

INNOVATIVE SOLUTIONS FOR MACHINE BUILDERS

Cable Carrier Systems
TRAXLINE® Cables for Motion
TOTALTRAX® Complete Systems
Conveyor Systems
Guideway Protection Systems



SOLUTIONS FROM ONE SOURCE – FROM A GLOBAL PARTNER

The TSUBAKI Group comprises 40 manufacturing sites and 82 subsidiaries and offices in more than 70 countries worldwide.

Tsubaki manufactures and supplies a comprehensive range of products from industrial drive & attachment chains, conveyor chains, sprockets, safety devices, shaft couplings & cam clutches to chain drive systems for the automotive industry.

TSUBAKI Group, TSUBAKI KABELSCHLEPP is responsible for worldwide product areas for cable carriers, TOTALTRAX complete systems and TRAXLINE® cables. KABELSCHLEPP GmbH – Hünsborn produces guideway protection systems and conveyor systems.

The know-how of our product specialists in conjunction with the worldwide sales and service organization provide customers with qualified solutions for many different industries and applications. From consulting, planning and installation to on-site service – wherever you need us.

Additional information:
www.tsubaki-kabelschlepp.com
www.tsubakimoto.com



THE PATH TO MORE SUSTAINABILITY



In times of climate change, the demand for more sustainability is no longer an option, but a duty. As a medium-sized company, we are following this path with determination. The primary drivers in this process, in addition to the applicable legislation and agreements, are our own high standards and those of our Japanese parent company TSUBAKIMOTO CHAIN.

Our parent group pursues the SBTi targets and has the ambition to use this Science Based Targets initiative to be among the top 500 companies worldwide with regard to sustainability. For the TSUBAKI Group, this results in demanding targets and further tightening of our sustainability targets.

We are overcoming these challenges by further tightening up the fields of action that have already been determined and prioritized. In this way, we not only want to harvest low-hanging fruit but also level up the hard-to-achieve savings potentials with the appropriate measures. To do that, we already have a number of other sustainability projects

in the pipeline, for which we have planned an investment volume of 500,000 to 600,000 euros for 2024 alone.

While we initially focused primarily on reducing the emissions from scopes 1 and 2, our current step towards climate neutrality centers around scope 3. We already came quite far on this path in 2023. And, the better we know the scope-3 emissions, the closer we get to the truth of what our company does towards sustainability and which tasks are still ahead of us.

Additional information:

tsubaki-kabelschlepp.com/csr-sustainability

INNOVATIVE SOLUTIONS FOR MACHINE BUILDERS

Energy and Signals → see page 6

- » Cable Carrier Systems made of plastic
- » Cable Carrier Systems made of steel
- » Cable Carrier Systems for 3D movements
- » TRAXLINE® Cables for Motion
- » TOTALTRAX® Complete Systems – Ready-to-install

