

KABELSCHLEPP

the power to innovate



Turning ideas into innovations.

Innovations 2006

Turning ideas into innovations.

That lead our customers on to new ideas.

Are you looking for the ideal cable carrier, or other great-value products?

Then you're in the right place: KABELSCHLEPP is constantly and consistently developing its products and systems further – and you are the one who'll benefit from that.

With our new generation of cable carrier systems, for example, you'll benefit from state-of-the-art developments in the field of plastics. Cable carriers and cover systems are becoming lighter, quieter, and more effective than before.

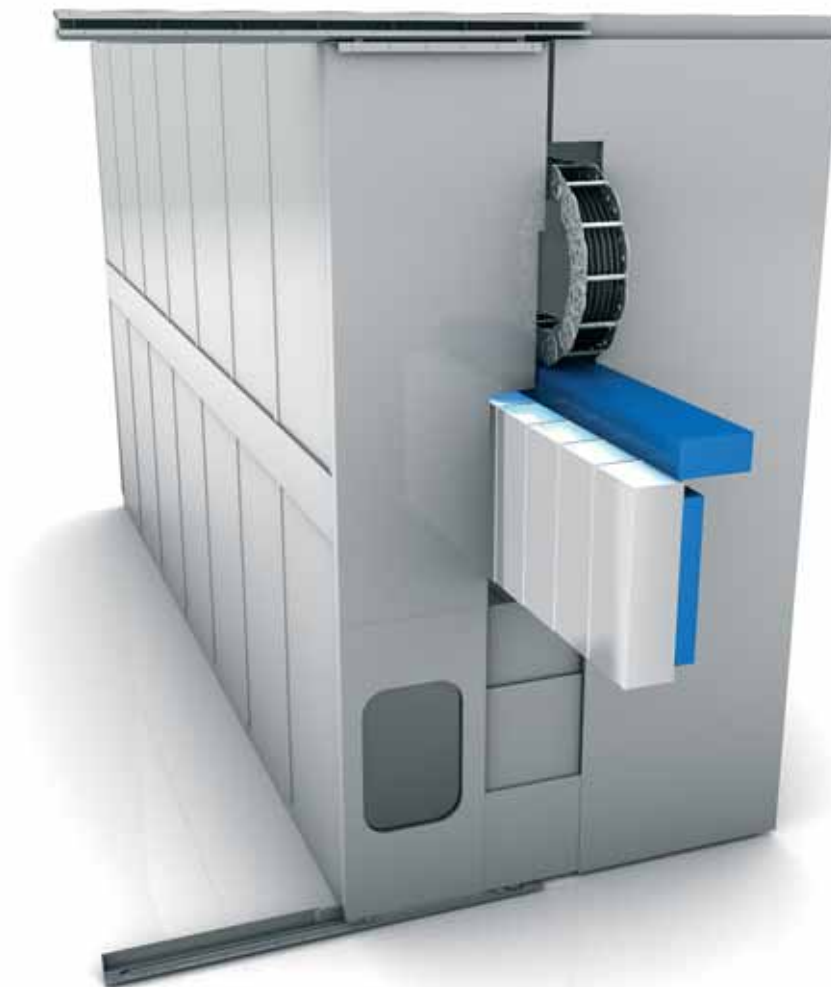
And in the LIFE-LINE range, you can find cable carrier-compatible USB data cables with a transfer length of up to 6 m, as well as new, cost-effective motor cables.

We have also supplemented our range of LIFE-LINE cables with pre-assembled plugs according to SIEMENS specifications, to reduce delivery times and simplify the ordering process.

And in the field of protection systems, we have extended our PROTECT-PANEL system and added some new, practical details. Our new link apron covers are based on a totally new design, which makes them sturdier, lighter and more cost-effective than ever before.

So you see, there are plenty of reasons for getting to know our latest innovations at first hand.

We wish you lots of successful ideas.



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Lighter. Quieter. More effective.

The new generation: UNIFLEX 1555.

Make your life that little bit simpler: the new generation of our cost-effective UNIFLEX is lighter, quieter and more effective. It's a carrier with a wide range of possible applications.

The links are weight-optimised, while the integrated damping system makes the cable carrier even quieter.

Now the cable carrier can be opened even more easily and more quickly, thanks to the new crossbar. All this means that the new generation of solid plastic cable carriers with fixed widths are cost-effective all-rounders.

New generation – new designation

0555  **1555**
UNIFLEX **UNIFLEX**
New Generation

BASIC-LINE

UNIFLEX 1555 – the benefits

- cost-effective cable carrier
- single-part or openable designs
- lighter thanks to new geometry
- extremely quiet thanks to new noise damping system
- greater unsupported length
- larger additional loads
- torsionally rigid
- for unsupported and gliding arrangements



- Simple, cost-effective, sturdy.
Design 020: Single-part links.





BASIC-LINE

Dimensions and intrinsic weight of carrier

Type*	h _i	h _G	Inside widths B _i							B _k
			Intrinsic chain weight							
1555	38	50	50	75	100	125	150	175	200	B _i + 18
			1.13	1.23	1.32	1.42	1.51	1.61	1.70	

Dimensions in mm / Weights in kg/m

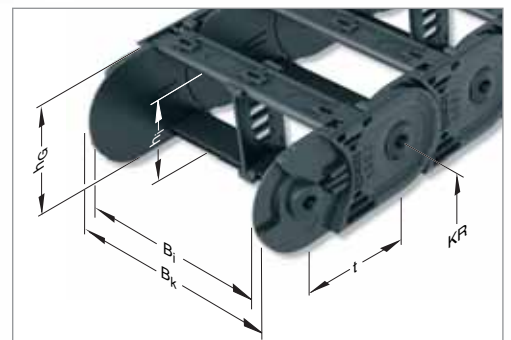
Inside width 100 mm available from stock; other inside widths on request.

* Further types in planning. Please contact us for more details.

Bend radius and pitch

Bend radii KR mm							
63	80	100	125	160	200	230	

Pitch t = 55.5 mm



Faster opening, faster closing, faster work. UNIFLEX 1555 with new crossbars.

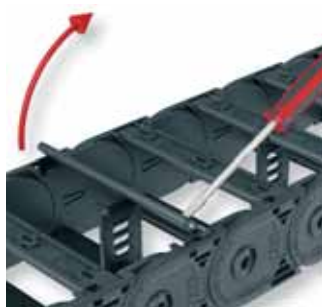
Quick-as-a-flash, easy opening thanks to the new crossbar hinge

The crossbars in designs 030 and 040 are based on a completely newly-developed ball-and-socket mechanism that allows quick and simple opening (right/left).

Particularly practical: The crossbar remains attached to the link even when open. If necessary, the crossbar can be simply detached from the link.



■ Crossbar with ball joint



■ Simply turn crossbar and open up



■ Easy release of crossbar

Opening possibilities

Design 030 opens outwards



Outside: Crossbar is openable (on the right/left) and detachable

Design 040 opens inwards



Inside: Crossbar is openable (on the right/left) and detachable

Design 020 single-part links



Inside/outside: not openable

Design 020

- single-part solid plastic links
- **cost-effective solution**
- not openable, thus even greater stability
- especially designed for extreme challenges, e.g. laying hydraulic hoses with small bend radii

Lateral wear surfaces

For applications on their side or gliding in a guide channel, the lateral wear surfaces guarantee an even longer service life.



