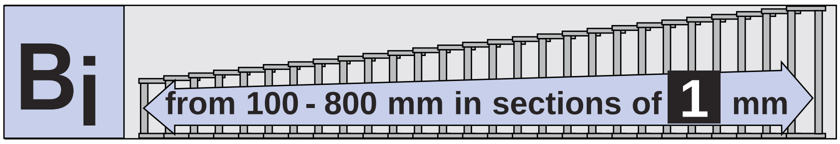
Glide shoes can be attached
for long travel lengths
KR_{min} = 180 mm



Type MC 1250

Chain cross sections

in accordance with section in schematic illustration



Stay variant RMR

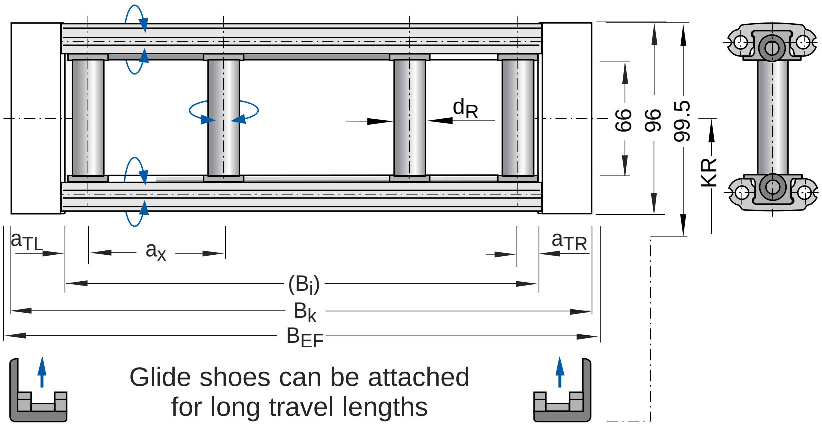
Plastic roller stay for the highest specifications – protecting the cables and hoses.

Aluminium connecting profiles with plastic roller system.

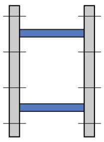
Movable dividers and roller stays can be used to separate the cables and hoses from one another.

Customised, contract-specific manufacture in accordance with your specifications.

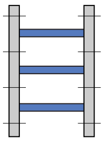
d_R	=	10 mm
s_T	=	6 mm
$a_{T\,min}$	=	6.5 mm
$a_{x\,min}$	=	13 mm



Stay configuration:



1/2 Arrangement – Standard
Stays on every 2nd chain link



1/1 Arrangement
Stays on every chain link.
Please specify when placing order.

Calculation of chain width:

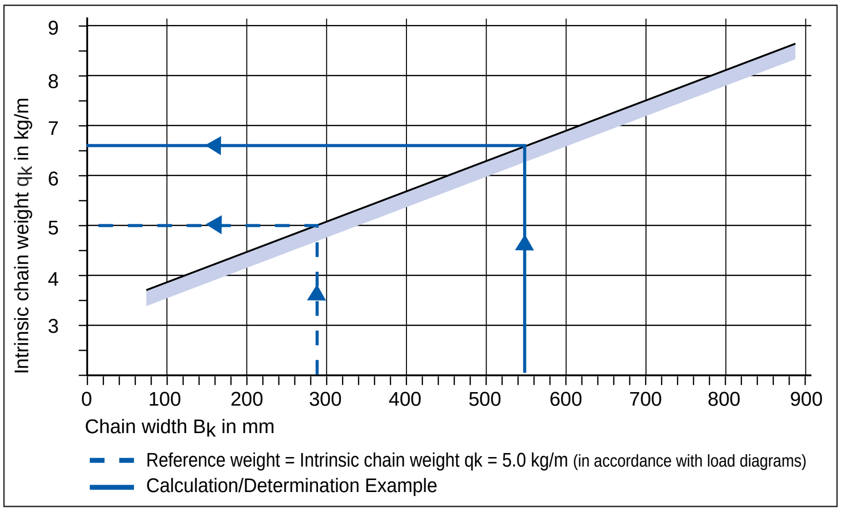
B_k = $\mathbf{B_i}$ + 45 mm

Calculation of chain width over universal connector:

B_{EF} = $\mathbf{B_i}$ + 51 mm

Calculation Example:

Inside width	$\mathbf{B_i}$	=	500 mm
Chain width	B_k	=	545 mm
Chain width over universal connection	B_{EF}	=	551 mm
Intrinsic chain weight	q_k	=	6.7 kg/m

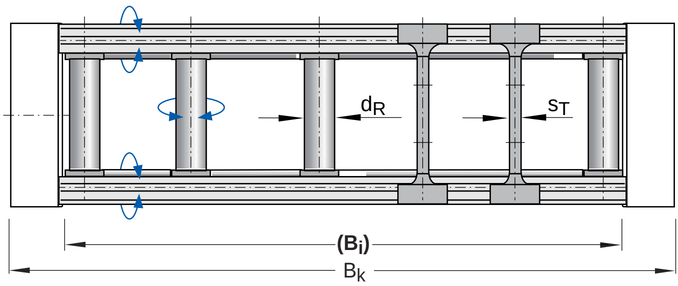


Intrinsic chain weight depending on chain width B_k

Combination Example:

Roller stay combined with dividers

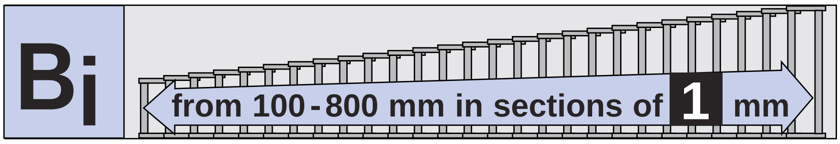
Please state the number of roller stays n_T and dividers n_T when ordering.



Glide shoes

For long travel lengths, gliding in a channel, interchangeable glide shoes are used. These can be produced from different plastics and guarantee optimum friction and wear ratios. For travel speeds > 2.5 m/s highly wear-resistant plastic is used.

Type MC 1250



Chain cross sections

in accordance with section in schematic illustration

Stay variant LG

Hole stay – split design (Standard)

Fitted on every 2nd chain link

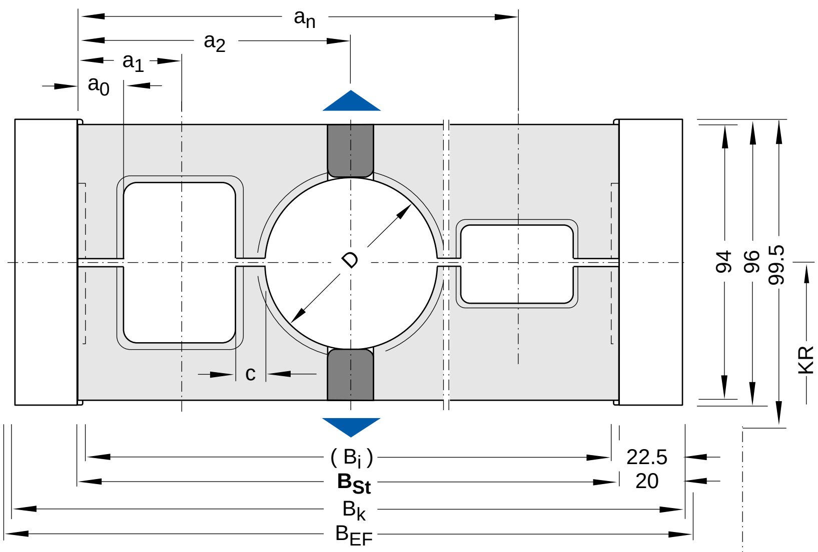
No standard widths!

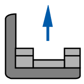
Customized, contract-specific manufacture of hole pattern in accordance with your specifications

Stay variant LU – hole stay in unsplit design.

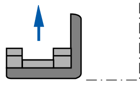
Please specify when placing order!

D_{max}	=	74 mm
$a_{0\,min}$	=	12 mm
c_{min}	=	4 mm

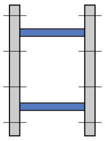




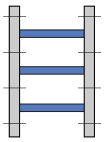
Glide shoes can be attached for long travel lengths
KR_{min} = 180 mm



Stay configuration:



1/2 Arrangement – Standard
Stays on every 2nd chain link



1/1 Arrangement
Stays on every chain link. Please specify when placing order.

Calculation of Bi

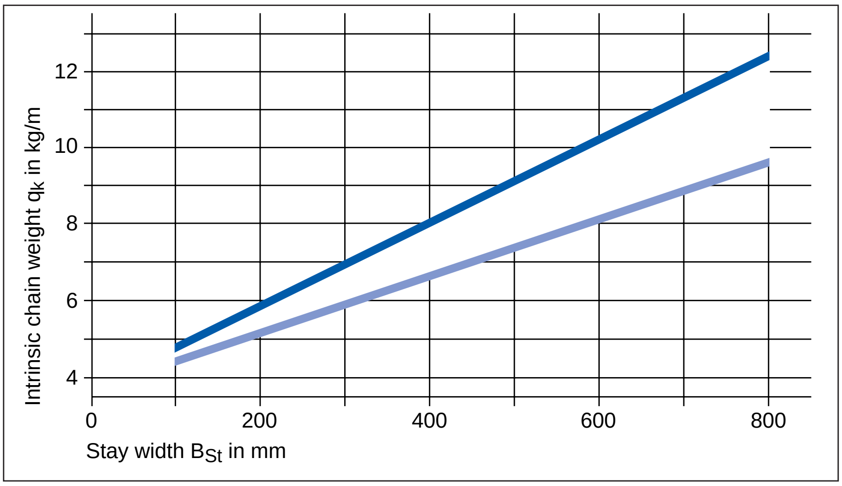
B_i	=	B_{St} - 5 mm

Calculation of chain width:

B_k	=	B_{St} + 40 mm

Calculation of chain width over universal connector:

B_{EF}	=	B_i + 51 mm



Intrinsic chain weight depending on stay width B_{St}

■ Hole stays with 40 % hole area
■ Hole stays with 60 % hole area

Glide shoes

For long travel lengths, gliding in a channel, interchangeable glide shoes are used. These can be produced from different plastics and guarantee optimum friction and wear ratios. For travel speeds > 2.5 m/s highly wear-resistant plastic is used.

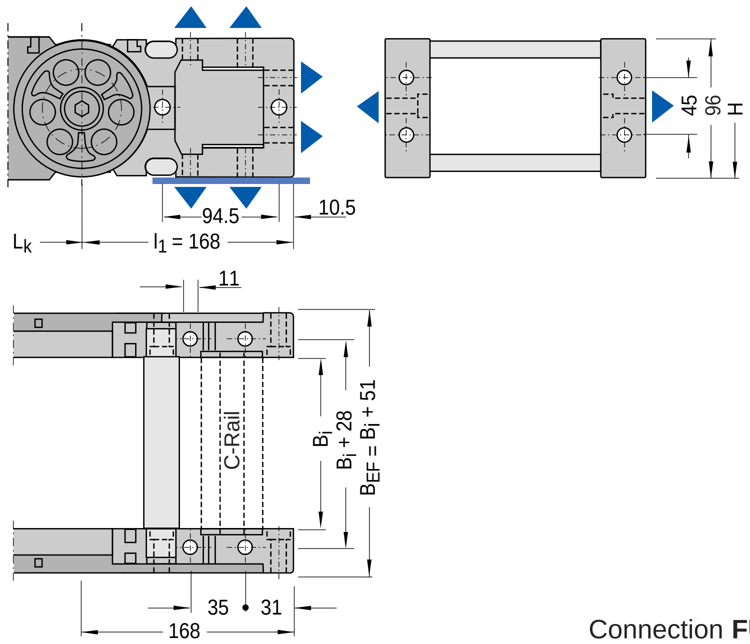
Type MC 1250

Connection dimensions

Universal connectors made of die-cast Aluminium

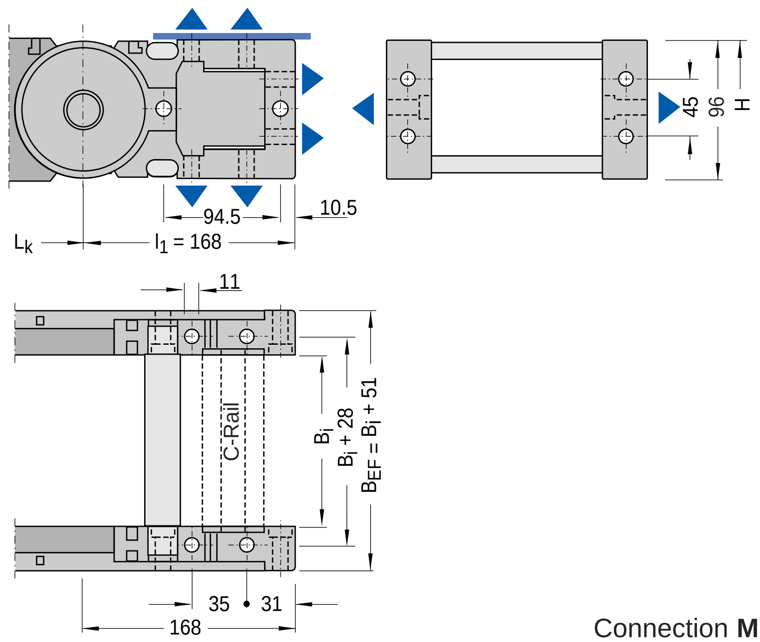
Optionally with C-Rail, slit width 16-17 mm. Suitable for all commercial saddle-type clamps with large base and KABELSCHLEPP SLZ Strain Relief Devices (cf. System Components).

Fixed point connection



Connection **FU**

Driver connection



Connection **MU**

Ordering Key for the connection:

X U

Connection point
F - Fixed point
M - Driver

U - Universal connection

Ordering Key for cable carrier:

MC 1250.530 - RM - 260 - 4250

- Type
- Inside width B_i in mm (for frame stays)
- Stay width B_{St} in mm (for hole stays)
- Stay variant
- Bend radius KR in mm
- Chain length L_k in mm (without connection)

Example:

Cable carrier type MC 1250, inside width B_i 530 mm, with frame stay RM – solid design, with bend radius KR 260 mm and chain length L_k = 4250 mm

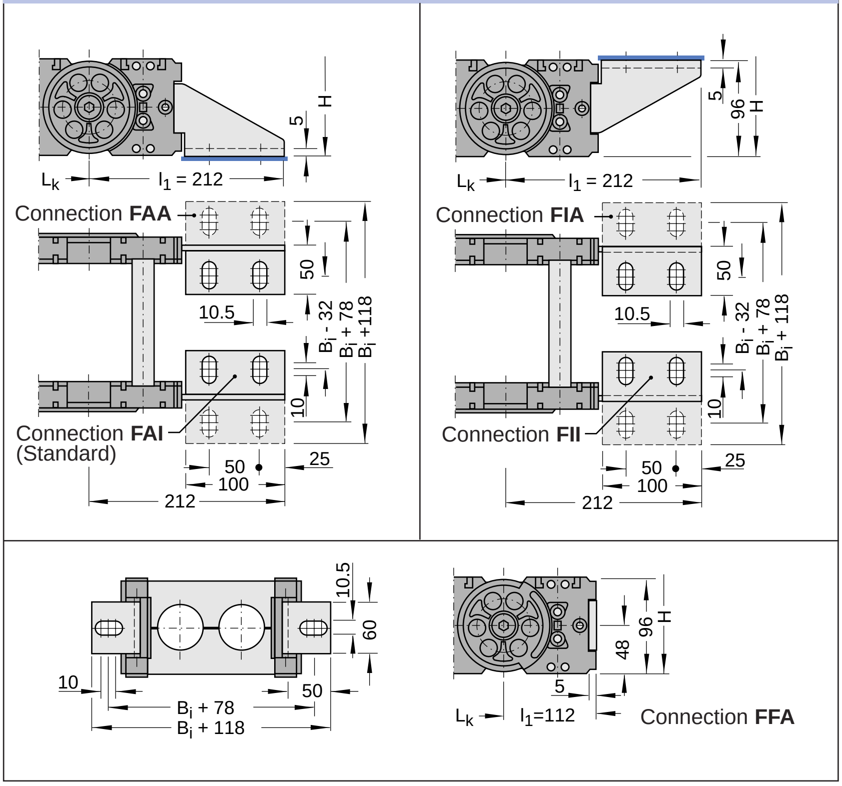
KABELSCHLEPP

Type MC 1250

Connection dimensions

End link made of plastic
End connector made of steel plate

Fixed point connection



Ordering Key for the connection:

X X X

Connection point
F - Fixed point
M - Driver

Connection type
A - Threaded joint to the outside (Standard)
I - Threaded joint to the inside (towards KR)
F - Flange connection

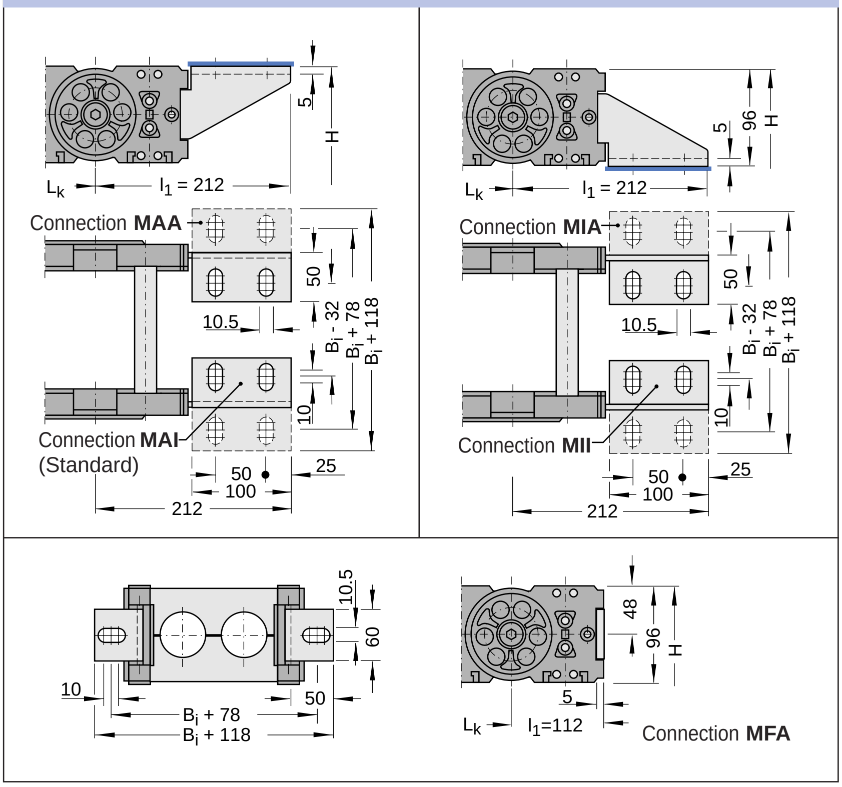
Connection surface
I - Connection surface inside (< B_i)
A - Connection surface outside (> B_i)

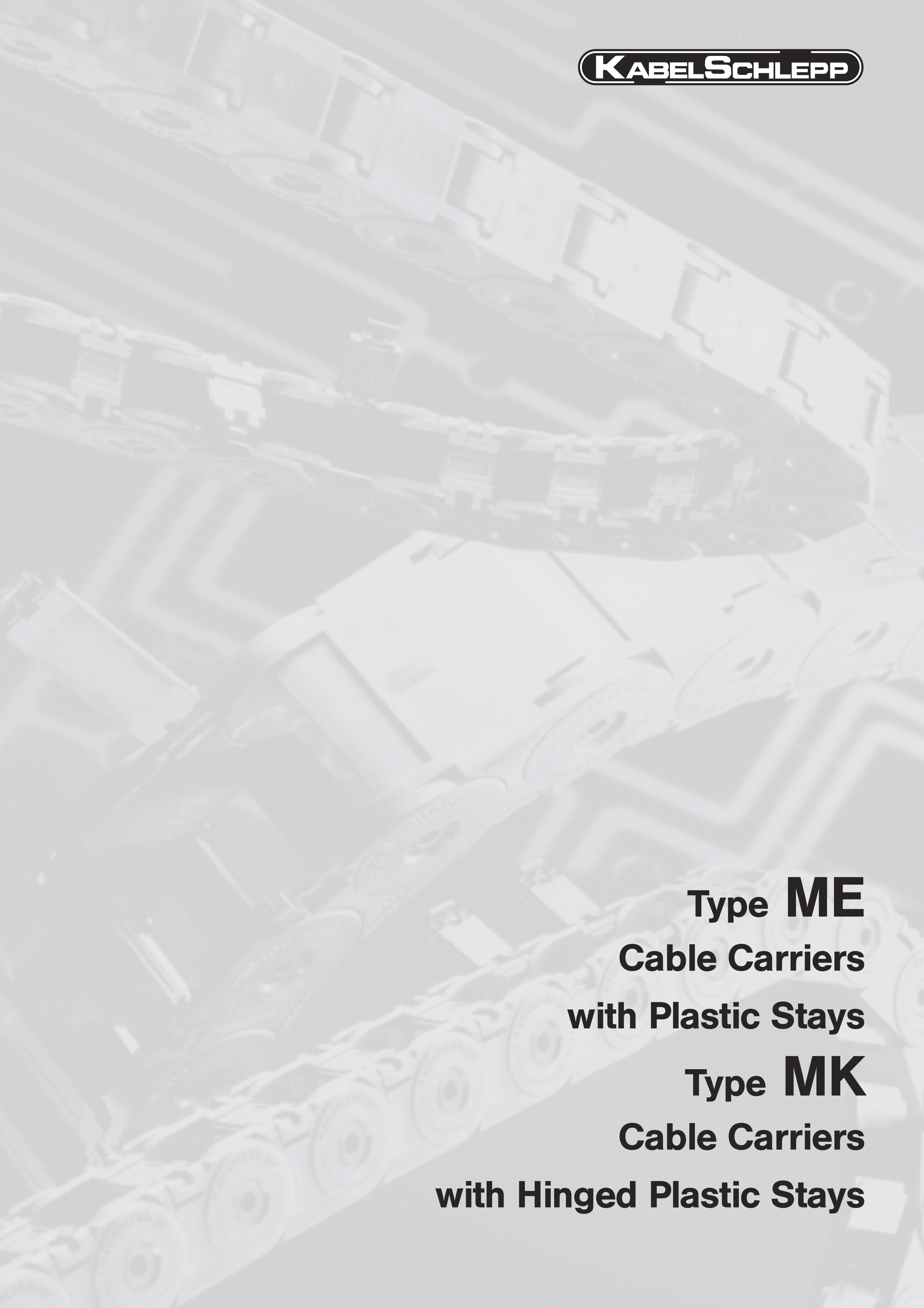
The connection variants at the fixed point and at the driver can be combined and subsequently changed if required.

Please state the desired connection variant when ordering.

Example: FAI/MAI or **FAI/MAA**

Driver connection





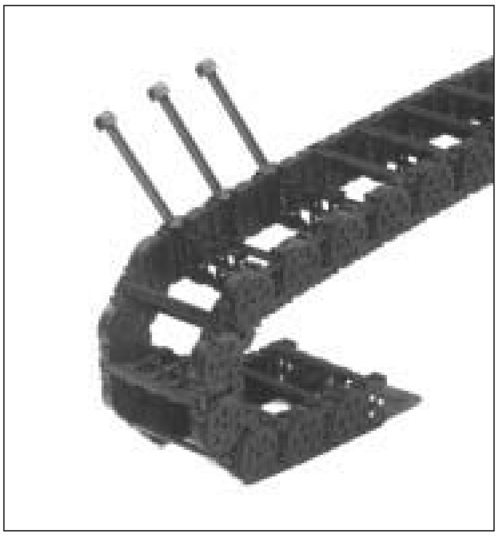
KabelSchlepp

Type ME
Cable Carriers
with Plastic Stays

Type MK
Cable Carriers
with Hinged Plastic Stays

KABELSCHLEPP

Type ME



Type MK

TÜV Rheinland Product Safety

BAUART GEPRÜFT

TYPE APPROVED

Profile

Cable Carriers with Plastic Stays

Type ME
Type MK

- Variable widths in 4, 8 mm and 16 mm sections
- Plastic chain bands combined with plastic stays
- Extremely robust owing to sturdy sidebar design
- Enclosed stroke system not sensitive to dirt/contamination
- Can be opened quickly on both sides
- As standard universal connecting pieces made of die-cast Aluminium suit every assembly situation
- Large choice of stay systems and ways to separate the cables
- From MK 0475 highly abrasion-resistant glide shoes are available, causing minimal wear
- With optional strain relief
- TÜV type approved in accordance with 2PfG 1036/10.97
- 2D-/3D-CAD-Data can be found at www.kabelschlepp.de

Stay variants:

RE – Plastic insert stay

RD – Hinged joint design

Chain Band Material:	**K 7426 S (Standard)** → cf. Interesting Technical Information 7.14
Connecting Profile Material:	**Special plastic - Long fibre** → cf. Interesting Technical Information 7.14

Type	Inside width		Chain width		Inside height	Pitch
	$B_{i\,min}$	$B_{i\,max}$	$B_{k\,min}$	$B_{k\,max}$	h_i	t
	mm	mm	mm	mm	mm	mm
ME 0320	25	149	36	160	19	32
ME 0650	50	266	84	300	42	65
ME 0950	45	557	84	596	58	95
ME 1250	71	551	116	596	72	125

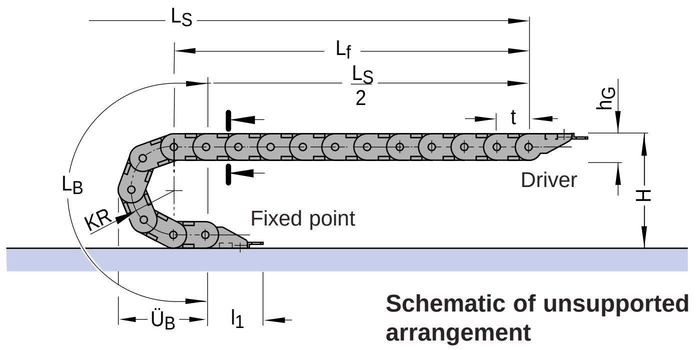
Type	Inside width		Chain width		Inside height	Pitch
	$B_{i\,min}$	$B_{i\,max}$	$B_{k\,min}$	$B_{k\,max}$	h_i	t
	mm	mm	mm	mm	mm	mm
MK 0475	24	280	41	297	28	47.5
MK 0650	50	266	84	300	42	65
MK 0950	45	557	84	596	58	95
MK 1250	71	551	116	596	72	125

Type ME 0320

Design of the Cable Carriers

Chain pitch t	= 32 mm
Chain link height h_G	= 27.5 mm
Connection height H_{min}	= 2 KR + 27.5 mm
Connection length l_1	= cf. Connection Dimensions

A flat and level surface is required for the carrier system to be installed properly. If necessary, a support tray should be installed. (cf. System Components section)



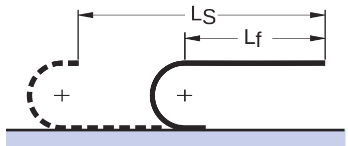
Schematic of unsupported arrangement

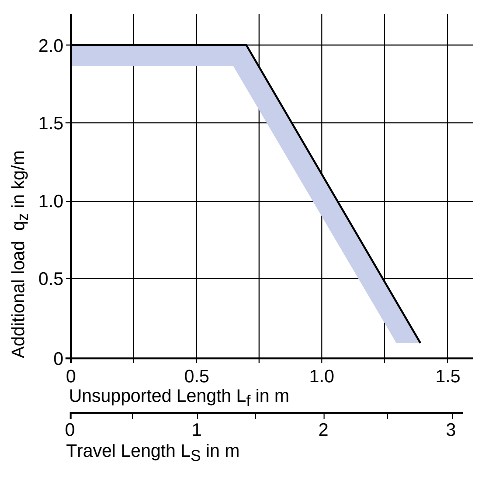
Variable sizes
depending on bend radius

Bend radius KR	**37** mm	**47** mm	**77** mm	**100** mm	**200** mm
Bend length L_B	181	212	306	379	693
Loop overhang $Ü_B$	83	93	123	146	246
Height H_{min}	101.5	121.5	181.5	227.5	427.5

Load diagram

Unsupported length L_f and travel length L_S
depending on the additional load (cf. Construction Guidelines)





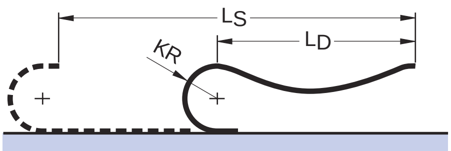
Load diagram for an intrinsic chain weight q_k of 0.6 kg/m. If the intrinsic chain weight exceeds q_k 0.6 kg/m, the permissible additional load is lower.

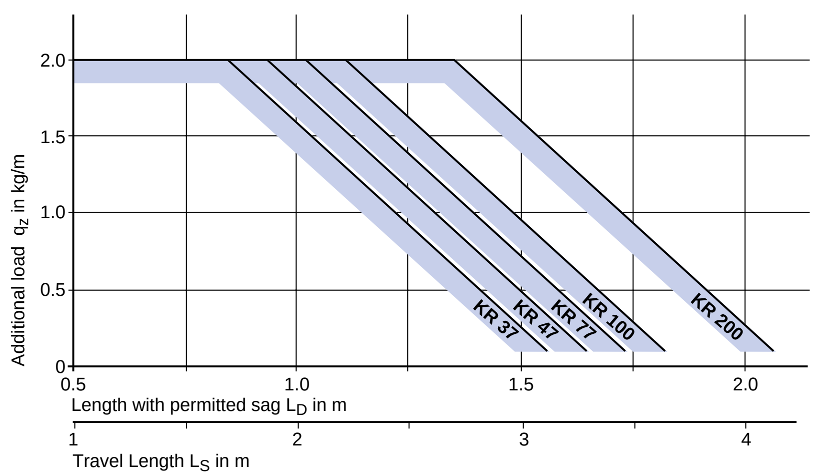
Calculation of chain length:

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

rounded to pitch 32 mm

Length with permitted sag L_D and travel length L_S
depending on the additional load (cf. Construction Guidelines)





Calculation of chain length:

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

rounded to pitch 32 mm

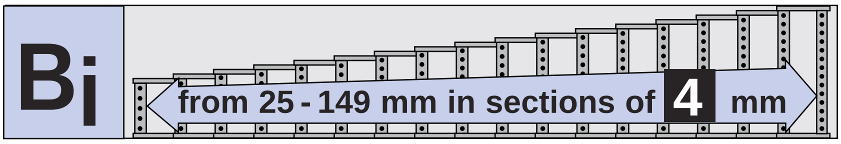
Long travel lengths

With long travel lengths the upper part of the cable carrier glides on its lower run in a guide channel.

Design	→	cf. Construction Guidelines
Guide channel	→	cf. System Components

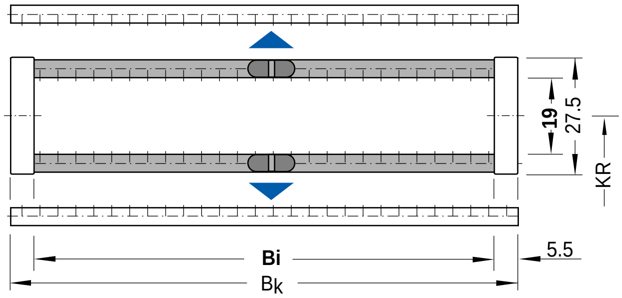
We recommend that a system of this kind be planned by one of our engineers.

Type ME 0320



Chain cross sections

in accordance with section in schematic illustration

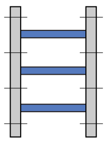


Opening variants:
Connecting profiles detachable
inside and **outside!**

Calculation of chain width:

$B_k = \mathbf{B_i} + 11$ mm

Stay configuration:



1/1 Arrangement
Stays on every chain link.

Chain widths

Chain widths available without strain relief

Chain widths available with strain relief

Reference weight = intrinsic chain weight q_k = 0.6 kg/m (cf. load diagrams)

32 chain widths are available

B_i mm	B_k mm	q_k kg/m	B_i mm	B_k mm	q_k kg/m	B_i mm	B_k mm	q_k kg/m
25	36	0.46	**69**	80	0.59	**113**	124	0.73
29	40	0.47	**73**	84	0.60	**117**	128	0.74
33	44	0.48	**77**	88	0.62	**121**	132	0.76
37	48	0.50	**81**	92	0.63	**125**	136	0.77
41	52	0.51	**85**	96	0.64	**129**	140	0.78
45	56	0.52	**89**	100	0.66	**133**	144	0.80
49	60	0.54	**93**	104	0.67	**137**	148	0.81
53	64	0.55	**97**	108	0.68	**141**	152	0.82
57	68	0.56	**101**	112	0.69	**145**	156	0.84
61	72	0.57	**105**	116	0.71	**149**	160	0.85
65	76	0.58	**109**	120	0.72			

Type ME 0320

Divider system

The divider system can be planned by you or by our engineers on the basis of the information you supply about the configuration of the cable carrier.

As standard, the divider system is fitted on every 2nd chain cross section!

Divider system TS 0

without height subdivision

	Version **A**	Version **B**
s_T	2 mm	2 mm
$a_{T\,min}$	3 mm	4.5 mm
$a_{x\,min}$	6 mm	8 mm

With Version B a_x must be divisible by 4!
Please state the number of dividers/cross section n_T when ordering.

Sample order:
Divider system TS 0 – A/n_T 4

Divider system TS 1

with continuous height subdivision
Height subdivision: **Al-Profile 9 x 2 mm**

	Version **A**	Version **B**
s_T	2 mm	2 mm
$a_{T\,min}$	3 mm	4.5 mm
$a_{T\,max}$	20 mm	20.5 mm
$a_{x\,min}$	6 mm	8 mm
$n_{T\,min}$	2	2

With Version B a_x must be divisible by 4!
Please state the type of height subdivisions and the number of dividers/cross section when ordering.

Sample order:
Divider system TS 1-A – VD 2/n_T 5

Divider system TS 2

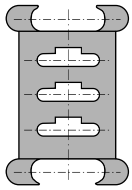
with grid subdivision
Height subdivision: **Al-Profile 11 x 4 mm**

	Version **A**	Version **B**
s_T	2 mm	2 mm
$a_{T\,min}$	3 mm	4.5 mm
$a_{x\,min}$ with subdivision	20 mm	20 mm
$a_{x\,min}$ at VR 0	6 mm	8 mm

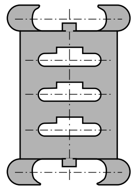
With Version B a_x must be divisible by 4!
Please indicate the cavities (from left to right), the relevant subdivision variant and the assembly spacing a_T and a_x when ordering.

Sample order:
Divider system TS 2-B

K(cavity) 1-VR 0 / 8.5 mm
K 2-VR 3 / 40 mm
K 3-VR 0 / 8 mm
K 4-VR 23 / 44 mm



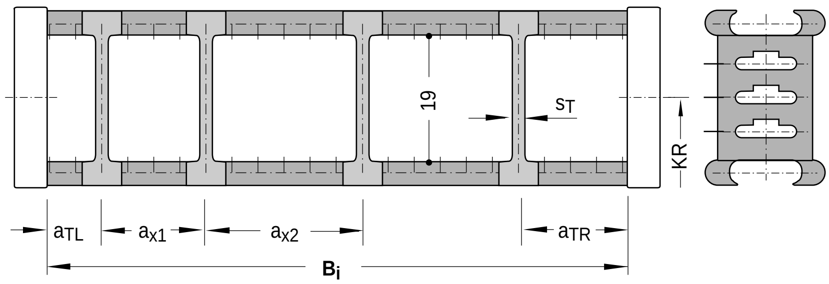
Version A **(Standard)**
The divider, without a stopping cam, can be moved along the chain cross-section!



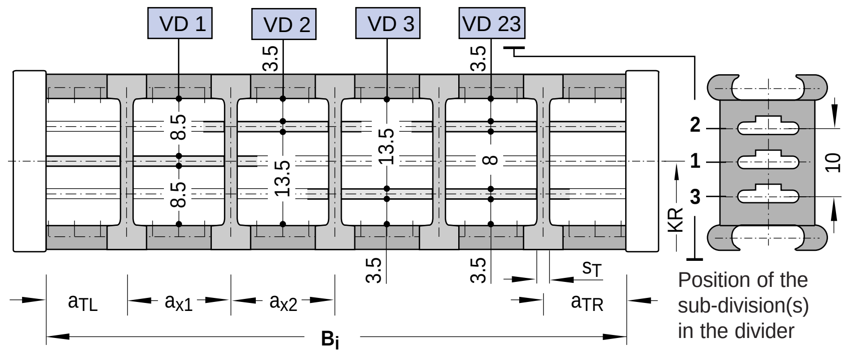
Version B
With a stopping cam the divider is fixed in the chain cross-section

(a_x-grid 4 mm)

A combination of the divider Versions A and B ist possible!

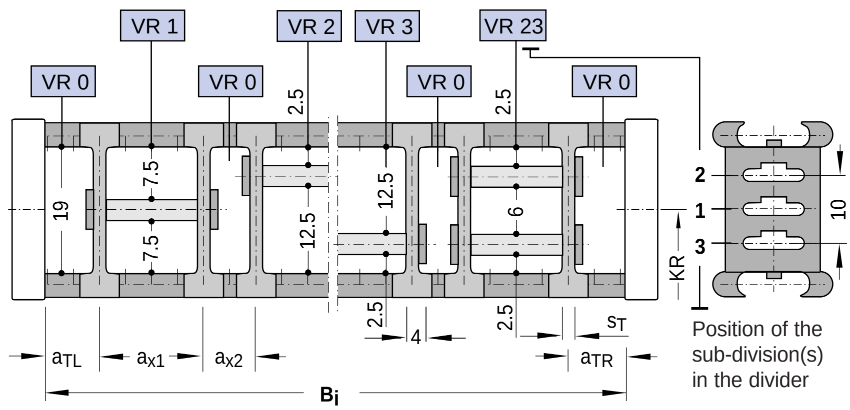


The dividers can be moved in the chain cross-section (Version A) and/or are fixed (Version B). With divider version B please state the fitting distances a_T and a_x !



Technically recommended variant: VD 1

The dividers can be moved in the chain cross-section (Version A) and/or are fixed (Version B). With divider version B please state the fitting distances a_T and a_x !



Technically recommended variants: VR 0 and VR 1

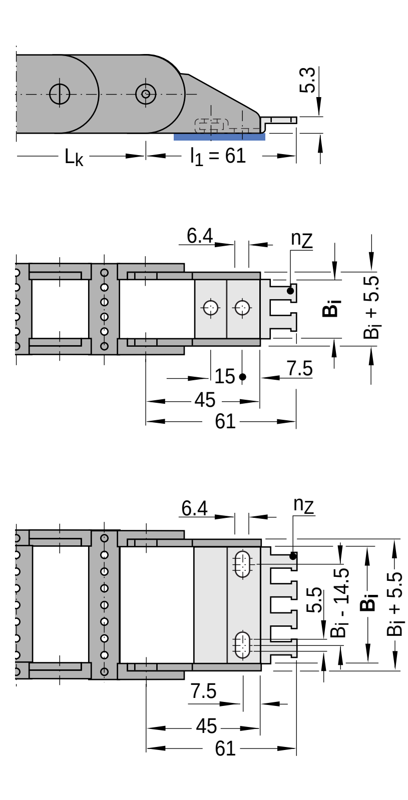
Dividers fixed by height subdivision profiles, the grid segments can slide along the cross-section (Version A) or are fixed (Version B)!

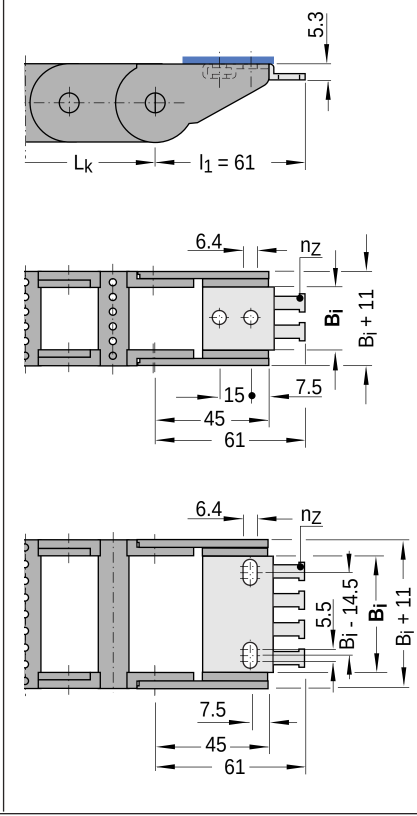
Type ME 0320

Connection dimensions

Plastic/Aluminium connecting elements with integrated strain relief.

Fixed point connection	Driver connection





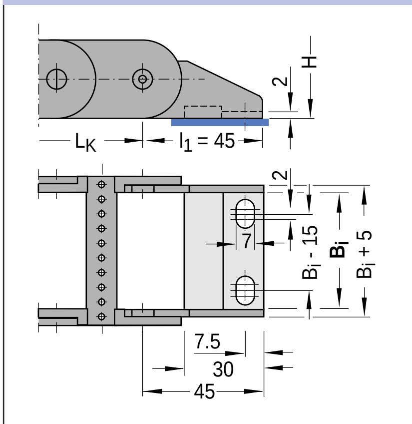
Type	B_i mm	Number of teeth n_Z
ME 0320.25	**25**	2
ME 0320.29	**29**	2
ME 0320.37	**37**	3
ME 0320.39	**39**	4
ME 0320.49	**49**	4
ME 0320.69	**69**	5
ME 0320.89	**89**	7
ME 0320.109	**109**	8
ME 0320.124	**124**	10
ME 0320.149	**149**	11

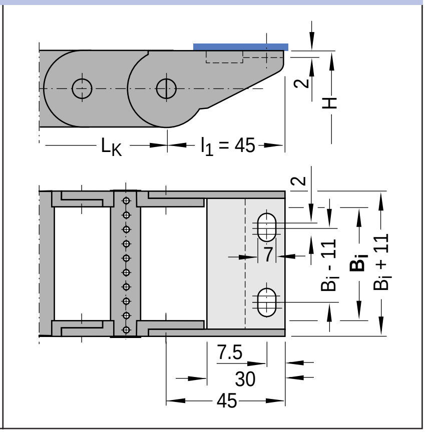
Chain widths which deviate from the inside chain widths $\mathbf{B_i}$ listed are supplied with connecting pieces without strain relief.

Connection dimensions

Plastic/Aluminium connecting pieces without integrated strain relief

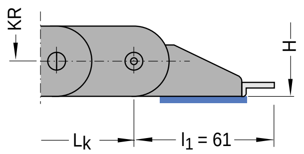
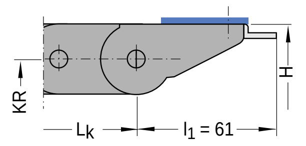
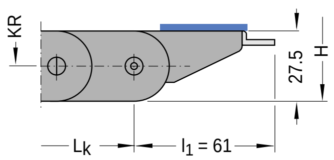
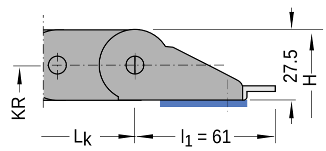
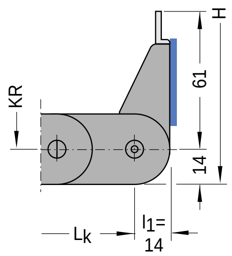
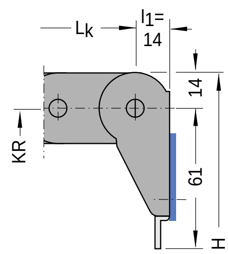
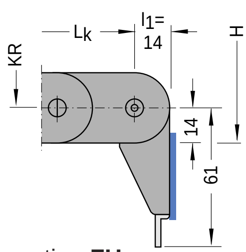
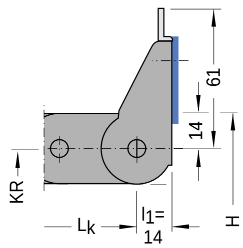
Fixed point connection	Driver connection





Type ME 0320

Connection variants

Fixed point connection	Driver connection
 Connection **FA** (Standard)	 Connection **MA** (Standard)
 Connection **FI**	 Connection **MI***
 Connection **FK**	 Connection **MK**
 Connection **FH**	 Connection **MH ***

*) Connecting pieces on the end chain link are fitted turned through 180°.

Ordering Key for the connection:

X X

Connection point
F - Fixed point
M - Driver

Connection type
A - Threaded joint to the outside (Standard)
I - Threaded joint to the inside (towards KR)
H - Connection element turned through 90° to the outside
K - Connection element turned through 90° to the inside (towards KR)

The connection variants at the fixed point and at the driver can be combined and subsequently changed if required.

Please state the desired connection variant when ordering.

Example: FA/MA or **FH/MK**

Ordering Key for cable carrier:

ME 0320.089 - 100 - 960

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

Example:
Cable carrier type ME 0320 - with plastic insert stay, Inside width B_i 89 mm, with bend radius KR 100 mm and chain length L_k = 960 mm.

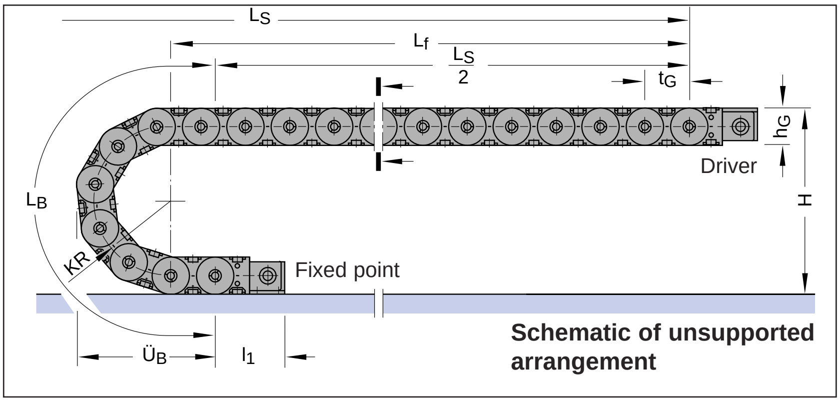
KABELSCHLEPP

Type MK 0475

Design of the Cable Carriers

Chain pitch t	= 47.5 mm
Chain link height h_G	= 39 mm
	(h_G´= 41.5 mm)
Connection height H_{min}	= 2 KR + 39 mm
Connection length l_1	= cf. Connection Dimensions

A flat and level surface is required for the carrier system to be installed properly. If necessary, a support tray should be installed. (cf. System Components section)



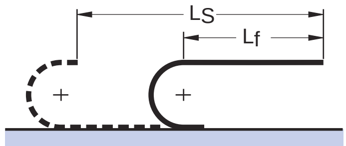
Schematic of unsupported arrangement

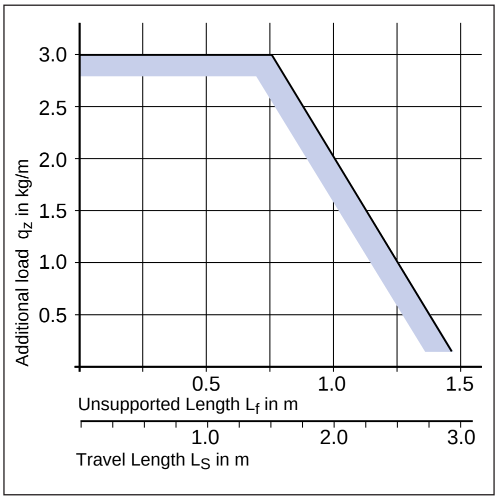
Variable sizes
depending on bend radius

Bend radius KR	55 mm	75 mm	100 mm	130 mm	160 mm	200 mm	250 mm	300 mm
Bend length L_B	268	331	410	504	598	724	881	1038
Loop overhang $Ü_B$	122	142	167	197	227	267	317	367
Connection height H_{min}	149	189	239	299	359	439	539	639

Load diagram

Unsupported length L_f and travel length L_S
depending on the additional load (cf. Construction Guidelines)





Load diagram for an intrinsic chain weight q_k of 1.7 kg/m. If the intrinsic chain weight exceeds q_k 1.7 kg/m, the permissible additional load is lower.

Calculation of chain length:

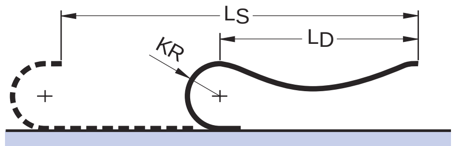
$$L_k \approx \frac{L_S}{2} + L_B$$

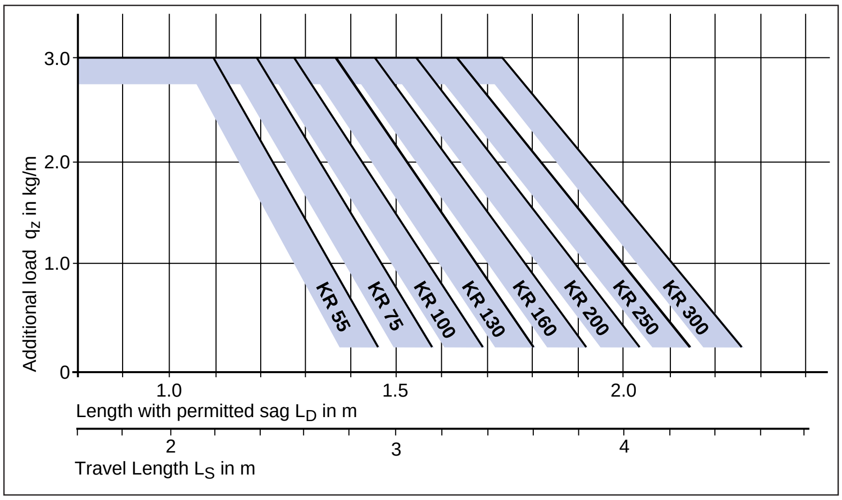
rounded to pitch 47.5 mm

KR/RKR-combinations are possible for circular movements.

Please consult us in any such cases!

Length with permitted sag L_D and travel length L_S
depending on the additional load (cf. Construction Guidelines)





Calculation of chain length:

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

rounded to pitch 47.5 mm

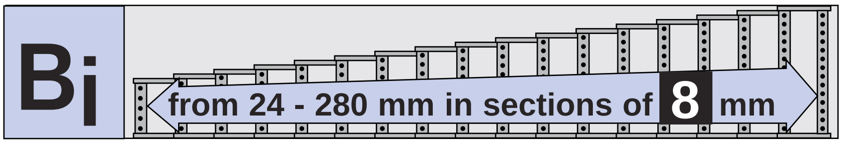
Long travel lengths

With long travel lengths the upper part of the cable carrier glides on its lower run in a guide channel.

Design	→	cf. Construction Guidelines
Guide channel	→	cf. System Components

We recommend that a system of this kind be planned by one of our engineers.

Type MK 0475

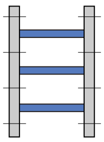


Chain cross sections

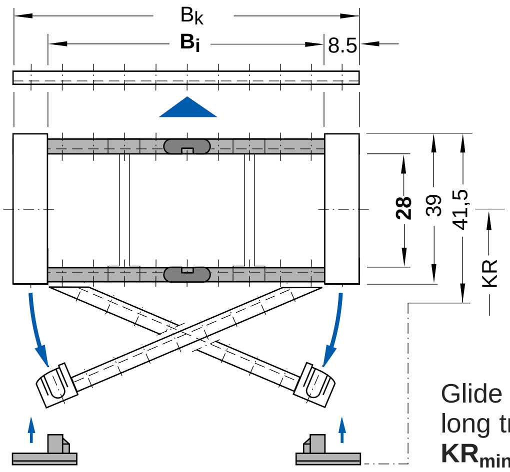
in accordance with section in schematic illustration

Opening variant 01:
Hinged stay brackets **inside**

Stay configuration:



1/1 Arrangement
Stays on every chain link.

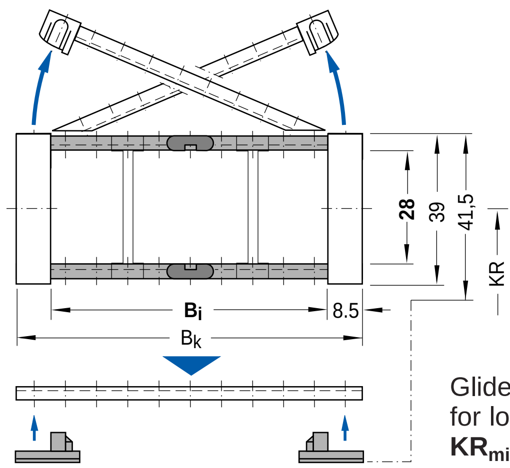


Glide shoes can be attached for long travel lengths
KR_{min} = 100 mm

Calculation of chain width:

B_k = $\mathbf{B_i}$ + 17 mm

Opening variant 02 (Standard):
Hinged stay brackets **outside**



Glide shoes can be attached for long travel lengths
KR_{min} = 100 mm

Calculation of chain width:

B_k = $\mathbf{B_i}$ + 17 mm

Chain widths / Intrinsic chain weight

- Chain widths available without strain relief
- Chain widths available with screwing on strain relief

Reference weight = intrinsic chain weight q_k = 1.7 kg/m (cf. load diagrams)

33 chain widths are available

B_i mm	B_k mm	q_k kg/m
24	41	0.79
32	49	0.86
40	57	0.93
48	65	1.00
56	73	1.07
64	81	1.14
72	89	1.21
80	97	1.28
88	105	1.35
96	113	1.42
104	121	1.49

B_i mm	B_k mm	q_k kg/m
112	129	1.56
120	137	1.63
128	145	1.70
136	153	1.77
144	161	1.84
152	169	1.91
160	177	1.98
168	185	2.05
176	193	2.12
184	201	2.19
192	209	2.26

B_i mm	B_k mm	q_k kg/m
200	217	2.33
208	225	2.40
216	233	2.47
224	241	2.54
232	249	2.61
240	257	2.68
248	265	2.75
256	273	2.82
264	281	2.89
272	289	2.96
280	297	3.03

Glide shoes

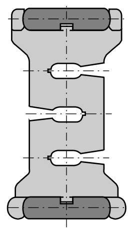
For long travel lengths, gliding in a channel, interchangeable glide shoes are used. These can be produced from different plastics and guarantee optimum friction and wear ratios. For travel speeds > 2.5 m/s highly wear-resistant plastic is used.

Type MK 0475

Divider system for opening variant 01 and 02

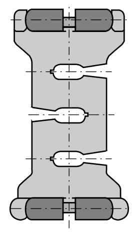
The divider system can be planned by you or by our engineers on the basis of the information you supply about the configuration of the cable carrier.

As standard, the divider system is fitted on every 2nd chain cross section!



Version **A**
Notch in connecting profile to the inside
(Standard)

The dividers can slide along the section.



Version **B**
Notch in connecting profile to the outside

The dividers are fixed in the section
(a_x-grid 8 mm)

Divider system TS 0

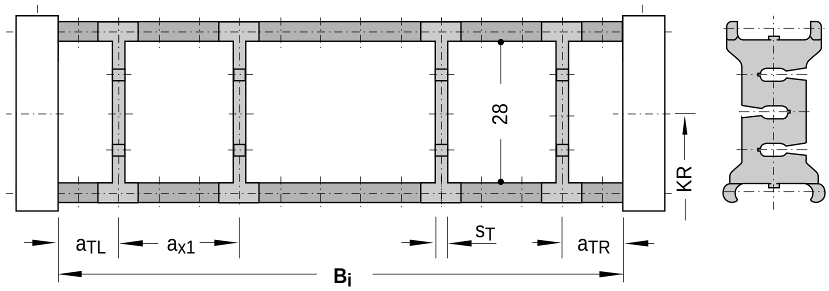
without height subdivision

	Version A	Version B
s_T	2.8 mm	2.8 mm
$a_{T\ min}$	6 mm	12 mm
$a_{x\ min}$	7.8 mm	8 mm
$a_{x\ grid}$	continuous	8 mm

With Version B a_x must be divisible by 8!

Please state the number of dividers/cross section n_T when ordering.

Sample order:
Divider system TS 0 – A / n_T 4



Dividers can slide along the cross-section (Version A) or are fixed (Version B). For divider version B please state fitting intervals a_T and a_x!

Divider system TS 1

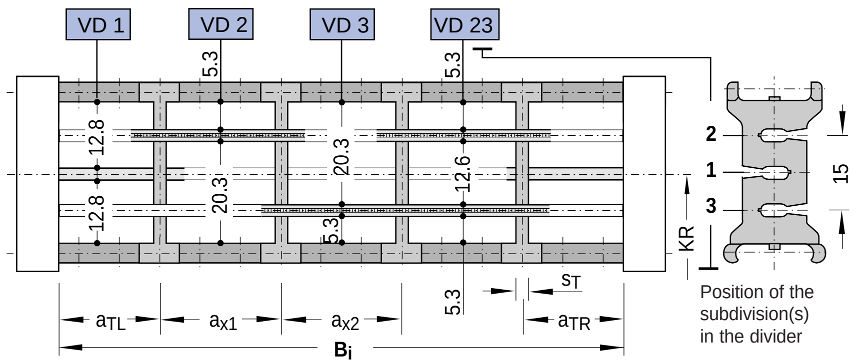
with continuous height subdivision
Height subdivision: **Al-Profile 6 x 2.4 mm**

	Version A	Version B
s_T	2.8 mm	2.8 mm
$a_{T\ min}$	6 mm	12 mm
$a_{T\ max}$	20 mm	20 mm
$a_{x\ min}$	7.8 mm	8 mm
$a_{x\ grid}$	continuous	8 mm
$n_{T\ min}$	2	2

With Version B a_x must be divisible by 8!

Please state the type of height subdivisions and the number of dividers/cross section when ordering.

Sample order:
Divider system TS 1-B – VD 1 / n_T 4



Technically recommended variants: VD 1

Dividers can slide along the cross-section (Version A) or are fixed (Version B). For divider version B please state fitting intervals a_T and a_x!

Divider system TS 2

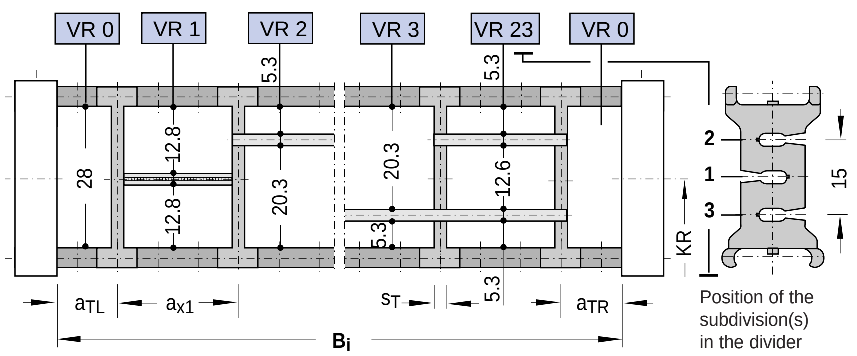
with grid subdivision
Height subdivision: **Al-Profile 6 x 2.4 mm**

	Version B
s_T	2.8 mm
$a_{T\ min}$	12 mm
$a_{x\ min\ with\ subdivision}$	24 mm
$a_{x\ min\ at\ VR\ 0}$	8 mm
$a_{x\ grid}$	8 mm

With Version B a_x must be divisible by 8!

Please indicate the cavities (from left to right), the relevant subdivision variant and the assembly spacing a_T and a_x when ordering.

Sample order:
Divider system TS 2-B
K(cavity) 1 - VR 0 / 12 mm
K 2 - VR 3 / 32 mm
K 3 - VR 1 / 40 mm



Grid segments are as a rule fixed in the chain cross-section (Version B)!

Type MK 0475

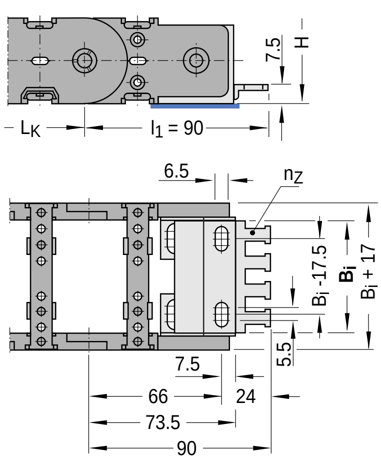
Connection dimensions

End connectors made of steel plate which can be attached to separate strain relief devices made of Aluminium by screwing together.

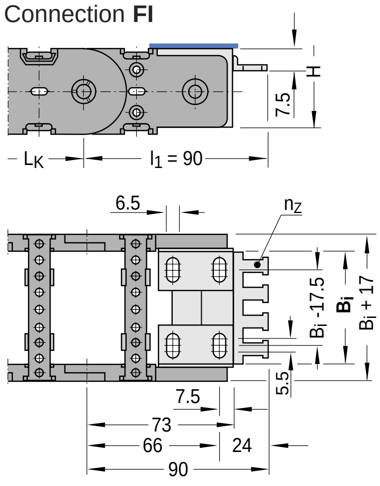
(Inside connection surface $B_{i\,min}$ = 40 mm)

Fixed point connection

Connection **FA** (Standard)



Connection **FI**



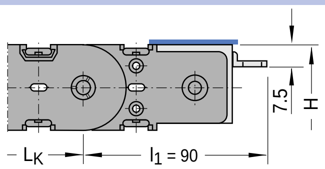
Ordering Key for the connection:

X X

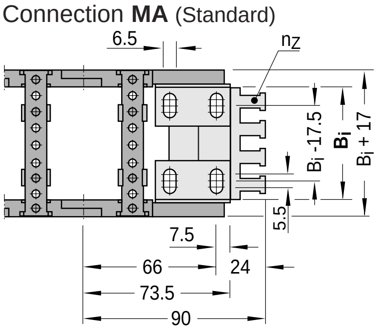
Connection point
F - Fixed point
M - Driver

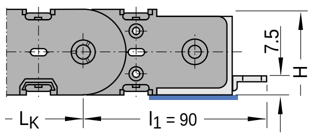
Connection type
A - Threaded joint to the outside (Standard)
I - Threaded joint to the inside (towards KR)

Driver connection

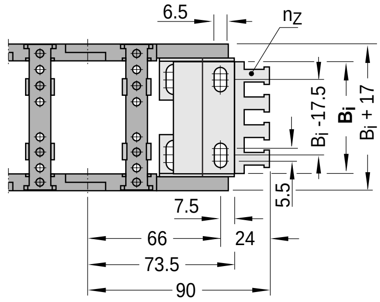


Connection **MA** (Standard)





Connection **MI**



The connection variants at the fixed point and at the driver can be combined and subsequently changed if required.

Please state the desired connection variant when ordering.

Example: FA/MA or **FI/MI**

Type	B_i mm	B_k mm	n_Z
MK 0475.040	**40**	57	3
MK 0475.056	**56**	73	4
MK 0475.080	**80**	97	6
MK 0475.104	**104**	121	8
MK 0475.128	**128**	145	9
MK 0475.152	**152**	169	11
MK 0475.192	**192**	209	14

Chain widths which differ from the inside chain widths B_i stated are supplied with connecting pieces without strain relief.

Ordering Key for cable carrier:

MK 0475.128 - 02 - 100 - 1425

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

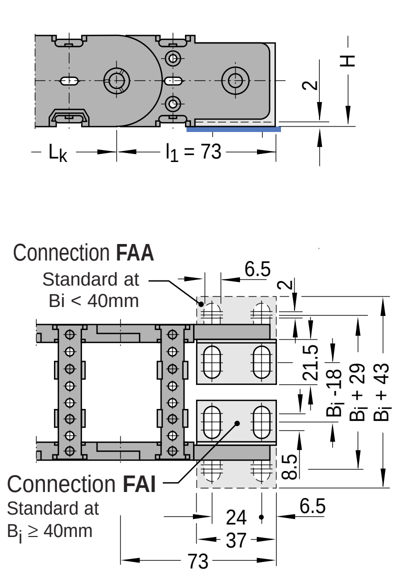
Example: Cable carrier type MK 0475 - hinged joint design, inside width B_i 128 mm, with hinged stay brackets outside, with bend radius KR 100 mm and chain length L_K = 1425 mm

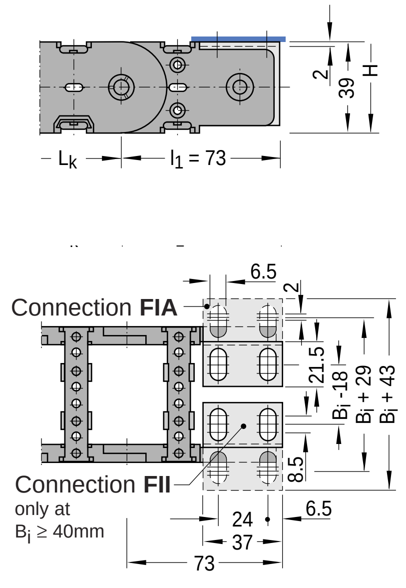
Type MK 0475

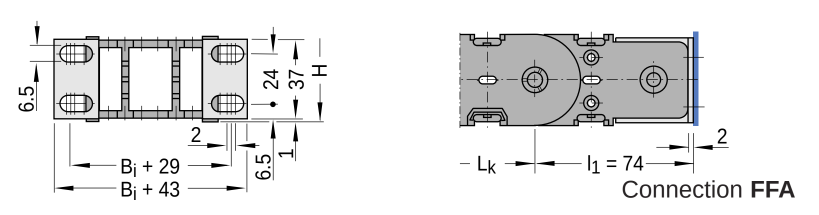
Connection dimensions

End connector made of steel plate

Fixed point connection







Ordering Key for the connection:

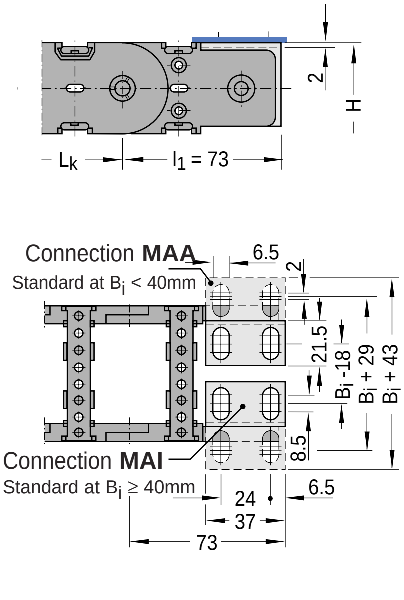
X X X

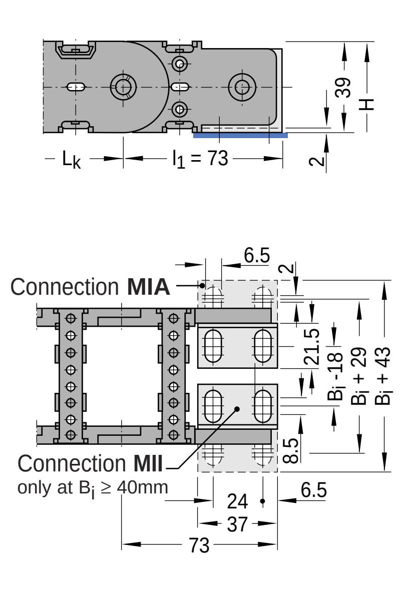
Connection point
F - Fixed point
M - Driver

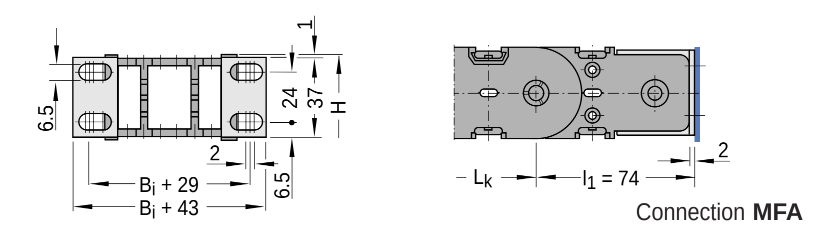
Connection type
A - Threaded joint to the outside (Standard)
I - Threaded joint to the inside (towards KR)
F - Flange connection

Connection surface
I - Connection surface inside (< B_i) (Standard)
A - Connection surface outside (> B_i)

Driver connection







The connection variants at the fixed point and at the driver can be combined and subsequently changed if required.

Please state the desired connection variant when ordering.

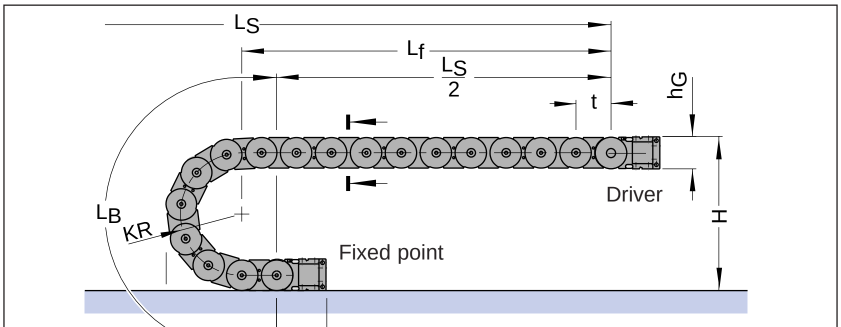
Example: FAA/MFA or **FIA/MII**

Type ME/MK 0650

Design of the Cable Carriers

Chain pitch t	= 65 mm
Chain link height h_G	= 57 mm
	($h_G´$ = 60.2 mm)
Connection height H_{min}	= 2 KR + 57 mm
Connection length l_1	= cf. Connection Dimensions

A flat and level surface is required for the carrier system to be installed properly. If necessary, a support tray should be installed. (cf. System Components section)



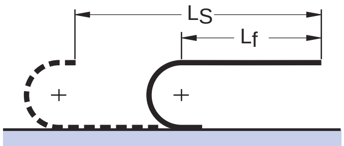
Schematic of unsupported arrangement

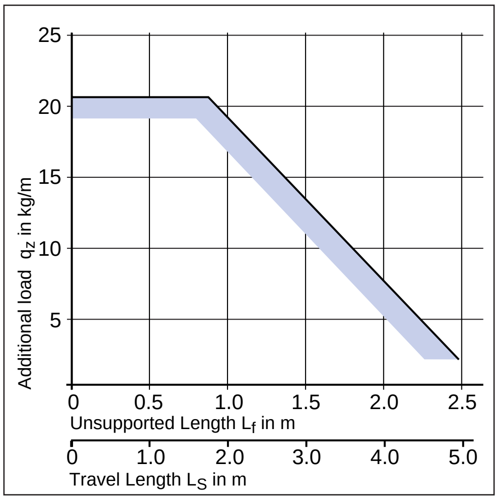
Variable sizes
depending on bend radius

Bend radius KR	75 mm	95 mm	115 mm	145 mm	175 mm	220 mm	275 mm	300 mm	350 mm
Bend length L_B	366	429	492	586	680	822	994	1073	1230
Loop overhang $Ü_B$	169	189	209	239	269	314	369	394	444
Height H_{min}	207	247	287	347	407	497	607	657	757

Load diagram

Unsupported length L_f and travel length L_S
depending on the additional load (cf. Construction Guidelines)





Load diagram for an intrinsic chain weight q_k of 2.5 kg/m. If the intrinsic chain weight exceeds q_k 2.5 kg/m, the permissible additional load is lower.

Calculation of chain length:

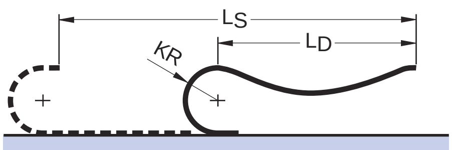
$$L_k \approx \frac{L_S}{2} + L_B$$

rounded to pitch 65 mm

KR/RKR-combinations are possible for circular movements.

Please consult us in any such cases!

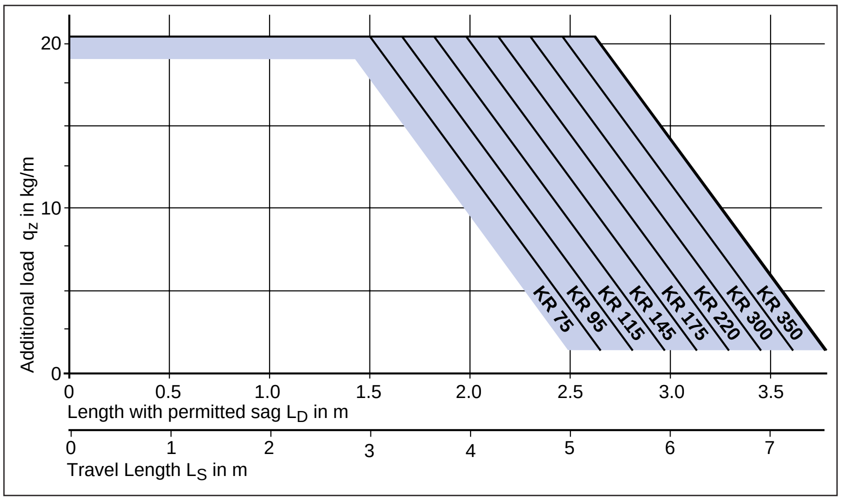
Length with permitted sag L_D and travel length L_S
depending on the additional load (cf. Construction Guidelines)



Calculation of chain length:

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

rounded to pitch 65 mm



Long travel lengths

With long travel lengths the upper part of the cable carrier glides on its lower run in a guide channel.

Design	→	cf. Construction Guidelines
Guide channel	→	cf. System Components

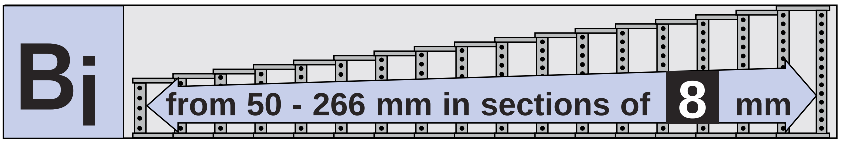
We recommend that a system of this kind be planned by one of our engineers.

KABELSCHLEPP

Type ME 0650

Chain cross sections

in accordance with section in schematic illustration

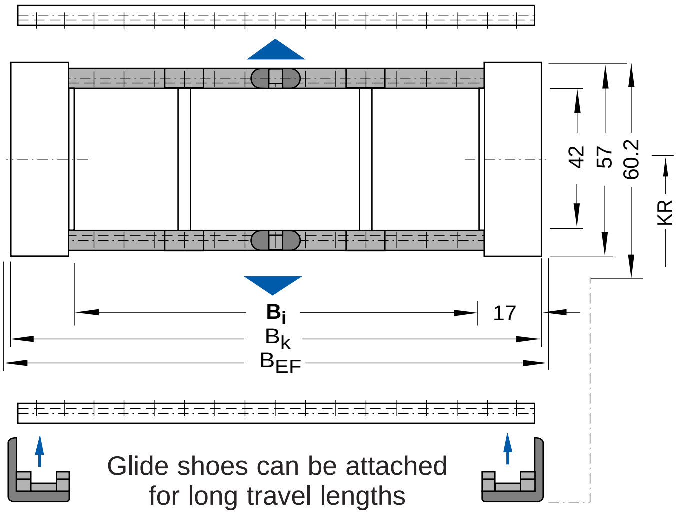


Stay variant “RE“

Plastic profile bars, detachable inside and outside

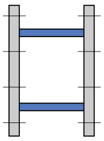
Not a bolted connection!

Profile bars can be released by turning them through 90°

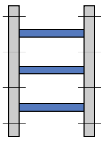


Glide shoes can be attached for long travel lengths
KR_{min} = 95 mm

Stay configuration:



1/2 Arrangement – Standard
Stays on every 2nd chain link



1/1 Arrangement
Stays on every chain link.
Please specify when placing order.

Calculation of chain width:

B_k = $\mathbf{B_i}$ + 34 mm

Calculation of chain width over universal connector:

B_{EF} = $\mathbf{B_i}$ + 37 mm

Intrinsic chain weight

depending on chain width

Reference weight = Intrinsic chain weight q_k = 2.5 kg/m (cf. load diagrams)

28 chain widths are available

B_i mm	B_k mm	q_k kg/m	B_i mm	B_k mm	q_k kg/m	B_i mm	B_k mm	q_k kg/m
50	84	2.00	**130**	164	2.30	**210**	244	2.60
58	92	2.03	**138**	172	2.33	**218**	252	2.64
66	100	2.06	**146**	180	2.36	**226**	260	2.68
74	108	2.09	**154**	188	2.39	**234**	268	2.72
82	116	2.12	**162**	196	2.42	**242**	276	2.75
90	124	2.15	**170**	204	2.45	**250**	284	2.78
98	132	2.18	**178**	212	2.48	**258**	292	2.81
106	140	2.21	**186**	220	2.51	**266**	300	2.84
114	148	2.24	**194**	228	2.54			
122	156	2.27	**202**	236	2.57			

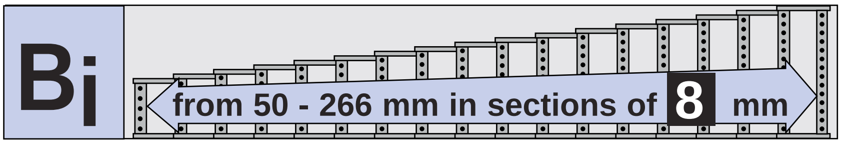
Glide shoes

For long travel lengths, gliding in a channel, interchangeable glide shoes are used. These can be produced from different plastics and guarantee optimum friction and wear ratios. For travel speeds > 2.5 m/s highly wear-resistant plastic is used.

Type MK 0650

Chain cross sections

in accordance with section in schematic illustration



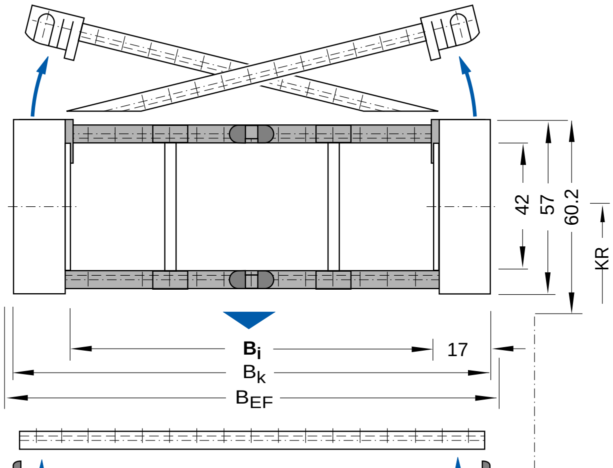
Stay variant “RD“

Hinged joint design

Stay brackets are “hinged“ on both sides to the outside

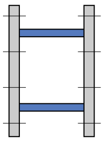
The connecting profile can be released on the inside by turning through 90°

Not a bolted connection!

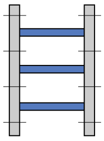


Glide shoes can be attached for long travel lengths
KR_{min} = 95 mm

Stay configuration:



1/2 Arrangement – Standard
Stays on every 2nd chain link



1/1 Arrangement
Stays on every chain link. Please specify when placing order.

Calculation of chain width:

B_k = $\mathbf{B_i}$ + 34 mm

Calculation of chain width over universal connector:

B_{EF} = $\mathbf{B_i}$ + 37 mm

Intrinsic chain weight

depending on chain width

Reference weight = Intrinsic chain weight q_k = 2.5 kg/m (cf. load diagrams)

28 chain widths are available

B_i mm	B_k mm	q_k kg/m
50	84	2.00
58	92	2.03
66	100	2.06
74	108	2.09
82	116	2.12
90	124	2.15
98	132	2.18
106	140	2.21
114	148	2.24
122	156	2.27

B_i mm	B_k mm	q_k kg/m
130	164	2.30
138	172	2.33
146	180	2.36
154	188	2.39
162	196	2.42
170	204	2.45
178	212	2.48
186	220	2.51
194	228	2.54
202	236	2.57

B_i mm	B_k mm	q_k kg/m
210	244	2.60
218	252	2.64
226	260	2.68
234	268	2.72
242	276	2.75
250	284	2.78
258	292	2.81
266	300	2.84

Glide shoes

For long travel lengths, gliding in a channel, interchangeable glide shoes are used. These can be produced from different plastics and guarantee optimum friction and wear ratios. For travel speeds > 2.5 m/s highly wear-resistant plastic is used.

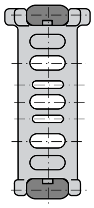
Type ME/MK 0650

Divider systems

for stay varant “RE“ (ME 0650) and “RD“ (MK 0650)

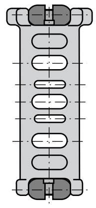
The divider system can be planned by you or by our engineers on the basis of the information you supply about the configuration of the cable carrier.

As standard the dividers system is fitted to every frame stay (with stay assembly on every 2nd chain link)



Version **A**
Notch in connecting profile to the inside
(Standard)

The dividers can slide along the section.



Version **B**
Notch in connecting profile to the outside

The dividers are fixed in the section
(a_x-grid 8 mm)

Divider system TS 0

without height subdivision

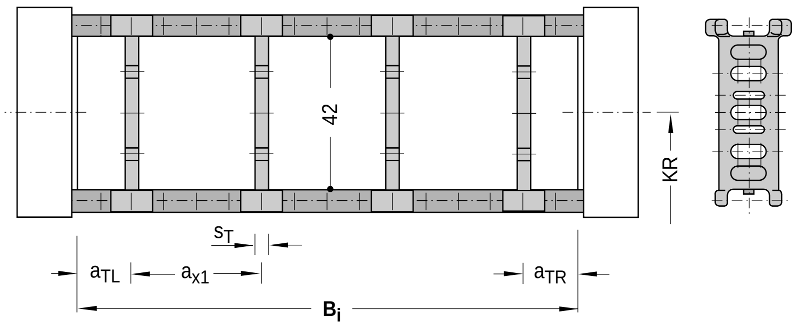
	Version A	Version B
s_T	4.2 mm	4.2 mm
$a_{T\ min}$	6.5 mm	13 mm
$a_{x\ min}$	13 mm	16 mm
$a_{x\ grid}$	continuous	8 mm

With Version B a_x must be divisible by 8!

Please state the number of dividers/cross section n_T when ordering.

Sample order:
Divider system TS 0-A / n_T 4

Dividers can slide along the cross-section (Version A) or are fixed (Version B). For divider version B please state fitting intervals a_T and a_x!



Divider system TS 1

with continuous height subdivision
Height subdivision: **Al-Profile 11 x 4 mm**

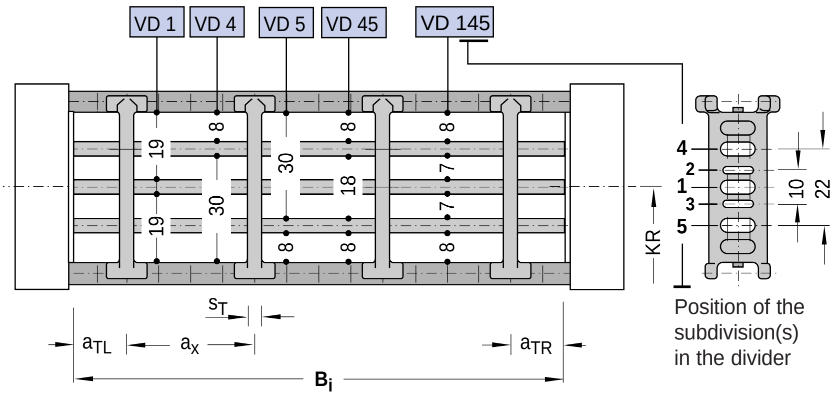
	Version A	Version B
$s_{T^\wedge}$	4.2 mm	4.2 mm
$a_{T\ min}$	6.5 mm	13 mm
$a_{T\ max}$	25 mm	29 mm
$a_{x\ min}$	13 mm	16 mm
$a_{x\ grid}$	continous	8 mm
$n_{T\ min}$	2	2

With Version B a_x must be divisible by 8!

Please state the type of height subdivisions and the number of dividers/cross section n_T when ordering.

Sample order:
Divider system TS 1-B-VD 1 / n_T 4

Technically recommended variants: VD 1, VD 4, und VD 5
Dividers can slide along the cross-section (Version A) or are fixed (Version B). For divider version B please state fitting intervals a_T and a_x!



Subject to technical changes!

Type ME/MK 0650

Divider systems
for stay varant “RE“ (ME 0650) and “RD“ (MK 0650)

Divider system TS 2

with grid subdivision

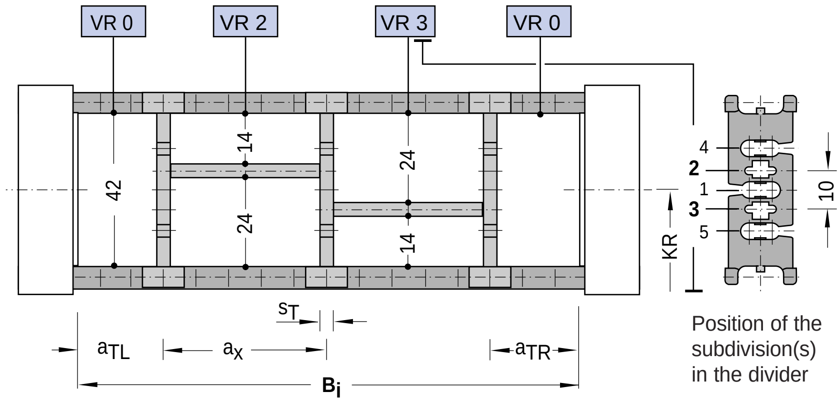
Height subdivision: **Al-Profile 11 x 4 mm**

	Version A	Version B
s_T	4.2 mm	4.2 mm
$a_{T\ min}$	6.5 mm	13 mm
$a_{x\ min}$ (with subdivision)	13 mm	16 mm
$a_{x\ min}$ (at VR 0)	13 mm	16 mm
$a_{x\ grid}$	1 mm	8 mm

With Version B a_x must be divisible by 8!

Please indicate the cavities (from left to right), the relevant subdivision variant and the assembly spacing a_T and a_x when ordering.

Technically possible variants: VR 0, VR 2 and VR 3



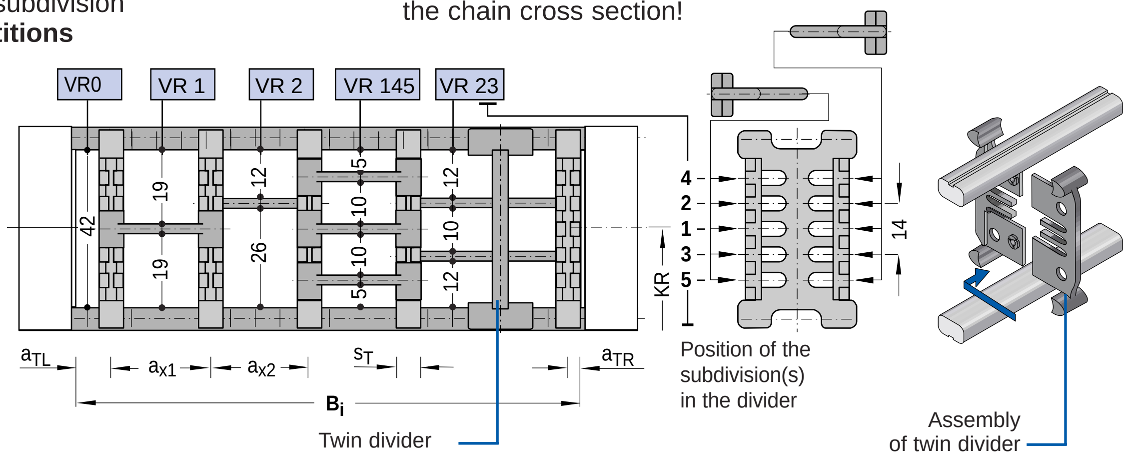
The dividers are fixed by the height subdivision profiles, the grid segments can move in the chain cross-section (Version A) or are fixed (Version B)!

Sample order: Divider system TS 2- B
K(cavity) 1 - VR 0 / 45 mm
K 2 - VR 3 / 80 mm
K 3 - VR 0 / 45 mm

Divider system TS 3

with height subdivision
Plastic Partitions

Techically recommended variants: VR 0, VR 1, VR 2 and VR 3
Dividers fixed by height subdivision, the grids can slide along the chain cross section!



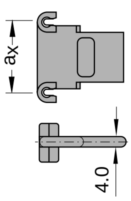
s_T	=	8 mm
$a_{T\ min}$	=	4 mm
$a_{x\ min}$	=	16 mm (with height subdivision)
$a_{x\ grid}$	=	see a_x-table

a_x mm (Centre-to-centre distance of dividers)														
16	18	23	28	32	33	38	43	48	58	64	68	78	80	88
96	112	128	144	160	176	192	208							

The twin divider can be moved, suitable for later assembly / fitting

When using partitions with a_x > 112 mm, a twin divider should be used to provide an additional central support.

s_T	=	3 mm



Please indicate the cavities (from left to right), the relevant subdivision variant and the assembly spacing a_T and a_x when ordering.

Sample order: Divider system TS 3
K(cavity) 1 - VR 0 / 24 mm
K 2 - VR 1 / 38 mm
K 3 - VR 23 / 68 mm
with twin divider
K 4 - VR 1 / 43 mm

KABELSCHLEPP

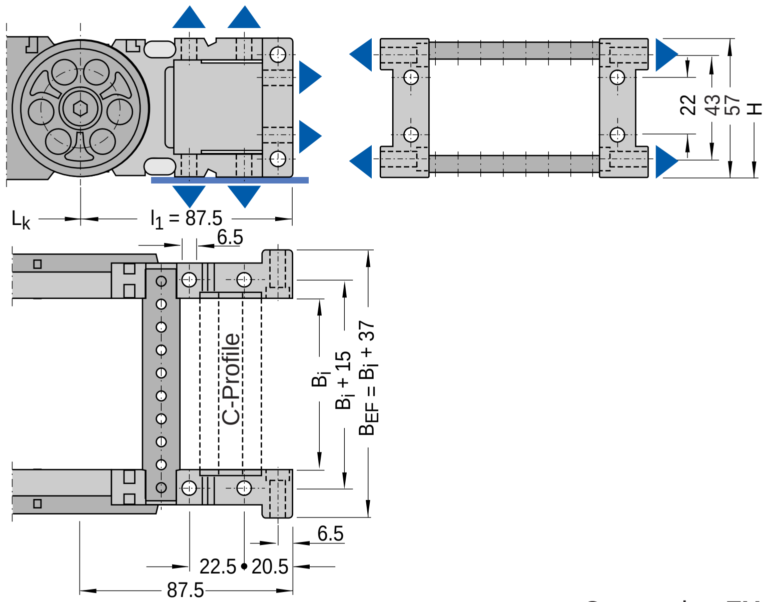
Type ME/MK 0650

Connection dimensions

Universal connectors made of die-cast Aluminium

Optionally with C-Profile, slit width 11–12 mm Suitable for all commercial saddle-type clamps with small base and KABELSCHLEPP SLZ Strain Relief Devices (cf. System Components).