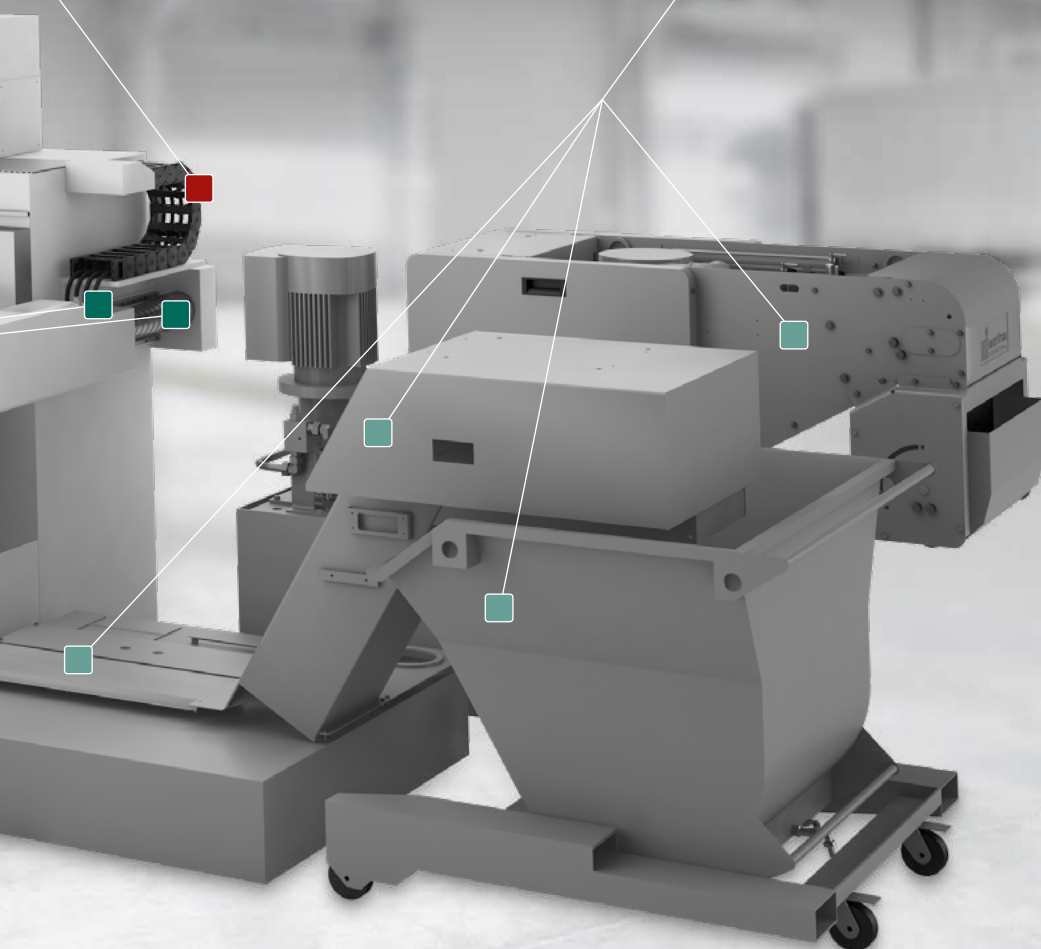
Machine structure → see page 28

- » Telescopic covers
- » Way wipers
- » Link apron covers
- » Bellows
- » Conical spring covers



Process Management → see page 20

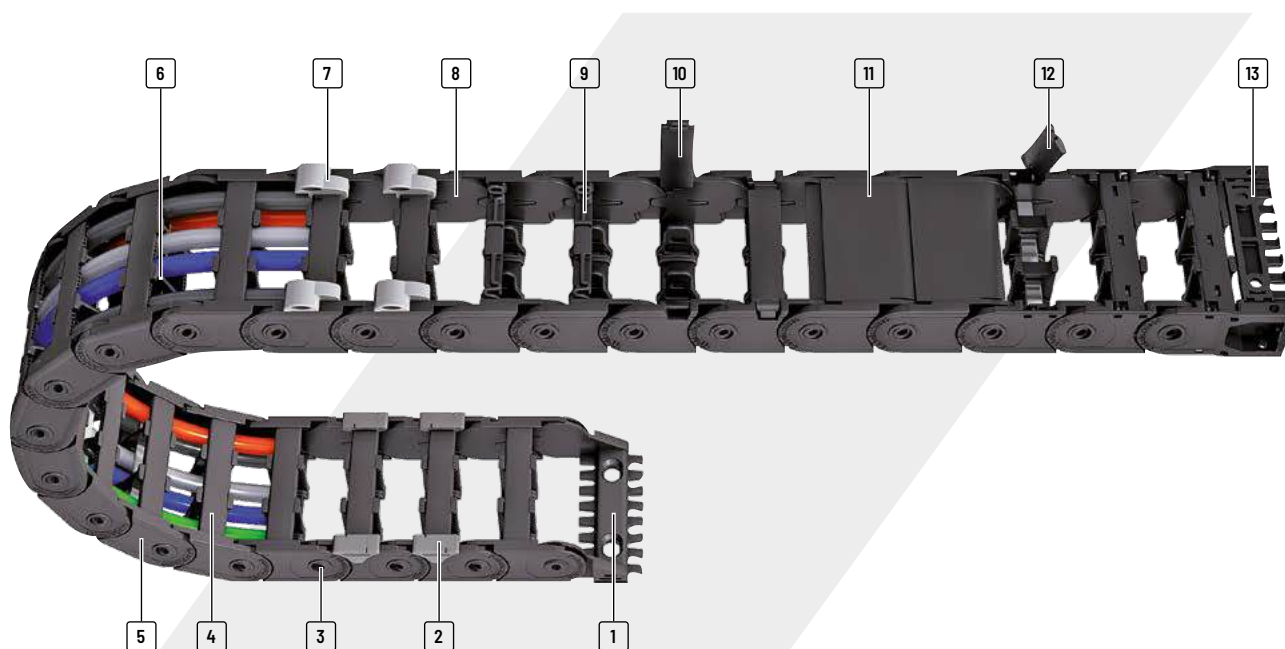
- » Hinged belt conveyors
- » Scraper conveyors
- » Belt conveyors
- » Part conveyors



SOLID PLASTIC CABLE AND HOSE CARRIER SYSTEMS WITH FIXED CHAIN WIDTHS

STANDARD APPLICATIONS

Reliable cable and hose carrier systems with simple designs for standard applications. Due to its vast range of various carrier types and designs, TSUBAKI KABELSCHLEPP can offer reliable and cost-efficient solutions such as extremely compact designs, types with non-opening or opening crossbars for fast and easy cable installation, as well as tube style options for superior protection from chips and other debris.

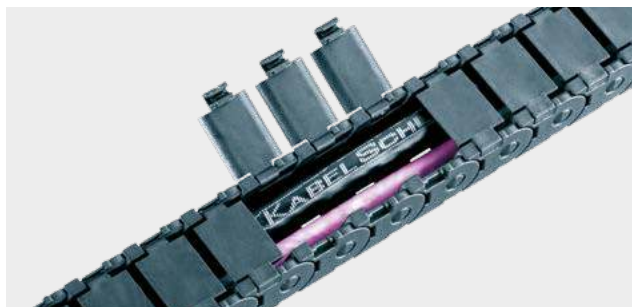






The assigned values are average values. Depending on the specific application, the maximum values may differ significantly. For detailed information please contact us.