Divider systems

Dividers and continuous height subdivision are available for separating the cables.

Movable dividers (standard)

The standard dividers (divider version A) are movable.



■ Movable dividers without locking cams

Fixed dividers

The **fixed dividers** (divider version B) can be fixed in 2.5 mm steps **without any additional spacers**. This is achieved by the arresting cams becoming secured in the locking profile of the crossbar.



■ Locking profile and arresting cams

UMB (Universal Mounting Bracket) with optional strain relief comb

Thanks to the plastic UMBs (Universal Mounting Brackets), you can connect the UNIFLEX types very easily from above, below and at the front.

The **optional strain relief comb** allows the cables to be fixed securely and simply. It fits between the UMB connecting pieces, and does not need to be screwed on separately. Instead of the strain relief comb, a C-profile can be used with other strain relief elements.



■ UMB (Universal Mounting Bracket) with strain relief comb

Don't waste a single millimetre.

MASTER HT 33 and HT 46: Plastic covers in 1 mm widths sections.

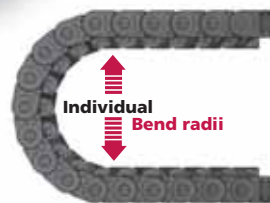
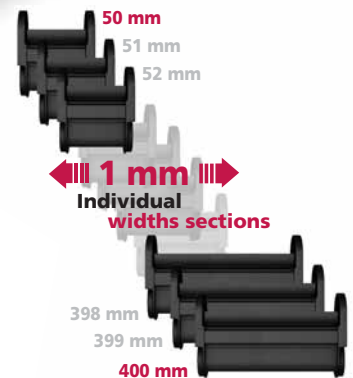
Are your cable carriers exposed to machining chips or coarse dirt? Then protect the cables inside the carrier in a cost-effective, highly effective way. The new cover system for our MASTER HT Series combines the **stability of aluminium stays** with the **low weight of plastic covers**.

The cover system can be supplied for your application, available in 1 mm widths sections. In addition to the standard bend radii, all intermediate radii are also available.

Plastic covers available in 1 mm widths sections for MASTER HT 33 and HT 46

- lightweight, quiet and sealed against contamination
- available in 1 mm widths sections up to 400 mm
- easy to fit
- may be retrofitted to existing cable carriers HC 33 and HC 46
- partial covering is possible

- Plastic cover with aluminium stay.



Can be opened in a flash



- Turn the cover through 15° to loosen and remove.

Divider systems

The movable divider systems for the MASTER HC 33 and HC 46 can also be used with the HT Series.

The tough cover solution.

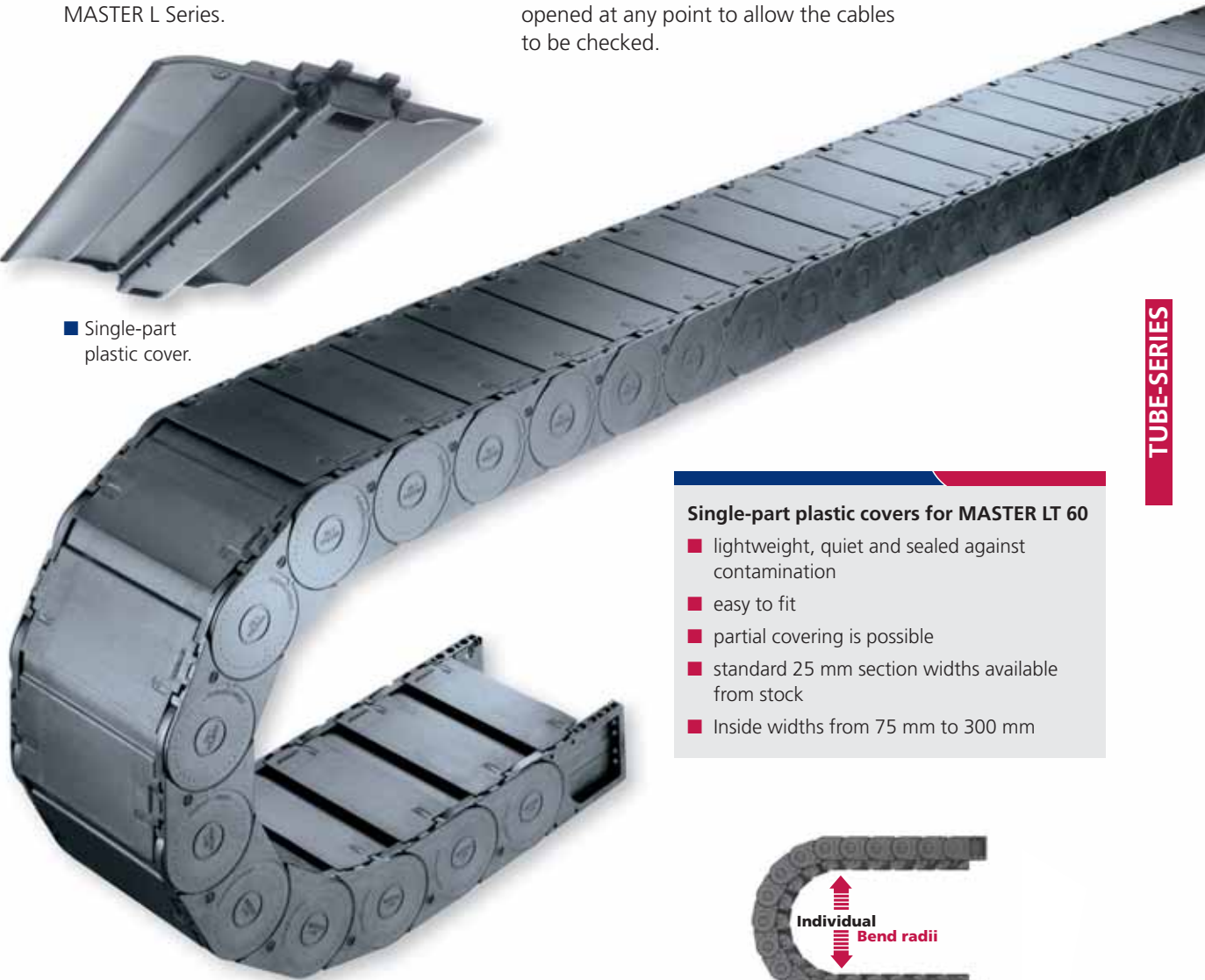
MASTER LT 60: Single-part plastic covers.

Are you looking for a cable carrier that is closed, yet still lightweight? Then let us introduce our new closed type from the MASTER L Series.

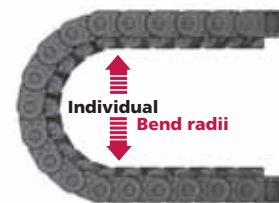
The single-part plastic covers provide a very well-sealed easy-to-fit covering to protect the cables beneath. The cable carrier can be opened at any point to allow the cables to be checked.