Fixed point connection



Connection **FU**

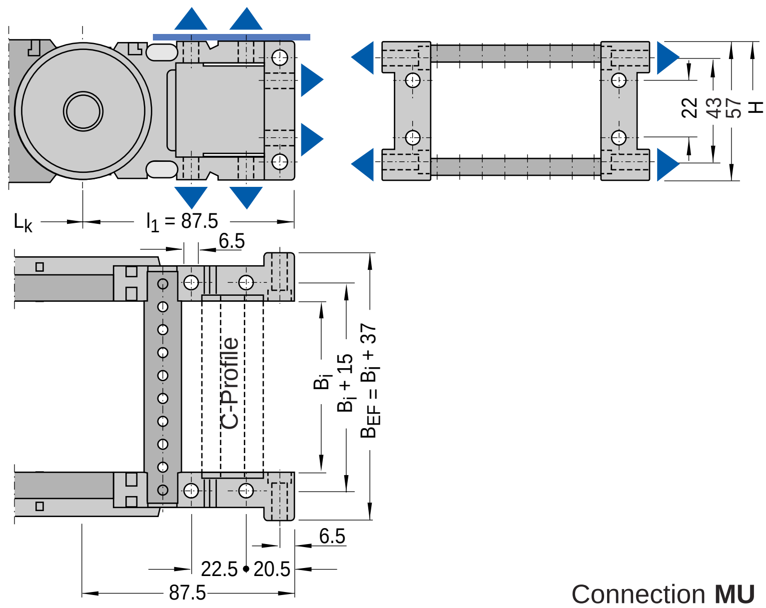
Ordering Key for the connection:

X U

Connection point
F - Fixed point
M - Driver

U - Universal connection

Driver connection



Connection **MU**

Ordering Key for cable carrier:

MK 0650 .194 - RD - 145 - 2730

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

Example:
Cable carrier type MK 0650, inside width B_i 194 mm, with bend radius KR 145 mm with frame stay RD (hinged joint design) and chain length L_k = 2730 mm

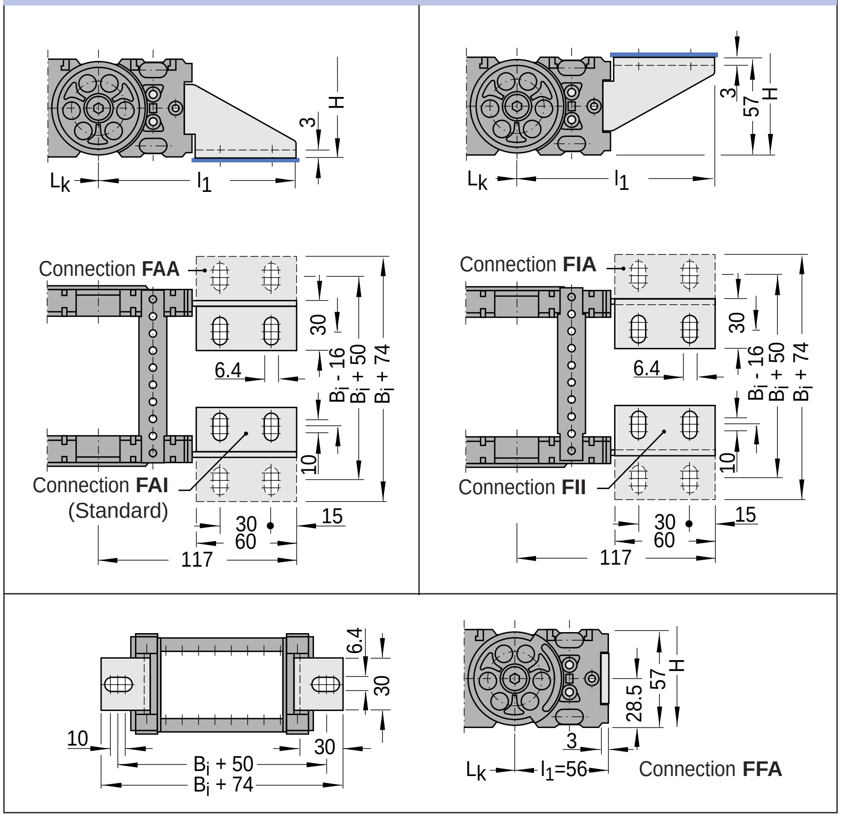
Subject to technical changes!

Type ME/MK 0650

Connection dimensions

End link made of plastic
End connector made of steel plate

Fixed point connection



Ordering Key for the connection:

X X X

Connection point
F - Fixed point
M - Driver

Connection type
A - Threaded joint to the outside (Standard)
I - Threaded joint to the inside (towards KR)
F - Flange connection

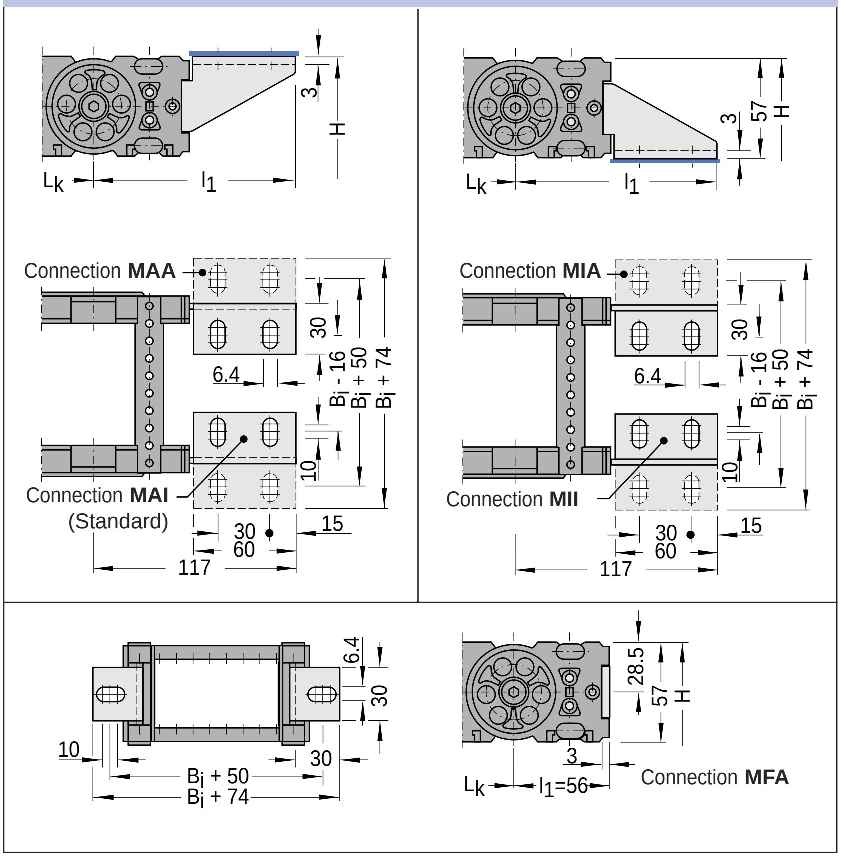
Connection surface
I - Connection surface inside (< B_i)
A - Connection surface outside (> B_i)

The connection variants at the fixed point and at the driver can be combined and subsequently changed if required.

Please state the desired connection variant when ordering.

Example: FAA/MAA or **FIA/MAA**

Driver connection

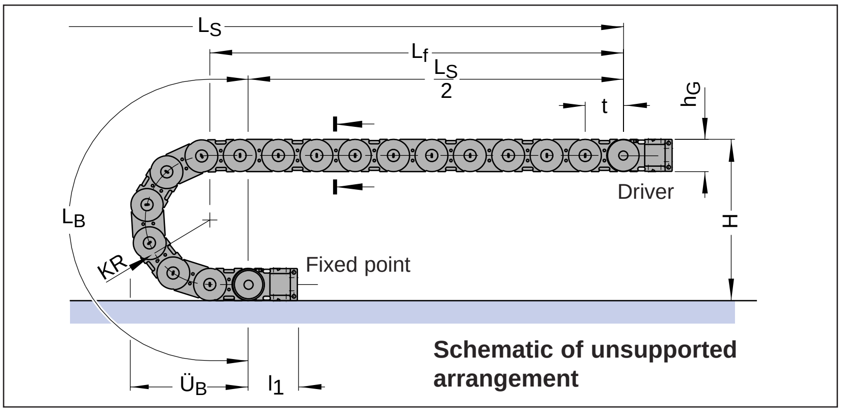


Type ME/MK 0950

Design of the Cable Carriers

Chain pitch t	= 95 mm
Chain link height h_G	= 80 mm ($h_G´$ = 83.5 mm)
Connection height H_{min}	= 2 KR + 80 mm
Connection length l_1	= cf. Connection Dimensions

A flat and level surface is required for the carrier system to be installed properly. If necessary, a support tray should be installed. (cf. System Components section)



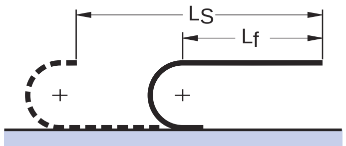
Schematic of unsupported arrangement

Variable sizes
depending on bend radius

Bend radius KR	**140** mm	**170** mm	**200** mm	**260** mm	**290** mm	**320** mm	**380** mm
Bend length L_B	630	725	819	1007	1102	1196	1384
Loop overhang $Ü_B$	275	305	335	395	425	455	515
Height H_{min}	360	420	480	600	660	720	840

Load diagram

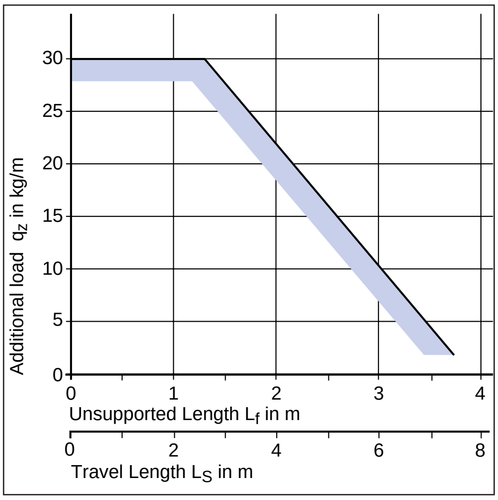
Unsupported length L_f and travel length L_S
depending on the additional load
(cf. Construction Guidelines)



Calculation of chain length:

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

rounded to pitch 95 mm

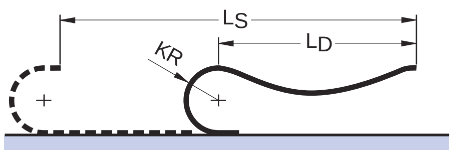


Load diagram for an intrinsic chain weight q_k of 4.5 kg/m. If the intrinsic chain weight exceeds q_k 4.5 kg/m, the permitted additional load is lower.

KR/RKR-combinations are possible for circular movements.

Please consult us in any such cases!

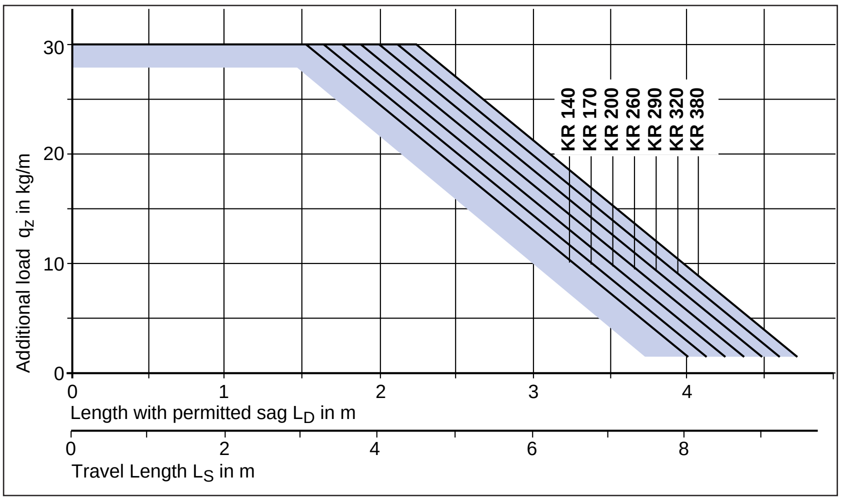
Length with permitted sag L_D and travel length L_S
depending on the additional load
(cf. Construction Guidelines)



Calculation of chain length:

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

rounded to pitch 95 mm



Long travel lengths

With long travel lengths the upper part of the cable carrier glides on its lower run in a guide channel.

Design	→	cf. Construction Guidelines
Guide channel	→	cf. System Components

We recommend that a system of this kind be planned by one of our engineers.

Type ME 0950

Chain cross sections
in accordance with section in schematic illustration

Stay variant "RE"

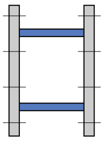
Plastic insert stay

Plastic profile bars, detachable inside and outside

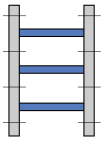
Not a bolted connection!

Profile bars can be released by turning them through 90°.

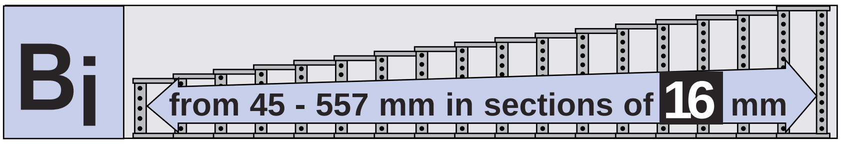
Stay configuration:

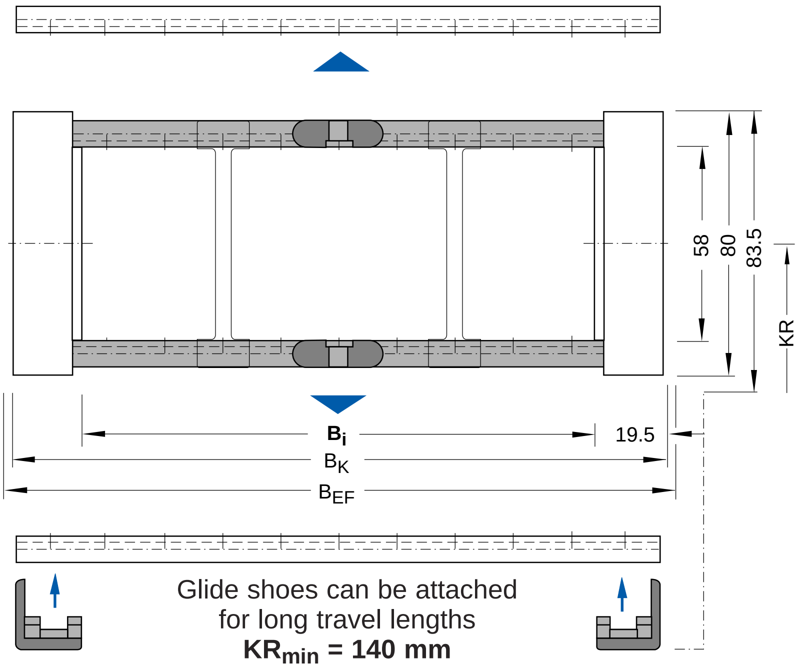


1/2 Arrangement – Standard
Stays on every 2nd chain link



1/1 Arrangement
Stays on every chain link.
Please specify when placing order.





Glide shoes can be attached for long travel lengths
KR_{min} = 140 mm

Calculation of chain width:

B_k = $\mathbf{B_i}$ + 39 mm

Calculation of chain width over universal connector:

B_{EF} = $\mathbf{B_i}$ + 44 mm

Intrinsic chain weight
depending on chain width

Reference weight = Intrinsic chain weight q_k = 4.5 kg/m (cf. load diagrams)

33 chain widths are available

B_i mm	B_k mm	q_k kg/m	B_i mm	B_k mm	q_k kg/m	B_i mm	B_k mm	q_k kg/m
45	84	3.0	**221**	260	4.1	**397**	436	5.2
61	100	3.1	**237**	276	4.2	**413**	452	5.3
77	116	3.2	**253**	292	4.3	**429**	468	5.4
93	132	3.3	**269**	308	4.4	**445**	484	5.5
109	148	3.4	**285**	324	4.5	**461**	500	5.6
125	164	3.5	**301**	340	4.6	**477**	516	5.7
141	180	3.6	**317**	356	4.7	**493**	532	5.8
157	196	3.7	**333**	372	4.8	**509**	548	5.9
173	212	3.8	**349**	388	4.9	**525**	564	6.0
189	228	3.9	**365**	404	5.0	**541**	580	6.1
205	244	4.0	**381**	420	5.1	**557**	596	6.2

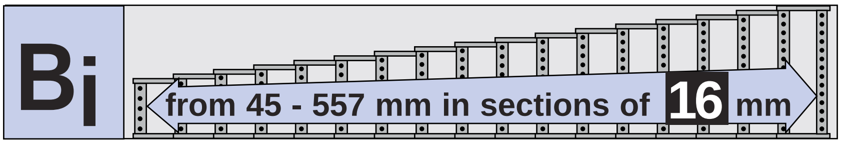
Glide shoes

For long travel lengths, gliding in a channel, interchangeable glide shoes are used. These can be produced from different plastics and guarantee optimum friction and wear ratios. For travel speeds > 2.5 m/s highly wear-resistant plastic is used.

Type MK 0950

Chain cross sections

in accordance with section in schematic illustration

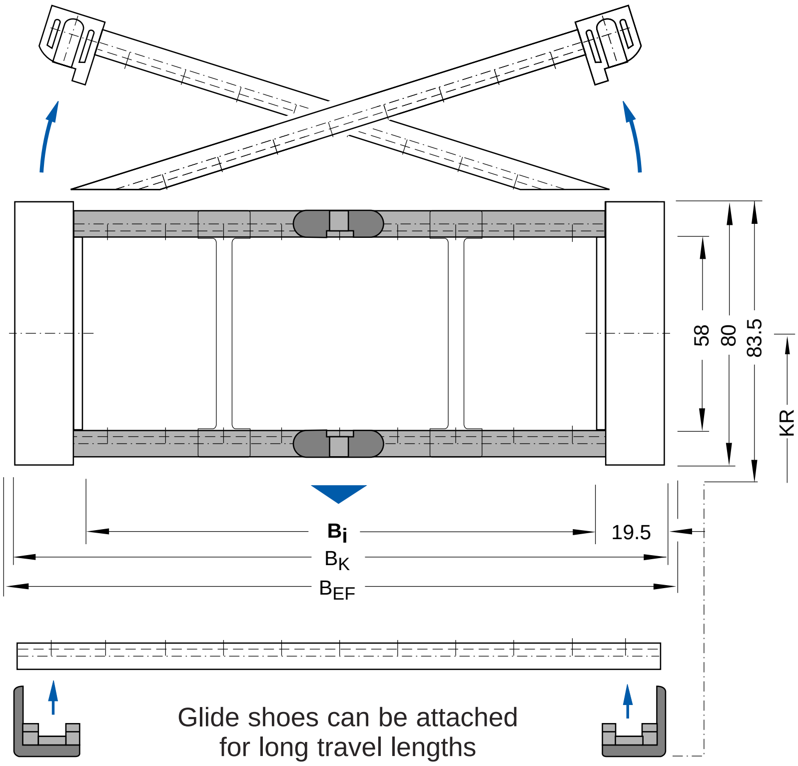


Stay variant “RD“

Hinged joint design
Stay brackets are “hinged“ on both sides to the outside

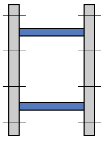
The connecting profile can be released on the inside by turning through 90°

Not a bolted connection!

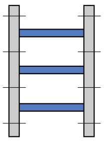


Glide shoes can be attached
for long travel lengths
KR_{min} = 140 mm

Stay configuration:



1/2 Arrangement – Standard
Stays on every 2nd chain link



1/1 Arrangement
Stays on every chain link.
Please specify when placing order.

Calculation of chain width:

B_k = $\mathbf{B_i}$ + 39 mm

Calculation of chain width over universal connector:

B_{EF} = $\mathbf{B_i}$ + 44 mm

Intrinsic chain weight
depending on chain width

Reference weight =
Intrinsic chain weight q_k = 4.5 kg/m
(cf. load diagrams)

33 chain widths are available

B_i mm	B_k mm	q_k kg/m	B_i mm	B_k mm	q_k kg/m	B_i mm	B_k mm	q_k kg/m
45	84	3.0	**221**	260	4.1	**397**	436	5.2
61	100	3.1	**237**	276	4.2	**413**	452	5.3
77	116	3.2	**253**	292	4.3	**429**	468	5.4
93	132	3.3	**269**	308	4.4	**445**	484	5.5
109	148	3.4	**285**	324	4.5	**461**	500	5.6
125	164	3.5	**301**	340	4.6	**477**	516	5.7
141	180	3.6	**317**	356	4.7	**493**	532	5.8
157	196	3.7	**333**	372	4.8	**509**	548	5.9
173	212	3.8	**349**	388	4.9	**525**	564	6.0
189	228	3.9	**365**	404	5.0	**541**	580	6.1
205	244	4.0	**381**	420	5.1	**557**	596	6.2

Glide shoes

For long travel lengths, gliding in a channel, interchangeable glide shoes are used. These can be produced from different plastics and guarantee optimum friction and wear ratios. For travel speeds > 2.5 m/s highly wear-resistant plastic is used.

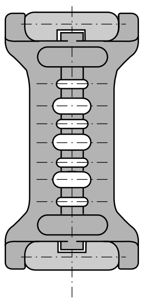
Type ME/MK 0950

Divider systems

for stay variant “RE“ (ME 0950) and “RD“ (MK 0950)

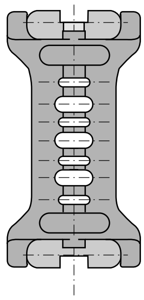
The divider system can be planned by you or by our engineers on the basis of the information you supply about the configuration of the cable carrier.

As standard, the divider system is fitted on every frame stay (with stay assembly on every 2nd chain link).



Version **A**
Notch in connecting profile to the inside
(Standard)

The dividers can slide along the section.



Version **B**
Notch in connecting profile to the outside

The dividers are fixed in the section (a_x-grid 16 mm)

Divider system TS 0

without height subdivision

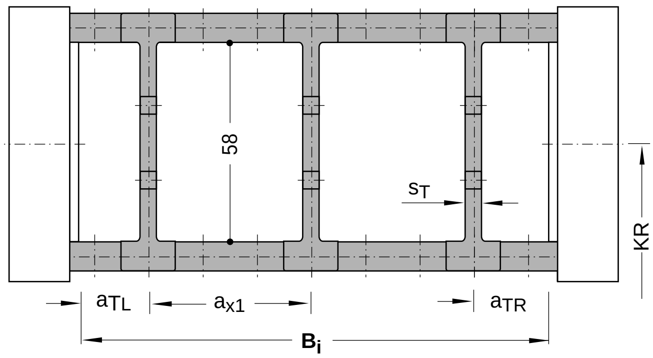
	Version A	Version B
s_T	6 mm	6 mm
$a_{T\ min}$	7.5 mm	22.5 mm
$a_{x\ min}$	14.5 mm	16 mm
$a_{x\ grid}$	continuous	16 mm

For version A dividers with s_T = 4 mm are also available.

Please state the type of height subdivisions and the number of dividers/cross section n_T when ordering.

Sample order:
Divider system TS 0-A / n_T 3

Dividers can slide along the cross-section (Version A) or are fixed (Version B). For divider version B please state fitting intervals a_T and a_x!

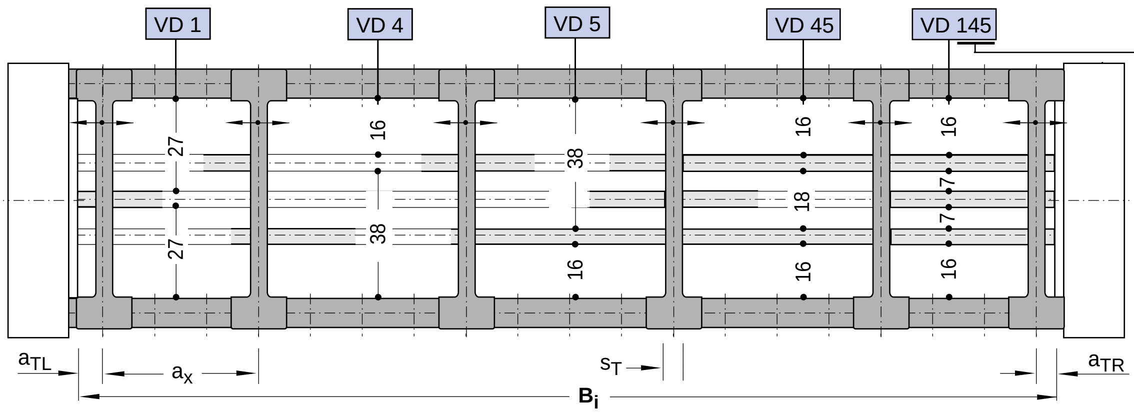


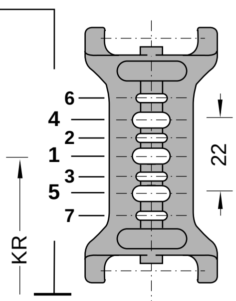
Divider system TS 1

with continuous height subdivision

Height subdivision: **Al-Profile 11 x 4 mm**

Technically recommended variants: VD 1, VD 4 und VD 5
Dividers can slide along the cross-section (Version A) or are fixed (Version B). For divider version B please state fitting intervals a_T and a_x!





Position of the subdivision(s) in the divider

	Version A	Version B
s_T	6 mm	6 mm
$a_{T\ min}$	7.25 mm	22.5 mm
$a_{T\ max}$	22.5 mm	22.5 mm
$a_{x\ min}$	14.5 mm	16 mm
$a_{x\ grid}$	continuous	16 mm
$n_{T\ min}$	2	2

For version A dividers with s_T = 4 mm are also available.

Please state the type of height subdivisions and the number of dividers/cross section n_T when ordering.

Sample order: Divider system TS 1– VD 45/n_T 5

Type ME/MK 0950

Divider systems

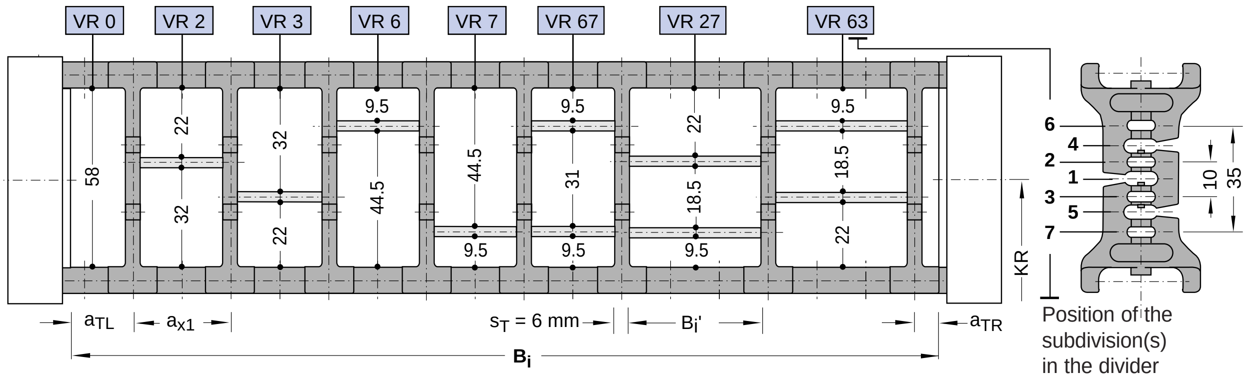
**for stay variant "RE" (ME 0950)
and "RD" (MK 0950)**

Divider system TS 2

with grid subdivision (1mm-grid)

Height subdivision: **Al-Profile 11 x 4 mm**

Technically recommended variants: VR 0, VR 2 und VR 3
Dividers fixed by height subdivision profiles, the grid segments can slide along the cross-section (Version A) or are fixed (Version B)!



	Version A	Version B
s_T	6 mm	6 mm
$a_{T\,min}$	9 mm	22.5 mm
$a_{x\,min}$ (with subdivision)	20 mm	32 mm
$a_{x\,min}$ (at VR 0)	14.5 mm	16 mm
$a_{x\,grid}$	1 mm	16 mm

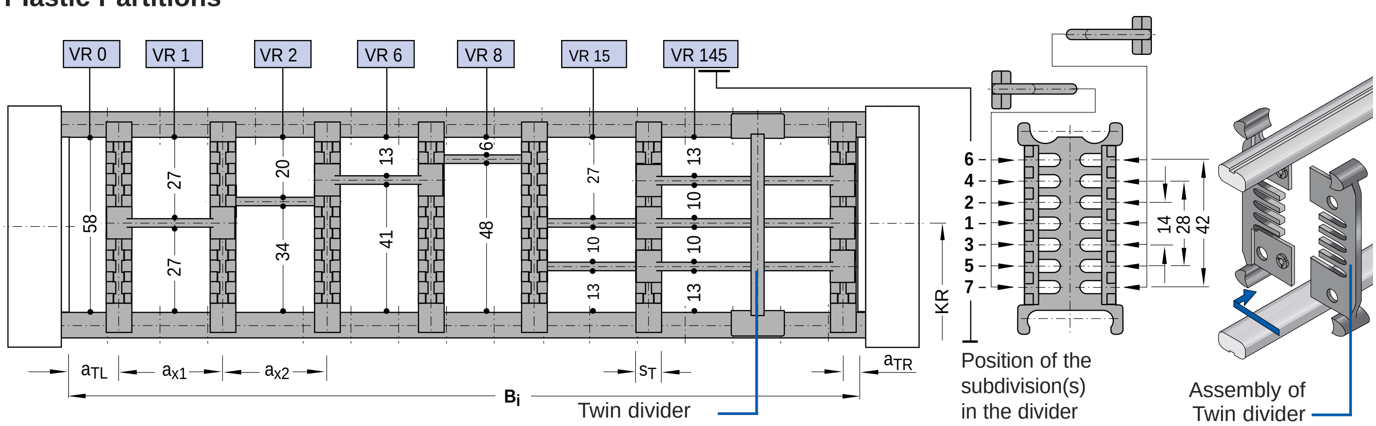
Please indicate the cavities (from left to right), the relevant subdivision variant and the assembly spacing a_T and a_x when ordering.

Sample order: Divider system TS 2-A
K(cavity) 1 - VR 0 / 60 mm
K 2 - VR 67 / 133 mm
K 3 - VR 0 / 60 mm

Divider system TS 3

with height subdivision
Plastic Partitions

Technically recommended variants: VR 0 und VR 1
Dividers fixed by height subdivision, the grids can slide along the chain cross section!



s_T	=	8 mm
$a_{T\,min}$	=	4 mm
$a_{x\,min}$	=	16 mm (with height subdivision)
a_x-grid	=	see a_x-table
n_{min}	=	2

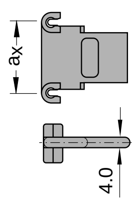
The twin divider can be moved, suitable for later assembly/fitting.

s_T	=	4 mm

Sample order: Divider system TS 3
K(cavity) 1 - VR 0 / 80 mm
K 2 - VR 1 / 38 mm
K 3 - VR 8 / 112 mm
with twin divider

a_x mm (Centre-to-centre distance of dividers)														
16	18	23	28	32	33	38	43	48	58	64	68	78	80	88
96	112	128	144	160	176	192	208							

When using partitions with a_x > 112 mm, a twin divider should be used to provide an additional central support.



Please indicate the cavities (from left to right), the relevant subdivision variant and the assembly spacing a_T and a_x when ordering.

Subject to technical changes!

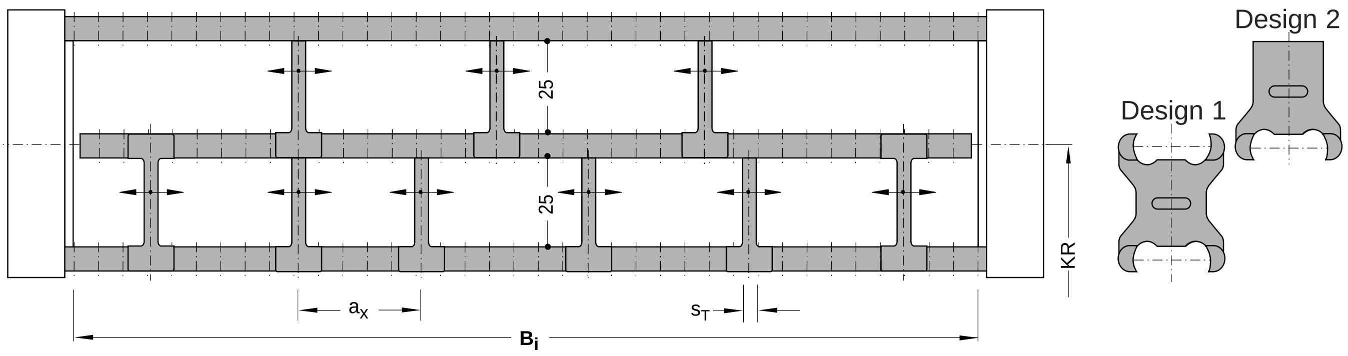
Type ME/MK 0950

Divider systems
for Stay variant “RE and RD“

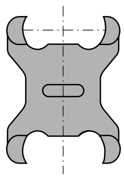
Divider system TS 4

with continuous height subdivision

Height subdivision:
Plastic-Profile 27 x 8 mm



s_T	=	4 mm
$a_{x\ min}$	=	15 mm



Half-dividers can slide along the chain cross-section. At least 2 half-dividers with clamp grips on both sides (Design 1) should be fitted in the lower chamber near to the chain band.

Please state the type and the number of dividers/cross section when ordering.

Sample order: Divider system TS 4
Please enclose a sketch

KABELSCHLEPP

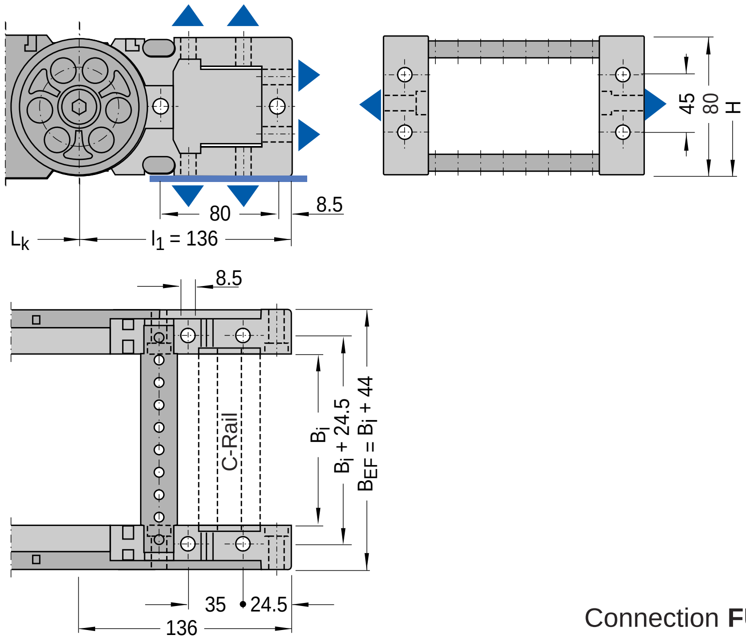
Type ME/MK 0950

Connection dimensions

Universal connectors made of die-cast Aluminium

Optionally with C-rail,
slit width 16-17 mm.
Suitable for all commercial saddle-type clamps with large base and KABELSCHLEPP SLZ Strain Relief Devices (cf. System Components).

Fixed point connection



Connection **FU**

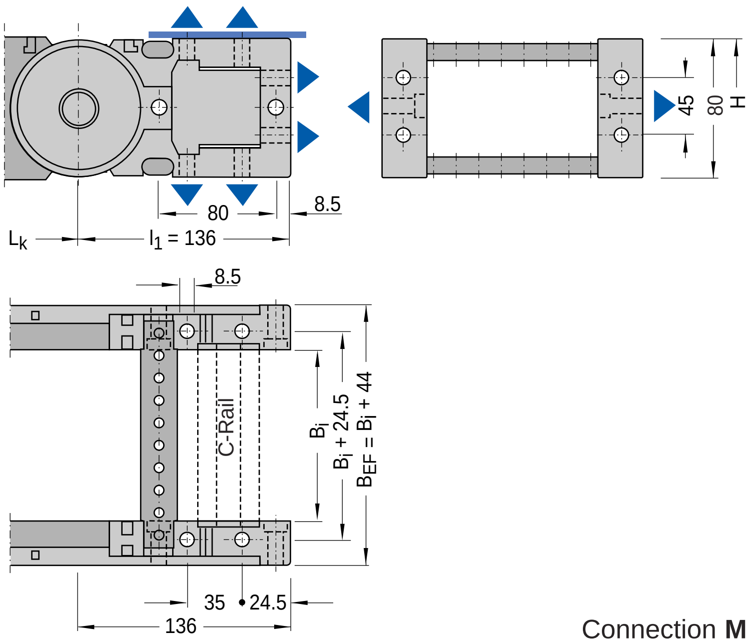
Ordering Key for the connection:

X U

Connection point
F - Fixed point
M - Driver

U - Universal connection

Driver connection



Connection **MU**

Ordering Key for cable carrier:

ME 0950.349 - RE - 260 - 3990

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

Example:

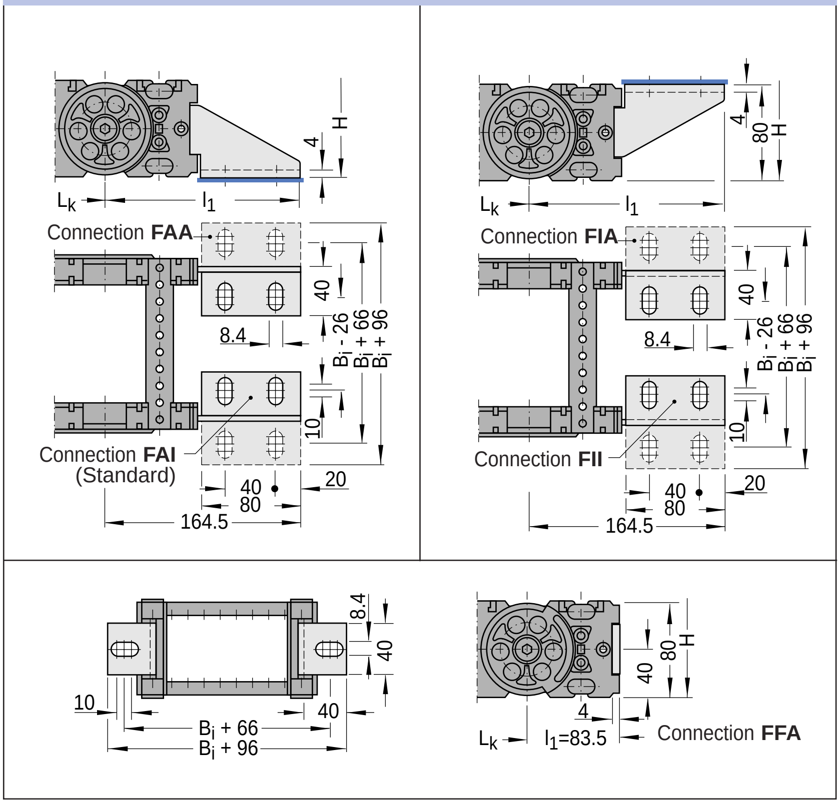
Cable carrier type ME 0950, inside width B_i 349 mm, with frame stay RE – insert stay, with bend radius KR 260 mm and chain length L_k = 3990 mm

Type ME/MK 0950

Connection dimensions

End link made of plastic
End connector made of steel plate

Fixed point connection



Ordering Key for the connection:

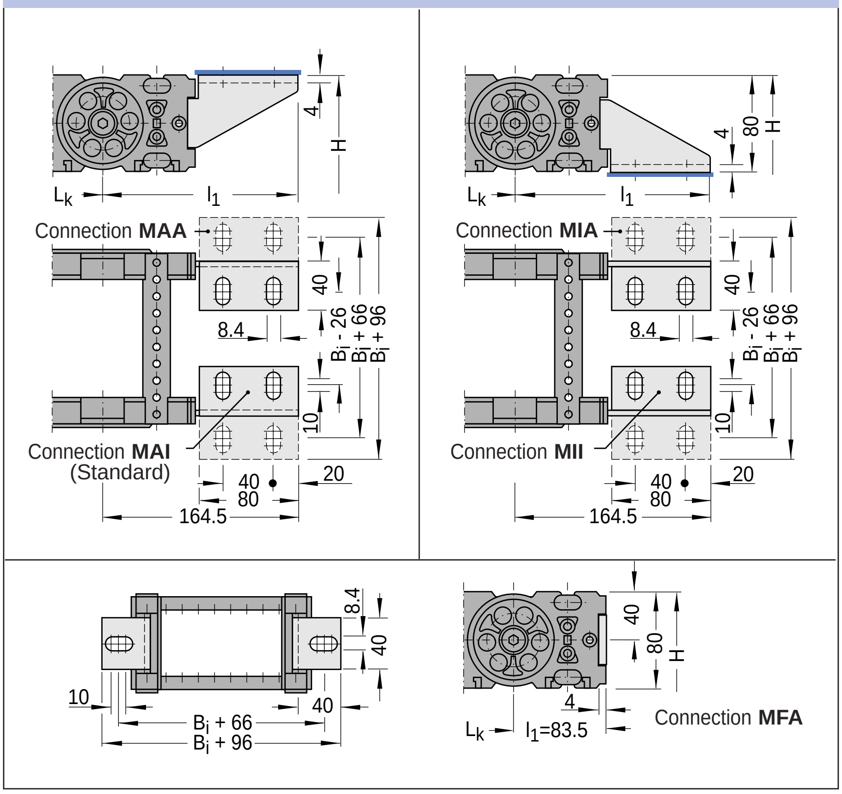
X X X

Connection point
F - Fixed point
M - Driver

Connection type
A - Threaded joint to the outside (Standard)
I - Threaded joint to the inside (towards KR)
F - Flange connection

Connection surface
I - Connection surface inside ($< B_i$)
A - Connection surface outside ($> B_i$)

Driver connection



The connection variants at the fixed point and at the driver can be combined and subsequently changed if required.

Please state the desired connection variant when ordering.

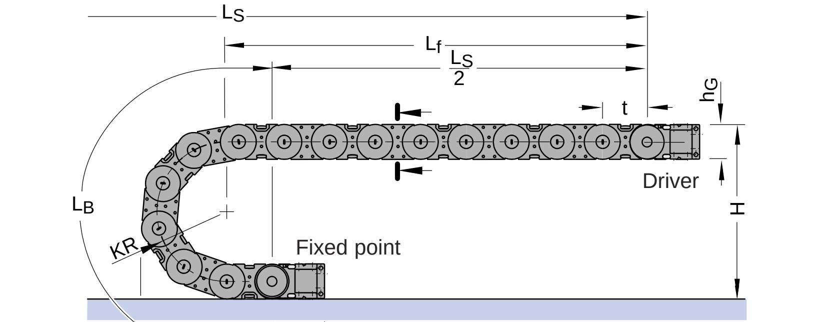
Example: FFA/MFA or **FAI/MIA**

Type ME/MK 1250

Design of the Cable Carriers

Chain pitch t	= 125 mm
Chain link height h_G	= 96 mm ($h_G' = 99.5$ mm)
Connection height H_{min}	= 2 KR + 96 mm
Connection length l_1	= cf. Connection Dimensions

A flat and level surface is required for the carrier system to be installed properly. If necessary, a support tray should be installed. (cf. System Components section)



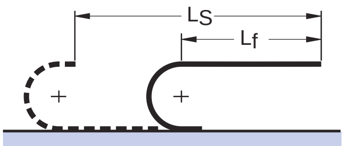
Schematic of unsupported arrangement

Variable sizes
depending on bend radius

Bend radius KR	**180** mm	**220** mm	**260** mm	**300** mm	**340** mm	**380** mm	**500** mm
Bend length L_B	816	942	1067	1193	1319	1444	1821
Loop overhang $Ü_B$	353	393	433	473	513	553	673
Height H_{min}	456	536	616	696	776	856	1096

Load diagram

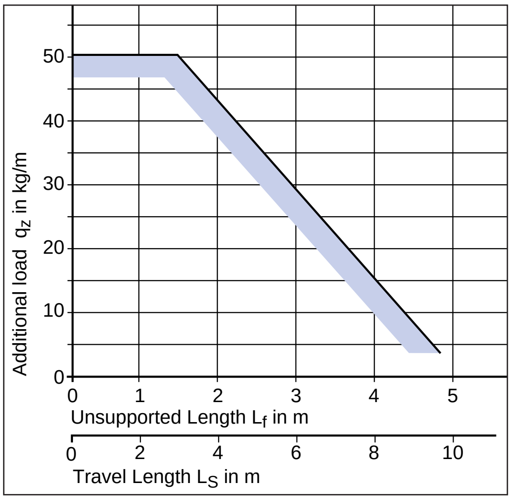
Unsupported length L_f and travel length L_S
depending on the additional load (cf. Construction Guidelines)



Calculation of chain length:

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

rounded to pitch 125 mm

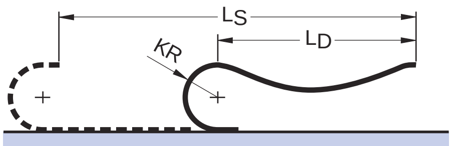


Load diagram for an intrinsic chain weight q_k of 5.0 kg/m. If the intrinsic chain weight exceeds q_k 5.0 kg/m, the permissible additional load is lower.

KR/RKR combinations are possible for circular movements.

In these cases please contact us!

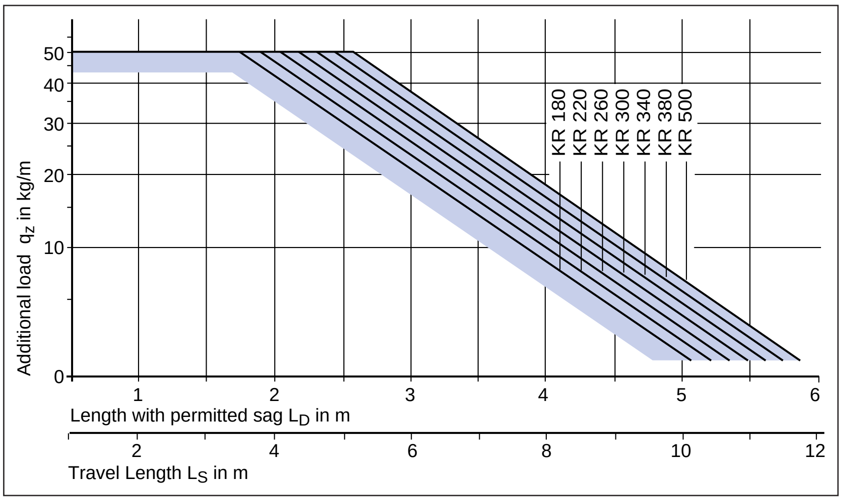
Length with permitted sag L_D and travel length L_S
depending on the additional load (cf. Construction Guidelines)



Calculation of chain length:

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

rounded to pitch 125 mm



Long travel lengths

With long travel lengths the upper part of the cable carrier glides on its lower run in a guide channel.

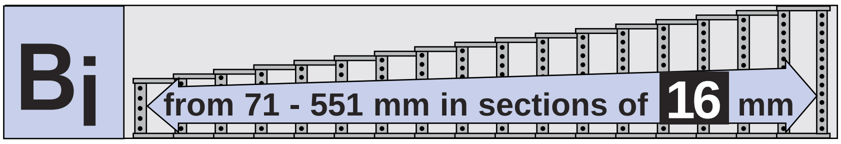
Design → cf. Construction Guidelines
Guide channel → cf. System Components

We recommend that a system of this kind be planned by one of our engineers.

Type ME 1250

Chain cross sections

in accordance with section in schematic illustration



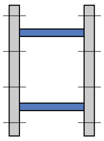
Stay variant “RE“

Plastic insert stay

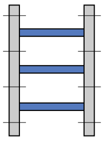
Plastic profile bars, detachable inside and outside

Not a bolted connection!
Profile bars can be released by turning them through 90°.

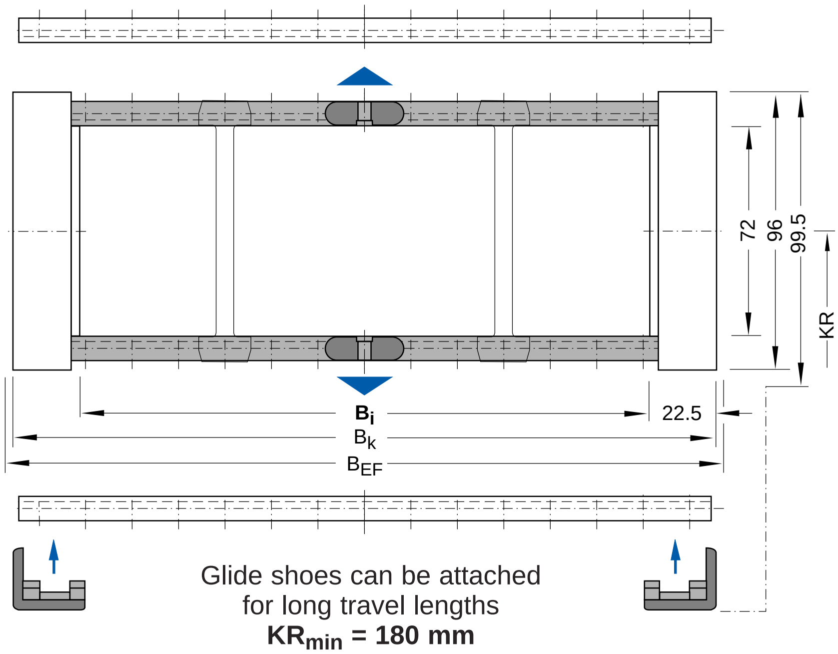
Stay configuration:



1/2 Arrangement – Standard
Stays on every 2nd chain link



1/1 Arrangement
Stays on every chain link.
Please specify when placing order.



Calculation of chain width:

B_k = $\mathbf{B_i}$ + 45 mm

Calculation of chain width over universal connector:

B_{EF} = $\mathbf{B_i}$ + 51 mm

Intrinsic chain weight
depending on chain width

Reference weight =
Intrinsic chain weight q_k = 5 kg/m
(cf. load diagrams)

31 chain widths are available

B_i mm	B_k mm	q_k kg/m	B_i mm	B_k mm	q_k kg/m	B_i mm	B_k mm	q_k kg/m
71	116	4.30	**247**	292	4.85	**407**	452	5.35
87	132	4.35	**263**	308	4.90	**423**	468	5.40
103	148	4.40	**279**	324	4.95	**439**	484	5.45
119	164	4.45	**295**	340	5.00	**455**	500	5.50
135	180	4.50	**311**	356	5.05	**471**	516	5.55
151	196	4.55	**327**	372	5.10	**487**	532	5.60
167	212	4.60	**343**	388	5.15	**503**	548	5.65
183	228	4.65	**359**	404	5.20	**519**	564	5.70
199	244	4.70	**375**	420	5.25	**535**	580	5.75
215	260	4.75	**391**	436	5.30	**551**	596	5.80
231	276	4.80						

Glide shoes

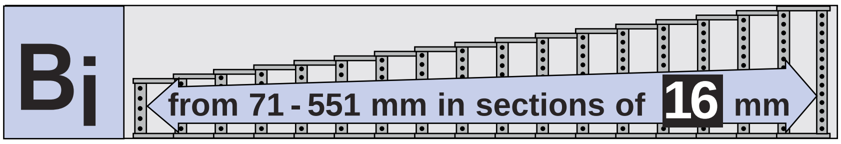
For long travel lengths, gliding in a channel, interchangeable glide shoes are used. These can be produced from different plastics and guarantee optimum friction and wear ratios. For travel speeds > 2.5 m/s highly wear-resistant plastic is used.

KABELSCHLEPP

Type MK 1250

Chain cross sections

in accordance with section in schematic illustration



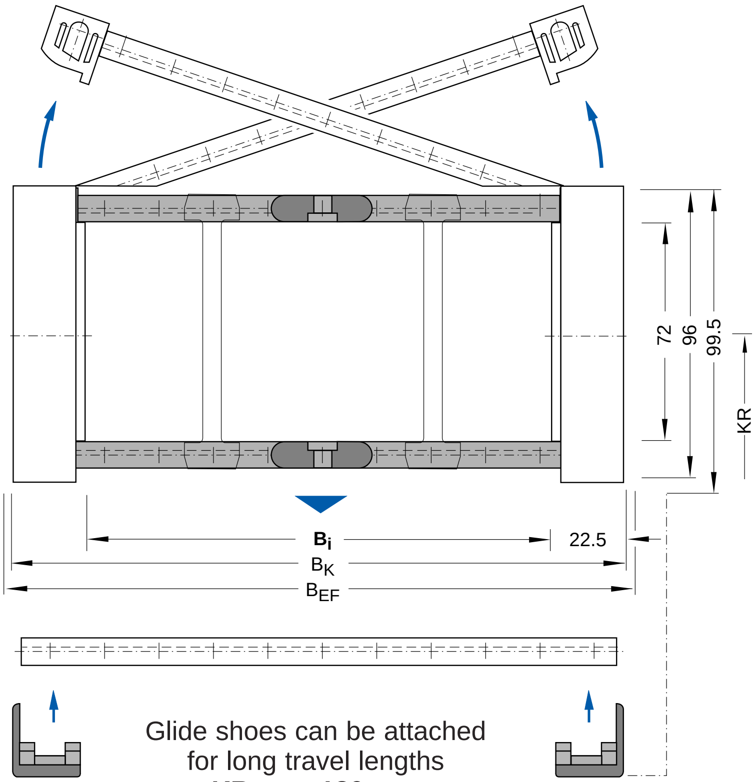
Stay variant „RD“

Hinged joint design

Stay brackets are “hinged“ on both sides to the outside

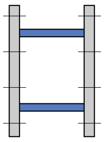
The connecting profile can be released on the inside by turning through 90°

Not a bolted connection!

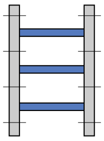


Glide shoes can be attached for long travel lengths
KR_{min} = 180 mm

Stay configuration:



1/2 Arrangement – Standard
Stays on every 2nd chain link



1/1 Arrangement
Stays on every chain link.
Please specify when placing order.

Calculation of chain width:

$B_K = \mathbf{B_i} + 45$ mm

Calculation of chain width over universal connector:

$B_{EF} = \mathbf{B_i} + 51$ mm

Intrinsic chain weight
depending on chain width

Reference weight =
Intrinsic chain weight q_k = 5 kg/m
(cf. load diagrams)

31 chain widths are available

B_i mm	B_k mm	q_k kg/m
71	116	4.30
87	132	4.35
103	148	4.40
119	164	4.45
135	180	4.50
151	196	4.55
167	212	4.60
183	228	4.65
199	244	4.70
215	260	4.75
231	276	4.80

B_i mm	B_k mm	q_k kg/m
247	292	4.85
263	308	4.90
279	324	4.95
295	340	5.00
311	356	5.05
327	372	5.10
343	388	5.15
359	404	5.20
375	420	5.25
391	436	5.30

B_i mm	B_k mm	q_k kg/m
407	452	5.35
423	468	5.40
439	484	5.45
455	500	5.50
471	516	5.55
487	532	5.60
503	548	5.65
519	564	5.70
535	580	5.75
551	596	5.80

Glide shoes

For long travel lengths, gliding in a channel, interchangeable glide shoes are used. These can be produced from different plastics and guarantee optimum friction and wear ratios. For travel speeds > 2.5 m/s highly wear-resistant plastic is used.

Subject to technical changes!

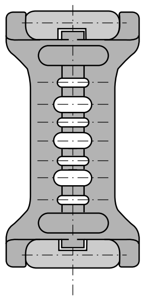
Type ME/MK 1250

Divider systems

for Stay variant “RE and RD“

The divider system can be planned by you or by our engineers on the basis of the information you supply about the configuration of the cable carrier.

As standard the stay system is fitted to every frame stay (with stay assembly on every 2nd chain link).

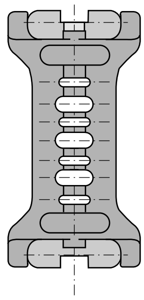


Version **A**

Notch in connecting profile to the inside

(Standard)

The dividers can slide along the section.



Version **B**

Notch in connecting profile to the outside

The dividers are fixed in the section (a_x-grid 16 mm)

Divider system TS 0

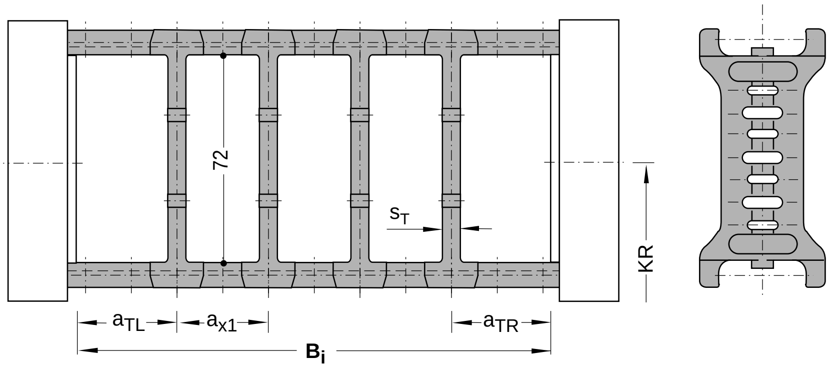
without height subdivision

	Version A	Version B
s_T	8 mm	8 mm
$a_{T\ min}$	5 mm	19.5 mm
$a_{x\ min}$	14.5 mm	16 mm
$a_{x\ grid}$	continuous	16 mm

Please state the type and the number of dividers/cross section n_T when ordering.

Sample order:
Divider system TS 0-A / n_T 4

Dividers can slide along the cross-section (Version A) or are fixed (Version B). For divider version B please state fitting intervals a_T and a_x!



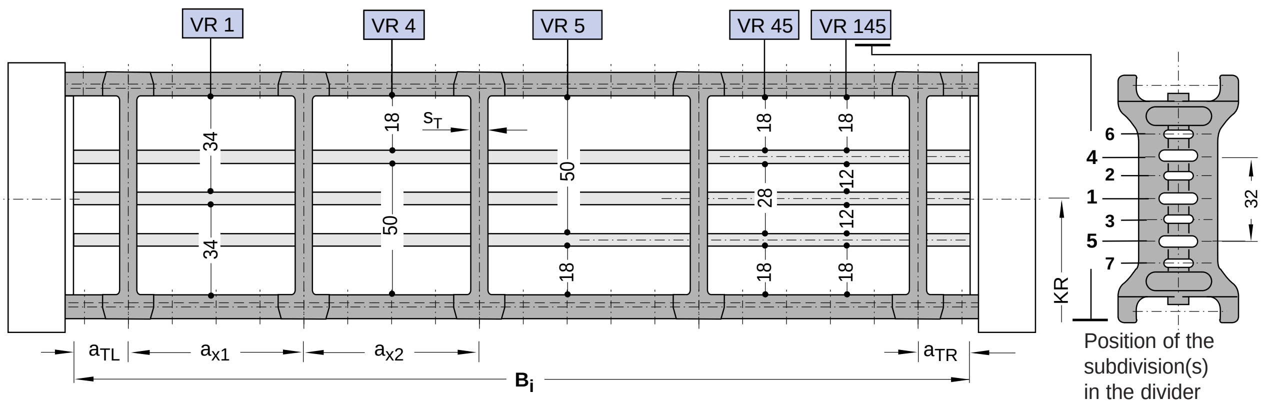
Divider system TS 1

with continuous height subdivision

Height subdivision: **Al-Profile 11 x 4 mm**

Technically recommended variants: VD 1, VD 4, und VD 5

Dividers can slide along the cross-section (Version A) or are fixed (Version B). For divider version B please state fitting intervals a_T and a_x!



	Version A	Version B
s_T	8 mm	8 mm
$a_{T\ min}$	5 mm	19.5 mm
$a_{x\ min}$	14.5 mm	16 mm
$a_{x\ grid}$	continuous	16 mm
$n_{T\ min}$	2	2

Please state the type of height subdivisions and the number of dividers/cross section n_T when ordering.

Sample order: Divider system TS 1– VD 45/n_T 5

KABELSCHLEPP

Type ME/MK 1250

Divider systems

for Stay variant “RE and RD“

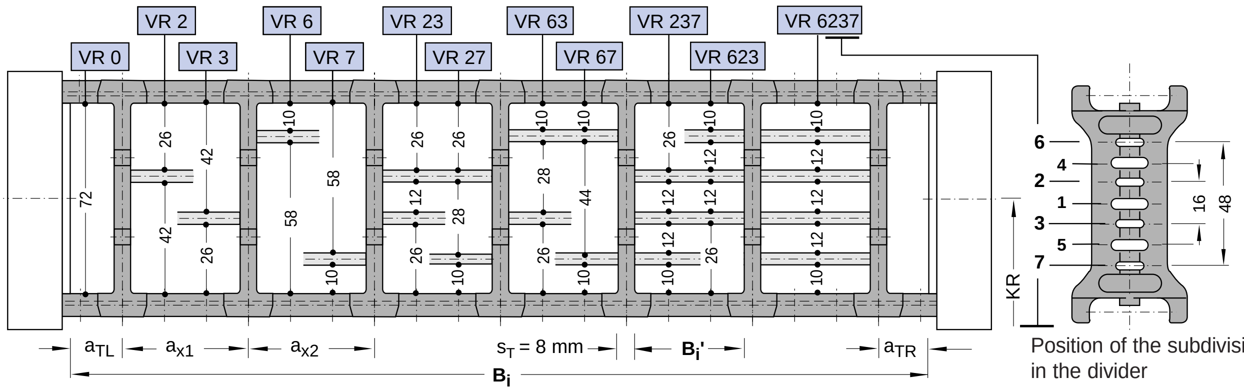
Divider system TS 2

with grid subdivision (1mm-grid)

Height subdivision: **Al-Profile 11 x 4 mm**

Techically recommended variants: VR 0, VR 2 und VR 3

The dividers are fixed by the height subdivision profiles!, the grids can be moved in the chain cross-section!



Position of the subdivision(s) in the divider

	Version **A**	Version **B**
s_T	8 mm	8 mm
$a_{T\ min}$	5 mm	19.5 mm
$a_{x\ min}$ (with subdivision)	20 mm	32 mm
$a_{x\ min}$ (at VR 0)	14.5 mm	16 mm
a_{x} grid	1	16

Please indicate the cavities (from left to right), the relevant subdivision variant and the assembly spacing a_T and a_x when ordering.

Sample order: Divider system TS 2-A
K(cavity) 1 -VR 0 / 60 mm
K 2 - VR 67 / 133 mm
K 3 - VR 0 / 60 mm

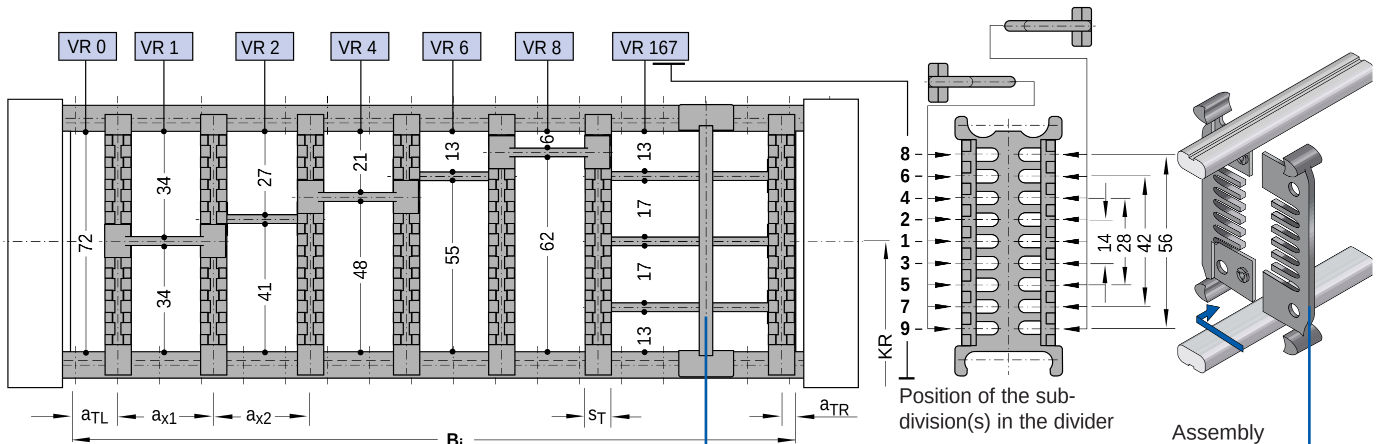
Divider system TS 3

with height subdivision

Plastic Partitions

Techically recommended variants: VR 0, VR 1, VR 2 und VR 3

The dividers are fixed by the height subdivision profiles, the grids can be moved in the chain cross-section!



Twin divider

Position of the sub-division(s) in the divider

Assembly of twin divider

s_T	=	8 mm
$a_{T\ min}$	=	4 mm
$a_{x\ min}$	=	16 mm (with subdivision)
a_x grid	=	see a_x-table
$n_{T\ min}$	=	2

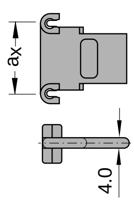
The twin divider can be moved, suitable for later assembly / fitting

s_T	=	4 mm

Sample order: Divider system TS 3
K(cavity) 1 - VR 0 / 80 mm
K 2 - VR 1 / 38 mm
K 3 - VR 4 / 112 mm
with twin divider

a_x mm (Centre-to-centre distance of dividers)														
16	18	23	28	32	33	38	43	48	58	64	68	78	80	88
96	112	128	144	160	176	192	208							

When using partitions with a_x > 112 mm, a twin divider should be used to provide an additional central support.



Please indicate the cavities (from left to right), the relevant subdivision variant and the assembly spacing a_T and a_x when ordering.

Subject to technical changes!

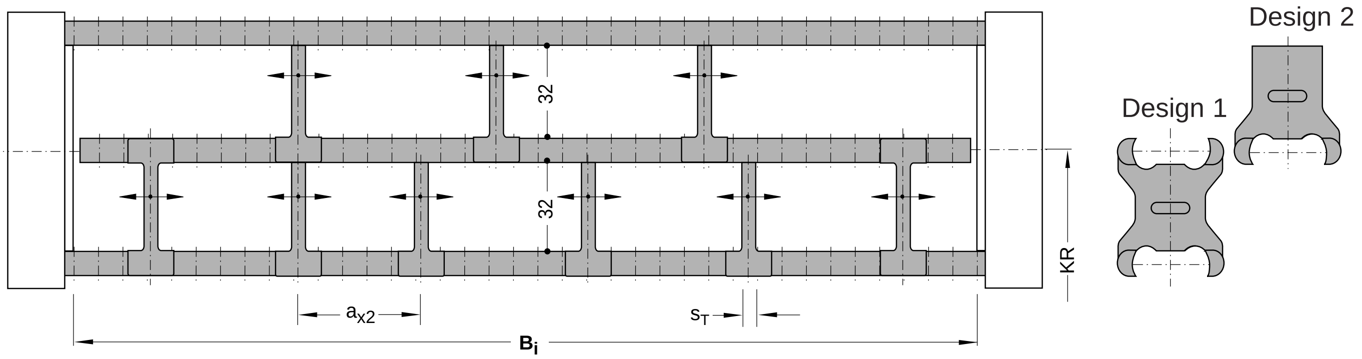
Type ME/MK 1250

Divider systems
for Stay variant “RE and RD“

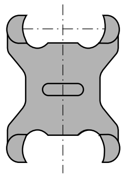
Divider system TS 4

with continuous height subdivision

Height subdivision:
Plastic-Profile 27 x 8 mm



s_T	=	4 mm
$a_{x\,min}$	=	15 mm



Half-dividers can slide along the chain cross-section. At least 2 half-dividers with clamp grips on both sides (Design 1) should be fitted in the lower chamber near to the chain band.

Please state the type and the number of dividers/cross section when ordering.

Sample order: Divider system TS 4
Please enclose a sketch

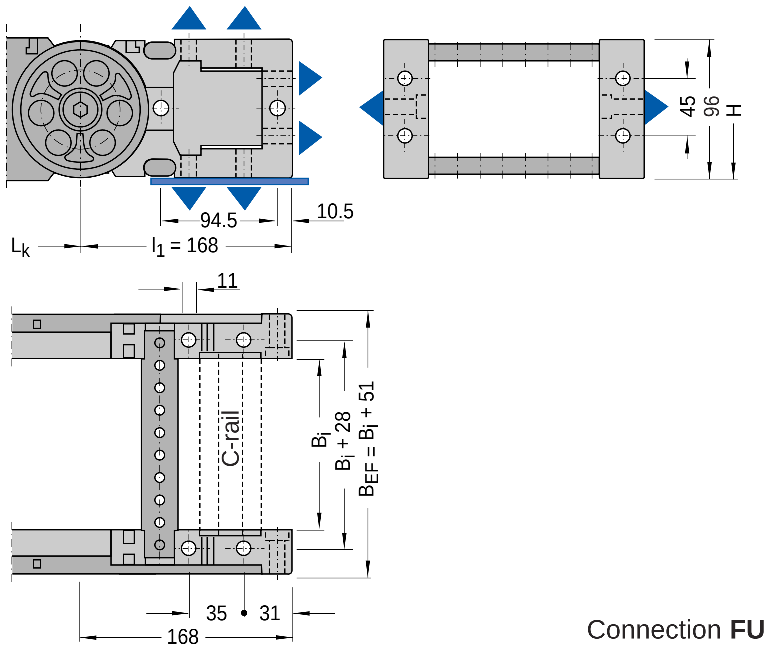
Type ME/MK 1250

Connection dimensions

Universal connectors made of die-cast Aluminium

Optionally with C-rail, slit width 16-17 mm. Suitable for all commercial saddle-type clamps with large base and KABELSCHLEPP SLZ Strain Relief Devices (cf. System Components).

Fixed point connection



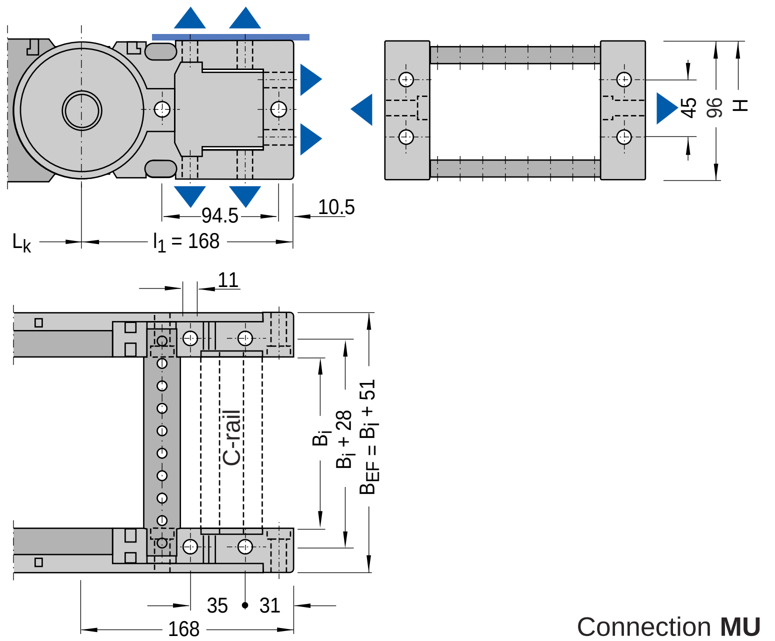
Connection **FU**

Ordering Key for the connection:

X U

- **Connection point**
  - F - Fixed point
  - M - Driver
- U - Universal connection

Driver connection



Connection **MU**

Ordering Key for cable carrier:

ME 1250 .407 - RE - 340 - 6000

Example:

Cable carrier type ME 1250, inside width B_i 407 mm, frame stay RE – insert stay, with bend radius KR 340 mm and chain length L_k = 6000 mm

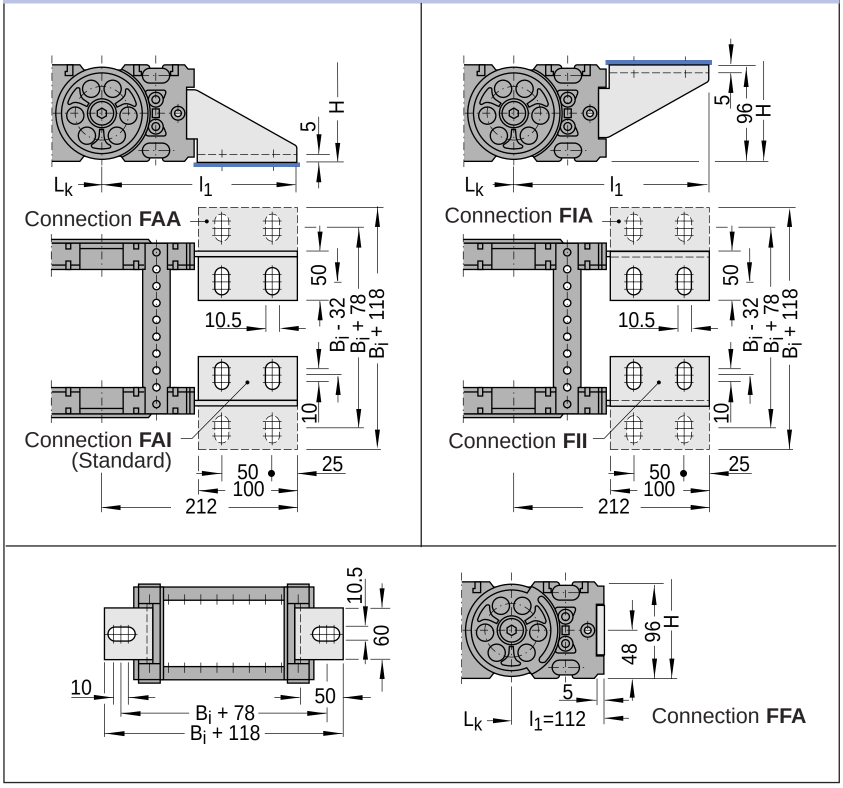
- Type
- Inside width B_i in mm
- Stay variant
- Bend radius KR in mm
- Chain length L_k in mm (without connection)

Type ME/MK 1250

Connection dimensions

End link made of plastic
End connector made of steel plate

Fixed point connection



Ordering Key for the connection:

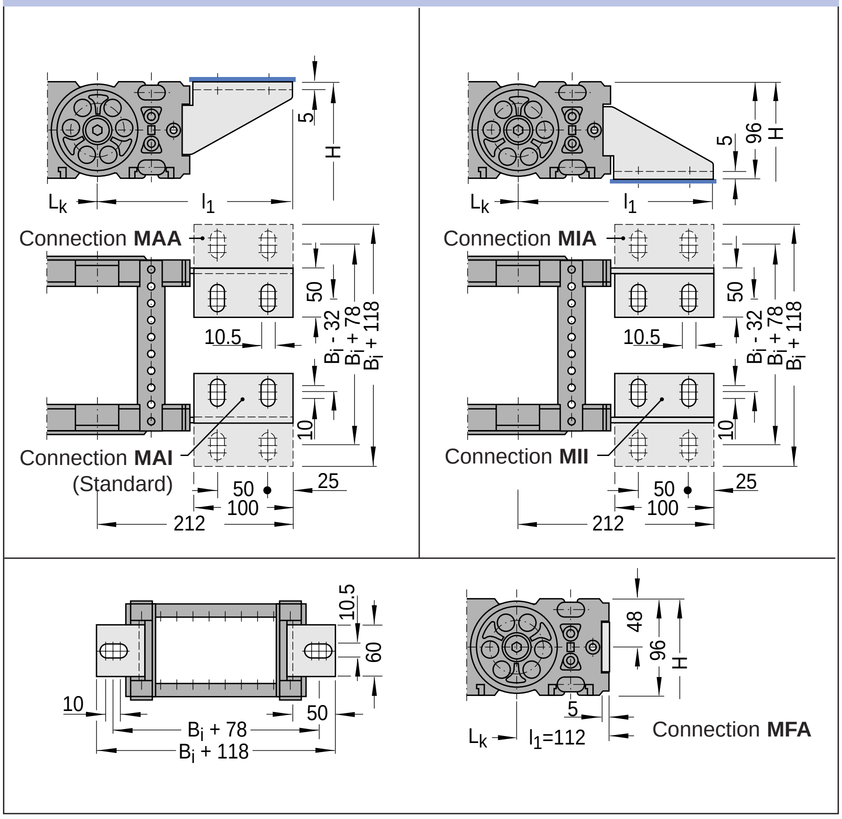
X X X

Connection point
F - Fixed point
M - Driver

Connection type
A - Threaded joint to the outside (Standard)
I - Threaded joint to the inside (towards KR)
F - Flange connection

Connection surface
I - Connection surface inside (< B_i)
A - Connection surface outside (> B_i)

Driver connection



The connection variants at the fixed point and at the driver can be combined and subsequently changed if required.

Please state the desired connection variant when ordering.

Example: FAI/MAI or **FIA/MIA**

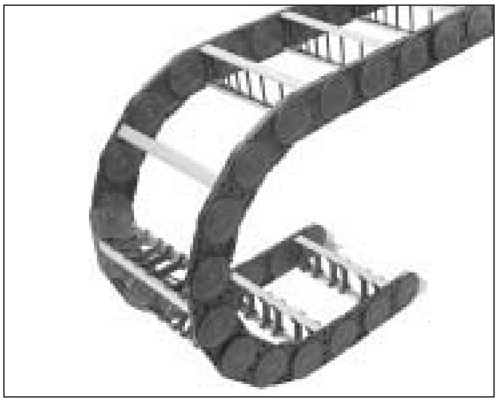
KABELSCHLEPP

Type XLC

Cable Carriers

with Aluminium Stays

KABELSCHLEPP



Profile

Cable Carriers with Aluminium Stays Type XLC

- Large dimensions
- Low intrinsic weight
- High degree of stability for long self-supporting lengths
- For long travel lengths highly wear-resistant glide shoes are available, resulting in minimal wear
- Variable widths in 1 mm sections
- Plastic chain bands combined with Aluminium stays
- Can be opened on both sides
- Various connection variants
- Large selection of stay systems and ways of separating the cables
- With optional strain relief
- TÜV type approved in accordance with 2PfG 1036/10.97
- Completely enclosed types with mit Aluminium cover systems cf. Chapter XLT 1650

Stay variants:

RM – Solid design

RMR – Plastic roller stay

LG – Hole stay, split design

Chain Band Material:	**K 7426 S (Standard)** → cf. Interesting Technical Information 7.14
Connecting Profile Material:	**Aluminium Alloy** → cf. Interesting Technical Information 7.14
7 bend radii available!	

TÜV Rheinland Product Safety
BAUART GEPRÜFT
TYPE APPROVED

Type	Inside width		Chain width		Inside height	Pitch
	$B_{i\,min}$	$B_{i\,max}$	$B_{k\,min}$	$B_{k\,max}$	h_i	t
	mm	mm	mm	mm	mm	mm
XLC 1650	200	1000	268	1068	108	165

Subject to technical changes!

Technical Data — XL Series

Type XLC 1650

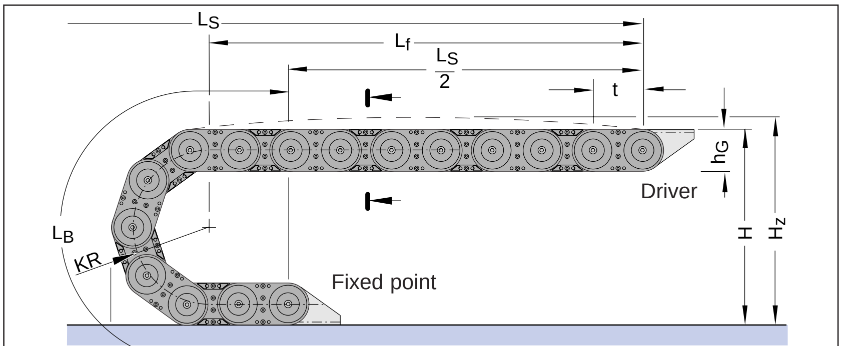
Design of the Cable Carriers

Chain pitch t = 165 mm
Chain link height h_G = 140 mm (h_G' = 147 mm)
Connection height H_{min} = 2 KR + 140 mm
Connection length l_1 = cf. Connection Dimensions

Installation height H_Z (required clearance height):

$H_Z \approx H + 100\text{mm}$

A flat and level surface is required for the carrier system to be installed properly. If necessary, a support tray should be installed. (cf. System Components section)



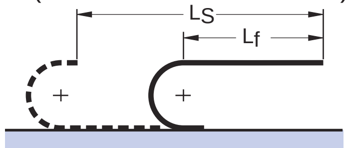
Schematic of unsupported arrangement

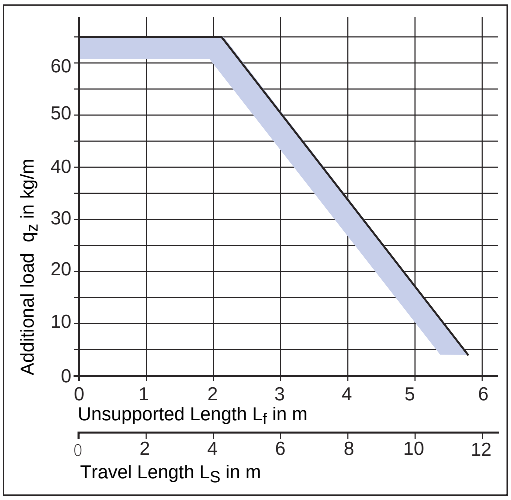
Variable sizes
depending on bend radius

Bend radius KR	**250** mm	**300** mm	**350** mm	**400** mm	**450** mm	**500** mm	**550** mm
Bend length L_B	950	1107	1264	1421	1578	1735	1892
Loop overhang $Ü_B$	403	453	503	553	603	653	703
Height H_{min}	640	740	840	940	1040	1140	1240

Load diagram

Unsupported length L_f and travel length L_S
depending on the additional load (cf. Construction Guidelines)





Load diagram for an intrinsic chain weight q_k of 13 kg/m. If the intrinsic chain weight exceeds q_k 13 kg/m, the permissible additional load is lower.

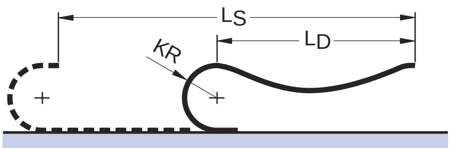
Calculation of chain length:

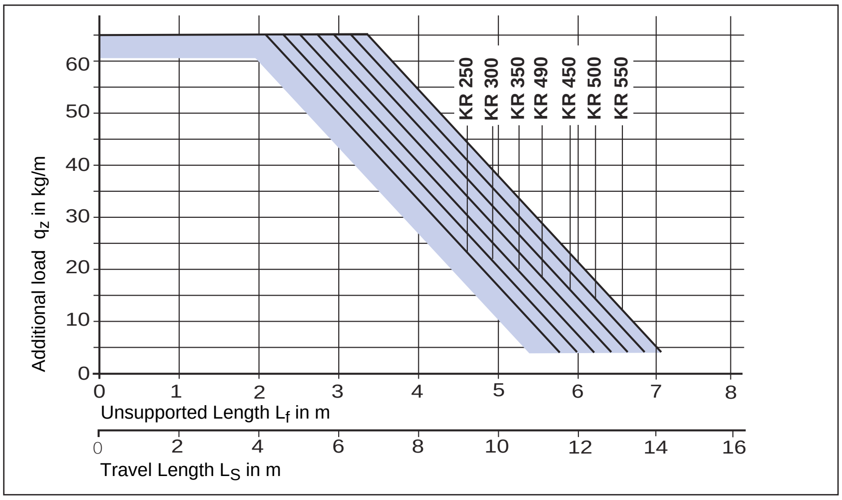
$$L_k \approx \frac{L_S}{2} + L_B$$

rounded to pitch 165 mm

The calculated chain length L_k **must** always be rounded up / down to an uneven number of chain links.

Length with permitted sag L_D and travel length L_S
depending on the additional load (cf. Construction Guidelines)





Calculation of chain length:

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

rounded to pitch 165 mm

The calculated chain length L_k **must** always be rounded up / down to an uneven number of chain links.

Long travel lengths

With long travel lengths the upper part of the cable carrier glides on its lower run in a guide channel.

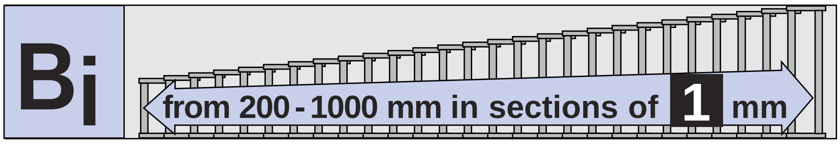
Design → cf. Construction Guidelines
Guide channel → cf. System Components

We recommend that a system of this kind be planned by one of our engineers.

Type XLC 1650

Chain cross sections

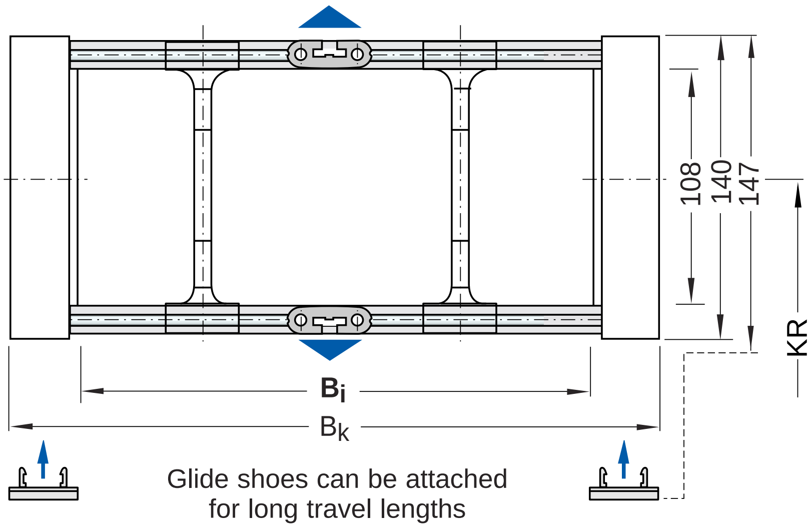
in accordance with section in schematic illustration



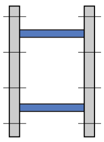
Stay variant „RM“

Frame stay – solid design

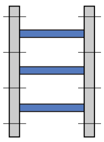
All frame stays are double bolted on both sides, inside and outside



Stay configuration:



1/2 Arrangement – Standard
Stays on every 2nd chain link



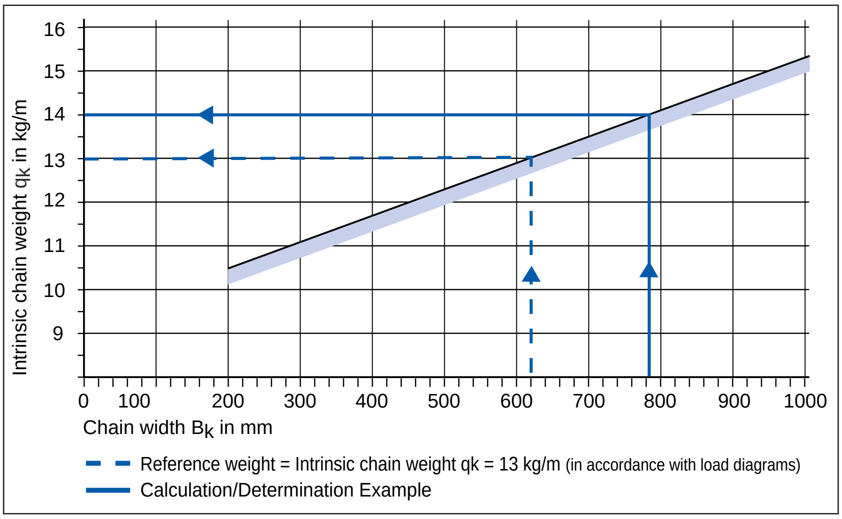
1/1 Arrangement
Stays on every chain link.
Please specify when placing order.

Calculation of chain width:

B_k = $\mathbf{B_i}$ + 68 mm

Calculation Example:

Inside width	$\mathbf{B_i}$	=	712 mm
Chain width	B_k	=	780 mm
Intrinsic chain weight	q_k	=	14 kg/m



Intrinsic chain weight depending on chain width B_k

Glide shoes

For long travel lengths, gliding in a channel, interchangeable glide shoes made of highly wear-resistant plastic are used. These guarantee optimum fricton and wear ratios.

Type XLC 1650

Divider systems
for Stay variant “RM“

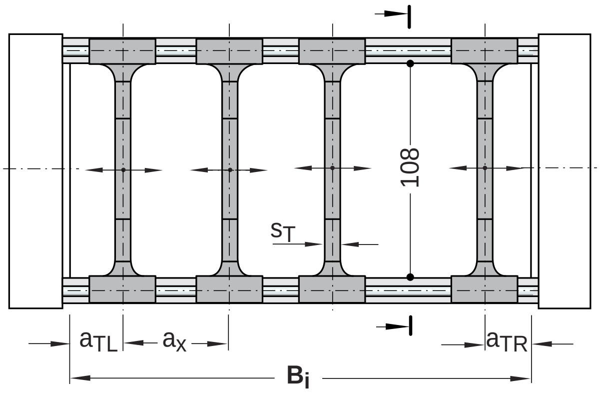
The divider system can be planned by you or by our engineers on the basis of the information you supply about the configuration of the cable carrier.

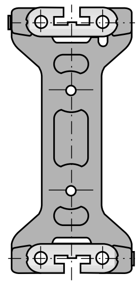
As standard, the divider system is fitted on every frame stay!
(with stay assembly on every 2nd chain link)

Divider systems TS 0

without height subdivision

s_T	=	8 mm
$a_{T\ min}$	=	6 mm
$a_{x\ min}$	=	25 mm





Please state the number of dividers/cross section n_T when ordering.

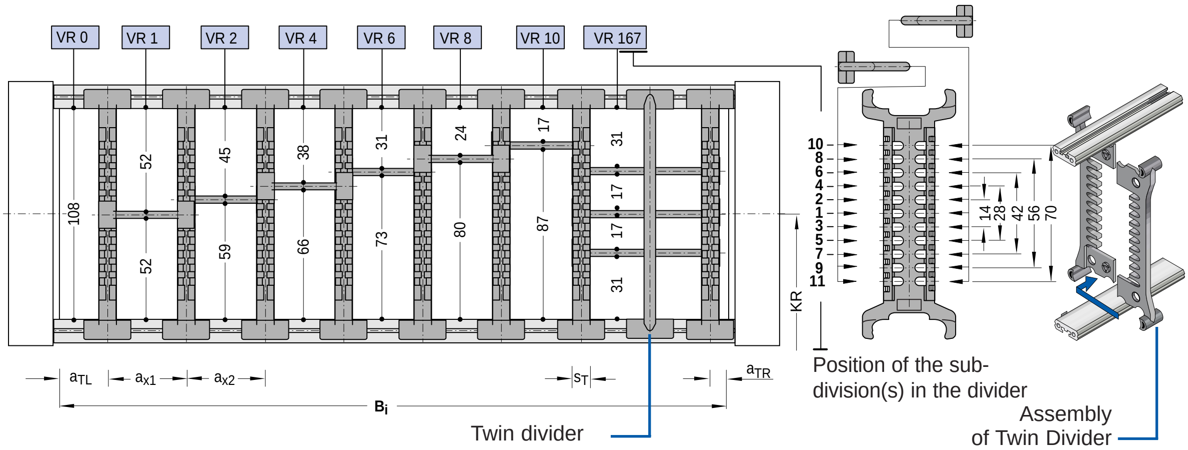
Sample order:
Divider system TS TS 0/n_T 4

The dividers can slide along the chain cross section!

Divider system TS 3

with height subdivision:
Plastic Partitions

Technically recommended variants: VR 0 through VR 7
Dividers fixed by height subdivision, the grids can slide along the chain cross section!



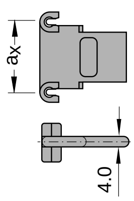
s_T	=	8 mm
$a_{T\ min}$	=	1 mm
$a_{x\ min}$	=	16 mm (with height subdivision)
$a_{x\ grid}$	=	see a_x-table
$n_{T\ min}$	=	2

a_x mm (Centre-to-centre distance of dividers)														
16	18	23	28	32	33	38	43	48	58	64	68	78	80	88
96	112	128	144	160	176	192	208							

The twin divider can be moved, suitable for later assembly/fitting.

When using partitions with a_x > 112 mm, a twin divider should be used to provide an additional central support.

s_T	=	5 mm

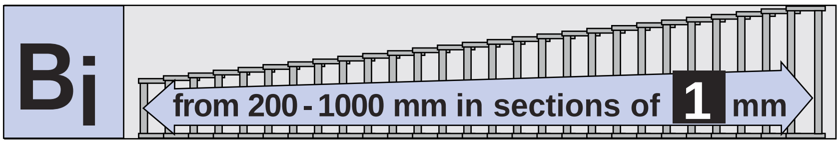


Please indicate the cavities (from left to right), the relevant subdivision variant and the assembly spacing a_T and a_x when ordering.