- | | | | |
|--|--|--|---|
| 1 Mounting brackets with integrated strain relief | 5 Chain links made of plastic | 8 Inside space is gentle on the cables – no interfering edges | 11 Optional designs covered on one side or on both sides with plastic cover system |
| 2 Replaceable glide shoes for extending system life | 6 Vertical and horizontal partitioning options separate and organize cables | 9 Very fast and easy cable installation by simply pressing in of the cables | 12 Types with detachable crossbars |
| 3 Robust, double stroke system for long unsupported lengths | 7 Outer noise dampening elements | 10 Types with openable stays – for easy cable installation | 13 Universal mounting brackets (UMB) with integrated strain relief comb |
| 4 Types with non-opening, single-part chain link design | | | |

MONO series

Cable carriers with simple design for standard applications







 Inner heights	10-15 mm	 Pitch	13-20 mm
 Inner widths	6-40 mm	 Bending radii	18-50 mm

- » Simple single piece chain links design with either non-opening or hinged opening crossbars
- » Simple and quick assembly
- » Compact design for operation in tight spaces
- » Mounting brackets with integrated strain relief

QuickTrax® series

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







 Inner heights	17,6-20 mm	 Pitch	25-32 mm
 Inner widths	15-65 mm	 Bending radii	28-125 mm

- » Extremely fast and easy cable laying thanks to crossbar with film hinge
- » Very quiet through integrated noise damping
- » Sturdy cable carrier design

UNIFLEX Advanced series

Light, quiet all-rounder for a wide range of applications



 Inner heights	17.5-80 mm	 Pitch	25-99.5 mm
 Inner widths	15-400 mm	 Bending radii	28-500 mm





- » Noise-optimized for quiet operation
- » Designs with inward or outward opening or non-opening crossbars available
- » Crossbars fast and easy to open due to ball joint hinge mechanism
- » Dividers movable or fixed in place
- » Long unsupported lengths
- » Various cavity partitioning options for the cables

TKA series

Chip-tight right to the end, IP54 certified*



* Type TKA55 with Bi 50 - 175.
More information: kabelschlepp.de/tka-ip54

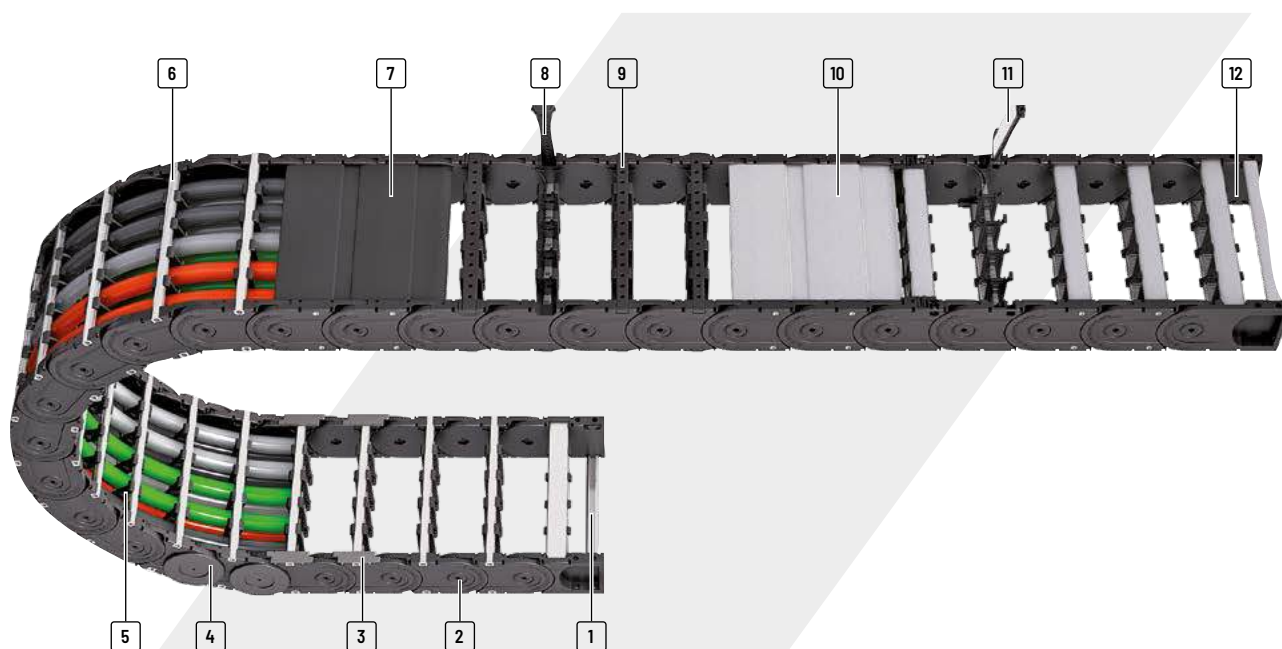
 Inner heights	20,5-45 mm	 Pitch	30.5-55.5 mm
 Inner widths	15-250 mm	 Bending radii	55-300 mm

- » Excellent cable protection in the connector area
- » Chip and dirt resistant due to smooth surfaces
- » Easy-to-open cover with simultaneously high retention force on the chain link during operation
- » Extensive unsupported length
- » Low noise emission
- » Quick routing of the cables

CABLE AND HOSE CARRIER SYSTEMS WITH VARIABLE CHAIN WIDTHS

ADVANCED APPLICATIONS

With more than 50.000 design options, ranging from easy-to-open/snap-open or bolted-on frame stay systems to cavity extender systems guiding large vacuum hoses to enclosed tube frame stay systems that provide superior protection from dirt and debris, We offer the ideal solution to fit any application. As an example, cable carriers with linkless design can operate at extreme speeds. Numerous frame stay options allow even the most complex cable configurations to be safely and efficiently partitioned within the carrier cavity.