■ Single-part plastic cover.



- Single-part plastic covers for MASTER LT 60**
- lightweight, quiet and sealed against contamination
 - easy to fit
 - partial covering is possible
 - standard 25 mm section widths available from stock
 - Inside widths from 75 mm to 300 mm



Simple to open



■ Lever the cover up in order to remove it.

Divider systems

The MASTER LC 60 movable divider systems are also suitable for the LT version. Fixed dividers with arresting cams are currently in development.

TUBE-SERIES

Longer lifespan, lower costs.

OFFROAD glide shoes for the M 1250.

In the case of cable carriers in **gliding arrangement**, the gliding surfaces are exposed to particularly heavy loads. If, on top of that, sand, corundum or metallic abrasive materials are present, a **greater wearing volume** is required.

The new OFFROAD glide shoes for the M 1250 Series are made from **highly abrasion-resistant material**, and have 80 % more wearing volume than our standard glide shoes. They **increase the**

lifespan of the entire cable carrier; in case of wear, simply replace the glide shoes. This is more cost-effective than replacing the entire cable carrier.



+80 %
more wearing volume —
the new OFFROAD glide shoe.



■ Fast assembly of the glide shoes

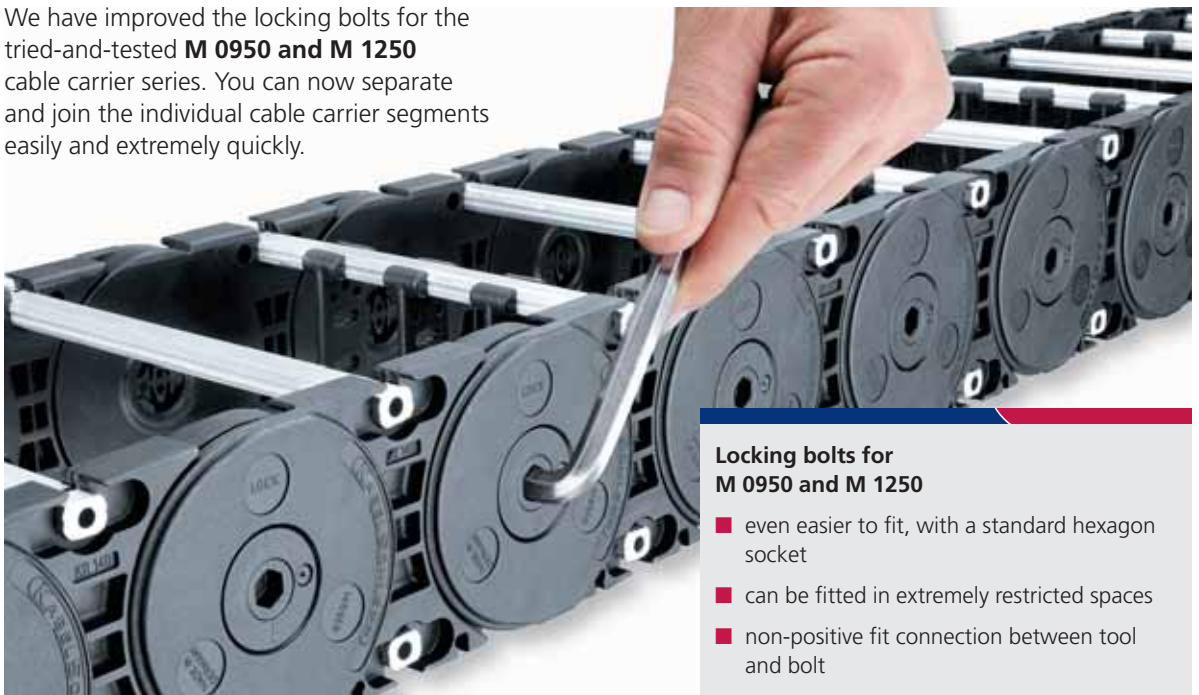
OFFROAD glide shoes for M 1250

- more wearing volume
- easy to replace
- increased lifespan of cable carrier
- reduced costs and standstill times

Easier than ever to install:

A new design of locking bolt.

We have improved the locking bolts for the tried-and-tested **M 0950 and M 1250** cable carrier series. You can now separate and join the individual cable carrier segments easily and extremely quickly.



Locking bolts for M 0950 and M 1250

- even easier to fit, with a standard hexagon socket
- can be fitted in extremely restricted spaces
- non-positive fit connection between tool and bolt

Two become one.

Strain relief comb with C-profile connections.

The new, **cost-effective plastic strain relief comb** does not need to be screwed on separately, or pushed onto a support profile.

It fixes, **like a C-profile**, into the UMB (Universal Mounting Bracket).



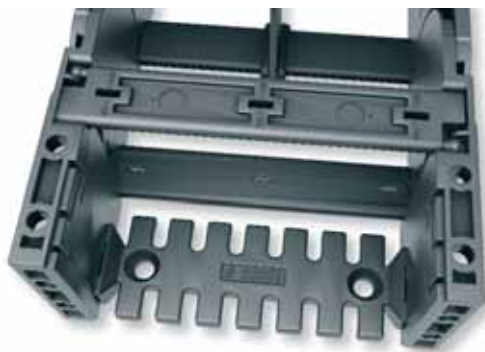
■ Lateral profiling with standard C-profile dimensions



■ Quick, simple fixing of cables



■ Fixing in the UMB



C-profile-compatible strain relief comb

- very cost-effective solution
- available from stock
- just one strain relief comb for fixing all cables
- easy handling and quick assembly
- no need for a separate screw connection, but possible if required
- can also be used for strain relief in switch cabinets

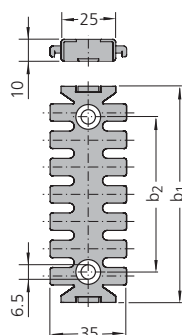
Rows of teeth on both sides to ensure secure fixing of cables



Rows of teeth on both sides for fixing the cables

- secure fixing with two or four cable ties
- higher fixing force than with a one-sided strain relief comb
- equal power transmission for both pulling and pushing
- minimised movement of cables

Dimensions



$b_1 = 50, 75, 100$
(125, 150, 175,
200 upon request)

$b_2 = b_1 - 29$

Suitable for cable carriers:

- UNIFLEX 1555 (new generation)
- MASTER H Series
- K Series type KC 0650
- M Series type MC 0650
- QUANTUM type Q 060

Small cable carriers, big performance.

MINI 0180/0182: Even tougher following redesign.

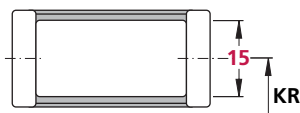
Rediscover our MINI 0180.30 and MINI 0182.30:

Our **cost-effective solid plastic cable carriers** have been redesigned to make them even better. This new design is being applied step-by-step to other types as well.