Sample order: Divider system TS 3
K(cavity) 1 - VR 0 / 80 mm
K 2 - VR 1 / 38 mm
with twin divider
K 3 - VR 1 / 68 mm

KABELSCHLEPP

Type XLC 1650



Chain cross sections

in accordance with section in schematic illustration

Stay variant RMR

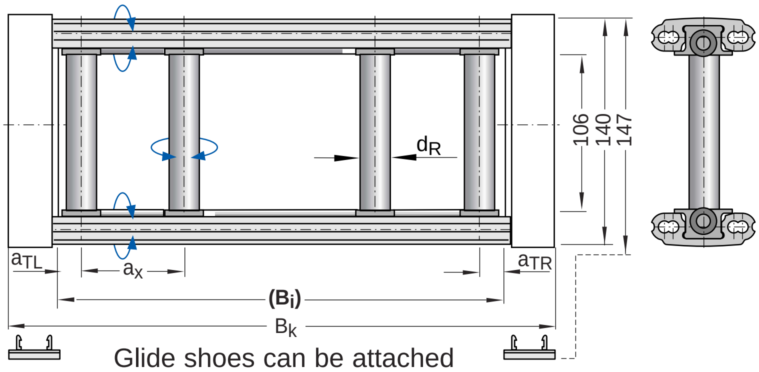
Plastic roller stay for the highest specifications – protecting the cables and hoses.

Aluminium connecting profiles with plastic roller system.

Movable dividers and roller stays can be used to separate the cables and hoses from one another.

Customised, contract-specific manufacture in accordance with your specifications.

d_R	=	10 mm
s_T	=	8 mm
$a_{T\,min}$	=	6.5 mm
$a_{x\,min}$	=	50 mm

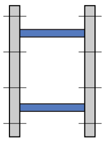


Glide shoes can be attached for long travel lengths

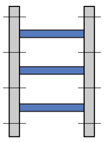
Calculation of chain width:

$B_k = \mathbf{B_i} + 68$ mm

Stay configuration:



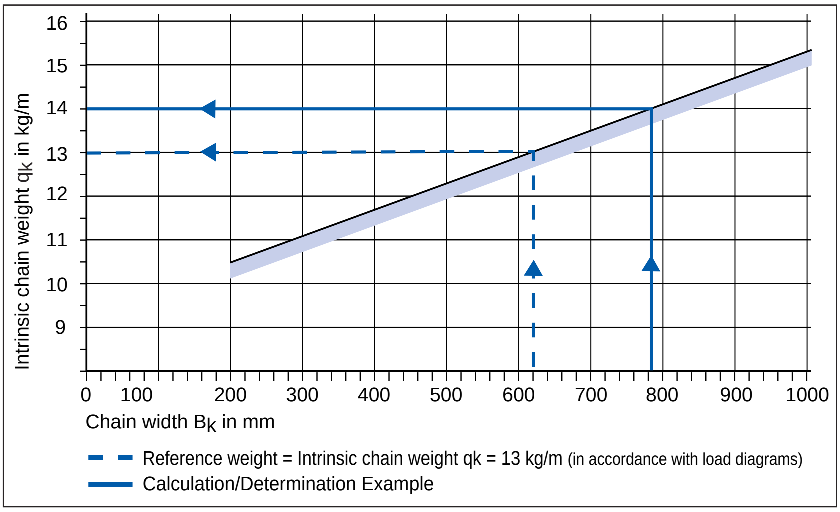
1/2 Arrangement – Standard
Stays on every 2nd chain link



1/1 Arrangement
Stays on every chain link.
Please specify when placing order.

Calculation Example:

Inside width	$\mathbf{B_i}$	=	712 mm
Chain width	B_k	=	780 mm
Intrinsic chain weight	q_k	=	14 kg/m

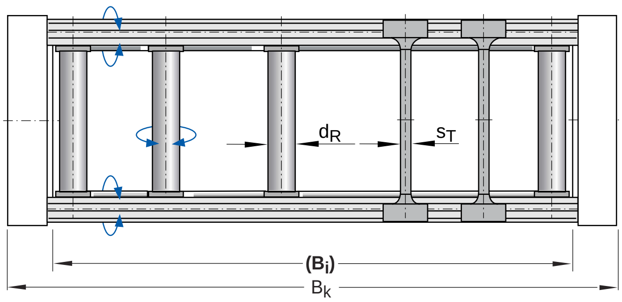


Intrinsic chain weight depending on chain width B_k

Combination Example:

Roller stay combined with dividers

Please state the number of roller stays n_T and dividers n_T when ordering.

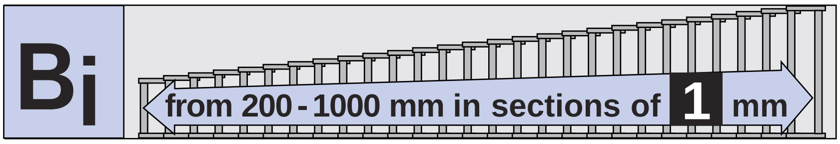


Glide shoes

For long travel lengths, gliding in a channel, interchangeable glide shoes made of highly wear-resistant plastic are used. These guarantee optimum fricton and wear ratios.

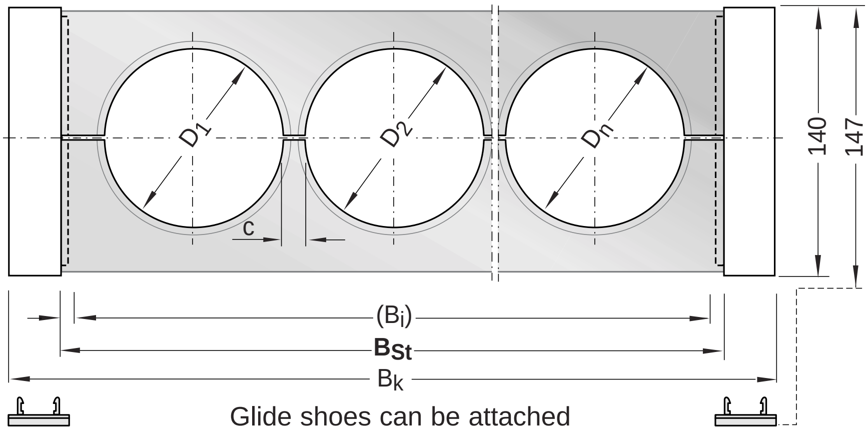
Subject to technical changes!

Type XLC 1650



Chain cross sections

in accordance with section in schematic illustration



Glide shoes can be attached for long travel length

Stay variant LG

Hole stay – split design (Standard)

Fitted on every 2nd chain link

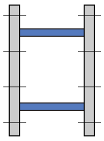
No standard widths!

Customized, contract-specific manufacture of hole pattern in accordance with your specifications

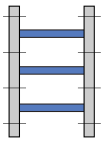
Stay variant LU – hole stay in unsplit design. Please specify when placing order!

D_{max}	=	110 mm
$a_{0\ min}$	=	13.5 mm
c_{min}	=	4 mm

Stay configuration:



1/2 Arrangement – Standard
Stays on every 2nd chain link



1/1 Arrangement
Stays on every chain link. Please specify when placing order.

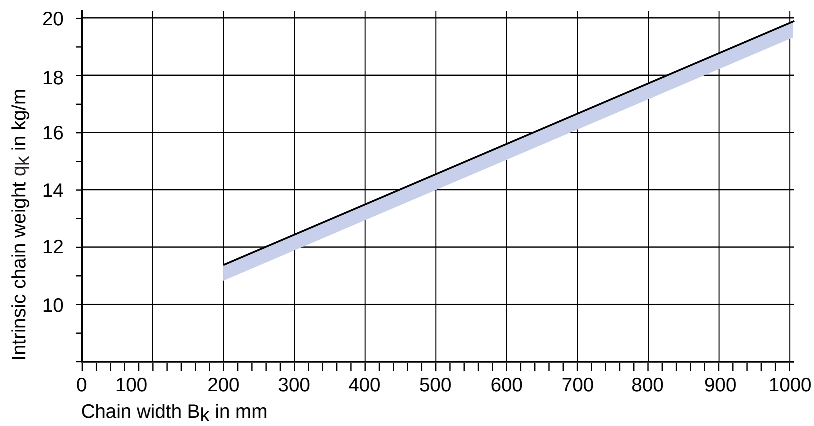
Calculation of B_i

B_i = B_{St} - 14 mm

Calculation of chain width:

B_k = B_{St} + 54 mm

Hole stays with approximately 50 % hole area



Intrinsic chain weight depending on chain width B_k

Glide shoes

For long travel lengths, gliding in a channel, interchangeable glide shoes made of highly wear-resistant plastic are used. These guarantee optimum fricton and wear ratios.

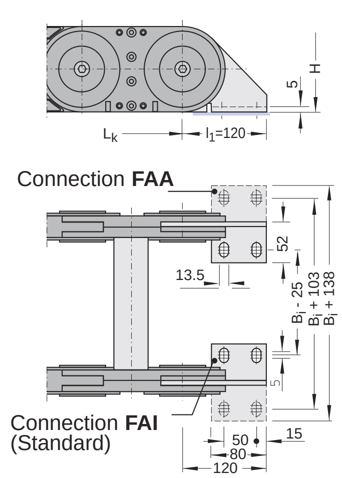
KABELSCHLEPP

Type XLC 1650

Connection dimensions

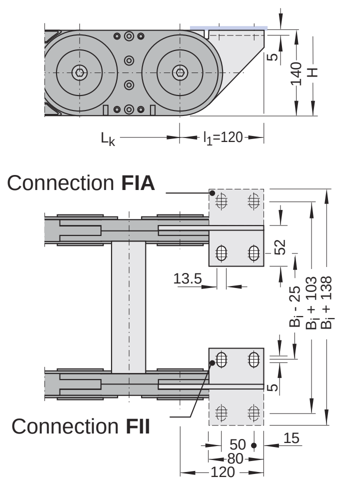
End link made of plastic
End connector made of steel plate

Fixed point connection



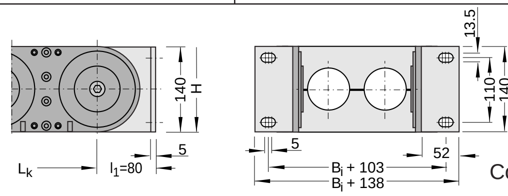
Connection **FAA**

Connection **FAI** (Standard)



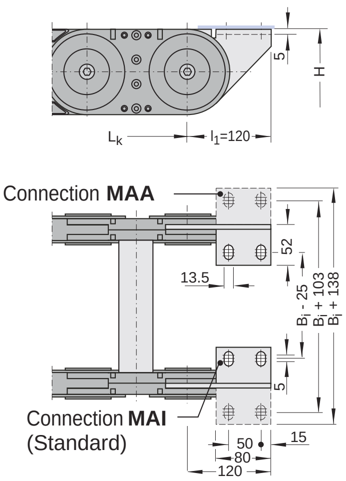
Connection **FIA**

Connection **FII**



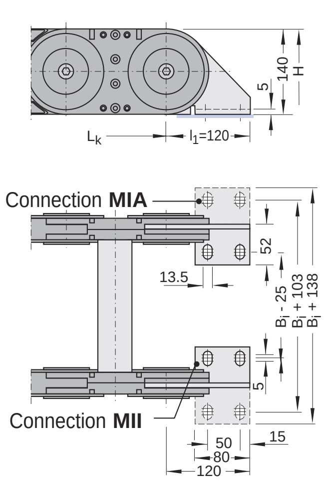
Connection **FFA**

Driver connection



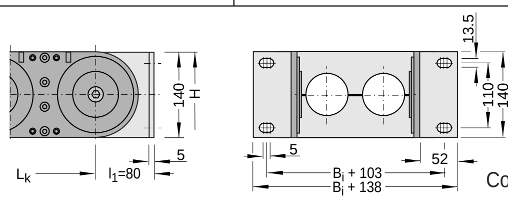
Connection **MAA**

Connection **MAI** (Standard)



Connection **MIA**

Connection **MII**



Connection **MFA**

Ordering Key for the connection:

X X X

Connection point
- F - Fixed point
- M - Driver

Connection type
- A - Threaded joint to the outside (Standard)
- I - Threaded joint to the inside (towards KR)
- F - Flange connection

Connection surface
- I - Connection surface inside (< B_i)
- A - Connection surface outside (> B_i)

The connection variants at the fixed point and at the driver can be combined and subsequently changed if required.

Please state the desired connection variant when ordering.

Example: FAI/MAI or **FAI/MAA**

Ordering Key for the cable carrier:

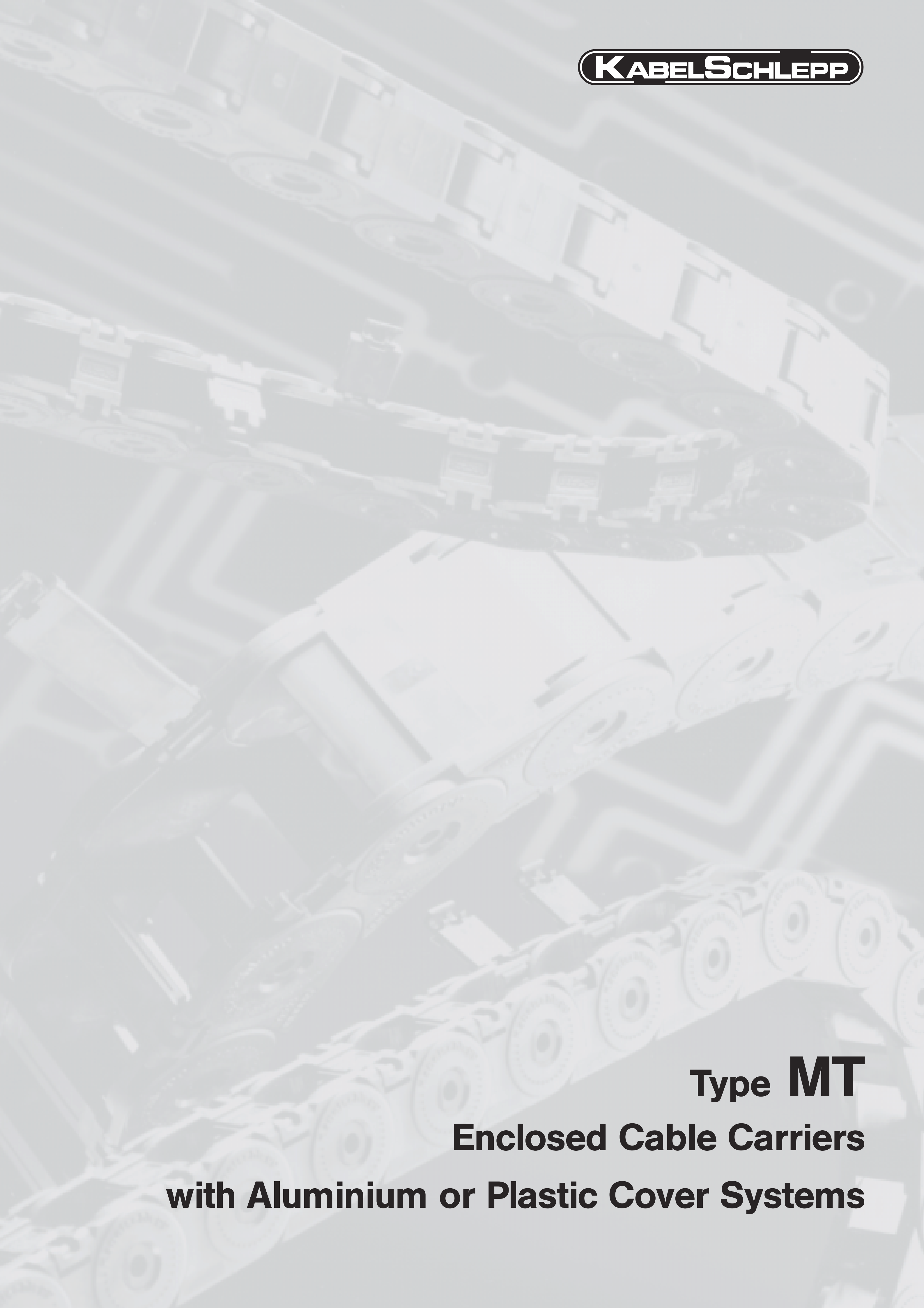
XLC 1650.830 - RM - 400 - 4125

- XLC 1650: Type
- 830: Inside width B_i in mm (for frame stays) / Stay width B_{St} in mm (for hole stays)
- RM: Stay variant
- 400: Bend radius KR in mm
- 4125: Chain length L_k in mm (without connection)

Example:

Cable carrier type XLC 1650, inside width B_i 830 mm, with frame stay RM – solid design, with bend radius KR 400 mm and chain length L_k = 4125 mm

Subject to technical changes!

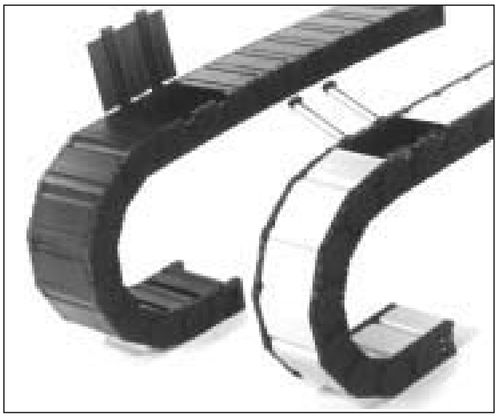


KABELSCHLEPP

Type MT

Enclosed Cable Carriers

with Aluminium or Plastic Cover Systems



Profile

Enclosed Cable Carriers with Aluminium or Plastic Cover Systems Type MT

- Variable widths in 1-, 8- or 16-mm sections
- Plastic chain bands combined with Aluminium or Plastic cover systems
- Extremely robust owing to sturdy sidebar design
- Enclosed stroke system not sensitive to dirt / contamination
- Can be opened quickly on both sides
- With universal connecting pieces - fully enclosed even at the connection points
- Large choice of stay systems and ways of separating the cables and hoses
- From 0475 highly wear-resistant glide shoes are available, resul-ting in minimal wear
- With optional strain relief
- TÜV type approved in accordance with 2PfG 1036/10.97
- 2D-/3D-CAD-Data can be found at www.kabelschlepp.de

Stay variants:

RDD – Plastic cover system

RMD – Aluminium cover system

Chain Band Material:	**K 7426 S (Standard)** → cf. Interesting Technical Information 7.14
Cover System Material:	**Plastic cover System** **K 7426 S (Standard)** → cf. Interesting Technical Information 7.14 **Aluminium cover System** **Aluminium Alloy** → cf. Interesting Technical Information 7.14

7 bend radii available!

Type	Inside width $B_{i\,min}$ mm	Inside width $B_{i\,max}$ mm	Chain width $B_{k\,min}$ mm	Chain width $B_{k\,max}$ mm	Inside height h_i mm	Pitch t mm
MT 0475	24	280	41	297	26	47.5
MT 0650	50	500	84	534	38.5	65
MT 0950	77	600	116	639	54.5	95
MT 1250	103	800	148	845	68.5	125

TÜV Rheinland Product Safety

BAUART GEPRÜFT

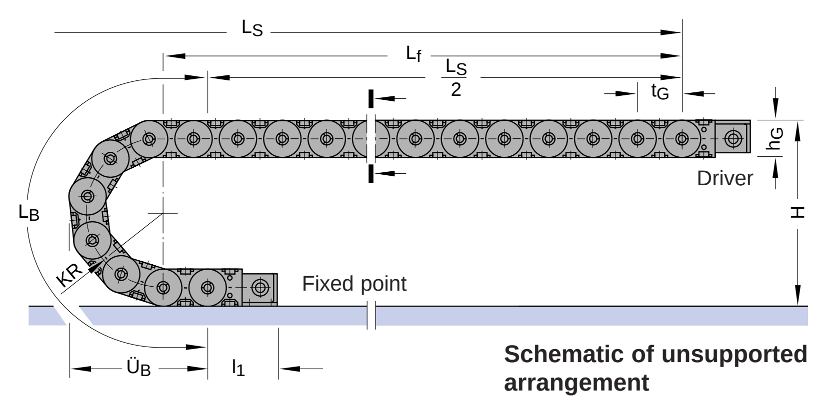
TYPE APPROVED

Type MT 0475

Design of the Cable Carriers

Chain pitch t	=	47.5 mm
Chain link height h_G	=	39 mm (h_G' = 41.5 mm)
Connection height H_{min}	=	2 KR + 39 mm
Connection length l_1	=	cf. Connection Dimensions

A flat and level surface is required for the carrier system to be installed properly. If necessary, a support tray should be installed. (cf. System Components section)



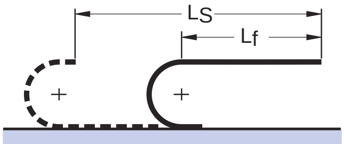
Schematic of unsupported arrangement

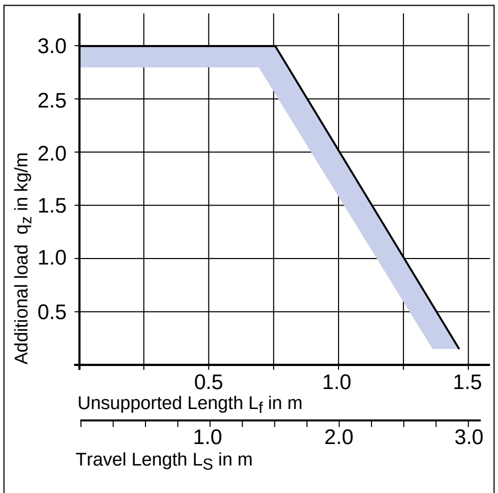
Variable sizes
depending on bend radius

Bend radius KR	75 mm	100 mm	130 mm	160 mm	200 mm	250 mm	300 mm
Bend length L_B	331	410	504	598	724	881	1038
Loop overhang $Ü_B$	142	167	197	227	267	317	367
Connection height H_{min}	189	239	299	359	439	539	639

Load diagram

Unsupported length L_f and travel length L_S
depending on the additional load (cf. Construction Guidelines)





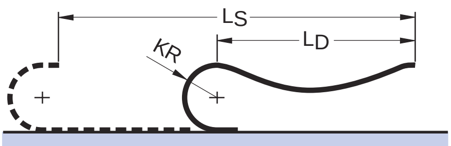
Load diagram for an intrinsic chain weight q_k of 1.7 kg/m. If the intrinsic chain weight exceeds q_k 1.7 kg/m, the permissible additional load is lower.

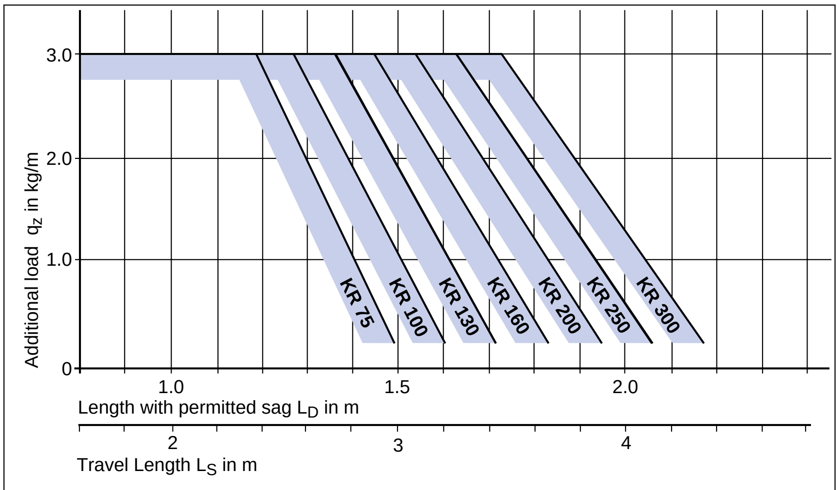
Calculation of chain length:

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

rounded to pitch 47.5 mm

Length with permitted sag L_D and travel length L_S
depending on the additional load (cf. Construction Guidelines)





Calculation of chain length:

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

rounded to pitch 47.5 mm

Long travel lengths

With long travel lengths the upper part of the cable carrier glides on its lower run in a guide channel.

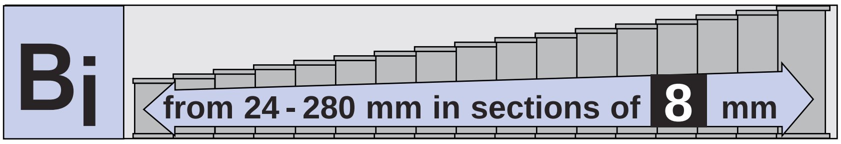
Design → cf. Construction Guidelines

Guide channel → cf. System Components

We recommend that a system of this kind be planned by one of our engineers.

KABELSCHLEPP

Type MT 0475



Chain cross section

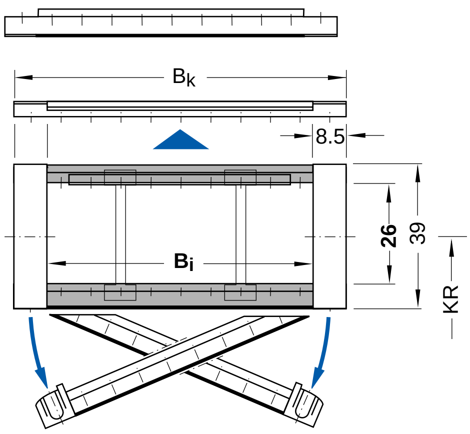
in accordance with section in schematic illustration

Stay variant “RDD“

Frame stay – **Plastic cover system**

Opening variant 01:

Hinged protective covers **on the inside**
Protective covers **on the outside** can be released by turning



Calculation of Chain width:

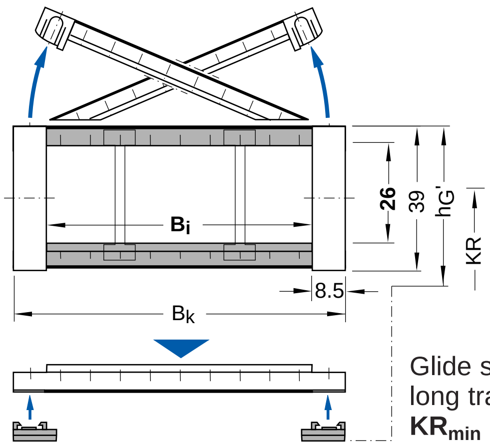
$B_k = \mathbf{B_i} + 17$ mm

Opening variant 02: (Standard)

Hinged protective covers **on the outside**
Protective covers **on the inside** can be released by turning

Calculation of Chain width:

$B_k = \mathbf{B_i} + 17$ mm



Glide shoes can be attached for long travel lengths
KR_{min} = 100 mm

Chain widths / Intrinsic chain weight

Chain widths available without strain relief

Chain widths available with strain relief

Reference weight = intrinsic chain weight q_k = 1.7 kg/m (cf. load diagrams)

Calculation of the difference in the additional load Δq_z

1.70 kg/m – 2.88 kg/m = -1.18 kg/m

The permitted additional load q_z in accordance with the load diagrams is reduced by **1.18 kg/m**

33 chain widths are available

B_i mm	B_k mm	q_k kg/m	B_i mm	B_k mm	q_k kg/m	B_i mm	B_k mm	q_k kg/m
24	41	0.90	**112**	129	2.11	**200**	217	3.32
32	49	1.01	**120**	137	2.22	**208**	225	3.43
40	57	1.12	**128**	145	2.33	**216**	233	3.54
48	65	1.23	**136**	153	2.44	**224**	241	3.65
56	73	1.34	**144**	161	2.55	**232**	249	3.76
64	81	1.45	**152**	169	2.66	**240**	257	3.87
72	89	1.56	**160**	177	2.77	**248**	265	3.98
80	97	1.67	**168**	185	2.88	**256**	273	4.09
88	105	1.78	**176**	193	2.99	**264**	281	4.20
96	113	1.89	**184**	201	3.10	**272**	289	4.31
104	121	2.00	**192**	209	3.21	**280**	297	4.41

Glide shoes

For long travel lengths, gliding in a channel, interchangeable glide shoes are used. These can be produced from different plastics and guarantee optimum friction and wear ratios. For travel speeds > 2.5 m/s highly wear-resistant plastic is used.

Type MT 0475

Divider systems

for stay variant “RDD“
for opening variants **01** and **02**

Divider system TS 0

without height subdivision
The illustration shows opening variant 02

s_T	=	2.8 mm
$a_{T\ min}$	=	12 mm
$a_{x\ min}$	=	8 mm

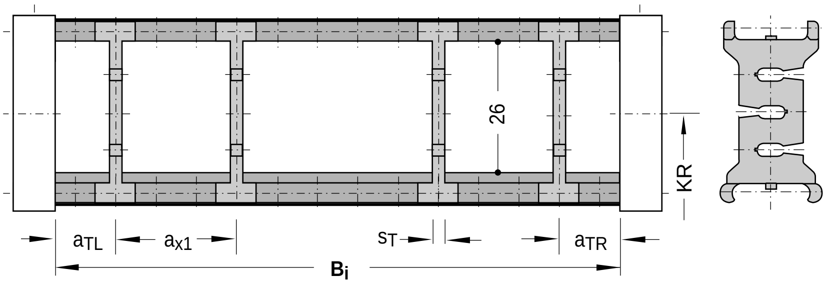
The space interval a_x must be divisible by 8!

Please state the number of dividers / cross-section when placing your order.

Ordering Example:
Divider system TS 0 / n_T 4

The divider system can be planned by you or by our engineers on the basis of the information you supply about the configuration of the cable carrier.

As standard, the divider system is fitted on every frame stay! (with stay assembly on every 2nd chain link)



The dividers are fixed in the chain cross-section! (8 mm sections)
Please state the fitting intervals a_T and a_x!

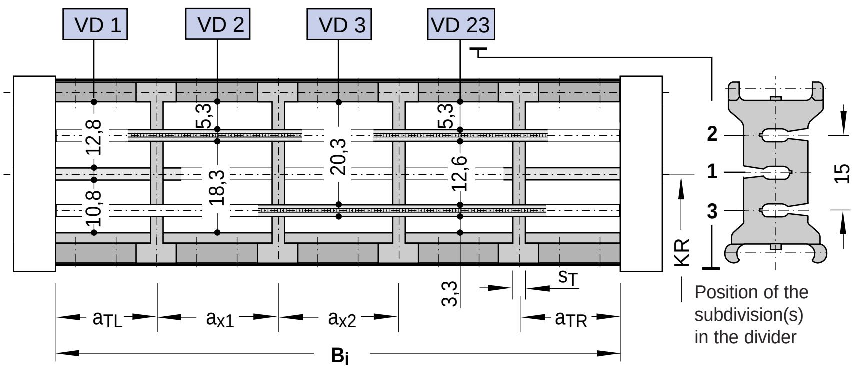
Divider system TS 1

with continuous height subdivision
Height subdivision: **Al-Profile 6 x 2.4 mm**
The illustration shows opening variant 02

s_T	=	2.8 mm
$a_{T\ min}$	=	12 mm
$a_{T\ max}$	=	20 mm
$a_{x\ min}$	=	8 mm
$n_{T\ min}$*	=	2

The space interval a_x must be divisible by 8!
Please state the number of dividers / cross-section when placing your order.

Ordering Example:
Divider system TS 1 - VD 1 / n_T 4



Technically recommended variants: VD 1
*) with variant VD 1 dividers are not absolutely necessary!
The dividers are fixed in the chain cross-section! (8 mm sections)
Please state the fitting intervals a_T and a_x!

Divider system TS 2

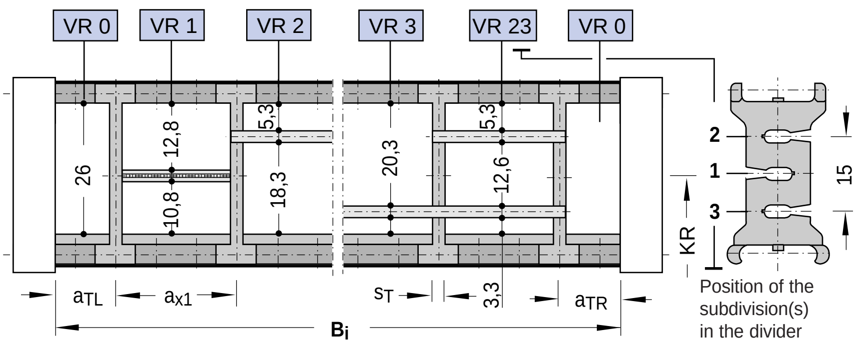
with grid subdivision (8 mm-sections)
Height subdivision: **Al-Profile 6 x 2.4 mm**
The illustration shows opening variant 02

s_T	=	2.8 mm
$a_{T\ min}$	=	12 mm
$a_{x\ min}$	=	8 mm

The space interval a_x must be divisible by 8!

Please indicate the cavities (from left to right), the relevant subdivision variant and the assembly spacing a_T and a_x when ordering.

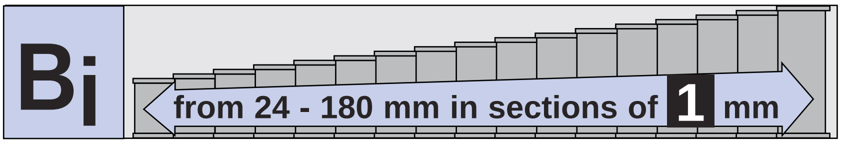
Sample order:
Divider system TS 2
K(cavity) 1- VR 0 / 20 mm
K 2 -VR 23 / 40 mm
K 3 - VR 1 / 72 mm
K 4 - VR 3 / 40 mm
K 5 - VR 0 /20 mm



Technically recommended variants: VR 0 und VR 1

Dividers are fixed by an indentation tooth system in the height subdivision profile.

Type MT 0475



Chain cross section

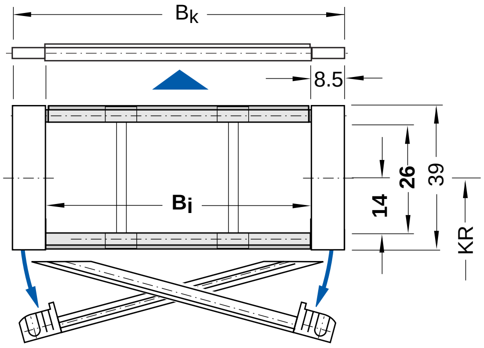
in accordance with section in schematic illustration

Stay variant "RMD"

Frame stay – **Aluminium cover system**

Opening variant 01:

Hinged protective covers on the **inside**
Protective covers **on the outside** can be released by turning.

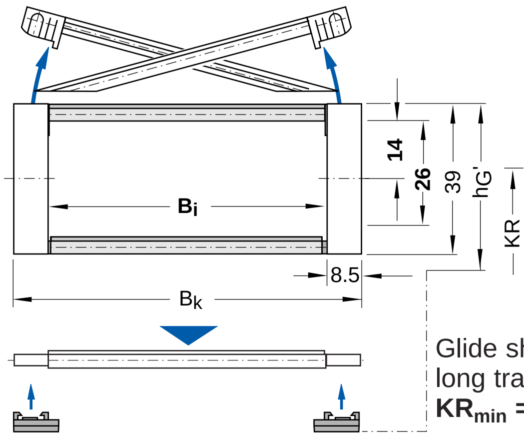


Calculation of Chain width:

B_k = $\mathbf{B_i}$ + 17 mm

Opening variant 02: (Standard)

Hinged protective covers **on the outside**
Protective covers **on the inside** can be released by turning



Glide shoes can be attached for long travel lengths
KR_{min} = 100 mm

Calculation of Chain width:

B_k = $\mathbf{B_i}$ + 17 mm

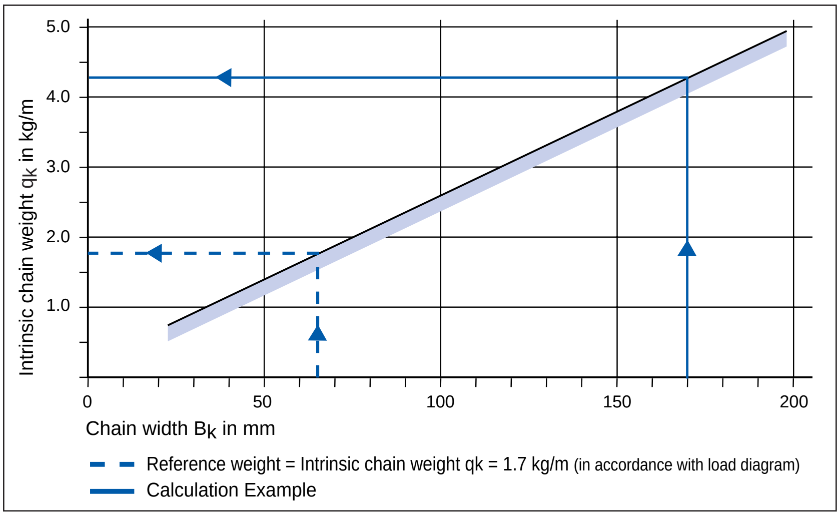
Calculation Example:

Inside width	$\mathbf{B_i}$	=	153 mm
Chain width	B_k	=	170 mm
Intrinsic chain weight	q_k	=	4.3 kg/m

Calculation of the difference in the additional load Δq_z

1.70 kg/m – 4.3 kg/m = –2.6 kg/m

The permitted additional load q_z in accordance with the load diagrams is reduced by **2.6 kg/m**



Intrinsic chain weight depending on chain width B_k

Type MT 0475

Divider systems

for stay variant "RMD"
for opening variants **01** and **02**

The divider system can be planned by you or by our engineers on the basis of the information you supply about the configuration of the cable carrier.

As standard, the divider system is fitted on every 2nd chain cross section!

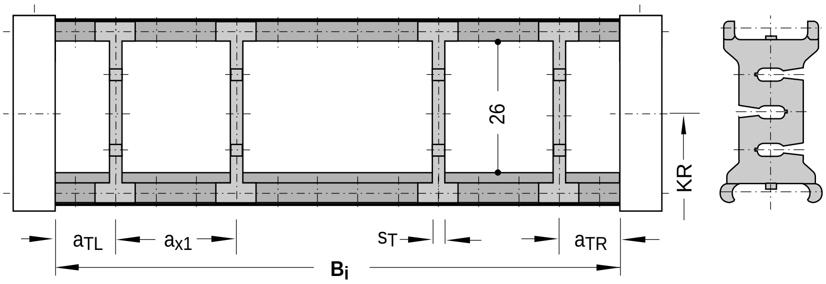
Divider system TS 0

without height subdivision
The illustration shows opening variant 02

s_T	=	2.8 mm
$a_{T\,min}$	=	6 mm
$a_{x\,min}$	=	8 mm

Please state the number of dividers/cross section n_T when ordering.

Sample order:
Divider system TS 0 / n_T 4



The dividers are fixed in the chain cross-section! (8 mm sections)
Please state the fitting intervals a_T and a_x!

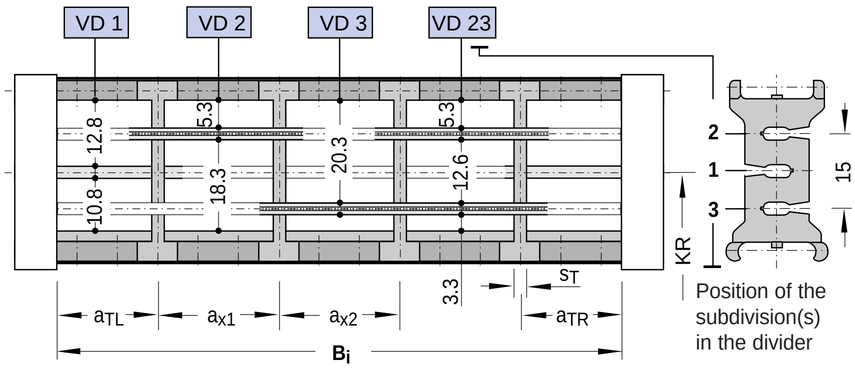
Divider system TS 1

without continous height subdivision
Height subdivision: **Al-Profile 6 x 2.4 mm**
The illustration shows opening variant 02

s_T	=	2.8 mm
$a_{T\,min}$	=	6 mm
$a_{T\,max}$	=	20 mm
$a_{x\,min}$	=	8 mm
$n_{T\,min}$*	=	2

Please state the type of height subdivisions and the number of dividers/cross section n_T when ordering.

Sample order:
Divider system TS 1 - VD 1 / n_T 4



Technically recommended variants: VD 1

The dividers are fixed in the chain cross-section! (8 mm sections)
Please state the fitting intervals a_T and a_x!

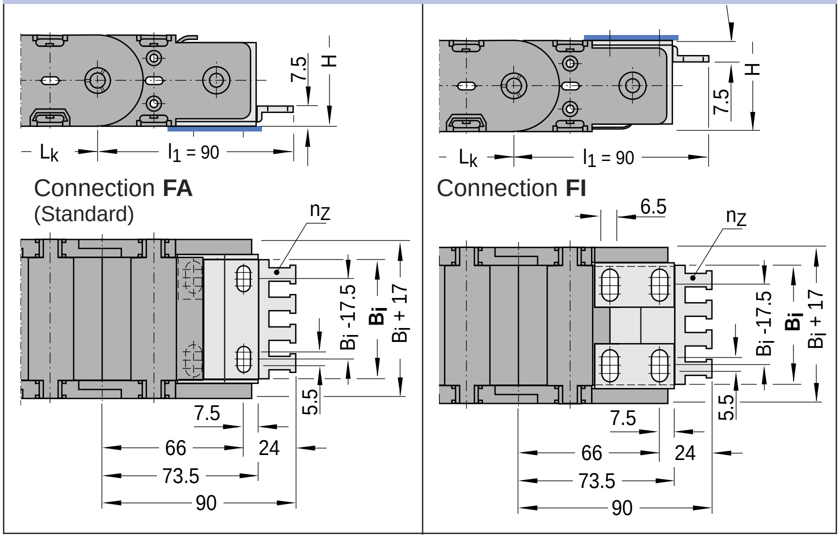
Type MT 0475

Connection dimensions

End connectors made of steel plate which can be attached to separate strain relief devices made of Aluminium by screwing together.

(Inside connection surface $B_{i\ min}$ = 40 mm)

Fixed point connection



Ordering Key for the connection:

X.X

Connection point
F - Fixed point
M - Driver

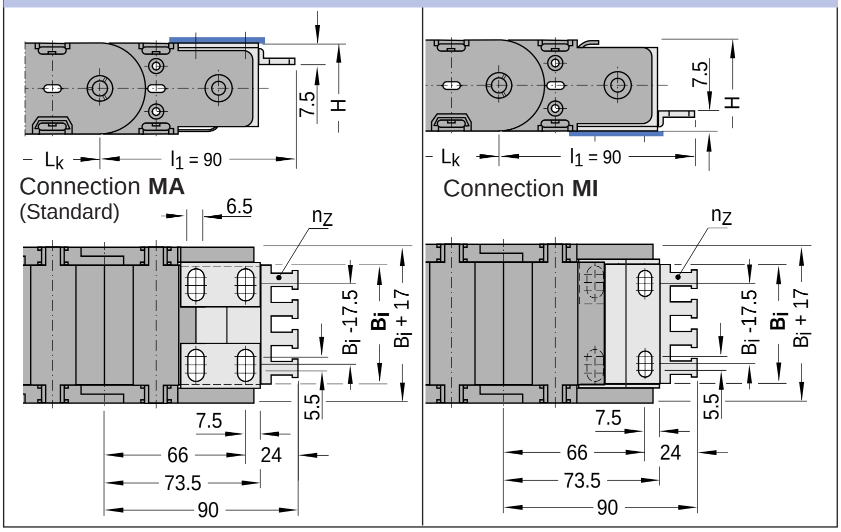
Connection type
A - Threaded joint to the outside (Standard)
I - Threaded joint to the inside (towards KR)

The connection variants at the fixed point and at the driver can be combined and subsequently changed if required.

Example: **FA/MA** or **FI/MI**

Please state the desired connection variant when ordering.

Driver connection



Type	B_i mm	B_k mm	n_Z
MT 0475.040	**40**	57	3
MT 0475.056	**56**	73	4
MT 0475.080	**80**	97	6
MT 0475.104	**104**	121	8
MT 0475.128	**128**	145	9
MT 0475.152	**152**	169	11
MT 0475.192	**192**	209	14

Chain widths which differ from the inside chain widths B_i stated are supplied with connecting pieces without strain relief.

Ordering Key for cable carrier:

MT 0475.104 - 02 - 130 - 1710

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

Example:
Cable carrier type MT 0475 - hinged joint design, inside width B_i 104 mm, with hinged protective cover on the outside, with bend radius KR 130 mm and chain length L_k = 1710 mm

Subject to technical changes!

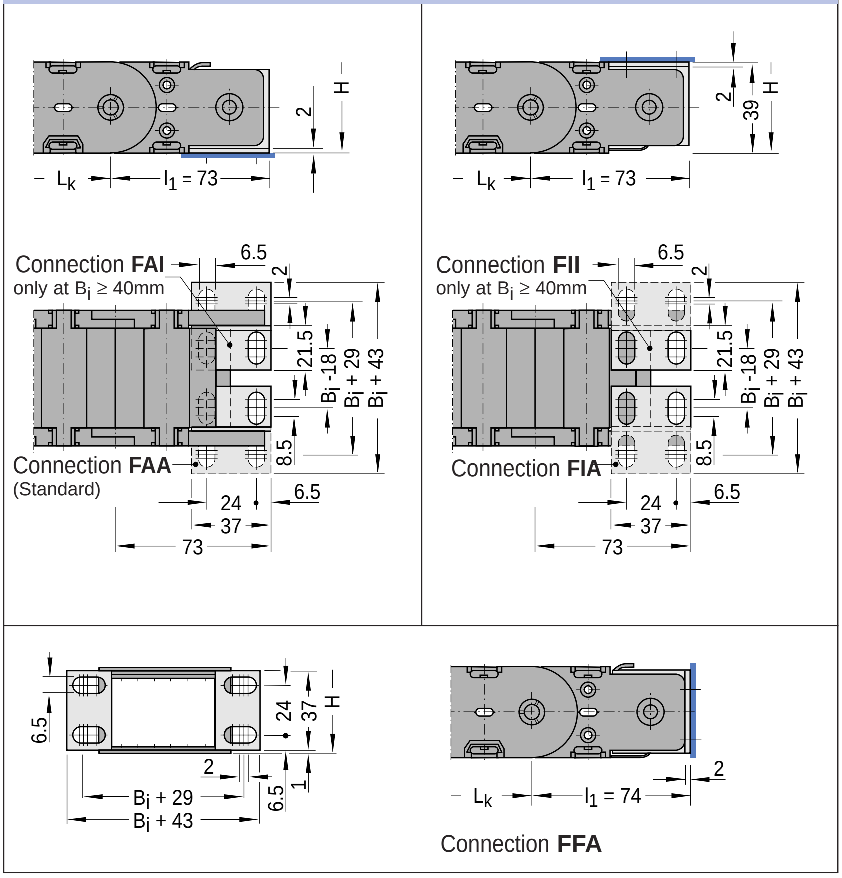
Type MT 0475

Connection dimensions

End connector made of steel plate

Connection surface on the inside is standard.

Fixed point connection



Ordering Key for the connection:

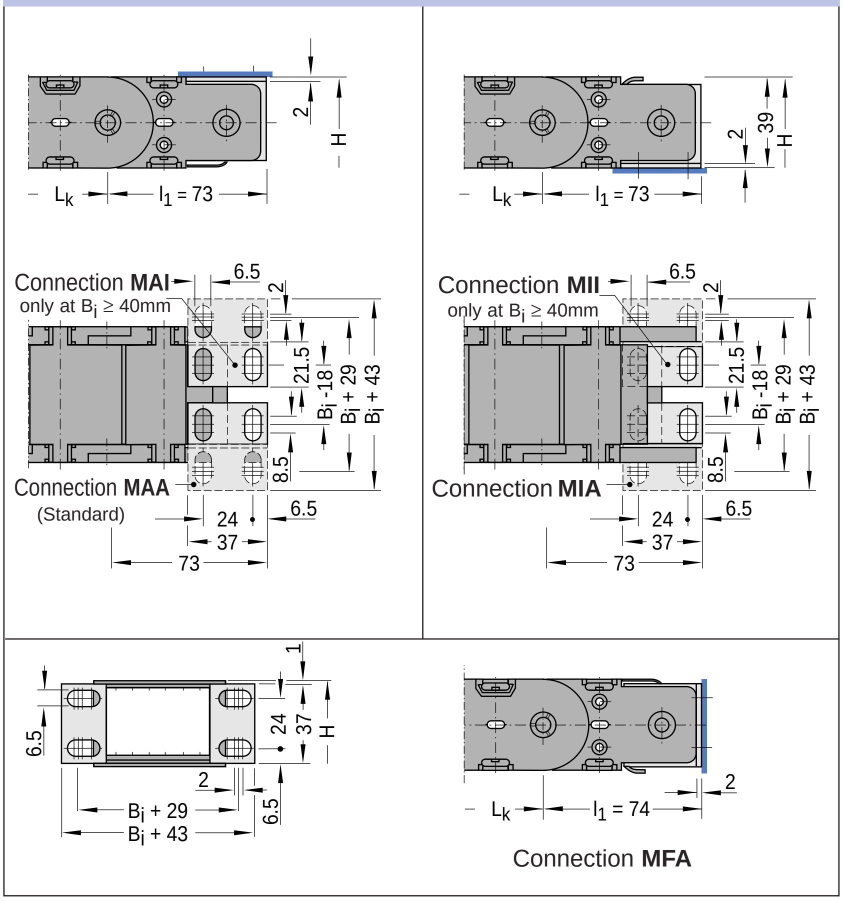
X X X

Connection point
F - Fixed point
M - Driver

Connection type
A - Threaded joint to the outside (Standard)
I - Threaded joint to the inside (towards KR)
F - Flange connection

Connection surface
I - Connection surface inside ($< B_i$) (Standard)
A - Connection surface outside ($> B_i$)

Driver connection



The connection variants at the fixed point and at the driver can be combined and subsequently changed if required.

Please state the desired connection variant when ordering.

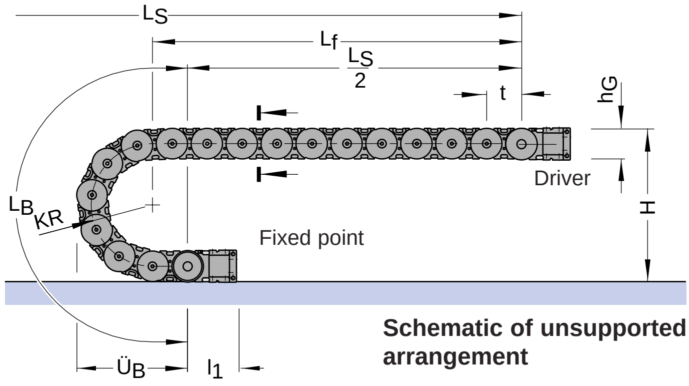
Example: FAA/MFA or **FAA/MAI**

Type MT 0650

Design of the Cable Carriers

Chain pitch t	=	65 mm
Chain link height h_G	=	57 mm (h_G' = 60.2 mm)
Connection height H_{min}	=	2 KR + 57 mm
Connection length l_1	=	cf. Connection Dimensions

A flat and level surface is required for the carrier system to be installed properly.
If necessary, a support tray should be installed. (cf. System Components section)



Schematic of unsupported arrangement

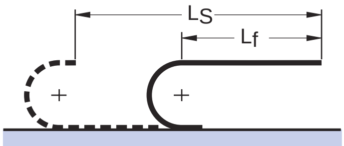
Variable sizes
depending on bend radius

Bend radius KR	**95*** mm	**115** mm	**145** mm	**175** mm	**220** mm	**300** mm	**350** mm
Bend length L_B	429	492	586	680	822	1073	1230
Loop overhang $Ü_B$	189	209	239	269	314	394	444
Height H_{min}	247	287	347	407	497	657	757

*) not with Aluminium cover system RMD

Load diagrams

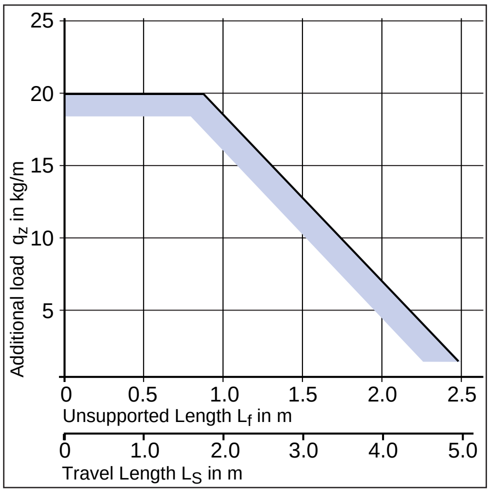
Unsupported length L_f and travel length L_S
depending on the additional load
(cf. Construction Guidelines)



Calculation of chain length:

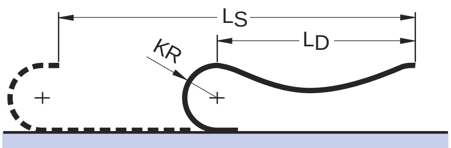
$$L_k \approx \frac{L_S}{2} + L_B$$

rounded to pitch 65 mm



Load diagram for an intrinsic chain weight q_k of 3.5 kg/m. If the intrinsic chain weight exceeds q_k 3.5 kg/m, the permissible additional load is lower.

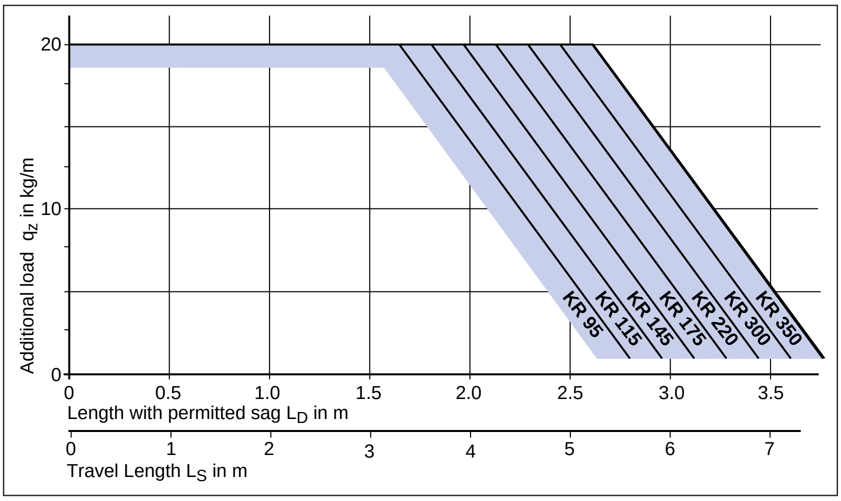
Length with permitted sag L_D and travel length L_S
depending on the additional load
(cf. Construction Guidelines)



Calculation of chain length:

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

rounded to pitch 65 mm



Long travel lengths

With long travel lengths the upper part of the cable carrier glides on its lower run in a guide channel.

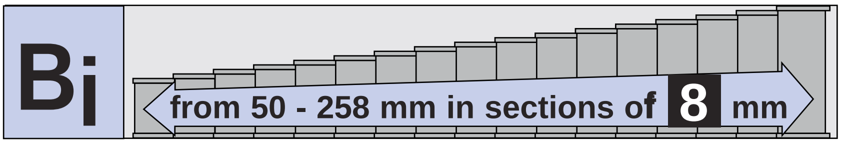
Design	→	cf. Construction Guidelines
Guide channel	→	cf. System Components

We recommend that a system of this kind be planned by one of our engineers.

Type MT 0650

Chain cross section

in accordance with section in schematic illustration

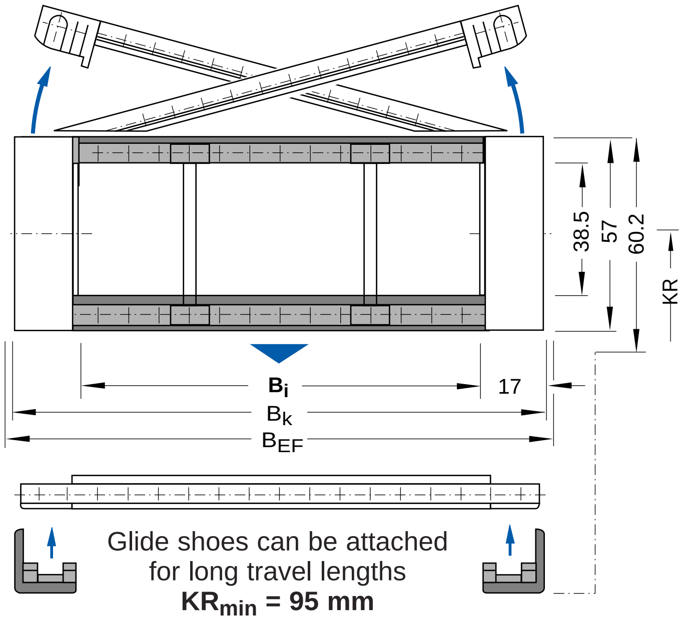


Stay variant “RDD“

Frame stay – **Plastic cover system**

Protective covers **on the outside** are “hinged” to both sides

Protective covers **on the inside** can be released by turning through 90°!



Calculation of chain width:

B_k = $\mathbf{B_i}$ + 34 mm

Calculation of chain width over universal connector:

B_{EF} = $\mathbf{B_i}$ + 37 mm

Intrinsic chain weight
depending on chain width

Reference weight =
Intrinsic chain weight q_k = 3.5 kg/m
(cf. load diagrams)

Calculation of the difference in the additional load Δq_z

3.50 kg/m – 2.7 kg/m = 0.8 kg/m

The permitted additional load q_z in accordance with the load diagrams is increased by **0.8 kg/m**

27 chain widths are available

B_i mm	B_k mm	q_k kg/m
50	84	2.40
58	92	2.45
66	100	2.50
74	108	2.55
82	116	2.60
90	124	2.65
98	132	2.70
106	140	2.75
114	148	2.80
122	156	2.85

B_i mm	B_k mm	q_k kg/m
130	164	2.90
138	172	2.95
146	180	3.00
154	188	3.05
162	196	3.10
170	204	3.15
178	212	3.20
186	220	3.25
194	228	3.30
202	236	3.35

B_i mm	B_k mm	q_k kg/m
210	244	3.40
218	252	3.45
226	260	3.50
234	268	3.55
242	276	3.60
250	284	3.65
258	292	3.70

Glide shoes

For long travel lengths, gliding in a channel, interchangeable glide shoes are used. These can be produced from different plastics and guarantee optimum friction and wear ratios. For travel speeds > 2.5 m/s highly wear-resistant plastic is used.

Type MT 0650

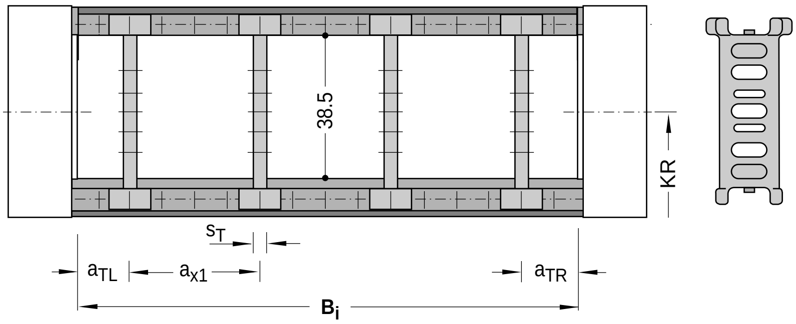
Divider systems
for Stay variant “RDD“

The divider system can be planned by you or by our engineers on the basis of the information you supply about the configuration of the cable carrier.

As standard, the divider system is fitted on every frame stay! (with stay assembly on every 2nd chain link)

Divider system TS 0
without height subdivision

s_T	=	4.2 mm
$a_{T\,min}$	=	13 mm
$a_{x\,min}$	=	16 mm
$a_{x\,grid}$	=	8 mm



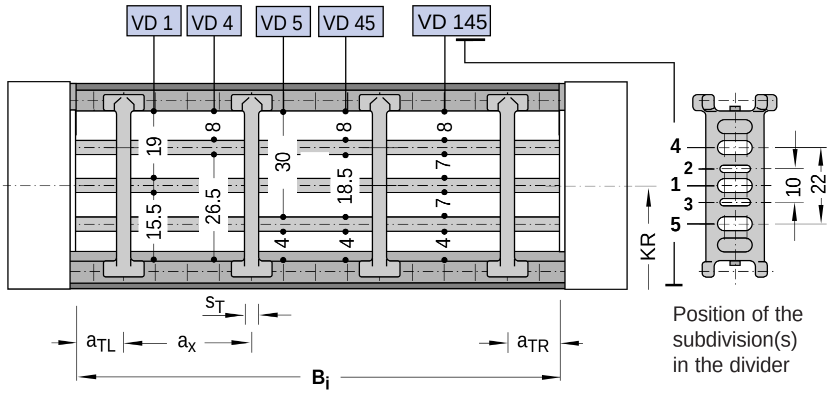
The dividers are fixed in the chain cross-section (8 mm sections). Please state the fitting intervals a_T and a_x!

Please state the number of dividers/cross section n_T when ordering.

Sample order:
Divider system TS 0 / n_T 4

Divider system TS 1
without continuous height subdivision
Height subdivision: **Al-Profile 11 x 4 mm**

s_T	=	4.2 mm
$a_{T\,min}$	=	13 mm
$a_{T\,max}$	=	21 mm
$a_{x\,min}$	=	16 mm
$a_{x\,grid}$	=	8 mm
$n_{T\,min}$	=	2



Please state the type of height subdivisions and the number of dividers/cross section n_T when ordering.

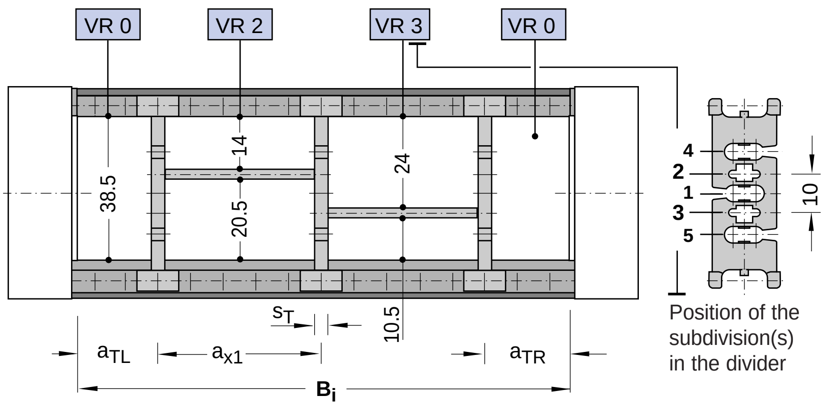
Sample order:
Divider system TS 1 - VD 45 / n_T 4

Technically recommended variants: VD 1, VD 4 and VD 5

The dividers are fixed in the chain cross-section (8 mm sections). Please state the fitting intervals a_T and a_x!

Divider system TS 2
with grid subdivision
Height subdivision: **Al-Profile 11 x 4 mm**

s_T	=	4.2 mm
$a_{T\,min}$	=	13 mm
$a_{x\,min}$	=	16 mm
$a_{x\,grid}$	=	8 mm



Technically recommended variants: VR 0, VR 2 and VR 3
The dividers are as a rule fixed in the chain cross-section!

Please indicate the cavities (from left to right), the relevant subdivision variant and the assembly spacing a_T and a_x when ordering.

Sample order:

Divider system TS 2
K(cavity) 1 - VR 0/45 mm
K 2 - VR 3 / 72 mm
K 3 - VR 0 / 45 mm

Type MT 0650

Chain cross section

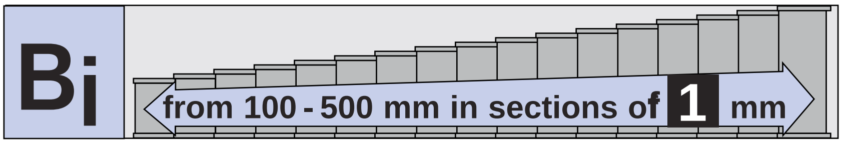
in accordance with section in schematic illustration

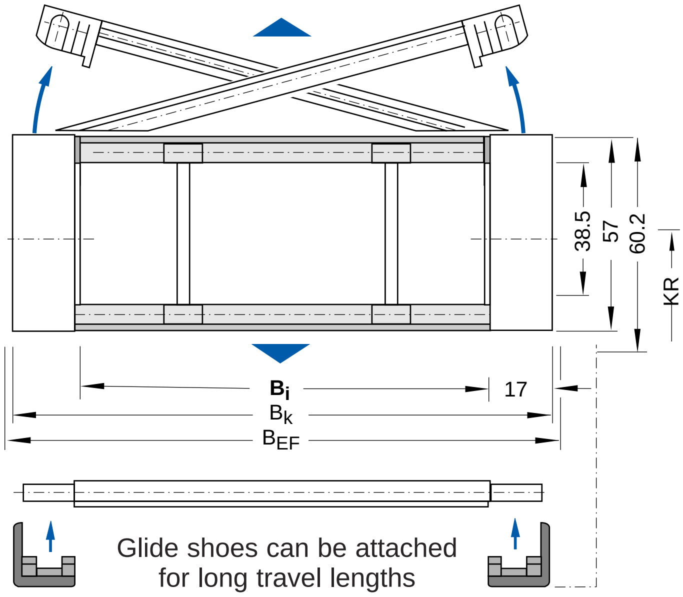
Stay variant “RMD“

Frame stay – **Aluminium cover system**

Protective covers **on the outside** are “hinged” to both sides

Protective covers **on the inside** can be released by turning through 90°!





Calculation of chain width:

$B_k = \mathbf{B_i} + 34$ mm

Calculation of chain width over universal connector:

$B_{EF} = \mathbf{B_i} + 37$ mm

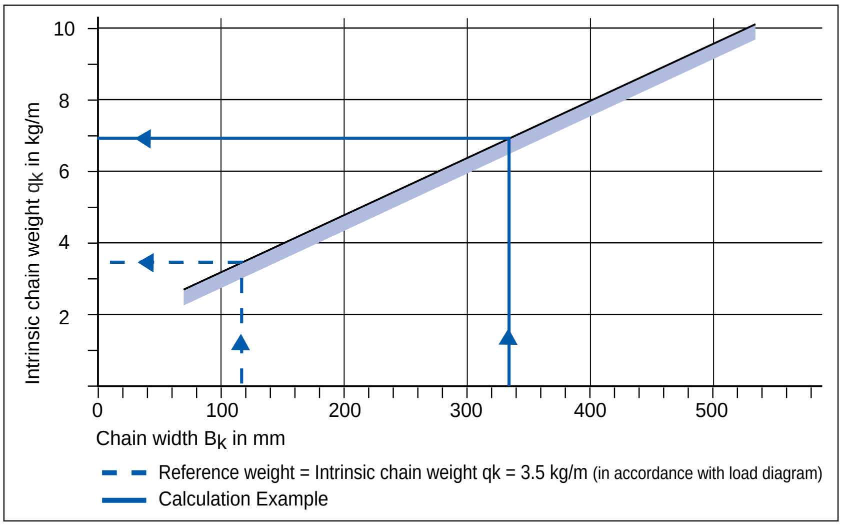
Calculation Example:

Inside width	$\mathbf{B_i}$	=	300 mm
Chain width	B_k	=	334 mm
Chain width over universal connector	B_{EF}	=	337 mm
Intrinsic chain weight	q_k	=	7.0 kg/m

Calculation of the difference in the additional load Δq_z

3.5 kg/m – 7.0 kg/m = –3.5 kg/m

The permitted additional load q_z in accordance with the load diagrams is reduced by **3.5 kg/m**



Intrinsic chain weight depending on chain width B_k

Glide shoes

For long travel lengths, gliding in a channel, interchangeable glide shoes are used. These can be produced from different plastics and guarantee optimum friction and wear ratios. For travel speeds > 2.5 m/s highly wear-resistant plastic is used.

Type MT 0650

Divider systems

for Stay variant “RMD“

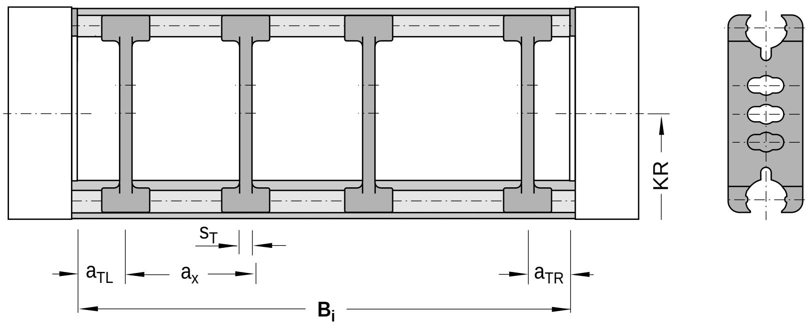
The divider system can be planned by you or by our engineers on the basis of the information you supply about the configuration of the cable carrier.

As standard, the divider system is fitted on every frame stay! (with stay assembly on every 2nd chain link)

Divider system TS 0

without height subdivision

s_T	=	3 mm
$a_{T\ min}$	=	16 mm
$a_{x\ min}$	=	13 mm
$a_{x\ grid}$	=	continuous



The dividers can slide along the chain cross section!

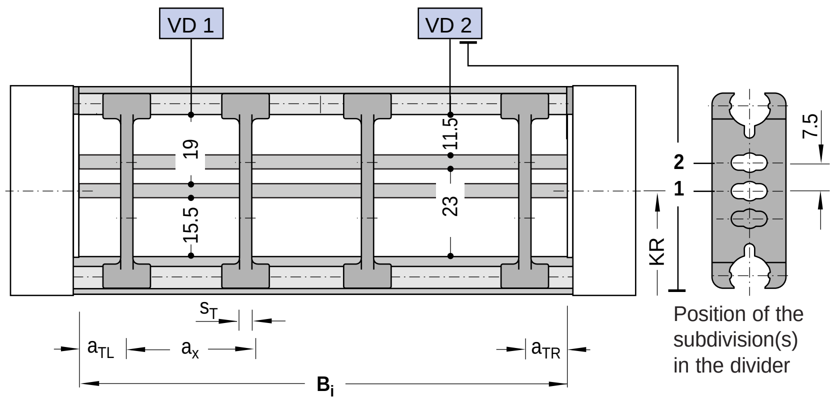
Please state the number of dividers/cross section n_T when ordering.

Sample order:
Divider system TS 0 / n_T 4

Divider system TS 1

without continous height subdivision
Height subdivision: **Al-Profile 11 x 4 mm**

s_T	=	3 mm
$a_{T\ min}$	=	16 mm
$a_{x\ min}$	=	13 mm
$a_{x\ grid}$	=	continuous



Please state the type of height subdivisions and the number of dividers/cross section n_T when ordering.

Sample order:
Divider system TS 1-VD 23 / n_T 4

Technically recommended variants: VD 1, VD 2 and VD 3

The dividers can slide along the chain cross section!

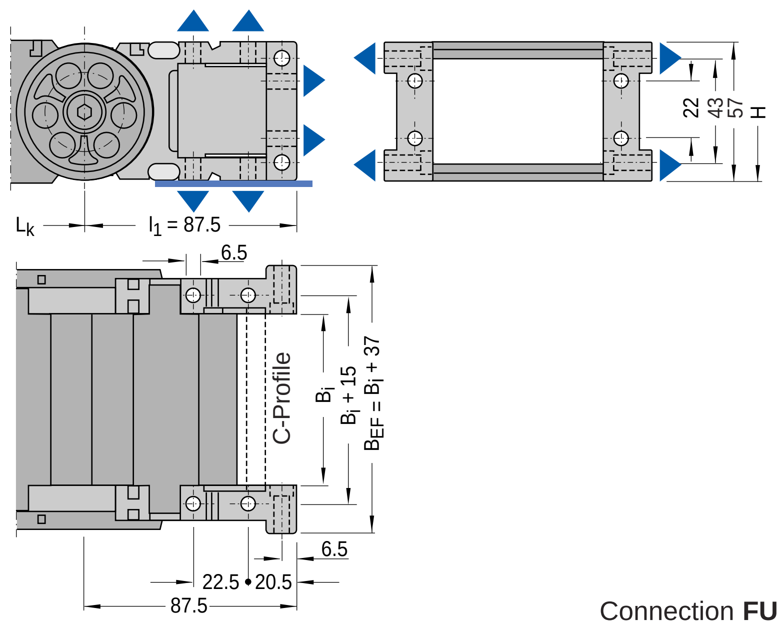
Type MT 0650

Connection dimensions

Universal connectors made of die-cast Aluminium

Optionally with C-Profile, slit width 11–12 mm. Suitable for all commercial saddle-type clamps with small base and KABELSCHLEPP SLZ Strain Relief Devices (cf. System Components).

Fixed point connection



Connection **FU**

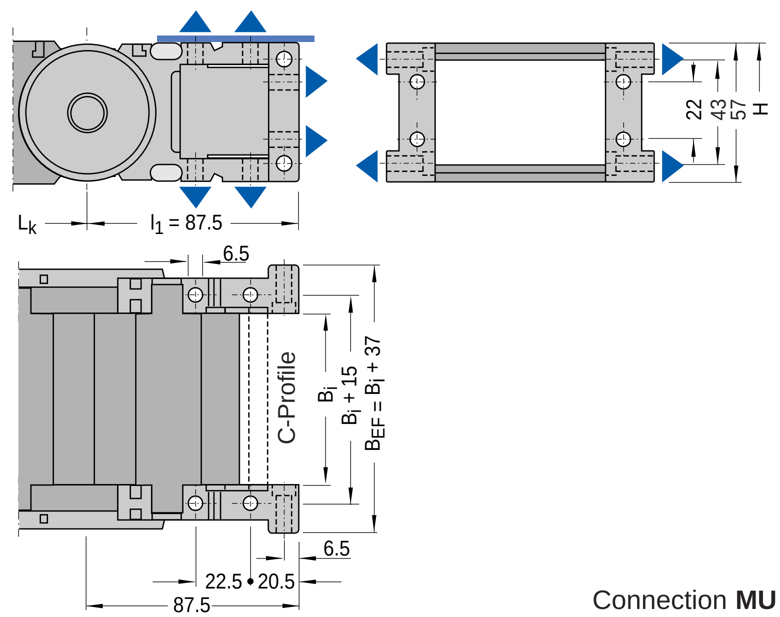
Ordering Key for the connection:

X U

Connection point
F - Fixed point
M - Driver

U - Universal connection

Driver connection



Connection **MU**

Ordering Key for cable carrier:

MT 0650.170 - RDD - 145 - 1950

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

Example:

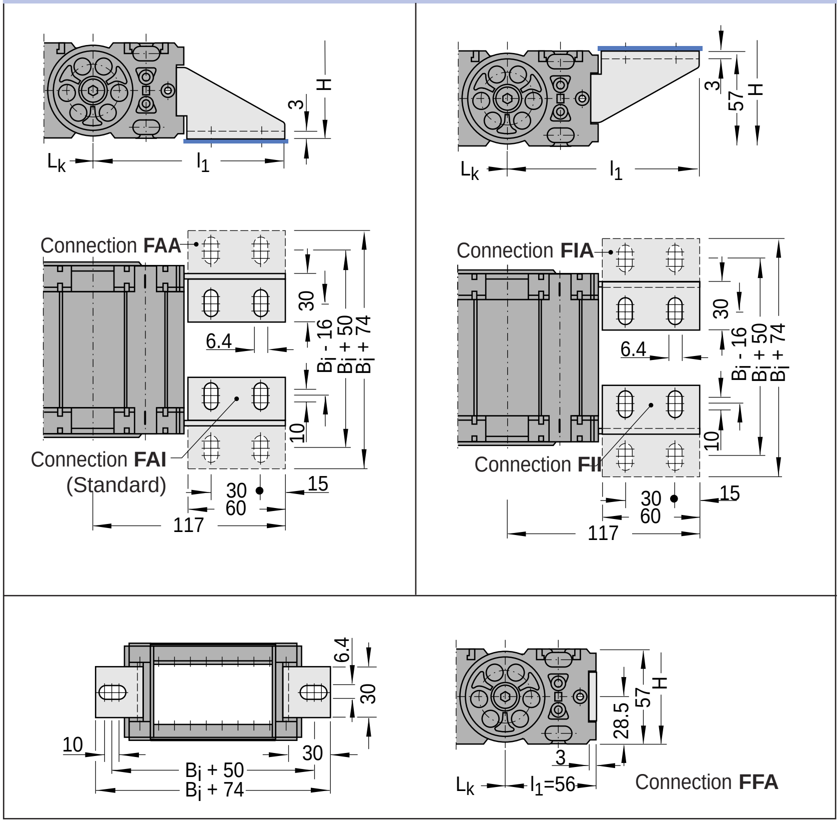
Cable carrier type MT 0650 with plastic cover system RDD, inside width B_i 170 mm, with bend radius KR 145 mm and chain length L_k =1950 mm

Type MT 0650

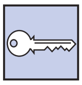
Connection dimensions

End link made of plastic
End connector made of steel plate

Fixed point connection



Ordering Key for the connection:



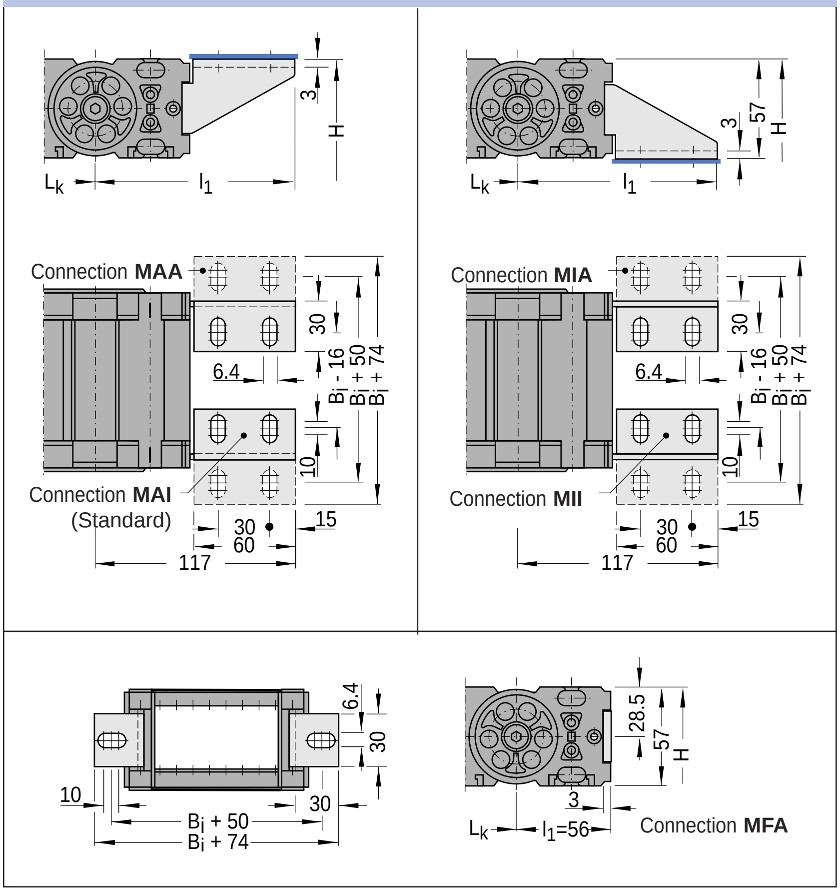
X X X

Connection point
F - Fixed point
M - Driver

Connection type
A - Threaded joint to the outside (Standard)
I - Threaded joint to the inside (towards KR)
F - Flange connection

Connection surface
I - Connection surface inside (< B_i)
A - Connection surface outside (> B_i)

Driver connection



The connection variants at the fixed point and at the driver can be combined and subsequently changed if required.

Please state the desired connection variant when ordering.

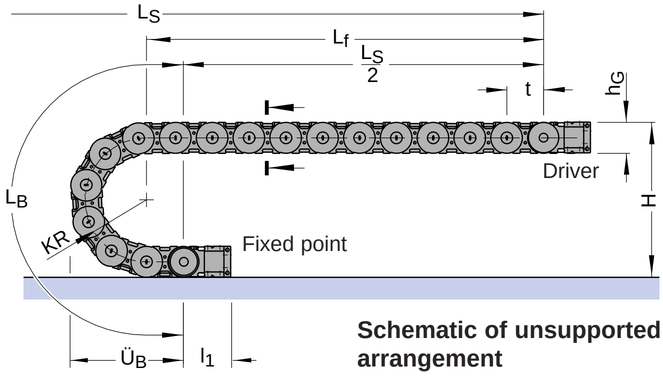
Example : FAI/MFA or **FFA/MAI**

Type MT 0950

Design of the Cable Carriers

Chain pitch t	=	95 mm
Chain link height h_G	=	80 mm (h_G' = 83.5 mm)
Connection height H_{min}	=	2 KR + 80 mm
Connection length l_1	=	cf. Connection Dimensions

A flat and level surface is required for the carrier system to be installed properly. If necessary, a support tray should be installed. (cf. System Components section)



Schematic of unsupported arrangement

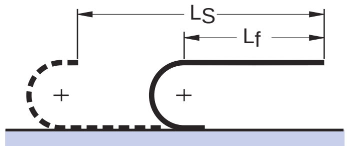
Variable sizes
depending on bend radius

Bend radius KR	**140*** mm	**170*** mm	**200** mm	**260** mm	**290** mm	**320** mm	**380** mm
Bend length L_B	630	725	819	1007	1102	1196	1384
Loop overhang $Ü_B$	275	305	335	395	425	455	515
Height H_{min}	360	420	480	600	660	720	840

*) not with Aluminium cover system RMD

Load diagrams

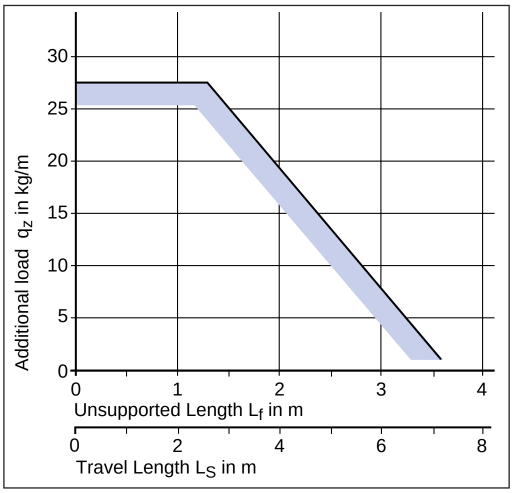
Unsupported length L_f and travel length L_S
depending on the additional load (cf. Construction Guidelines)



Calculation of chain length:

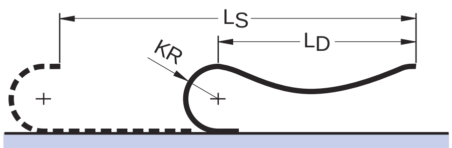
$$L_k \approx \frac{L_S}{2} + L_B$$

rounded to pitch 95 mm



Load diagram for an intrinsic chain weight q_k of 7.0 kg/m. If the intrinsic chain weight exceeds q_k 7.0 kg/m, the permissible additional load is lower.

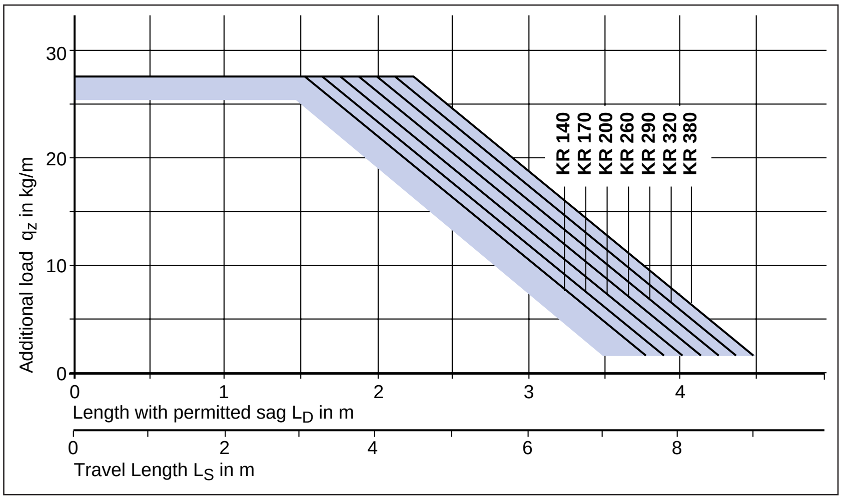
Length with permitted sag L_D and travel length L_S
depending on the additional load (cf. Construction Guidelines)



Calculation of chain length:

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

rounded to pitch 95 mm



Long travel lengths

With long travel lengths the upper part of the cable carrier glides on its lower run in a guide channel.

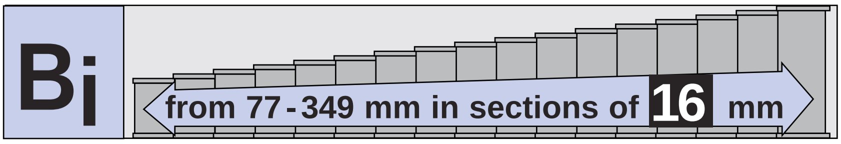
Design	→	cf. Construction Guidelines
Guide channel	→	cf. System Components

We recommend that a system of this kind be planned by one of our engineers.

Type MT 0950

Chain cross section

in accordance with section in schematic illustration

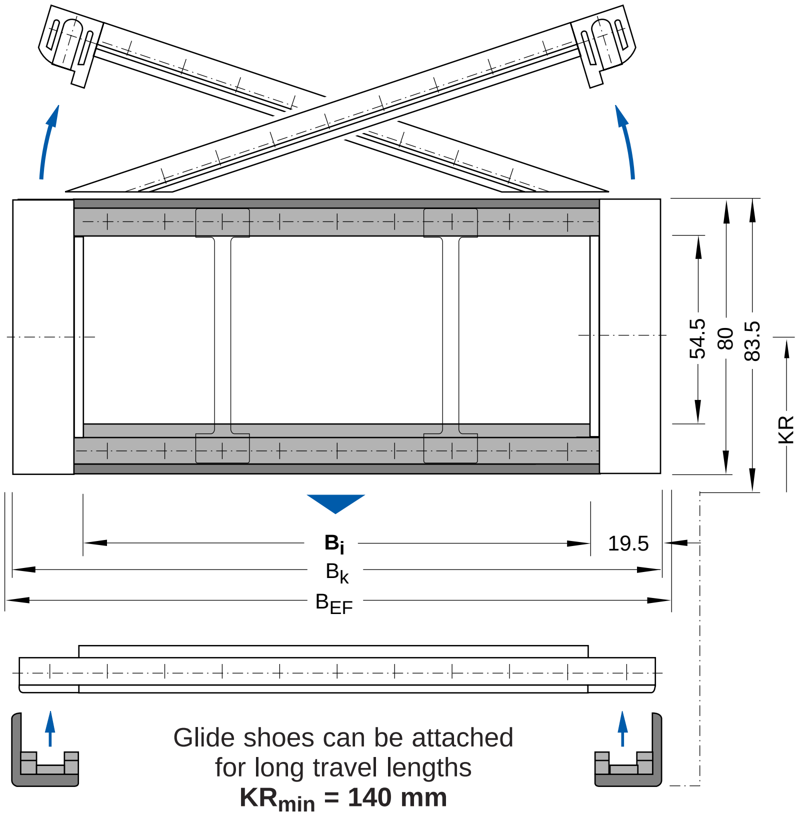


Stay variant “RDD“

Frame stay – **Plastic cover system**

Protective covers **on the outside** are “hinged” to both sides

Protective covers **on the inside** can be released by turning through 90°!



Calculation of chain width:

B_k = $\mathbf{B_i}$ + 39 mm

Calculation of chain width over universal connector:

B_{EF} = $\mathbf{B_i}$ + 44 mm

Intrinsic chain weight
depending on chain width

Reference weight =
Intrinsic chain weight q_k = 7.0 kg/m
(cf. load diagrams)

Calculation of the difference in the additional load Δq_z

7.0 kg/m – 5.5 kg/m = 1.5 kg/m

The permitted additional load q_z in accordance with the load diagrams is increased by **1.5 kg/m**

18 chain widths are available

B_i mm	B_k mm	q_k kg/m
77	116	4.3
93	132	4.5
109	148	4.7
125	164	4.9
141	180	5.1
157	196	5.3
173	212	5.5
189	228	5.7
205	244	5.9
221	260	6.1

B_i mm	B_k mm	q_k kg/m
237	276	6.3
253	292	6.5
269	308	6.7
285	324	6.9
301	340	7.1
317	356	7.3
333	372	7.5
349	388	7.7

Glide shoes

For long travel lengths, gliding in a channel, interchangeable glide shoes are used. These can be produced from different plastics and guarantee optimum friction and wear ratios. For travel speeds > 2.5 m/s highly wear-resistant plastic is used.

KabelSchlepp

Technical Data — M Series

Type MT 0950

Divider systems
for Stay variant "RDD"

The divider system can be planned by you or by our engineers on the basis of the information you supply about the configuration of the cable carrier.

As standard, the divider system is fitted on every frame stay!
(with stay assembly on every 2nd chain link)

Divider system TS 0

without height subdivision

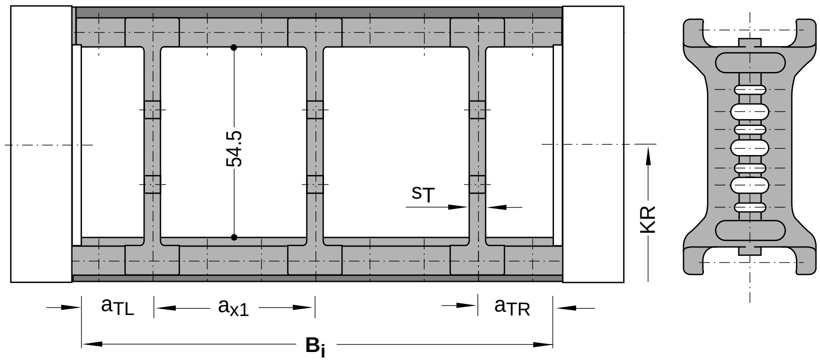
s_T	=	6 mm
$a_{T\,min}$	=	22.5 mm
$a_{x\,min}$	=	16 mm
n_{min}	=	2 mm

For version A dividers with s_T = 4 mm are also available.

Please state the type of height subdivisions and the number of dividers/cross section n_T when ordering.

Sample order:
Divider system TS 0 / n_T 3

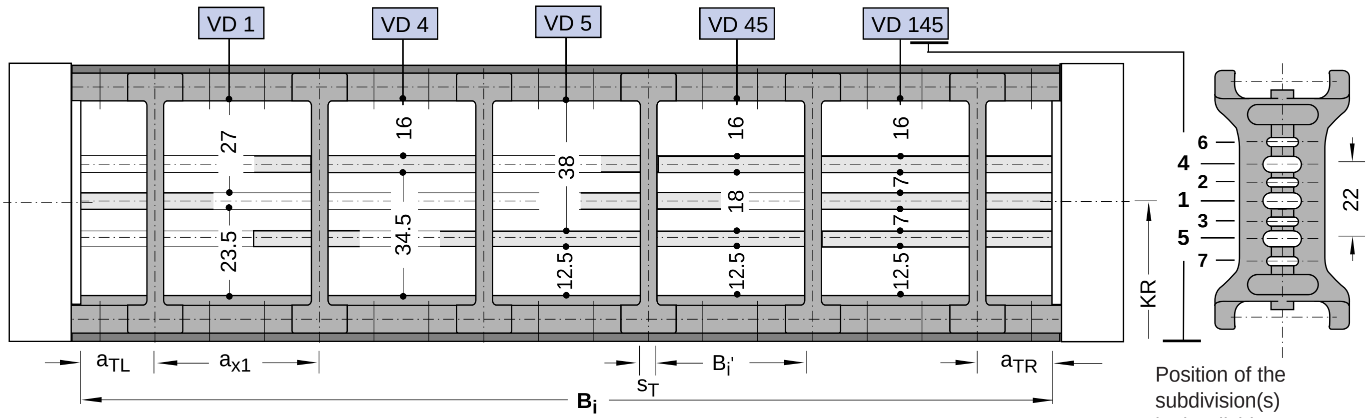
The dividers are fixed in the chain cross-section (16 mm- sections).