The assigned values are average values. Depending on the specific application, the maximum values may differ significantly. For detailed information please contact us.

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|--|--|--|--|
| 1 C-Profile strain relief elements | 5 Vast selection of cavity partitioning options | 8 Crossbars can be quickly opened on the inside or outside radius for easy cable installation | 11 Aluminum frame stays with ball joint hinge mechanism |
| 2 Minimized hinge wear due to the "life extending 2 disc principle" | 6 Aluminum frame stays available in 1 mm width increments | 9 Plastic crossbars available in 4, 8 or 16 mm width increments | 12 Universal mounting brackets (UMB) |
| 3 Replaceable glide shoes | 7 Plastic covers available in 8 or 16 mm width increments | 10 Aluminum covers available in 1 mm width increments | |
| 4 Extremely robust due to heavy-duty link plate/sideband design | | | |

K series

Preiswerte, robuste Energiekette – auch für große Zusatzlasten geeignet







 Inner heights	36-200 mm	 Pitch	65-90 mm
 Inner widths	68-700 mm	 Bending radii	75-385 mm

- » Stable sidebands through robust link plate design
- » Encapsulated, dirt-resistant stroke system
- » Long service due to minimized hinge wear owing to the "life extending 2 disc principle"
- » Large selection of vertical and horizontal stay separation options for your cables

UNIFLEX Advanced series

Light, quiet hybrid all-rounder







 Inner height	80 mm	 Pitch	99.5 mm
 Inner widths	66-600 mm	 Bending radii	150-500 mm

- » Four designs: closed, and openable to the inner or outer side or to both sides
- » Low-wear, cable-friendly design with smooth surface
- » Polygon-optimized bending radii for smooth and low-wear chain running

M series + MT series

Variable cable carrier with extensive accessories and stay variants







 Inner heights	19-200 mm	 Pitch	32-130 mm
 Inner widths	24-800 mm	 Bending radii	37-500 mm

- » Various separation options
- » Large selection of frame stay systems
- » Ideal for fast, gliding applications:
Replaceable glide shoes made of highly wear-resistant special plastic material
- » Plastic or aluminum covers available

QUANTUM® series

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



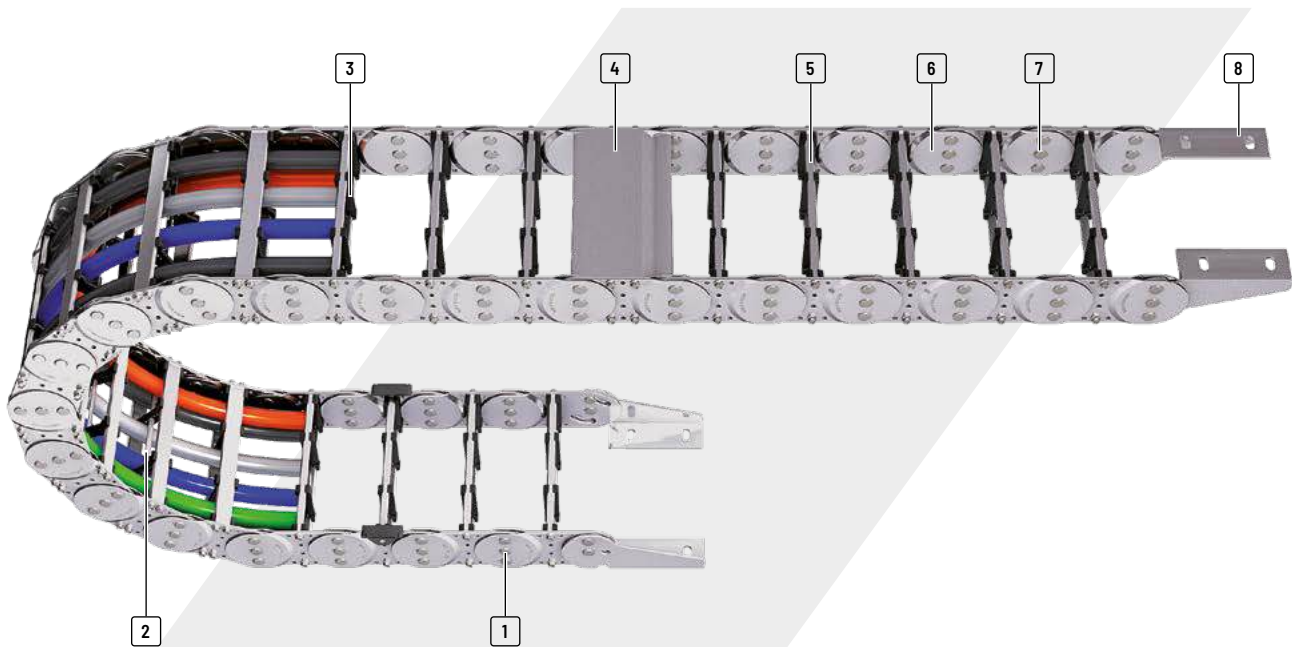
 Inner heights	28-72 mm	 Pitch	15-30 mm
 Inner widths	28-600 mm	 Bending radii	60-600 mm