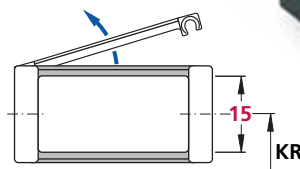
BASIC-LINE

MINI 0180.30/0182.30: Impressive price, impressive performance

- longer lifespan
- greater unsupported lengths
- larger additional loads
- greater flexural rigidity
- reinforced stroke system
- available from stock



■ Type series 0182
Single-part links



■ Type series 0180
Openable brackets

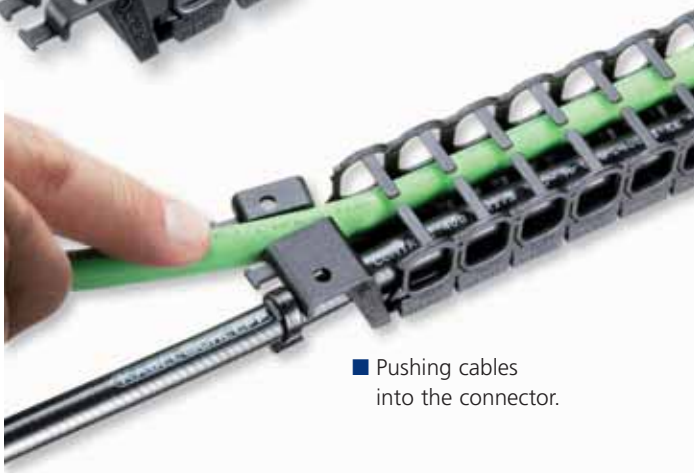
■ New cable carrier design

Compact, light, and quick to assemble.

PROTUM: Connectors with connecting surface on the outside.

Until now, you have known our PROTUM Series as a small, light cable carrier for unsupported applications.

The new connectors for P 0160 and P 0240 with connecting surface on the outside **make assembly even easier and more efficient.**



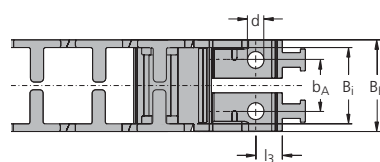
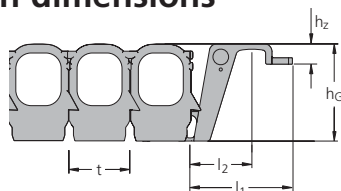
■ Pushing cables into the connector.

Connectors with connecting surface on the outside for PROTUM P 0160 and P 0240

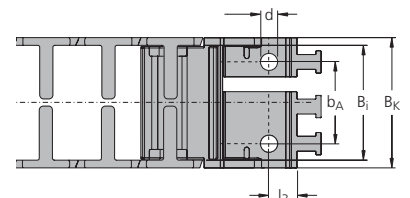
- cables can also be pushed into the connector
- integrated strain relief comb
- available from stock

BASIC-LINEPLUS

Connection dimensions



Connection dimensions for B_i 15 and 20 mm



Connection dimensions for B_i 30 and 40 mm

Dimensions in mm

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

Ideal for all rotating movements of up to 420°.

ROBOTRAX: Cost-effective new channel system.

Our **3D-mobile** ROBOTRAX cable carriers have proven their worth over many years for applications involving industrial robots. Thanks to its **new channel system**,

ROBOTRAX is now a cost-effective, very **adaptable alternative for many rotating applications** – not just for industrial robots.



New channel system for ROBOTRAX

- simple construction
- short delivery time
- small construction height and width
- large angle of rotation of up to 420°
- easy assembly
- no more need for depositing points

The universal alternative to the classic rotating solution

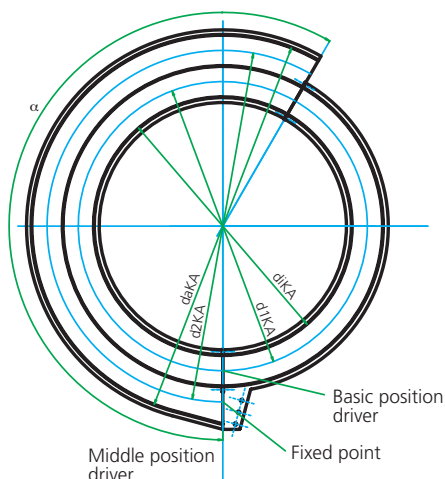
The new stainless steel channel system is suitable for use not just with industrial robots, but with **turntables, rotating applications and mounting fixtures** as well.

The simple design allows rapid assembly and production. Small diameters are also easily achieved.

As the cable carrier is a ROBOTRAX, which is directly available from stock, there is no need for customised cable carriers with reverse bend radii, or for subsequent machining work.

Combined with the channel system, this allows a **simple, cost-effective and rapidly available solution for rotating applications**.

Dimensions and dimensioning



- D_a : ROBOTRAX outer diameter
- KR : ROBOTRAX bend radius
- d_{aKA} : Channel system outer diameter
- d_{iKA} : Channel system inner diameter
- α : Angle of rotation of the robot (max. $\pm 210^\circ$)
- d_{iKAmin} : $4 KR - D_a$
- d_{1KA} : $d_{iKA} + D_a + 5$
- d_{2KA} : $d_{iKA} + 3 D_a + 7.5 + s$
- d_{aKA} : $d_{iKA} + 4 D_a + 10 + s$
- s : 2 mm
- α : half angle of rotation + $360 \times 3 KR/p \times d_{KA}$

All dimensions are guide values:
wall thicknesses are not taken into account.

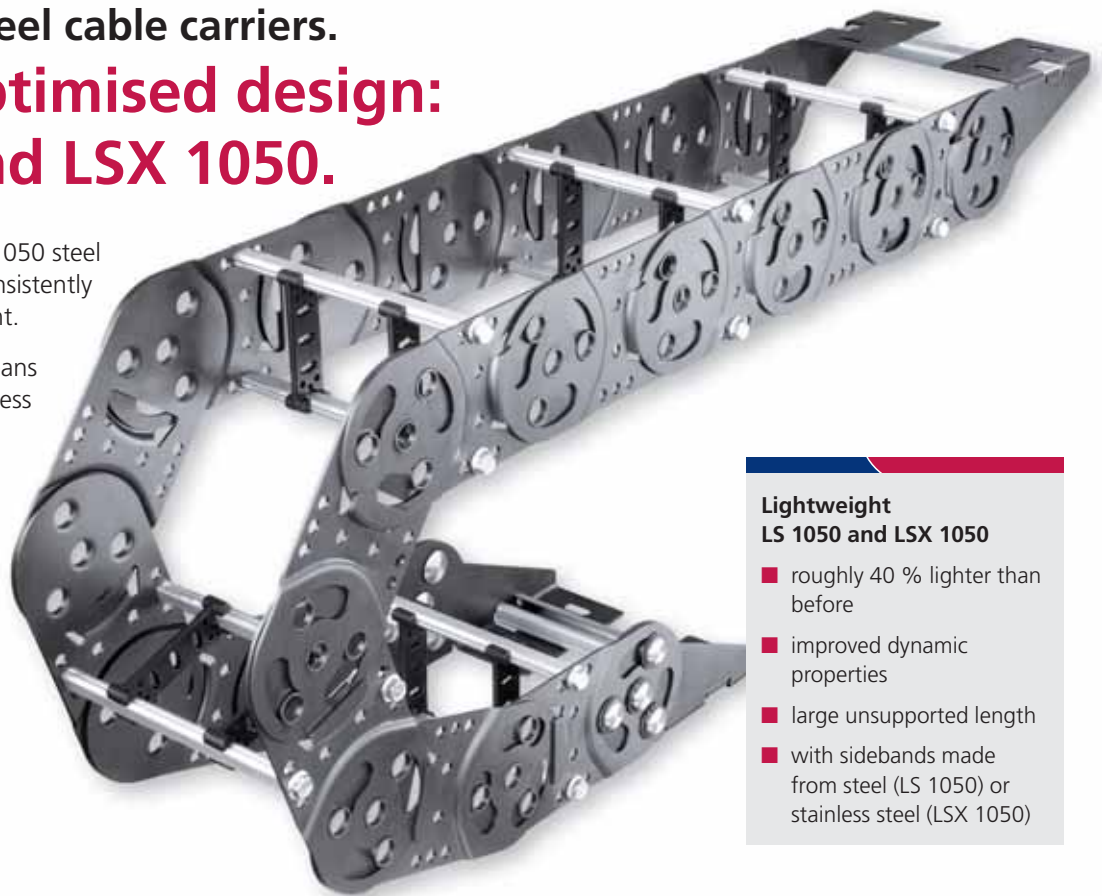
Lightweight steel cable carriers. Weight-optimised design: LS 1050 and LSX 1050.