Divider system TS 1

without continous height subdivision
Height subdivision: **Al-Profile 11 x 4 mm**

Technically recommended variants: VD 1, VD 4 und VD 5
The dividers can slide along the chain cross section!



Position of the subdivision(s) in the divider

s_T	=	6 mm
$a_{T\,min}$	=	22.5 mm
$a_{T\,max}$	=	22.5 mm
$a_{x\,min}$	=	16 mm
$a_{x\,max}$	=	48 mm
$a_{x\,grid}$	=	16 mm
n_T	=	2

For Version A dividers with s_T = 4 mm are also available.

Please state the type of height subdivisions and the number of dividers/cross section n_T when ordering.

Sample order: Divider system TS 1– VD 45/n_T 5

Subject to technical changes!

KABELSCHLEPP

Type MT 0950

Divider systems

for Stay variant "RDD"

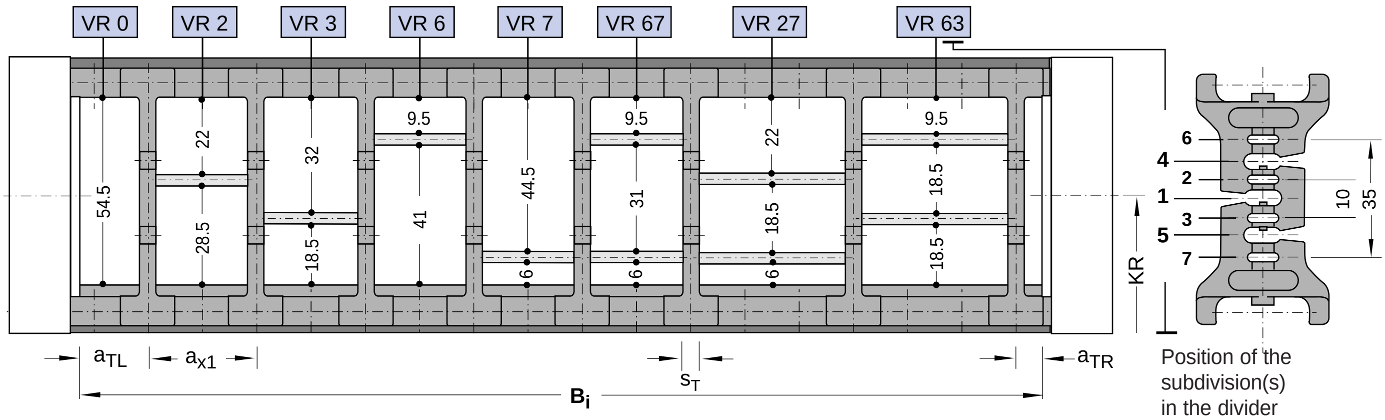
Divider system TS 2

with grid subdivision

Height subdivision: **Al-Profile 11 x 4 mm**

Technically recommended variants: VR 0, VR 2 und VR 3

The dividers are fixed in the chain cross-section (16 mm- sections).



s_T	=	6 mm
$a_{T\ min}$	=	22.5 mm
$a_{x\ min}$	=	32 mm (with subdivision)
$a_{x\ min}$	=	16 mm (at VR 0)
$a_{x\ grid}$	=	16 mm

Please indicate the cavities (from left to right), the relevant subdivision variant and the assembly spacing a_T and a_x when ordering.

Sample order: Divider system TS 2

K(cavity) 1 - VR 0 / 54.5 mm

K 2 - VR 2 / 96 mm

K 3 - VR 6 / 54.5 mm

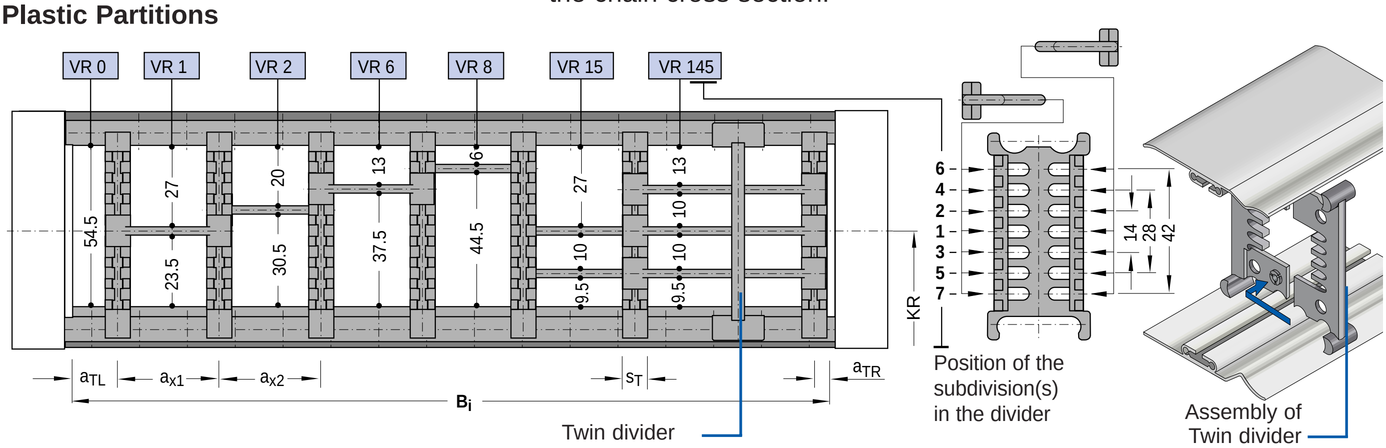
Divider system TS 3

with height subdivision

Plastic Partitions

Technically recommended variants: VR 0, VR 1 und VR 2

Dividers fixed by height subdivision, the grids can slide along the chain cross section!



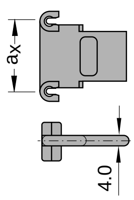
s_T	=	8 mm
$a_{T\ min}$	=	4 mm
$a_{x\ min}$	=	16 mm (with height subdivision)
$a_{x\ grid}$	=	see a_x-table
n_{min}	=	2

The twin divider can be moved, suitable for later assembly/fitting.

s_T	=	4 mm

a_x mm (Centre-to-centre distance of dividers)												
16	32	48	64	80	96	112	128	144	160	176	192	208

When using partitions with a_x > 112 mm, a twin divider should be used to provide an additional central support.



Please indicate the cavities (from left to right), the relevant subdivision variant and the assembly spacing a_T and a_x when ordering.

Sample order: Divider system TS 3

K(cavity) 1 - VR 0 / 80 mm

K 2 - VR 1 / 96 mm

K 3 - VR 8 / 128 mm

with twin divider

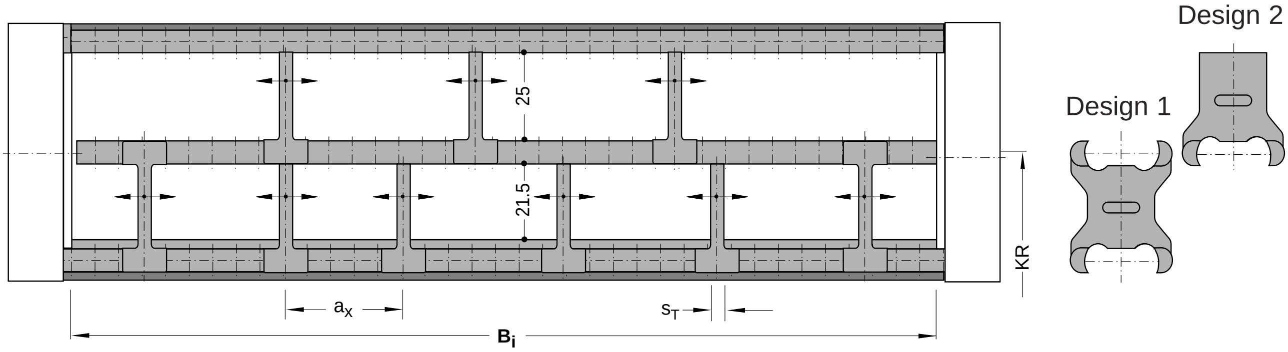
Type MT 0950

Divider systems

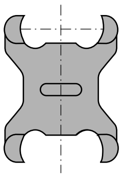
für Stay variant RDD

Divider system TS 4

without continous height subdivision
Height subdivision:
Plastic-Profile 27 x 8 mm



s_T	=	4 mm
$a_{x\ min}$	=	15 mm



At least 2 half-dividers with clamp grips on both sides (Design 1) should be fitted in the lower chamber near to the chain band.

Please state the type of height subdivisions and the number of dividers/cross section when ordering.

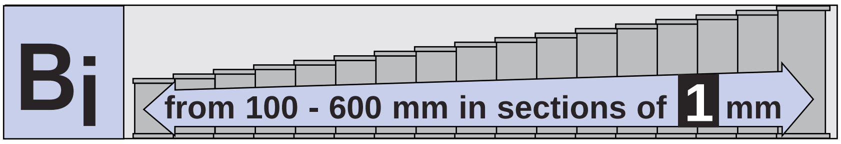
Sample order: Divider system TS 4
Please enclose a sketch

KABELSCHLEPP

Type MT 0950

Chain cross section

in accordance with section in schematic illustration

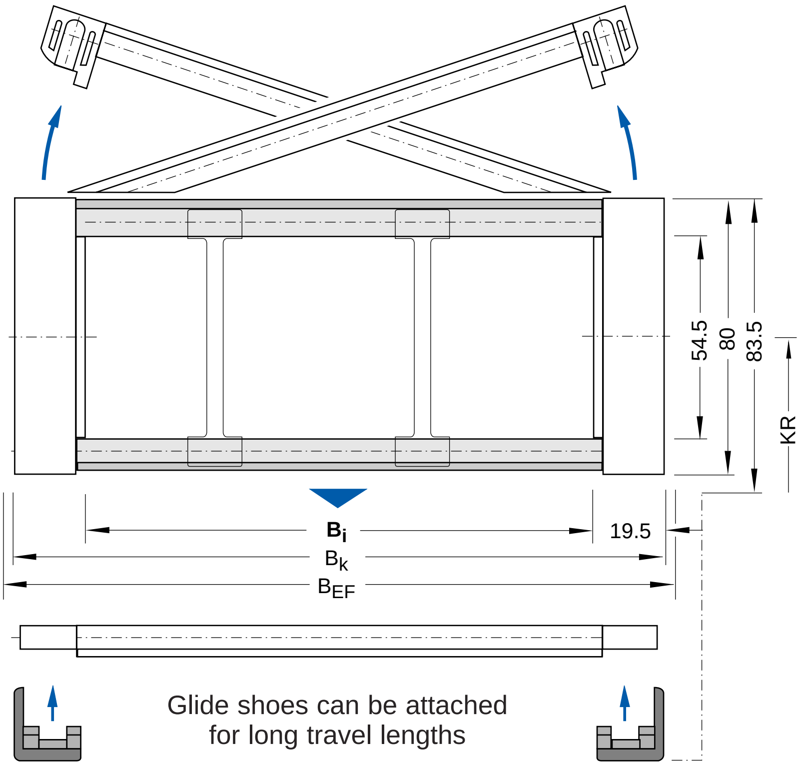


Stay variant “RMD“

Frame stay – **Aluminium cover system**

Protective covers **on the outside** are “hinged” to both sides

Protective covers **on the inside** can be released by turning through 90°!



Calculation of chain width:

$B_k = \mathbf{B_i} + 39$ mm

Calculation of chain width over universal connector:

$B_{EF} = \mathbf{B_i} + 44$ mm

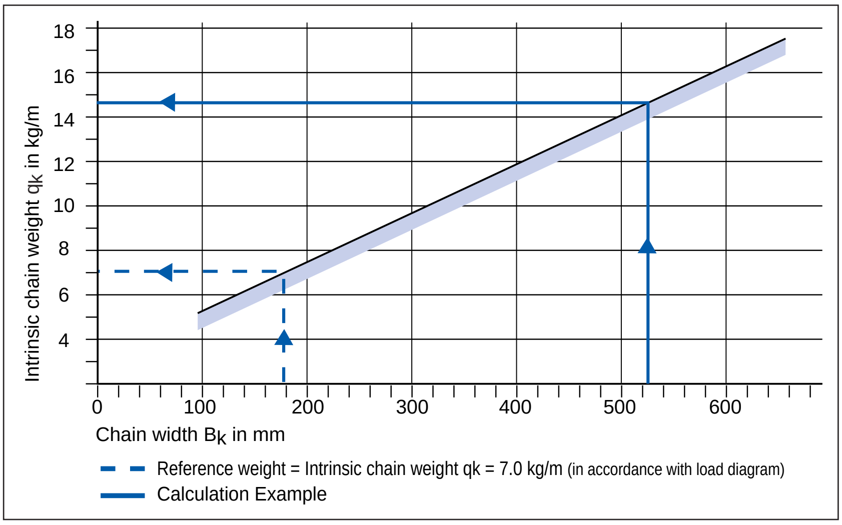
Calculation Example:

Inside width	$\mathbf{B_i}$	=	400 mm
Chain width	B_k	=	439 mm
Chain width over universal connector	B_{EF}	=	444 mm
Intrinsic chain weight	q_k	=	14.7 kg/m

Calculation of the difference in the additional load Δq_z

7.0 kg/m – 14.7 kg/m = –7.7 kg/m

The permitted additional load q_z in accordance with the load diagrams is reduced by **7.7 kg/m**



Intrinsic chain weight depending on chain width B_k

Glide shoes

For long travel lengths, gliding in a channel, interchangeable glide shoes are used. These can be produced from different plastics and guarantee optimum friction and wear ratios. For travel speeds > 2.5 m/s highly wear-resistant plastic is used.

Type MT 0950

Divider systems
for Stay variant RMD

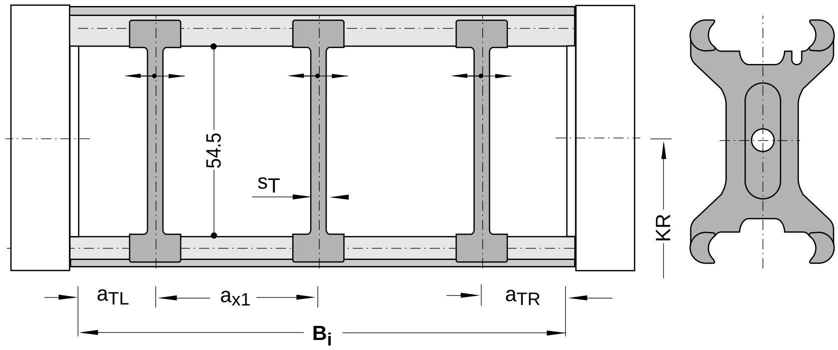
Divider system TS 0
without height subdivision

s_T	=	4 mm
$a_{T\ min}$	=	7 mm
$a_{x\ min}$	=	14 mm
$a_{x\ grid}$	=	continuous

Please state the type of height subdivisions and the number of dividers/cross section n_T when ordering.

Sample order:
Divider system TS 0 / n_T 3

The divider system can be planned by you or by our engineers on the basis of the information you supply about the configuration of the cable carrier.
As standard, the divider system is fitted on every frame stay!
(with stay assembly on every 2nd chain link)



The dividers can slide along the chain cross section!

KABELSCHLEPP

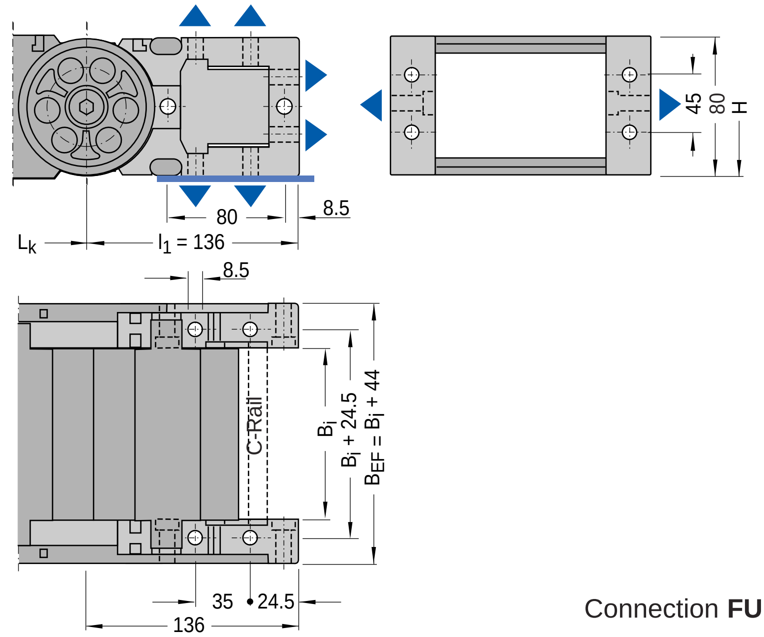
Type MT 0950

Connection dimensions

Universal connectors made of die-cast Aluminium

Optionally with C-Rail, slit width 16-17 mm. Suitable for all commercial saddle-type clamps with large base and KABELSCHLEPP SLZ Strain Relief Devices (cf. System Components).

Fixed point connection



Connection **FU**

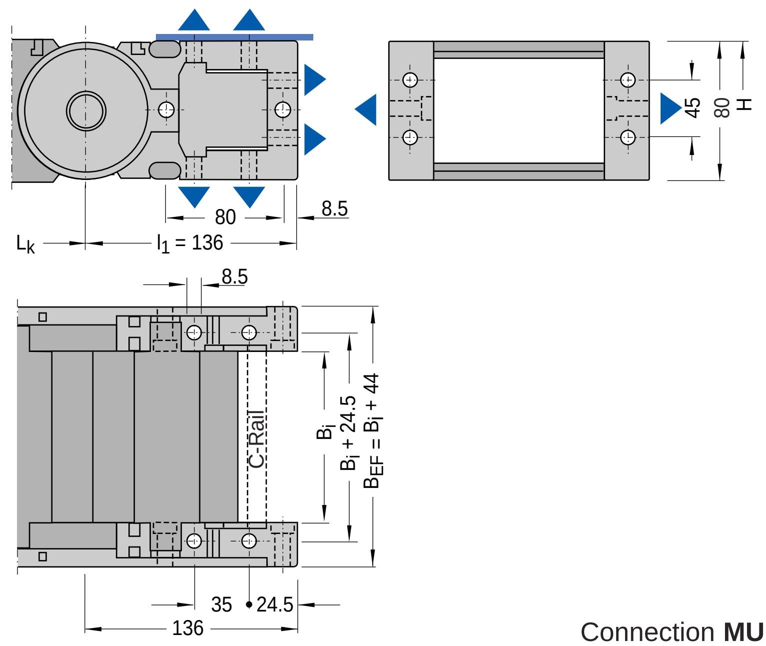
Ordering Key for the connection:

X U

Connection point
F - Fixed point
M - Driver

U - Universal connection

Driver connection



Connection **MU**

Ordering Key for cable carrier:

MT 0950.205 - RDD - 170 - 3040

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

Example:

Cable carrier type MT 0950, with plastic cover system RDD, inside width B_i 205 mm, with bend radius KR 170 mm and chain length L_k = 3040 mm

Technical Data — M Series

Type MT 0950

Connection dimensions

End link made of plastic
End connector made of steel plate

Ordering Key for the connection:

X X X

Connection point
F - Fixed point
M - Driver

Connection type
A - Threaded joint to the outside (Standard)
I - Threaded joint to the inside (towards KR)
F - Flange connection

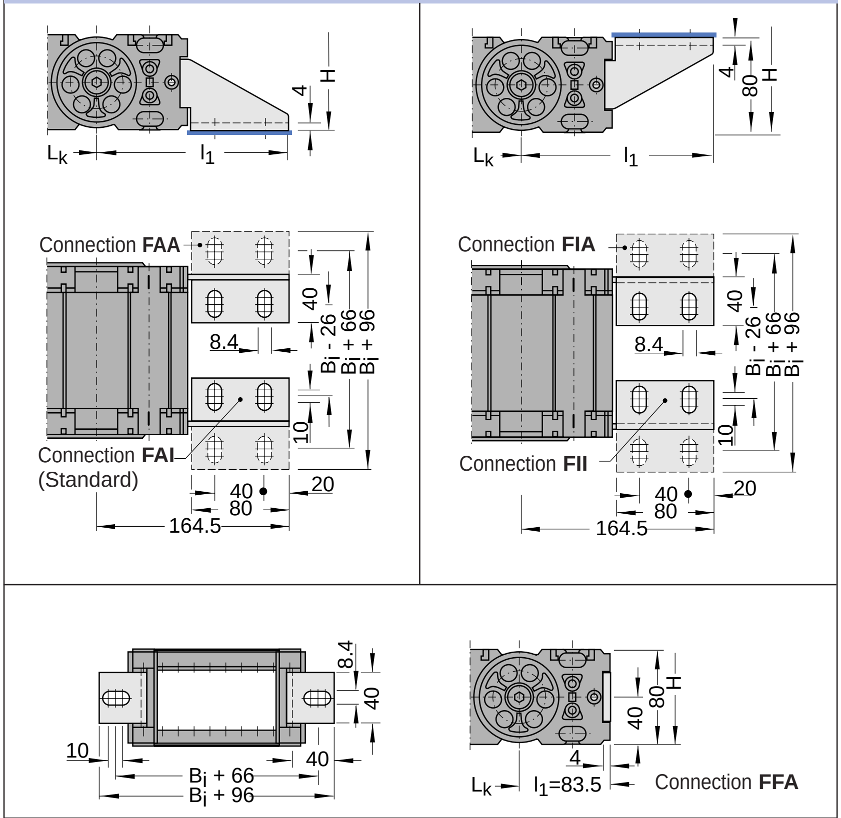
Connection surface
I - Connection surface inside (< B_i)
A - Connection surface outside (> B_i)

The connection variants at the fixed point and at the driver can be combined and subsequently changed if required.

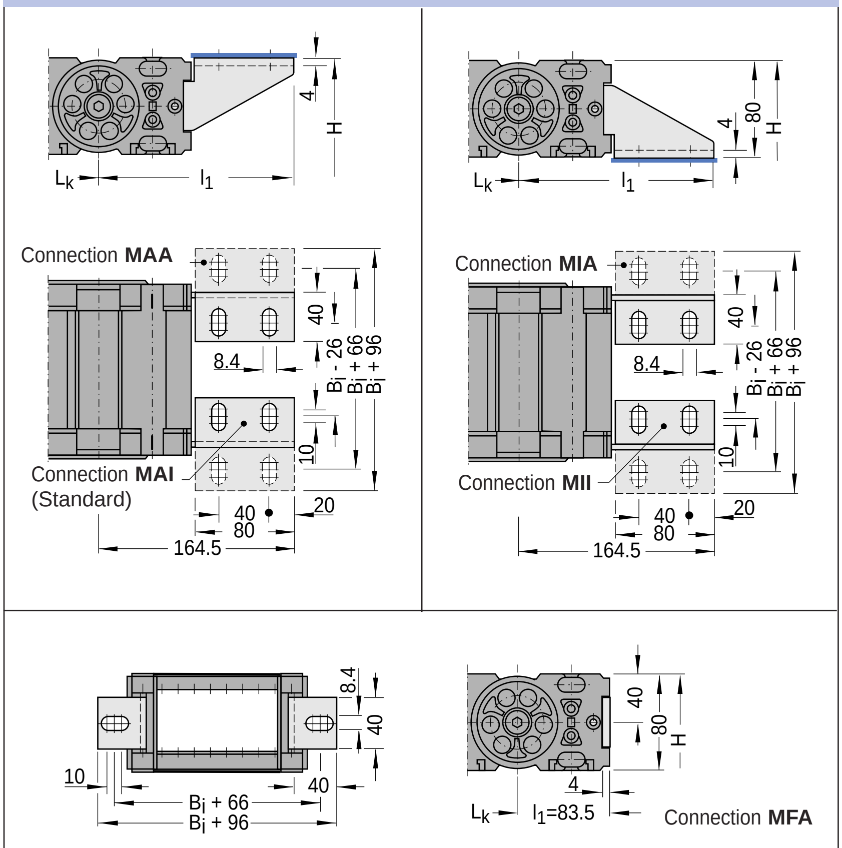
Please state the desired connection variant when ordering.

Example: FFA/MFA or **FIA/MFA**

Fixed point connection



Driver connection



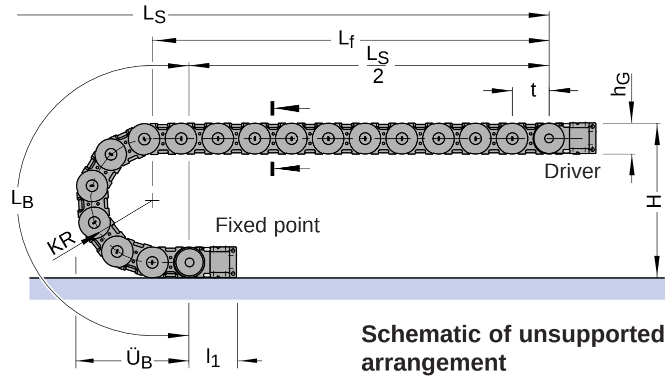
KABELSCHLEPP

Type MT 1250

Design of the Cable Carriers

Chain pitch t	=	125 mm
Chain link height h_G	=	96 mm (h_G' = 99.5 mm)
Connection height H_{min}	=	2 KR + 96 mm
Connection length l_1	=	cf. Connection Dimensions

A flat and level surface is required for the carrier system to be installed properly. If necessary, a support tray should be installed. (cf. System Components section)



Schematic of unsupported arrangement

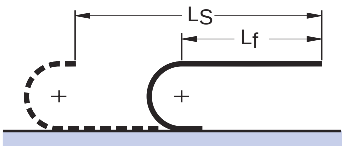
Variable sizes
depending on bend radius

Bend radius KR	**220*** mm	**260** mm	**300** mm	**340** mm	**380** mm	**500** mm
Bend length L_B	942	1067	1193	1319	1444	1821
Loop overhang $Ü_B$	393	433	473	513	553	673
Height H_{min}	536	616	696	776	856	1096

*) not with Aluminium cover system RMD

Load diagrams

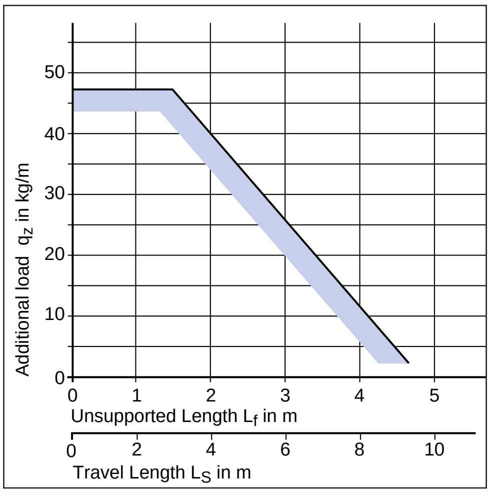
Unsupported length L_f and travel length L_S
depending on the additional load
(cf. Construction Guidelines)



Calculation of chain length:

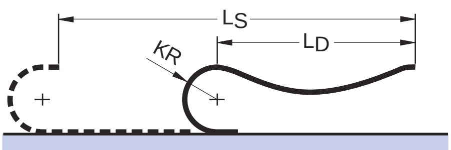
$$L_k \approx \frac{L_S}{2} + L_B$$

rounded to pitch 125 mm



Load diagram for an intrinsic chain weight q_k of 8.0 kg/m. If the intrinsic chain weight exceeds q_k 8.0 kg/m, the permissible additional load is lower.

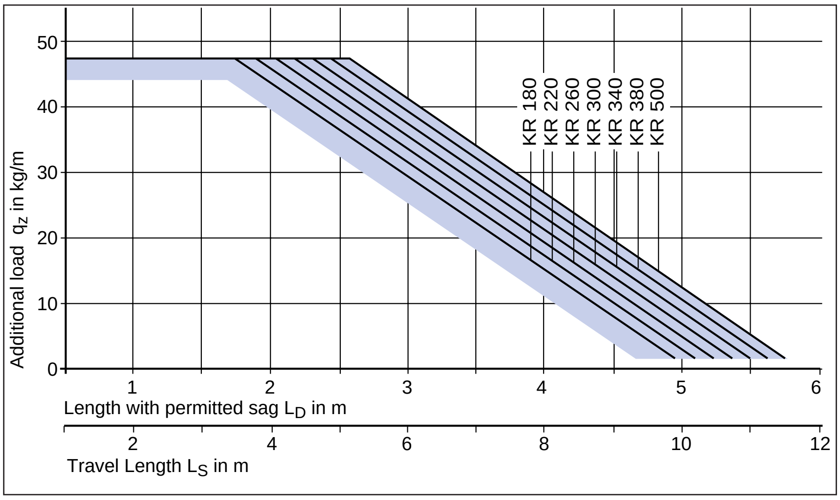
Length with permitted sag L_D and travel length L_S
depending on the additional load
(cf. Construction Guidelines)



Calculation of chain length:

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

rounded to pitch 125 mm



Long travel lengths

With long travel lengths the upper part of the cable carrier glides on its lower run in a guide channel.

Design → cf. Construction Guidelines

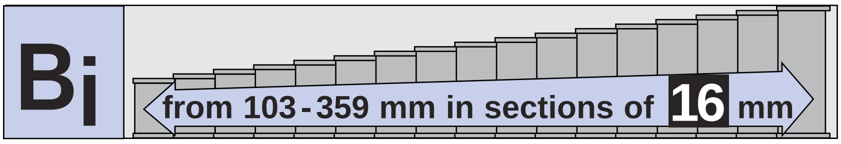
Guide channel → cf. System Components

We recommend that a system of this kind be planned by one of our engineers.

Subject to technical changes!

Type MT 1250

Chain cross section
in accordance with section in schematic illustration

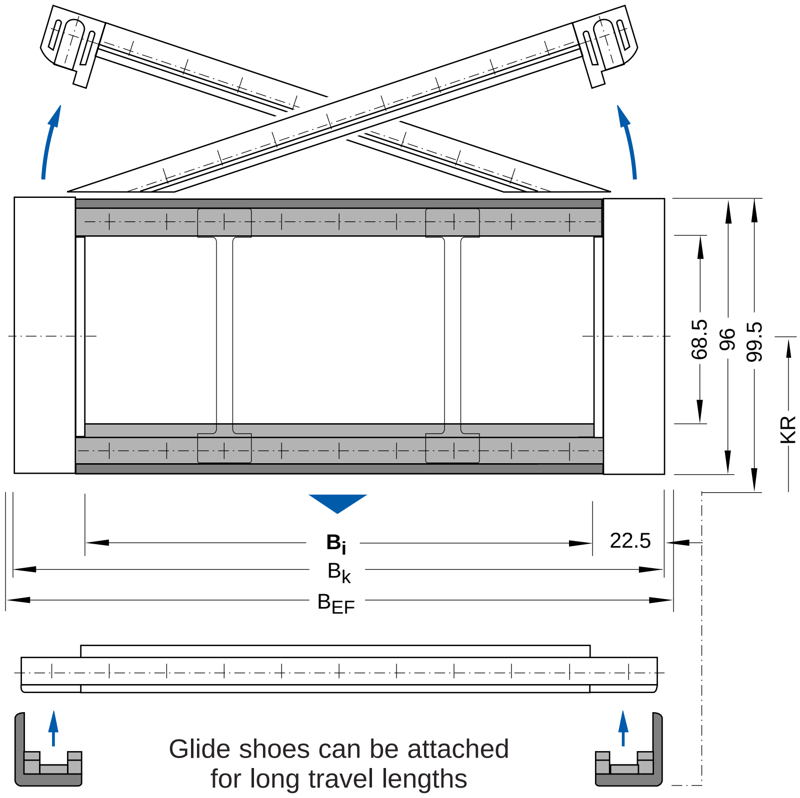


Stay variant “RDD“

Frame stay – **Plastic cover system**

Protective covers **on the outside** are “hinged” to both sides

Protective covers **on the inside** can be released by turning through 90°!



Calculation of chain width:

$B_k = \mathbf{B_i} + 45$ mm

Calculation of chain width over universal connector:

$B_{EF} = \mathbf{B_i} + 51$ mm

Intrinsic chain weight
depending on chain width

Reference weight = Intrinsic chain weight q_k = 8.0 kg/m (cf. load diagrams)

Calculation of the difference in the additional load Δq_z

8.0 kg/m – 6.9 kg/m = 1.1 kg/m

The permitted additional load q_z in accordance with the load diagrams is increased by **1.1 kg/m**

17 chain widths are available

B_i mm	B_k mm	G_k kg/m
103	148	5.7
119	164	5.9
135	180	6.1
151	196	6.3
167	212	6.5
183	228	6.7
199	244	6.9
215	260	7.1
231	276	7.3
247	292	7.5

B_i mm	B_k mm	G_k kg/m
263	308	7.7
279	324	7.9
295	340	8.1
311	356	8.3
327	372	8.5
343	388	8.7
359	404	8.9

Glide shoes

For long travel lengths, gliding in a channel, interchangeable glide shoes are used. These can be produced from different plastics and guarantee optimum friction and wear ratios. For travel speeds > 2.5 m/s highly wear-resistant plastic is used.

Type MT 1250

Divider systems
for Stay variant RDD

The divider system can be planned by you or by our engineers on the basis of the information you supply about the configuration of the cable carrier.

As standard, the divider system is fitted on every frame stay! (with stay assembly on every 2nd chain link)

Divider system TS 0

without height subdivision

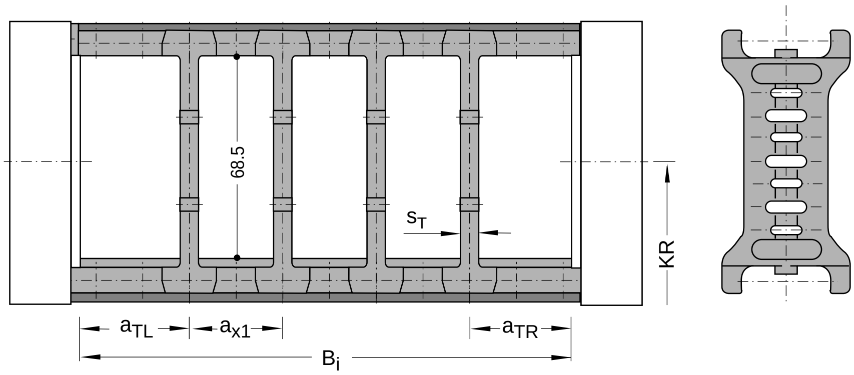
s_T	=	8 mm
$a_{T\ min}$	=	19.5 mm
$a_{x\ min}$	=	16 mm
$a_{x\ grid}$	=	16 mm

For Version A dividers with s_T = 4 mm are also available.

Please state the type and the number of dividers/cross section n_T when ordering.

Sample order:
Divider system TS 0 / n_T 4

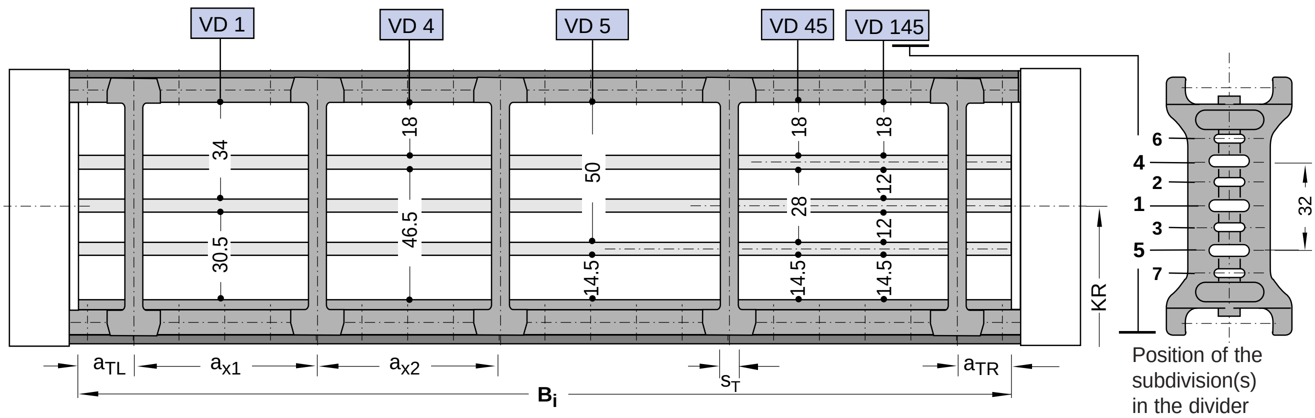
The dividers are fixed in the chain cross-section (16 mm sections). Please state the fitting intervals a_T and a_x!



Divider system TS 1

with continuous height subdivision
Height subdivision: **Al-Profile 11 x 4 mm**

Technically recommended variants: VR 0, VR 2 and VR 3
The dividers are fixed in the chain cross-section!



s_T	=	8 mm
$a_{T\ min}$	=	19.5 mm
$a_{x\ max}$	=	19.5 mm
$a_{x\ min}$	=	32 mm
$a_{x\ max}$	=	64 mm
$a_{x\ grid}$	=	16 mm
$n_{t\ min}$	=	2

For Version A dividers with s_T = 4 mm are also available.

Please indicate the cavities (from left to right), the relevant subdivision variant and the assembly spacing a_T and a_x when ordering.

Sample order: Divider system TS 1 VD 67/n_T 7

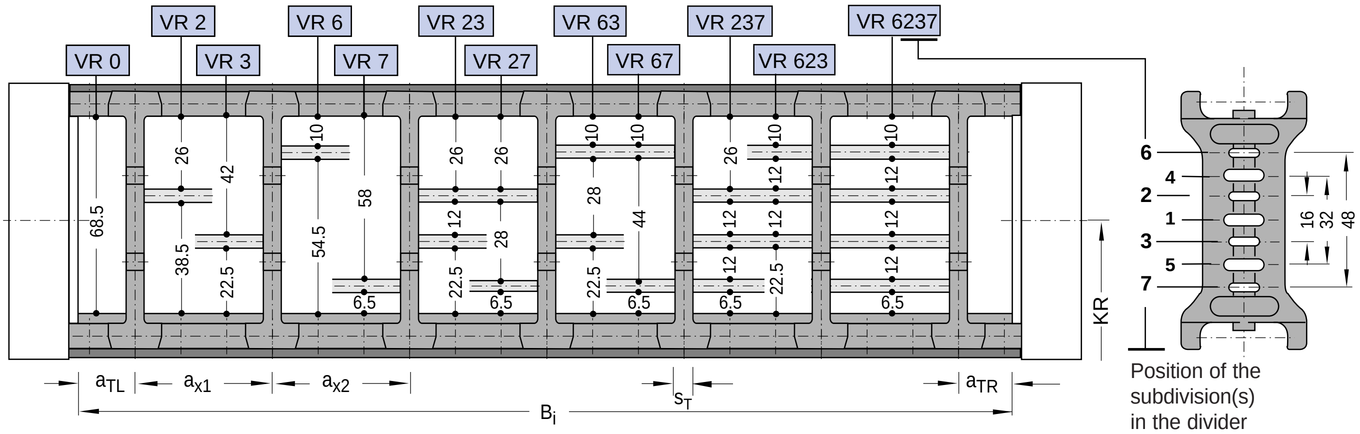
Type MT 1250

Divider systems
für Stay variant RDD

Divider system TS 2

with grid subdivision
Height subdivision: **Al-Profile 11 x 4 mm**

Technically recommended variants: VR 0, VR 2 und VR 3
The dividers are fixed in the chain cross-section



s_T	=	8 mm
$a_{T\ min}$	=	19.5 mm
$a_{x\ min}$	=	32 mm (with height subdivision)
$a_{x\ min}$	=	16 mm (at VR 0)
$a_{x\ grid}$	=	16 mm

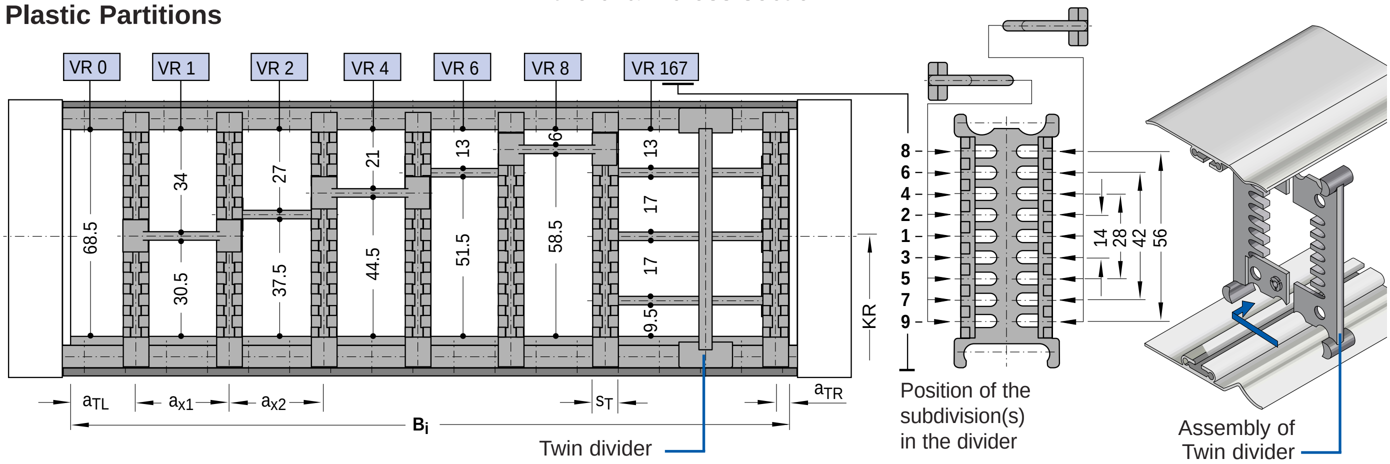
Please indicate the cavities (from left to right), the relevant subdivision variant and the assembly spacing a_T and a_x when ordering.

Sample order: Divider system TS 2
K(cavity) 1 - VR 0 / 51.5 mm
K 2 - VR 67 / 112 mm
K 3 - VR 63 / 112 mm

Divider system TS 3

with height subdivision
Plastic Partitions

Technically recommended variants: VR 0, VR 1 and VR 2
Dividers fixed by height subdivision, the grids can slide along the chain cross section!



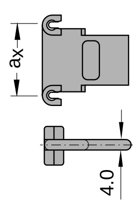
s_T	=	8 mm
$a_{T\ min}$	=	4 mm
$a_{x\ min}$	=	16 mm (with height subdivision)
$a_{x\ grid}$	=	see a_x-table

a_x mm (Centre-to-centre distance of dividers)												
16	32	48	64	80	96	112	128	144	160	176	192	208

When using partitions with a_x > 112 mm, a twin divider should be used to provide an additional central support.

The twin divider can be moved, suitable for later assembly/fitting

s_T	=	4 mm



Please indicate the cavities (from left to right), the relevant subdivision variant and the assembly spacing a_T and a_x when ordering.

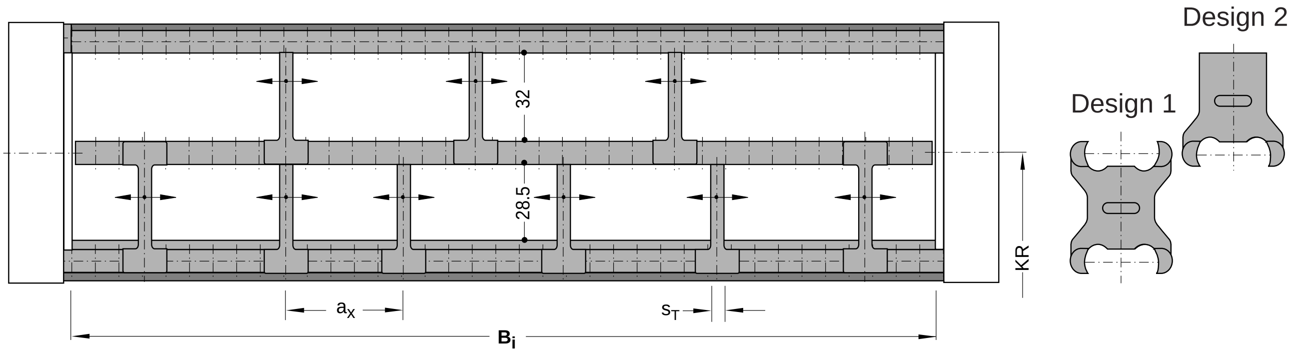
Sample order: Divider system TS 3
K(cavity) 1 - VR 0 / 80 mm
K 2 - VR 1 / 48 mm
K 3 - VR 4 / 192 mm
with twin divider

Type MT 1250

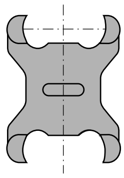
Divider systems
for Stay variant RDD

Divider system TS 4

with continuous height subdivision
Height subdivision:
Plastic-Profile 27 x 8 mm



s_T	=	4 mm
$a_{x\ min}$	=	15 mm



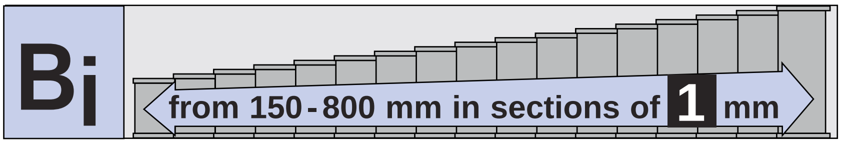
At least 2 half-dividers with clamp grips on both sides (Design 1) should be fitted in the lower chamber near to the chain band.

Please state the type and the number of dividers/cross section when ordering.

Sample order: Divider system TS 4
Please enclose a sketch

Type MT 1250

Chain cross section
in accordance with section in schematic illustration

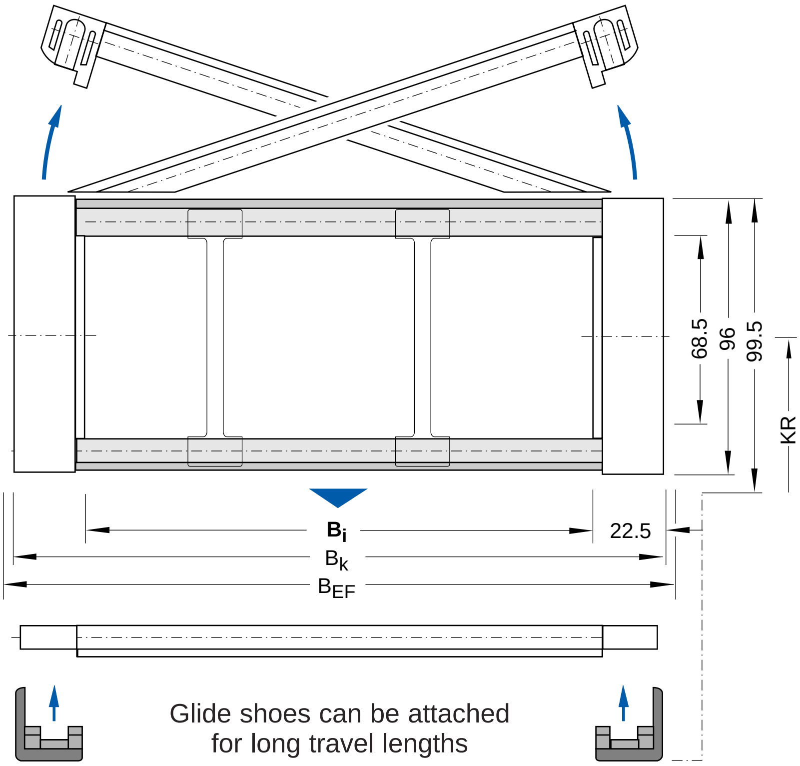


Stay variant “RMD“

Frame stay – **Aluminium cover system**

Protective covers **on the outside** are “hinged” to both sides

Protective covers **on the inside** can be released by turning through 90°!



Calculation of chain width:

B_k = $\mathbf{B_i}$ + 45 mm

Calculation of chain width over universal connector:

B_{EF} = $\mathbf{B_i}$ + 51 mm

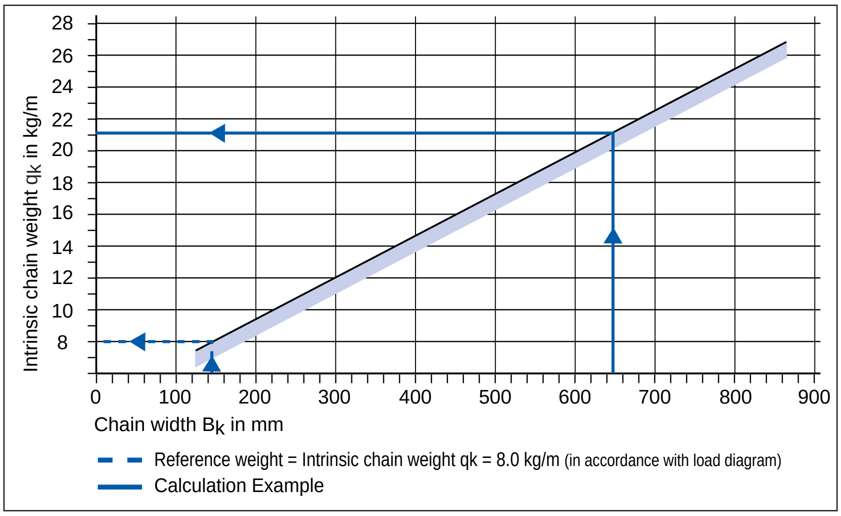
Calculation Example:

Inside width	$\mathbf{B_i}$	=	600 mm
Chain width	B_k	=	645 mm
Chain width over universal connector	B_{EF}	=	651 mm
Intrinsic chain weight	q_k	=	21.1 kg/m

Calculation of the difference in the additional load Δq_z

8.0 kg/m – 21.1 kg/m = –13.1 kg/m

The permitted additional load q_z in accordance with the load diagrams is reduced by **13.1 kg/m**



Intrinsic chain weight depending on the chain width

Glide shoes

For long travel lengths, gliding in a channel, interchangeable glide shoes are used. These can be produced from different plastics and guarantee optimum friction and wear ratios. For travel speeds > 2.5 m/s highly wear-resistant plastic is used.

KABELSCHLEPP

Type MT 1250

Divider systems

for Stay variant RMD

The divider system can be planned by you or by our engineers on the basis of the information you supply about the configuration of the cable carrier.

As standard, the divider system is fitted on every frame stay! (with stay assembly on every 2nd chain link)

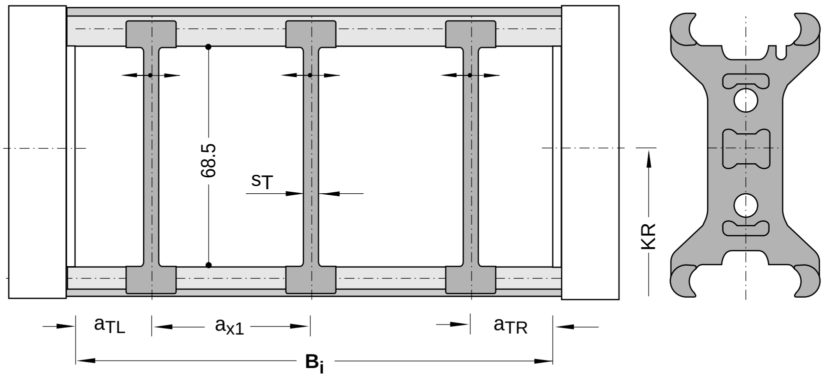
Divider system TS 0

without height subdivision

s_T	=	5 mm
$a_{T\ min}$	=	10 mm
$a_{x\ min}$	=	20 mm
$a_{x\ grid}$	=	continuous

Please state the type and the number of dividers/cross section when ordering.

Sample order:
Divider system TS 0 / n_T 3



The dividers can slide along the chain cross section!

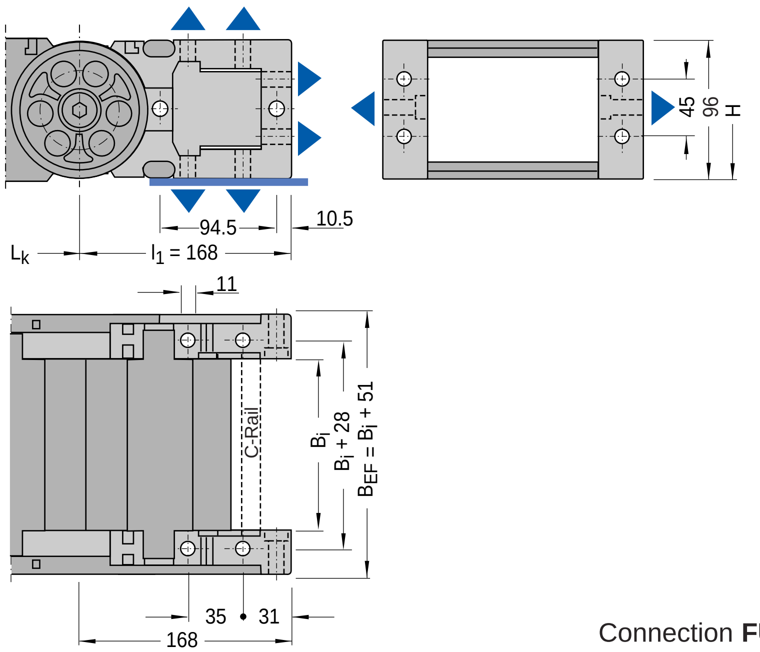
Type MT 1250

Connection dimensions

Universal connectors made of die-cast Aluminium

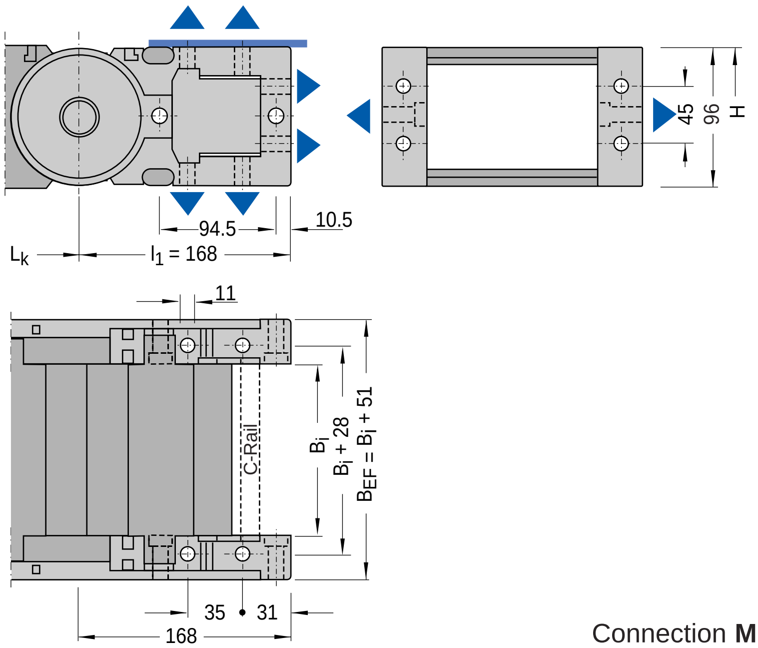
Optionally with C-Rail, slit width 16-17 mm. Suitable for all commercial saddle-type clamps with large base and KABELSCHLEPP SLZ Strain Relief Devices (cf. System Components).

Fixed point connection



Connection **FU**

Driver connection



Connection **MU**

Ordering Key for the connection:

X U

Connection point
F - Fixed point
M - Driver

U - Universal connection

Ordering Key for cable carrier:

MT 1250.311 - RDD - 300 - 4500

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

Example:

Cable carrier type MT 1250, frame stay - plastic cover system RDD, inside width B_i 311 mm, with bend radius KR 300 mm and chain length L_k =4500 mm

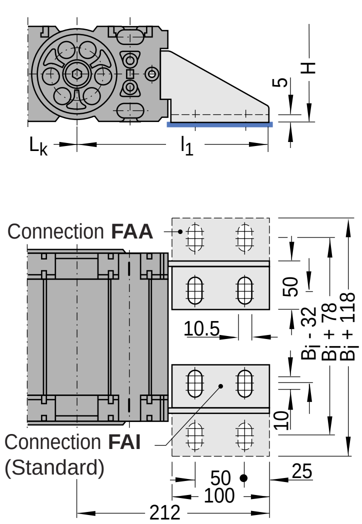
KABELSCHLEPP

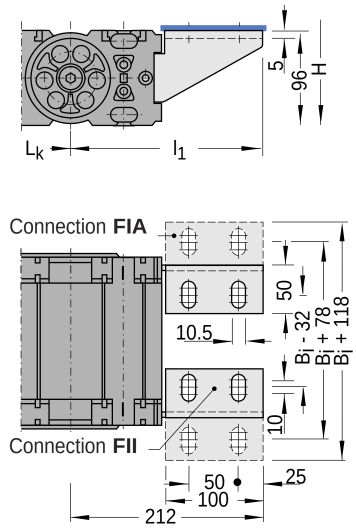
Type MT 1250

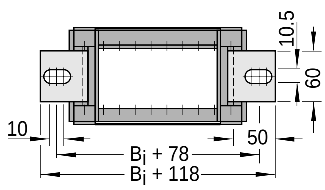
Connection dimensions

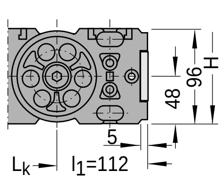
End link made of plastic
End connector made of steel plate

Fixed Point Connection



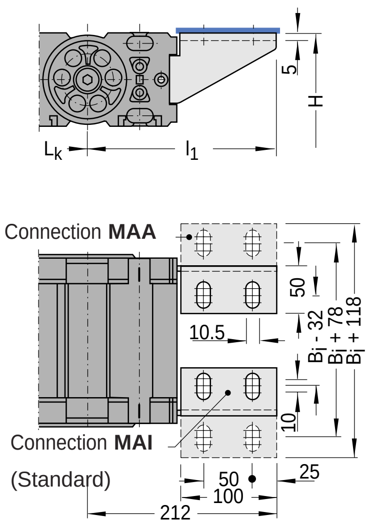


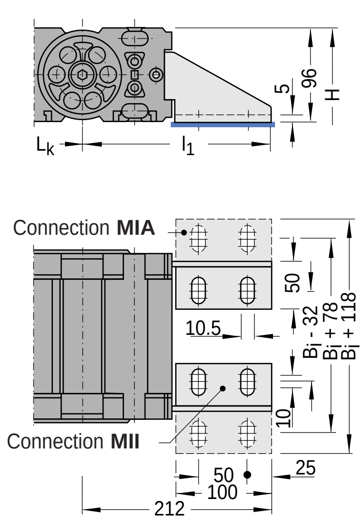


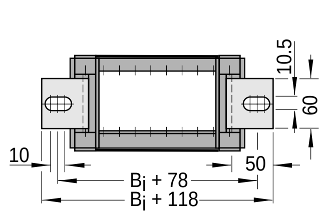


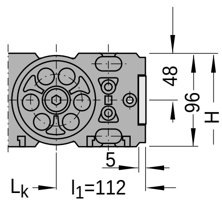
Connection **FFA**

Driver Connection



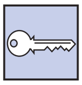






Connection **MFA**

Ordering Key for the connection:



X X X

Connection point
F - Fixed point
M - Driver

Connection type
A - Threaded joint to the outside (Standard)
I - Threaded joint to the inside (towards KR)
F - Flange connection

Connection surface
I - Connection surface inside (< B_i)
A - Connection surface outside (> B_i)

The connection variants at the fixed point and at the driver can be combined and subsequently changed if required.

Please state the desired connection variant when ordering.

Example : FFI/MII or **FFA/MAI**

Subject to technical changes!

KABELSCHLEPP

Type XLT

Enclosed Cable Carriers with Aluminium Cover Systems

Profile

Cable Carriers with Aluminium cover system Type XLT

- Large dimensions
- Low intrinsic weight
- High degree of stability for long self-supporting lengths
- For long travel lengths highly wear-resistant glide shoes are available, resulting in minimal wear
- Variable widths in 1 mm sections
- Plastic chain bands combined with Aluminium cover system (bolted)
- Can be opened on both sides
- Various different connection variants
- With optional strain relief
- TÜV type approved in accordance with 2PfG 1036/10.97

Stay variant:
RMD – Aluminium cover system

Chain Band Material:	**K 7426 S (Standard)** → cf. Interesting Technical Information 7.14
Cover system material	**Aluminium Alloy** → cf. Interesting Technical Information 7.14
7 bend radii available!	

Type	Inside width		Chain width		Inside height	Pitch
	$B_{i\,min}$	$B_{i\,max}$	$B_{k\,min}$	$B_{k\,max}$	h_i	t
	mm	mm	mm	mm	mm	mm
XLT 1650	200	1000	268	1068	105	165

Type XLT 1650

Design of the Cable Carriers

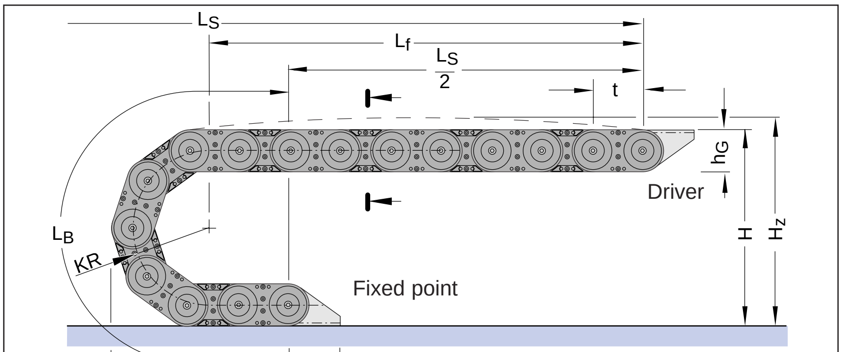
Chain pitch t = 165 mm
Chain link height h_G = 140 mm (h_G' = 147 mm)
Connection height H_{min} = 2 KR + 140 mm
Connection length l_1 = cf. Connection Dimensions

Installation height H_Z
(required clearance height):

$H_Z \approx H + 100mm$

A flat and level surface is required for the carrier system to be installed properly.
If necessary, a support tray should be installed. (cf. System Components section)

Variable sizes
depending on bend radius

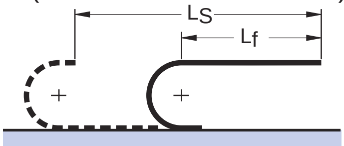


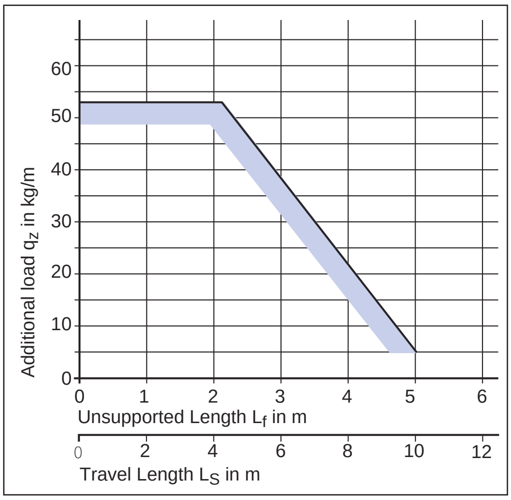
Schematic of unsupported arrangement

Bend radius KR	**250** mm	**300** mm	**350** mm	**400** mm	**450** mm	**500** mm	**550** mm
Bend length L_B	950	1107	1264	1421	1578	1735	1892
Loop overhang $Ü_B$	403	453	503	553	603	653	703
Height H_{min}	640	740	840	940	1040	1140	1240

Load diagrams

Unsupported length L_f and travel length L_S
depending on the additional load
(cf. Construction Guidelines)





Load diagram for an intrinsic chain weight q_k of 25 kg/m. If the intrinsic chain weight exceeds q_k 25 kg/m, the permissible additional load is lower.

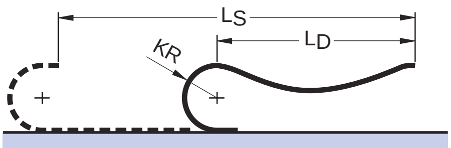
Calculation of chain length:

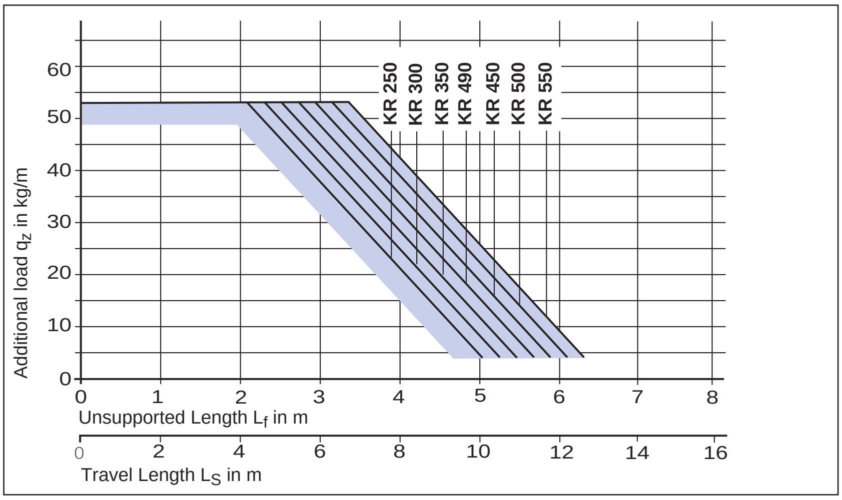
$$L_k \approx \frac{L_S}{2} + L_B$$

rounded to pitch 165 mm

The calculated chain length L_k **must** always be rounded up / down to an uneven number of chain links.

Length with permitted sag L_D and travel length L_S
depending on the additional load
(cf. Construction Guidelines)





Calculation of chain length:

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

rounded to pitch 165 mm

The calculated chain length L_k **must** always be rounded up / down to an uneven number of chain links.

Long travel lengths

With long travel lengths the upper part of the cable carrier glides on its lower run in a guide channel.

Design → cf. Construction Guidelines

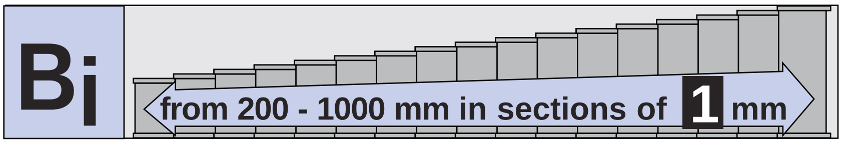
Guide channel → cf. System Components

We recommend that a system of this kind be planned by one of our engineers.

Type XLT 1650

Chain cross-section

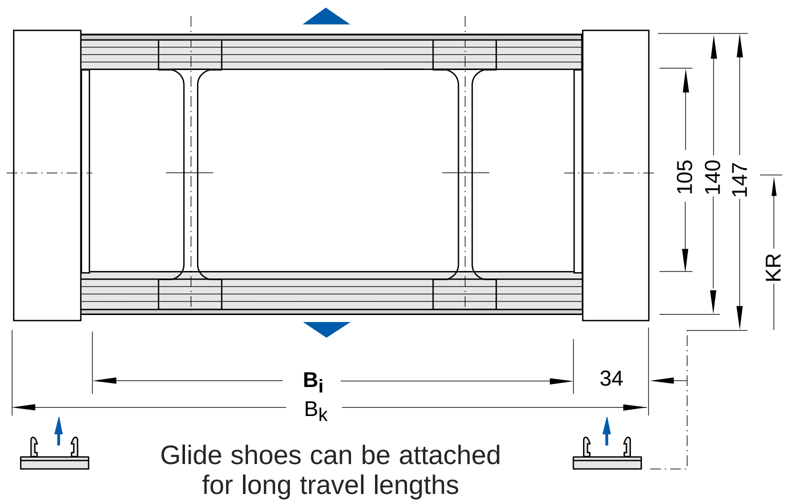
in accordance with section in schematic illustration



Stay variant „RMD“

Frame stay – **Aluminium cover system**

Protective covers **on the inside** and **on the outside**, bolted on both sides.



Glide shoes can be attached for long travel lengths

Calculation of chain width:

$B_k = B_i + 68$ mm

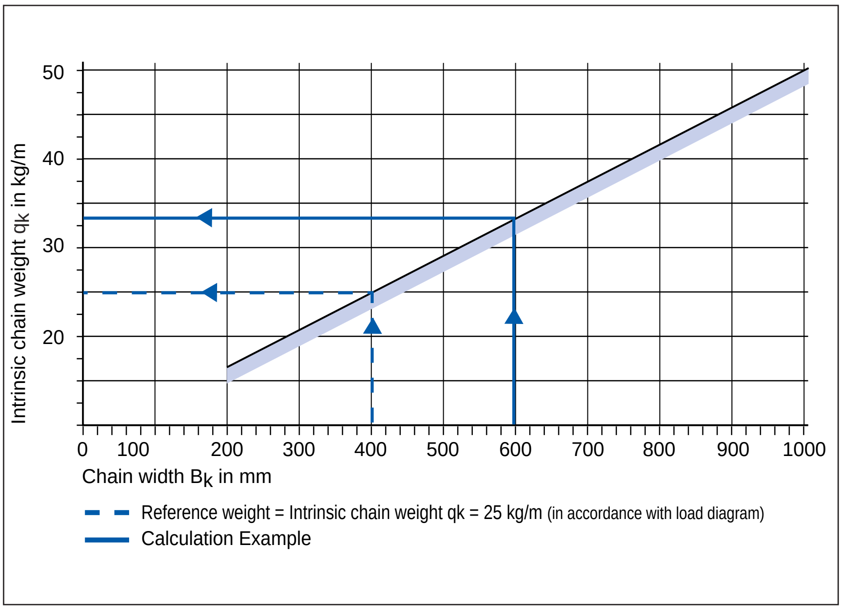
Calculation Example:

Inside width	B_i	=	532 mm
Chain width	B_k	=	600 mm
Intrinsic chain weight	q_k	=	33 kg/m

Calculation of the difference in the additional load Δq_z

25 kg/m – 33 kg/m = – 8 kg/m

The permitted additional load q_z in accordance with the load diagrams is reduced by **8 kg/m**



Intrinsic chain weight depending on chain width B_k

Glide shoes

For long travel lengths, gliding in a channel, interchangeable glide shoes made of highly wear-resistant plastic are used. These guarantee optimum fricton and wear ratios.

Type XLT 1650

Divider systems
for Stay variant “RMD“

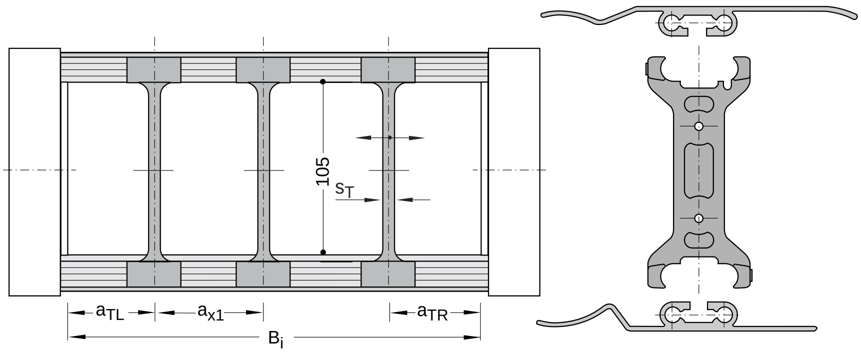
The divider system can be planned by you or by our engineers on the basis of the information you supply about the configuration of the cable carrier.

As standard, the divider system is fitted on every frame stay! (with stay assembly on every 2nd chain link)

Divider system TS 0

without height subdivision

s_T	=	8 mm
$a_{T\ min}$	=	6 mm
$a_{x\ min}$	=	25 mm



The dividers can slide along the chain cross section!

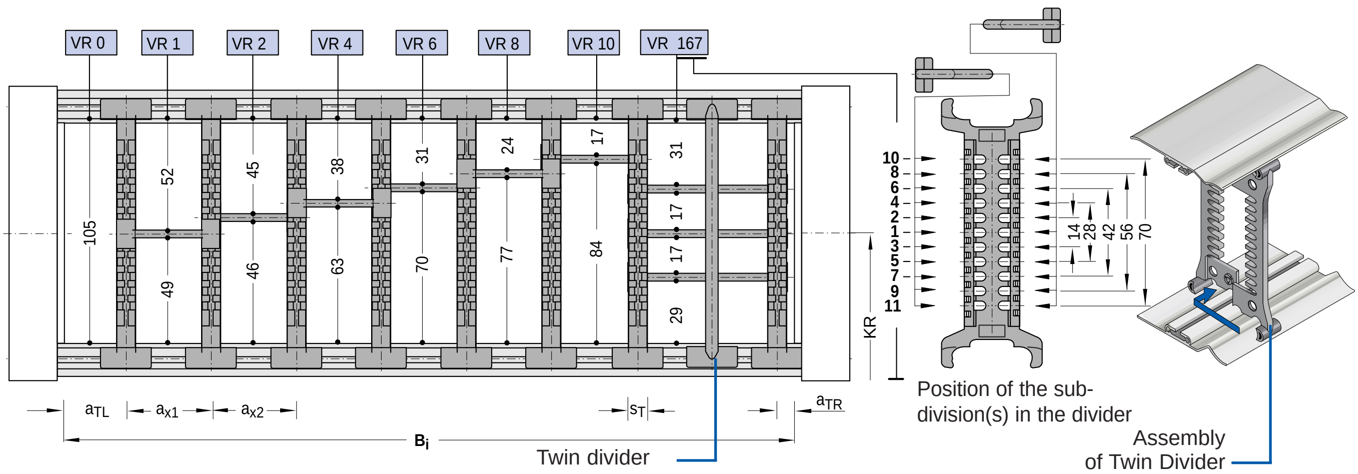
Please state the number of dividers / cross-section n_T when placing your order.

Ordering example:
Divider system TS 0/n_T 4

Divider system TS 3

with height subdivision:
Plastic Partitions

Technically recommended variants: VR 0 through VR 7
Dividers fixed by height subdivision, the grids can slide along the chain cross section!



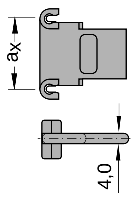
s_T	=	8 mm
$a_{T\ min}$	=	1 mm
$a_{x\ min}$	=	16 mm (with height subdivision)
$a_{x\ grid}$	=	see a_x-table
$n_{T\ min}$	=	2

a_x mm (Centre-to-centre distance of dividers)														
16	18	23	28	32	33	38	43	48	58	64	68	78	80	88
96	112	128	144	160	176	192	208							

When using partitions with a_x > 112 mm, a twin divider should be used to provide an additional central support.

The twin divider can be moved, suitable for later assembly/fitting.

s_T	=	5 mm



Please indicate the cavities (from left to right), the relevant subdivision variant and the assembly spacing a_T and a_x when ordering.

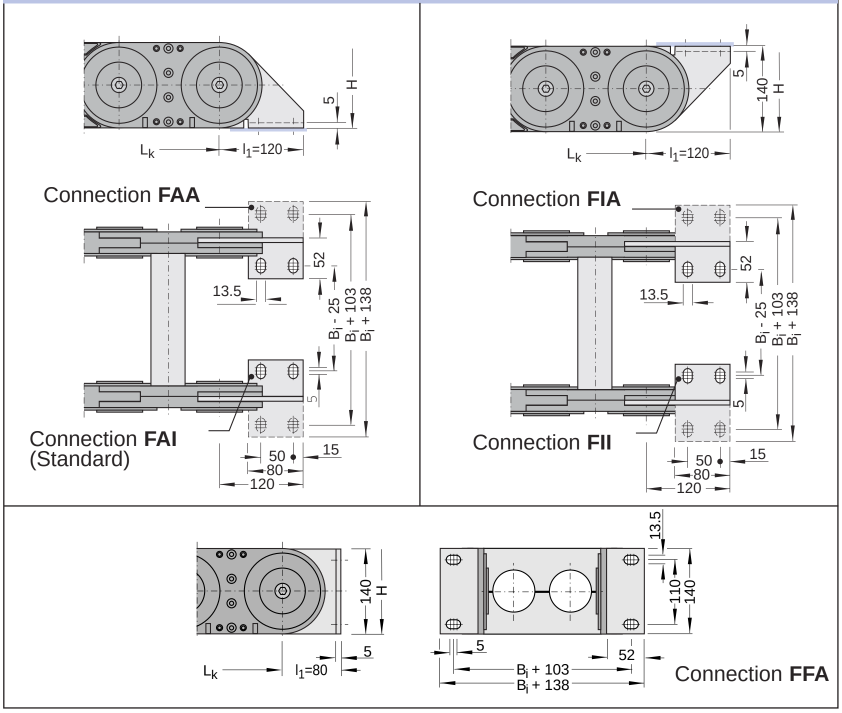
Sample order: Divider system TS 3
K(cavity) 1 - VR 0 / 80 mm
K 2 - VR 1 / 160 mm with twin divider
K 3 - VR 1 / 68 mm

Type XLT 1650

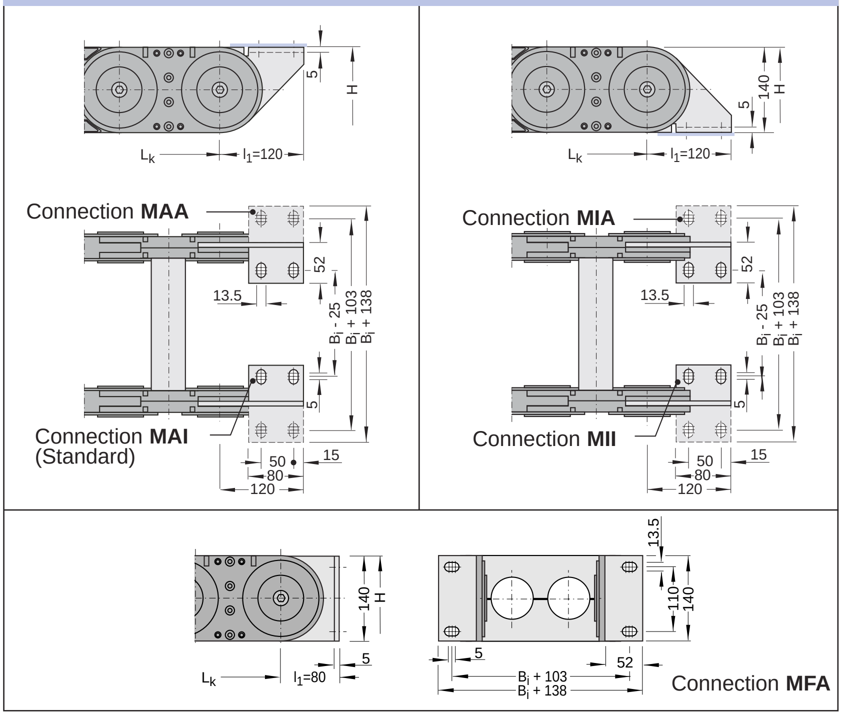
Connection dimensions

End link made of plastic
End connector made of steel plate

Fixed point connection



Driver connection



Ordering Key for the connection:

X X X

Connection point
- F - Fixed point
- M - Driver

Connection type
- A - Threaded joint to the outside (Standard)
- I - Threaded joint to the inside (towards KR)
- F - Flange connection

Connection surface
- I - Connection surface inside (< B_i)
- A - Connection surface outside (> B_i)

The connection variants at the fixed point and at the driver can be combined and subsequently changed if required.

Please state the desired connection variant when ordering.

Example: FAI/MAI or **FAI/MAA**

Ordering Key for the cable carrier:

XLT 1650.830 - RMD - 400 - 4125

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

Example:

Cable carrier type XLT 1650, inside width B_i 830 mm, with Aluminium cover system RMD – solid design, with bend radius KR 400 mm and chain length L_k = 4125 mm

KabelSchlepp

QUATTROFLEX

Enclosed Cable Carriers

Profile:

QUATTROFLEX
Enclosed Cable Carrier

Completely enclosed cable carrier made of plastic.

The hinged covers on the outside of the cable carrier which can be opened on one side facilitate the easy insertion and exchange of the cables and hoses.

- The outer covers can be opened on one side!
- Easy to open using a screwdriver.
- Dividers for separating the cables and hoses in the carrier cross-section can either move or can be installed in a fixed position (in 5-mm sections) as a result of a simple modification.
- An additional height subdivision is possible in the case of special, customised production!

4 Types are available from stock:

TKC 340	Pitch 34 mm	→ 3 Standard widths
TKC 470	Pitch 47 mm	→ 2 Standard widths
TKC 640	Pitch 64 mm	→ 2 Standard widths
TKC 850	Pitch 85 mm	→ 3 Standard widths

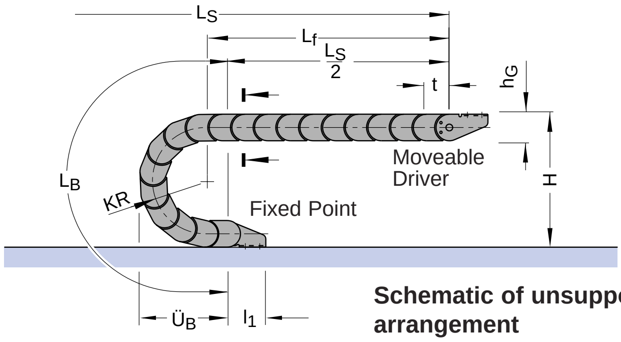
Subject to technical changes!

Type TKC 340

Design of the Cable Carriers

Chain pitch t	=	34 mm
Chain link height h_G	=	40 mm
Connection height H_{min}	=	2 KR + 40 mm
Connection length l_1	=	cf. Connection Dimensions

A flat and level surface is required for the carrier system to be installed properly. If necessary, a support tray should be installed. (cf. System Components section)



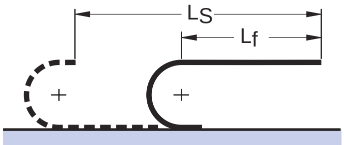
Schematic of unsupported arrangement

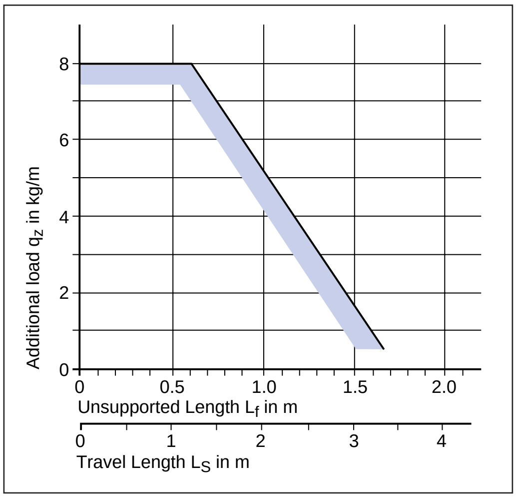
Variable sizes
depending on bend radius

Bend radius KR	**70** mm	**100** mm	**150** mm
Bend length L_B	288	383	540
Loop overhang $Ü_B$	124	154	204
Height H_{min}	180	240	340

Load diagrams

Unsupported length L_f and travel length L_S
depending on the additional load (cf. Construction Guidelines)



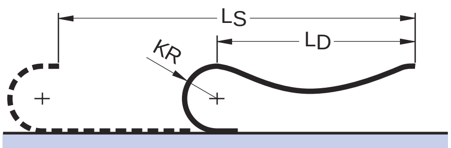


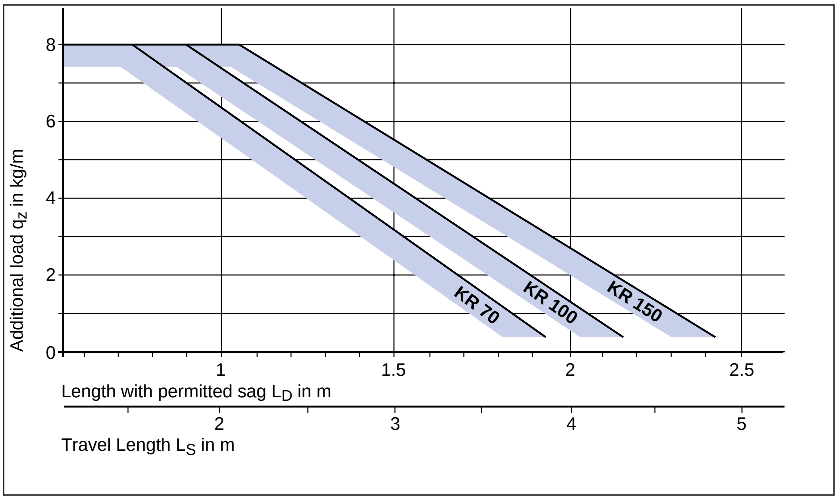
Calculation of chain length:

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

rounded to pitch 34 mm

Length with permitted sag L_D and travel length L_S
depending on the additional load (cf. Construction Guidelines)





Calculation of chain length:

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

rounded to pitch 34 mm

Long travel lengths

With long travel lengths the upper part of the cable carrier glides on its lower run in a guide channel.

Design	→	cf. Construction Guidelines
Guide channel	→	cf. System Components

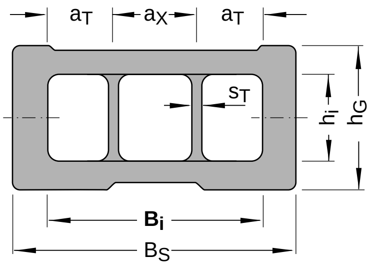
We recommend that a system of this kind be planned by one of our engineers.

Subject to technical changes!

Type TKC 340

Chain cross sections

in accordance with section in schematic illustration

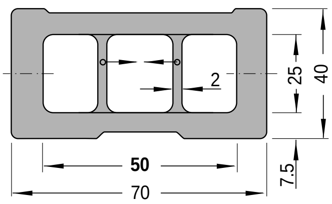


s_T	=	2 mm
$a_{T\,min}$	=	20 mm
$a_{x\,min}$	=	10 mm

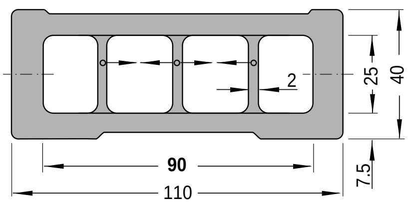
Please state the number of cavities (from-left to right) and the spacing intervals a_T and a_x when ordering.

As standard, the dividers are fitted to every 4th chain segment.

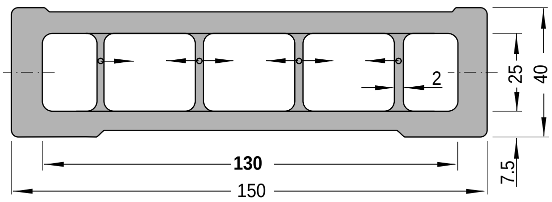
Please note the interval spacing $a_{T\,min}$ with the arrangement of the dividers. The dividers can be fixed in 5 mm grids or be arranged in a continuous moving arrangement.



Type TKC 340.50
Weight: 1.5 kg/m



Type TKC 340.90
Weight: 1.8 kg/m



Type TKC 340.130
Weight : 2.1 kg/m

As an alternative to these types we recommend the enclosed cable carrier MT 0475.

Type TKC 340

Connection dimensions

Ordering Key for the connection:

X X

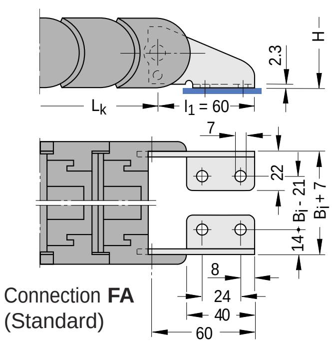
Connection point
F - Fixed point
M - Driver

Connection type
A - Bolted to the outside (Standard)
I - Bolted to the inside (towards KR)

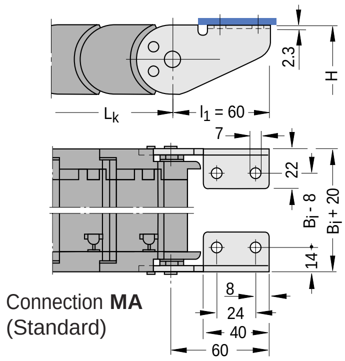
Please state the desired connection variant when ordering.

Example: FA/MI or FI/MA

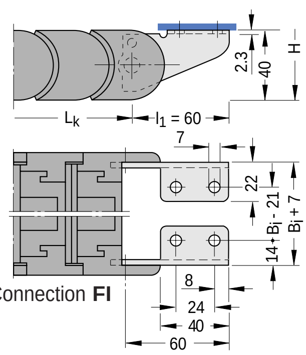
Fixed point connection	Driver connection



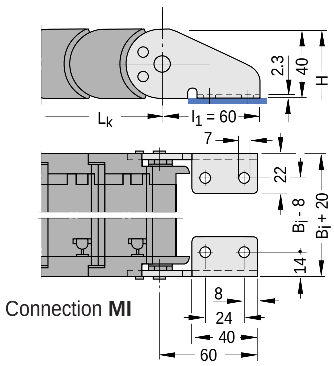
Connection **FA**
(Standard)



Connection **MA**
(Standard)



Connection **FI**



Connection **MI**

Ordering Key for the cable carrier:

TKC 340.50 - 100 - 1360

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

Example:
QUATTROFLEX cable carrier, type TKC 340, with inside width B_i 50 mm, bend radius KR 100 mm and a chain length L_k of 1360 mm

Subject to technical changes!

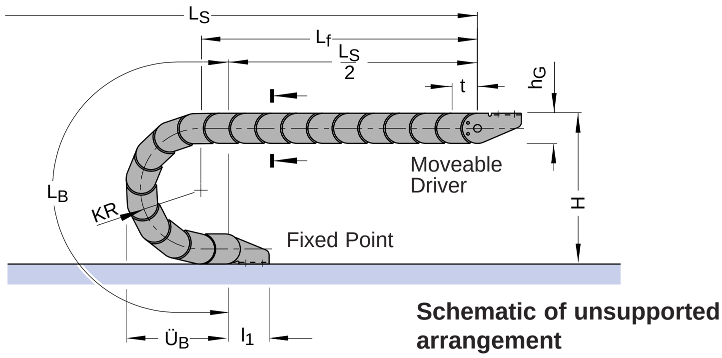
Technical Data - QUATTROFLEX

Type TKC 470

Design of the Cable Carriers

Chain pitch t	=	47 mm
Chain link height h_G	=	55 mm
Connection height H_{min}	=	2 KR + 55 mm
Connection length l_1	=	cf. Connection Dimensions

A flat and level surface is required for the carrier system to be installed properly. If necessary, a support tray should be installed. (cf. System Components section)



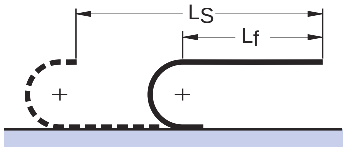
Schematic of unsupported arrangement

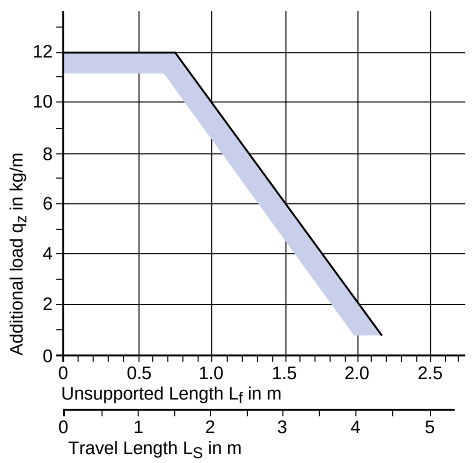
Variable sizes
depending on bend radius

Bend radius KR	**100** mm	**150** mm	**200** mm	**250** mm
Bend length L_B	409	566	723	880
Loop overhang $Ü_B$	175	225	275	325
Height H_{min}	255	355	455	555

Load diagram

Unsupported length L_f and travel length L_S
depending on the additional load
(cf. Construction Guidelines)



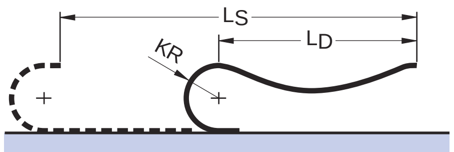


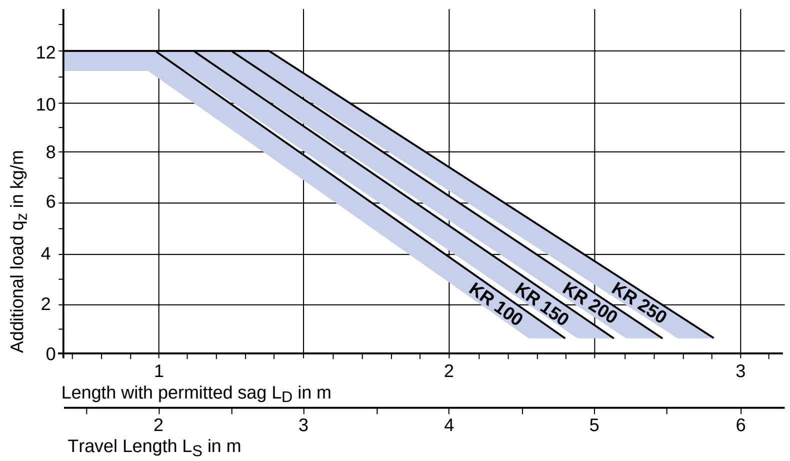
Calculation of chain length:

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

rounded to pitch 47 mm

Length with permitted sag L_D and travel length L_S
depending on the additional load
(cf. Construction Guidelines)





Calculation of chain length:

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

rounded to pitch 47 mm

Long travel lengths

With long travel lengths the upper part of the cable carrier glides on its lower run in a guide channel.