- » Suitable for clean room environments
- » Allows for high acceleration and high travel speeds
- » Long service life – no link pins to wear out
- » Linkless design: sidebands made of extruded material

STEEL CABLE CARRIER SYSTEMS – SOLUTIONS FOR EXTREME APPLICATIONS

EXTREME APPLICATIONS

Lubricant-free cable and hose carrier systems made of steel or stainless steel for applications in extreme environments. Steel and stainless steel carrier systems are the carrier of choice for operation in extreme heat or the harshest environments. We offer various carrier types and designs ranging from compact style to super-sized carriers. Customized cavity partitioning as well as aluminum cover systems provide optimum cable protection even under heavy mechanical loads/stress.



The assigned values are average values. Depending on the specific application, the maximum values may differ significantly. For detailed information please contact us.





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|--|--|---|---|
| 1 Link design with special bolts for a long service life | 4 Aluminum cover available in custom 1 mm width increments | 6 Extremely robust sidebands zinc plated or made of stainless steel | 7 All steel cable carriers are lubricant-free |
| 2 Various cable separation options | 5 Various frame stay options available customizable in 1 mm width increments | | 8 Variety of mounting bracket options available |
| 3 Dividers made of plastic or steel | | | |

**STAINLESS
STEEL**
RUST-FREE
STEEL
ZINC PLATED

LS/LSX series

Cost-effective, light-weight steel chains

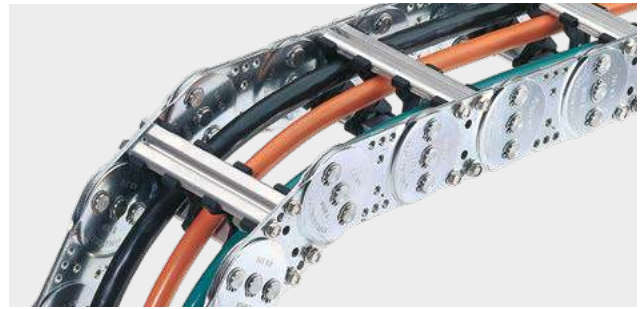






 Inner heights	54-200 mm	 Pitch	105 mm
 Inner widths	54-584 mm	 Bending radii	105-430 mm

- » Weight-optimized one-part link plate design
- » Better value than comparable steel cable carriers
- » Significantly higher unsupported lengths compared to plastic cable carriers of a similar size
- » Integrated radius and pre-tension stops – in a good value design
- » Bolted stay systems, solid end connectors
- » Cover with steel band available on request
- » Also possible as a double band solution
- » Good corrosion resistance

S/SX series + S/SX Tubes series

Extremely robust and heavy-duty steel chains



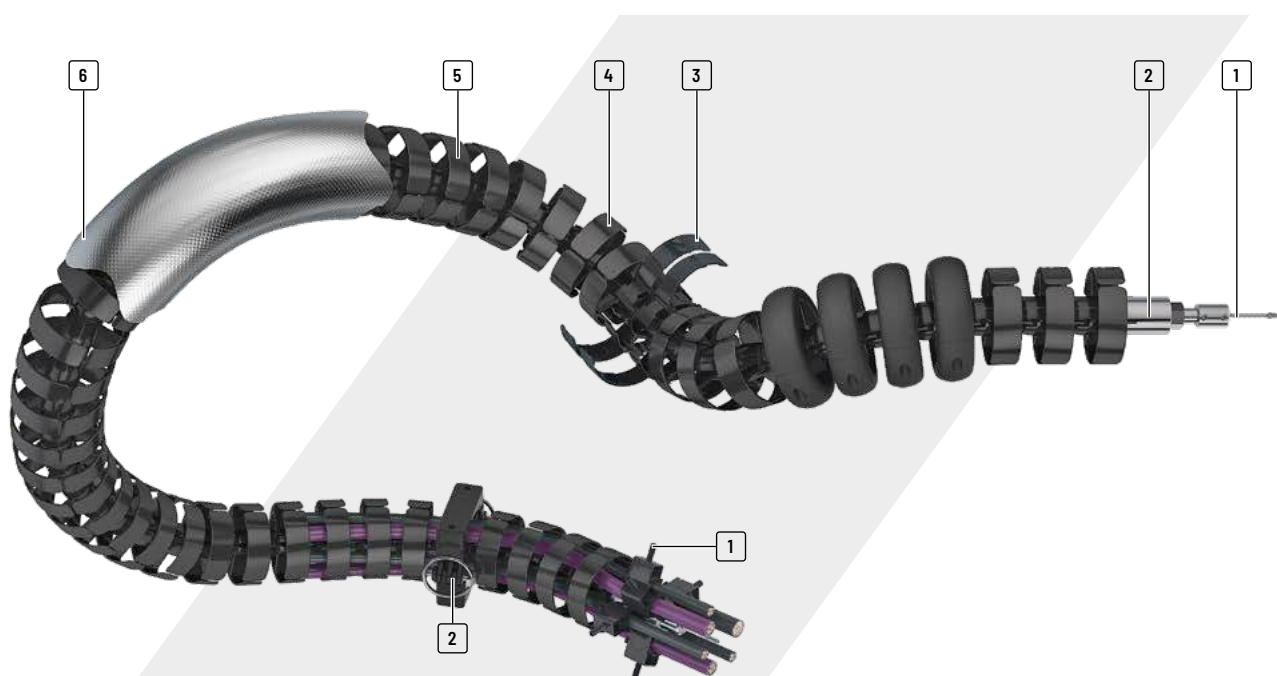
 Inner heights	31-578 mm	 Pitch	65-320 mm
 Inner widths	35-1500 mm	 Bending radii	75-1785 mm