The new LS 1050 and LSX 1050 steel cable carriers have been consistently designed to minimise weight.

The side plate geometry means the cable carrier is nonetheless very sturdy and robust.

For your applications that means:

greater accelerations and speeds at high additional loads.



Lightweight LS 1050 and LSX 1050

- roughly 40 % lighter than before
- improved dynamic properties
- large unsupported length
- with sidebands made from steel (LS 1050) or stainless steel (LSX 1050)

STEEL-LINE

Stay variants RS and RV

A wide range of separation options with tried-and-tested dividers and height subdivisions.



Connecting pieces with C-rail attachment

The C-rail required for attaching the strain relief elements is fixed using the connecting pieces, and does not need to be screwed on separately.



Optional central bolt

For applications involving large loads, applications with extreme dynamic requirements, or for larger additional loads in conjunction with a half-stay arrangement, the side plates can be supplemented with a central bolt.

Also available with cover plates to protect the stroke system (not shown).



Cable Carrier-compatible USB 2.0 cables.

New: Up to 6 m transfer length with LIFE-LINE USB 700 C.

This **shielded, hi-flex USB 2.0 cable**, developed especially for use in cable carriers, allows transfer lengths of **up to 6 metres**.

LIFE-LINE

HIGHLIGHT

co-extruded
ICC Colour
 Identification based on
 DESINA Colour Code

HIGHLIGHT

outer jacket material:
 PUR, pressure
 extruded,
 ultra-high
 wear-resistance,
 UV-resistant

HIGHLIGHT

continuous bending
 hi-flex tin-plated
 copper shield braid
 for small bend radii

HIGHLIGHT

special high-strength
 Al foil

HIGHLIGHT

cores highly flexible,
 stranded in short pitches,
 with space-filling
 blind elements

LIFE-LINE USB 700 C

- halogen-free PUR cable
- oil-resistant acc. to DIN VDE 0282-10
- UV-resistant
- hi-flex design
- RoHS-compliant

LIFE-LINE
*cables for
 cable carriers*

Cable design

conductor:
core insulation:
total shield:
jacket colour:

conductors in an optimised hi-flex design
 special thermoplast
 foil: special hi-strength AL foil; screen mesh: optical coverage index 85 %
 black, ICC violet

Technical data

functional length: 6 m
minimum bend radius*: KR min $\geq 10 \times \varnothing$
approvals: UL,
 based on VDE
voltage: acc. to VDE 30 V; acc. to UL 30 V
temperature range*: - 10 °C to + 70 °C; 80 °C acc. to UL

* for use in cable carrier applications

ICC
 KABELSCHLEPP
 Integrated Colour Code



type	core number x nominal-cross-section in mm ²	conductor-cross-section AWG (approximate values)	part number	outer diam. max. in mm	weight kg/m	Cu index kg/m
LIFE-LINE USB 700 C	(1 x (2 x 0.08 ²) + 1 x 2 x 0.5 ²)	1 x 2 x AWG 28 + 2 x AWG 20	45 688	5.2	0.047	0.030

LIFE-LINE USB harnessed and ready to install

Make things even easier for yourself: We can also supply you with the LIFE-LINE USB 700 C **harnessed and ready to install**. These are available **directly from stock** with **type A or B USB plugs**. Further plug types such as Micro type A/B, Binder, etc. are available on request.



Network cable in the cable carrier.

New: LIFE-LINE Ethernet CAT5 700 C now with ICC identification.

This UV-resistant Ethernet cable of category 5 is particularly suitable for use in cable carrier systems with short and long travel lengths.

HIGHLIGHT
special high-strength Al foil

HIGHLIGHT
cores highly flexible, stranded in very short pitches, concentrically stranded in pairs

HIGHLIGHT
pressure-extruded valley-sealed filling inner jacket material

HIGHLIGHT
continuous bending hi-flex tin-plated copper shield braid for small bend radii

HIGHLIGHT
outer jacket material: pressure extruded ultra-high wear-resistance, UV-resistant

HIGHLIGHT
co-extruded ICC Colour
Identification based on DESINA Colour Code

LIFE-LINE Ethernet CAT5 700 C

- halogen-free PUR cable
- oil-resistant acc. to DIN VDE 0282-10
- UV-resistant
- hi-flex design
- RoHS-compliant



Cable design

conductor:	conductors of bare copper wires in an optimised hi-flex design
core insulation:	PP
inner jacket:	TPE
outer jacket:	PUR, continuous bending hi-flex and nick-resistant
jacket colour:	black, ICC violet

Technical data

minimum bend radius*:	KR min $\geq 10 \times \varnothing$
approvals:	UL, CSA, according to VDE
voltage:	acc. to VDE 30 V; acc. to UL 42 V
temperature range*:	- 30 °C to + 80 °C

* for use in cable carrier applications



type	core number x nominal-cross-section in mm ²	conductor-cross-section AWG (approximate values)	part number	outer diam. max. in mm	weight kg/m	Cu index kg/m
LIFE-LINE ETHERNET CAT5 700 C	(4 x 2 x 0.25 ²)	(4 x 2 x AWG 24)	45 693	9.8	0.110	0.056

KABELSCHLEPP Integrated Colour Code – ICC

- Co-extruded ICC colour coding based on DESINA Colour Code.
- Different colour coding for power, control and BUS cables, etc.
- Assembly times are shortened and thus costs reduced.
- The ICC Colour Code System also serves as a helpful tool when installing the cables into the cable carrier.
- UV-resistant black outer jacket for outdoor and indoor applications.



New cost-effective PVC cable series.

LIFE-LINE Power 400 Standard^{PLUS}

This particularly **cost-effective 1 kV PVC motor cable** features a high-strength, extremely heat-resistant core insulation mixture. This makes it ideal for challenging unsupported and gliding applications in cable carrier systems.