Design → cf. Construction Guidelines

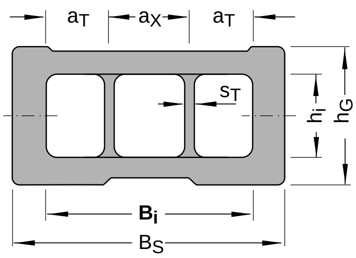
Guide channel → cf. System Components

We recommend that a system of this kind be planned by one of our engineers.

Type TKC 470

Chain cross sections

in accordance with section in schematic illustration

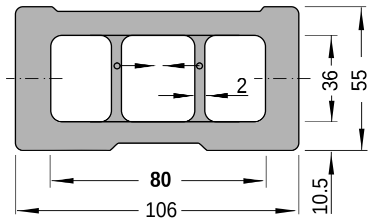


s_T	=	2 mm
$a_{T\ min}$	=	22.5 mm
$a_{x\ min}$	=	10 mm

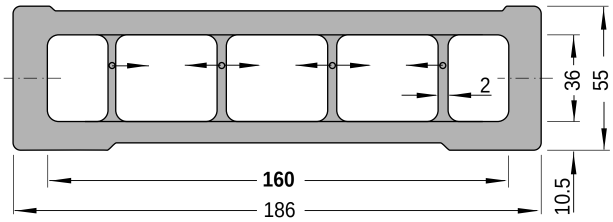
Please state the number of cavities (from left to right) and the spacing intervals a_T and a_x when ordering.

As standard, the dividers are fitted to every 4th chain segment.

Please note the interval spacing $a_{T\ min}$ with the arrangement of the dividers. The dividers can be fixed in 5 mm grids or be arranged in a continuous moving arrangement.



Type TKC 470.80
Weight : 2.5 kg/m



Type TKC 470.160
Weight : 3.5 kg/m

As an alternative to these types we recommend the enclosed cable carrier MT 0650

Type TKC 470

Connection dimensions

Ordering Key for the connection:

X X

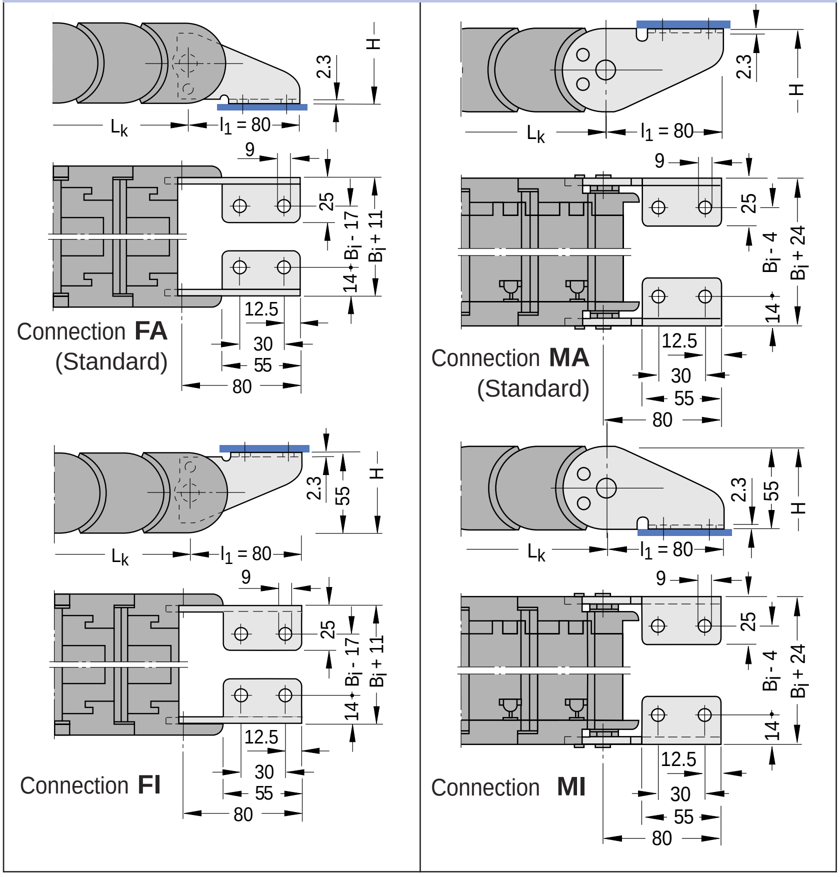
Connection point
F - Fixed point
M - Driver

Connection type
A - Bolted to the outside (Standard)
I - Bolted to the inside (towards KR)

Please state the desired connection variant when ordering.

Example: FA/MI (Standard) or **FI/MA**

Fixed point connection | **Driver connection**



Ordering Key for the cable carrier:

TKC 470.160 - 150 - 1410

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

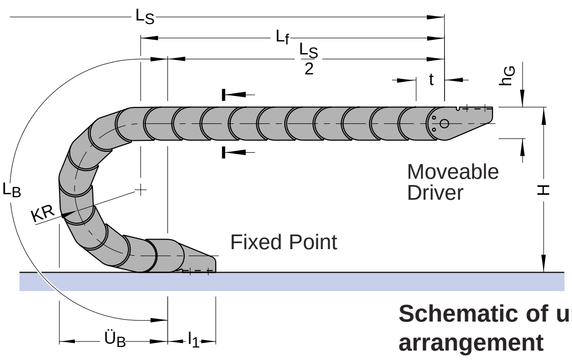
Example: QUATTROFLEX cable carrier, type TKC 470, with inside width B_i 160 mm, bend radius KR 150 mm and a chain length L_k of 1410 mm.

Type TKC 640

Design of the Cable Carriers

Chain pitch t	=	64 mm
Chain link height h_G	=	75 mm
Connection height H_{min}	=	2 KR + 75 mm
Connection length l_1	=	cf. Connection Dimensions

A flat and level surface is required for the carrier system to be installed properly. If necessary, a support tray should be installed. (cf. System Components section)



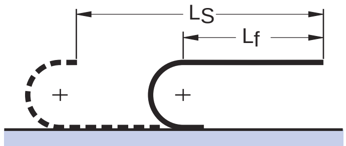
Schematic of unsupported arrangement

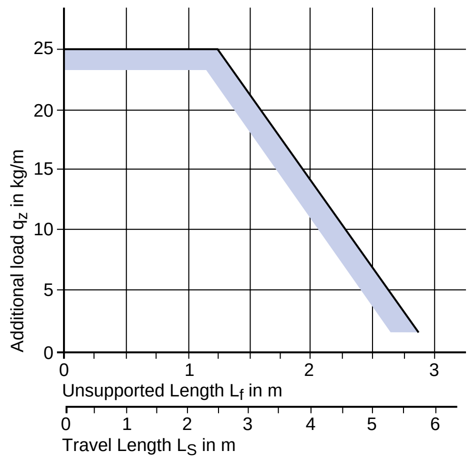
Variable sizes
depending on bend radius

Bend radius KR	**135** mm	**200** mm	**250** mm	**300** mm
Bend length L_B	553	757	914	1071
Loop overhang $Ü_B$	237	302	352	402
Height H_{min}	345	475	575	675

Load diagrams

Unsupported length L_f and travel length L_S
depending on the additional load
(cf. Construction Guidelines)



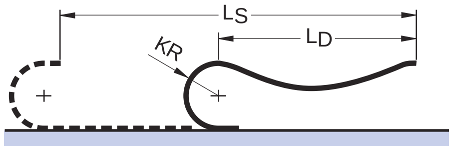


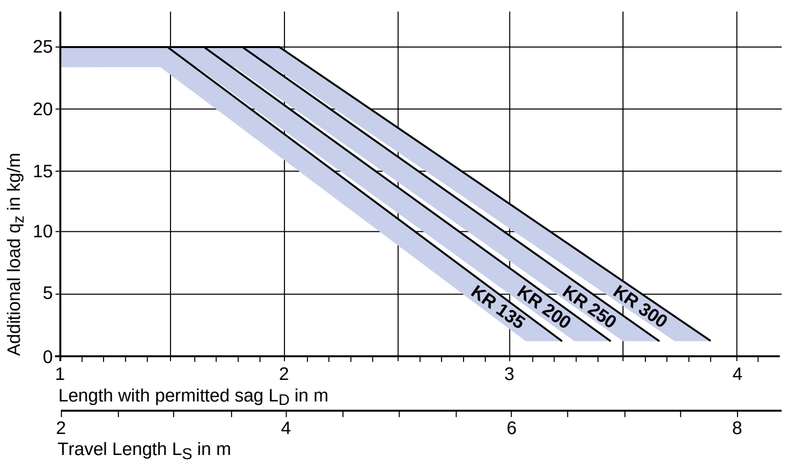
Calculation of chain length:

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

rounded to pitch 64 mm

Length with permitted sag L_D and travel length L_S
depending on the additional load
(cf. Construction Guidelines)





Calculation of chain length:

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

rounded to pitch 64 mm

Long Travel Lengths

With long travel lengths the upper part of the cable carrier glides on its lower run in a guide channel.

Design → cf. Construction Guidelines

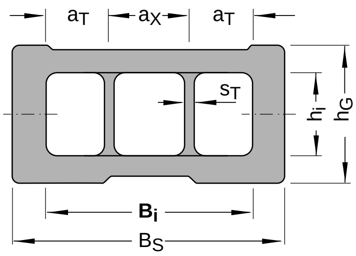
Guide channel → cf. System Components

We recommend that a system of this kind be planned by one of our engineers.

Type TKC 640

Chain cross sections

in accordance with section in schematic illustration

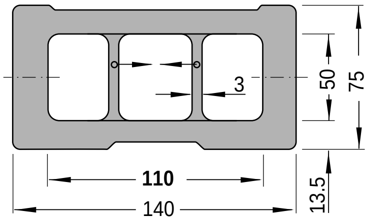


s_T	=	3 mm
$a_{T\ min}$	=	30 mm
$a_{x\ min}$	=	15 mm

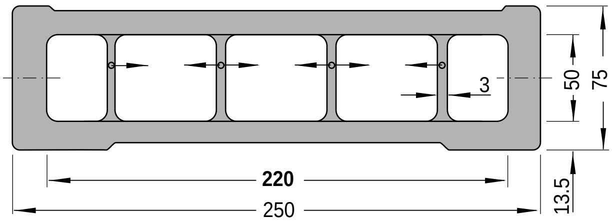
Please state the number of cavities (from left to right) and the spacing intervals a_T and a_x when ordering.

As standard, the dividers are fitted to every 4th chain segment.

Please note the interval spacing $a_{T\ min}$ with the arrangement of the dividers. The dividers can be fixed in 5 mm grids or be arranged in a continuous moving arrangement.



Type TKC 640.110
Weight : 4.0 kg/m



Type TKC 640.220
Weight : 5.0 kg/m

As an alternative to these types we recommend the enclosed cable carrier MT 0950

Type TKC 640

Connection dimensions

Ordering Key for the connection:

X X

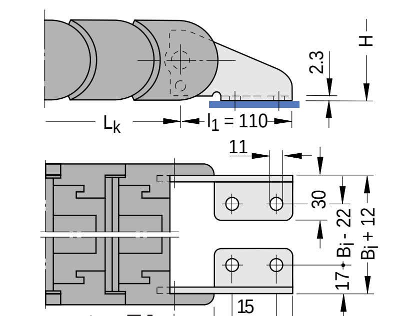
Connection point
F - Fixed point
M - Driver

Connection type
A - Bolted to the outside (Standard)
I - Bolted to the inside (towards KR)

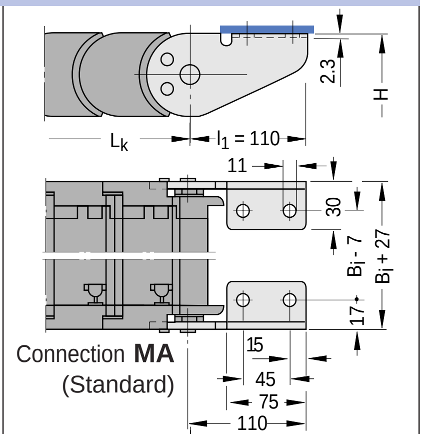
Please state the desired connection variant when ordering.

Example: FA/MI (Standard) oder **FI/MA**

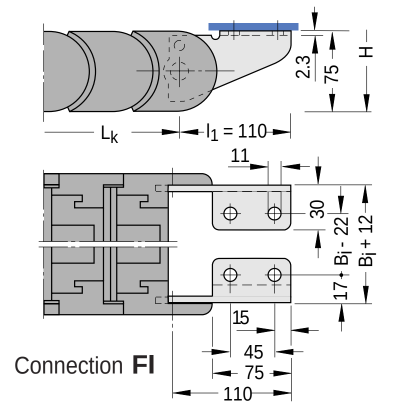
Fixed point connection	**Driver connection**



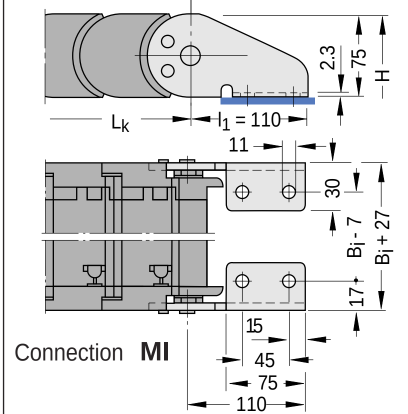
Connection **FA**
(Standard)



Connection **MA**
(Standard)



Connection **FI**



Connection **MI**

Ordering Key for the cable carrier:

TKC 640.110 - 200 - 1152

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

Example: QUATTROFLEX cable carrier, type TKC 640, with inside width B_i 110 mm, bend radius KR 200 mm and a chain length L_k of 1152 mm.

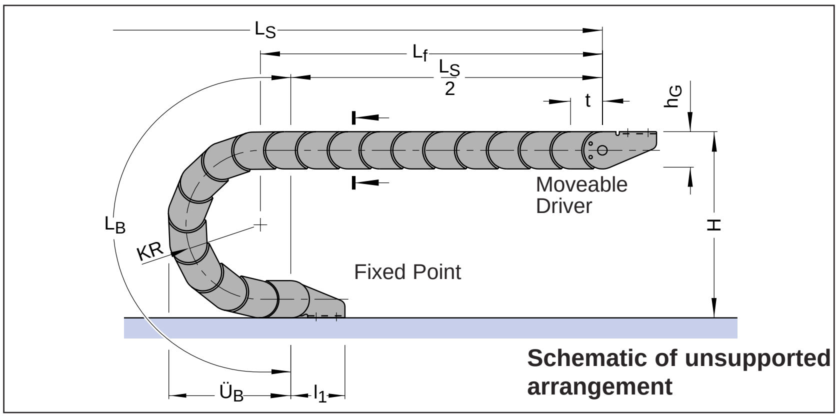
Technical Data - QUATTROFLEX

Type TKC 850

Design of the Cable Carriers

Chain pitch t	=	85 mm
Chain link height h_G	=	100 mm
Connection height H_{min}	=	2 KR + 100 mm
Connection length l_1	=	cf. Connection Dimensions

A flat and level surface is required for the carrier system to be installed properly. If necessary, a support tray should be installed. (cf. System Components section)



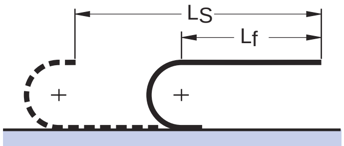
Schematic of unsupported arrangement

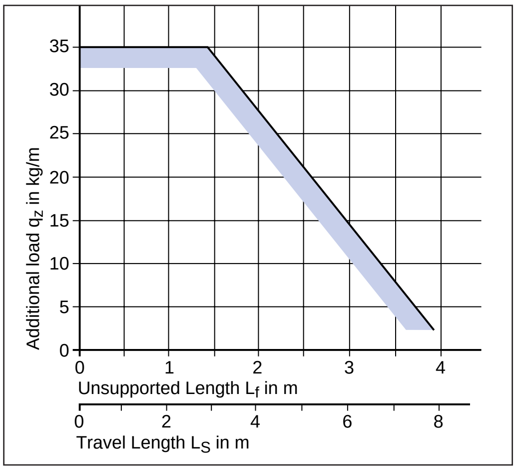
Variable sizes
depending on bend radius

Bend radius KR	**180** mm	**250** mm	**350** mm
Bend length L_B	736	956	1270
Loop overhang $Ü_B$	315	385	485
Height H_{min}	460	600	800

Load diagrams

Unsupported length L_f and travel length L_S
depending on the additional load
(cf. Construction Guidelines)



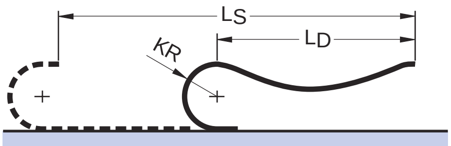


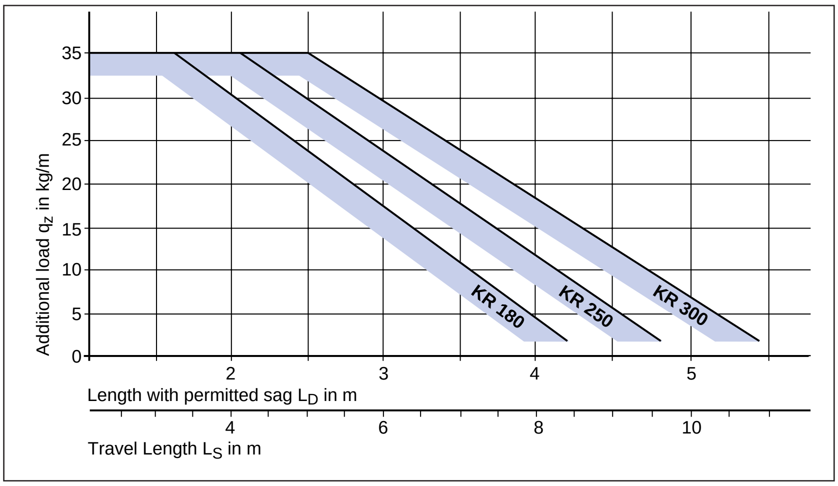
Calculation of chain length:

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

rounded to pitch 85 mm

Length with permitted sag L_D and travel length L_S
depending on the additional load
(cf. Construction Guidelines)





Calculation of chain length:

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

rounded to pitch 85 mm

Long travel lengths

With long travel lengths the upper part of the cable carrier glides on its lower run in a guide channel.

Design → cf. Construction Guidelines

Guide channel → cf. System Components

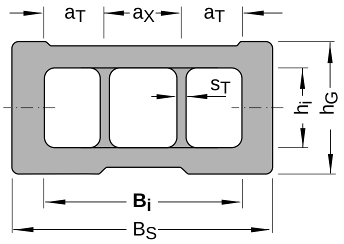
We recommend that a system of this kind be planned by one of our engineers.

KABELSCHLEPP

Type TKC 850

Chain cross section

in accordance with section in schematic illustration

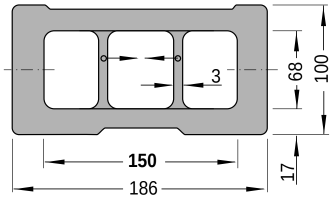


s_T	=	3 mm
$a_{T\ min}$	=	40 mm
$a_{x\ min}$	=	15 mm

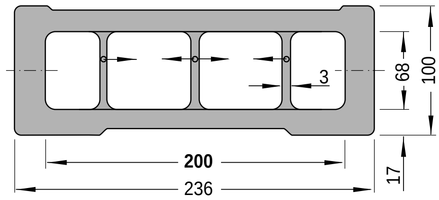
Please state the number of cavities (from left to right) and the spacing intervals a_T and a_x when ordering.

As standard, the dividers are fitted to every 4th chain segment.

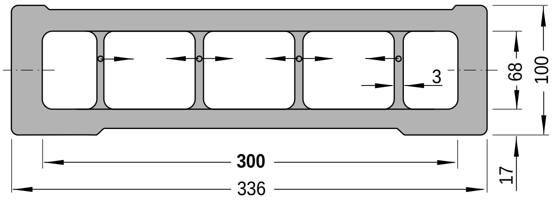
Please note the interval spacing $a_{T\ min}$ with the arrangement of the dividers. The dividers can be fixed in 5 mm grids or be arranged in a continuous moving arrangement.



Type TKC 850.150
Weight : 4.0 kg/m



Type TKC 850.200
Weight : 6.5 kg/m



Type TKC 850.300
Weight : 8.0 kg/m

As an alternative to these types we recommend the enclosed cable carrier MT 1250

Type TKC 850

Connection dimensions

Ordering Key for the connection:

X X

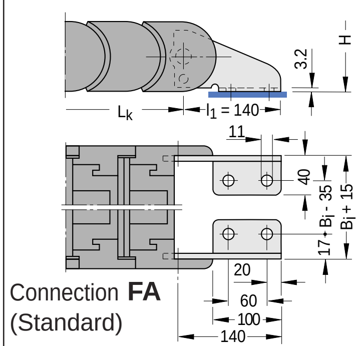
Connection point
F - Fixed point
M - Driver

Connection type
A - Bolted to the outside (Standard)
I - Bolted to the inside (towards KR)

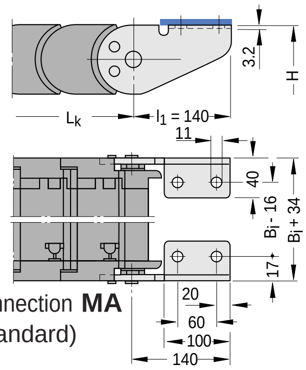
Please state the desired connection variant when placing your order.

Example: FA/MI (Standard) or **FI/MA**

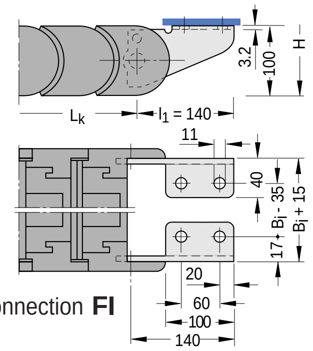
Fixed point connection	Driver connection



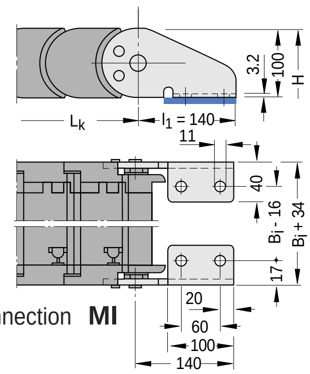
Connection **FA**
(Standard)



Connection **MA**
(Standard)



Connection **FI**



Connection **MI**

Ordering Key for the cable carrier:

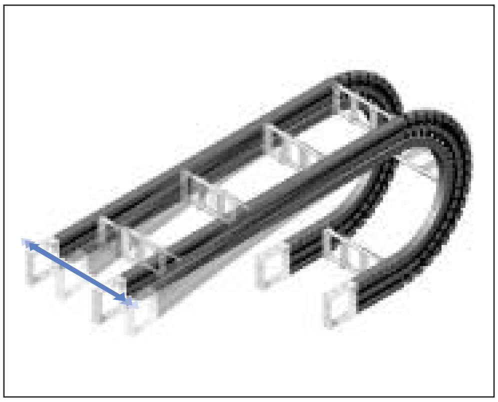
TKC 850.200 - 250 - 2550

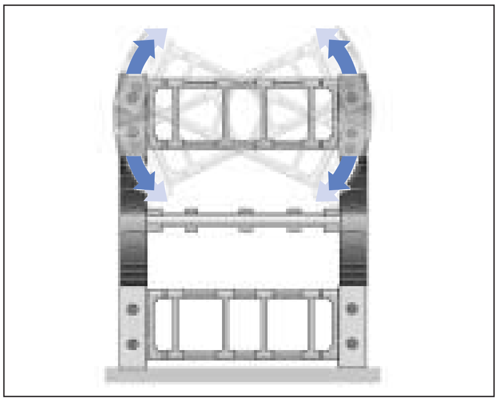
QUATTROFLEX Type
Inside width B_i in mm
Bend radius KR in mm
Chain length L_k in mm (without connection)

Example: QUATTROFLEX cable carrier, Type TKC 850, with inside width B_i 200 mm, bend radius KR 250 mm and a chain length L_k of 2550 mm.

KABELSCHLEPP

QUANTUM
Cable Carrier System





Profile

QUANTUM Cable Carrier with Aluminium and Plastic Stays

- The quietest KABELSCHLEPP cable carrier < 40 dB (A)
- Vibration-free running – no ‘polygon effect’ = low oscillation operation
- No links, no wear = suitable for clean room environments
- Extremely lightweight
- Very durable: ≥ 25 million cycles of operation = unbeaten service life
- For additional 3D-movements
- Flexible design: The driver connection can be moved sideways and can be turned through up to ± 30 degrees
- For high accelerations up to 30 g*
- For high operational speeds up to 40 m/s*
- For long travel lengths up to 100 m
- Protects the cables, since there is no polygon effect
- Variable-width design
- 4 sizes available (a suitable size for every application situation)
- TÜV type approved in accordance with 2PfG 1036/10.97

Stay variants:
RS – Standard design
RV – Reinforced design
RE – Plastic insert stay

Chain band material:	**PP-Black**
Connecting profiles material:	**Aluminium alloy and special plastic** → cf. Interesting Technical Information 7.14

TÜV Rheinland Product Safety
BAUART GEPRÜFT
TYPE APPROVED

Type	Inside width		Chain width		Inside height
	$B_{i\,min}$*	$B_{i\,max}$*	$B_{k\,min}$*	$B_{k\,max}$*	h_i*
	mm	mm	mm	mm	mm
Q040	28	284	68	324	28
Q060	38	500	90	552	42
Q080	50	600	122	672	58
Q100	70	600	152	682	72

* in each case maximum values are given.

Type Q040

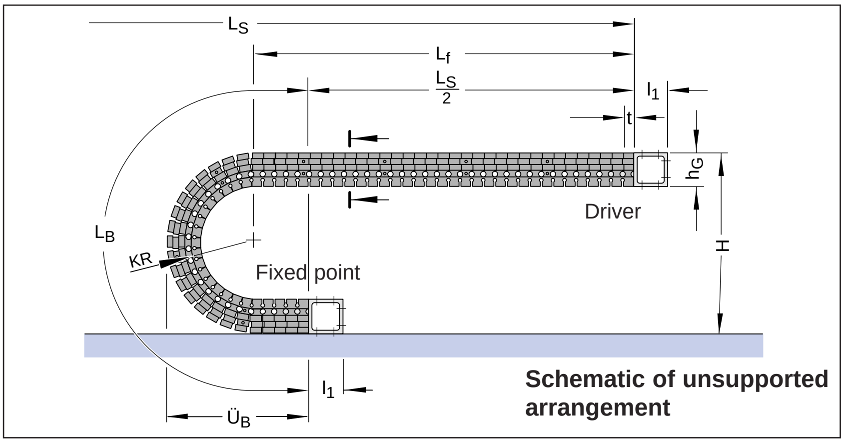
Design of the Cable Carrier

Chain pitch t = 15 mm
Chain link height h_G = 40 mm
Connection length l_1 = 40 mm
Connection dimensions cf. page 4.33

A flat and level surface is required for the carrier system to be installed properly. If necessary, a support tray should be installed. (cf. System Components section)

QUANTUM length L_K with a self-supporting arrangement

$$L_K = \frac{L_S}{2} + L_B$$



Schematic of unsupported arrangement

Variable sizes
depending on bend radius

Bend radius KR	**60** mm	**75** mm	**90** mm	**110** mm	**150** mm	**180** mm
Bend length L_B	369	416	463	526	651	746
Loop overhang $Ü_B$	178	193	208	228	268	298
Height H_{min}	175	205	235	275	355	415

The calculation of the bend length L_B also takes into consideration the parts of the cable carrier which are reinforced by the connecting elements.

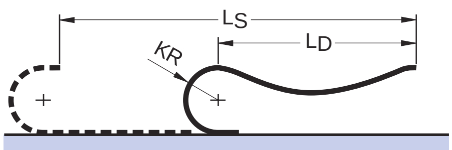
Calculation of the connection height H

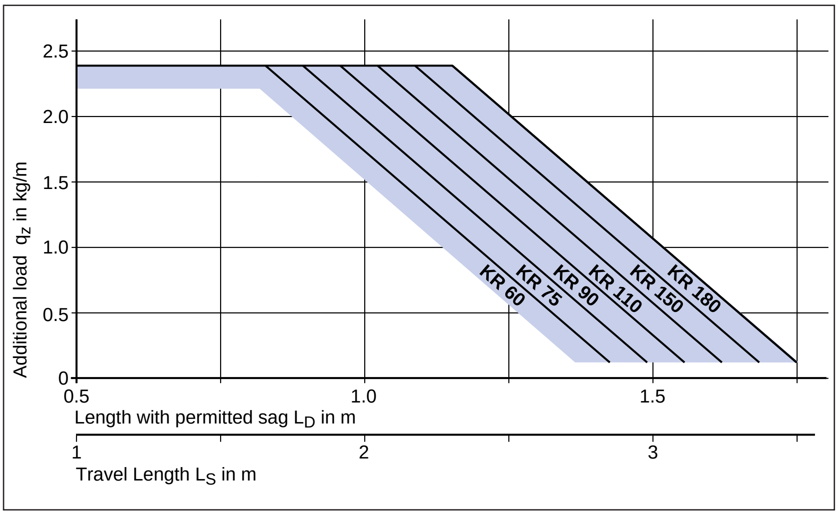
$$H = 2\,KR + 55\text{ mm}$$

$$L_B = KR \times \pi + 12t$$

Load diagram

Length with permitted sag L_D and travel length L_S depending on the additional load (cf. Construction Guidelines)





Calculation of chain length:

$$L_K \approx \frac{L_S + KR}{2} + L_B$$

rounded to pitch 15 mm

Load diagram for an intrinsic chain weight q_k of 0.81 kg/m. If the intrinsic chain weight exceeds q_k 0.81 kg/m, the permissible additional load is reduced.

Long travel lengths

With long travel lengths the upper part of the cable carrier glides on its lower run in a guide channel.

Design → cf. Construction Guidelines

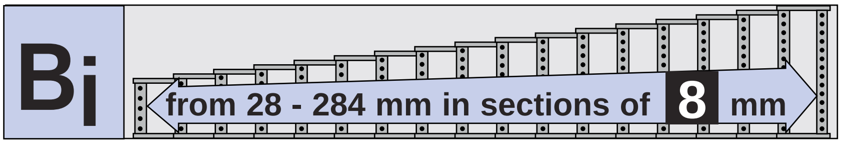
Guide channel → cf. System Components

We recommend that a system of this kind be planned by one of our engineers.

Type Q040

Cross sections

in accordance with section in schematic illustration

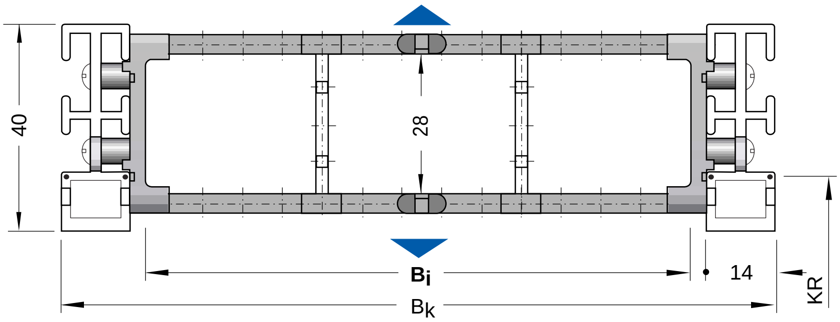


Stay variant “RE“

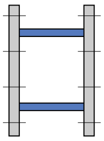
Plastic profile bars, detachable inside and outside

Not a bolted connection!

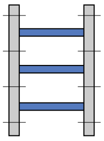
Profile bars can be released by turning them through 90°.



Stay configuration:



1/2 Arrangement – Standard
Stays on every 6th pitch division



1/1 Arrangement
Stays on every 3rd pitch division. Please specify when placing order.

Calculation of chain width:

$B_k = \mathbf{B_i} + 40$ mm

Calculation of chain width over connecting piece:

$B_k = B_{EF} = \mathbf{B_i} + 40$ mm

Intrinsic chain weight
depending on chain width

Reference weight = Intrinsic chain weight q_k = 0.81 kg/m (cf. load diagram)

33 chain widths are available

B_i mm	B_k mm	q_k kg/m
28	68	0.63
36	76	0.64
44	84	0.65
52	92	0.66
60	100	0.68
68	108	0.69
76	116	0.70
84	124	0.71
92	132	0.72
100	140	0.73

B_i mm	B_k mm	q_k kg/m
108	148	0.74
116	156	0.75
124	164	0.76
132	172	0.77
140	180	0.79
148	188	0.80
156	196	0.81
164	204	0.82
172	212	0.83
180	220	0.84

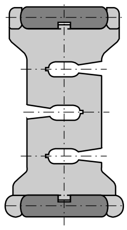
B_i mm	B_k mm	q_k kg/m
188	228	0.85
196	236	0.86
204	244	0.87
212	252	0.88
220	260	0.90
228	268	0.91
236	276	0.92
244	284	0.93
252	292	0.94
260	300	0.95
268	308	0.96
276	316	0.97
284	324	0.98

Subject to technical changes!

Type Q040

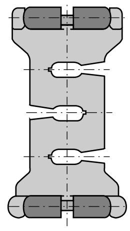
Divider system for Stay variant “RE”

The divider system can be planned by you or by our engineers on the basis of the information you supply about the configuration of the cable carrier.



Version **A**
Notch in connecting profile to the inside
(Standard)

The dividers can slide along the section.



Version **B**
Notch in connecting profile to the outside

The dividers are fixed in the section (a_x-grid 8 mm)

As standard, the divider system is fitted on every frame stay (with stay assembly on every 6th pitch division).

Divider system TS 0

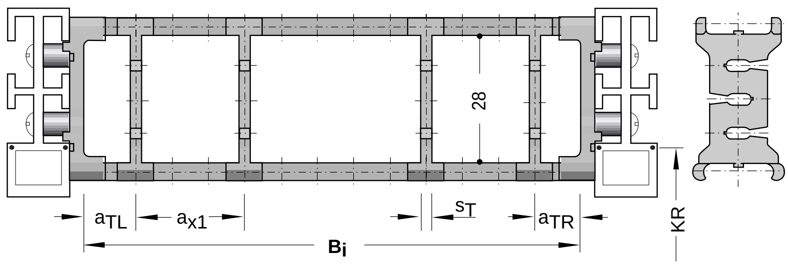
without height subdivision

	Version A	Version B
s_T	2.8 mm	2.8 mm
$a_{T\ min}$	8 mm	14 mm
$a_{x\ min}$	8 mm	8 mm
$a_{x\ grid}$	continuous	8 mm

With Version B a_x must be divisible by 8!

Please state the type of divider and the number of dividers/cross section n_T when ordering.

Sample order:
Divider system TS 0-A / n_T 4



Dividers can slide along the cross-section (Version **A**) or are fixed (Version **B**). For divider version B please state fitting intervals a_T and a_x!

Divider system TS 1

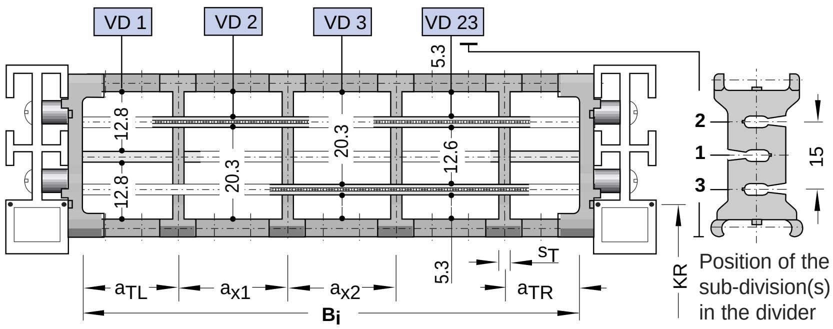
with continous height subdivision
Height subdivision: **Al-Profile 6 x 2.4 mm**

	Version A	Version B
s_T	2.8 mm	2.8 mm
$a_{T\ min}$	8 mm	14 mm
$a_{T\ max}$	20 mm	22 mm
$a_{x\ min}$	8 mm	8 mm
$a_{x\ grid}$	continuous	8 mm
$n_{T\ min}$	2	2

With Version B a_x must be divisible by 8!

Please state the type of height subdivision, the type of divider and the number of dividers/cross section n_T when ordering.

Sample order:
Divider system TS 1-B – VD 1 / n_T 4



Technically recommended variant: VD 1

Dividers can slide along the cross-section (Version **A**) or are fixed (Version **B**). For divider version B please state fitting intervals a_T and a_x!

Divider system TS 1

with an average height subdivision
Height subdivision:

Plastic Profile 11 x 4 mm

Please consult us.

Type Q040

Divider system TS 2

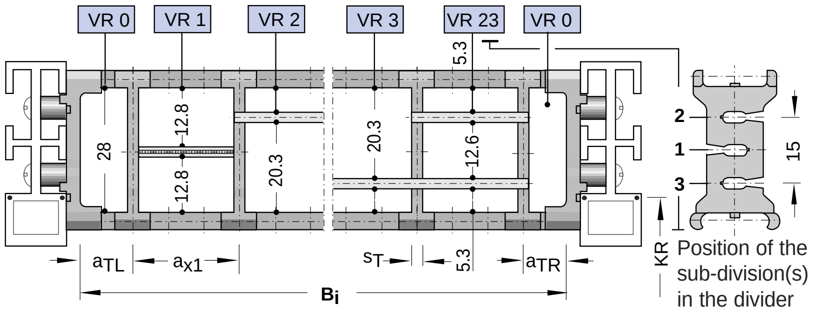
with grid subdivision

Height subdivision: **Al-Profile 6 x 2.4 mm**

	Version B
s_T	2.8 mm
$a_{T\ min}$	14 mm
a_x min with subdivision	24 mm
a_x min at VR 0	8 mm
a_x grid	8 mm

With Version B a_x must be divisible by 8!

Please indicate the version, the cavities (from left to right), the relevant sub-division variant and the assembly spacing a_T and a_x when ordering.



Grid segments are as a rule fixed in the chain cross-section (Version B)!

Sample order: Divider system TS 2-B
K(cavity) 1 - VR 0 / 12 mm
K 2 - VR 3 / 32 mm
K 3 - VR 1 / 40 mm

For connection dimensions cf. page 4.33

Ordering Key for cable carrier:

Q 040.108 - RE - 150 - 1365

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

Example:
QUANTUM cable carrier system Q 040, inside width B_i 108 mm, frame stay RE, bend radius KR 150 mm, and chain length L_k = 1365 mm.

Subject to technical changes!

Type Q060

Design of the Cable Carrier

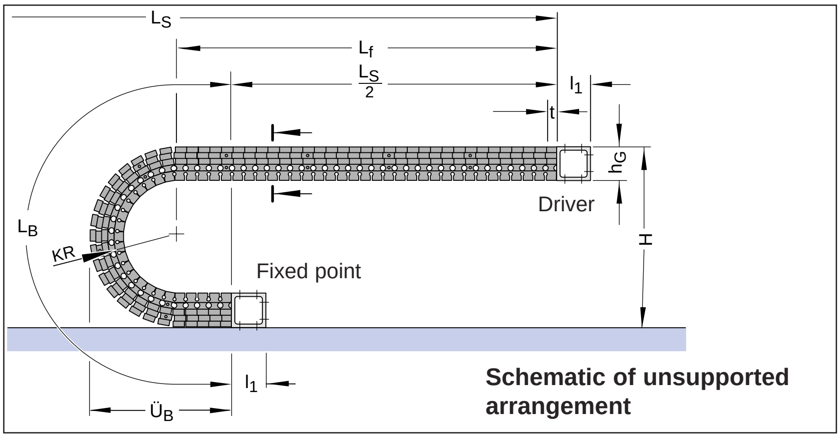
Chain pitch t = 20 mm
Chain link height h_G = 60 mm
Connection length l_1 = 60 mm
Connection dimensions cf. page 4.33

A flat and level surface is required for the carrier system to be installed properly. If necessary, a support tray should be installed. (cf. System Components section)

QUANTUM length L_K with self-supporting arrangement

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

Variable sizes
depending on bend radius



Schematic of unsupported arrangement

Bend radius KR	100 mm	120 mm	150 mm	190 mm	250 mm	300 mm
Bend length L_B	554	617	711	837	1025	1182
Loop overhang $Ü_B$	264	284	314	354	414	464
Height H_{min}	288	328	388	468	588	688

Calculation of the connection height H

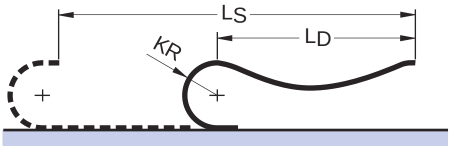
$$H = 2\,KR + 88\text{ mm}$$

The calculation of the bend length L_B also takes into consideration the parts of the cable carrier which are reinforced by the connecting elements.

$$L_B = KR \times \pi + 12t$$

Load diagrams

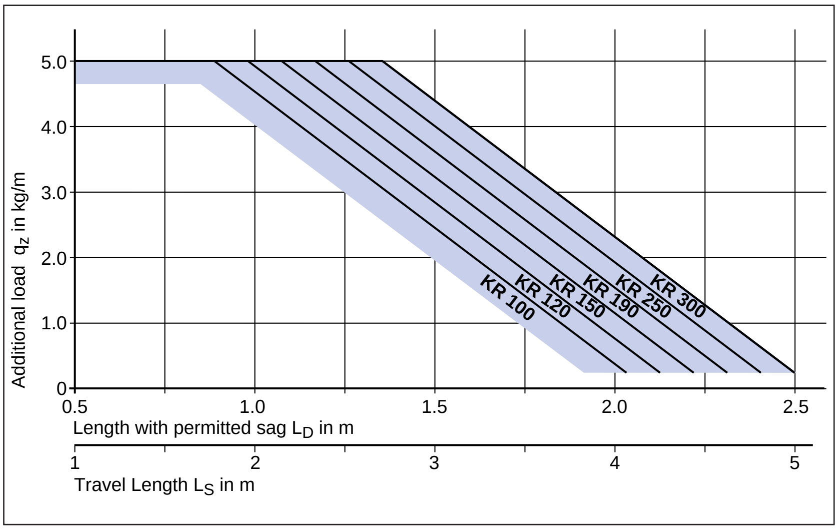
Length with permitted sag L_D and travel length L_S
depending on the additional load (cf. Construction Guidelines)



Calculation of chain length:

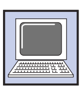
$$L_k \approx \frac{L_S + KR}{2} + L_B$$

rounded to pitch 20 mm



Load diagram for an intrinsic chain weight q_k of 1.4 kg/m. If the intrinsic chain weight exceeds q_k 1.4 kg/m, the permissible additional load is lower.

Long travel lengths



With long travel lengths the upper part of the cable carrier glides on its lower run in a guide channel.

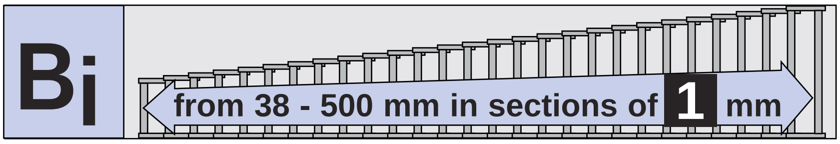
Design → cf. Construction Guidelines

Guide channel → cf. System Components

We recommend that a system of this kind be planned by one of our engineers.

Type Q060

Cross-sections
in accordance with section in schematic illustration



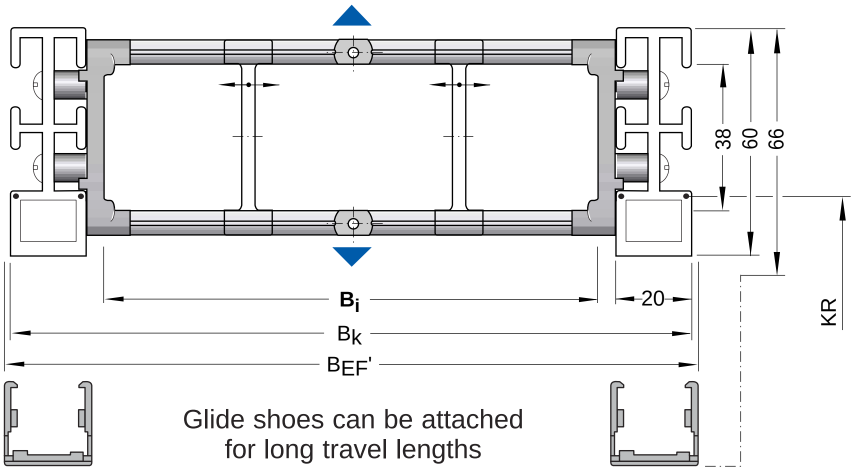
Stay variant "RS"

Frame stay – standard design

Aluminium profile bars detachable on the inside and the outside

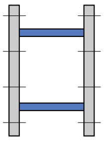
Not a bolted connection!

Profile bars can be released by turning them through 90°.

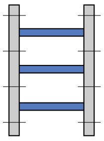


Glide shoes can be attached for long travel lengths

Stay configuration:



1/2 Arrangement – Standard
Stays on every 6th pitch division



1/1 Arrangement
Stays on every 3rd pitch division. Please specify when placing order.

Calculation of chain width:

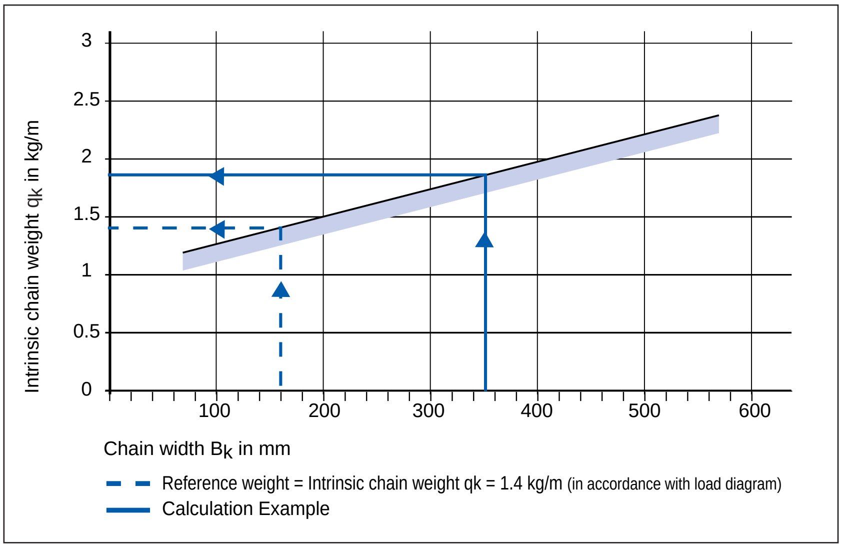
$B_k = \mathbf{B_i} + 52$ mm

Calculation of chain width over connecting piece:

$B_k = B_{EF} = \mathbf{B_i} + 52$ mm

Calculation of chain width with glide shoes:

$B_{EF}' = \mathbf{B_i} + 56$ mm



Intrinsic chain weight depending on chain width B_k

Calculation Example:

Inside width	$\mathbf{B_i}$	=	300 mm
Chain width	B_k	=	352 mm
Intrinsic chain weight	q_k	=	1.8 kg/m

Type Q060

Divider systems

for Stay variant "RS"

The divider system can be planned by you or by our engineers on the basis of the information you supply about the configuration of the cable carrier.

As standard, the divider system is fitted on every frame stay (with stay assembly on every 6th pitch division).

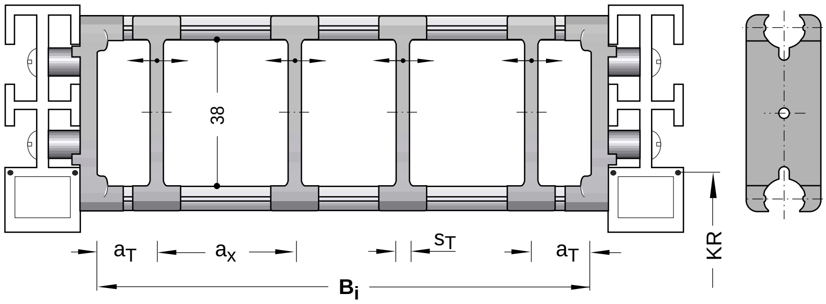
Divider system TS 0

without height subdivision

s_T	=	3 mm
$a_{T\,min}$	=	13.5 mm
$a_{x\,min}$	=	13 mm

Please state the number of dividers/cross section n_T when ordering.

Sample order:
Divider system TS 0/n_T 4



The dividers can slide along the chain cross section!

Divider system TS 1

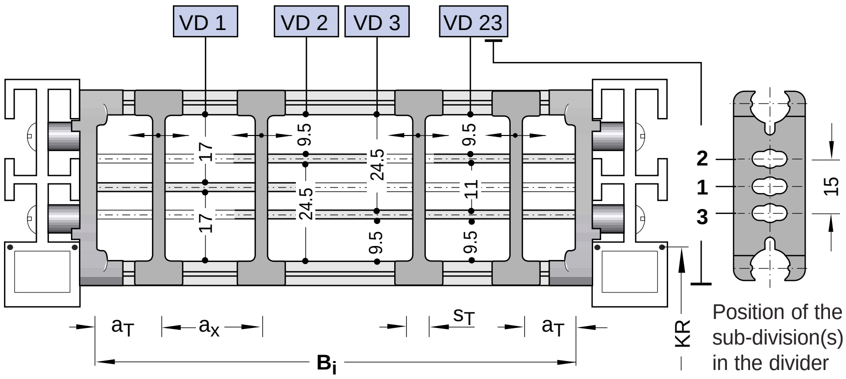
with continuous height subdivision
Height subdivision: **Al-Profile 11 x 4 mm**

s_T	=	3 mm
$a_{T\,min}$	=	13.5 mm
$a_{T\,max}$	=	40 mm
$a_{x\,min}$	=	13 mm
$n_{T\,min}$	=	2

Please state the type of height subdivision and the number of dividers/cross section n_T when ordering.

Sample order:
Divider system TS 1 – VD 1/n_T 4

Technically recommended variant: VD 1
The dividers can slide along the chain cross section!



Divider system TS 2

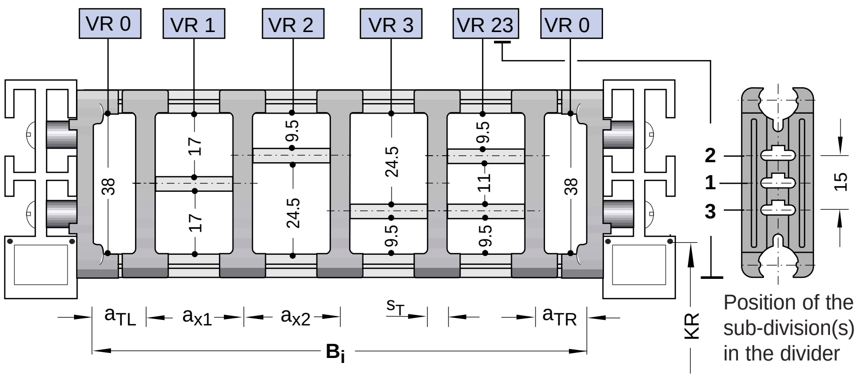
with grid subdivision (1 mm grid)
Height subdivision: **Al-Profile 11 x 4 mm**

s_T	=	6 mm
$a_{T\,min}$	=	13.5 mm
$a_{x\,min}$	=	13 mm (with height subdivision)
$a_{x\,min}$	=	13 mm (at VR 0)
$a_{x\,grid}$	=	Continuous
$n_{T\,min}$	=	2

Please indicate the cavities (from left to right), the relevant subdivision variant and the assembly spacing a_T and a_x when ordering.

Sample order: Divider system TS 2
K(cavity) 1- VR 0 / 20 mm
K 2 - VR 1 / 50 mm
K 3 - VR 0 / 60 mm
K 4 - VR 1 / 40 mm
K 5 - VR 0 / 20 mm

Technically recommended variants: VD 0 and VD 1
Dividers fixed by height subdivision, the grids can slide along the chain cross section!



KABELSCHLEPP

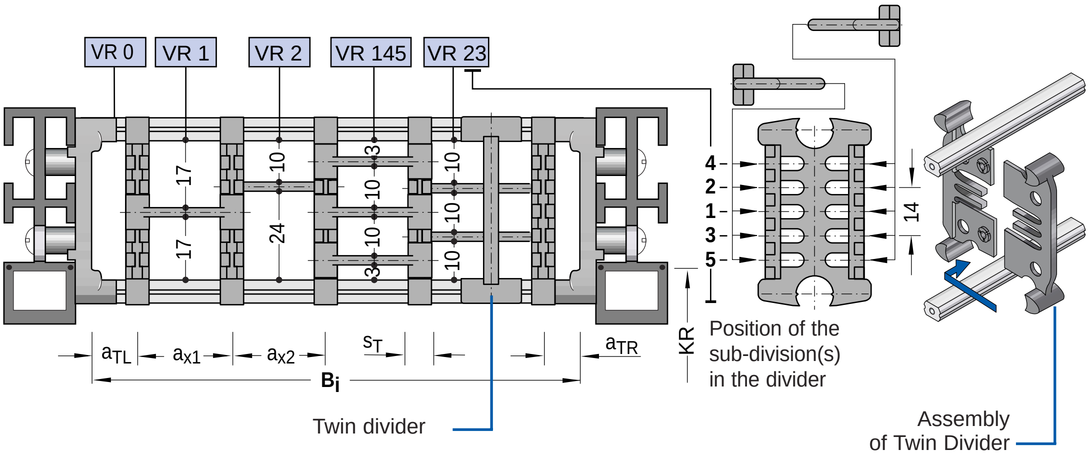
Type Q060

Divider systems
for Stay variant "RS"

Divider system TS 3

with height subdivision
Plastic Partitions

Technically recommended variants: VR 0, VR 1, VR 2 and VR 3
Dividers fixed by height subdivision, the grids can slide along the chain cross section!



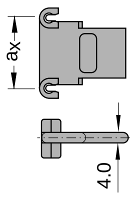
s_T	=	8 mm
$a_{T\,min}$	=	11 mm
$a_{x\,min}$	=	16 mm (with height subdivision)
$a_{x\,grid}$	=	cf. a_x-table

The twin divider can be moved, suitable for later assembly/fitting.

s_T	=	3 mm

a_x mm (Centre-to-centre distance of dividers)														
16	18	23	28	32	33	38	43	48	58	64	68	78	80	88
96	112	128	144	160	176	192	208							

When using partitions with a_x > 112 mm, a twin divider should be used to provide an additional central support.



Please indicate the cavities (from left to right), the relevant subdivision variant and the assembly spacing a_T and a_x when ordering.

Sample order:

Divider system TS 3
K(cavity) 1 - VR 0 / 23 mm
K 2 - VR 1 / 48 mm
K 3 - VR 23 / 96 mm
with twin divider
K 4 - VR 1 / 33 mm

For connection dimensions cf. page 4.33

Ordering Key for cable carrier:

Q 060.200 - RS - 150 - 1580

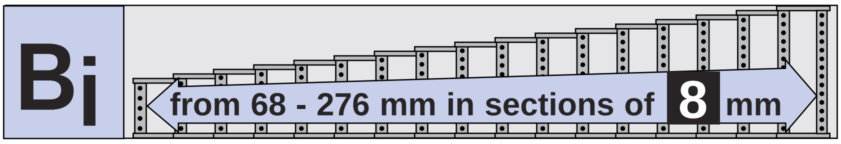
- Type
- Inside width B_i in mm
- Stay variant
- Bend radius KR in mm
- Chain length L_k in mm (without connection)

Example:
QUANTUM cable carrier system Q 060, inside width B_i 200 mm, frame stay RS, bend radius KR 150 mm and chain length L_k = 1580 mm.

Type Q060

Cross sections

in accordance with section in schematic illustration

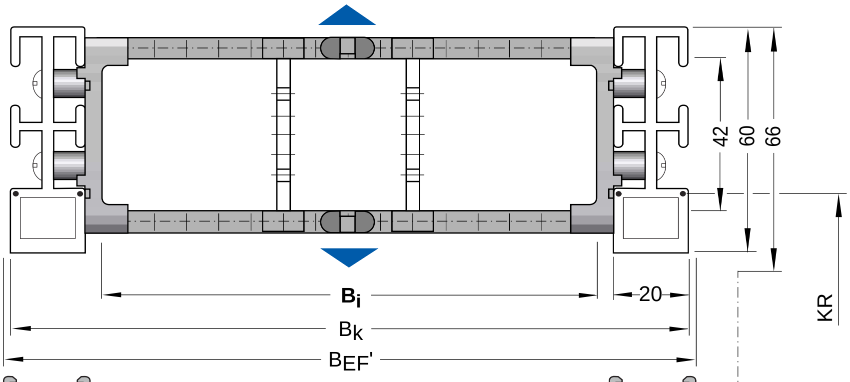


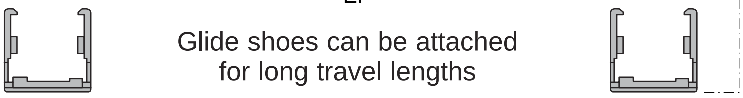
Stay variant “RE“

Plastic profile bars, detachable inside and outside

Not a bolted connection!

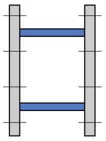
Profile bars can be released by turning them through 90°.



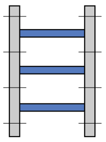


Glide shoes can be attached for long travel lengths

Stay configuration:



1/2 Arrangement – Standard
Stays on every 6th pitch division



1/1 Arrangement
Stays on every 3rd pitch division. Please state when placing order.

Calculation of chain width:

$B_k = \mathbf{B_i} + 52$ mm

Calculation of chain width over connecting piece:

$B_k = B_{EF} = \mathbf{B_i} + 52$ mm

Calculation of chain width with glide shoes:

$B_{EF}' = \mathbf{B_i} + 56$ mm

Intrinsic chain weight
depending on chain width

Reference weight = Intrinsic chain weight q_k = 1.39 kg/m (cf. load diagram)

27 chain widths are available

B_i mm	B_k mm	q_k kg/m
68	120	1.16
76	128	1.18
84	136	1.19
92	144	1.21
100	152	1.22
108	160	1.24
116	168	1.25
124	176	1.26
132	184	1.28
140	192	1.29

B_i mm	B_k mm	q_k kg/m
148	200	1.31
156	208	1.32
164	216	1.34
172	224	1.35
180	232	1.37
188	240	1.38
196	248	1.39
204	256	1.41
212	264	1.42
220	272	1.44

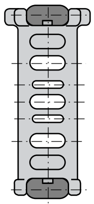
B_i mm	B_k mm	q_k kg/m
228	280	1.45
236	288	1.47
244	296	1.48
252	304	1.50
260	312	**1.51**
268	320	1.53
276	328	1.54

Type Q060

Divider systems

for Stay variant “RE“

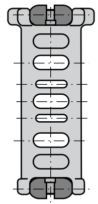
The divider system can be planned by you or by our engineers on the basis of the information you supply about the configuration of the cable carrier.



Version **A**

Notch in connecting profile to the inside
(Standard)

The dividers can slide along the section.



Version **B**

Notch in connecting profile to the outside

The dividers are fixed in the section
(a_x-grid 8 mm)

As standard, the divider system is fitted on every frame stay (with stay assembly on every 6th chain link).

Divider system TS 0

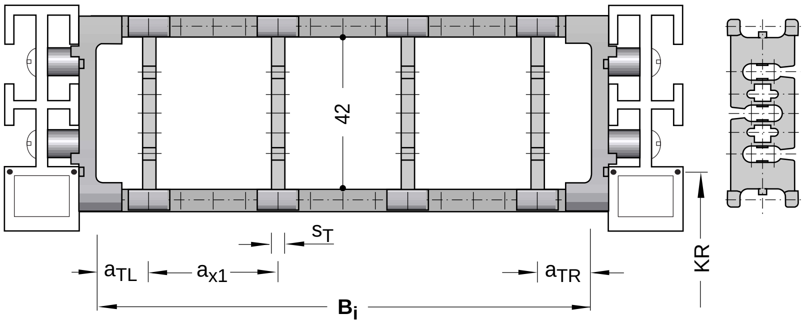
without height subdivision

	Version A	Version B
s_T	4.2 mm	4.2 mm
$a_{T\ min}$	14 mm	14 mm
$a_{x\ min}$	13 mm	16 mm
$a_{x\ grid}$	continuous	8 mm

With Version B a_x must be divisible by 8!

Please state the type and the number of dividers/cross section n_T when ordering.

Dividers can slide along the cross-section (Version A) or are fixed (Version B). For divider version B please state fitting intervals a_T and a_x!



Sample order: Divider system TS 0-A / n_T 4

Divider system TS 1

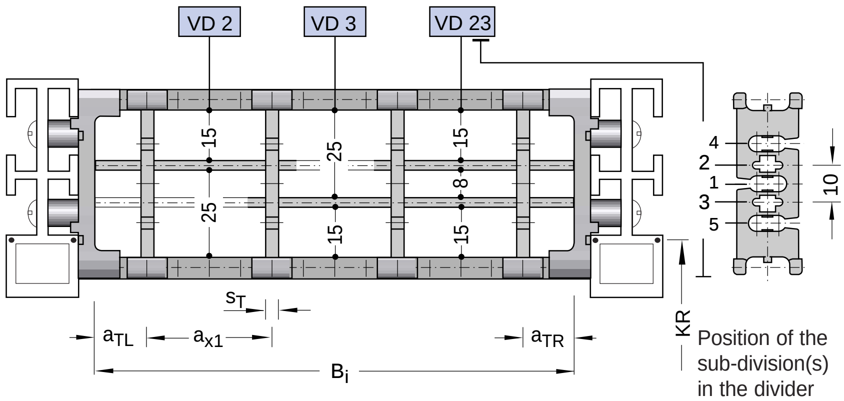
with continuous height subdivision
Height subdivision: **Al-Profile 9 x 2 mm**

	Version A	Version B
$s_{T^\wedge}$	4.2 mm	4.2 mm
$a_{T\ min}$	14 mm	14 mm
$a_{T\ max}$	25 mm	29 mm
$a_{x\ min}$	13 mm	16 mm
$a_{x\ grid}$	continuous	8 mm
$n_{T\ min}$	2	2

With Version B a_x must be divisible by 8!

Please state the height subdivision variant, the type of divider and the number of dividers/cross section n_T when ordering.

Technically recommended variants: VD 1, VD 4, and VD 5
Dividers can slide along the cross-section (Version A) or are fixed (Version B). For divider version B please state fitting intervals a_T and a_x!



Sample order: Divider system TS 1-B-VD 1 / n_T 4

For connection dimensions cf. page 4.33

Ordering Key for the cable carrier:

Q 060.200 - RE - 150 - 1580

- Type
- Inside width B_i in mm
- Stay variant
- Bend radius KR in mm
- Chain length L_K in mm (without connection)

Example:
QUANTUM cable carrier system Q 060, inside width B_i 200 mm, frame stay RE, bend radius KR 150 mm and chain length L_K = 1580 mm.

Type Q060

Divider systems
for Stay variant "RE"

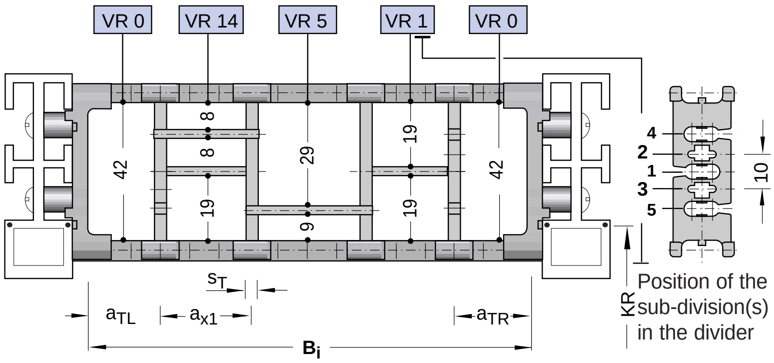
Technically possible variants: VR 0, VR 2 and VR 3
Dividers fixed by height subdivision profiles, the grid segments can slide along the cross-section (Version A) or are fixed (Version B)!

Divider system TS 2

with plastic grid subdivision 11 x 4

Height subdivision:

	Version A	Version B
s_T	4.2 mm	4.2 mm
$a_{T\,min}$	14 mm	14 mm
$a_{x\,min}$ (with subdivision)	13 mm	16 mm
$a_{x\,min}$ (at VR 0)	16 mm	16 mm
$a_{x\,grid}$	1 mm	8 mm



Sample order: Divider system TS 2
K(cavity) 1 - VR 0 / 40 mm
K 2 - VR 1 / 98 mm
K 3 - VR 2 / 62 mm

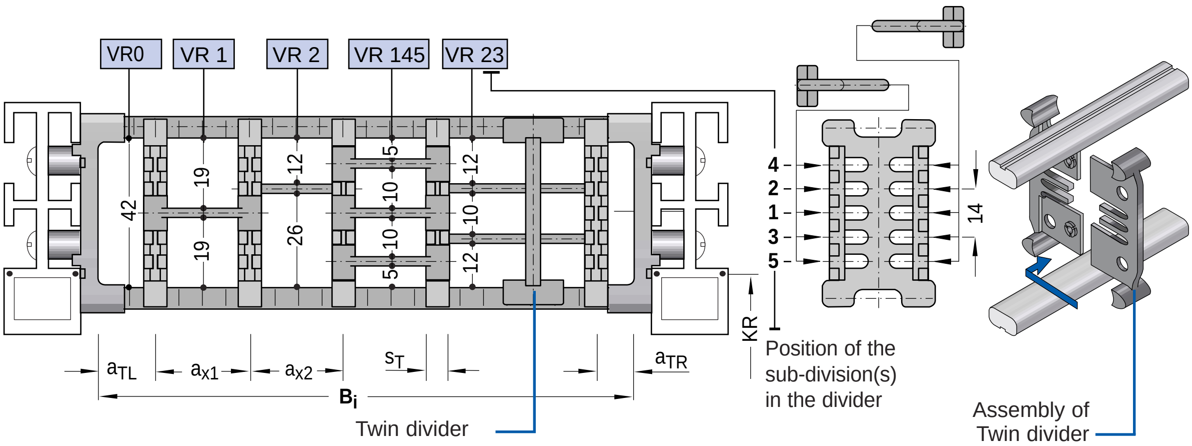
With version B a_x must be divisible by 8!

Please indicate the cavities (from left to right), the relevant subdivision variant and the assembly spacing a_T and a_x when ordering.

Divider system TS 3

with height subdivision
Plastic Partitions

Technically recommended variants: VR 0, VR 1, VR 2 and VR 3
Dividers fixed by height subdivision profiles, the grids can slide along the chain cross section!



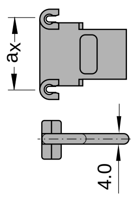
s_T	=	8 mm
$a_{T\,min}$	=	11 mm
$a_{x\,min}$	=	8 mm (with height subdivision)
$a_{x\,grid}$	=	cf. a_x-table

a_x mm (Centre-to-centre distance of dividers)														
16	18	23	28	32	33	38	43	48	58	64	68	78	80	88
96	112	128	144	160	176	192	208							

The twin divider can be moved, suitable for later assembly/fitting.

When using partitions with a_x > 112 mm, a twin divider should be used to provide an additional central support.

$s_{T\,min}$	=	3 mm



Please indicate the cavities (from left to right), the relevant subdivision variant and the assembly spacing a_T and a_x when ordering.

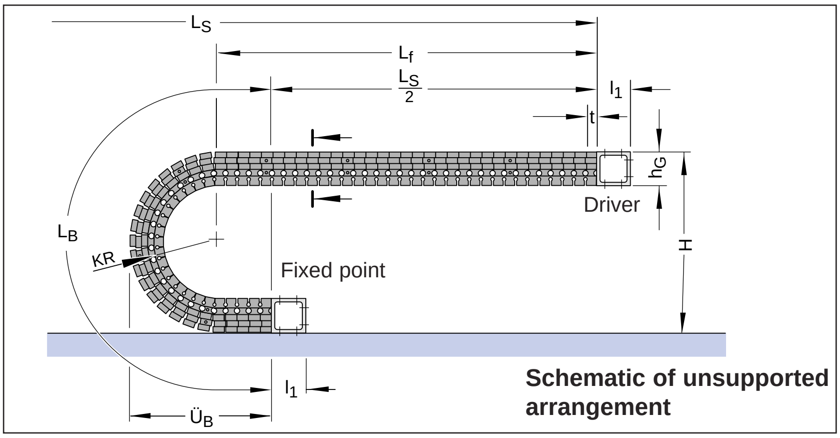
Sample order: Divider system TS 3
K(cavity) 1- VR 0 / 24 mm
K 2 - VR 1 / 38 mm
K 3 - VR 23 / 128 mm with twin divider

Type Q080

Design of the Cable Carrier

Chain pitch t = 25 mm
Chain link height h_G = 80 mm
Connection length l_1 = 80 mm
Connection dimensions cf. page 4.33

A flat and level surface is required for the carrier system to be installed properly. If necessary, a support tray should be installed. (cf. System Components section)



Schematic of unsupported arrangement

QUANTUM length L_K with self-supporting arrangement

$$L_K = \frac{L_S}{2} + L_B$$

Variable sizes
depending on bend radius

Bend radius KR	**170** mm	**200** mm	**250** mm	**320** mm	**420** mm	**500** mm
Bend length L_B	834	928	1085	1305	1619	1870
Loop overhang $Ü_B$	379	409	459	529	629	709
Height H_{min}	457	517	617	757	957	1117

The calculation of the bend length L_B also takes into consideration the parts of the cable carrier which are reinforced by the connecting elements.

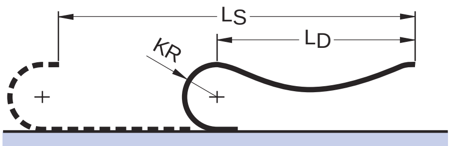
Calculation of the connection height H

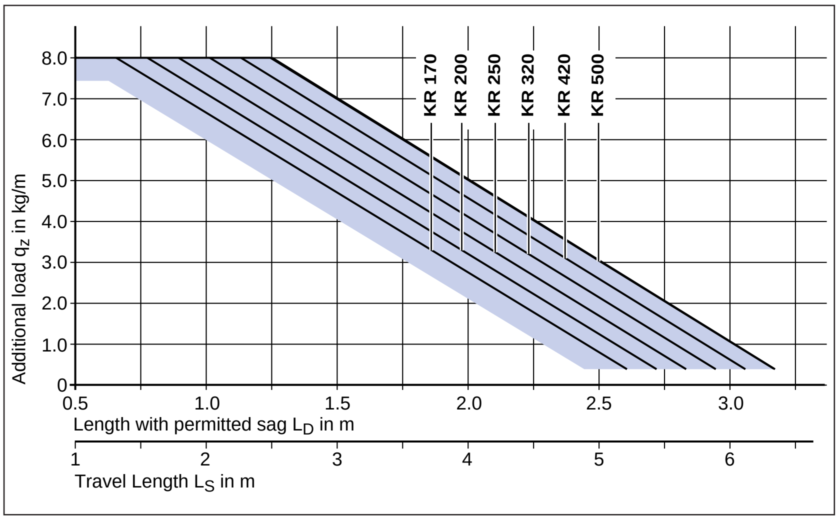
$$H = 2\,KR + 117\text{ mm}$$

$$L_B = KR \times \pi + 12t$$

Load diagrams

Length with permitted sag L_D and travel length L_S
depending on the additional load (cf. Construction Guidelines)





Calculation of chain length:

$$L_K \approx \frac{L_S + KR}{2} + L_B$$

rounded to pitch 25 mm

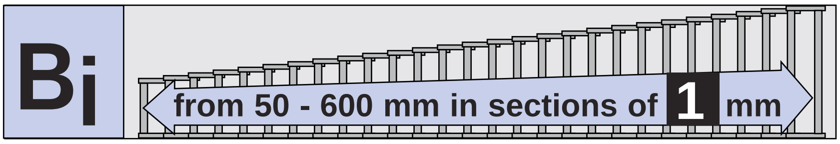
Load diagram for an intrinsic chain weight q_k of 2.3 kg/m. If the intrinsic chain weight exceeds q_k 2.3 kg/m, the permissible additional load is reduced.

Long travel lengths

With long travel lengths the upper part of the cable carrier glides on its lower run in a guide channel.

Design → cf. Construction Guidelines
Guide channel → cf. System Components

We recommend that a system of this kind be planned by one of our engineers.



Type Q080

Cross-sections

in accordance with section in schematic illustration

Stay variant “RS“

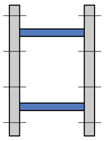
Frame stay – standard design

Aluminium profile bars detachable on the inside and the outside

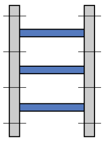
Not a bolted connection!

Profile bars can be released by turning them through 90°.

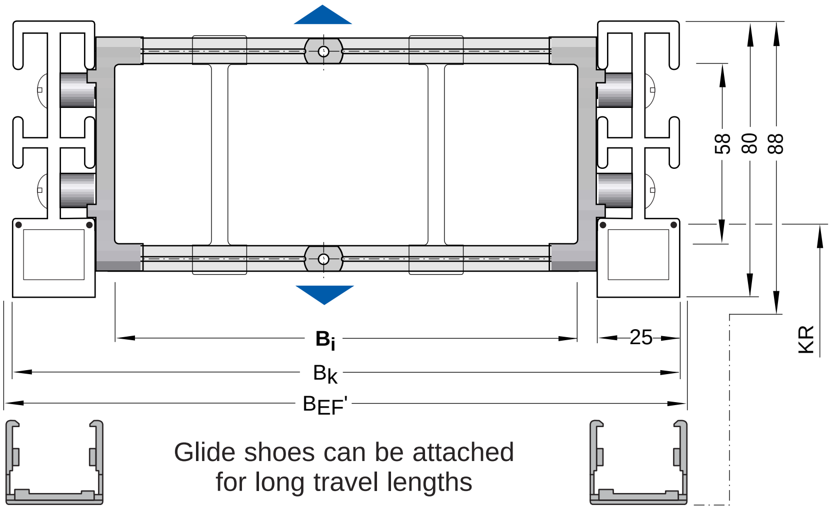
Stay configuration:



1/2 Arrangement – Standard
Stays on every 8th pitch division



1/1 Arrangement
Stays on every 4th pitch division. Please specify when placing order.



Calculation of chain width:

$B_k = \mathbf{B_i} + 72$ mm

Calculation of chain width over connecting piece:

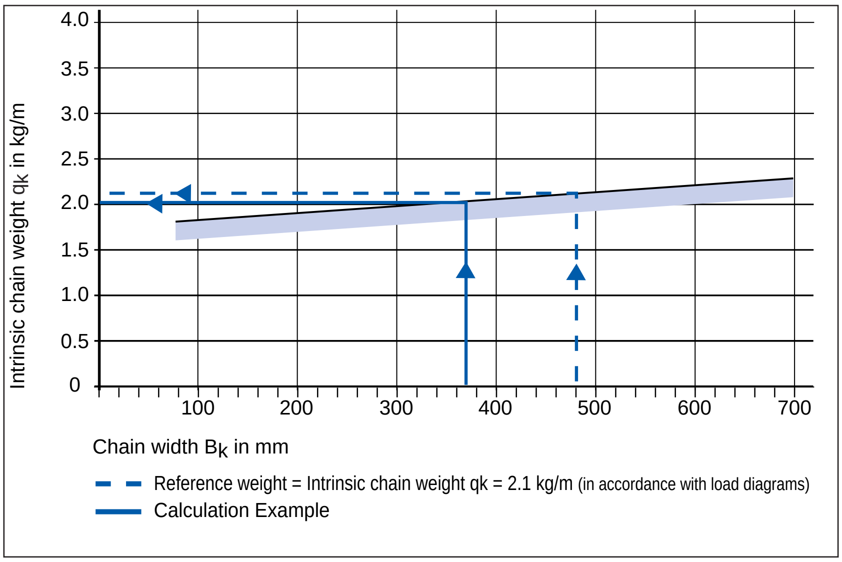
$B_k = B_{EF} = \mathbf{B_i} + 72$ mm

Calculation of chain width with glide shoes:

$B_{EF}' = \mathbf{B_i} + 79.5$ mm

Calculation Example:

Inside width	$\mathbf{B_i}$	=	300 mm
Chain width	B_k	=	372 mm
Intrinsic chain weight	q_k	=	2.0 kg/m



Intrinsic chain weight depending on chain width B_k

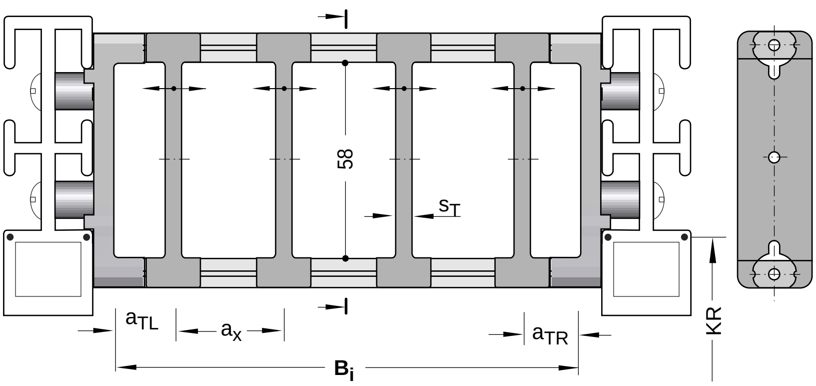
Divider system for “RS“

without height subdivision

Movable dividers can be used to separate the cables and hoses from one another.

As standard, the divider system is fitted on every stay cross-section (with stay assembly on every 8th pitch division).

s_T	=	4 mm
$a_{T\,min}$	=	11 mm
$a_{x\,min}$	=	14 mm

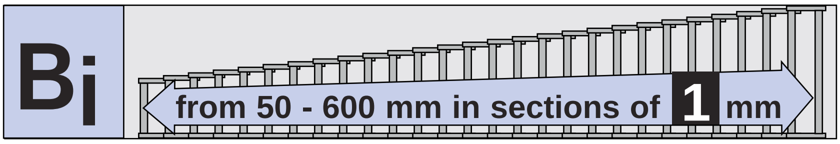


Please state the number of dividers/cross section n_T when ordering.

Type Q080

Cross sections

in accordance with section in schematic illustration



Stay variant “RV“

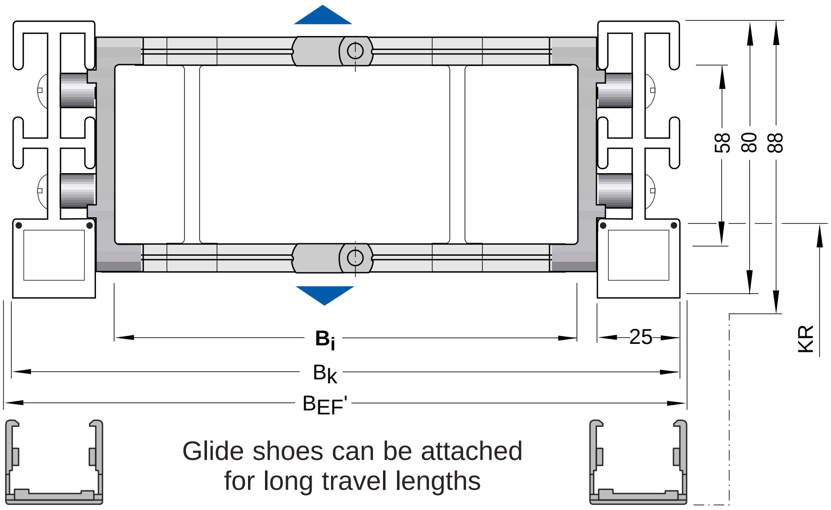
Frame stay – reinforced design with plastic adapter

Aluminium profile bars detachable on the inside and the outside

Not a bolted connection!

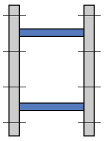
Profile bars can be released by turning them through 90°.

With stay variant “RV“ at least 2 dividers **must** always be used.

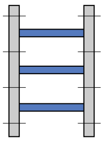


Glide shoes can be attached for long travel lengths

Stay configuration:



1/2 Arrangement – Standard
Stays on every 8th pitch division



1/1 Arrangement
Stays on every 4th pitch division. Please specify when placing order.

Calculation of chain width:

$B_k = \mathbf{B_i} + 72$ mm

Calculation of chain width over connecting piece:

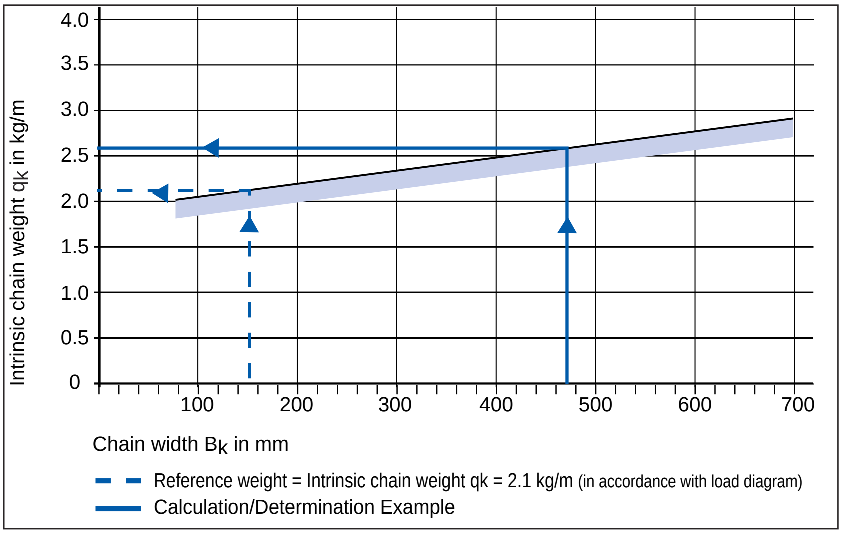
$B_k = B_{EF} = \mathbf{B_i} + 72$ mm

Calculation of chain width with glide shoes:

$B_{EF}' = \mathbf{B_i} + 79.5$ mm

Calculation Example:

Inside width	$\mathbf{B_i}$	=	400 mm
Chain width	B_k	=	472 mm
Intrinsic chain weight	q_k	=	2.6 kg/m



Intrinsic chain weight depending on chain width B_k

Type Q080

Divider systems

for Stay variant “RV“

The divider system can be planned by you or by our engineers on the basis of the information you supply about the configuration of the cable carrier.

As standard, the divider system is fitted on every frame stay (with stay assembly on every 8th pitch division).

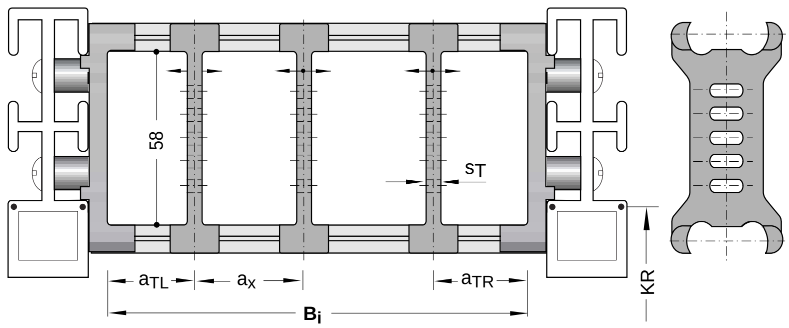
Divider system TS 0

without height subdivision

s_T	=	4 mm
$a_{T\,min}$	=	11 mm
$a_{x\,min}$	=	14 mm
$n_{T\,min}$	=	2

Please state the number of dividers/cross section n_T when ordering.

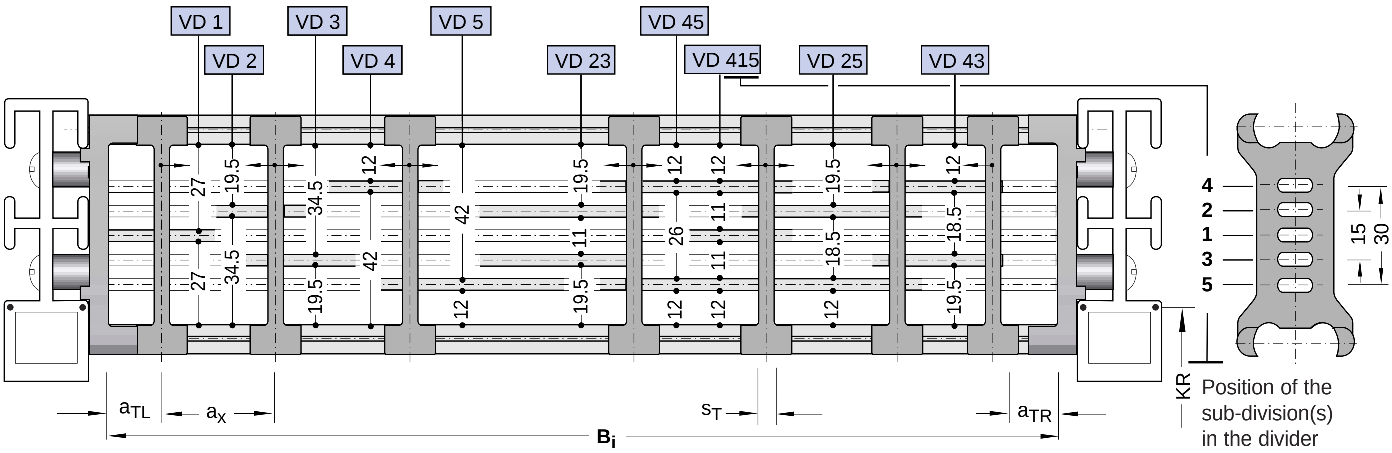
Sample order:
Divider system TS 0/n_T 3



The dividers can slide along the chain cross section!

Divider system TS 1

with continuous height subdivision
Height subdivision: **Al-Profile 11 x 4 mm**



s_T	=	4 mm
$a_{T\,min}$	=	11 mm
$a_{T\,max}$	=	25 mm
$a_{x\,min}$	=	14 mm
$n_{T\,min}$	=	2

Technically recommended variants: VD 1, VD 2 and VD 3
The dividers can slide along the chain cross section!

Please state the type of height sub-division and the number of dividers/cross section n_T when ordering.

Sample order:
Divider system TS 1– VD 131/n_T 7

KABELSCHLEPP

Type Q080

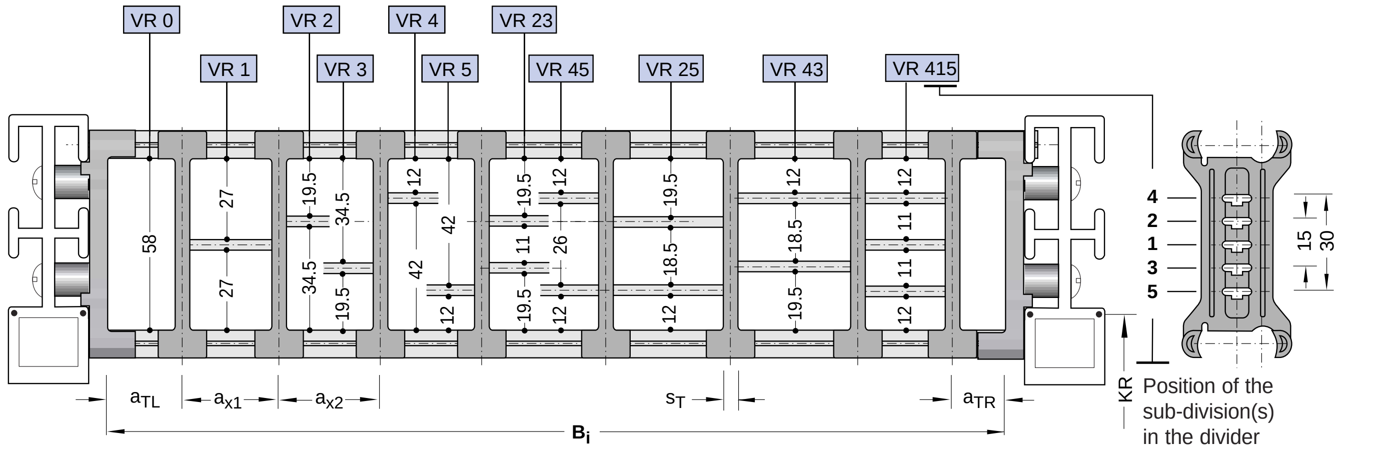
Divider systems

for Stay variant "RV"

Divider system TS 2

with grid subdivision (1 mm grid)
Height subdivision: **Al-Profile 11 x 4 mm**

Technically recommended variants: VR 0, VR 1, VR 2 and VR 3
Dividers fixed by height subdivision, the grids can slide along the chain cross section!



s_T	=	6 mm
$a_{T\,min}$	=	12 mm
$a_{x\,min}$	=	20 mm (with height subdivision)
$a_{x\,min}$	=	16 mm (at VR 0)
$n_{T\,min}$	=	2

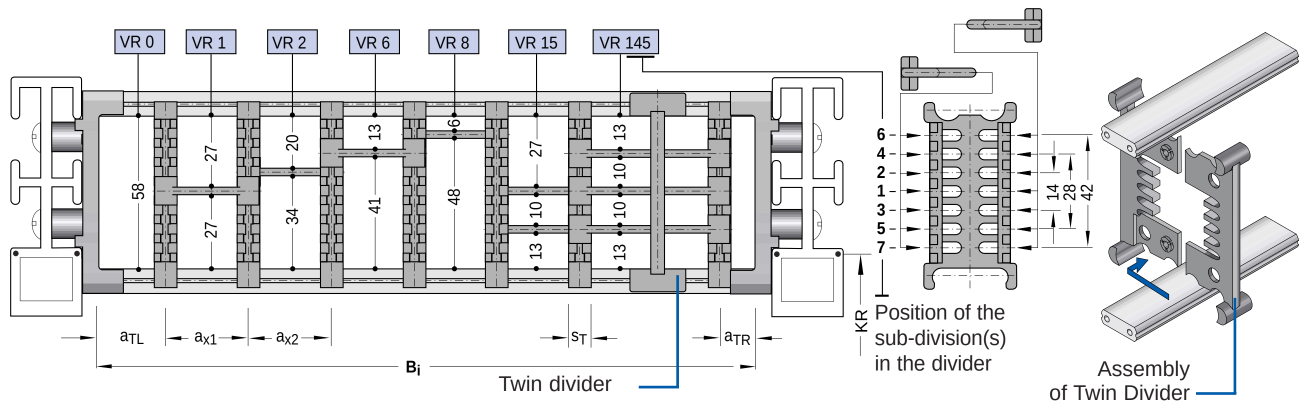
Please indicate the cavities (from left to right), the relevant subdivision variant and the assembly spacing a_T and a_x when ordering.