- » Extremely robust, sturdy steel cable carriers for heavy mechanical loads and rough environmental conditions
- » Side bands made of galvanized steel (S series) or corrosion-resistant and acid-resistant steel (SX series) in three qualities: ER 1 / ER 1S and ER 2
- » Very sturdy link plates, each consisting of two individual plates
- » Very extensive unsupported lengths even with large additional loads
- » Bolted stay systems, solid end connectors
- » Joint design with multi stroke system and hardened bolt
- » Explosion protection with classification EX II 2 GD as per ATEX RL
- » Aluminum cover systems or steel strip covers are available for optimum protection of the cables

ROBOTRAX® SYSTEM – CABLE AND HOSE CARRIER SYSTEMS FOR 3D MOVEMENTS

3D APPLICATIONS

ROBOTRAX® – cable and hose carrier system for robotic applications – is safe and gentle on the cables. Downtimes are reduced to a minimum. The open-style design allows for fast and easy installation and inspection of cables and hoses once installed. The ROBOTRAX® series offers a vast assortment of accessories to perfectly fit the carrier system to the individual application. Solutions include accessories for impact protection, shock and vibration dampening, and heat sleeves for optimum cable protection.







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|--|--|--|---|
| <p>1 Steel cable for transferring extremely high tensile forces</p> <p>2 Tension piece for locking the chain links</p> <p>3 Type with toolless opening swivel cross-bars and divider module available</p> | <p>4 Open design</p> <ul style="list-style-type: none"> – Fast cable laying as the cables are simply pressed in – Easy checking of all cables <p>5 Special plastic for long service life</p> | <p>6 Protective covers or heat shields made from different materials are available for different environmental conditions</p> <p>7 Quick-release bracket for fixing and continuation</p> | <p>8 Strain relief with Line-Fix clamps</p> <p>9 Protection against hard impacts, excessive abrasion and premature wear as well as limitation of the bending radius through protector</p> |
|--|--|--|---|

Chain links single part







	Inner heights	10-31 mm		Pitch	21,5-40 mm
	Inner widths	27-64 mm		Bending radii	70-130 mm

The basic structure of ROBOTRAX® consists of plastic links. These have spherical snap-on connections on both sides. This allows the individual links to be snapped together to form a cable carrier. Protectors ensure that the bending radius does not fall below the minimum in any direction. The links can be rotated in the radial direction (see table values). The cables can be separated in three chambers.

Chain links with crossbars



	Inner heights	48 mm		Pitch	50 mm
	Inner widths	74 mm		Bending radii	125 mm

The basic construction is similar to the ROBOTRAX® types with single part design. Swiveling crossbars with snap locks make it easy to open and safely close the cable carrier. In addition, the three chambers can be divided horizontally and vertically by a divider module for precisely separating cables and hoses.

Strain relief LFR



Secure cable fixing, gentle on the cables.

Multi-layer cable fixing is also possible with double and triple LineFix® clamps. Several systems can be installed in sequence.

PBU pull back unit



With fast movement sequences and large work envelopes, the relatively long carriers knock against the robot arm. The repeated impact significantly reduces the service life of the cable carrier and the cables within, and the entire system can fail. Downtimes cause high costs and problems in the manufacturing process – so they have to be avoided.

Protector



The service life of the cable carriers and cables is significantly reduced by impact during fast movement sequences and in large work envelopes. The Protector protects the cable carrier against hard impacts, excessive abrasion and premature wear, while also acting as a limitation for the smallest bending radius. Downtimes are minimized. Not the entire cable carrier has to be replaced, but only the Protector in some cases.

TRAXLINE® CABLES FOR CABLE CARRIERS

Our Series 700 meets the highest quality standards to ensure the continuous availability of your application. The TRAXLINE® product range offers high-flex cables that are extremely durable and especially designed for being used in cable carriers. A main feature is their tested and proven operational reliability, which meets the applicable standards and directives. Competent, objective-driven system consultation and a global onsite service are part of our ongoing commitment to technical and commercial optimization.