HIGHLIGHT

optimised tension proof centre element

HIGHLIGHT

hi-strength core insulation optimised for long travel lengths

HIGHLIGHT

outer jacket material: pressure extruded, valley sealed filling

HIGHLIGHT

optimised gliding properties of PVC outer jacket, high wear-resistance, UV-stable

LIFE-LINE Power 400 Standard^{PLUS}

- optimised core insulation mixture
- continuous movement at up to + 80 °C
- oil-resistant acc. to DIN EN 60811-2-1
- RoHS-compliant
- 7.5 x D continuous bending flexibility

LIFE-LINE
cables for
cable carriers

Cable design

conductor:
strain relief:
core insulation:
outer jacket:

conductors of bare copper wires, in an optimised hi-flex design
optimised center elements
special PVC
PVC, black

Technical data

minimum bend radius*:
approvals:

KR min $\geq 7.5 \times \varnothing$
UL, CSA,
according to VDE

voltage:
temperature range:

acc. to VDE 0.6 / 1 kV; acc. to UL/CSA 600 V
– 5 to + 80 °C

* when used in cable carriers



type	core number x nominal-cross-section in mm ²	conductor-cross-section AWG (approximate values)	part number	outer diam. max. in mm	weight kg/m	Cu index kg/m
Power 400 Standard ^{PLUS}	4 x 2.5 ²	14/4c	48222	11.5	0.203	0.100
	5 x 2.5 ²	14/5c	48223	12.6	0.242	0.125
	4 x 4 ²	12/4c	48242	12.9	0.278	0.160
	5 x 4 ²	12/5c	48243	14.3	0.332	0.200
	7 x 4 ²	12/7c	48245	17.6	0.472	0.280
	4 x 6 ²	10/4c	48252	14.2	0.368	0.240
	5 x 6 ²	10/5c	48253	15.8	0.448	0.300
	4 x 10 ²	8/4c	48262	18.5	0.634	0.400
	4 x 16 ²	6/4c	48272	23.2	0.985	0.640

New cost-effective PVC cable series.

LIFE-LINE Power 400 C Standard^{PLUS}: shielded.

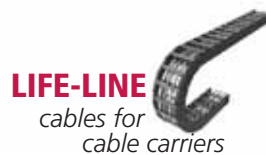
The particularly **cost-effective shielded version** of this **1 kV PVC motor cable** features a high-strength, extremely heat-resistant core insulation mixture. Ideal for challenging unsupported and gliding applications in cable carrier systems.

HIGHLIGHT
optimised tension proof centre element

HIGHLIGHT
pressure-extruded valley-sealed filling inner jacket material

HIGHLIGHT
continuous bending hi-flex braided tin plated copper shield designed for smallest bend radii

HIGHLIGHT
optimised gliding properties of PVC outer jacket, pressure extruded, high wear-resistance, UV-stable



LIFE-LINE Power 400 C Standard^{PLUS}

- optimised core insulation mixture
- continuous movement at up to +80 °C
- oil-resistant acc. to DIN EN 60811-2-1
- RoHS-compliant
- 7.5 x D continuous bending flexibility

LIFE-LINE

Cable design

- conductor:** conductors of bare copper wires, in an optimised hi-flex design
- strain relief:** optimised center elements
- core insulation:** special PVC
- shield:** optical coverage index: 85 %
- inner jacket:** spezial PVC
- outer jacket:** PVC, black

Technical data

- minimum bend radius*:** KR min $\geq 7.5 \times \varnothing$
 - approvals:** UL, CSA, according to VDE
 - voltage:** acc. to VDE 0.6 / 1 kV; acc. to UL/CSA 600 V
 - temperature range:** - 5 to + 80 °C
- * when used in cable carriers



type	core number x nominal-cross-section in mm ²	conductor-cross-section AWG (approximate values)	part number	outer diam. max. in mm	weight kg/m	Cu index kg/m
Power 400 C Standard ^{PLUS}	(4 x 1.5 ²)	(16/4c)	48402	12.0	0.215	0.101
	(4 x 2.5 ²)	(14/4c)	48422	13.7	0.300	0.148
	(5 x 2.5 ²)	(14/4c)	48423	15.1	0.363	0.198
	(7 x 2.5 ²)	(14/4c)	48425	18.4	0.505	0.261
	(4 x 4 ²)	(12/4c)	48442	15.4	0.402	0.233
	(4 x 6 ²)	(10/4c)	48452	17.7	0.541	0.320
	(4 x 10 ²)	(8/4c)	48462	22.0	0.851	0.505
	(4 x 16 ²)	(6/4c)	48472	26.5	1.249	0.770
	(4 x 25 ²)	(4/4c)	48482	31.3	1.835	1.191

Even easier to order.

Harnessed cables according to SIEMENS specifications.

Do you need ready-to-connect, harnessed **signal and power cables** for drive systems, according to SIEMENS specifications?

Simply order by quoting just the **order number and cable length**, and wait for your original LIFE-LINE quality goods to arrive.

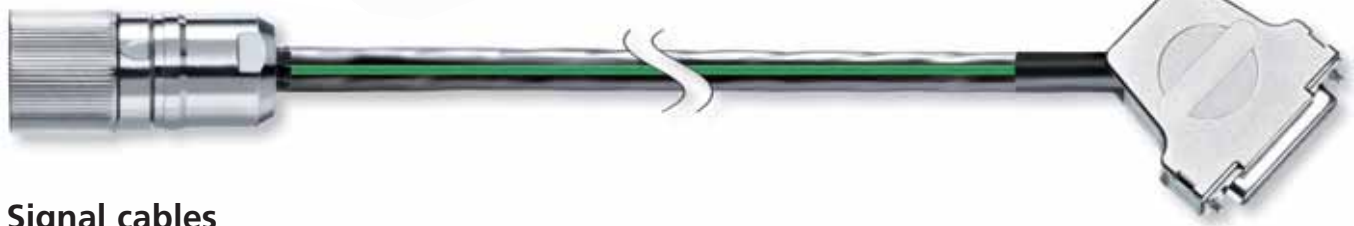
LIFE-LINE

Harnessed cables

- easy to order with just order number and cable length
- according to SIEMENS specifications
- just-in-time delivery within three working days
- no minimum order quantities
- non-standard cables lengths at no extra cost
- tested and monitored to ensure a secure connection
- RoHS-compliant

LIFE-LINE

cables for cable carriers



Signal cables

SIEMENS designation	order no.	diameter / mm
6FX8002 2AD00	610610	8.90
6FX8002 2CA31	610620	10.20
6FX8002 2CA51	610630	8.90
6FX8002 2CA61	610640	8.90
6FX8002 2CF02	610650	8.90
6FX8002 2CH00	610660	8.90
6FX8002 2EQ00	610670	10.20
6FX8002 2EQ10	610680	10.20



ICC
KABELSCHLEPP
Integrated Colour Code



Minimum bend radius for use in cable carrier applications: KR min $\geq 7.5 \times \varnothing$
(smaller bend radii are suitable in a wide range of applications – please contact us)



Motor cables with brake wires

SIEMENS designation	order no.	diameter / mm
6FX8002 5DA01	610500	11.20
6FX8002 5DA11	610510	13.80
6FX8002 5DA21	610520	11.20
6FX8002 5DA31	610530	13.80



Minimum bend radius for use in cable carrier applications: KR min $\geq 7.5 \times \varnothing$
 (smaller bend radii are suitable in a wide range of applications – please contact us)

LIFE-LINE



Motor cables without brake wires

SIEMENS designation	order no.	diameter / mm
6FX8002 5CA01	610540	10.40
6FX8002 5CA11	610550	11.70
6FX8002 5CA21	610560	10.40
6FX8002 5CA31	610570	11.70
6FX8002 5CA41	610580	13.30
6FX8002 5CA51	610590	16.00
6FX8002 5CA61	610600	19.50



Minimum bend radius for use in cable carrier applications: KR min $\geq 7.5 \times \varnothing$
 (smaller bend radii are suitable in a wide range of applications – please contact us)

Steel link apron cover.