Sample order: Divider system TS 2
K(cavity) 1 - VR 0 / 40 mm
K 2 - VR 23 / 120 mm
K 3 - VR 0 / 60 mm

Divider system TS 3

with height subdivision
Plastic Partitions

Technically recommended variants: VR 0, VR 1, VR 2 and VR 3
Dividers fixed by height subdivision, the grids can slide along the chain cross section!



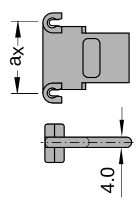
s_T	=	8 mm
$a_{T\,min}$	=	8 mm
$a_{x\,min}$	=	16 mm (with height subdivision)
$a_{x\,grid}$	=	cf. a_x-table
$n_{T\,min}$	=	2

a_x mm (Centre-to-centre distance of dividers)														
16	18	23	28	32	33	38	43	48	58	64	68	78	80	88
96	112	128	144	160	176	192	208							

When using partitions with a_x > 112 mm, a twin divider should be used to provide an additional central support.

The twin divider can be moved, suitable for later assembly/fitting.

s_T	=	4 mm



Please indicate the cavities (from left to right), the relevant subdivision variant and the assembly spacing a_T and a_x when ordering.

Sample order: Divider System TS 3
K(cavity) 1 - VR 0 / 80 mm
K 2 - VR 1 / 38 mm
K 3 - VR 2 / 96 mm
with twin divider

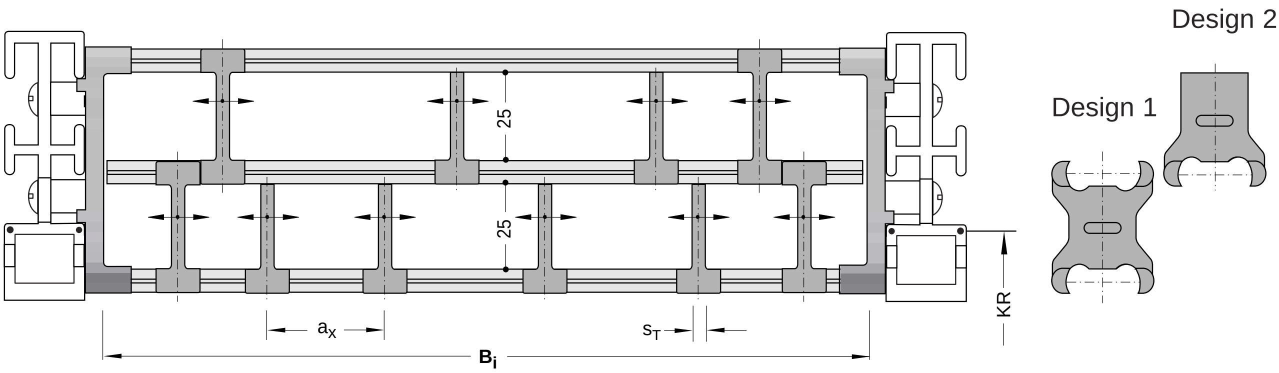
Type Q080

Divider systems

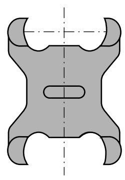
for Stay variant “RV“

Divider system TS 4

with continuous height subdivision
Height subdivision: **Al-Profile 27 x 8 mm**



s_T	=	4 mm
$a_{x\ min}$	=	15 mm



Half dividers can slide along the chain cross-section. At least 2 half-dividers with clasp grips on both sides (Design 1) should be fitted in the upper and lower chambers near to the chain band.

Please state the the number and design of dividers/cross section when ordering.

Sample order:
Divider system TS 4
Please enclose a sketch

For connection dimensions cf. page 4.33

Ordering Key for the cable carrier:

Q 080.400 - RV - 250 - 2025

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

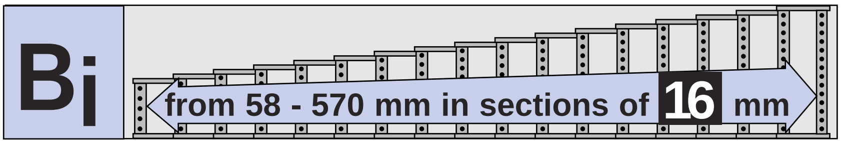
Example:
QUANTUM cable carrier system Q 080, inside width B_i 400 mm, frame stay RV, bend radius KR 250 mm and chain length L_k = 2025 mm.

KABELSCHLEPP

Type Q080

Chain cross sections

in accordance with section in schematic illustration

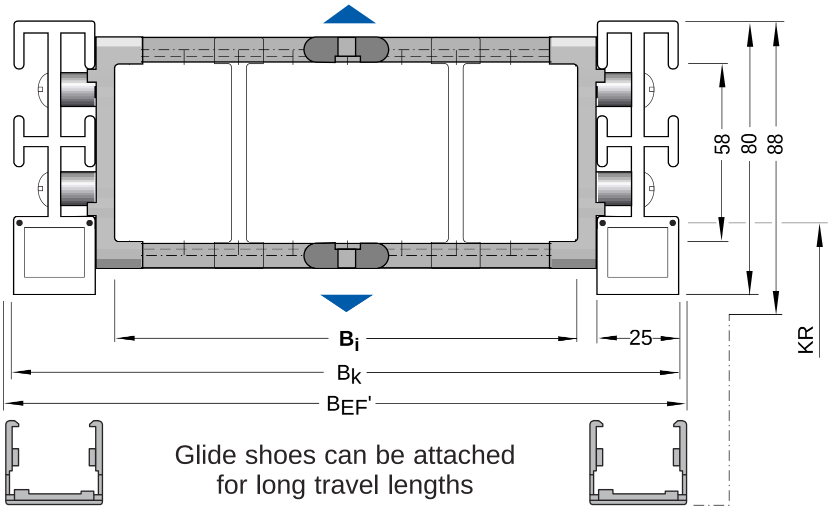


Stay variant "RE"

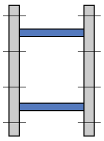
Plastic profile bars, detachable inside and outside

Not a bolted connection!

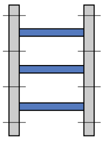
Profile bars can be released by turning them through 90°.



Stay configuration:



1/2 Arrangement – Standard
Stays on every 8th pitch division



1/1 Arrangement
Stays on every 4th pitch division. Please state when placing order.

Calculation of chain width:

$B_k = \mathbf{B_i} + 72$ mm

Calculation of chain width over connecting piece:

$B_k = B_{EF} = \mathbf{B_i} + 72$ mm

Calculation of chain width with glide shoes:

$B_{EF}' = \mathbf{B_i} + 79.5$ mm

Intrinsic chain weight
depending on chain width

Reference weight = Intrinsic chain weight q_k = 2.29 kg/m (cf. load diagram)

33 chain widths are available

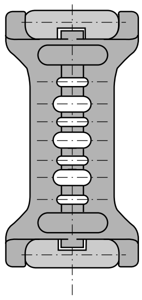
B_i mm	B_k mm	q_k kg/m	B_i mm	B_k mm	q_k kg/m	B_i mm	B_k mm	q_k kg/m
58	130	1.93	**238**	306	2.20	**410**	482	2.46
74	146	1.96	**250**	322	2.22	**426**	498	2.49
90	162	1.98	**266**	338	2.25	**442**	516	2.51
106	178	2.01	**282**	354	2.27	**458**	530	2.53
122	194	2.03	**298**	374	2.29	**474**	546	2.56
138	210	2.05	**314**	386	2.32	**490**	562	2.58
154	226	2.08	**330**	402	2.34	**506**	578	2.61
170	242	2.10	**346**	418	2.37	**522**	594	2.63
186	258	2.13	**362**	434	2.39	**538**	610	2.65
202	272	2.15	**378**	450	2.41	**554**	626	2.68
218	290	2.17	**394**	466	2.44	**570**	642	2.70

Technical Data - QUANTUM-Series

Type Q080

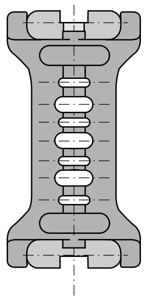
Divider systems
for Stay variant “RE“

The divider system can be planned by you or by our engineers on the basis of the information you supply about the configuration of the cable carrier.



Version **A**
Notch in connecting profile to the inside
(Standard)

The dividers can slide along the section (a_x-grid continuous).



Version **B**
Notch in connecting profile to the outside

The dividers are fixed in the section (a_x-grid 16 mm).

As standard, the divider system is fitted on every frame stay (with stay assembly on every 8th pitch division).

Divider system TS 0

without height subdivision

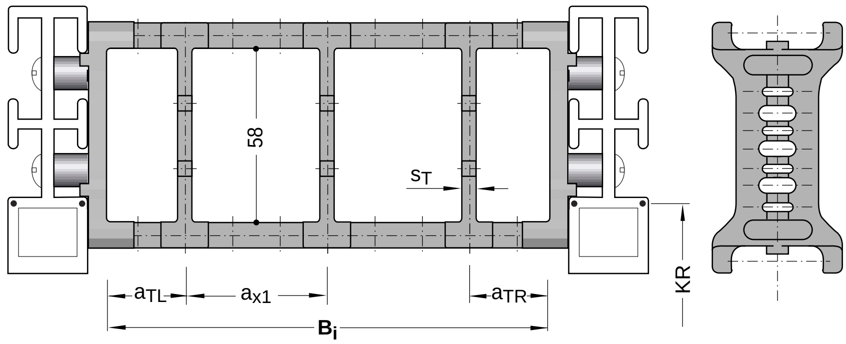
	Version A	Version B
s_T	6 mm	6 mm
$a_{T\ min}$	12 mm	13 mm
$a_{x\ min}$	14.5 mm	16 mm
a_x grid	no grid	16 mm

For version A dividers with s_T = 4 mm are also available.

Please state the type of height subdivision and the number of dividers/cross section n_T when ordering.

Sample order:
Divider system TS 0-A / n_T 3

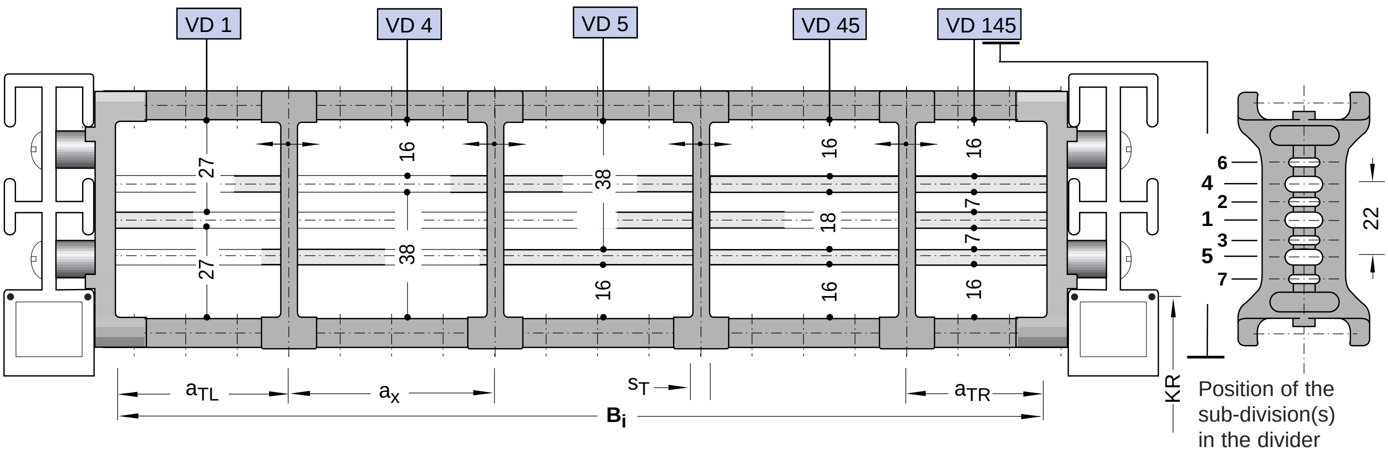
Dividers can slide along the cross-section (Version A) or are fixed (Version B). For divider version B please state fitting intervals a_T and a_x!



Divider system TS 1

with continuous height subdivision
Height subdivision: **Al-Profile 11 x 4 mm**

Technically recommended variants: VD 1, VD 4 and VD 5
Dividers can slide along the cross-section (Version A) or are fixed (Version B). For divider version B please state fitting intervals a_T and a_x!



	Version A	Version B
s_T	6 mm	6 mm
$a_{T\ min}$	12 mm	13 mm
$a_{T\ max}$	22.5 mm	22.5 mm
$a_{x\ min}$	14.5 mm	16 mm
a_x grid	no grid	16 mm
$n_{T\ min}$	2	2

For Version A dividers with s_T = 4 mm are also available.

Please state the type of height subdivision and the number of dividers/cross section n_T when ordering.

Sample order: Divider system TS 1– VD 45/n_T 5

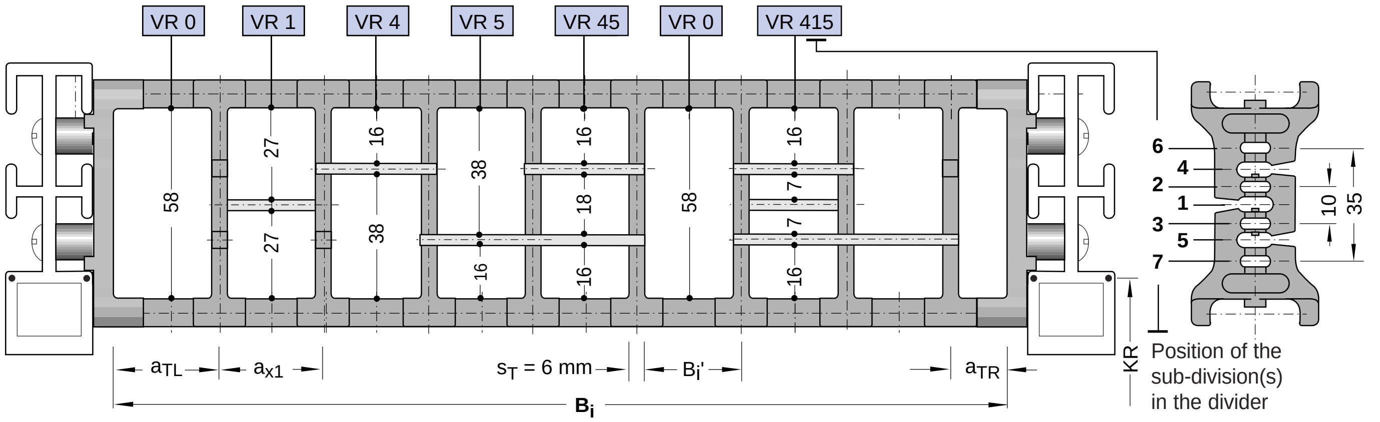
Type Q080

Divider systems
for Stay variant “RE“

Divider system TS 2

with grid subdivision (4-mm grid)
Height subdivision: **Plastic 11 x 4 mm**

Technically recommended variants: VR 0, VR 2 and VR 3
Dividers fixed by height subdivision profiles, the grid segments can slide along the cross-section (Version A) or are fixed (Version B)!



	Version A	Version B
s_T	6 mm	6 mm
$a_{T\ min}$	12 mm	13 mm
$a_{x\ min}$ (with sub-division)	16 mm	16 mm
$a_{x\ min}$ (at VR 0)	14.5 mm	16 mm
$a_{x\ grid}$	1 mm	16 mm

Please indicate the cavities (from left to right), the relevant sub-division variant and the assembly spacing a_T and a_x when ordering.

Sample order:

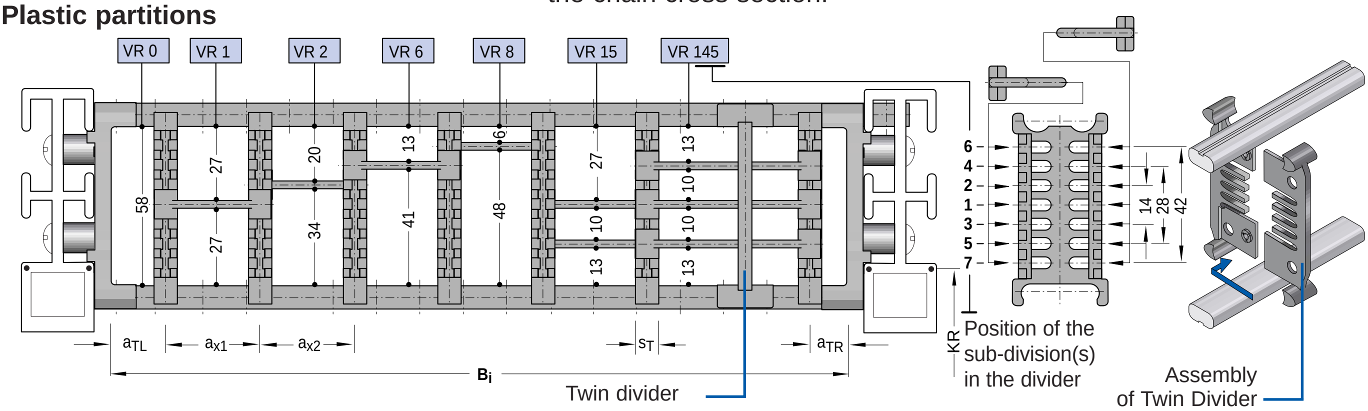
Divider system: TS 2-A

K(cavity) 1- VR 0 / 60 mm
K 2- VR 67 / 133 mm
K 3- VR 0 / 60 mm

Divider system TS 3

With height subdivision:
Plastic partitions

Technically recommended variants:VR 0 and VR 1
Dividers fixed by height subdivision, the grids can slide along the chain cross section!



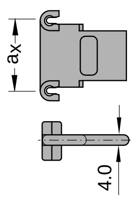
s_T	=	8 mm
$a_{T\ min}$	=	8 mm
$a_{x\ min}$	=	16 mm (with height subdivision)
a_x-grid	=	cf. a_x-table
$n_{T min}$	=	2

a_x mm (Centre-to-centre distance of dividers)														
16	18	23	28	32	33	38	43	48	58	64	68	78	80	88
96	112	128	144	160	176	192	208							

The twin divider can be moved, suitable for later assembly/fitting.

When using partitions with a_x > 112 mm, a twin divider should be used to provide an additional central support.

s_T	=	4 mm



Please indicate the cavities (from left to right), the relevant subdivision variant and the assembly spacing a_T and a_x when ordering.

Sample order:

Divider system TS 3

K(cavity) 1 - VR 0 / 80 mm
K 2 - VR 1 / 38 mm
K 3 - VR 8 / 112 mm
with twin divider

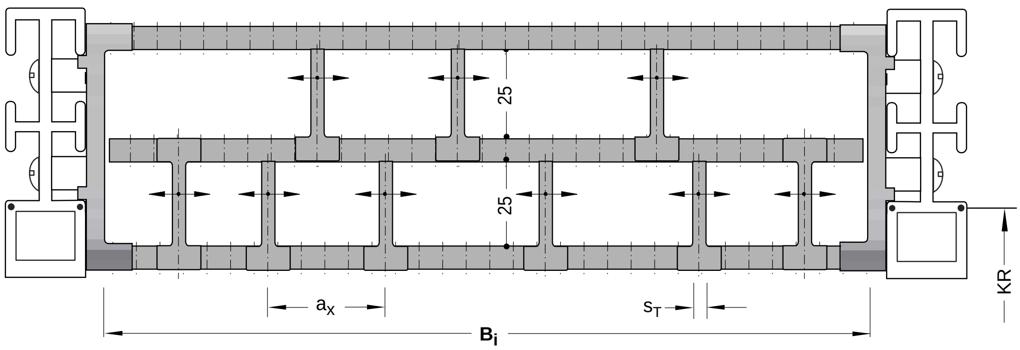
Subject to technical changes!

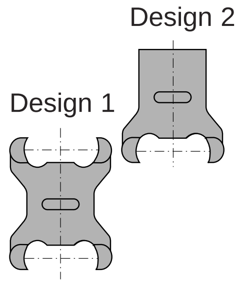
Type Q080

Divider systems
for Stay variant “RE“

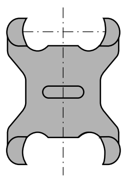
Divider system TS 4

with continuous height subdivision
Height subdivision:
Plastic Profile 27 x 8 mm





s_T	=	4 mm
$a_{x\ min}$	=	15 mm



Half-dividers can slide along the chain cross-section. At least 2 half-dividers with clamp grips on both sides (Design 1) should be fitted in the lower chamber near to the chain band.

Please state the number and design of the dividers/cross section when ordering.

Sample order:
Divider system TS 4
Please enclose a sketch

For Connection dimensions cf. page 4.33

Ordering Key for the cable carrier:

Q 080.400 - RE - 250 - 2025

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

Example:
QUANTUM cable carrier system Q 080, inside width B_i 400 mm, frame stay RE, bend radius KR 250 mm and chain length L_k = 2025 mm.

Type Q100

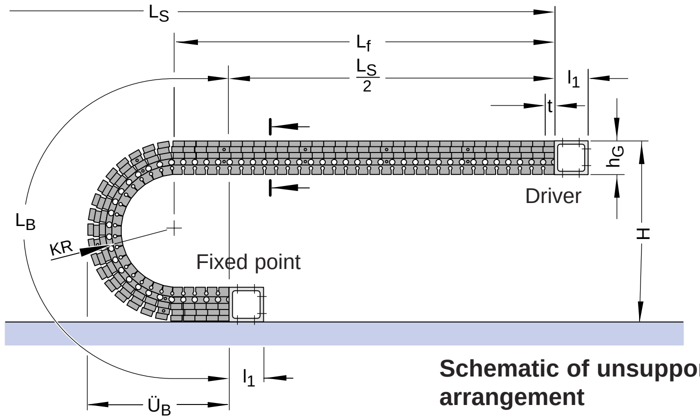
Design of the Cable Carrier

Chain pitch t = 30 mm
Chain link height h_G = 98 mm
Connection length l_1 = 100 mm
Connection dimensions cf. page 4.33

A flat and level surface is required for the carrier system to be installed properly. If necessary, a support tray should be installed. (cf. System Components section)

QUANTUM length L_K with self-supporting arrangement

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



Schematic of unsupported arrangement

Variable sizes
depending on bend radius

Bend radius KR	**180** mm	**250** mm	**300** mm	**370** mm	**460** mm	**600** mm
Bend length L_B	926	1145	1302	1522	1805	2244
Loop overhang $Ü_B$	432	502	552	622	712	852
Height H_{min}	503	643	743	883	1063	1343

The calculation of the bend length L_B also takes into consideration the parts of the cable carrier which are reinforced by the connecting elements.

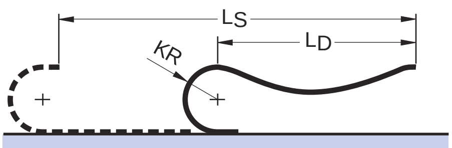
Calculation of the connection height H

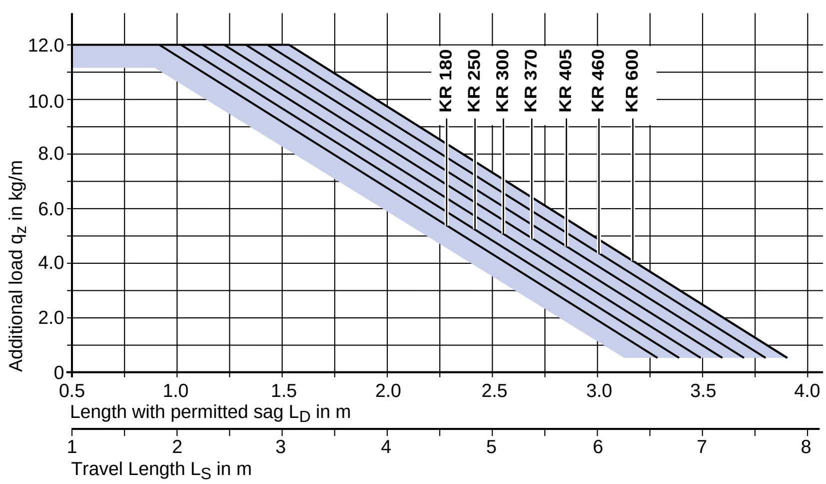
$$H = 2\,KR + 143\text{ mm}$$

$$L_B = KR \times \pi + 12t$$

Load diagrams

Length with permitted sag L_D and travel length L_S
depending on the additional load (cf. Construction Guidelines)





Calculation of chain length:

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

rounded to pitch 30 mm

Load diagram for an intrinsic chain weight q_k of 3.0 kg/m. If the intrinsic chain weight exceeds q_k 3.0 kg/m, the permissible additional load is lower.

Long travel lengths

With long travel lengths the upper part of the cable carrier glides on its lower run in a guide channel.

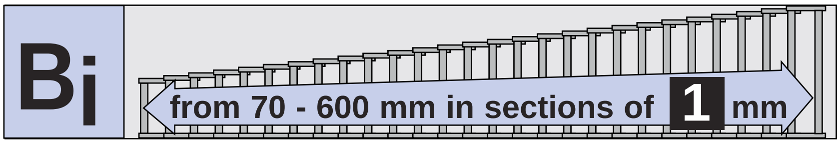
Design → cf. Construction Guidelines
Guide channel → cf. System Components

We recommend that a system of this kind be planned by one of our engineers.

Type Q100

Cross sections

in accordance with section in schematic illustration



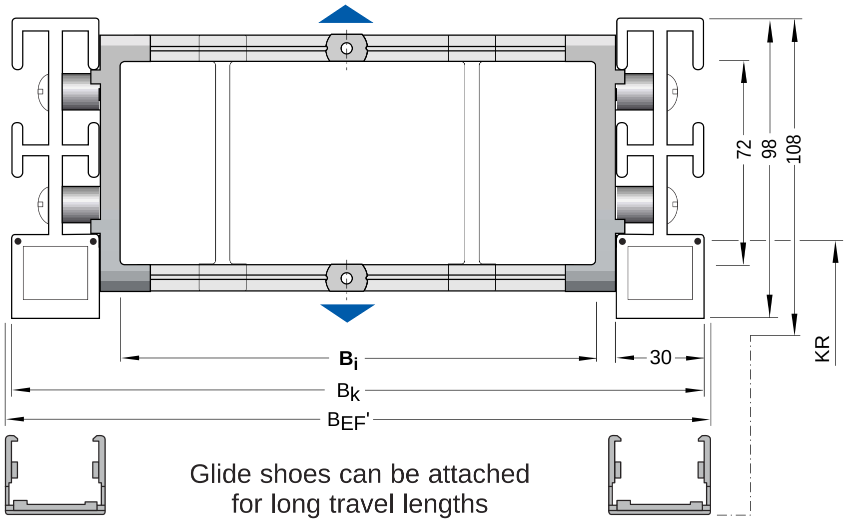
Stay variant “RS“

Frame stay – standard design with plastic adapter

Aluminium profile bars detachable on the inside and the outside

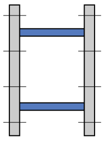
Not a bolted connection!

Profile bars can be released by turning them through 90°.

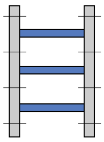


Glide shoes can be attached for long travel lengths

Stay configuration:



1/2 Arrangement – Standard
Stays on every 8th pitch division



1/1 Arrangement
Stays on every 4th pitch division. Please specify when placing order.

Calculation of chain width:

B_k = $\mathbf{B_i}$ + 82 mm

Calculation of chain width over connecting piece:

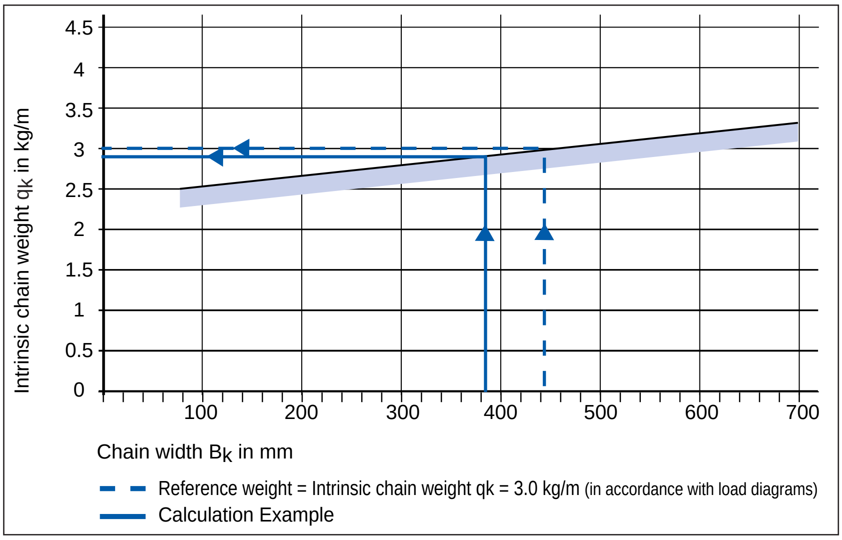
B_k = B_{EF} = $\mathbf{B_i}$ + 82 mm

Calculation of chain width with glide shoes:

B_{EF}' = $\mathbf{B_i}$ + 89.5 mm

Calculation Example:

Inside width	$\mathbf{B_i}$	=	300 mm
Chain width	B_k	=	382 mm
Intrinsic chain weight	q_k	=	2.9 kg/m



Intrinsic chain weight depending on chain width B_k

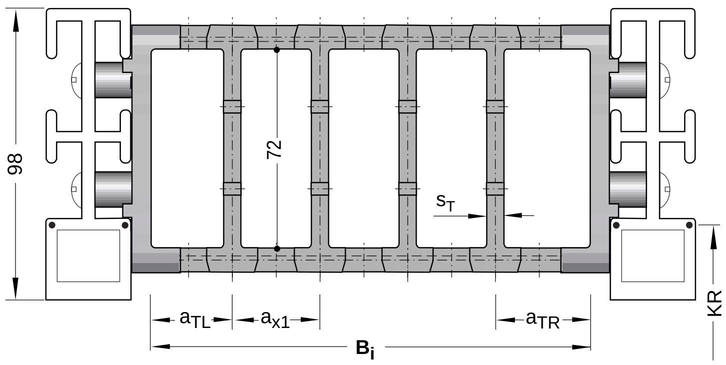
Divider system for “RS“

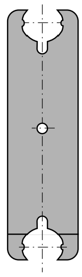
without height subdivision

Movable dividers can be used to separate the cables and hoses from one another.

As standard these are fitted to every stay cross-section.

s_T	=	5 mm
$a_{T\ min}$	=	11 mm
$a_{x\ min}$	=	14 mm





Please state the number of dividers/cross section n_T when ordering.

KABELSCHLEPP

Type Q100

Cross sections

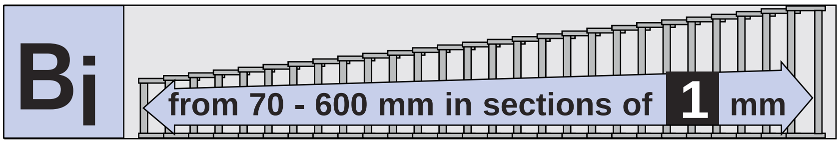
in accordance with section in schematic illustration

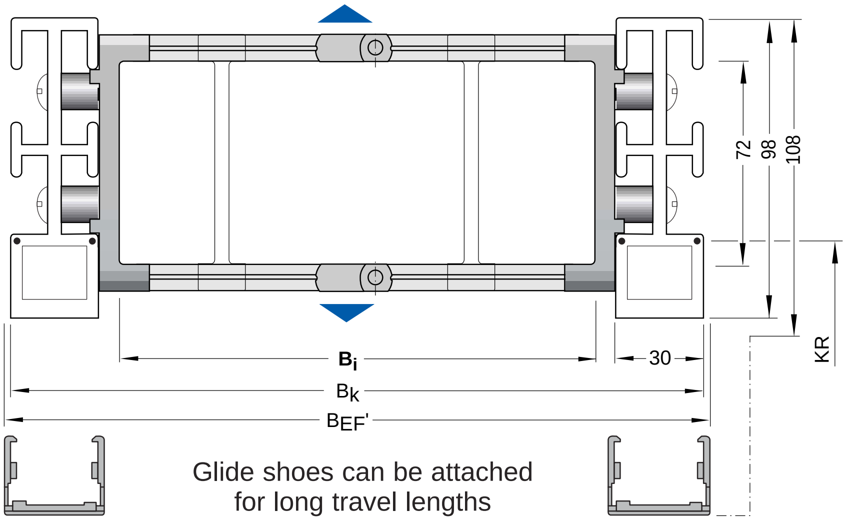
Stay variant “RV“

Frame stay – reinforced design

Aluminium profile bars detachable on the inside and the outside

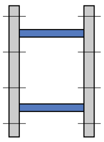
Not a bolted connection!
Profile bars can be released by turning them through 90°.
With stay variant “RV“ at least 2 dividers **must** always be used.



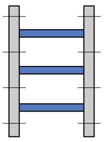


Glide shoes can be attached for long travel lengths

Stay configuration:



1/2 Arrangement – Standard
Stays on every 8th pitch division



1/1 Arrangement
Stays on every 4th pitch division. Please specify when placing order.

Calculation of chain width:

$B_k = \mathbf{B_i} + 82$ mm

Calculation of chain width over connecting piece:

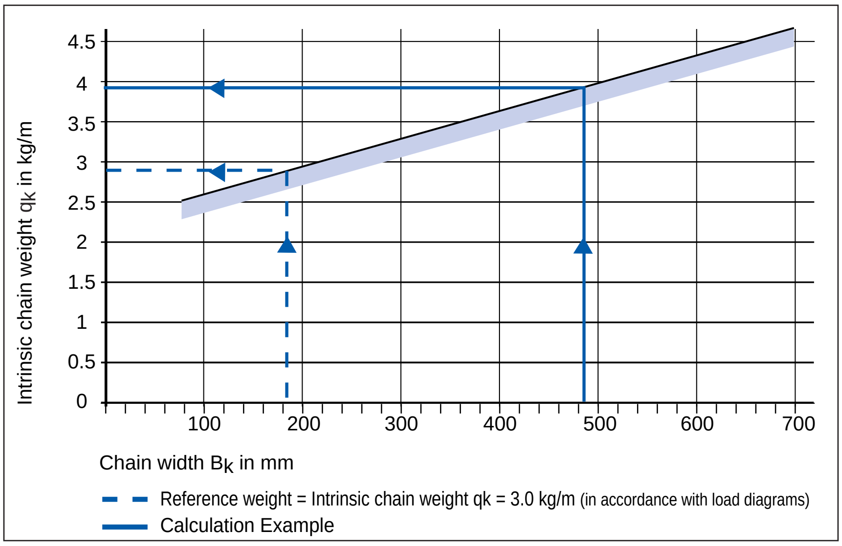
$B_k = B_{EF} = \mathbf{B_i} + 82$ mm

Calculation of chain width with glide shoes:

$B_{EF}' = \mathbf{B_i} + 89.5$ mm

Calculation Example:

Inside width	$\mathbf{B_i}$	=	400 mm
Chain width	B_k	=	482 mm
Intrinsic chain weight	q_k	=	4.0 kg/m



Intrinsic chain weight depending on chain width B_k

Subject to technical changes!

Technical Data - QUANTUM-Series

Type Q100

Divider systems

for Stay variant “RV“

The divider system can be planned by you or by our engineers on the basis of the information you supply about the configuration of the cable carrier.

As standard, the divider system is fitted on every frame stay (with stay assembly on every 8th pitch division).

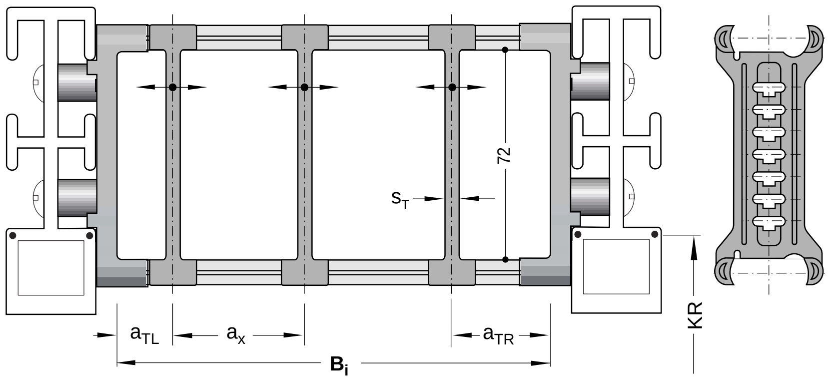
Divider system TS 0

without height subdivision

s_T	=	6 mm
$a_{T\,min}$	=	13 mm
$a_{x\,min}$	=	16 mm
$n_{T\,min}$	=	2

Please state the number of dividers/cross section n_T when ordering.

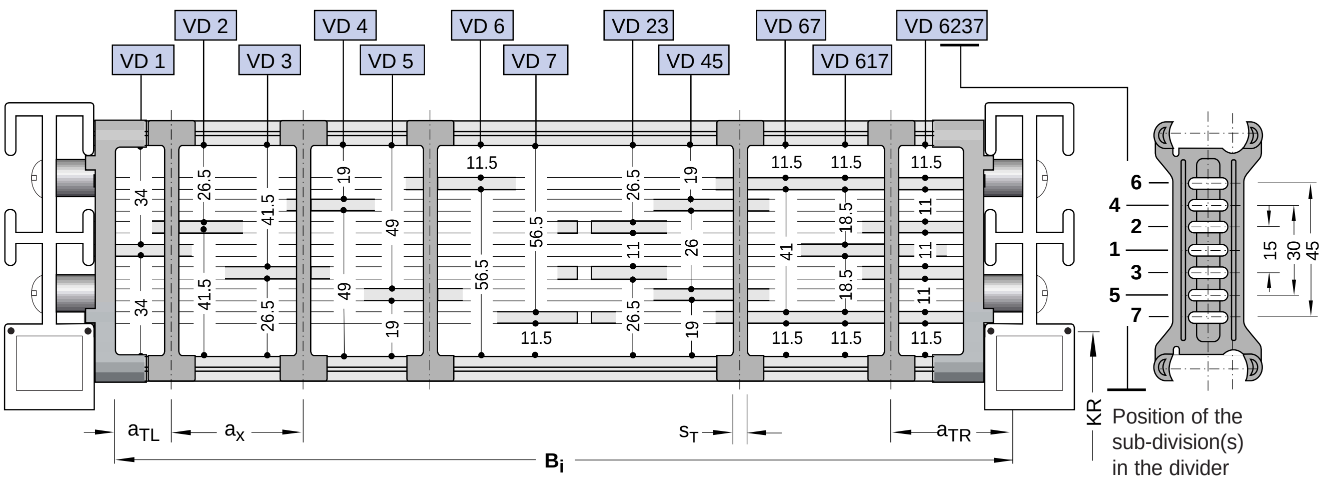
Sample order:
Divider system TS 0/n_T 3



The dividers can slide along the chain cross section!

Divider system TS 1

with continuous height subdivision
Height subdivision: **Al-Profile 11 x 4 mm**



s_T	=	6 mm
$a_{T\,min}$	=	13 mm
$a_{T\,max}$	=	25 mm
$a_{x\,min}$	=	16 mm
$n_{T\,min}$	=	2

Technically recommended variants: VD 1, VD 2 and VD 3
The dividers can slide along the chain cross section!

Please state the type of height sub-division and the number of dividers/cross section n_T when ordering.

Sample order:
Divider system TS 1– VD 1/n_T 6

Type Q100

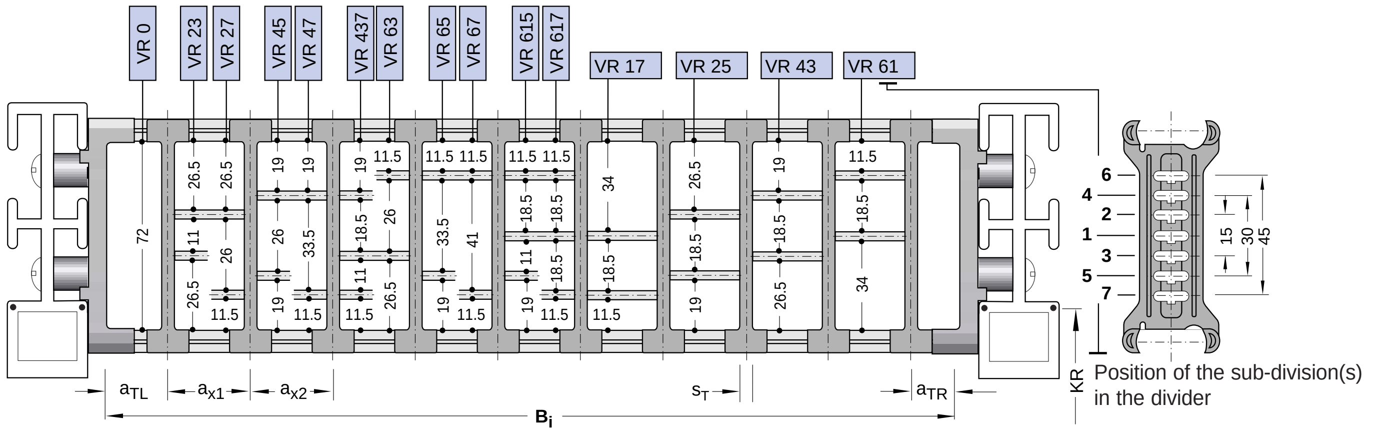
Divider systems

for Stay variant "RV"

Divider system TS 2

with grid subdivision (1 mm grid)
Height subdivision: **Al-Profile 11 x 4 mm**

Technically recommended variants: VR 0, VR 1,VR 2 and VR 3
Dividers fixed by height subdivision, the grids can slide along the chain cross section!



s_T	=	6 mm
$a_{T\ min}$	=	13 mm
$a_{x\ min}$	=	20 mm (with height subdivision)
$a_{x\ min}$	=	16 mm (at VR 0)
$n_{T\ min}$	=	2

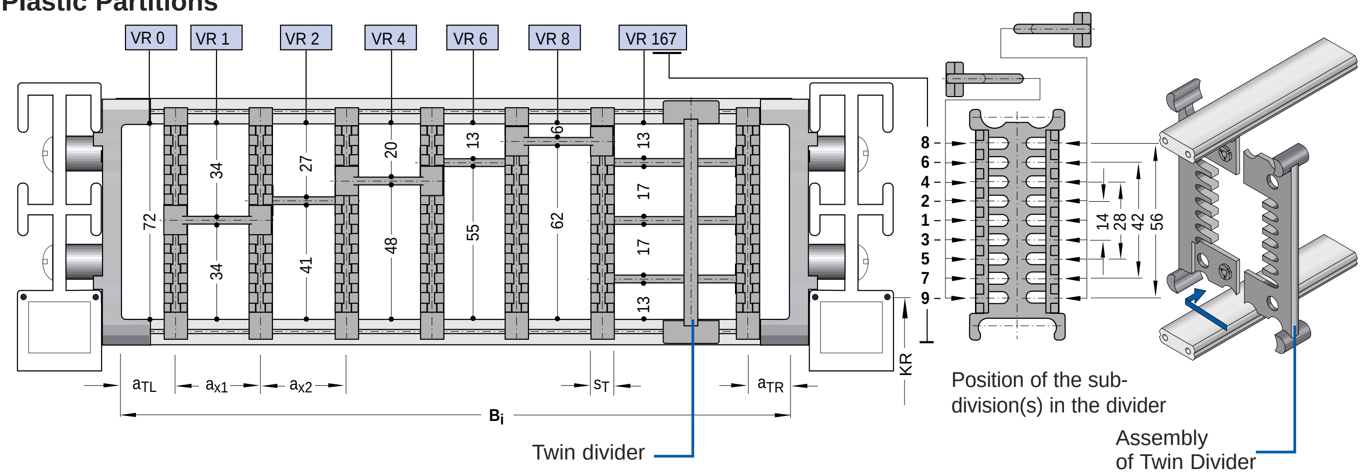
Please indicate the cavities (from left to right), the relevant subdivision variant and the assembly spacing a_T and a_x when ordering.

Sample order: Divider system TS 2
K(cavity) 1 - VR 0 / 40 mm
K 2 - VR 1 / 98 mm
K 3 - VR 2 / 62 mm

Divider system TS 3

with height subdivision
Plastic Partitions

Technically recommended variants: VR 0, VR 1, VR 2 and VR 3
Dividers fixed by height subdivision, the grids can slide along the chain cross section!



s_T	=	8 mm
$a_{T\ min}$	=	8 mm
$a_{x\ min}$	=	16 mm (with height subdivision)
$a_{x\ grid}$	=	cf. a_x-table
$n_{T\ min}$	=	2

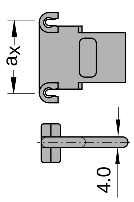
The twin divider can be moved, suitable for later assembly/fitting.

s_T	=	4 mm

Sample order: Divider System TS 3
K(cavity) 1 - VR 0 / 80 mm
K 2 - VR 1 / 38 mm
K 3 - VR 1 / 68 mm
with twin divider

a_x mm (Centre-to-centre distance of dividers)														
16	18	23	28	32	33	38	43	48	58	64	68	78	80	88
96	112	128	144	160	176	192	208							

When using partitions with a_x > 112 mm, a twin divider should be used to provide an additional central support.



Please indicate the cavities (from left to right), the relevant subdivision variant and the assembly spacing a_T and a_x when ordering.

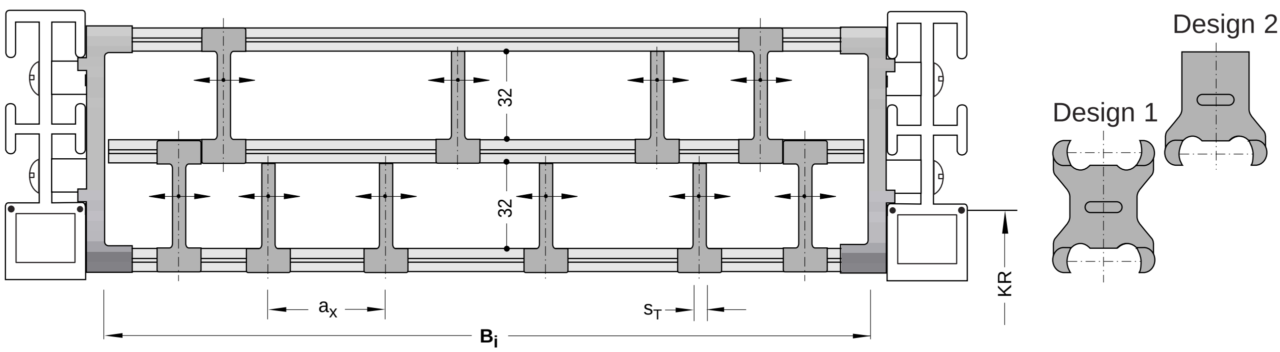
Type Q100

Divider systems

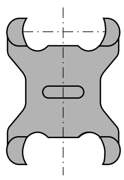
for Stay variant “RV“

Divider system TS 4

with continuous height subdivision
Height subdivision: **Al-Profile 27 x 8 mm**



s_T	=	4 mm
$a_{x\ min}$	=	15 mm



Half dividers can slide along the chain cross-section. At least 2 half-dividers with clasp grips on both sides (Design 1) should be fitted in the upper and lower chambers near to the chain band.

Please state the type of height subdivision and the number of dividers/cross section when ordering.

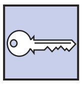
Sample order:
Divider system TS 4
Please enclose a sketch

For connection dimensions cf. page 4.33

Ordering Key for the cable carrier:

Q 100.350 - RV - 370 - 2670

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

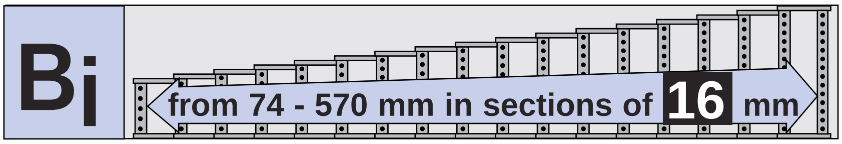


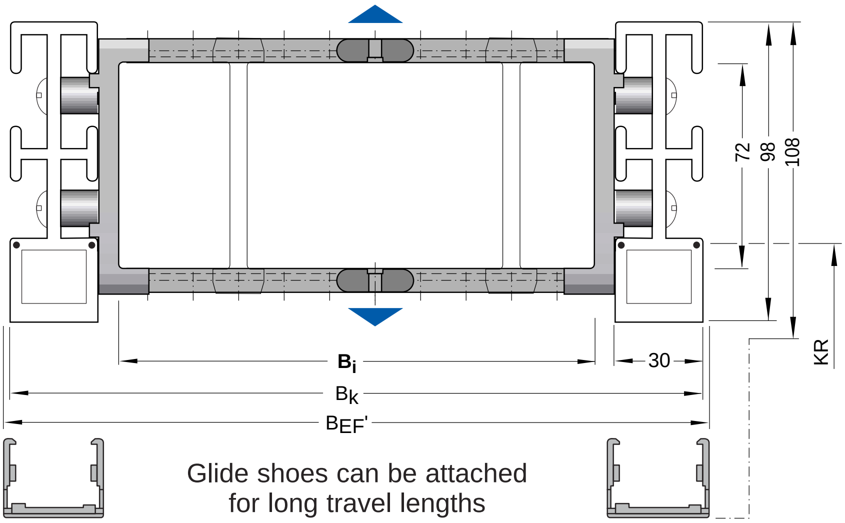
Example:
QUANTUM cable carrier system Q 100, inside width B_i 350 mm, frame stay RV, bend radius KR 370 mm and chain length L_k = 2670 mm.

Type Q100

Cross sections

in accordance with section in schematic illustration





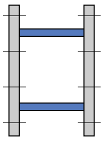
Stay variant “RE“

Plastic profile bars, detachable inside and outside

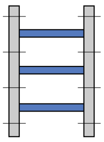
Not a bolted connection!

Profile bars can be released by turning them through 90°.

Stay configuration:



1/2 Arrangement – Standard
Stays on every 8th pitch division



1/1 Arrangement
Stays on every 4th pitch division. Please state when placing order.

Calculation of chain width:

B_k = $\mathbf{B_i}$ + 82 mm

Calculation of chain width over connecting piece:

$B_k = B_{EF} = \mathbf{B_i} + 82$ mm

Calculation of chain width with glide shoes:

B_{EF}' = $\mathbf{B_i}$ + 89.5 mm

Intrinsic chain weight
depending on chain width

Reference weight =
Intrinsic chain weight q_k = 3.16 kg/m
(cf. load diagram)

32 chain widths are available

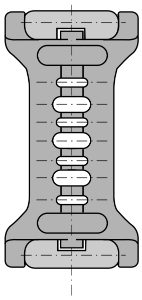
B_i mm	B_k mm	q_k kg/m	B_i mm	B_k mm	q_k kg/m	B_i mm	B_k mm	q_k kg/m
74	156	2.74	**250**	332	3.07	**410**	492	3.37
90	172	2.77	**266**	348	3.10	**426**	508	3.40
106	188	2.80	**282**	364	3.13	**442**	526	3.43
122	204	2.83	**298**	384	3.16	**458**	540	3.46
138	220	2.86	**314**	396	3.19	**474**	556	3.49
154	236	2.89	**330**	412	3.22	**490**	572	3.52
170	252	2.92	**346**	428	3.25	**506**	588	3.55
186	268	2.95	**362**	444	3.28	**522**	604	3.58
202	284	2.98	**378**	460	3.31	**538**	620	3.61
218	300	3.01	**394**	476	3.34	**554**	636	3.64
234	316	3.04				**570**	652	3.67

Subject to technical changes!

Type Q100

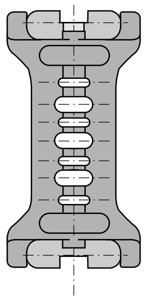
Divider systems
for Stay variant “RE“

The divider system can be planned by you or by our engineers on the basis of the information you supply about the configuration of the cable carrier.



Version **A**
Notch in connecting profile to the inside
(Standard)

The dividers can slide along the section.



Version **B**
Notch in connecting profile to the outside

The dividers are fixed in the section (a_x-grid 16 mm)

As standard, the divider system is fitted on every frame stay (with stay assembly on every 8th pitch division).

Divider system TS 0

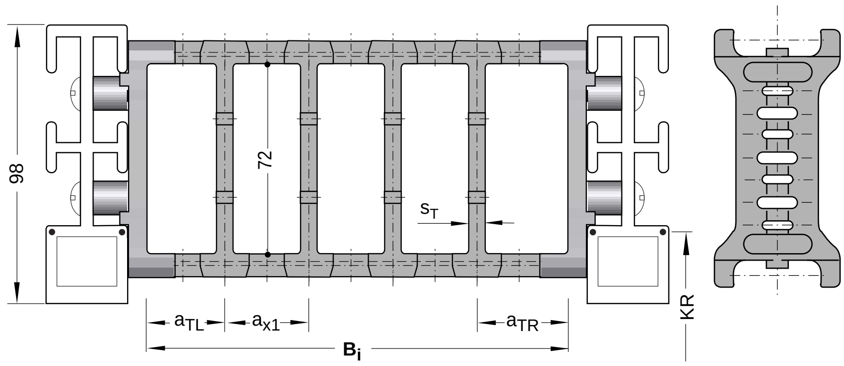
without height subdivision

	Version A	Version B
s_T	8 mm	8 mm
$a_{T\ min}$	12 mm	13 mm
$a_{x\ min}$	14.5 mm	16 mm
$a_{x\ grid}$	no grid	16 mm

Please state the type of height subdivision and the number of dividers/cross section n_T when ordering.

Sample order:
Divider system TS 0-A / n_T 4

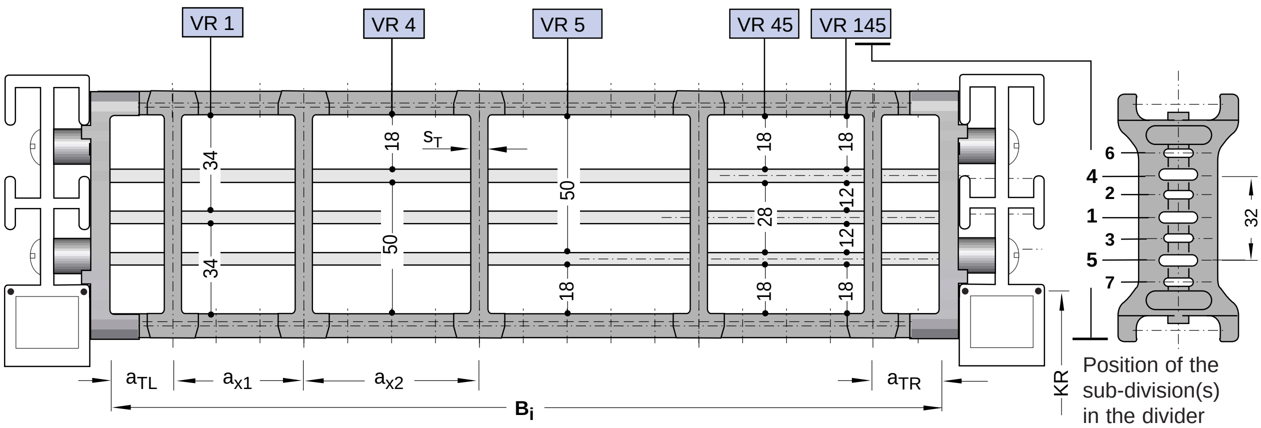
Dividers can slide along the cross-section (Version A) or are fixed (Version B). For divider version B please state fitting intervals a_T and a_x!



Divider system TS 1

with continuous height subdivision
Height subdivision: **Al-Profile 11 x 4 mm**

Technically recommended variants: VD 1, VD 4 and VD 5
Dividers can slide along the cross-section (Version A) or are fixed (Version B). For divider version B please state fitting intervals a_T and a_x!



	Version A	Version B
s_T	8 mm	8 mm
$a_{T\ min}$	12 mm	13 mm
$a_{x\ min}$	14.5 mm	16 mm
$a_{x\ grid}$	no grid	16 mm
$n_{T\ min}$	2	2

Please state the type of height subdivision and the number of dividers/cross section n_T when ordering.

Sample order:

Divider system TS 1– VD 45/n_T 5

Type Q100

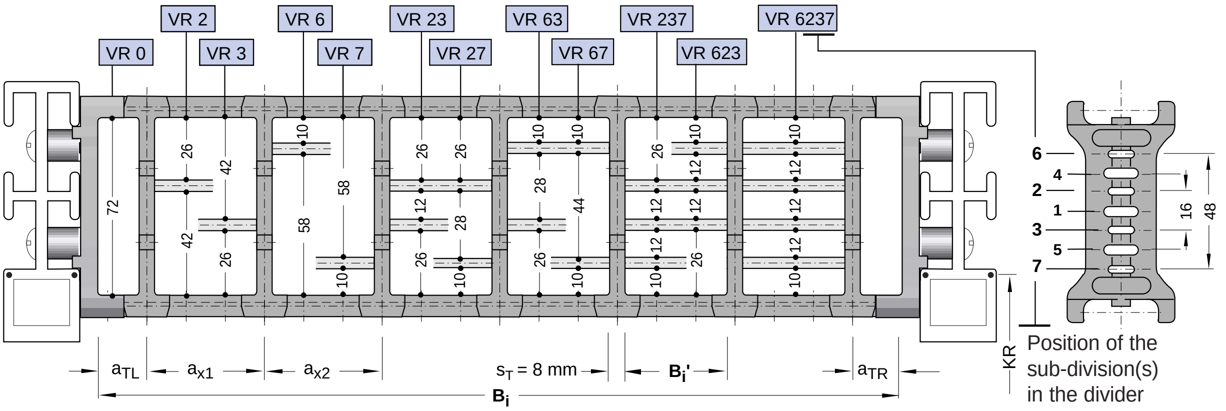
Divider systems
for Stay variant “RE“

Divider system TS 2

with grid subdivision (1mm-grid)

Height subdivision: **Al-Profile 11 x 4 mm**

Technically recommended variants: VR 0, VR 2 and VR 3
Dividers fixed by height subdivision profiles, the grid segments can slide along the cross-section (Version A) or are fixed (Version B)!



	Version **A**	Version **B**
s_T	8 mm	8 mm
$a_{T\ min}$	12 mm	13 mm
$a_{x\ min}$ (with subdivision)	20 mm	32 mm
$a_{x\ min}$ (at VR 0)	14.5 mm	16 mm
$a_{x\ grid}$	1	16

Please indicate the cavities (from left to right), the relevant sub-division variant and the assembly spacing a_T and a_x when ordering.

Sample order:

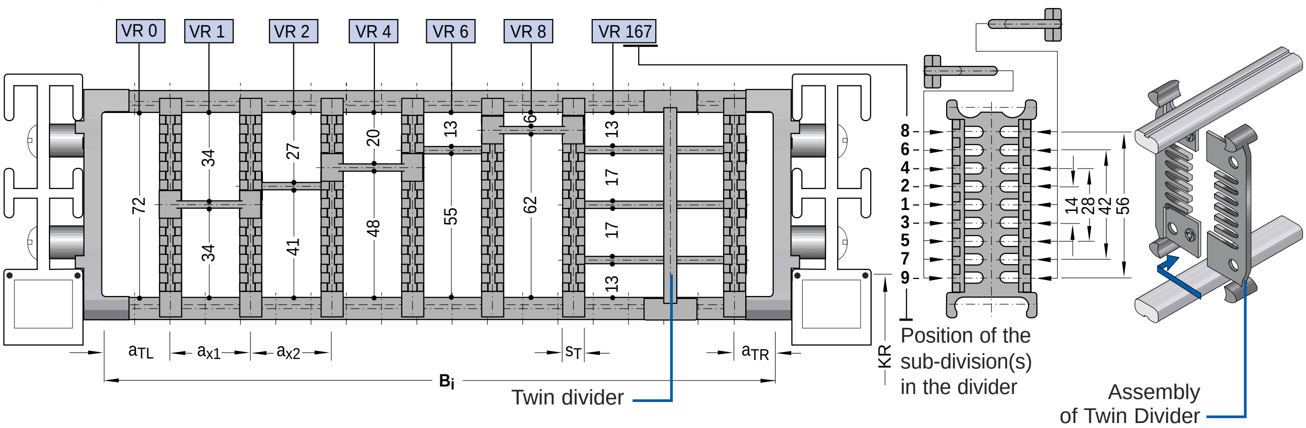
Divider system: TS 2-A

K(cavity) 1 - VR 0 / 60 mm
K 2 - VR 67 / 133 mm
K 3 - VR 0 / 60 mm

Divider system TS 3

With height subdivision:
Plastic partitions

Technically recommended variants: VR 0, VR 1, VR 2 and VR 3
Dividers fixed by height subdivision, the grids can slide along the chain cross section!



Twin divider

Assembly of Twin Divider

s_T	=	8 mm
$a_{T\ min}$	=	8 mm
$a_{x\ min}$	=	16 mm (with sub-division)
$a_{x\ grid}$	=	cf. a_x-table
$n_{T\ min}$	=	2

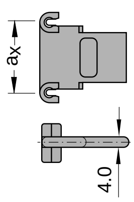
The twin divider can be moved, suitable for later assembly/fitting.

s_T	=	4 mm

Sample order:
Divider system TS 3
K(cavity) 1 - VR 0 / 80 mm
K 2 - VR 1 / 38 mm
K 3 - VR 8 / 192 mm
with twin divider

a_x mm (Centre-to-centre distance of dividers)														
16	18	23	28	32	33	38	43	48	58	64	68	78	80	88
96	112	128	144	160	176	192	208							

When using partitions with a_x > 112 mm, a twin divider should be used to provide an additional central support.



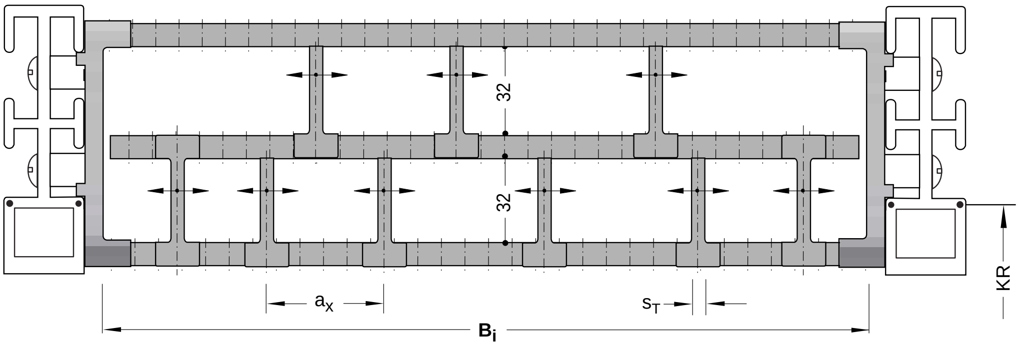
Please indicate the cavities (from left to right), the relevant subdivision variant and the assembly spacing a_T and a_x when ordering.

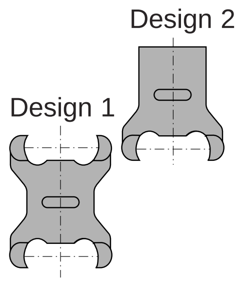
Type Q100

Divider systems
for Stay variant "RE"

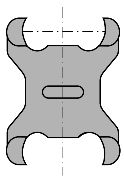
Divider system TS 4

with continuous height subdivision
Height subdivision:
Plastic Profile 27 x 8 mm





s_T	=	4 mm
$a_{x\ min}$	=	15 mm



Half-dividers can slide along the chain cross-section. At least 2 half-dividers with clamp grips on both sides (Design 1) should be fitted in the lower chamber near to the chain band.

Please state the type of height subdivision and the number of dividers/cross section when ordering.

Sample order:
Divider system TS 4
Please enclose a sketch

For Connection dimensions cf. page 4.33

Ordering Key for the cable carrier:

Q 100.350 - RE - 370 - 2670

- Type
- Inside width B_i in mm
- Stay variant
- Bend radius KR in mm
- Chain length L_K in mm (without connection)

Example:
QUANTUM cable carrier system Q 100, inside width B_i 350 mm, frame stay RE, bend radius KR 370 mm and chain length L_K = 2670 mm.

KABELSCHLEPP

Connection dimensions

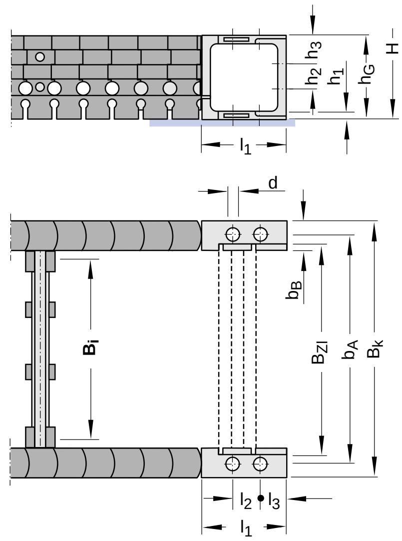
The connecting elements are made of die-cast Aluminium and can be screwed onto the fixed point and driver point in three directions. The metal-to-metal combination between the fixing screws and the connecting elements means that a high starting torque can be achieved (Settling does not cause the screws to work loose).

The connecting elements reinforce the last 3 pitch divisions of the side bands respectively.

The QUANTUM connecting pieces are equipped to accommodate strain relief devices:

C-Profile, C-Rail
Slit width 11–12 mm or 16-17 mm
Suitable for all commercial saddle-type / block clamps with small base and KABELSCHLEPP SLZ-strain relief devices (cf. System Components).

Fixed Point and Driver Connection



Connection Dimensions

all dimensions in mm

	B_{ZL}	b_a	B_k	d	l_2	l_3	l_1	h_1	h_2	h_3	h_G	b_B	Strain Relief
Q040	B_i + 16	B_i + 26	B_i + 40	7	14	13.0	40	5	14	13.0	40	14	Strain relief tooth
Q060	B_i + 18	B_i + 32	B_i + 52	7	25	17.5	60	5	25	17.5	60	20	Strain relief tooth /C-Profile
Q080	B_i + 30	B_i + 47	B_i + 72	9	35	22.5	80	8	35	22.5	80	25	C-Rail
Q100	B_i + 30	B_i + 52	B_i + 82	11	35	32.5	100	10	35	31.5	98	30	C-Rail

Ordering Key for the connection:

X U

Connection point
F - Fixed point
M - Driver

U - Universal connection

Ordering Key for the cable carrier:

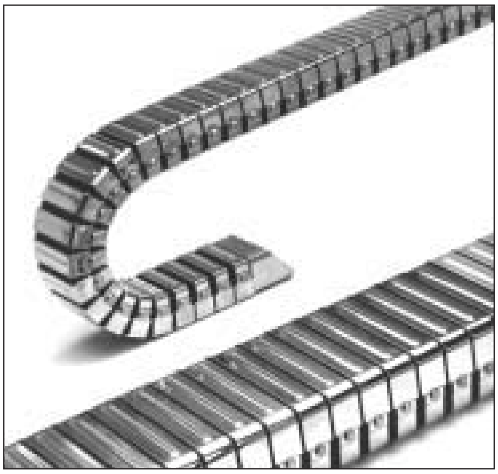
Q040 . 108 - RE - 110 - 1365

Type
inside width **B_i** in mm
Stay variant
Bend radius KR in mm
QUANTUM-length L_k in mm

KabelSchlepp

CONDUFLEX
Flexible Energy Conduits

KABELSCHLEPP



Profile

CONDUFLEX
Flexible Energy Conduits

CONDUFLEX flexible energy conduits consist of high-grade steel brackets and frames made of glass fibre reinforced Polyamide.

The conduit can easily be lengthened or shortened at a later date.

Should the brackets be damaged on the outside, they can easily be replaced.

CONDUFLEX flexible energy conduits can be used for horizontal, vertical and combined horizontal/vertical movements.

TÜV type approved in accordance with 2 PfG 1036/10.97.

Further information on 2D and 3D CAD Data can be found on the internet under www.kabelschlepp.de.

TÜV Rheinland Product Safety
BAUART GEPRÜFT
TYPE APPROVED

The following types are available immediately ex-stock from KABELSCHLEPP and our agents:

CONDUFLEX CF 055	→	inside cross-section	45 x 25 mm
CONDUFLEX CF 060	→	inside cross-section	36 x 40 mm
CONDUFLEX CF 085	→	inside cross-section	73 x 38 mm
CONDUFLEX CF 115	→	inside cross-section	102 x 52 mm
CONDUFLEX CF 120	→	inside cross-section	100 x 70 mm
CONDUFLEX CF 175	→	inside cross-section	162 x 72 mm

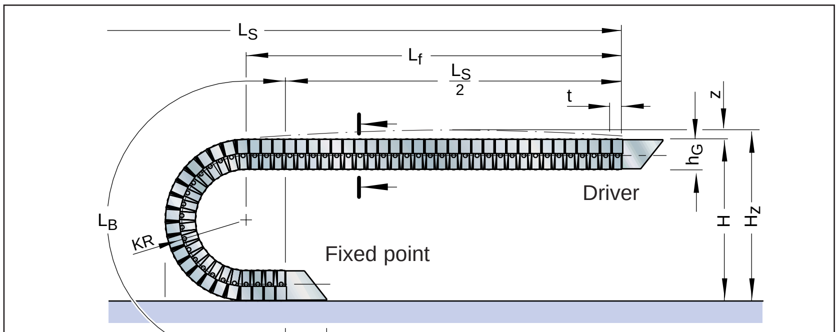
CONDUFLEX flexible energy conduits have best proved their durability in the machine building and engineering construction industries and on handling machines and robots!

Subject to technical changes!

CONDUFLEX Type

Design of the Cable Carriers

Chain pitch t = cf. Dimensions Table
Chain link height h_G' = cf. conduit cross-sections
Connection height H_{min} = 2 KR + h_G
Connection length l_1 = cf. Connection Dimensions



Schematic of unsupported arrangement

A flat and level surface is required for the carrier system to be installed properly.
If necessary, a support tray should be installed. (cf. System Components section)

Weights

KR	=	Bend radius
L_B	=	Bend length
$Ü_B$	=	Loop overhang
H_{min}	=	Min. connection height

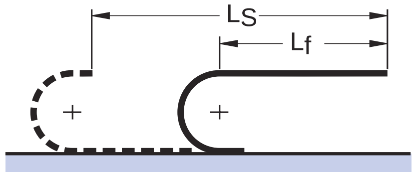
Dimensions in mm

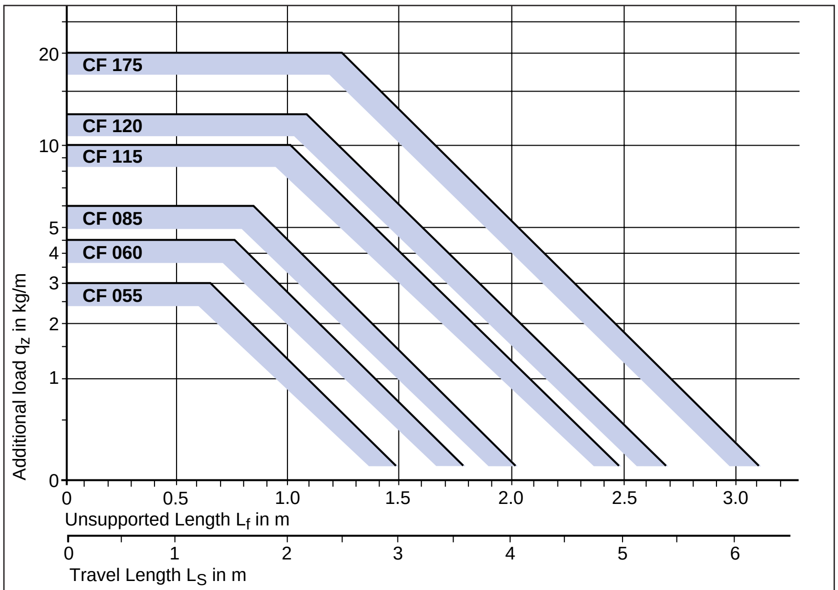
CONDUFLEX Type	KR	L_B	$Ü_B$	H_{min}	Conduit weight in kg/m
CF 055	65	405	184	168	**1.25**
	100	515	219	238	
	150	675	269	338	
CF 060	100	515	226	252	**1.60**
CF 085	100	515	226	252	**1.90**
	150	675	276	353	
	200	830	326	452	
	250	985	376	552	
CF 115	140	690	299	347	**2.60**
	225	960	384	517	
	300	1200	459	667	
CF 120	155	740	323	396	**3.80**
	200	880	368	486	
CF 175	185	830	382	464	**5.20**
	250	1035	447	594	
	350	1400	547	794	

Variable sizes
depending on bend radius

Load diagrams

Unsupported length L_f and travel length L_S
depending on the additional load (cf. Construction Guidelines)





Calculation of hose length:

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

rounded to pitch t

Long travel lengths

With long travel lengths the upper part of the cable carrier glides on its lower run in a guide channel.

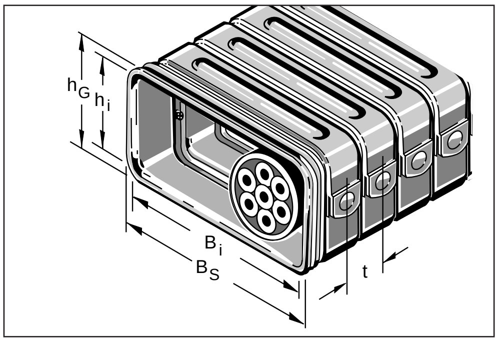
Design → cf. Construction Guidelines
Guide channel → cf. System Components

We recommend that a system of this kind be planned by one of our engineers.

CONDUFLEX Type

Conduit cross-sections

in accordance with section in schematic illustration



Overview

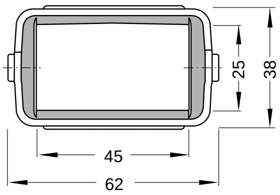
Dimensions in mm

CONDUFLEX Type	B_S	B_i	h_G	h_i	t
CF 055*	62	45	38	25	20
CF 060	60	36	52	40	20
CF 085*	92	73	52	38	20
CF 115*	123	102	67	52	25
CF 120	127	100	86	70	25
CF 175*	190	162	94	72	30

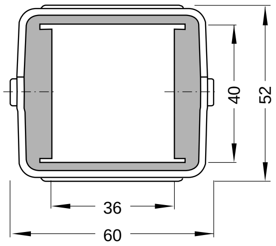
***) KABELSCHLEPP CONDUFLEX flexible energy conduits types CF 055, CF 085, CF 115 and CF 175 can be fitted with protective brackets to shield the impact slots of the plastic frames from contamination.**

The "Guidelines for Installing Cables and Hoses in Cable Carriers" should be observed when planning a CONDUFLEX flexible energy conduit!

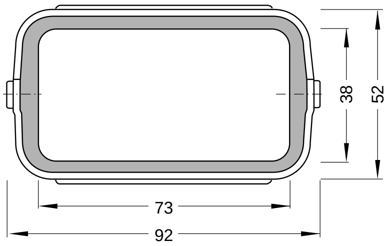
→ cf. Construction Guidelines



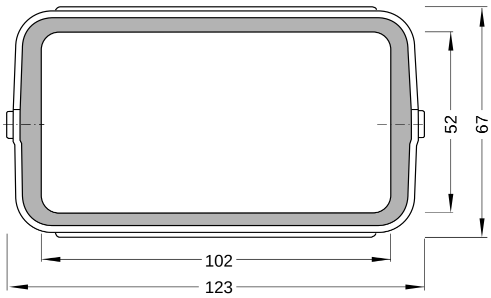
CONDUFLEX Type CF 055*



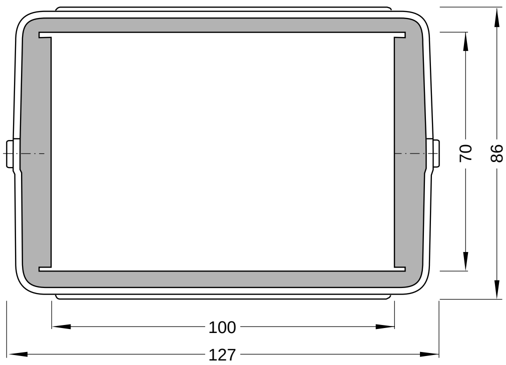
CONDUFLEX Type CF 060



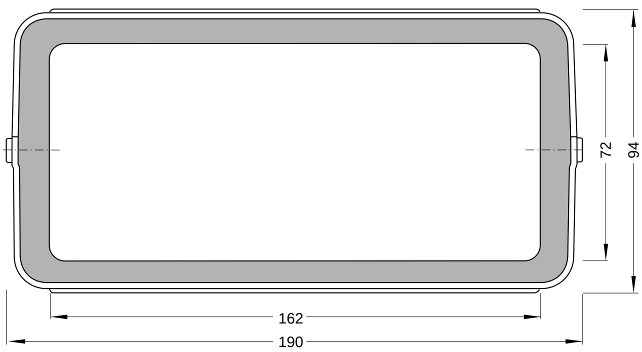
CONDUFLEX Type CF 085*



CONDUFLEX Type CF 115*



CONDUFLEX Type CF 120

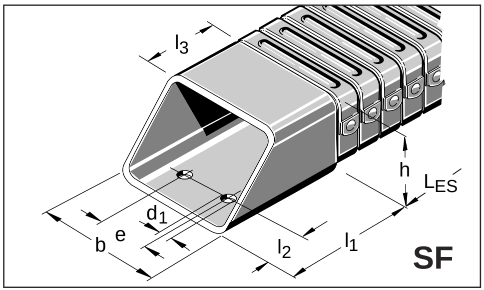


CONDUFLEX Type CF 175*

Technical Data - CONDUFLEX

CONDUFLEX Type

Connection Dimensions



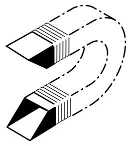
Connection variants
for diagonal flange connectors

The SF, ST, QF and HF connector brackets can be combined.
Please state the desired type of connector when placing your order!

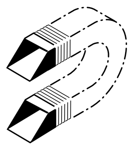
Example:
Driver **SF** (Diagonal flange connector bracket) with connecting surface outside
Fixed point **QF** (Cross-flange connector bracket)

Diagonal Flange Connector Bracket

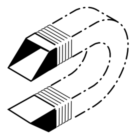
CONDUFLEX Type	b	h	e	d_1	l_1	l_2	l_3
CF 055	55	36	22	6.5	44	12.5	20
CF 060	55	52	22	6.5	44	12.5	20
CF 085	85	50	50	6.5	70	15.0	32
CF 115	117	66	70	8.5	84	17.5	34
CF 120	120	84	70	8.5	82	17.5	48
CF 175	182	92	100	10.5	100	22.5	45



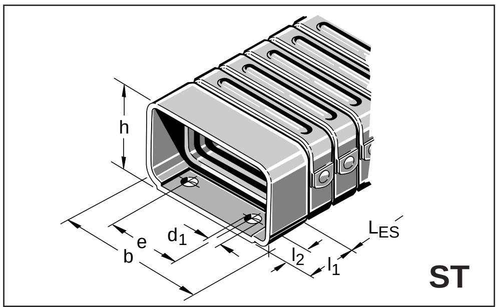
1
Connecting surfaces outside / outside



2
Connecting surfaces inside / outside

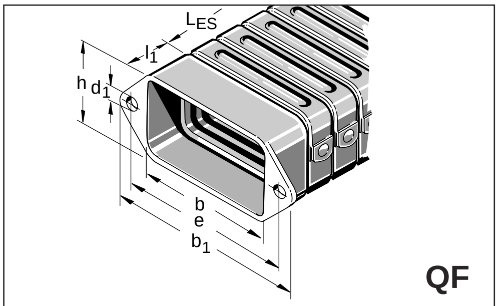


3
Connecting surfaces inside / inside



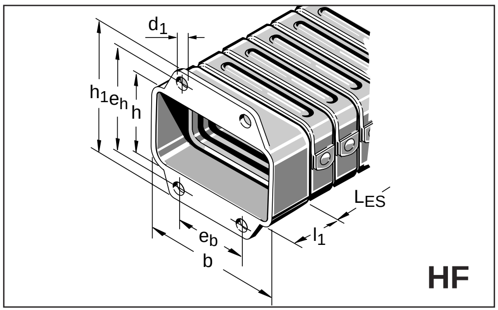
Standard Connector Bracket

CONDUFLEX Type	b	h	e	d_1	l_1	l_2
CF 055	55	36	22	6.5	20	8.5
CF 060	--	--	--	--	--	--
CF 085	85	52	50	6.5	25	10.0
CF 115	116	68	65-70	8.5	35	10.0
CF 120	120	84	70	8.5	35	12.5
CF 175	182	92	100	10.5	40	15.0



Cross-Flange Connector Bracket

CONDUFLEX Type	b	h	b_1	e	d_1	l_1
CF 055	55	35	90	75	6.5	20
CF 060	--	--	--	--	--	--
CF 085	85	50	120	105	6.5	25
CF 115	116	64	160	140	8.5	35
CF 120	--	--	--	--	--	--
CF 175	182	90	226	200	10.5	40



High Flange Connector Bracket

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

Ordering Key:

CF 115 - 140 - 1200

CONDUFLEX flexible energy conduit type CF 115 with bend radius KR 140 mm and a length L_{ES} of 1200 mm

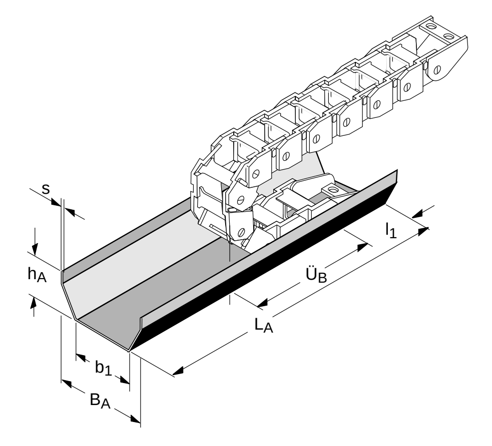
- CONDUFLEX Type
- Bend radius KR in mm
- Conduit length L_{ES} in mm (without connector)

KabelSchlepp

System Components

Support Tray

One-piece design



Ordering Example:

Support tray - one-piece design for cable carrier Type MC 0950.250 - RV
Length LA 3250 mm

As has already been stated in the Technical Data for the individual cable carriers, a flat and level surface is required for the reliable and safe operation of the carrier system. If this is not available, a support tray must be used.
All support trays can be supplied in galvanised steel plate and high-grade steel. The choice of material depends on the application conditions and your requirements.
The standard delivery length is 2 m. On request we can produce components of any desired length up to 3 m.
Special lengths in excess of 3m also present no problem to us.
Please consult us for more details.
You will find further information on 2D and 3D CAD Data on the internet at www.kabelschlepp.de.

Length of Support Tray:
(with standard connection)

$$L_A = \frac{L_S}{2} + \ddot{U}_B + l_1$$

$\ddot{U}_B$ – Loop overhang
l_1 – Connection length

Where there is strain relief at the fixed point the length of the support tray should be increased accordingly!

Materials: Galvanised steel plate
High-grade steel plate
Aluminium plate

Overview of Support Trays -one-piece

Dimensions in mm

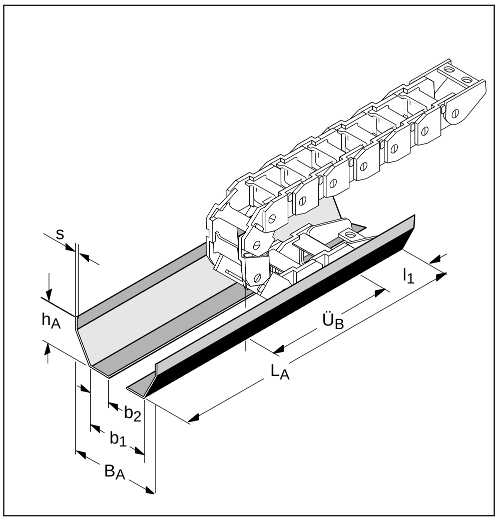
MONO TKC CF	UNIFLEX	K-Series	M-Series	XL-Series	QUANTUM	Inside Width b_1	Total Width B_A	Total Height h_A	Plate Depth s
0450	0455		MK-,MT 0475		Q040	$B_k + 6$	$B_1 + 15$	20	1.5
	0555					$B_k + 6$	$B_1 + 15$	20	1.5
0625	0600 0665	KC 0650 KE 0650	MC-,ME-,MK MT 0650		Q060	$B_k + 10$	$B_1 + 15$	20	1.5
		KC 0900 KE 0900	MC-,ME-,MK MT 0950		Q080	$B_k + 15$	$B_1 + 25$	30	2.0
			MC-,ME-,MK MT 1250		Q0100	$B_k + 15$	$B_1 + 30$	40	3.0
				XLC-, XL-1650		$B_k + 20$	$B_1 + 40$	50	3.0
TKC 340						$B_k + 6$	$B_1 + 15$	20	1.5
TKC 470						$B_k + 7$	$B_1 + 15$	20	1.5
TKC 640						$B_k + 8$	$B_1 + 25$	30	2.0
TKC 850						$B_k + 10$	$B_1 + 30$	40	3.0
CF 055						65	80	20	1.5
CF 060						65	80	20	1.5
CF 085						100	115	20	1.5
CF 115						130	150	30	2.0
CF 120						135	165	30	2.0
CF 175						200	230	40	3.0

We recommend that for small types not listed in the table guide channel profiles without a support be used as support trays.

System Components

Support Trays

split design



Length of support tray:
(with standard connection)

$$L_A = \frac{L_S}{2} + Ü_B + l_1$$

$Ü_B$ – Loop overhang
l_1 – Connection length

Where there is strain relief at the fixed point the length of the support tray should be increased accordingly!

Materials: Galvanised steel plate
High-grade steel plate
Aluminium plate

Ordering Example:

Support tray - split design made of galvanised steel plate for cable carrier Type MK 0650.170, Length LA 1200 mm

Overview of Support Trays - split design
Variable-width cable carriers

Dimensions in mm

K-Series	M-Series	XL-Series	QUANTUM	Support Width b_2	Inside Width b_1	Total Width B_A	Total Height h_A	Plate Depth s
	MK-,MT 0475		Q040	25	$B_k + 6$	$B_1 + 15$	20	1.5
KC 0650 KE 0650	MC-,ME-,MK MT 0650		Q060	40	$B_k + 10$	$B_1 + 15$	20	1.5
KC 0900 KE 0900	MC-,ME-,MK MT 0950		Q080	55	$B_k + 15$	$B_1 + 25$	30	2.0
	MC-,ME-,MK MT 1250		Q0100	55	$B_k + 15$	$B_1 + 30$	40	3.0
		XLC-, XLT-1650		65	$B_k + 20$	$B_1 + 40$	50	3.0

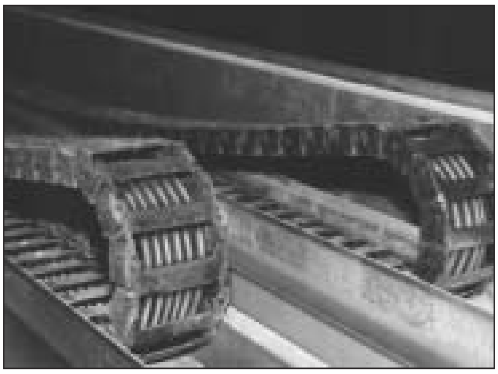
Cable Carriers with fixed widths

Dimensions in mm

MONO TKC CF	UNIFLEX	Support Width b_2	Inside Width b_1	Total Width B_A	Total Height h_A	Plate Depth s
0450	0455	25	$B_k + 6$	$B_1 + 15$	20	1.5
	0555	30	$B_k + 6$	$B_1 + 15$	20	1.5
0625	0600, 0665	40	$B_k + 10$	$B_1 + 15$	20	1.5
TKC 340		30	$B_k + 6$	$B_1 + 15$	20	1.5
TKC 470		30	$B_k + 7$	$B_1 + 15$	20	1.5
TKC 640		40	$B_k + 8$	$B_1 + 25$	30	2.0
TKC 850		40	$B_k + 10$	$B_1 + 30$	40	3.0
CF 055		25	65	80	20	1.5
CF 060		25	65	80	20	1.5
CF 085		40	100	115	20	1.5
CF 115		40	130	150	30	2.5
CF 120		40	135	165	30	2.5
CF 175		55	200	230	40	2.5

We recommend that for small types not listed in the table guide channel profiles without a support be used as support trays.

Guide Channels



Guide channels are crucial elements as far as the operational safety of plastic cable carriers with long travel lengths are concerned.

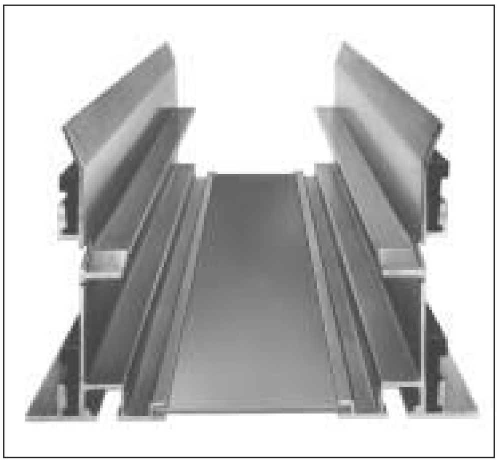
The upper run of the cable carrier sags down and glides on its lower part and / or on a gliding surface of the guide channel.

Designs

Guide Channels in steel plate design

These can be suppplied in galvanised steel plate or high-grade steel. The choice of material depends on the application conditions and your requirements. The standard delivery length is 2m.
On request we can produce components of any desired length up to 3m.

Special lengths in excess of 3m also present no problem to us.
Please consult us for more details.



Guide Channel Modular System made of Aluminium profiles

- Simple assembly
- No intersection bolting, but simple alignment by way of a double compression joint with plastic clamping profiles.
- Available on request with a continuous base-tray.
- Easy handling
- Low intrinsic weight
- One-piece channel side walls
- Channel side wall profiles with support, with inclined slants on both sides

Further information on 2D and 3D CAD Data can be found on the internet at www.kabelschlepp.de.

Pull-out page

Explanation of Terms - Guide Channels

(Please open out!)