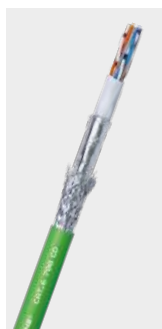
Properties:

- » hi-flex design
- » oil-resistant
- » UV-resistant
- » ozone-resistant
- » silicone-free
- » CFC-free
- » REACH/RoHS II
- » flame-retardant
- » NEK 606
- » halogen-free



TRAXLINE® CAT.5E / CAT.6 700 CD

Double-shielded continuous bending hi-flex CAT.5E / CAT.6 PUR cable

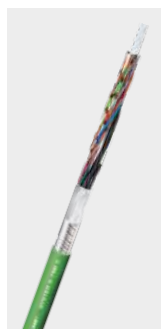


Outer jacket	PUR
Shield	Double shielded
Conductor	Class 6
Core insulation	PP/9Y
Demands	for high demanding applications
Up to motion cycles	7 Million
Travel length up to	60 m
Stranding	Cores bundled in pairs in short pitches with minimal torsion



TRAXLINE® SYSTEM S 700 C

Shielded continuous bending hi-flex PUR signal feedback cables



Outer jacket	PUR
Shield	Shielded
Conductor	Class 6
Core insulation	PP/9Y
Demands	for high demanding applications
Up to motion cycles	5 Million
Travel length up to	50 m
Stranding	cores type-optimized stranded in short pitches with minimal torsion



TRAXLINE® PROFIBUS 700 CD

Double-shielded continuous bending hi-flex PROFIBUS PUR cables



Outer jacket	PUR
Shield	Double shielded
Conductor	Class 6
Core insulation	PE/02Y Foam
Demands	for high demanding applications
Up to motion cycles	7 Million
Travel length up to	100 m
Stranding	Cores bundled in pairs in short pitches with minimal torsion

TRAXLINE® SYSTEM M 700 C

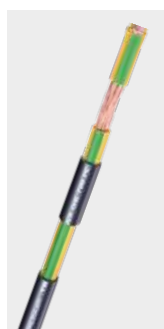
Shielded continuous bending hi-flex PUR motor/servo drive cables



Outer jacket	PUR
Shield	Shielded
Conductor	Class 6
Core insulation	PP/9Y
Demands	for high demanding applications
Up to motion cycles	5 Million
Travel length up to	50 m
Stranding	cores type-optimized stranded in short pitches with minimal torsion

TRAXLINE® POWER ONE 700 PE

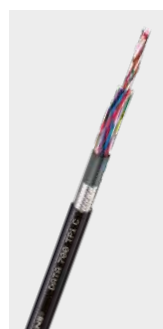
Unshielded, continuous bending highly-flexible PUR single-core cables with PE core identification identification



Outer jacket	PUR
Shield	Unshielded
Conductor	Class 6
Core insulation	PP/9Y
Demands	for high demanding applications
Up to motion cycles	7 Million
Travel length up to	500 m
Stranding	Single core

TRAXLINE® DATA 700 TPI C

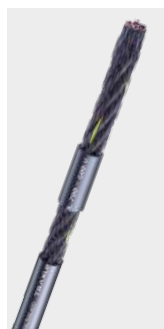
Shielded continuous bending hi-flex PUR data cables



Outer jacket	PUR
Shield	Shielded
Conductor	Class 6
Core insulation	PP/9Y
Demands	for high demanding applications
Up to motion cycles	7 Million
Travel length up to	200 m
Stranding	cores type-optimized stranded in short pitches with minimal torsion

TRAXLINE® CONTROL 700 600 V

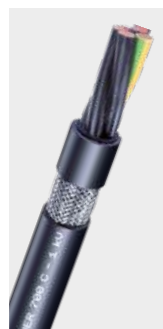
Unshielded continuous bending hi-flex PUR control cables



Outer jacket	PUR
Shield	Unshielded
Conductor	Class 6
Core insulation	PP/9Y
Demands	for high demanding applications
Up to motion cycles	7 Million
Travel length up to	500 m
Stranding	Bundle stranded (> 8 cores) Layer stranded (≤ 8 cores)

TRAXLINE® POWER 700 C 1 kV

Shielded continuous bending hi-flex PUR power cables



Outer jacket	PUR
Shield	Shielded
Conductor	Class 6
Core insulation	PP/9Y
Demands	for high demanding applications
Up to motion cycles	7 Million
Travel length up to	500 m
Stranding	Bundle stranded (> 8 cores) Layer stranded (≤ 8 cores)

TRAXLINE® Infocenter: With the help of the TRAXLINE® Infocenter, you can find the right cable for your cable carrier system with just a few mouse clicks. Simply enter the parameters of your application at traxline.de and find the optimum cable for your requirements.