FLEX-COVER: Lighter, tougher, more economical.

The new **FLEX-COVER** link apron cover represents a small revolution: it is **made from sheet steel**, making it **3 times more robust than aluminium** – but weighing the same.

Its completely new construction means that penetration by fluids and chips is virtually impossible. The individual elements roll against each other in the radius of the lamellas. **There is hardly any wear**, as there is no friction, and no bendable connection elements that could be exposed to fatigue.

FLEX-COVER gives you **improved properties with no increase in weight, and at a considerably lower price.**

FLEX COVER



FLEX-COVER takes a new tack

- rustproof steel lamellas
- 3 times greater resistance to flying chips
- each lamella has a completely smooth surface
- hardly any wear of steel or plastic parts
- virtually no penetration by chips or fluids

Light construction, extremely tough

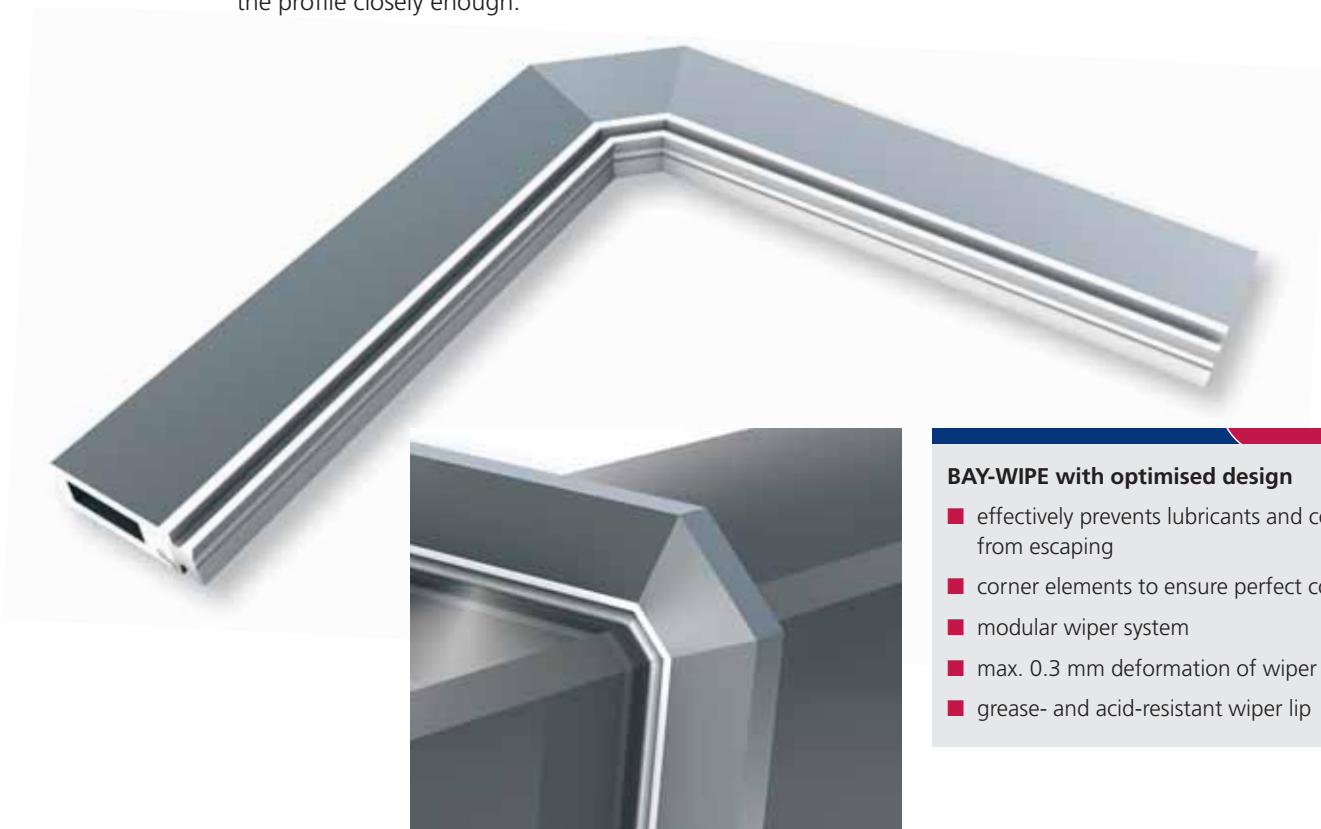
The specially-milled **sheet steel lamellas** are held together by a slotted **plastic tube**, which is itself **fixed by means of spring steel clips**.

A perfect seal right into the corners.

BAY-WIPE: Wiper system with optimised corner design.

Many wiper systems have problems at the point where a hydrostatic guideway goes round a corner. Rounded or bevelled corners on slideways are often problem areas, because the wiper elements cannot follow the profile closely enough.

Our BAY-WIPE system now has this problem area perfectly under control. Thanks to its optimised corner elements, which follow the contours of the path exactly, the slideway is wiped clean in both directions.



BAY-WIPE

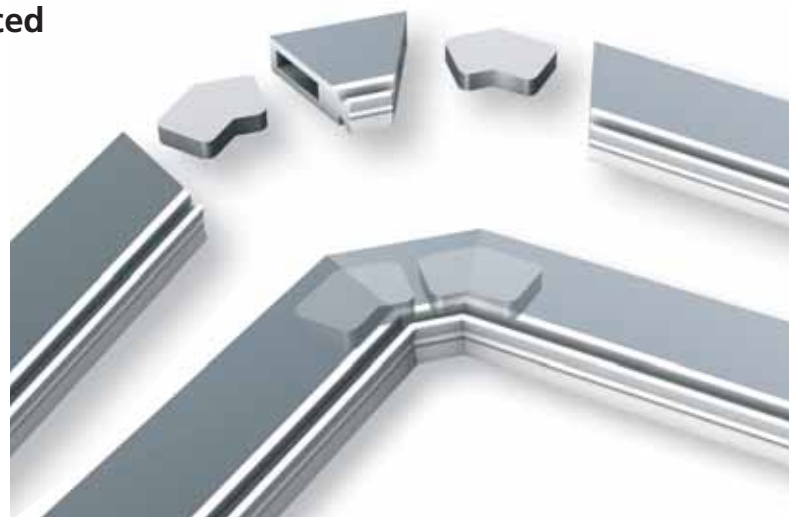
BAY-WIPE with optimised design

- effectively prevents lubricants and coolants from escaping
- corner elements to ensure perfect contact
- modular wiper system
- max. 0.3 mm deformation of wiper edge
- grease- and acid-resistant wiper lip

Intelligently designed, individually produced

The wiper lip of the BAY-WIPE was developed at the Institute for Machine Elements (IMA) at the University of Stuttgart. KABELSCHLEPP participated in this research project, and put the results into practice in a consistent manner.