System Components

Explanation of Terms – Guide Channels

L_S	=	Travel length of cable carrier
L_{KA}	=	Channel length
L_{KA}'	=	Channel length with support ($\triangleq L_S/2$) with one-sided arrangement ($\triangleq X - 2\,l_1$) with opposing arrangement
L_{Z1}	=	Additional measurement for loop overhang ($\triangleq Ü_B + 50$ mm) with standard connection
L_{Z1}'	=	Additional measurement for loop overhang with lower driver connection and RKR*
L_{Z1}''	=	Additional measurement for loop overhang with lower driver connection and flexible deflection curve bending line *
L_{Z2}	=	Additional measurement for connection ($\triangleq l_1 + 50$ mm)
X	=	Connection distance with an opposing arrangement
B_{KA}	=	Total channel width
B_{EF}	=	Maximum width of cable carrier
b_1	=	Inner channel width
b_2	=	Distance between boreholes – channel screwed on from the outside
b_3	=	Distance between boreholes – channel screwed on from the inside
b_4	=	Distance between boreholes – fixing of the cable carrier
b_5	=	Width of (channel) floor plate
h_{KA}	=	Channel height
h_1	=	Channel profile height – operating height
h_2	=	Channel profile height – support height
s_1	=	Depth of side wall
s_2	=	Depth of (channel) floor plate
d	=	Bore-Ø for screw

Technical Data of Cable Carrier:

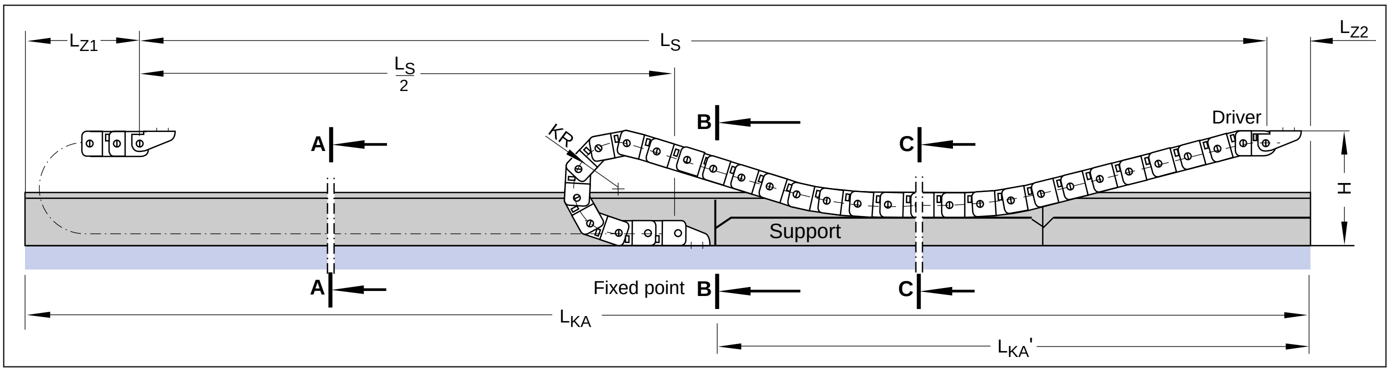
l_1	=	Connection length
$Ü_B$	=	Loop overhang with standard connection
$Ü_B'$	=	Loop overhang with lower driver connection and RKR*
$Ü_B''$	=	Loop overhang with lower driver connection and flexible deflection curve bending line*
H	=	Connection height with standard connection
H’	=	Connection height with lower connection* Recommendation: $H' = 3\,h_G$
RKR	=	Reverse bend radius

***) Please allow us to plan and design installations of this kind for you.**

Calculation of Guide Channel Length L_{KA}

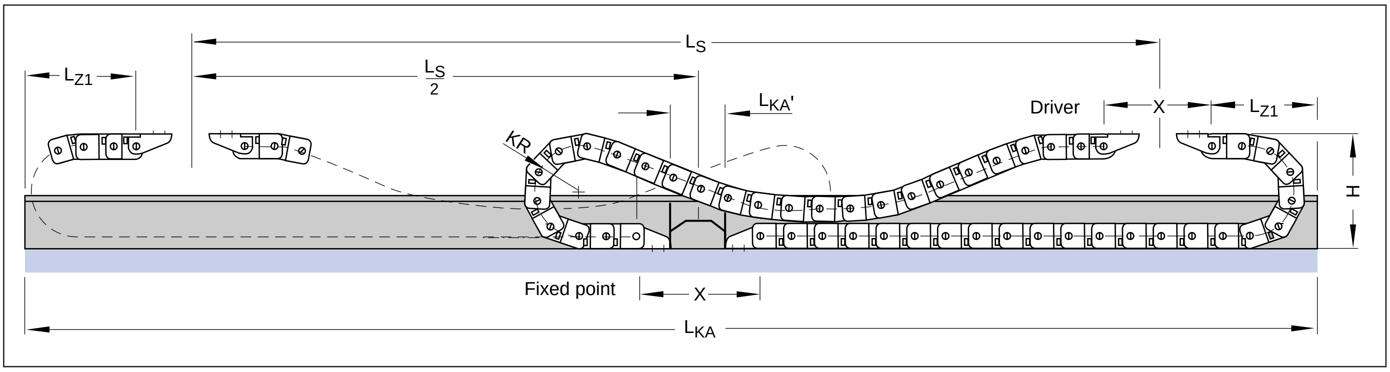
One-sided cable carrier arrangement (Standard connection)

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



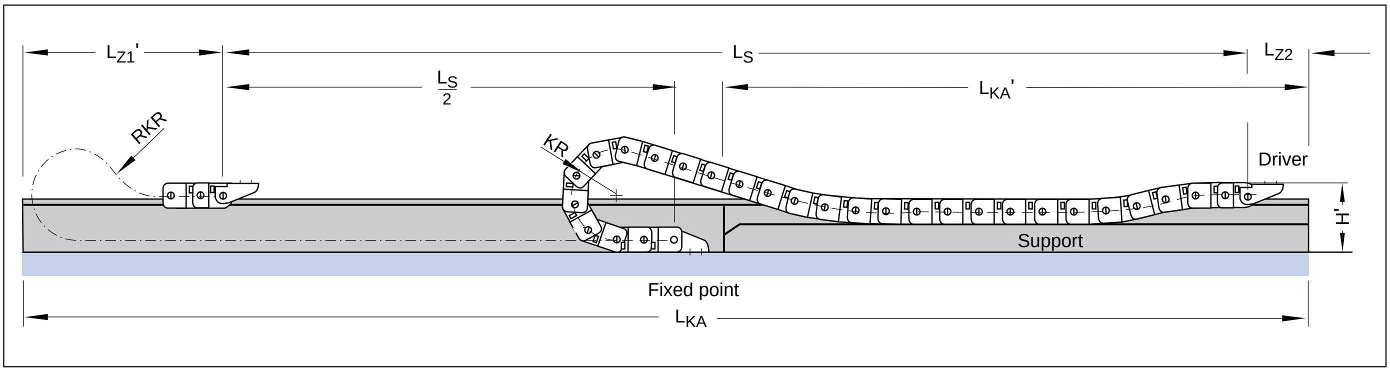
Opposing cable carrier arrangement (Standard connections)

$L_{KA} = L_S + 2\ L_{Z1} + X$



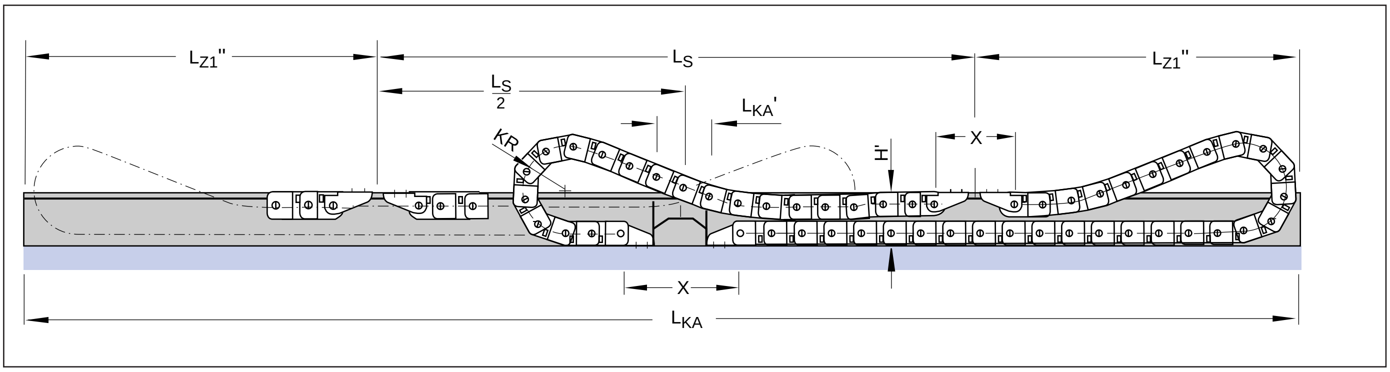
One-sided cable carrier arrangement
(with lower driver connection and reverse bend radius)

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



Opposing cable carrier arrangement
(with lower driver connections and flexible deflection curve bending line)

$L_{KA} = L_S + 2\ L_{Z1}'' + X$

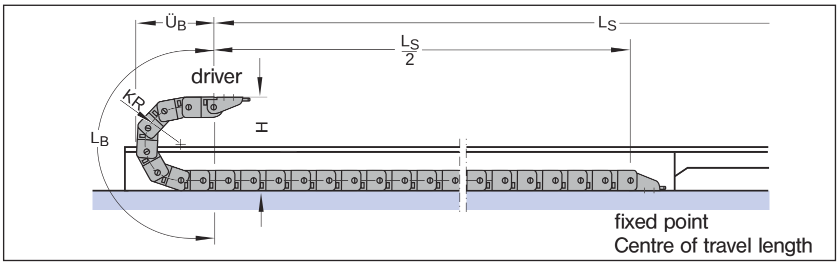


System Components

Loop Overhang $Ü_B$ and Bend Length L_B

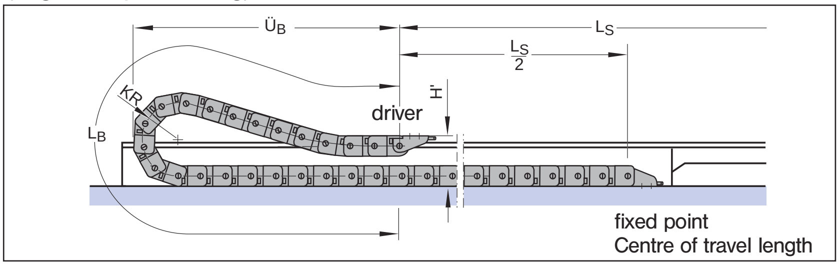
With a lower driver connection there is a larger loop overhang $Ü_B$ and therefore also a larger bend length L_B than with a standard driver connection height.

Standard Driver Connection Height
(smallest loop overhang)



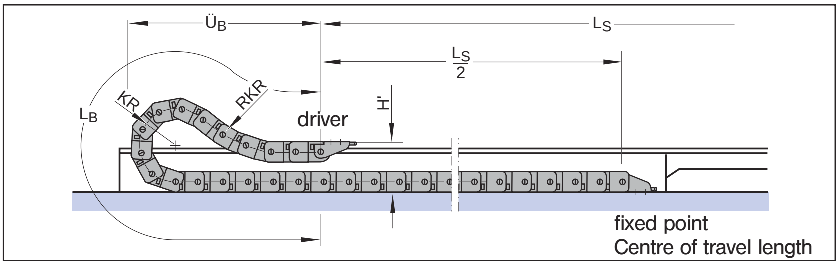
An arrangement with a flexible deflection curve bending line is recommended.

Lower Driver Connection with flexible deflection curve bending line
(largest loop overhang)



If space requirements mean that an arrangement with a flexible deflection curve bending line is not possible, RKR links can also be used with a lower driver connection.

Lower Driver Connection with RKR links
(reduced loop overhang)

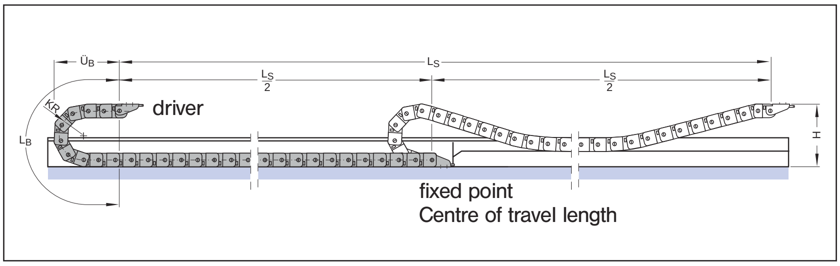


Calculation of Chain Length L_K

General formula for calculating the chain length L_K

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

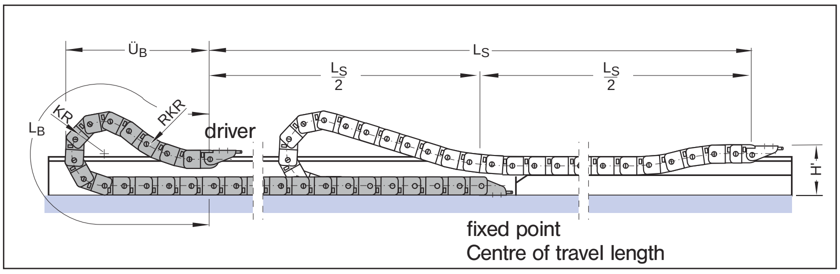
rounded to pitch t



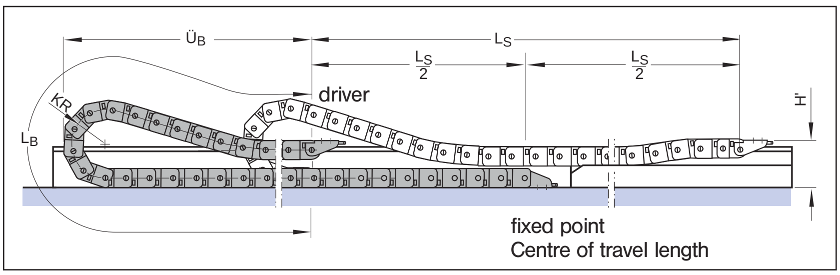
Calculation of Bend Length L_B

Recommended bend length L_B **with standard driver connection height**

$$L_B \approx KR\,\pi + 2\,t + KR$$



The calculation of the bend length with a **flexible deflection curve bending line** and **reverse bend radius RKR** depends on various factors such as the chain type, bend radius, number of the RKR links etc.



Our experts should design application layouts of this kind.

Guide Channels made of Steel Plate

With a one-sided cable carrier arrangement the cable carrier glides behind the fixed point on a continuous gliding surface with inclined slants.

With an opposing arrangement a gliding plate is likewise attached to make a bridge between the fixed point connections.

See page 6.06 for details.

To reduce the gliding resistance and wear between the cable carrier and the support a special gliding plate can be attached. We recommend the use of special gliding plates with speeds of >0.5m/s and with frequent cycles of operation.

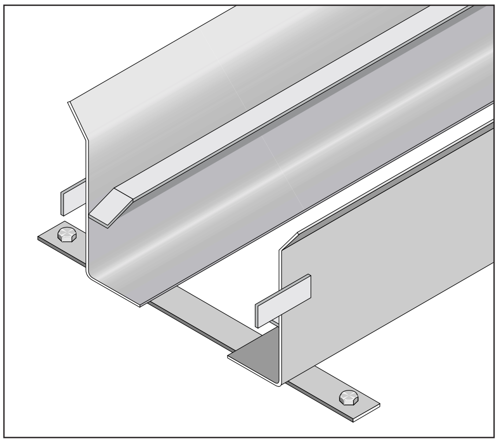
Calculation of channel length cf. page 6.06

Materials: Galvanised steel plate
High-grade steel

Delivery length: Standard length 2m
Individually customised up to a maximum of 3m
Special lengths on request

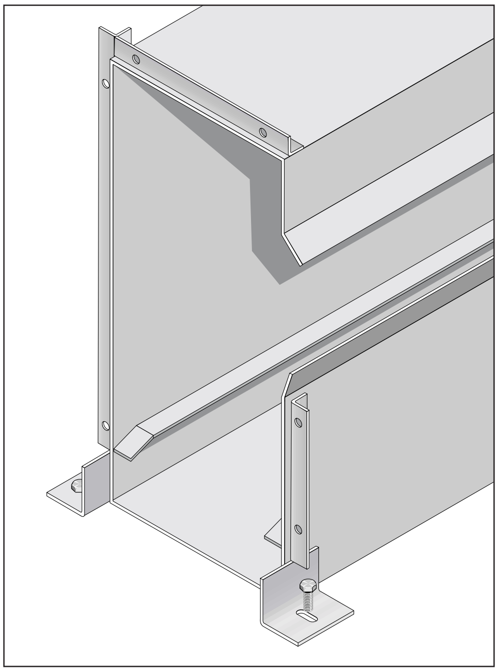
We can also produce guide channels made of steel plate for your individual application. We can consider almost any request with regard to special form and fixing possiblities.

Standard design for individual, customer-specific fixing, for example by welding directly onto the application site.



Example of a Special Design

- for fine-grained dirt particles, water, etc. ...
- Dust and dirt can fall through the gap to down below
- Application areas include washing plants, the wood-working industry, composting plants...



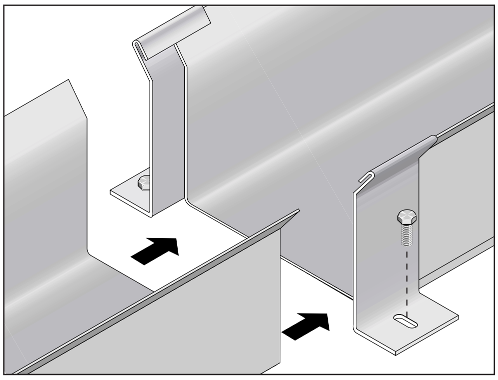
Example of a Special Design

- with heavy and coarse contamination / dirt (covered)

Further possible ways of connecting guide channels in a steel plate design

With KABELSCHLEPP guide channels you have various possibilities as far as fixing them to the ground and / or a supporting structure are concerned.

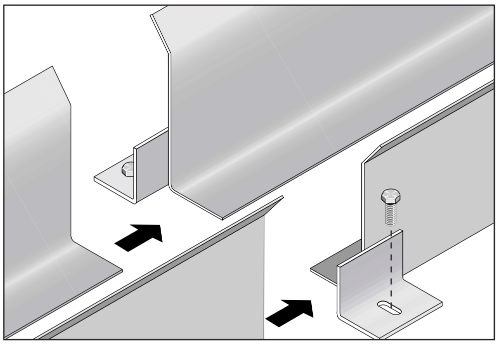
No contact point backfilling must be allowed to occur at the connection points on the individual channel components, ie the side walls and floor must form a smooth surface. KABELSCHLEPP guide channels are so constructed that exact connection points and simple assembly are guaranteed.



Cost-effective special solution:

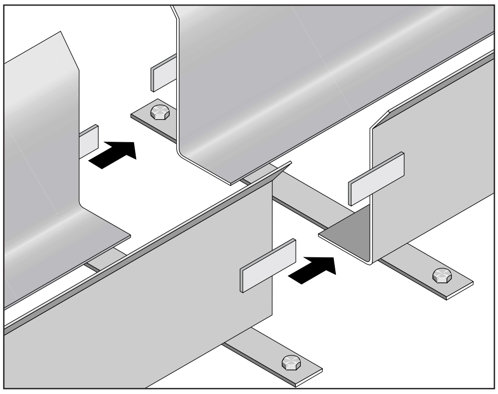
A special hinge socket is fitted to the contact points and guarantees, alongside the fitting of the channel to the ground, an exact connection of the joining points.

- Optimum alignment of the connection points
- Reduced assembly / installation times
- Minimal number of screw connections



Fastening angles

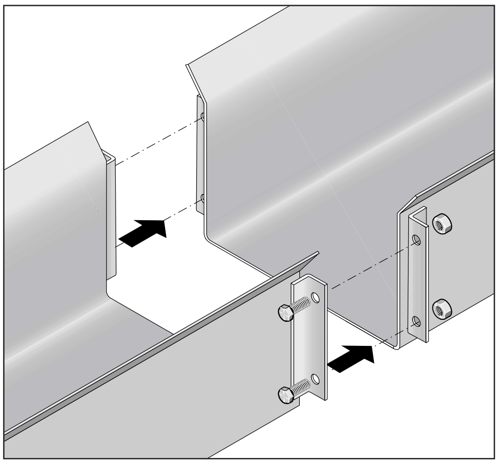
- Optimum alignment of the connection points
- Reduced assembly / installation times
- Minimal number of screw connections



Fixing with welded-on flat bars

- Optimum alignment of the connection points
- Reduced assembly / installation times
- Minimal number of screw connections
- Plug connector system

Connection points



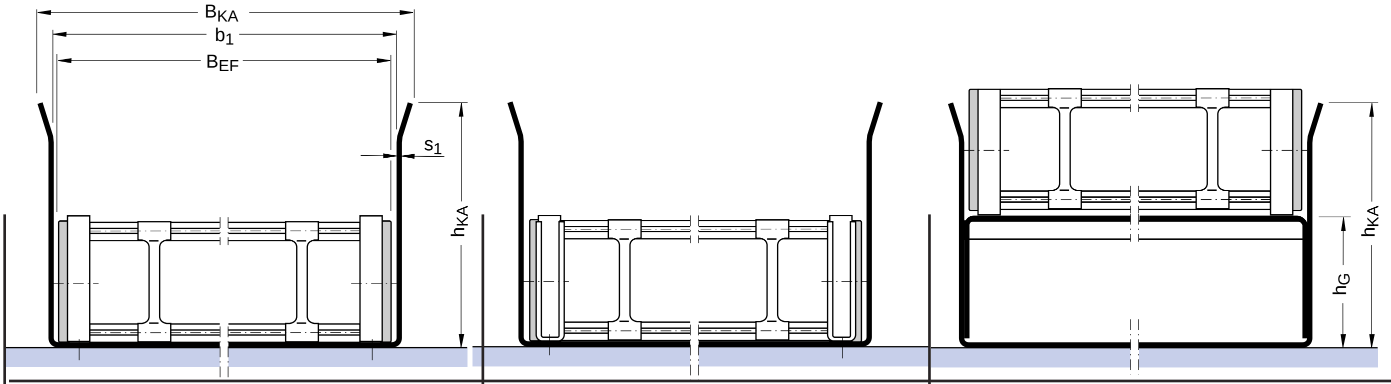
Special solution for self-supporting connection points

Connection points without support (self-supporting)

Safe, secure connection at joining points even when there are vibrations or in self-supporting channel arrangements.

Channel cross-sections:

for guide channels in a steel plate design
(cf. page 6.06 for section details)



Section A - A	Section B - B	Section C - C
Channel profile without support	Fixed point	Channel profile with support

Table of Dimensions

for plastic cable carriers

MONO

When calculating the inside width b1 the chain width B_K is taken into consideration.

Type	Inside width b_1	Total width B_{KA}	Total height h_{KA}	Plate depth s
0450	$B_K + 4$	$B_K + 24$	70 with KR < 100 125 with KR ≥ 100	2
0625	$B_K + 5$	$B_K + 25$	117 with KR < 200 200 with KR ≥ 200	2

For Type 0320 we recommend the use of guide channels made of Aluminium profiles.

UNIFLEX

When calculating the inside width b_1 the chain width B_K is taken into consideration. Plastic connecting pieces must be used at the fixed point. Universal connecting pieces made of die-cast Aluminium cannot be used in the channel.

Dimensions in mm

Type	Inside width b_1	Total width B_{KA}	Total height h_{KA}	Plate depth s
0455	$B_K + 4$	$B_K + 24$	70 with KR < 100 125 with KR ≥ 100	2
0555	$B_K + 5$	$B_K + 25$	117 with KR < 200 200 with KR ≥ 200	2
0600, 0665	$B_K + 5$	$B_K + 25$	117 with KR < 200 200 with KR ≥ 200	2

For Type 0345 we recommend the use of guide channels made of Aluminium profiles.

K-Series

When calculating the inside width b_1 and the total width B_{KA} the width of the cable carrier B_{EF}‘ (over the sliding discs) is taken into consideration.

Dimensions in mm

Type	Inside width b_1	Total width B_{KA}	Total height h_{KA}	Plate depth s
KC/KE-0650	$B_{EF}' + 5$	$B_{EF}' + 25$	117 with KR < 200 200 with KR ≥ 200	2
KC/KE-0900	$B_{EF}' + 5$	$B_{EF}' + 25$	150 with KR < 200 300 with KR ≥ 200	2

K–Series: Sliding discs must be used.

M-Series

When calculating the inside width b_1 the chain width B_K is taken into consideration. When using universal connecting pieces made of Aluminium the width of the cable carrier over the universal connecting piece B_{EF} must be taken into consideration when calculating the inside width b_1.

Dimensions in mm

Range	Inside Width b_1	Total Width B_{KA}	Total Height h_{Ka}	Plate depth s
MC/ME/MK/MT 0475	$B_k + 4$	$B_k + 24$	70 with KR < 100 125 with KR ≥ 100	2
MC/ME/MK/MT 0650	$B_k + 5$	$B_k + 25$	117 with KR < 200 200 with KR ≥ 200	2
MC/ME/MK/MT 0950	$B_k + 5$	$B_k + 25$	150 with KR < 200 300 with KR ≥ 200	2
MC/ME/MK/MT 1250	$B_k + 6$	$B_k + 26$	200 withKR < 300 400 with KR ≥ 300	2

M-Series: When universal connecting pieces are used at the fixed point these are screwed directly onto the channel side wall.

Please contact us, we will be happy to advise you.

XL-Series

Dimensions in mm

Range	Inside Width b_1	Total Width B_{KA}	Total Height h_{Ka}	Plate Depth s
XLC-, XLT 1650	$B_k + 6$	$B_k + 26$	300 with KR < 350 400 with KR ≥ 350	3

QUANTUM

When calculating the inside width b_1 and the total width B_{KA} for Types Q 060, Q 080, und Q 100 where glide shoes are being used:
The width of the cable carrier B_{EF}‘ over the glide shoes is taken into consideration. If glide shoes are not being used, the extra dimensions are reduced. Please contact us, we will be happy to advise you.

Dimensions in mm

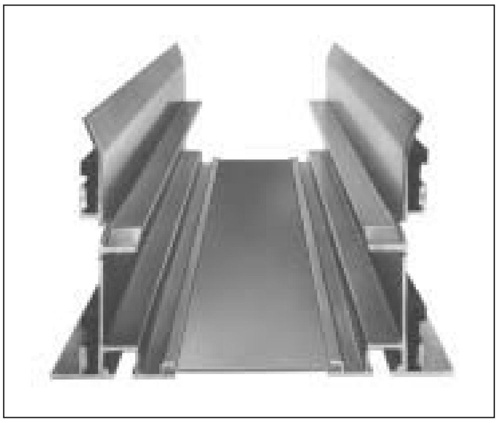
Range	Inside Width b_1	Total Width B_{KA}	Total Height h_{Ka}	Plate Depth s
Q 040	$B_k + 4$	$B_k + 24$	70 with KR < 110 125 with KR ≥ 110	2
Q 060	$B_k + 9$	$B_k + 29$	117 with KR < 190 200 with KR ≥ 190	2
Q 080	$B_k + 12.5$	$B_k + 32.5$	150 with KR < 320 300 with KR ≥ 320	2
Q 100	$B_k + 13.5$	$B_k + 33.5$	250 with KR < 370 350 with KR ≥ 370	2

QUATTROFLEX

Dimensions in mm

Range	Inside Width b_1	Total Width B_{KA}	Total Height h_{Ka}	Plate Depth s
TKC 340	$B_k + 4$	$B_k + 24$	70 with KR < 100 125 with KR ≥ 100	2
TKC 470	$B_k + 5$	$B_k + 25$	117 with KR < 200 200 with KR ≥ 200	2
TKC 640	$B_k + 5$	$B_k + 25$	150 with KR < 200 300 with KR ≥ 200	2
TKC 850	$B_k + 6$	$B_k + 26$	200 with KR < 300 400 with KR ≥ 300	2

Guide Channels made of Aluminium profiles



Modular system made of Aluminium

no assembly sets	- i.e. no connecting point screws
easy handling	- low intrinsic weight
	- no connecting point backfilling when assembling
	- various possibilities for fixing the profiles
	- uncomplicated fixing of the cable carrier to the fixed point in the channel
Material:	- Channel side wall profiles - AlMgSi 0.5 F 22
Clamping profiles	- KS-7426 S
Calculation of chain length	→ cf. page 6.06

Guide Channel Cross-sections:

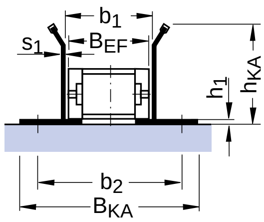
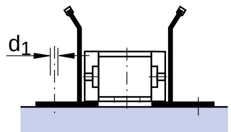
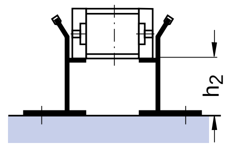
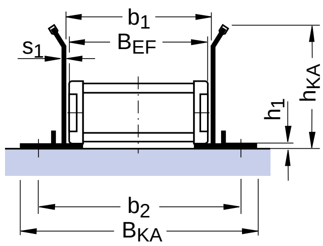
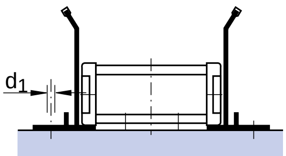
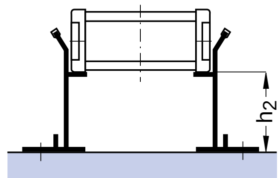
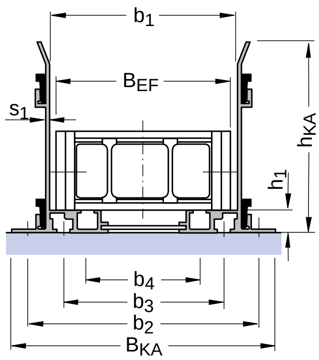
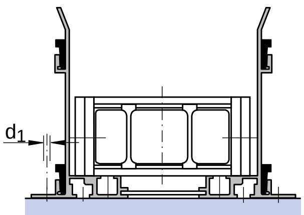
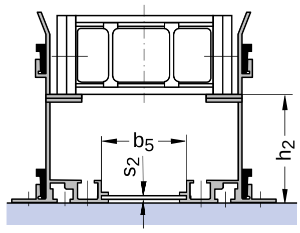
(cf. page 6.06 for section details) **Type**	**Section A - A** **Channel profile without support**	**Section B - B** **Fixed point**	**Section C - C** **Channel profile with support**
0130/0132 **0180/0182** **0202**			
0250 **0320; 0345** **MC 0320** **ME 0320**			
0450; 0455 **MK, MT 0475** **0555** **0600; 0625; 0650** **KC/KE 0650** **MC/ME/MK/MT 0650** **KC/KE 0900** **MC/ME/MK/MT 0950** **Q040,Q060,Q080,** **Q100*,** **MC/ME/MK/MT 1250*** ***without the b_4 measured clearance**			

Table of Dimensions

for plastic cable carriers

MONO

When calculating the inside width b1 the chain width BK is taken into consideration.

Dimensions in mm

Type	b_1	b_2	b_3	b_4	b_5	B_{KA}	h_1	h_2	h_{KA}	d_1	s_1	s_2
0130/0132 0180/0182/202	$B_k + 3$	$B_k + 16$	---	---	---	$B_k + 26$	1.5	25	38	Ø 6/M5	1.5	---
0320	$B_k + 3$	$B_k + 29$	---	---	---	$B_k + 42$	1.5	29	55	Ø 7/M6	2.0	---
0450	$B_k + 4$	$B_k + 31$	$B_k - 10$	$B_k - 32$	$B_k - 43$	$B_k + 44$	14	52	100	Ø 7/M6	2.0	1.5
0625	$B_k + 5$	$B_k + 39$	$B_k - 12$	$B_k - 44$	$B_k - 62$	$B_k + 55$	15	75	130	Ø 9/M8	2.2	2.0

UNIFLEX

When calculating the inside width b_1 the chain width B_K is taken into consideration. Plastic connecting pieces must be used at the fixed point. Universal connecting pieces made of die-cast Aluminium cannot be used in the channel.

Dimensions in mm

Type	b_1	b_2	b_3	b_4	b_5	B_{KA}	h_1	h_2	h_{KA}	d_1	s_1	s_2
0250	$B_k + 3$	$B_k + 29$	---	---	---	$B_k + 42$	1.5	25	55	Ø 7/M6	2.0	---
0345	$B_k + 3$	$B_k + 29$	---	---	---	$B_k + 42$	1.5	29	55	Ø 7/M6	2.0	---
0455	$B_k + 4$	$B_k + 31$	$B_k - 10$	$B_k - 32$	$B_k - 43$	$B_k + 44$	14	52	100	Ø 7/M6	2.0	1.5
0555	$B_k + 5$	$B_k + 42$	$B_k - 12$	$B_k - 44$	$B_k - 62$	$B_k + 55$	14	65	115	Ø 7/M6	2.2	2.0
0600; 0665	$B_k + 5$	$B_k + 39$	$B_k - 12$	$B_k - 44$	$B_k - 62$	$B_k + 55$	15	75	130	Ø 9/M8	2.2	2.0

K-Series

When calculating the inside width b_1 the width of the cable carrier B_{EF}‘ (over the sliding discs) is taken into consideration.

Dimensions in mm

Type	b_1	b_2	b_3	b_4	b_5	B_{KA}	h_1	h_2	h_{KA}	d_1	s_1	s_2
KC/KE-0650	B_{EF}‘ + 5	B_{EF}‘ + 39	B_{EF}‘ - 12	B_{EF}‘ - 44	B_{EF}‘ - 62	B_{EF}‘ + 55	15	75	130	Ø 9/M8	2.2	2.0
KC/KE-0900	B_{EF}‘ + 5	B_{EF}‘ + 41	B_{EF}‘ - 13	B_{EF}‘ - 55	B_{EF}‘ - 31	B_{EF}‘ + 57	18	100	185	Ø 9/M8	2.8	2.5

K-Series: Sliding discs must be used.

M-Series

When calculating the inside width b_1 the chain width B_K is taken into consideration. When using universal connecting pieces made of Aluminium the width of the cable carrier over the universal connecting piece B_{EF} must be taken into consideration when calculating the inside width b_1.

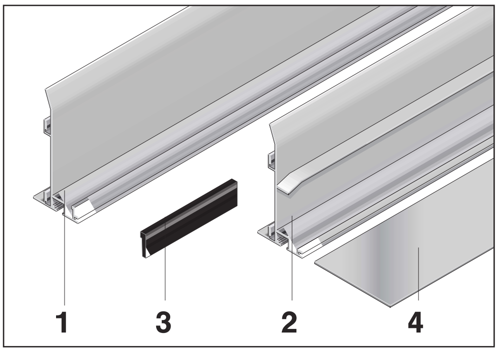
When universal connecting pieces are used at the fixed point these are screwed directly onto the channel side wall.

Please contact us, we will be happy to advise you.

Dimensions in mm

Type	b_1	b_2	b_3	b_4	b_5	B_{KA}	h_1	h_2	h_{KA}	d_1	s_1	s_2
MC/ME0320	$B_K + 3$	$B_K + 29$	---	---	---	$B_K + 42$	1.5	29	55	Ø 7/M6	2.0	---
MK/MT0475	$B_K + 4$	$B_K + 31$	$B_K - 10$	$B_K - 32$	$B_K - 43$	$B_K + 44$	14	52	100	Ø 7/M6	2.0	1.5
MC/ME MK/MT0650	$B_K + 5$	$B_K + 39$	$B_K - 12$	$B_K - 44$	$B_K - 62$	$B_K + 55$	15	75	130	Ø 9/M8	2.2	2.0
MC/ME MK/MT0950	$B_K + 5$	$B_K + 41$	$B_K - 13$	$B_K - 55$	$B_K - 31$	$B_K + 57$	18	100	185	Ø 9/M8	2.8	2.5
MC/ME MK/MT1250	$B_K + 6$	$B_K + 43$	$B_K - 25$	---	$B_K - 41$	$B_K + 68$	19.5	119	248	Ø 9/M8	2.8	2.5

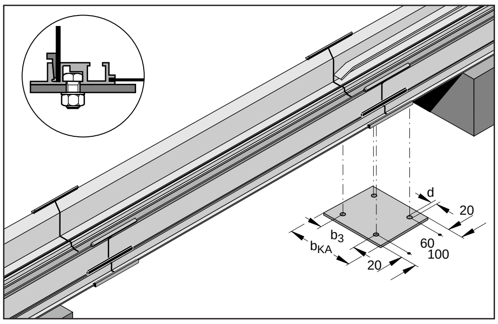
Standard lengths:



Part 1 Channel side wall profile without support 1000 mm + 2000 mm
Part 2 Channel side wall profile with support 1000 mm + 2000 mm
Part 3 Plastic clamping profile 130 mm
Part 4 Base tray - available on request

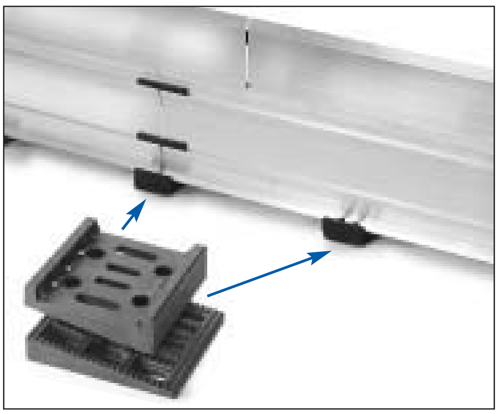
Standard lengths are available from the KABELSCHLEPP warehouse and agencies!

Assembly tips:



Where channel profile contact points have no firm ground beneath them the guide channel components are screwed together with adapter plates.

Channel Holder
for the 1200 range



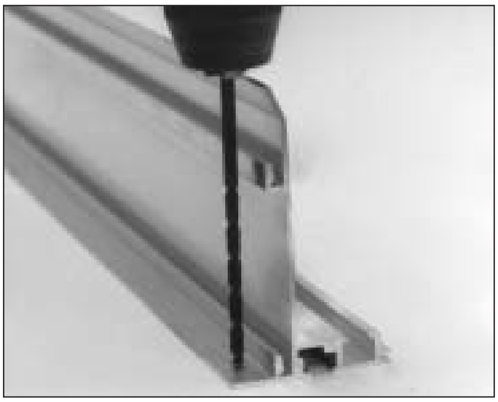
Channel holder

With the channel holder the Aluminium channel system for the 1200 range can be quickly and easily set up and attached even in difficult installation situations: the wedge shape of the channel holder means that the height can be levelled out. The slots in the channel holders absorb the horizontal tolerances of the fitting boreholes.

- Channel holders made of PA (plastic), height-adjustable as an alignment aid, absorb vertical displacement tolerances
- Oblong slots for horizontal displacement tolerances
- Channel holders can be used as fixed supports for a secure hold and also as loose supports for the optimum compensation of thermal expansion.

Fixing Options

**for Series
400, 500, 600 and 900**



Screwed on "from the outside"

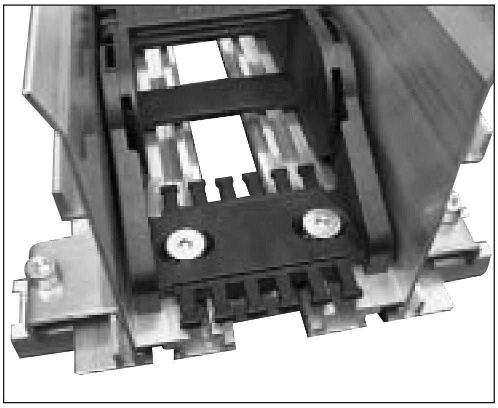
Fixing boreholes are provided for this purpose.

A marking notch facilitates the alignment and boring process.

Screwed on "from the inside"

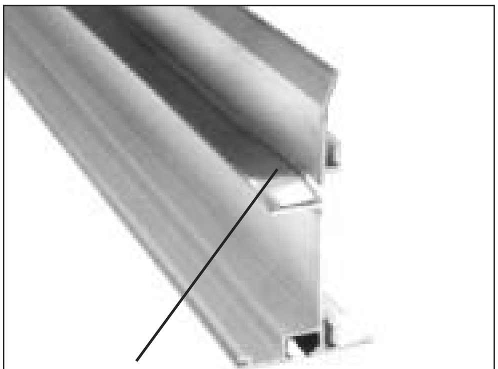
Recesses are provided in the channel profiles to accommodate hexagonal screws.

The screws can be pushed in lengthwise to the position you desire.



Screwed on with clamps

Simple alignment by fitting onto a C-Rail.



Special gliding plate

From Series 0600 a special gliding plate must be mounted on the channel profile with support. Special gliding plates and splicing tapes are automatically supplied with deliveries of guide channels for Series 0600 to 1200. Should a special gliding plate be required for Series 0100 to 0500, this must be stated when the order is placed.

Special gliding plate for:
- minimal traction
- minimal sliding friction
- smooth operation free of contact / intersection points
- minimising noise emissions

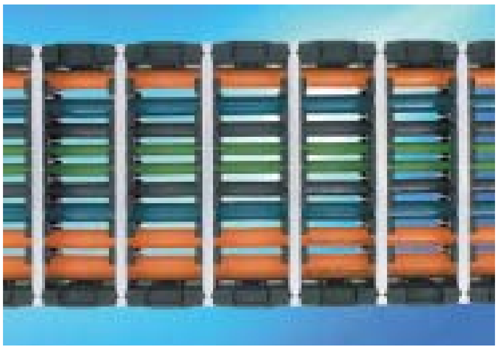
System Components

LIFELINE - SAFETY CABLES

Chain + Cable from the inventor

The innovative stocking programme

The KABELSCHLEPP **LIFE LINE** product – a new fully optimised standard cable for drag chains – was developed specifically for use in dynamic cable and hose carriers (chains and link-free, one-piece extrusion PROFILE and QUANTUM carriers).



Protection against corkscrewing

Long service life: the Kabelschlepp corset-design provides effective protection against core breaking and against the twisting of the core bundles.

DESINA-CONFORMANT

We use Desina as our standard.
Reduced variety, reduced costs.

DESINA

ULCSA-approved

A standard programme for use world-wide.

Bundled strands

Continuously flexible – all cross-sections from 12 cores.
For the longest service life with all applications.

KABELSCHLEPP TPM Core Insulation

Halogen-free - Flexible - Good endurance - Easily stripable

7.5 x (Ø)

For all travel lengths, screened and unscreened, for **LIFE-LINE** Series 400 and 700.

0.6/1kV

One single voltage classification for all motors.
Reduced variety – reduced costs.

Fully harnessed Systems

The benefits to you

- Professional system advice
- Complete engineering for all components
- Tailor-made design
- Quality production with a guarantee
- Complete delivery from a single source
- Reduced storage costs
- Complete installation and commissioning

System guarantee

- All components supplied with a certificate on request

Delivered ready to install

- Your installation requirements are taken into account in our Despatch Department with appropriate, customised packaging
- Fully harnessed and ready-to-install, to ‘plug in and play’ at the installation site
- Simple logistics
- Reduced costs
- Complete system guarantee

Strain Relief Devices

The correct selection of strain relief devices is an essential factor in the completion of an operationally safe and reliable cable / hose carrier system.

The forces being carried by the cable carrier must not be transferred onto the cables / hoses.

With SZL strain relief devices from KABELSCHLEPP the cables and hoses can be fixed quickly and easily, to last.

Strain relief on both sides:

- for cables with a high degree of flexibility or low intrinsic strength
- for vertically-arranged cable carriers
- for power cables which move within the unsupported area of the cable carriers

Strain relief at the driver:

- for longer travel lengths
  (except for electric cables with low intrinsic strength)
- for pressure hoses

For cable carriers with stacked sliding upper and lower runs (Installation Variant EBV 05) the total height of the strain relief device must not exceed the chain link height.

Positioning of the Strain Relief Devices

For cable carriers with stacked sliding upper and lower runs the total height of the strain relief device must not exceed the chain link height.

Saddle-type and Block Clamps for M- and K-Series 0650

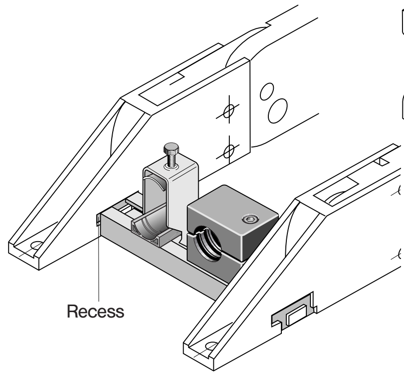
The C-Profile is fixed in the recesses on the connecting piece. No additional fixing is necessary.

Strain relief at the fixed point and at the driver connection is identical!

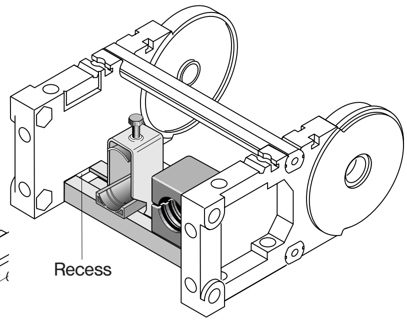
C-Profile length:
K-Series: $L_P = B_i - 4$ mm
M-Series: $L_P = B_i + 4$ mm

The C-Profile fits all commercial saddle-type clamps with a small base and corresponding block clamps
(slit width 11-12 mm).

The recess in the end connector is suitable for all commercial C-Profiles measuring 25 x 10 mm and 25 x 12 mm.



K-Series



M-Series

Saddle-Type and Block Clamps for M- and K-Series 0650

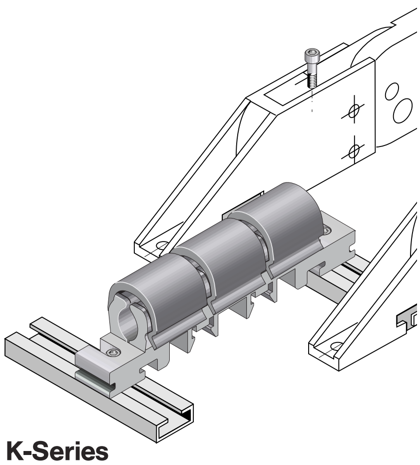
The rear C-Profile is fixed into the recesses on the connecting piece. No additional fixing is necessary.

The front C-Profile is fastened with fixing screws.

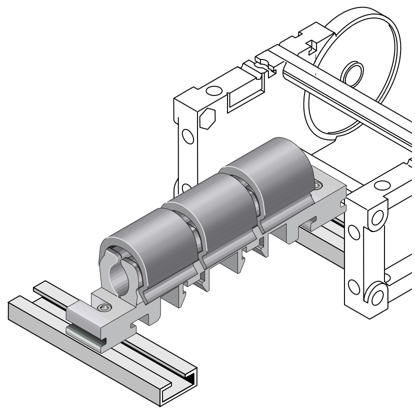
The strain relief at the fixed point and at the driver connection is identical!

C-Profile length:
K-Series: $L_P = B_i - 4$ mm
M-Series: $L_P = B_i + 4$ mm

The recess in the end connector is suitable for all commercial C-Profiles measuring 25 x 10 mm and 25 x 12 mm.



K-Series



M-Series

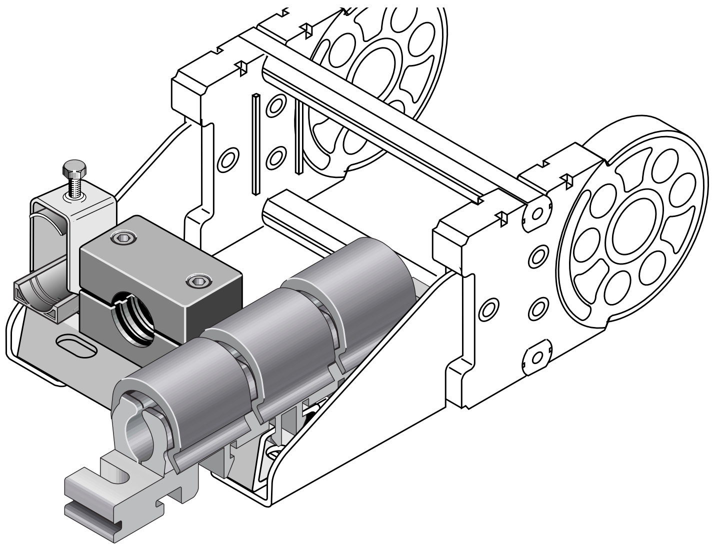
Saddle-type and Block Clamps and SZL Strain Relief Devices for M-Series 0650

The C-Rail can be mounted on the end connectors. Fixing is by way of the fastening screws on the end connectors.

The strain relief at the fixed point and at the driver connection is identical!

C-Rail length:
$L_P = B_i + 4$ mm

The C-Rail fits all commercial saddle-type clamps with a large base, corresponding block clamps and SZL strain relief devices (slit width 16 – 17 mm).



Positioning of the Strain Relief Devices

For cable carriers with stacked gliding upper and lower runs the screw heads of the saddle clamps must not exceed the height of the chain link!

for K-Series 0900

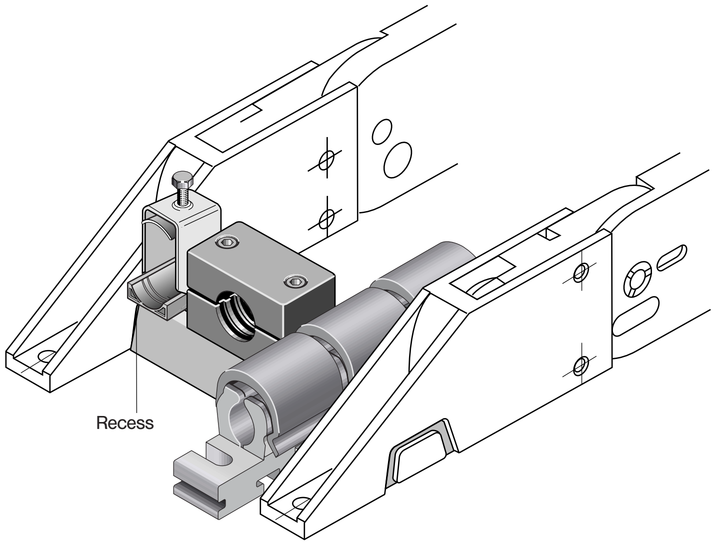
The C-Rail is fixed in the recesses on the connecting piece. No additional fixing is necessary.

The strain relief at the fixed point and at the driver connection is identical!

C-Rail length: $L_P = B_i - 4$ mm

The C-Rail fits all commercial saddle-type clamps with a large base, corresponding block clamps and SZL strain relief devices (slit width 16 – 17 mm).

The recess in the end connector is suitable for all commercial C-Rails measuring 34 x 15 mm.



for M-Series 0950 and 1250

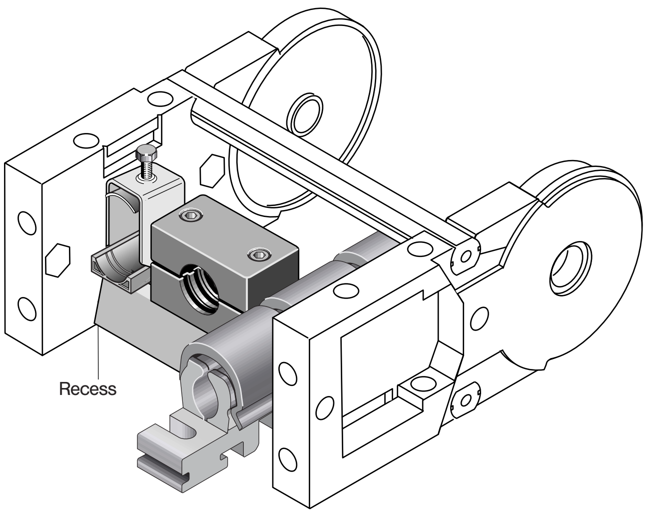
The C-Rail is fixed in the recesses on the connecting piece. No additional fixing is necessary.

The strain relief at the fixed point and at the driver connection is identical!

C-Rail length: 0950: $L_P = B_i + 10$ mm
1250: $L_P = B_i + 5$ mm

The C-Rail fits all commercial saddle-type clamps with a large base, corresponding block clamps and SZL strain relief devices (slit width 16 – 17 mm).

The recess in the end connector is suitable for all commercial C-Rails measuring 34 x 15 mm.



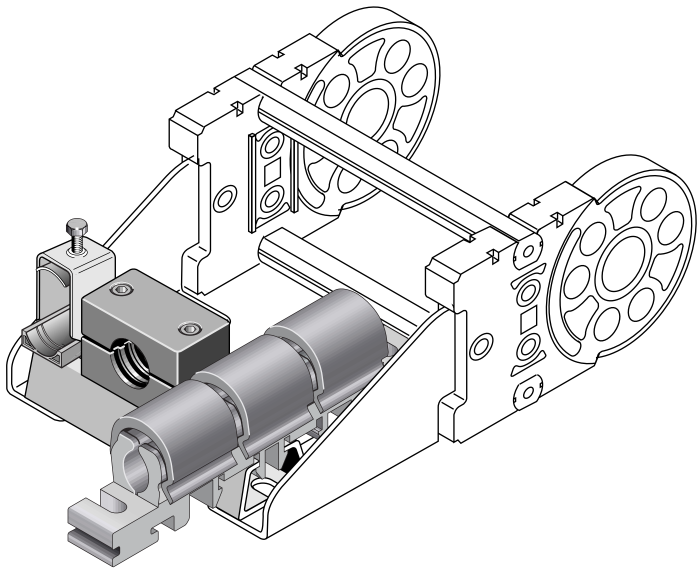
for M-Series 0950 and 1250

The C-Rail can be mounted on the end connector.

The strain relief at the fixed point and at the driver connection is identical!

C-Rail length: 0950: $L_P = B_i$
1250: $L_P = B_i + 5$ mm

The C-Rail fits all commercial saddle-type clamps with a large base, corresponding block clamps and SZL strain relief devices (slit width 16 – 17 mm).



Positioning of the Strain Relief Devices

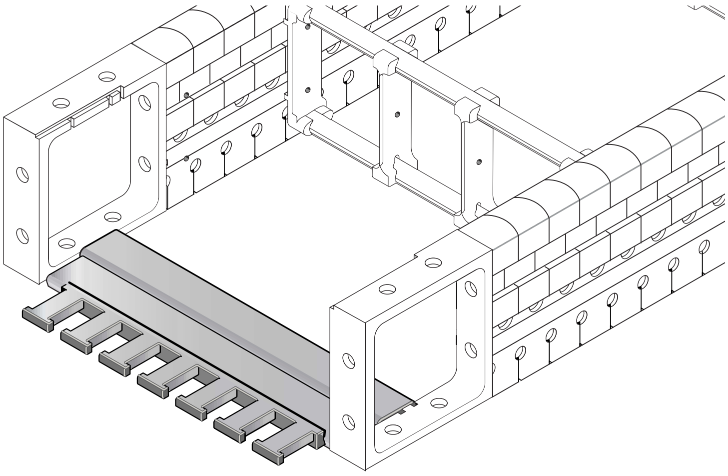
For cable carriers with stacked sliding upper and lower runs the total height of the strain relief device must not exceed the chain link height.

Integrated strain relief cog Q040, Q060

The Aluminium strain relief cog is fixed into the recesses on the connecting piece.

The strain relief cogs at the fixed point and at the driver connection are identical!

Strain relief cog $L_P = B_i + 16$ mm



Saddle-type and Block Clamps for Q060

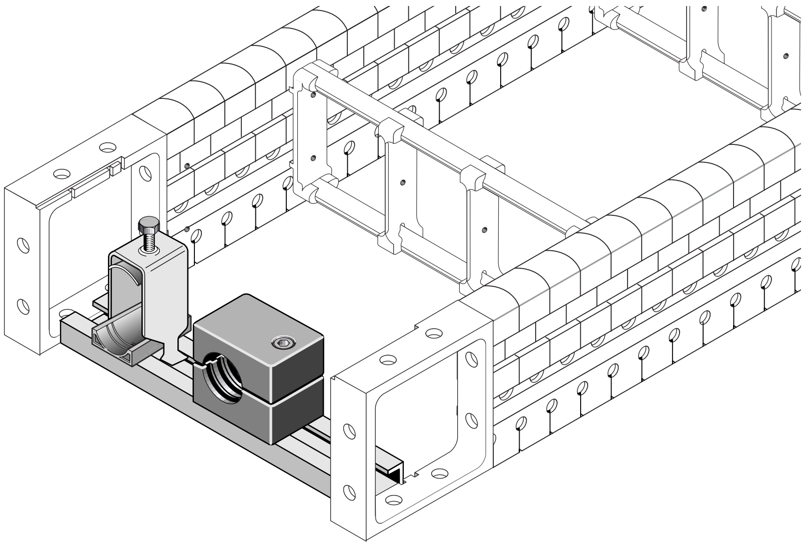
The C-Profile is fixed into the recesses in the connecting piece.

The strain relief at the fixed point and at the driver connection is identical!

C-Profile length $L_P = B_i + 18$ mm

The C-Profile fits all commercial saddle-type clamps with a small base and corresponding block clamps
(slit width 11-12 mm).

The recess in the connecting piece is suitable for all commercial C-Profiles measuring 25 x 10 mm and 25 x 12 mm.



Positioning of the Strain Relief Devices

SZL Strain Relief Devices for Q060

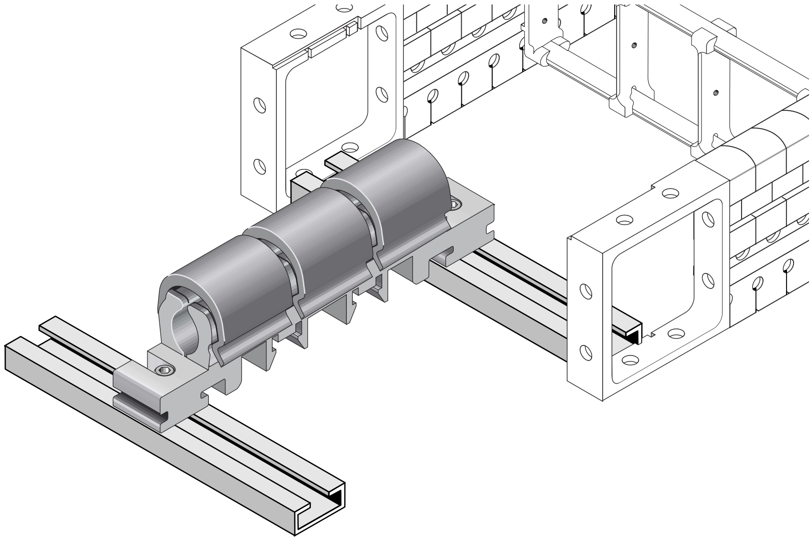
The rear C-Profile is fixed into the recesses in the connecting piece.

The front C-Profile can be fixed with screws.

The strain relief at the fixed point and at the driver connection is identical!

C-Profile length $L_P = B_i + 30$ mm

The recess in the connecting piece is suitable for all commercial C-Profiles measuring 25 x 10 mm and 25 x 12 mm.



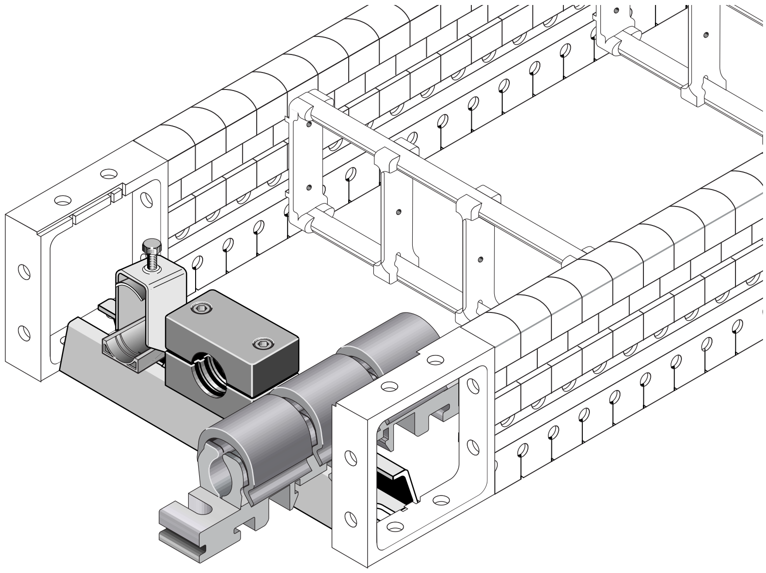
Saddle-type and Block Clamps and SZL Strain Relief Devices for Q080 and Q100

The C-Rail is fixed into the recesses on the connecting piece.

The strain relief at the fixed point and at the driver connection is identical!

C-Rail length $L_P = B_i + 30$ mm

The C-Rail fits all commercial saddle-type clamps with a large base, corresponding block clamps and SZL strain relief devices (slit width 16 – 17 mm).



SZL Strain Relief Devices

The first really effective strain relief device – soft and protective of cables and hoses in cable carriers

Benefits:

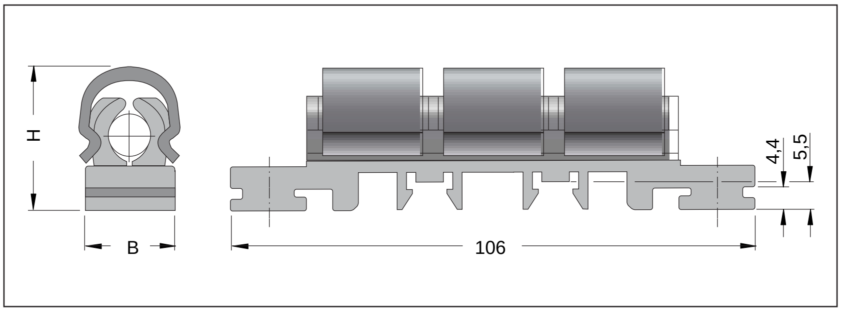
- No screws or cable ties
- Large surface area in contact with the cables
- Defined contact pressure exerted by spring clamps
- Vibration-safe
- Quick, easy fitting – and no tools required
- Suitable for standard commercial bearing rails
- Can also be used for strain relief in switch cabinets

Fixing options:

- By clipping into C-Profiles 34 x 15 mm with slit width 16 - 17 mm
- By clipping onto cap bar 35 x 7.5 mm - DIN EN 50022
- By pushing onto two C-Rails 20 x 10 mm with slit width 11 - 12 mm (fastening of basic elements via slotted screw bolt connection) or
- By directly screwing onto the basic elements

Available Sizes: in mm

Type	Ident.-No.	for cable/hose-Ø	Width B with		Height H
			Ømin	Ømax	
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



Double-decker arrangement:

If a cable carrier is fitted with very many cables and hoses, the SZL strain relief device can be fitted in a two-tier arrangement.

Please ask us for more information!

You will find further information on 2D and 3D CAD Data on the Internet at www.kabelschlepp.de.

KABELSCHLEPP

Fitting Instructions

for SZL Strain Relief Devices

Fixing of the
basic element

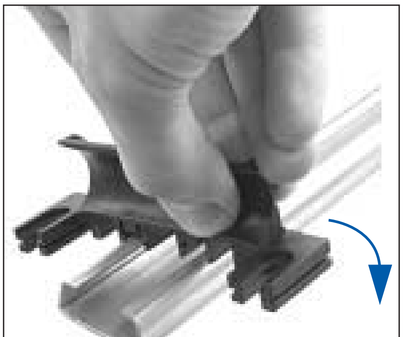
1.1 by clipping into a C-Rail

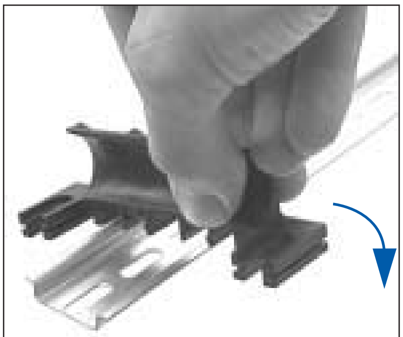
1.2 by clipping onto a cap bar

1.3 by insertion into two C-Profiles; the basic elements are fastened via a slotted screw bolt connection in the profiles

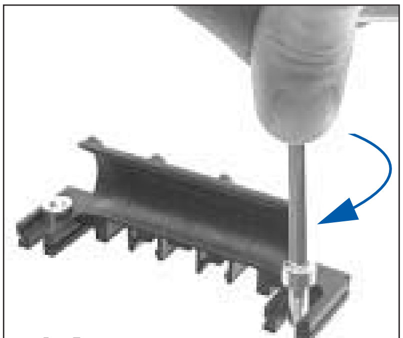
1.4 by directly screwing it on

Solutions 1.3 and 1.4 are for transferring higher tensile forces and are therefore strongly recommended as a standard solution.


1.1

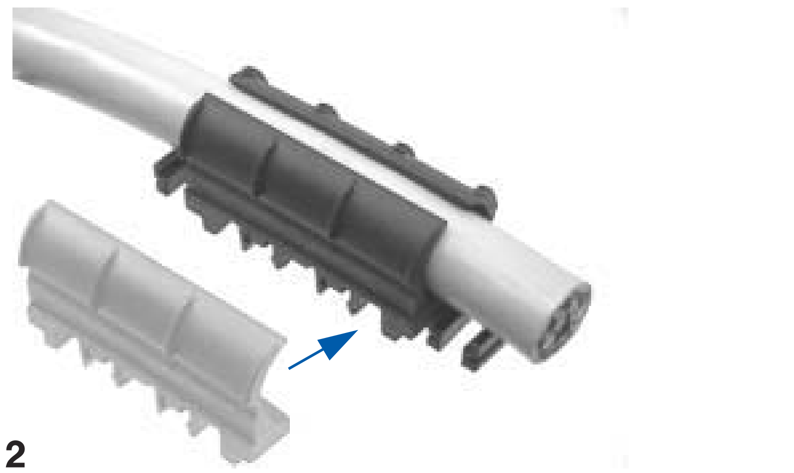

1.2


1.3


1.4

After fixing the basic element insert the cables, then:

2. attach the counterpart of the strain relief device.


2

3. Fix the basic element, counterpart and electric cable together by attaching the clamping clip.


3

System Components

Strain Relief Elements

for Series **0600**

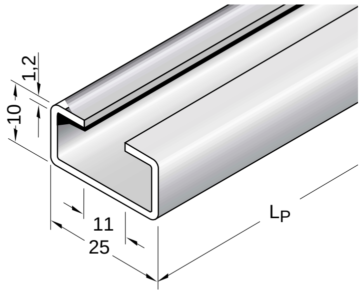
2D and 3D CAD-Data can be found on the Internet at www.kabelschlepp.de

Assembly Profile – C-Profile

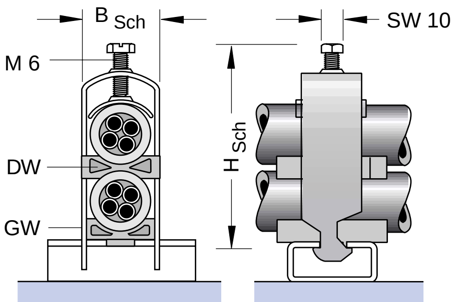
fits all commercial saddle-type clamps with a small base (slit width 11 – 12 mm)

Material: Steel

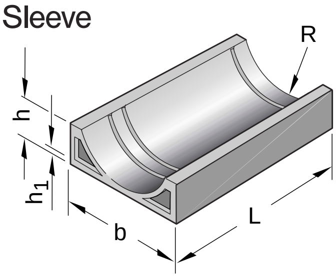
Item No.: 3931



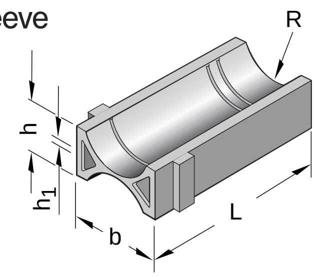
Saddle-type clamps
with a small base



Opposite Sleeve
GW



Double Sleeve
DW



Other sizes and designs are available on request!

Single Clamps - for one cable / hose

Type	for Cable/Hose -Ø	Height HSch	Width BSch	Item No.
BA 12	6 - 12 mm	33 - 49	16	**16891**
BA 14	10 - 14 mm	34 - 50	18	**16892**
BA 16	12 - 16 mm	36 - 52	20	**16893**
BA 18	14 - 18 mm	40 - 56	22	**16894**
BA 22	18 - 22 mm	44 - 60	26	**16895**
BA 26	22 - 26 mm	49 - 65	30	**16896**
BA 30	26 - 30 mm	53 - 69	34	**16897**
BA 34	30 - 34 mm	60 - 76	38	**16898**
BA 38	34 - 38 mm	72 - 88	42.5	**16899**
BA 42	38 - 42 mm	85 - 101	46.5	**16900**

Double Clamps - for two cables / hoses stacked one on top of the other

Type	for Cable/Hose-Ø	Height HSch	Width BSch	Item No.
BA 12/2	6 - 12 mm	43.5 - 59.5	16	**16901**
BA 14/2	10 - 14 mm	46.5 - 62.5	18	**16902**
BA 16/2	12 - 16 mm	52.5 - 68.5	20	**16903**
BA 18/2	14 - 18 mm	55.5 - 71.5	22	**16904**
BA 22/2	18 - 22 mm	64 - 80	26	**16905**

Triple Clamps - for three cables / hoses stacked on top of each other

Type	for Cable/Hose-Ø	Height HSch	Width BSch	Item No.
BA 12/3	6 - 12 mm	59.5 - 75.5	16	**16906**
BA 14/3	10 - 14 mm	78 - 98	18	**16907**

Opposite Sleeves - for uniform distribution of tensile forces

Type	for Cable/Hose-Ø	b	h	h1	R	L	Item No.
GW 12	6 - 12 mm	12	4	1.0	6	40	**16908**
GW 14	10 - 14 mm	14	4.5	1.0	7	40	**16909**
GW 16	12 - 16 mm	16	4.5	1.0	8	40	**16910**
GW 18	14 - 18 mm	18	4.5	1.0	9	40	**16911**
GW 22	18 - 22 mm	20	5.5	1.5	11	40	**16912**
GW 26	22 - 26 mm	24	6.5	1.5	13	40	**16913**
GW 30	26 - 30 mm	28	7	1.5	15	40	**16914**
GW 34	30 - 34 mm	32	8	2.0	18	40	**16915**
GW 38	34 - 38 mm	38	9	2.0	19.5	40	**16916**
GW 42	38 - 42 mm	42	10	2.0	21.5	40	**16917**

Double Sleeve - for two-sided distribution of tensile forces

Type	for Cable/Hose-Ø	b	h	h1	R	L	Item No.
DW 12	6 - 12 mm	12	7	1.0	6	40	**16862**
DW 14	10 - 14 mm	14	8	1.0	7	40	**16863**
DW 16	12 - 16 mm	16	9	1.0	8	40	**16864**
DW 18	14 - 18 mm	18	9	1.0	10	40	**16865**
DW 22	18 - 22 mm	22	10	1.5	12	40	**16875**

Strain Relief Elements

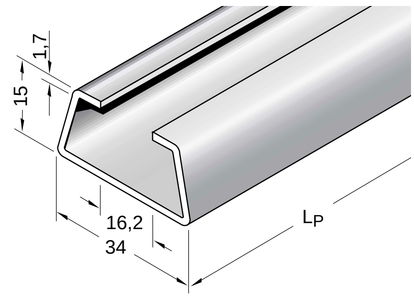
for Series **900** and **1200**

2D and 3D CAD-Data can be found on the Internet at www.kabelschlepp.de

Assembly Profile – C-Rail

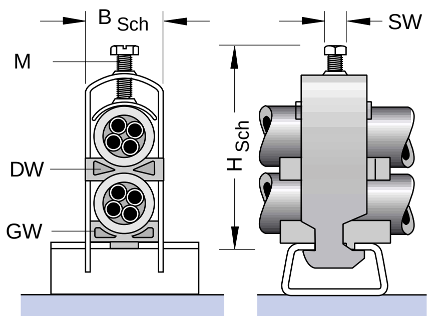
fits all commercial saddle-type clamps with a large base (slit width 16 – 17 mm)

Material:	Item No.:
Aluminium	3926
Steel	3932



	Type	for Cable/Hose-Ø	Height HSch	Width BSch	M	SW	Item No.
Single Clamps	B 12	6 - 12 mm	31.5 - 47.5	16	6	10	16840
	B 14	10 - 14 mm	33.5 - 49.5	18	6	10	16841
	B 16	12 - 16 mm	34.5 - 50.5	20	6	10	16842
	B 18	14 - 18 mm	37.5 - 53.5	22	6	10	16843
	B 22	18 - 22 mm	41.5 - 57.5	26	6	10	16844
	B 26	22 - 26 mm	47.5 - 63.5	30	6	10	16845
	B 30	26 - 30 mm	52.5 - 68.5	34	6	10	16846
	B 34	30 - 34 mm	64.5 - 80.5	38	6	10	16847
	B 38	34 - 38 mm	70.5 - 86.5	42.5	6	10	16848
	B 42	38 - 42 mm	73.5 - 89.5	46.5	6	10	16866
	B 46	42 - 46 mm	80.5 - 96.5	50.5	8	13	16867
	B 50	46 - 50 mm	83.5 - 99.5	54.5	8	13	16868
Double Clamps	B 12/2	6 - 12 mm	43.5 - 59.5	16	6	10	16849
	B 14/2	10 - 14 mm	49.5 - 65.5	18	6	10	16850
	B 16/2	12 - 16 mm	55.5 - 71.5	20	6	10	16851
	B 18/2	14 - 18 mm	60.5 - 76.5	22	6	10	16852
	B 22/2	18 - 22 mm	75.5 - 91.5	26	6	10	16872
	B 26/2	24 - 26 mm	83.5 - 99.5	30	6	10	16873
	B 30/2	28 - 30 mm	91.5 - 107.5	34	6	10	16933
	B 34/2	32 - 34 mm	99.5 - 115.5	38	6	10	16934
	B 38/2	36 - 38 mm	107.5 - 123.5	42.5	6	10	16935
	B 42/2	40 - 42 mm	115.5 - 131.5	46.5	6	10	16936
Triple Clamps	B 12/3	12 mm	54.5 - 70.5	16	6	10	16876
	B 14/3	14 mm	66.5 - 82.5	18	6	10	16877
	B 16/3	16 mm	71.5 - 87.5	20	6	10	16878
	B 18/3	18 mm	77.5 - 93.5	22	6	10	16937
	B 22/3	22 mm	89.5 - 105.5	26	6	10	16938
	B 26/3	26 mm	101.5 - 117.5	30	6	10	16939
	B 30/3	30 mm	113.5 - 129.5	34	6	10	16940

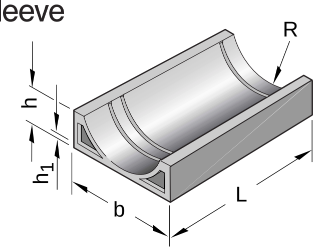
Saddle-type clamps
with a large base



Opposite Sleeves - for uniform distribution of tensile forces

Type	for Cable/Hose-Ø	b	h	h1	R	L	Item No.
GW 12	6 - 12 mm	12	4	1.0	6	40	16853
GW 14	10 - 14 mm	14	4.5	1.0	7	40	16854
GW 16	12 - 16 mm	16	4.5	1.0	8	40	16855
GW 18	14 - 18 mm	18	4.5	1.0	9	40	16856
GW 22	18 - 22 mm	20	5.5	1.5	11	40	16857
GW 26	22 - 26 mm	24	6.5	1.5	13	40	16858
GW 30	26 - 30 mm	28	7	1.5	15	40	16859
GW 34	30 - 34 mm	32	8	2.0	18	40	16860
GW 38	34 - 38 mm	38	9	2.0	19.5	40	16861
GW 42	38 - 42 mm	42	10	2.0	21.5	40	16869
GW 46	42 - 46 mm	46	11	2.0	23.5	40	16870
GW 50	46 - 50 mm	50	12	2.0	25.5	40	16871

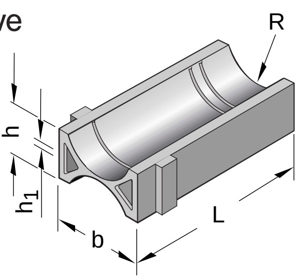
Opposite Sleeve
GW



Double Sleeve - for two-sided distribution of tensile forces

Typ	for Cable/Hose-Ø	b	h	h1	R	L	Item No.
DW 12	6 - 12 mm	12	7	1.0	6	40	16862
DW 14	10 - 14 mm	14	8	1.0	7	40	16863
DW 16	12 - 16 mm	16	9	1.0	8	40	16864
DW 18	14 - 18 mm	18	9	1.0	10	40	16865
DW 22	18 - 22 mm	22	10	1.5	12	40	16875
DW 24	22 - 24 mm	24	10	1.5	12	40	16941
DW 26	24 - 26 mm	26	12	1.5	14	40	16942
DW 28	26 - 28 mm	28	12	1.5	14	40	16943
DW 30	28 - 30 mm	30	15	2.0	16	40	16944
DW 34	30 - 34 mm	34	15	2.0	18	40	16945
DW 38	34 - 38 mm	38	15	2.0	20	40	16946
DW 42	38 - 42 mm	42	20	4.0	21.5	40	16947

Double Sleeve
DW



Other sizes and designs are available on request!

KABELSCHLEPP

System Components

Block Clamps

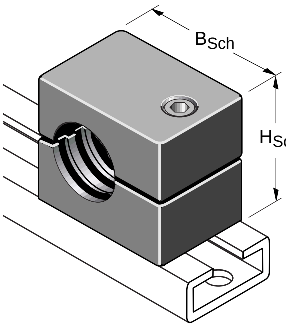
with tightening screw(s) and
mounting rail nut

for Series 0600 - 1200

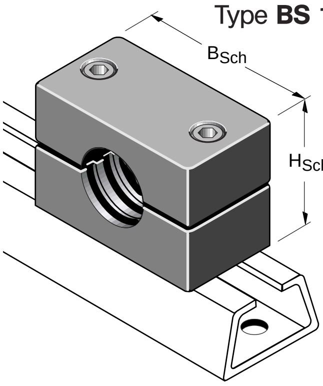
2D and 3D CAD-Data can be found on
the Internet at www.kabelschlepp.de

Clamping jaw material: PP

Type **BS 0.__**



Type **BS 1.__ - BS 5.__**

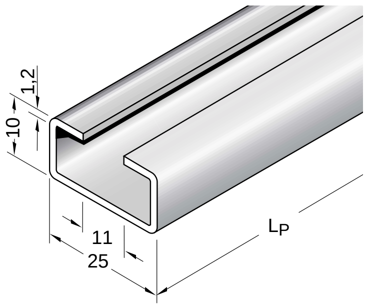


Further sizes and designs are available
on request!

Single Block Clamps - for one cable / hose

Type	for Cable/Hose-Ø	Height H_{Sch}	Width B_{Sch}	Screws M 6 - DIN 6912 No.	Screws M 6 - DIN 6912 Length	Item No.
BS 0.06	6 - 7 mm	26	28	1	35	**16701**
BS 0.07	7 - 8 mm	26	28	1	35	**16702**
BS 0.08	8 - 9 mm	26	28	1	35	**16703**
BS 0.09	9 - 10 mm	26	28	1	35	**16704**
BS 0.10	10 - 12 mm	26	28	1	35	**16705**
BS 1.06	6 - 7 mm	26	34	2	35	**16706**
BS 1.07	7 - 8 mm	26	34	2	35	**16707**
BS 1.08	8 - 9 mm	26	34	2	35	**16708**
BS 1.09	9 - 10 mm	26	34	2	35	**16709**
BS 1.10	10 - 11 mm	26	34	2	35	**16710**
BS 1.12	12 - 14 mm	26	34	2	35	**16711**
BS 2.14	14 - 16 mm	32	40	2	40	**16712**
BS 2.16	16 - 18 mm	32	40	2	40	**16713**
BS 2.18	18 - 20 mm	32	40	2	40	**16714**
BS 3.20	20 - 22 mm	36	48	2	45	**16715**
BS 3.22	22 - 23 mm	36	48	2	45	**16716**
BS 3.23	23 - 25 mm	36	48	2	45	**16717**
BS 3.25	25 - 27 mm	36	48	2	45	**16718**
BS 3.27	27 - 30 mm	36	48	2	45	**16719**
BS 3.30	30 - 34 mm	36	48	2	45	**16721**
BS 4.32	32 - 34 mm	56	69	2	65	**16722**
BS 4.34	34 - 36 mm	56	69	2	65	**16723**
BS 4.35	35 - 37 mm	56	69	2	65	**16724**
BS 4.38	38 - 40 mm	56	69	2	65	**16725**
BS 4.40	40 - 42 mm	56	69	2	65	**16726**
BS 4.42	42 - 44 mm	56	69	2	65	**16727**
BS 5.45	45 - 48 mm	65	85	2	75	**16728**
BS 5.48	48 - 51 mm	65	85	2	75	**16729**
BS 5.51	51 - 54 mm	65	85	2	75	**16731**

Assembly Profiles

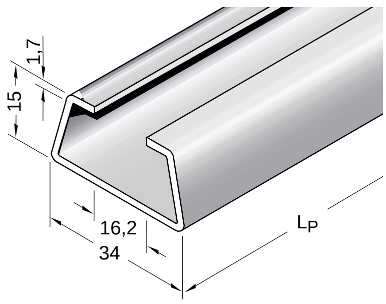


C-Profile

fits all commercial clamps
(slit width 11 – 12 mm)

Material	Item No.
Steel	**3931**

Attach profile with M6 – DIN 6912 sockethead cap screws



C-Rail

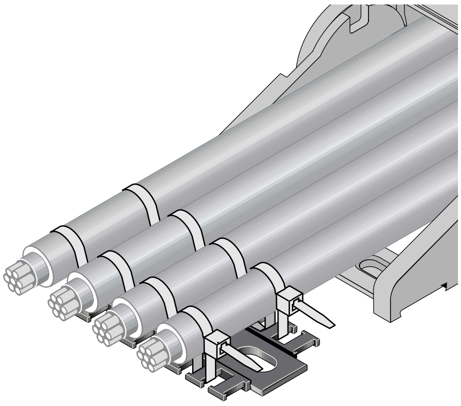
fits all commercial clamps
(slit width 16 – 17 mm)

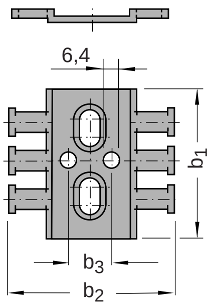
Material	Item No.
Aluminium	**3926**
Steel	**3932**

Attach profile with M10 – DIN 6912 sockethead cap screws.

Strain Relief Elements

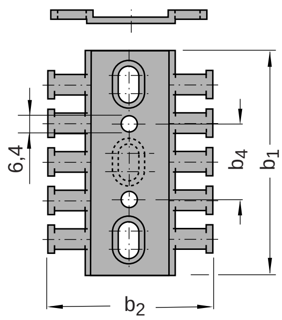
An individual solution for the strain relief of different cables and hoses, for all cable carriers





Dimensions

Item Number	b_1 mm	b_2 mm	b_3 mm	b_4 mm	Number of teeth
52480	50	53	14	-	3
52485	65	53	14	-	4
52490	70	70	20	-	4



Dimensions

Item Number	b_1 mm	b_2 mm	b_3 mm	b_4 mm	Number of teeth
52481	70	53	-	15	4
52482	90	53	-	35	6
52483	115	53	-	60	8
52484	142	53	-	87	10
52486	90	53	-	25	6
52487	115	53	-	50	7
52488	140	53	-	75	10
52489	165	53	-	10	12
52491	95	70	-	20	6
52492	120	70	-	40	8
52493	145	70	-	65	10
52494	170	70	-	90	12
52495	195	70	-	115	14
52496	220	70	-	140	16
52497	245	70	-	165	18
52498	270	70	-	190	20

KABELSCHLEPP

Interesting Technical Information

Reliable Cable Carrier Systems

Increasing travel speeds and acceleration rates mean that the reliable, low-maintenance supply of moveable drivers with electric, pneumatic or hydraulic energy by means of cable carrier systems is becoming ever more important.

The essential elements and features of a cable carrier system with regard to optimum layout and resultant operational reliability are described below.

Application

KABELSCHLEPP cable carriers made of plastic or plastic combined with metal can be used wherever a relatively lightweight cable carrier is required and the environmental conditions allow or demand the use of plastic.

KABELSCHLEPP cable carriers serve to protect and guide different kinds of energy sources and media.

Service Life

The durability of a cable carrier system is of the utmost importance. It depends essentially on the following factors.

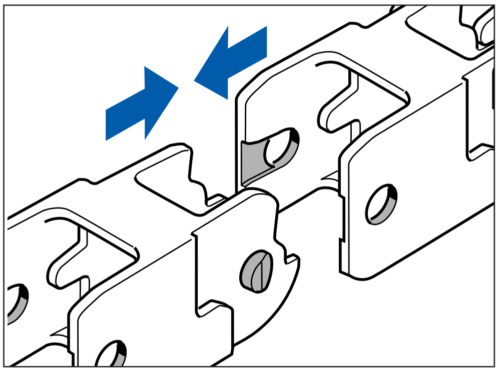
→ The properties of the energy sources to be guided
→ The number and weight of these cables/hoses
→ Travel speed and acceleration
→ Travel frequency and the number of cycles
→ Environmental conditions

Reasons for using KABELSCHLEPP plastic cable carriers

- **Low intrinsic weight**
  The low intrinsic weight of KABELSCHLEPP plastic cable carriers allows high travel speeds even for long travel lengths. Acceleration and braking forces are therefore relatively low.
- **Low- to no wear guidance of cables and hoses**
- **Aesthetically pleasing**
- **Cost-effective**
- **Easy installation**
  Cables and hoses can easily be drawn in to the carrier or inserted in it.
- **Resistant to corrosion and largely resistant to chemicals**
- **Maintenance-free**
- **Short delivery times**
  Standard sizes are available immediately ex-stock from our representatives / agencies or ex-stock from the KABELSCHLEPP warehouse!

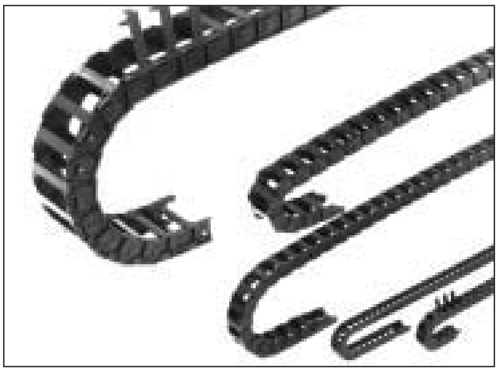
Cable Carriers

with fixed chain widths



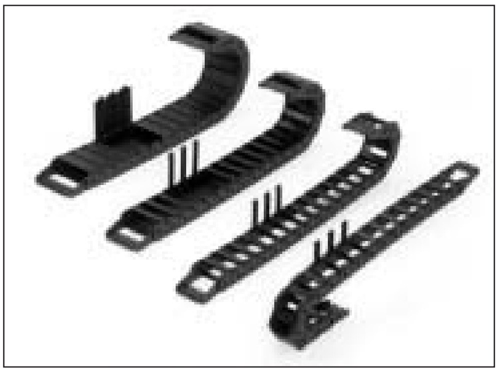
Cable carriers with fixed chain widths

Plastic chain links form the space for the cables and hoses. We produce types with a solid frame and hinged brackets. Guidance slants on the inside of the chain links and chamfered hinge bolts guarantee the easy assembly of the individual chain links into a cable carrier with high bending and tensile strength.



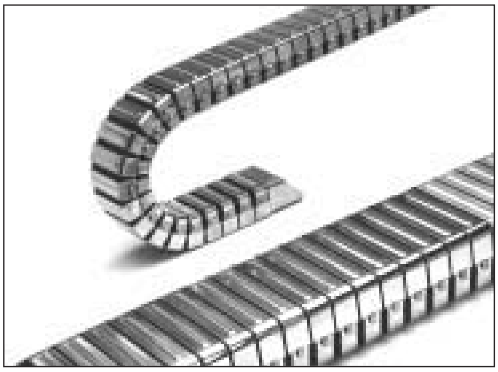
MONO

- Solid plastic
- One-piece chain links with the option of either fixed or hinged brackets
- Simple and quick assembly
- End connectors with integrated strain relief
- Various types available immediately ex-stock throughout the world



UNIFLEX

- Solid plastic
- Can be opened on the inside or the outside according to preference
- Robust double stroke system for a long self-supporting length
- High torsional rigidity
- End connectors with integrated strain relief
- Open, semi-enclosed and fully enclosed ranges
- Low-cost standard ranges



CONDUFLEX Flexible energy conduits

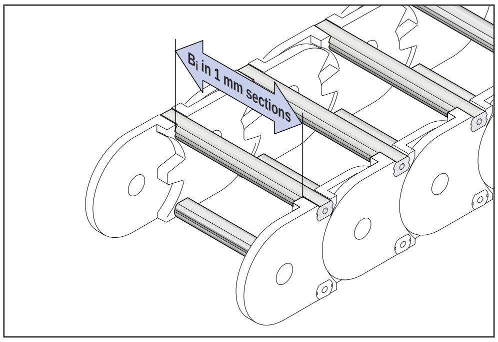
CONDUFLEX flexible energy conduits consist of high-grade steel brackets and frames made of glass-fibre-reinforced polyamide.

The brackets, assembled with the frames, form the flexible conduit. The number of units assembled gives the required conduit length, which can easily be lengthened or shortened at a later date.

CONDUFLEX flexible conduits can be used for horizontal, vertical and combined horizontal and vertical movements.

Cable Carriers

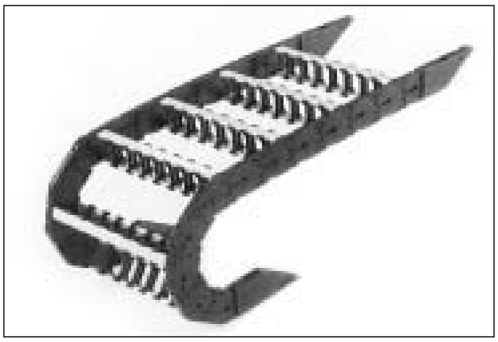
with variable chain widths



The plastic chain bands are connected by stays which are variable in width and together they form the space for the cables and hoses.

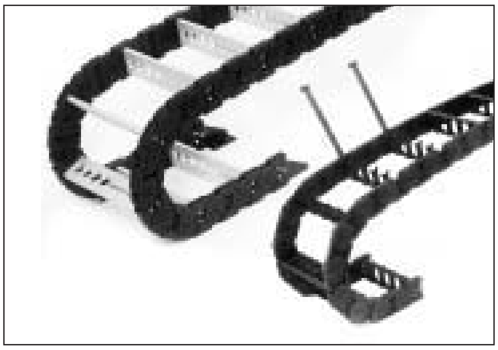
Plastic stays and cover systems are available in 4, 8 and 16 mm sections.

Aluminium stays and cover systems can be produced individually to meet your specifications in 1 mm sections.



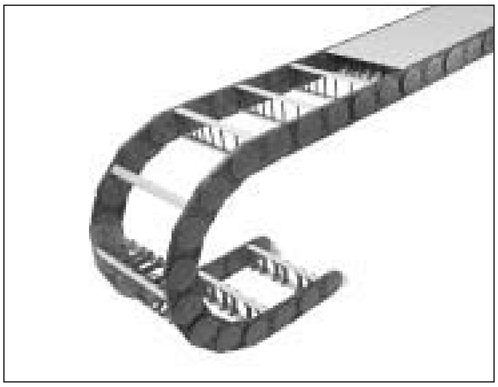
K-Series

- Variable widths in 1 mm sections
- Solid plastic or combined with Aluminium stays
- Extremely robust owing to sturdy sidebar design
- Enclosed stroke system not sensitive to dirt/contamination
- Can be opened quickly on both sides
- With optional strain relief



M-Series

- Variable widths in 1 mm sections
- Solid plastic or combined with Aluminium stays
- Extremely robust owing to sturdy sidebar design
- Enclosed stroke system not sensitive to dirt/contamination
- Can be opened quickly on both sides
- As standard universal connecting pieces made of die-cast Aluminium suit every assembly situation
- Maximum choice of stay systems and ways to separate the cables / hoses
- From 0475 highly abrasion-resistant glide shoes are available to keep wear to a minimum
- Minimal noise emissions with types MCL 0650, MCL 0950 and MCL 1250
- With optional strain relief



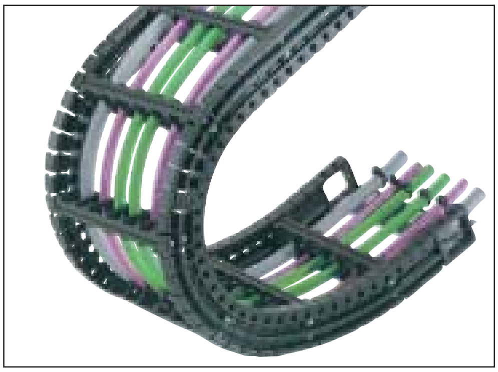
XL - Series

- Large dimensions
- Low intrinsic weight
- High degree of stability for long self-supporting lengths
- For long travel lengths highly wear-resistant glide shoes are available, resulting in minimal wear
- Variable widths in 1 mm sections
- Plastic chain bands combined with Aluminium stays
- Can be opened on both sides
- Various connection variants
- Large selection of stay systems and ways of separating the cables
- With optional strain relief
- TÜV type approved in accordance with 2PfG 1036/10.97
- Completely enclosed types with mit Aluminium cover systems cf. Chapter XLT 1650

Interesting Technical Information

QUANTUM Cable Carrier System

With the QUANTUM cable carrier system KABELSCHLEPP has set a new standard: A totally quiet cable carrier system: Extremely flexible, durable and light as a feather.