A wiper lip that works in both directions is fixed directly to the support profile by means of a plastic injection moulding process. The straight sections of this profile, which have been cut to length, are then non-positively joined with pre-assembled corner elements. This allows a wiper system to be created from the individual parts, exactly suited to the contours of the guideway.



Protective housings at their very best.

PROTECT-PANEL with new gate elements.

Just one year after their launch, our PROTECT-PANEL **machine housings** have proved a great success. The modular system is **cost-effective, quick to install, and well-thought-through right down to the very smallest detail.** And with the new gate elements, PROTECT-PANEL is now even better and more adaptable.

PROTECT-PANEL gate elements

- Folding gate
- Roll gate
- Lift gate
- Automatic door

PROTECT-PANEL



Roll gate for PROTECT-PANEL

When changing pallets on machine tools, a gate is required that **moves at high speeds when opening and closing**. The PROTECT-PANEL roll gate functions **in principle like a garage door**. A segmented gate moves upwards and is rolled up. The height of an already built gate structure is 3500 mm.

The **lamellas** of this gate are made from **aluminium**, and are **reinforced on the inside with steel inserts**. This guarantees the required penetration resistance.



Protective housings at their very best.

PROTECT-PANEL with new gate elements.

Lift gate for PROTECT-PANEL

Unlike the roll gate, the **lift gate has a small number of larger segments**, which all move together. The segments have a **sandwich construction**, which makes them **extremely resistant to penetration**. These larger segments are thus not rolled up, but instead are positioned one behind the other, and hang neatly one behind the other when the door is open.

A special feature of this gate is its **lifting and lowering mechanism, which makes use of pulleys**. Each gate element is suspended on two pulleys, which raise or lower all of the elements evenly.

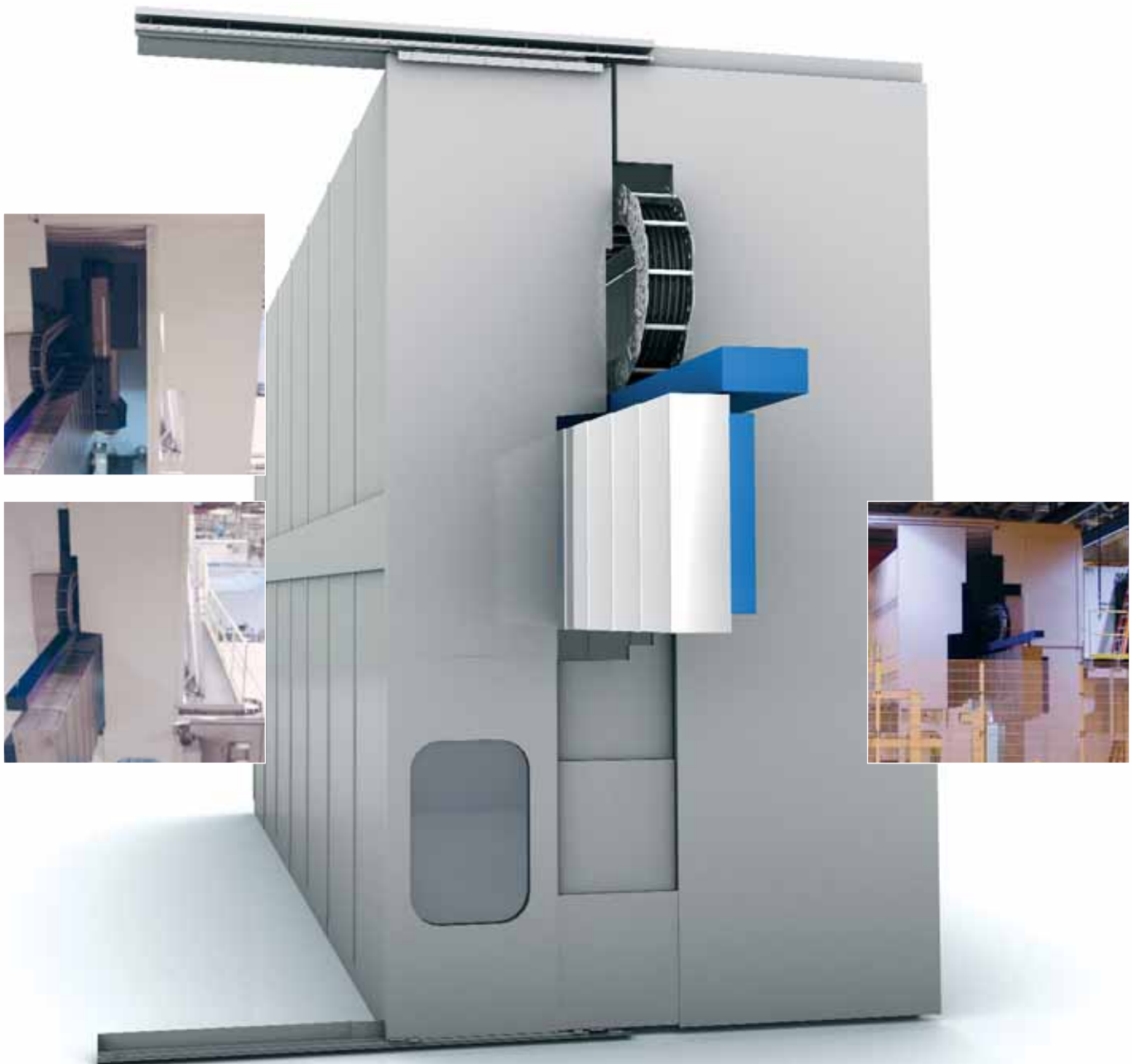
PROTECT-PANEL



Automatic door for PROTECT-PANEL

Because automatic doors are **integrated into the machine tool programme**, they automatically **open and close according to the required production cycle**. For heights of 2-3 m that's nothing special. But the automatic door in the PROTECT-PANEL system can manage much bigger sizes.

At the production plant of one of our customers, a first **automatic door has been installed which is 6500 mm high, 1600 mm wide, 500 kg in weight and can open and close within 5 seconds**. It's a challenge that we were able to solve with the help of linear drives, a three-phase motor and control shaft technology.

**PROTECT-PANEL**



KABELSCHLEPP

the power to innovate

Cable carrier systems

Steel and plastic cable carriers
QUANTUM cable carrier system
PROTUM cable carrier system
PROFILE cable carrier system
ROBOTRAX cable carrier system
LIFE-LINE cable systems
TOTALTRAX complete systems

Guideway protection systems

Telescopic covers
Link apron covers
Way wipers
Conical spring covers
Bellows

Conveyor systems

Hinged belt conveyors
Scraper conveyors
Belt conveyors

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