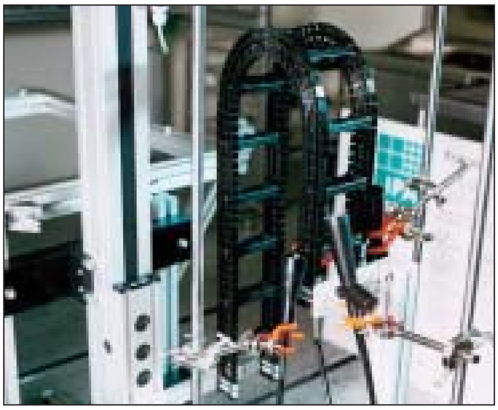
● **The design**

Conventional cable carriers consist of links joined by hinges of finite pitch, which form a polygon in the radius.
With the QUANTUM cable carrier system side bands of extruded polypropylene (PP) are used. This results in a “circular operating sequence”. The polygon effect almost ceases to exist.

Two steel wires in the base of the profiles increase the durability as well as the tensile and bending strength of the entire cable carrier system.

● **Proven stay systems**

The side bands are linked using the same method as with our variable width cable carriers: our stay systems which have proved themselves over many years.

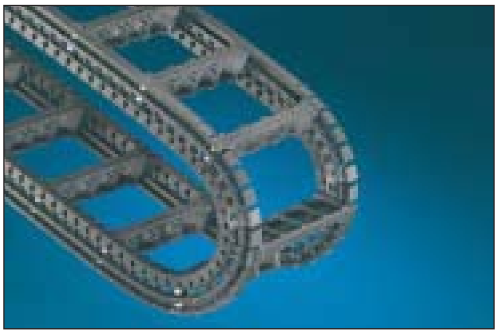


● **Suitable for clean room environments**

Since there are no joints (bores, bolts) there is also no abrasion and no wear. This provides optimum conditions for use in clean room environments.

● **Consistent noise reduction**

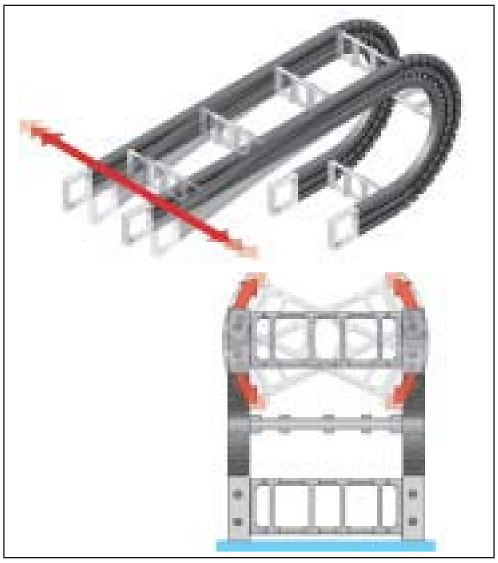
The link-free design means that noise is reduced at its source: There is no more noise when the links strike the radius limit. In addition the “striking” of the ground ceases. This reduces the noise level virtually to nil.



● **High speed applications**

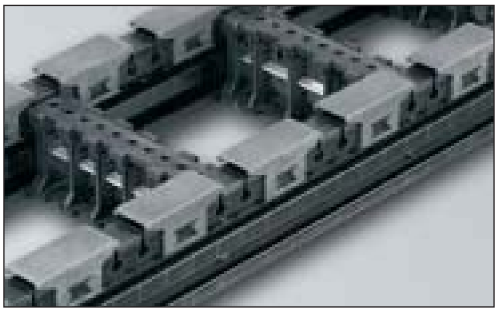
The low intrinsic weight and the flexible design mean that the forces for moving the cable carrier are minimal. These are optimal conditions for:

High accelerations up to 30g
High operational speeds up to 40 m/s



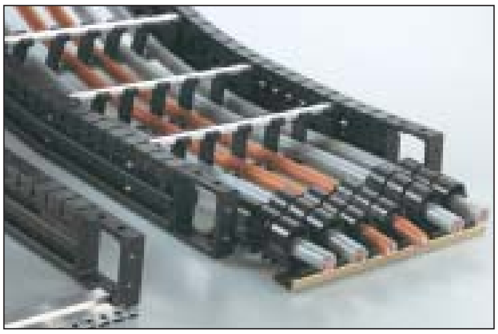
● **For additional 3D-movements**

The driver connection can be moved laterally and can be turned up to ±30 degrees.



● **Long travel lengths**

Glide shoes are available for long travel lengths gliding in a channel. These considerably increase the service life of the system with high travel speeds.



● **Connection and strain relief**

Connecting elements made of die-cast Aluminium can be screwed to the driver and fixed point in three directions. They are equipped to accommodate strain relief elements.

The Variety

of the stay variants – an overview

The heart of any cable carrier is the stay, which accommodates the cables and hoses.

For cable carriers with variable widths we produce stays made of plastic as well as of Aluminium and can therefore provide the optimum solution for every application type.

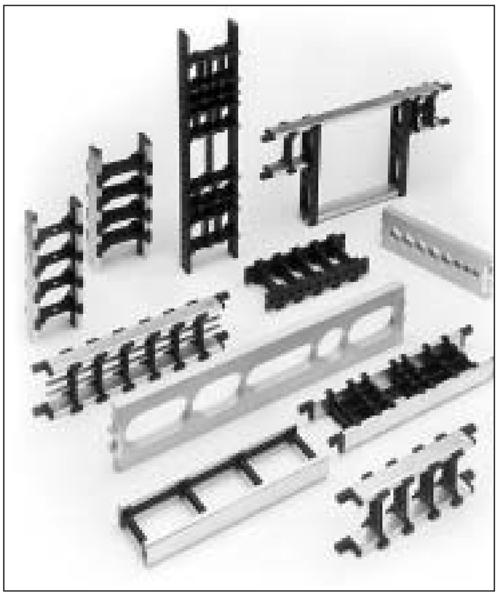
The stay is the point where the cables/hoses come into direct contact with the cable carrier. The properties of the stay material and the stay cross-section are thus of the utmost importance.

Aluminium has proved its performance qualities in direct interaction with the sheath material of the most diverse cables / hoses. In continuous operation it shows by far the lowest wear values. Please also see our test results on page 7.10.

The cross-sections in the stay profile are designed in such a way as to offer the cable a suitable minimum space.

Aluminium has a ten times higher E-Modulus than the conventionally-used plastic and therefore a corresponding bending resistance.

The plastic stays we use are therefore produced by KABELSCHLEPP using a material especially developed for this purpose.



We produce different stay variants which are available in variable widths in 1 mm sections, to suit your particular application.

RS → Frame stay – Standard design, with quick-release Aluminium profile bars, detachable on the inside or the outside

RV → Frame stay – Reinforced design, with quick-release Aluminium profile bars with plastic adapter, detachable on the inside or the outside, high rigidity

RM → Frame stay – Heavy-duty solid design
Aluminium profile bars double-bolted on the inside and the outside – highest stability

RMR → Roller stay system
Aluminium profile bars double-bolted on the inside and the outside with plastic roller system

RE → Plastic insert stay
Plastic profiles in measured sections – according to the type

RD → Plastic frame stay – Hinged joint design
Plastic profile bars – can be opened and detached to both sides

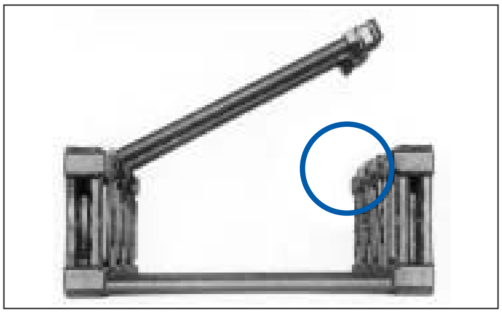
RDD → Plastic cover system
Plastic covers - can be opened and detached to both sides

RMD → Aluminium cover system
Aluminium cover system - can be opened and detached to both sides. With type XLT 1650 the Aluminium covers are bolted.

RMA → Mounting frame stay
Aluminium profiles with plastic adapters – for large cable / hose diameters

LG → Hole stay – Split design
Aluminium profiles – custom manufacture to meet your specifications

The chain cross-section

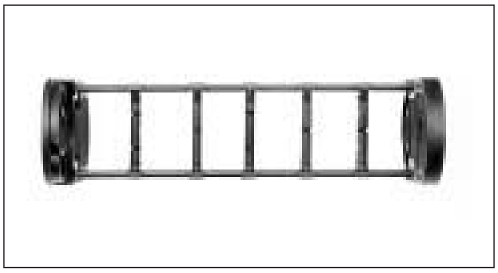


KABELSCHLEPP cable carriers do not have any obstructions in the inside of the cross-section.

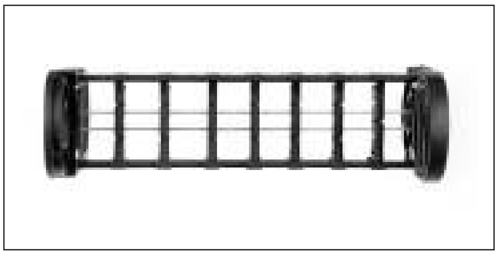
Additional cables / hoses can therefore be installed at any time.

Possibilities for guiding cables/hoses

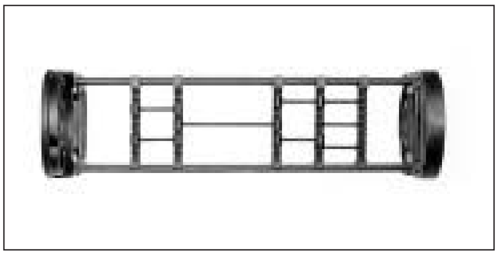
With Plastic and Aluminium frame stays:



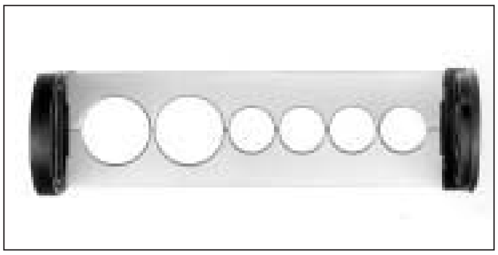
Over the width of the cross-section using vertical dividers (1)



Over the width of the cross-section using vertical dividers and continuous height separation by way of horizontal separation bars (1 + 2)



Over the cross-section using a combination of vertical dividers and horizontal separation bars and / or partitions.



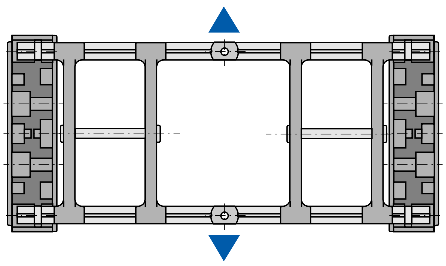
With hole stays:
The number and the position of the conductors and their exact outline are taken into consideration in the cross-section. The cables are guided in the neutral bending zone.

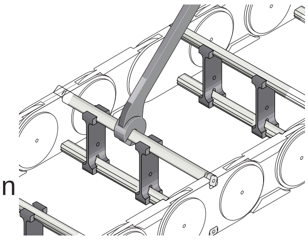
With cable carriers with fixed chain widths
(MONO and UNIFLEX) we also offer different possibilities for the optimum guidance of the cables/hoses.

The separation possibilities for each respective chain type can be found in the description of each type.

Chain cross-sections and stay variants

Chain cross sections for types KC and MC



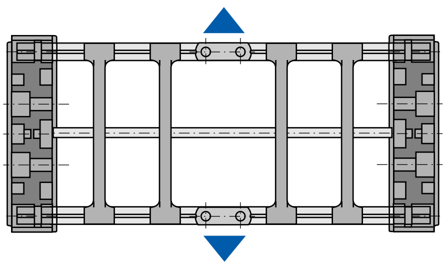


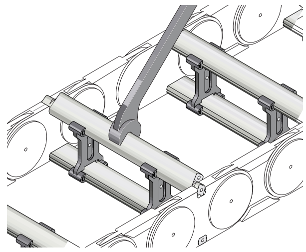
Stay variant RS made of Aluminium:
Frame stay – Standard design
Connecting profiles can quickly be opened on both sides by turning through 90° using a spanner.

There is no quicker opening variant available on the market.

Variable widths in 1 mm sections.

Different variations with regard to height and width separation are possible.



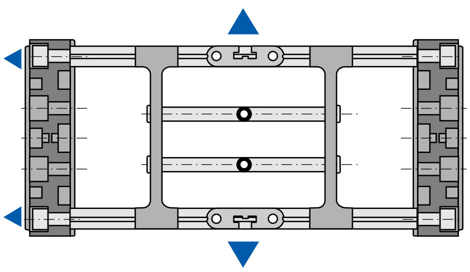


Stay variant RV made of Aluminium:
Frame stay – Reinforced design
Connecting profiles can quickly be opened on both sides by turning through 90° using a spanner.

There is no quicker opening variant available on the market.

Variable widths in 1 mm sections.

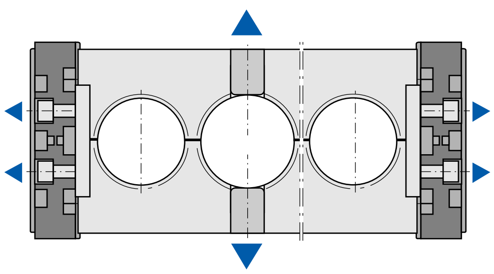
Different variations with regard to height and width separation are possible.



Stay variant RM made of Aluminium:
Frame stay – Heavy-duty solid design
Connecting profiles are double-bolted with the chain bands on the inside and the outside. This stay variant provides you with the highest degree of stability for your cable carrier. Large widths of up to 1000 mm are possible.

Variable widths in 1 mm sections.

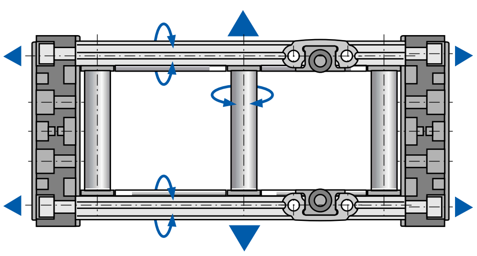
Different variations with regard to height and width separation are possible.



Stay variant LG made of Aluminium:
Hole stay – Split design
This stay is custom-manufactured in accordance with your specifications.

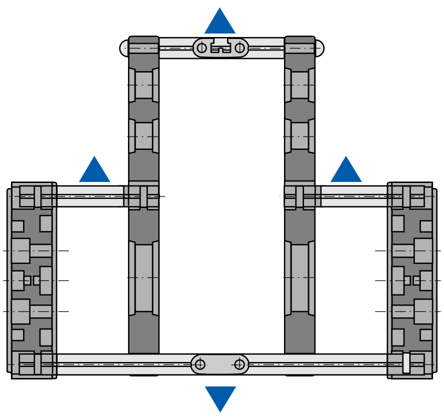
This stay variant ensures optimal installation of the cables / hoses in the cable carrier’s neutral axis, whereby there is hardly any relative movement between the cables / hoses and the stay. This stay variant guarantees a high degree of operational safety, even in the most difficult conditions.

Variable widths in 1 mm sections.



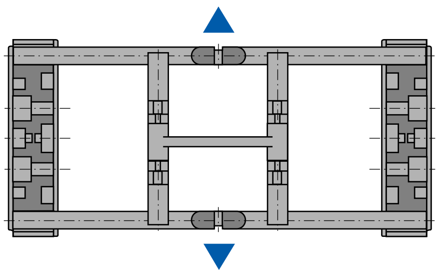
Frame stay RMR made of Aluminium
with plastic roller stay
For the highest specifications – protecting and supporting the cables. Owing to the turning rollers there is no cable wear.

This makes the roller stay ideally suited for use with cables and hydraulic hoses which have a “soft” sheath.



Frame stay RMA made of Aluminium:
Mounting frame stay
Standard stay profiles are combined with a mounting stay. This makes it possible to guide cables / hoses which have a diameter larger than the inside height of the chain links. The mounting stay can be fitted inside or outside in the bend radius according to preference.

Fitted inside	Note the minimum bending radius!
Fitted outside	Consider the operating and installation heights!

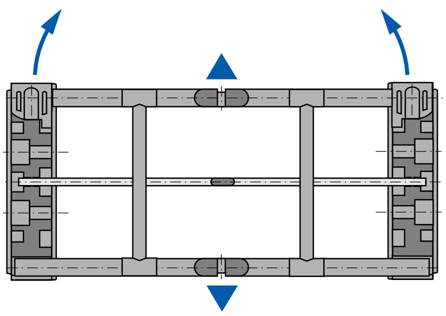


Chain cross-section for types KE and ME
Stay variant RE made of plastic
The connecting profiles can be released from the chain bands on both sides by turning with a spanner.

Variable widths in 4mm, 8mm or 16 mm sections.

Different variants with regard to height and width separation are possible.

Profile bar material: long-fibre plastic

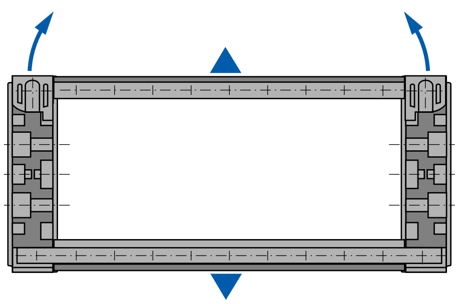


Chain cross sections for type MK
Stay variant RD: Hinged design
The hinges mean that the connecting profiles can be opened and released to both sides on the outer chain radius.

The connecting profiles on the inner side of the radius can be released by turning.

Variable widths in 8mm or 16 mm sections.

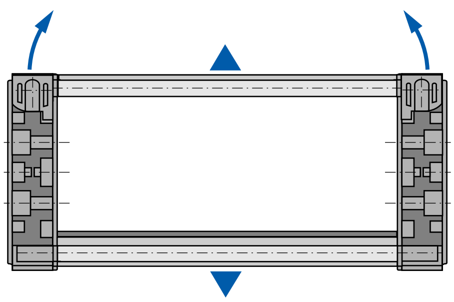
Different variations with regard to height and width separations are possible.



Chain cross sections for type MT
Aluminium cover system RMD
The covers can be supplied in variable widths in steps of 1 mm.

Different variations with regard to height and width separation are possible.

In the case of type XLT 1650 the Aluminium covers are bolted.



Plastic cover system RDD
The covers are available in variable widths in 8 or 16 mm sections.

Different variations with regard to height and width separation are possible.

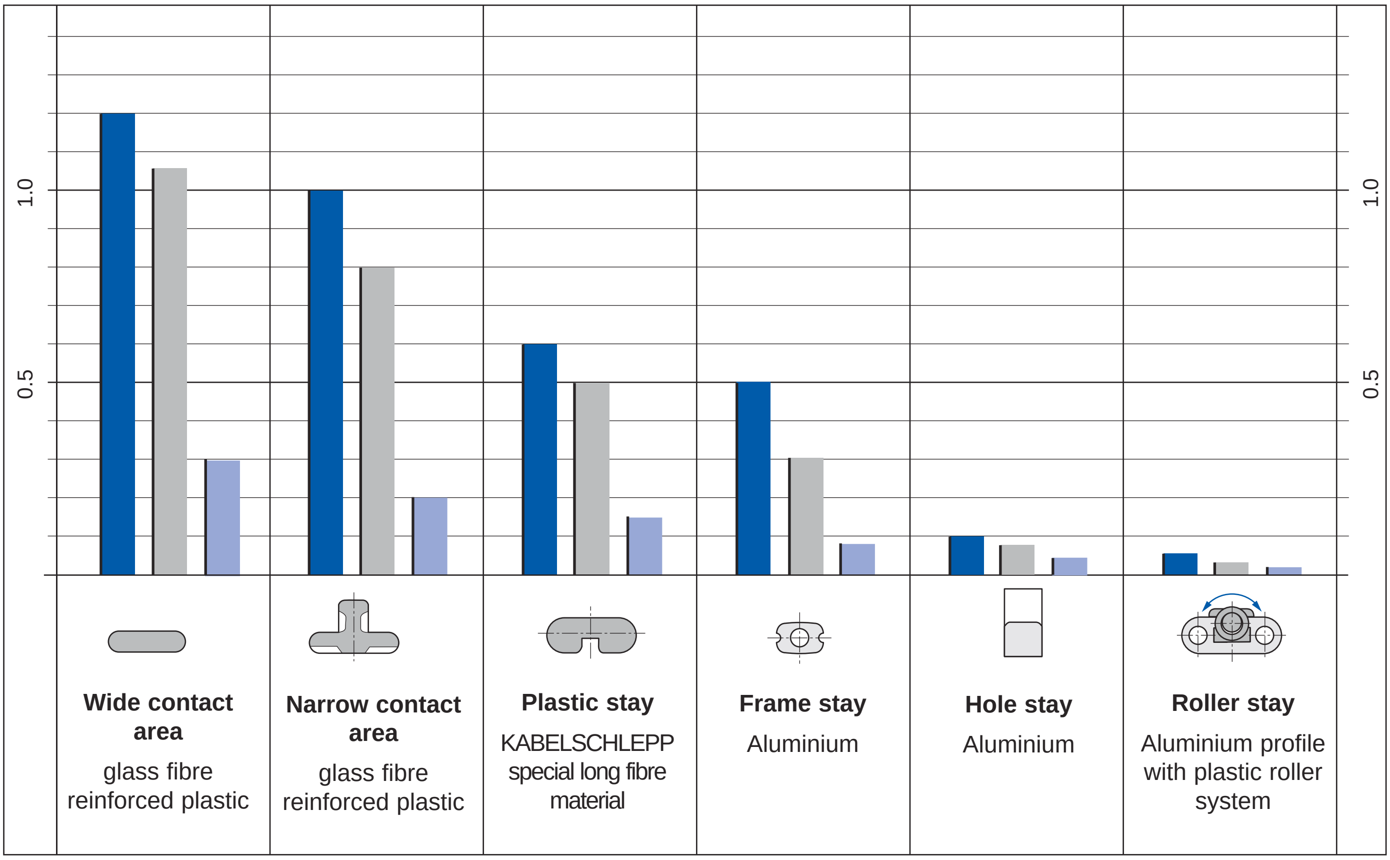
Wear / abrasion of cables / hoses

Low sheath wear is an important prerequisite for the long service life of the cables/hoses in a cable carrier system. In addition to the sheath material itself the material of the area of contact with the conductors, namely the stay, is responsible for sheath wear.

We have carried out extensive tests to examine the wear of different cables / hoses depending on the stay material. These served largely to confirm the findings of test results already available to us. Aluminium is the very best material for contact with the sheath materials of cables / hoses. This result has been reached independently of the cable manufacturers and applies to all sheath materials.

Mantel-Werkstoff:

- PVC - polyvinyl chloride
- PUR - polyurethane
- TPE - polyesterteraphtalate



Abrasion / wear at 3 million cycles and with a relative movement between the stay and the cable / hose of 10 mm!

Contact us, we will be pleased to advise you on the choice of suitable cables and hoses.

The "Quiet Ones"

among the KABELSCHLEPP cable carriers

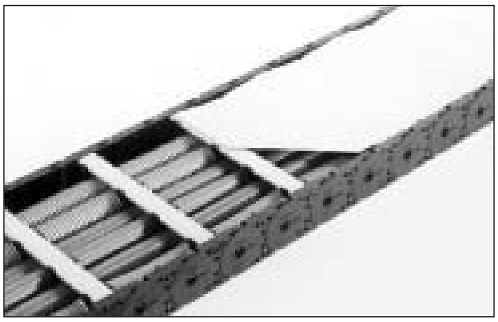
With types MCL 0650, MCL 0950 and MCL 1250 we can now also offer extremely quiet cable carriers.

We have optimised those elements of the cable carrier which cause noise emission. The operating noises of cable carriers have essentially two causes:

- Stops internally in the bend radius.
- Externally when the chain strikes the floor of the channel or the support tray (Polygon effect).

The noise emission in both areas is considerably reduced by way of noise damping measures. Extended tests prove the efficiency of the new developments. For the entire cable carrier system to operate quietly, in addition to the individual support tray, the cable carrier and its cables and hoses the interplay of all its components is just as important. We will be pleased to advise you on the construction of a quiet cable carrier system.

Protective Covers



As an alternative to enclosed cable carriers to protect the cables and hoses plastic cable carriers can be covered on both sides with high-grade rust- and acid-resistant spring steel. The steel band is guided between the chain bands by retaining clips.

The steel bands are screwed to the final stay at both ends of the cable carrier.

The upper surface of the steel band is smooth and can therefore be recommended for protecting the cables and hoses from small chips.

Locking Mechanism

For the UNIFLEX types especially secure locking brackets are available. We recommend the use of these stays with hydraulic hoses with small bend radii.

Long cable carriers without a guide channel

It is not always necessary to have a guide channel for your cable carrier.

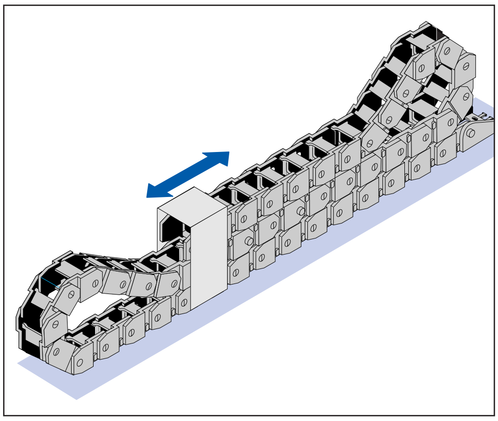
The cable carriers of the UNIFLEX series 050 and 060 can, in certain circumstances, be used for long travel lengths without a guide channel and without the DYNAGLIDE system. The following parameters apply for this kind of arrangement:

- Chain widths > 50mm
- Travel length < 10m
- Travel speeds < 0.5m/s
- Acceleration 1m/s²

Special installation variant without guide channel

The picture shows an application in an automated sheet metal store. The chain lies on the concrete floor. The upper run of the chain slides along the lower part over its complete travel length.

The KABELSCHLEPP DYNAGLIDE System



The DYNAGLIDE system is KABELSCHLEPP's solution for long travel lengths "without a channel".

- Minimum space requirements
- No channel
- No lower run of the chain in the working area
- No obstructions
- Gliding on top of one another in 3 layers

We recommend UNIFLEX types 455, 555 and 665 for the DYNAGLIDE system.

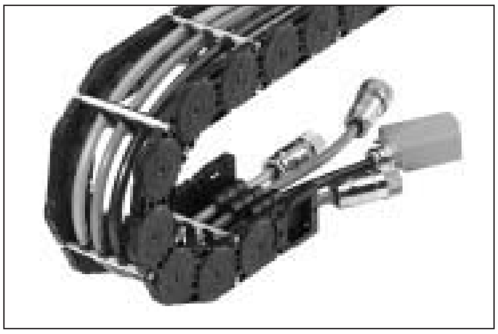
The following parameters must be adhered to when using DYNAGLIDE:

Travel length < 50m
Travel speed < 1m/s
Acceleration < 1.5m/s²

The required chain length is approximately 2/3 of the travel length.

This kind of arrangement should always be designed by our engineers.

Bend radius “KR” of the cable carriers



The bend radius is determined by the technical data of the electric cables and hoses used.

The necessary minimum KR of a cable carrier is always determined by the least flexible cable / hose.

The minimum bend radii can be found in the technical data supplied by the cable / hose manufacturer.

As a general rule, the bigger the KR, the longer the service life of the cables and hoses.

The rule of thumb for selecting the minimum bend radius is as follows:

KR_{min} = 5...12 x cable / hose diameter

The KABELSCHLEPP ‘LifeLine’ product line was especially developed for use in dynamic cable carriers (carriers with links and the link-free PROFILE und QUANTUM carriers) as the new optimised standard cable specifically for cable carrier applications.

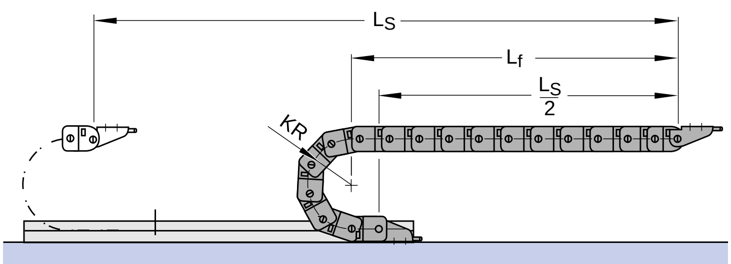
Owing to the special construction of the Kabelschlepp LifeLine range a minimum KR ≥ 7.5 Ø (LifeLine 400, 700) corresponds in many cases to a minimum KR ≥ 5 Ø of other manufacturers' products.

Please contact us, we will be happy to advise you on the choice of an optimum carrier-cable combination.

Connection

of the cable carrier systems

There are no special design requirements for connecting the cable carrier systems to your movable machine components.



We recommend that the fixed point be situated in the middle of the travel length. This results in the shortest length between the fixed and moving driver points and thus also the most economical length of cable carrier and cables / hoses!

For a safe operation of the cable carriers a flat and level surface is required for the installation. If this is not available, a support tray should be used (cf. Chapter on Guide Channels).

Numerous connecting elements are available for connecting the cable carriers. The picture shows a selection.

Interesting Technical Information

Material Specifications

Plastic parts

Standard material for cable carriers:

K 7426 S
Standard colour: black

Only high-grade plastics are used for KABELSCHLEPP cable carrier systems. The data listed below refer to the plastic K 7426 S, a special KABELSCHLEPP development.

Table of Material
Standard material K 7426 S

The plastic used is free of halogens, silicon and heavy metals such as lead and cadmium. No formaldehyde is used in the manufacturing process.

The use of plastic cable carriers meets food industry requirements, meaning that they can be used in this area without restriction.

Special colours:
Upon request plastic cable carriers can be supplied in all RAL-colours. All the material properties listed apply to black material.

Manufacture in special colours requires a minimum order quantity and carries a surcharge!

Special material
for cable carriers:

KS-PA/HT - resistant to high temperatures

KS-PA/LT - resistant to low temperatures

KS-PA/EX - for use in areas where there is a risk of explosion

ESD-Areas
If you have a requirement for cable carriers to be used in electrostatically safe production areas, please consult us, we will be happy to advise you.I

Mechanical properties		State of sample	Test value	Unit
Tensile strength (DIN 53455)		Dry	190	N/mm²
		Humid air	120	
Breaking elongation (DIN 53455)		Dry	3	%
		Humid air	5	
Modulus of elasticity (DIN 53457)	Tension test	Dry	10000	N/mm²
		Humid air	7000	
Impact strength (DIN 53453)	23 °C	Dry	65	kJ/m²
	23 °C	Humid air	75	
	- 40 °C	Dry	50	
Creep modulus E	23...50 °C	Humid air	5400	N/mm²
	120 °C	Dry	2100	
Thermal conductivity		——	0.3	W/k · m
Dielectric coefficient		Dry	3.9	MHz
		Humid air	6.2	
Specific insulation resistance		Dry	10^{15}	Ω x cm
		Humid air	10^{12}	
Electrical insulation value thickness 0.6 ... 0.8 mm		——	80	kV/mm
Surface resistance R_{OA}		Dry	10^{13}	Ω
		Humid air	10^{10}	
Absorption of moisture	23...25 °C	——	2 ± 0.2	%
Thermal properties				
Temperature limit of application	permissible temp. range		- 40 up to 100	°C
	5000 hours		up to 135	
	several hours		up to 170	
Other properties				
Density		Dry	1.4	g/cm³
Sliding friction coefficient		Non-lubricated	0.3-0.4	
Combustion behaviour in accordance with VDE 0304 Part 3		Dry	II c	

For special application areas modified materials are also available.

Chemical resistance

of the Standard Material

Agent	Percentage of mass	Temperature in °C	Resistance
Acetone	TR		○
Formic acid	10		□
Ammonia (aqueous)	TR	+ 70	□
Ammonia		+ 20	○
Benzine	H	85	○
Benzol	H		○
Bitumen	H		○
Boric Acid (aqueous)	H		○
Butyric acid (aqueous)	20		○
Calcium chloride (aqueous)	GL	23	○
Chlorine, chlorinated water			○
Chlorine water	H		⊗
Chromic acid (aqueous)	10		⊗
Diesel oil	H		○
Acetic acid aqueous, conc.	95		⊗
Acetic acid (aqueous)	10		□
Ethanol	40		○
Ethyl acetate	TR		○
Paints & lacquers			○
Greases and waxes	H		○
Liquid petrol. gas (DIN 51622)			○
Fluorinated hydrocarbons			○
Formaldehyde and polymac.	TR		○
Formaldehyde (aqueous)	30		○
Hydraulic oils	H		○
Potassium hydroxide	10		○
Potassium chloride (aqueous)	10		○
Potassium nitrate (aqueous)	10		○
Methyl acetate	TR		○
Milk	H		○
Lactic acid (aqueous)	10		○
Lactic acid	90		⊗
Mineral oil	H		○
Sodium carbonate (aqueous)	10		○
Oil/edible and lubricating	H		○
Oleic acid	H		○
Paraffin, paraffin oil	H		○
Polyester resins	H		○
Propane gas, propyl. Hydride	TR		○
Mercury	TR		○
Hydrochloric acid (aqueous)	> 20		★
Hydrochloric acid	2		⊗
Lubricants, edible fats	H		○
Vaseline	H		○
Tartaric acid (aqueous)	10		○
Tartaric acid	50		□
Xylene	TR		○

Abbreviations:

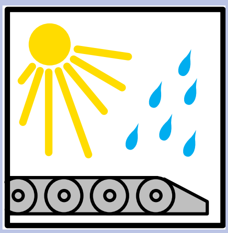
- ○ resistant
- □ limited resistance
- ⊗ non-resistant
- ★ soluble

GL = saturated diluted solution
H = commercial grade
TR = technically pure

The adjacent table shows that the use of plastic components is not recommended with any acid agents.

In these cases stainless steel cable carriers should be used!

Properties under different environmental conditions

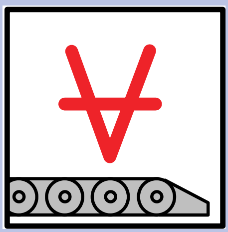


Weather/ Atmospheric Conditions

The plastic used by KABELSCHLEPP is perfectly suited for outdoor applications.

The mechanical properties of the cable carriers are not affected.

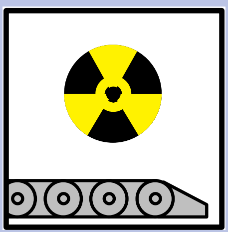
K 7426 S is UV-resistant!



Vacuum

Plastic cable carriers can also be used in a vacuum. In the case of intermittent loads the occurring tensile forces need to be ascertained.

Please be sure to consult us in any such case!

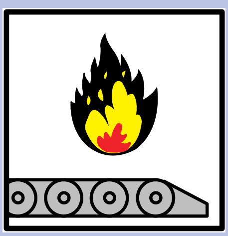


Resistance to Radiation

At a radiation dose of **up to 1 megarad** no material impairment occurs.

Increasing the dose up to 100 megarad causes the material to become steadily more brittle. At 100 megarad the limits of the maximum mechanical properties will be reduced by 30%.

Installation is not advisable at a radiation dose of **more than 100 megarad.** In these cases please consult us.



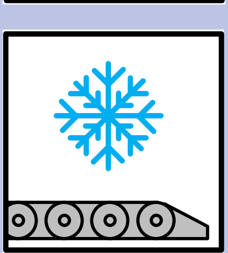
Flammability

Tests as per UL 94-ASTM 0635-81 : HB

Tests as per DIN 4102 “Flammability of construction materials and components”.

Classification:

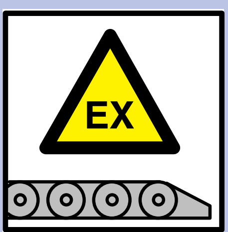
Construction material class B2, minimum thickness < 1 mm, not dropping if burning.



Cold storage systems

A special material is used for plastic cable carriers for cold storage systems applications.

These cable carriers can only be supplied in the colour yellowish / white (transparent).



Cable carriers for use where there is a risk of explosion

Cable carriers to be installed in potentially explosive areas are produced in **special material** and can only be supplied in black.

Because there is no distinguishing feature on the outside compared with the standard cable carriers, these cable carriers are identified by being marked with the stamp “EX”.

- Combustion point of the special material: greater than 350 °C
- Ignition temperature of the special material: 415°C
- Surface resistance: <10^5 Ω
  (Standard material min. 10^{10} Ω)
- Volume resistance: <10^5 Ω x cm
  (Standard material min. 10^{12} Ω x cm)

Warning: the classification of the danger zone should be considered!

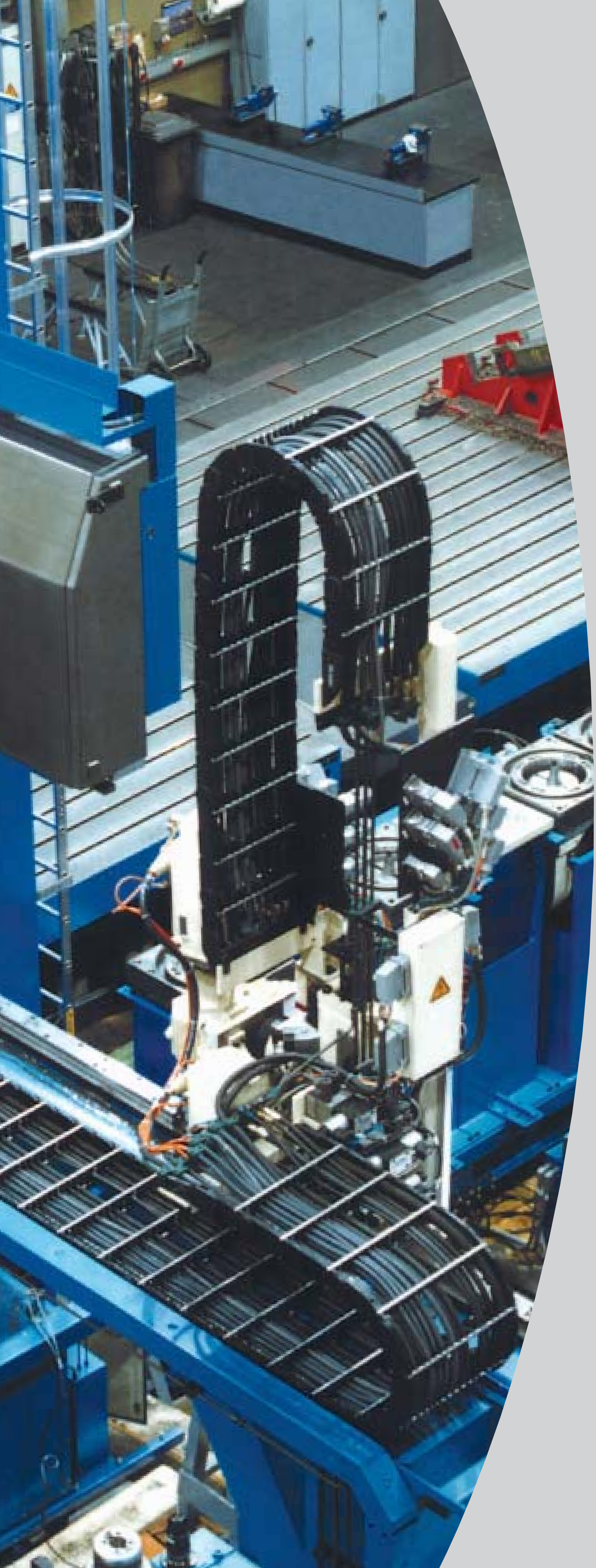
ESD-areas:

If you have a requirement for cable carriers to be used in electrostatically safe production areas, please contact us, we will be pleased to advise you.

For the sake of the environment…

…KABELSCHLEPP plastic cable carriers are 100 % recyclable!

We solve your disposal problem by taking the cable carriers back at the end of their service life.



Appendix

UNIFLEX
Type 0665

Cable Carriers on a CNC-lathe operation

Photo: MAKA - Max Mayer Maschinenbau GmbH Nersingen

MT Type 0950

Three MONO Series Cable Carriers on a powder coating cabin

Photo: EISENMANN

Type 0450 Cable Carriers on an automatic palleting machine

Installation variant:
Sliding in an Aluminium guide channel

Photo:
EISENMANN

Type KC 0650 Cable Carrier on an automatic stock removal system

Installation variant:
vertical – “hanging“

Application Examples

Type 0161 Cable Carriers in a sliding door

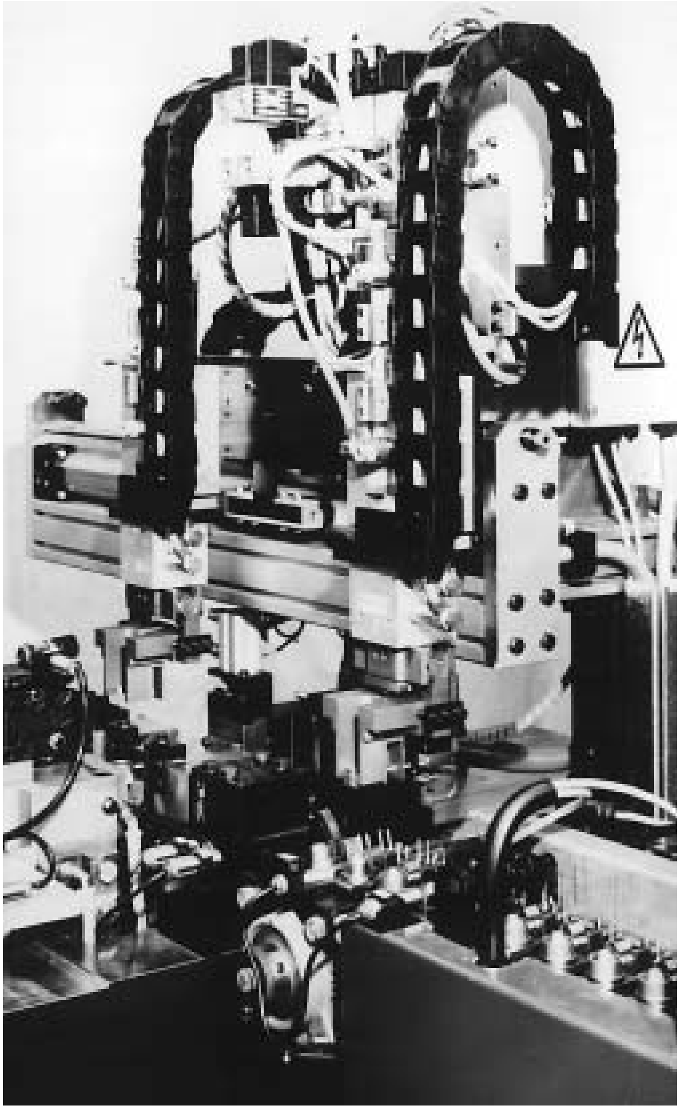
Type 0320 and 0450 Cable Carriers in the automation industry

Installation variants:
vertical – “hanging“

Type 0450 Cable Carriers

Installation variants:
horizontal, “self-supporting“
and vertical, “standing“

Photo:
Reis Robotics



Cable Carrier Type 0625

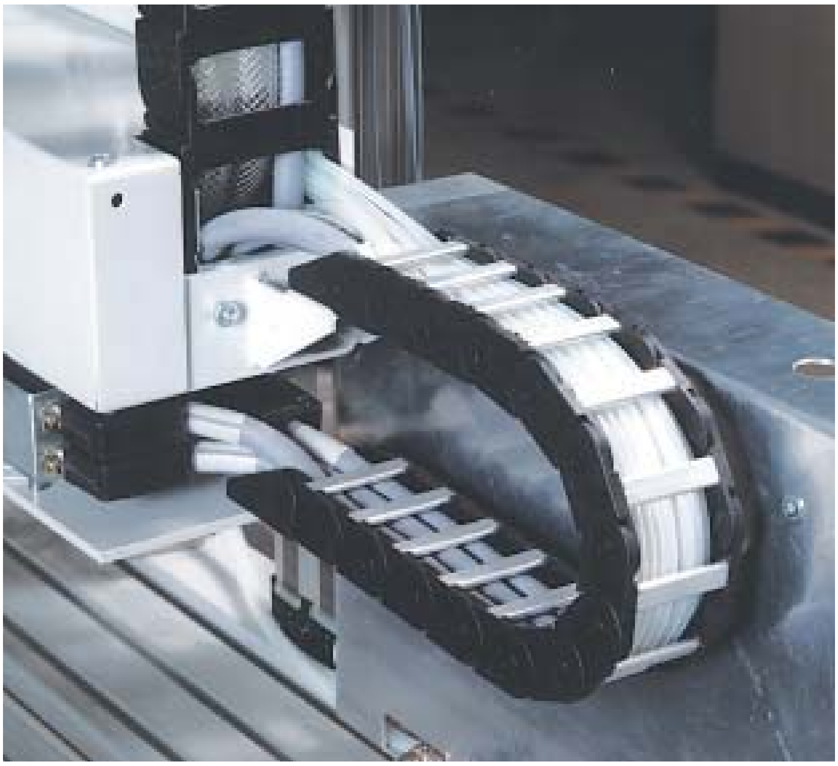
Installation variant:
horizontal – “turned through 90° - rolled“

Photo:
JUNGHEINRICH Anlagen-Technik GmbH & Co. KG, Norderstedt

Type 0450 Cable Carriers on a hump-shaped welding machine for the production of vehicle parts with movable transport stirrups

Installation variant:
vertical – “standing“

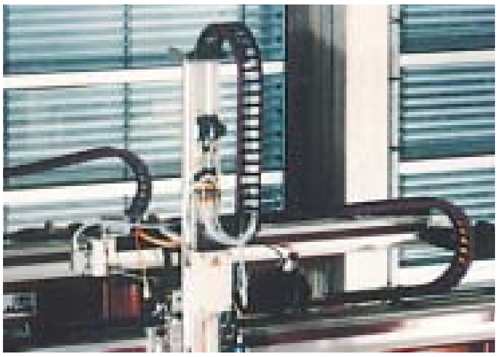
Photo:
IDEAL-Werk, Lippstadt



Type MC 0320 Cable Carrier for supplying power to an automatic control machine for textile machines

Installation variant:
horizontal – “self-supporting - overhanging“

Photo:
BARMAG Aktiengesellschaft, Remscheid



Type MK 0475
Cable Carriers
on a gantry robot

Installation variants:
horizontal - “self-supporting” with permitted sag and vertical -”standing“

Type MK 0475
Cable Carriers
on a 3-axis-gantry with special Z-axis

Installation variants:
horizontal – “self-supporting“ and vertical -”standing“

Type 0450
Cable Carriers
on a rotor spinner

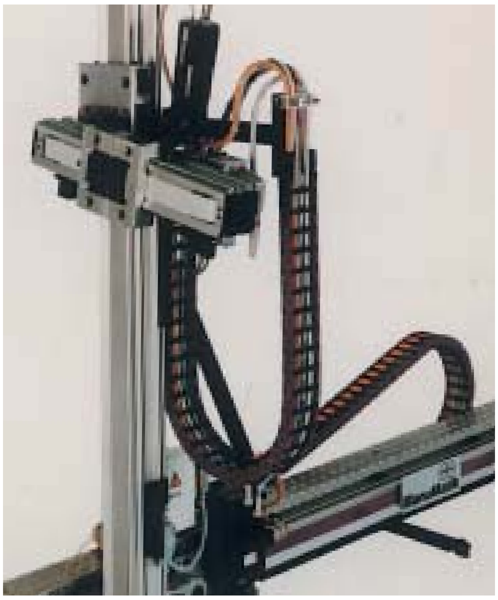
Installation variant:
horizontal – “sliding in a guide channel”

Photo:
Rieter AG, Ingolstadt

Application Examples

**Type KC 0650
Cable Carriers**

Photo:
Liebherr-Verzahntechnik GmbH,
Kempten



**Type KC 0900
Cable Carriers
on a gantry robot**

Installation variants:
vertical – “hanging“ and
horizontal – “self-supporting“

Photo:
Eisenmann Maschinenfabrik GmbH,
Böblingen

**Type MK 0475 Cable Carriers
on an application test plant**

Installation variants:
horizontal – “sliding in a guide channel“
and vertical – “hanging“

**Type 0625 Cable Carriers
on an optical device**

Installation variant:
horizontal – “self-supporting“, running alongside one another

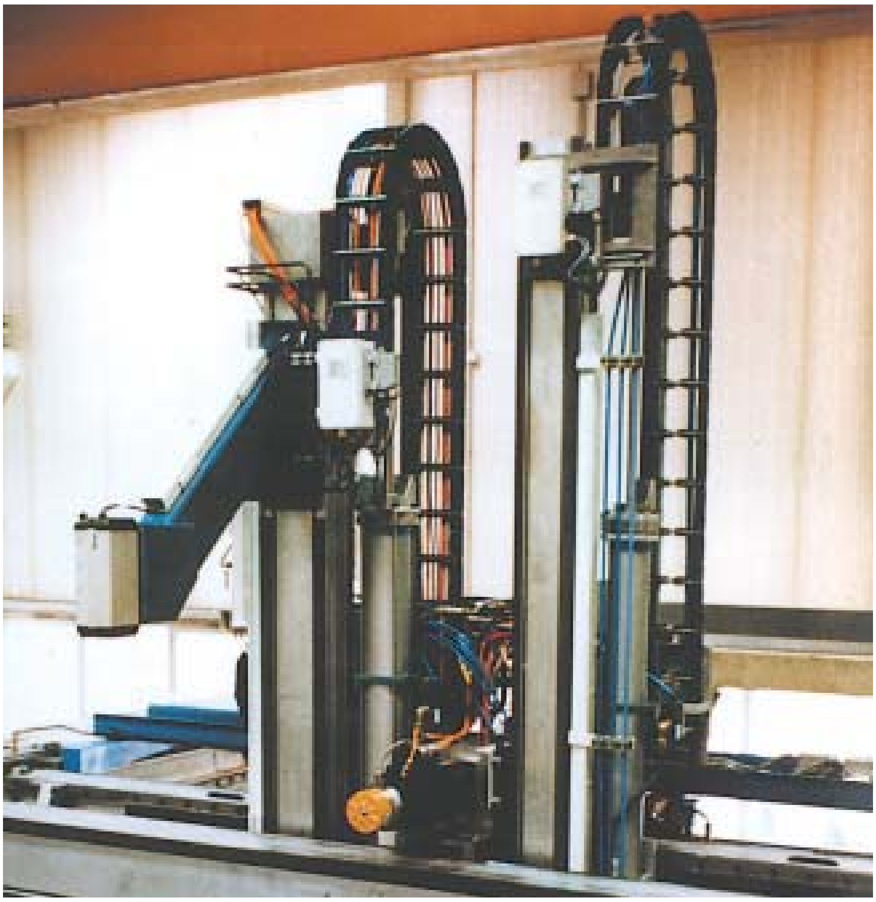
Photo:
GFM – Steyr

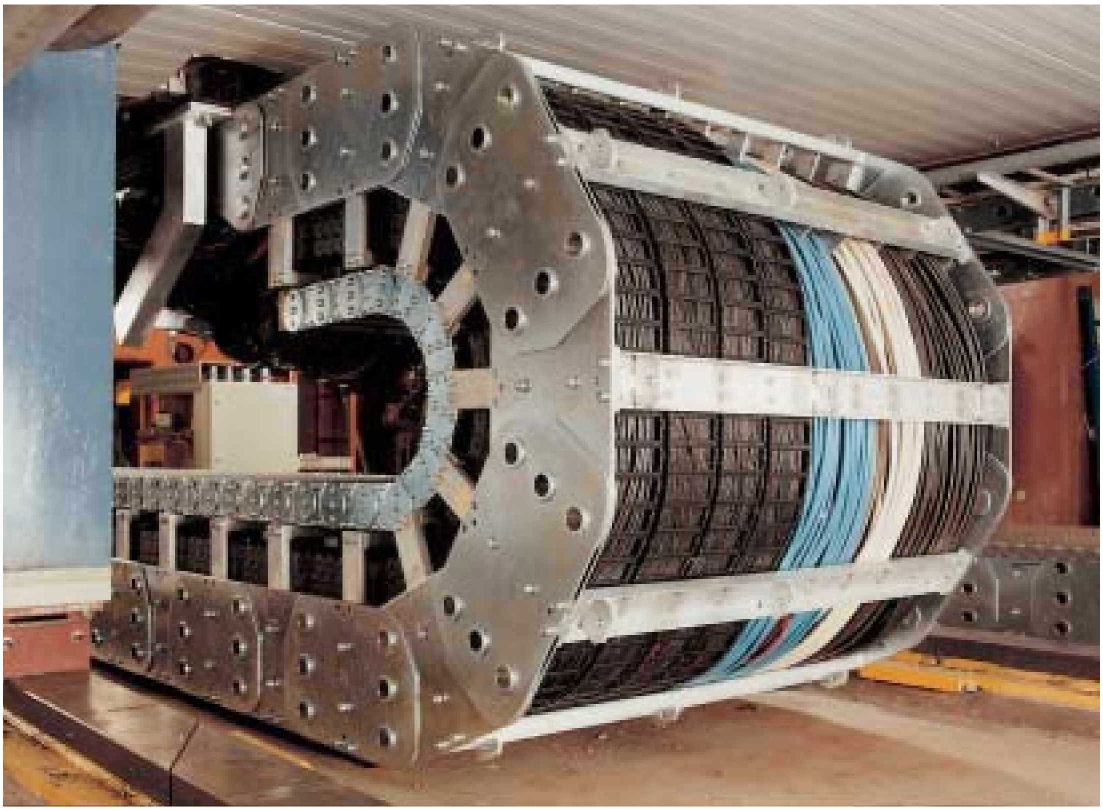
KABELSCHLEPP

Type K 0650
Cable Carriers
on a gantry robot

Installation variant:
vertical – “standing“

Photo:
ISRA Systemtechnik GmbH





Type MK 0475 Cable Carriers
for separating the cables and hoses in a Steel Drag Chain
Type 3200 on a ZEUS-Detector

Photo:
Deutsches Elektronen-Synchrotron, Hamburg

Application Examples

Type 0450 and 0625
Plastic Cable Carriers
on an automatic production line at the Friedrichshafen AG Gear Cutting Factory

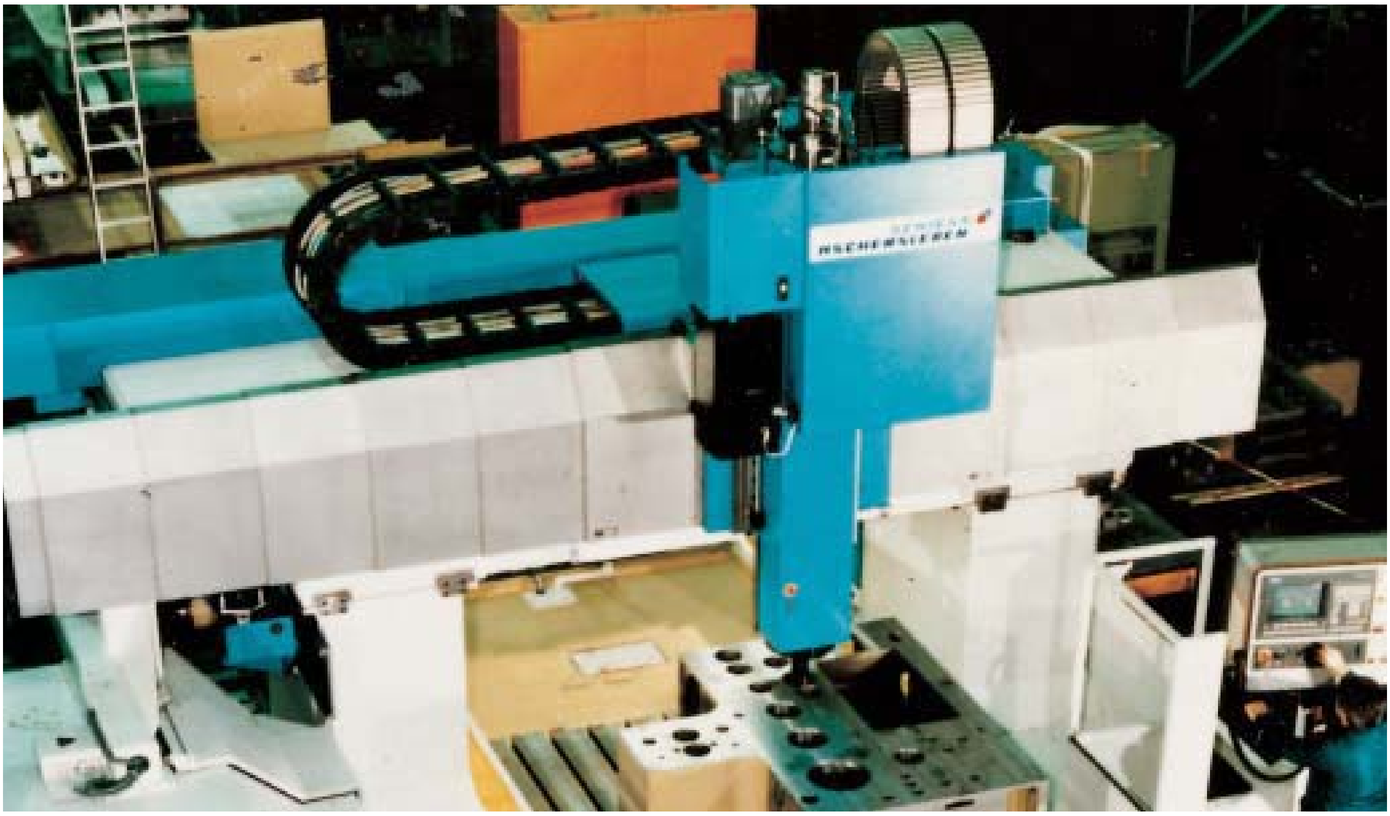
Installation variants:
horizontal – “sliding in a guide channel“, vertical / horizontal-”combined“ and vertical-”hanging“

Photo:
Liebherr-Verzahntechnik GmbH, Kempten

Cable Carrier Type 0625
on a processing machine

Installation variant:
horizontal “turned through 90° – straight“

Photo:
CHIRON-Werke GmbH & Co. KG,
Tuttlingen



Cable Carrier Type KE 0900 and
CONDUFLEX Flexible Energy Conduits on an NC milling machine

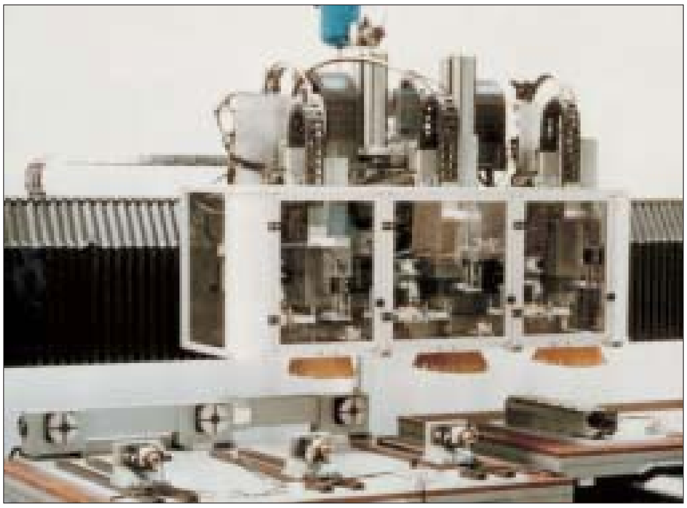
Installation variants:
Horizontal-”self-supporting“ cable carrier
Vertical flexible energy conduits – “standing“ alongside one another

Photo:
Schieß-Aschersleben

Type 0665
Cable Carrier on a
CNC-lathe operation

Installation variant:
vertical – “standing“

Photo:
MAKA - Max Mayer
Maschinenbau GmbH, Nersingen



Type 0625 Cable Carriers, MULTITUBE Flexible Energy Conduits and a Steel Cable Carrier on a processing machine

Installation variant of the plastic cable carriers:
vertical – “standing“

Installation variant of the steel cable carrier:
horizontal - “self-supporting“

Photo:
CMS Spa

Type 0450
Cable Carrier
on a partition control unit

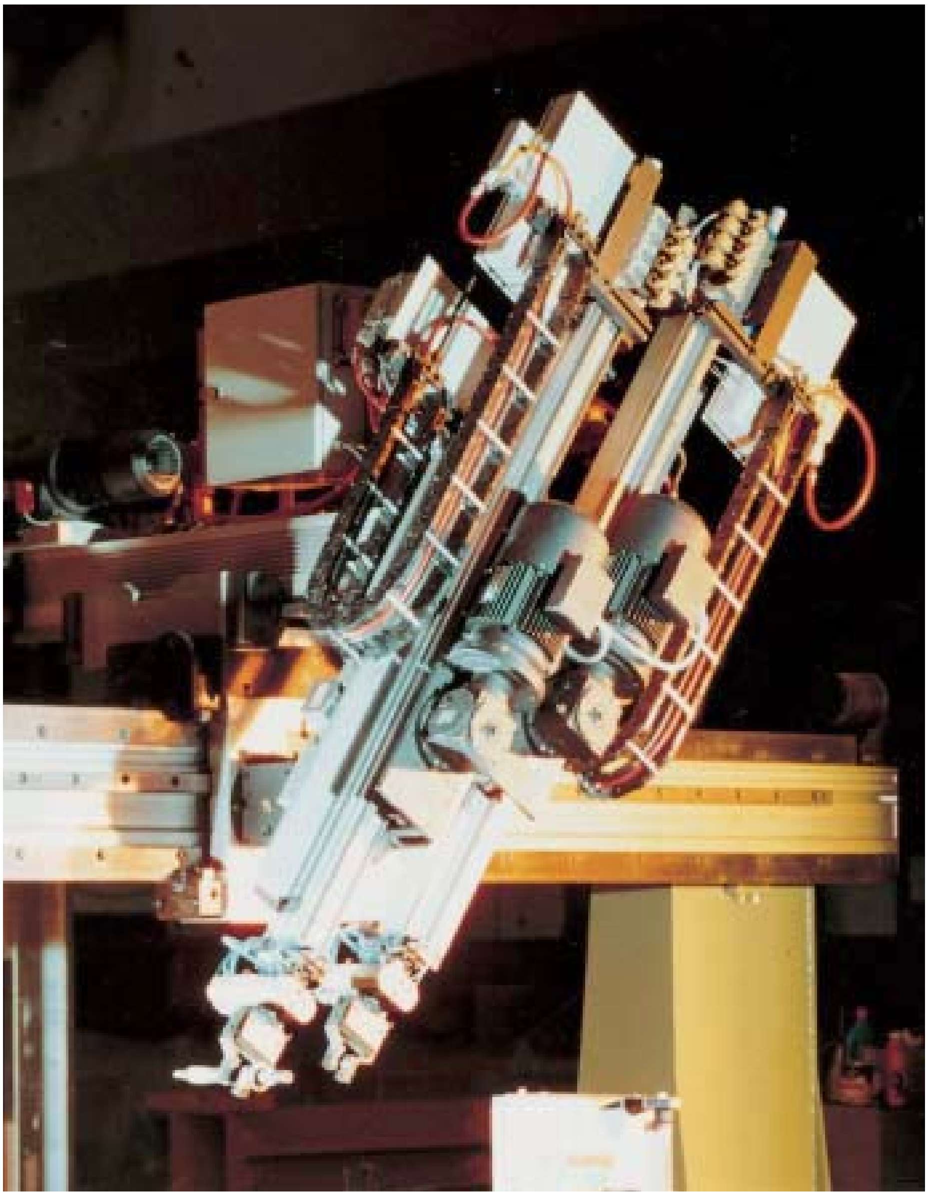
Installation variant:
horizontal – “self-supporting“

Photo:
Genkinger Hebe- u. Fördertechnik GmbH,
Münsingen

KC-Series Cable Carriers on a production line with fully automated materials handling

Installation variant:
horizontal and gliding in a channel

Photo:
Liebherr-Verzahntechnik GmbH, Kempten



Type MC 0650 Cable Carriers on a gantry robot

Installation variant:
vertical – “hanging“

Photo:
Eisenmann Maschinenfabrik GmbH, Böblingen

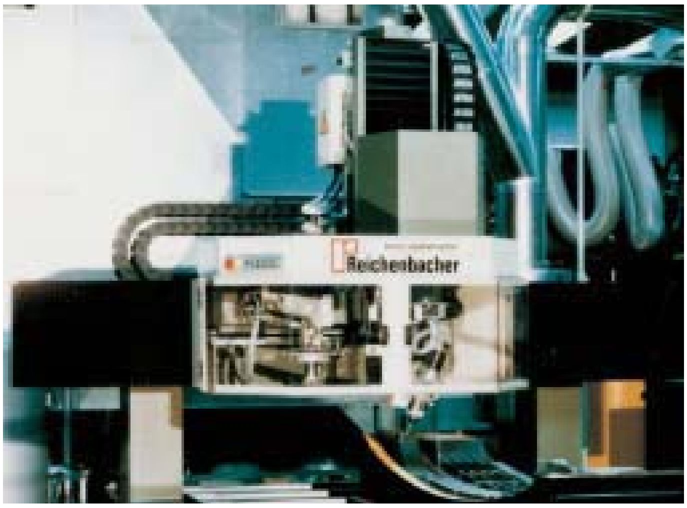
Subject to technical changes!

Application Examples

Type S 0950
Steel Cable Carriers
on a profile cutting machine

Installation variants:
horizontal – “self-supporting“ and
“horizontal / vertical – combined“

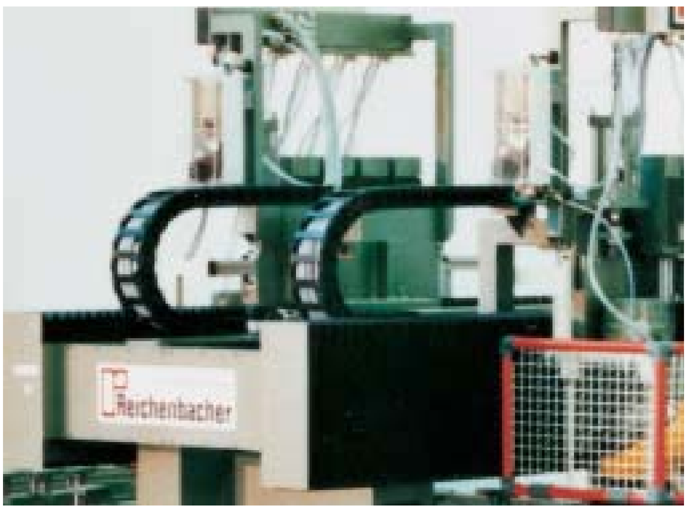
Photo:
Sondermaschinenbau Wildau
GmbH & Co. KG



Type 0625
Cable Carriers
on a five-axis
milling installation

Installation variants:
horizontal – “self-supporting“, running into
one another and vertical – “standing“

Photo:
Maschinenfabrik Reichenbacher GmbH,
Dörfles-Esbach



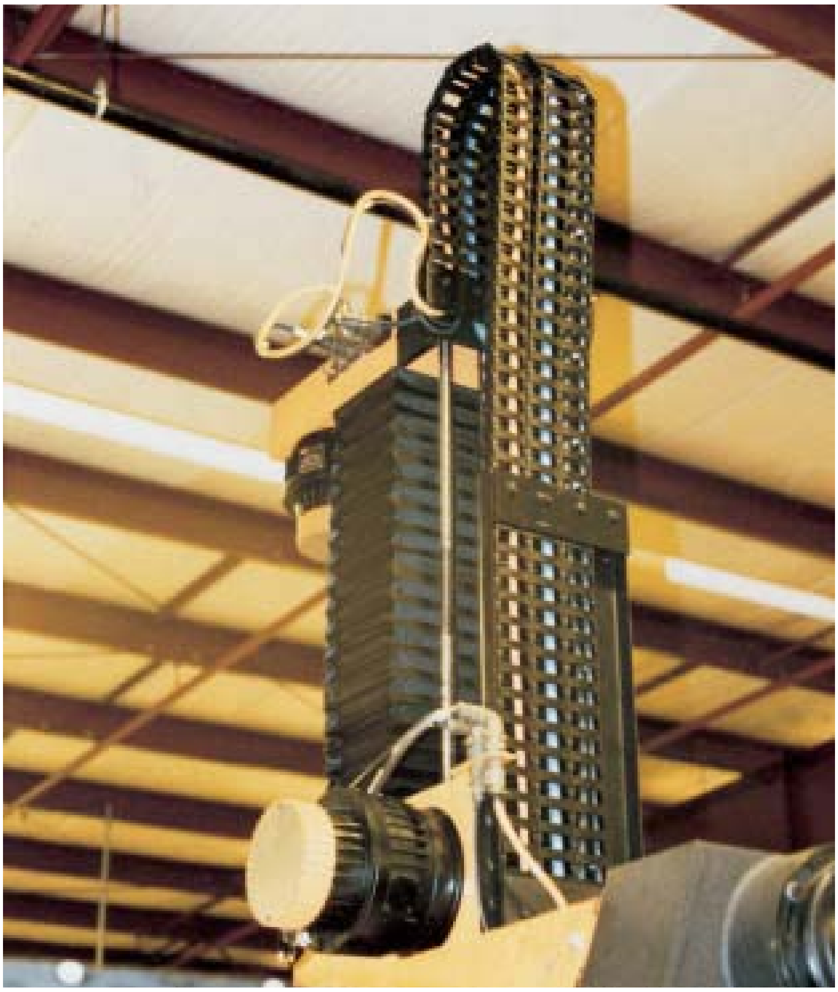
Type 0625
Cable Carriers on a
woodworking machine

Installation variant:
horizontal – “self-supporting“

Photo:
Maschinenfabrik Reichenbacher GmbH,
Dörfles-Esbach

Type 0625
Cable Carriers
on a handling system

Installation variant:
vertical – “standing“ –
running alongside one another



Type 0450 and 0625
Cable Carriers
on a gantry robot

Installation variants:
horizontal – “sliding in a guide channel“
and vertical – “hanging“

Photo:
Liebherr-Verzahntechnik GmbH,
Kempten

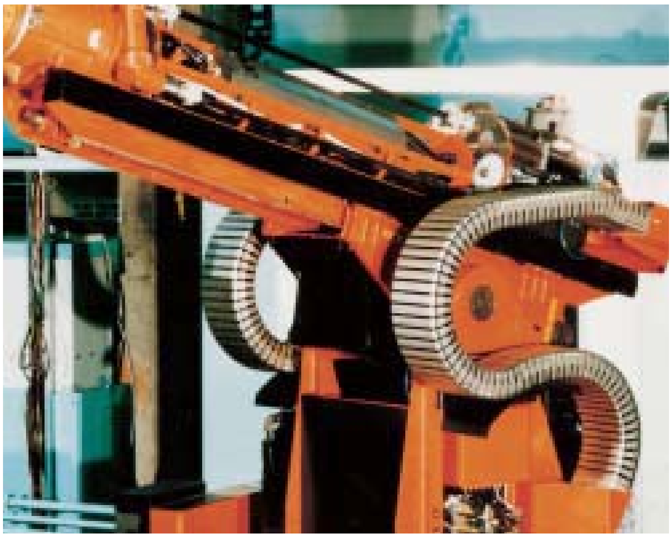
ROBOTRAX Cable Carrier System on a flexible arm robot

Photo:
Reis Robotics – Arthur Bräuer GmbH & CO.KG

CONDUFLEX Flexible Energy Conduit on an assembly robot

Installation variant:
horizontal / vertical – “combined“

Photo:
Volkswagen AG, Wolfsburg



CONDUFLEX Flexible Energy Conduits on a system robot

Installation variant:
Special horizontal / vertical design – “combined“

Photo:
BISIACH-CARRÚ

CONDUFLEX
Flexible Energy Conduits and a Steel Cable Carrier on a five-axis milling machine

CONDUFLEX installation variants:
vertical – “standing“, vertical – “hanging“ and vertical / horizontal – “combined“.

Arrangement:
running into each other and alongside one another

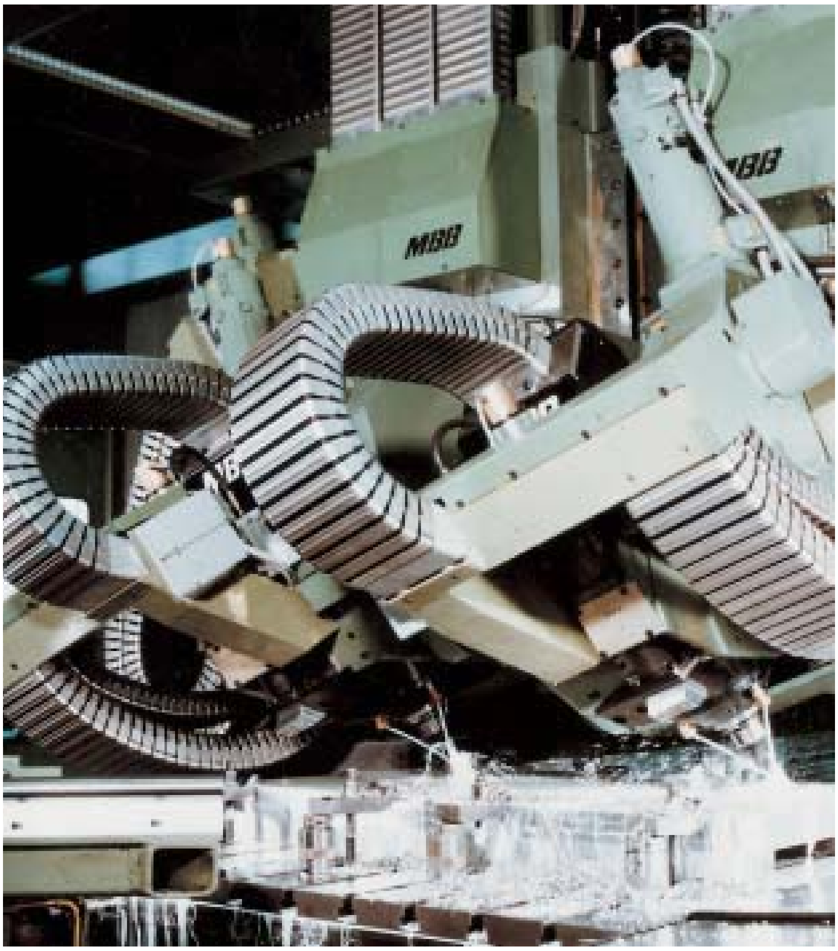
Steel cable carrier installation variant:
vertical-”hanging, with carrying elements”

Photo:
Messerschmitt-Bölkow-Blohm GmbH, Augsburg

CONDUFLEX
Flexible Energy Conduits on a five-axis milling machine

Installation variant:
vertical / horizontal – “combined”

Photo:
Messerschmitt-Bölkow-Blohm GmbH, Augsburg



Appendix

FAX-Enquiry Form
FAX-Order Form
FAX-Catalogue Request Form

FAX-Enquiry Form

KABELSCHLEPP

for Plastic Cable Carriers

Fax: + 49 271/5801-220

KABELSCHLEPP GMBH

Postfach 100654
D-57006 Siegen

Marienborner Straße 75
D-57074 Siegen

Tel.: + 49 271/5801-0

Date: ________________ Page No.: ______ No. of Pages.: _____

From:

Company: ____

____

Name: ________________ Department: ________________

Tel.: ________________ Tel.-Direct Dial: ________________

Fax: ________________ Telex: ________________

Please provide us with the concrete data for a system solution suitable for your application situation.
We will be happy to submit a complete quotation to you.

☐ I would like a consultation!

☐ Quotation for: **Enquiry Number:** ______________________________

☐ **Cable Carriers** **Flexible Energy Conduits** ☐

☐ **Accessories** ☐ Support Trays ☐ Guide Channels ☐ Electric Cables ☐ Strain Relief

In order to prepare a no-obligation quotation we require the following information:

1.00 Machine Data

.10 Purpose of Application ____

____

.20 Environmental conditions ____

.21 Ambient temperature ________ °C

.30 max. travel length of the carrier L_S ________ mm

.40 max. acceleration / deceleration ________ m/s²

.50 Travel speed ________ m/s

.60 Frequency of travel ________ times/h

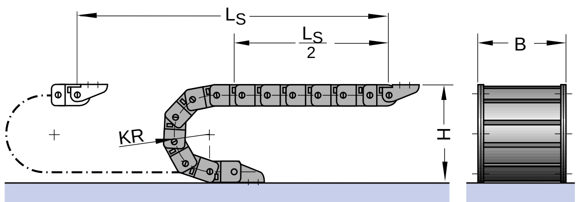
.70 Installation situation (Drawing / Sketch) ____________

.71 max. installation height H ________ mm

.72 max. installation width B ________ mm

.73 Installation variant EBV ________

Explanation of Terms:



2.00 Cables and Hoses

Cable / Hose Type				Number of cables	Cable Cross Section (eg. 4x6 mm²)	Ø in mm	Hose-Ø at presurre in mm	Number of pressure changes per hour	Weight in kg/m	Minimum Bend Radius in mm	Cables with fixed plugs or fittings
electr.	pneum.	hydr.	Fibre-optic-cables								

3.00 Design:

.10 Carrier / Stay cross-section ☐ enclosed ☐ openable

.20 Number of dividers ____ Pieces / Cross-section ☐ Divider system according to system

4.00 Additional Details

____

____

Sketches / Notes

FAX-Order Form

KABELSCHLEPP

for Plastic Cable Carriers

Fax: + 49 271 / 5801-220

KABELSCHLEPP GMBH

Postfach 100654
D-57006 Siegen

Marienborner Straße 75
D-57074 Siegen

Tel.: +49 271 / 5801-0

Date: ______________ Page No.: ______ No. of Pages: ______

From:

Company: ____

____

Name : ________________ Department: ________________

Tel.: ________________ Tel.-Direct Dial: ________________

Fax: ________________ Telex: ________________

We would like to order the products detailed below:

Order Number.:

____

KABELSCHLEPP Quotation:

________________ of __________

Items. No.:	KABELSCHLEPP Item Description Ordering text	Number	Unit Price excl. VAT

☐ For continuation of Page ___

Required Delivery Date:

____

____

Stamp / Signature

KABELSCHLEPP

FAX-Order Form

for Plastic Cable Carriers

Fax: +49 271 5801-220

Date: ____________ Page No.: ______ No. of Pages: _____

Item No.:	KABELSCHLEPP Item Description Ordering text	Number	Unit price excl. VAT

☐ For continuation cf. Page ______

Notes:

____

____

____

FAX – Request Form

KABELSCHLEPP

Catalogues

Fax: +49 271 / 5801-220

KABELSCHLEPP GMBH

Postfach 100654
D-57006 Siegen

Marienborner Straße 75
D-57074 Siegen

Telefon: +49 271 5801-0

www.kabelschlepp.de

Date: ________________ Page No.: ______ No. of Pages.: _____

From:

Company: ____

____

Name: _________________ Department: ___________________

Tel.: __________________ Tel.-Direct Dial: ________________

Fax: __________________ Telex: ________________________

Please send me the following information:

- ☐ Innovations brochure
- ☐ "Steel Cable Carriers" catalogue
- ☐ New and Proven – "Plastic Cable Carriers" brochure
- ☐ New and Proven – "Steel Cable Carriers" brochure
- ☐ "ROBOTRAX Cable Carrier System" brochure
- ☐ "QUANTUM Cable Carrier System" brochure
- ☐ "PROFILE Cable Carrier System" brochure
- ☐ New and Proven – "Guideway Protection and Conveyor Systems" with information on
  - Telescopic Covers
  - Way Wipers
  - Link Apron Covers
  - Bellows
  - Steel Spring Covers
  - Roller Conveyor Covers
  - Hinged Belt Conveyors
  - Scraper Conveyors
  - Belt Conveyors
- ☐ "LIFE-LINE Special Cables for Cable Carriers" brochure
- ☐ "KABELCAD" CD-ROM with selection and drawing library
- ☐ "Replacement Parts Lists and Brochure Material" CD-ROM
- ☐ Catalogues on CD-ROM

Sales Network

KABELSCHLEPP GMBH
D-57074 Siegen · Marienborner Str. 75
D-57006 Siegen · PO box 100654
Phone: +49-271/5801-0
Fax: +49-271/5801-220
e-mail: info@kabelschlepp.de
http://www.kabelschlepp.de

Agencies and representatives of KABELSCHLEPP GMBH in the Federal Republic of Germany

Schmidberger GmbH
Münchner Straße 135
D-85774 Unterföhring
PO box 1248
D-85766 Unterföhring
Phone: +49-89/958467-0
Fax: +49-89/958467-20
e-mail: schmidberger.gmbh@t-online.de

Gustav Heimbeck KG
Graf-Luckner-Straße 22
D-57076 Siegen
PO box 210323
D-57027 Siegen
Phone: +49-271/313040
Fax: +49-271/3130417
e-mail: heimbeck@hees.de

Regional representation - West
Hans Hartig
Hülsen 25
D-51766 Engelskirchen
Phone: +49-2263/901551
Fax: +49-2263/901552
e-mail: h.hartig@kabelschlepp.de

Regional representation - East
Karl-Heinz Sasse
Im Ring 34
D-15806 Telz
Phone: +49-3377/399656
+49-171/6821367
Fax: +49-3377/399657
e-mail: kh.sasse@kabelschlepp.de

Subsidiary company of KABELSCHLEPP GMBH

KABELSCHLEPP GMBH-HÜNSBORN
Wielandstraße 1 - Industriegebiet Ost
D-57482 Wenden-Hünsborn
Phone: +49-2762/97420
Fax: +49-2762/974299
e-mail: ksh@kabelschlepp.de

KABELSCHLEPP AMERICA
7100 West Marcia Road
Milwaukee, WI 53223-3363/USA
Phone: +1-414/3541994
Fax: +1-414/3541900
e-mail: sales@kabelschlepp.com
http://www.kabelschlepp.com

KABELSCHLEPP DO BRASIL
Indústria e Comércio Ltda.
Av. Dr. Ulysses Guimarães, 3.388
09990-080 Diadema - SP/BRAZIL
Phone: +55-11/4071-2277
Fax: +55-11/4071-3552
e-mail: info@kabelschlepp.com.br

TSUBAKI KABELSCHLEPP SHANGHAI
Suite B, South, 2FL., 209 Taigu RD.,
Waigaoqiao Free Trade Zone,
Shanghai, China
Phone: +86-21/50640155
Fax: +86-21/58680190
e-mail: zhangtks@sh163.net

KABELSCHLEPP FRANCE S.A.R.L.
Rue du chemin vert
B.P. 1 Bâtiment Pariwest
F-78612 Le Perray en Yvelines
Phone: +33-1/34846365
Fax: +33-1/34848671
e-mail: contact@kabelschlepp.fr
http://www.kabelschlepp.fr

METOOL PRODUCTS LTD.
Lilac Grove, Beeston
Nottingham NG 9 1 PG/GREAT BRITAIN
Phone: +44-115/9225931
Fax: +44-115/9259996
e-mail: postmaster@metool.com
http://www.metool.com

KABELSCHLEPP ITALIA S.R.L.
Via Massari Marzoli, 9
I-21052 Busto Arsizio - VA
Phone: +39-0331/350962
Fax: +39-0331/341996
e-mail: infoksi@kabelschlepp.it
http://www.kabelschlepp.it

KABELSCHLEPP KOREA
Suite BA 1401/2 Central Machine Tool Center
1258 Kurobon-dong, Kuro-Ku
Seoul, 152-721 / Korea
Phone: +82-2-2619/5577
Fax: +82-2-2619/1500
e-mail: sales@kabelschlepp.co.kr
http://www.kabelschlepp.co.kr

KABELSCHLEPP Sp z o.o. Polen
ul. Piekna 13
85303 Bydgoszcz/Poland
Phone: +48-52/3487711
Fax: +48-52/3487715
e-mail: kabelschlepp@kabelschlepp.com.pl
http://www.kabelschlepp.com.pl

KABELSCHLEPP Singapore Pte Ltd
25 International Business Park
#02-10A German Centre
Singapore 609916 / SINGAPORE
Phone: +65-65628055
Fax: +65-65628057
e-mail: a.seah@kabelschlepp-asia.com

KABELSCHLEPP SYSTEMTECHNIK GMBH
nám.Gy.Széchényiho 11
SK-94039 Nové Zámky
Phone: +421-35/6401505
Fax: +421-35/6401503
e-mail: info@kabelschlepp.sk

Sales Network

KABELSCHLEPP

Licensees:

TSUBAKIMOTO CHAIN COMPANY
1-3, Kannabidai 1-Chome Tanabe
Kyotanabe City
Kyoto
610-0380 JAPAN
Phone: +81-774-64-5020
Fax: +81-774-64-5210
e-mail: mayumi.tanaka@tsubakimoto.co.jp
http://www.tsubakimoto.co.jp

World wide agencies

Argentinia
NORTECNICA S.R.L.
103 Heredia 638
1672 Villa Lynch - Pica
Pcia. De Buenos Aires
ARGENTINIA
Phone: +54-11/47573129
Fax: +54-11/47571088
e-mail: info@nortecnica.com.ar

Australia
Wampfler SCA Pty Ltd
Unit 2/9 Archimedes Place
Murarrie, Brisbane, QLD 4172
P.O. Box 3556
Tingalpa, Brisbane, QLD 4173
AUSTRALIA
Phone: +61-7/3902-6000
Fax: +61-7/3902-6001
e-mail: mail@wampfler.com.au
http://www.wampfler.com.au

Austria
Robert Ganglberger
Holzbauernstraße 20
A-4050 Traun
Phone: +43-7229/74330
Fax: +43-7229/61503
e-mail: ganglberger.r@aon.at
http://www.kabelschlepp.at

Belgium
Wisman Electro Techniek
Drie Eikenstraat 112
B-2650 Edegem
Phone: +32-3/4572482
Fax: +32-3/4572980
e-mail: electro@wisman-techniek.be

Czech Republic
OPTICONTROL s.r.o.
Lelekovice 103
CZ-66431 Brno
Phone: +420-5/41232288
Fax: +420-5/41232711
e-mail: opticont@brn.czn.cz

Denmark
Bagger-Nielsen
Svalehöjvej 10
DK-3650 Ölstykke
Phone: +45-7020/7633
Fax: +45-7020/7603
e-mail: info@bagger-nielsen.dk
http://www.bagger-nielsen.dk

Finland
Movetec Oy
Hannuksentie 1
FIN-02270 Espoo
Phone: +358-9/5259230
Fax: +358-9/52592333
e-mail: movetec@co.inet.fi
http://www.movetec.fi

Greece
E. D. Koumakis S.A.
O.T. 32 Sindos Industrial Area
P.O.B. 199
GR-57022 Thessaloniki - Hellas
Phone: +30-2310/796791
Fax: +30-2310/795056
e-mail: info@koumakis.gr
http://www.koumakis.gr

Hungary
FIGRA - Mûszaki Kereskedelmi Kft
Szentmiklósi út 14.
H-1213 Budapest
Phone: +36-1/420-3053
Ph./Fax: +36-1/277-6067
e-mail: figra@axelero.hu
http://www.figra.hu

India
ELEKTROMAG METHODS
Unique, 4th Floor,
Post Box 9141, Prabhadevi
Mumbai - 400 025, INDIA
Phone: +91-22-56624444
Fax: +91-22-56624455
e-mail: advanin@giasbm01.vsnl.net.in
http://www.emagindia.com

Israel
Automation Yeruham & Co. Ltd.
34 Hahofer St. · P.O.Box 1844 Holon
Zip 58117
Phone: +972-3/5567322
Fax: +972-3/5596616
e-mail: idekel@ayeruham.com
http://www.ayeruham.com

Luxembourg
Carl Spaeter
Luxembourg S.à.r.l.
6, rue Belle-Vue
L-8013 Strassen
Phone: +352/317070
Fax: +352/316922
e-mail: spaeter@pt.lu

Malaysia
AIMS MOTION TECHNOLOGY SDN. BHD.
No. 38 & 40, Jalan 4/152,
OUG Industrial Park, Batu 6
Jalan Puchong,
58200 Kuala Lumpur / Malaysia
Phone: +(60)3-77851126
Fax: +(60)3-77836126
e-mail: shawnwyc@aimsind.com.my
http://www.aimsind.com.my

Netherlands
Electrotechnische Handelsonderneming
WISMAN B.V.
Spaarneweg 57
2142 EP Cruquius (Haarlemmermeer)
NETHERLANDS
Phone: +31-23/5290376
Fax: +31-23/5287781
e-mail: electro@wisman-techniek.nl
http://www.wisman-techniek.nl

New Zealand
General Cable New Zealand Limited
14-18 Vestey Drive, MT Wellington
P.O.Box 22-160
Otahuhu/Auckland
NEW ZEALAND
Phone: +64-9/276-1020
Fax: +64-9/270-3943
e-mail: brian.mackenzie@generalcable.co.nz

Norway
Ing. H. Asmyhr a.s.
Hvamsvingen 10
N-2013 Skjetten
Phone: +47-64/834550
Fax: +47-64/834555
e-mail: firmapost@asmyhr.no

Portugal
Vahle Portuguesa
Sistemas de Alimentação
Eléctrica, Lda.
Quinta do Borel,
Rua Tenente Gouveia, 21-21A
P-2720-525 Amadora
Phone: +351 214998690
Fax: +351 214998699
e-mail: geral@vahle.pt

Slovenia/Kroatia
Inoteh d.o.o.
Vorohova 20
SI-2345 Bistrica ob Dravi / Slovenija
Phone: +386-2/6651131+6719012
Fax: +386-2/6652081
e-mail: inoteh@siol.net
http://www.uia.com.sg

South Africa
Magnapower (Pty.) Ltd.
P.O.Box 682
Maraisburg 1700/SOUTH AFRICA
Phone: +27-11/4748933/39
Fax: +27-11/4748940
e-mail: magnaequip@hotmail.com

Spain
Exclusivas Rein, S.A.
Portal de Gamarra, 36
Pabellón 14
E-01013 Vitoria
Phone: +34-945/262922
Fax: +34-945/266437
e-mail: tecnico@exrein.es
http://www.exrein.es

Sweden
Stiebel AB
Dalhemsvägen 35
SE-14146 Huddinge
Phone: +46-8/7119939
Fax: +46-8/7119923
e-mail: info@stiebel.se
http://www.stiebel.se

Switzerland/Liechtenstein
Hans Hess + Co. AG
Gewerbestrasse 16/Postfach
CH-8800 Thalwil
Phone: +41-(0)1/7225500
Fax: +41-(0)1/7225502
e-mail: mail@hanshess.ch
http://www.hanshess.ch

Taiwan
SIGNET TRADING CO. LTD.
No. 99, An-Chai 8th St.
Hsin-Chu Industrial Park.
Hu-Ko, Hsin-Chu/TAIWAN
Phone: +886-35/978808
Fax: +886-35/978848
e-mail: gudel@ms42.hinet.net
signet@tpts4.seed.net.tw

Turkey
KABELLIMITED
Kabel Enerji iletim zincirleri
San. Tic. Ltd. Sti.
Gazcılar Cad Sakarya Sok No: 20/A
TR-16220 Bursa/Turkey
Phone: +90-224/2511656
Fax: +90-224/2530690
e-mail: kabellim@superonline.com
http://www.hidrokabel.com

Venezuela
NORSTAT C.A.
Apdo. 68761
Caracas 1062 A/VENEZUELA
Phone: +58/212425358
Fax: +58/212416848

White Russia
Startlight
Zakharova 40-33 str.
220034 Minsk/Belarus
Phone: +375-17266-45-78
+375-17284-27-74
Tel./Fax: +375-17266-24-86
+375-17285-64-67
e-mail: polymer@nsys.by

KABELSCHLEPP GMBH
Marienborner Str. 75 · D-57074 Siegen
P.O.Box 10 06 54 · D-57006 Siegen
Phone: +49-2 71/58 01-0, Fax: +49-2 71/58 01-220
info@kabelschlepp.de · www.kabelschlepp.de