CUT COSTS WITH TOTALTRAX® COMPLETE CABLE CARRIER SYSTEMS

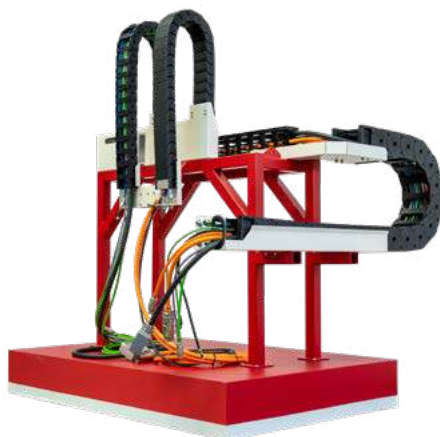
Use our know-how. Working closely with you, our experienced system specialists can provide pre-sale support, including planning and design services through post sales service and support.

Our system experts work with you to develop the technical solution as a reliable assembly for your product. Only one contact person for the complete system. All components match each other perfectly, including your cable carriers, electrical cables, hydraulic and pneumatic hoses as well as connectors. You'll receive the complete system in one

delivery, with guarantee certificate if desired – in short: TOTALTRAX®. Reduce your storage costs for cable and hose carriers, cables and connectors with TOTALTRAX®. We supply all components Just-In-Time to your production facility or directly to the installation site.

Everything from a single source

- » Consulting
- » Planning
- » Design
- » Cable carriers
- » Power & control cables
- » Complete guarantee
- » Hydraulic hoses
- » Pneumatic hoses
- » Plug-and-socket connectors
- » Assembly plates
- » Complete assembly of all components



Harnessed cables according to all OEM

We manufacture KABELSCHLEPP TRAXLINE® cables according to OEM specifications, suitable for all drive controls which consist of signal and power cables and/or extension cables.

- » any cable length available
- » delivery minimum: 1 unit



CUT COSTS WITH TOTALTRAX® COMPLETE CABLE CARRIER SYSTEMS

We help you ...

- » Advice on planning
- » Support in the design phase
- » Only one contact person for the complete system including all the individual components
- » Complete delivery from a single source
- » Only one supplier – one purchase order and one item number
- » All components match each other perfectly
- » Guarantee certificate upon requests



... to cut your costs!

- » Goods receiving inspections for all individual components are no longer required
- » Expensive technical personnel and special tools are no longer required
- » Shorter assembly times
- » No hidden costs, e.g. cables being cut to excessive lengths etc.
- » Less captive capital with almost no inventory
- » On-time delivery directly to your production site

EFFICIENT DESIGN ENGINEERING – PRECISE AND FAST

OnlineEngineer Configurator for cable carriers

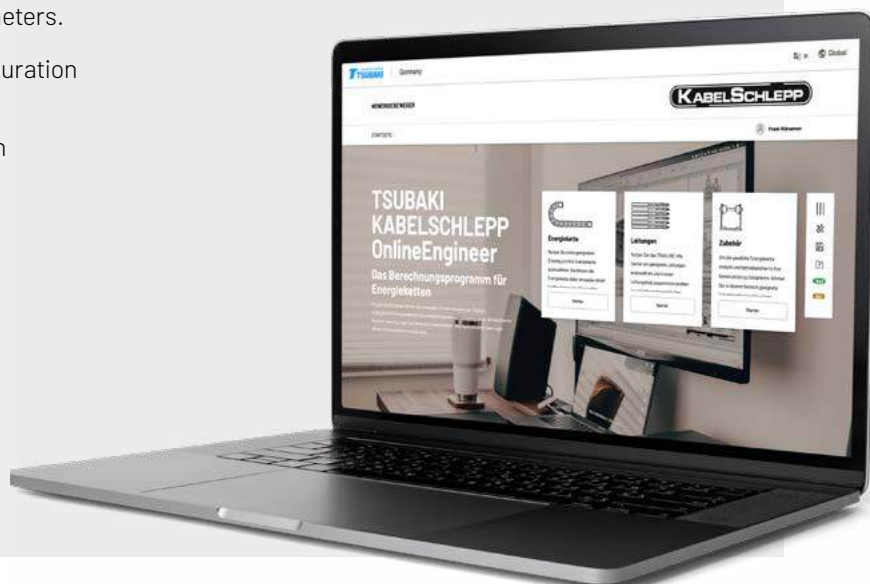
We are continuously investing in providing product-related data online to make your work easier.

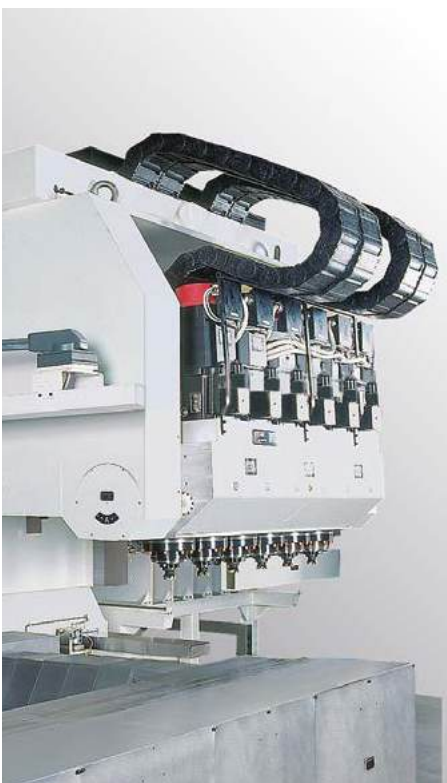
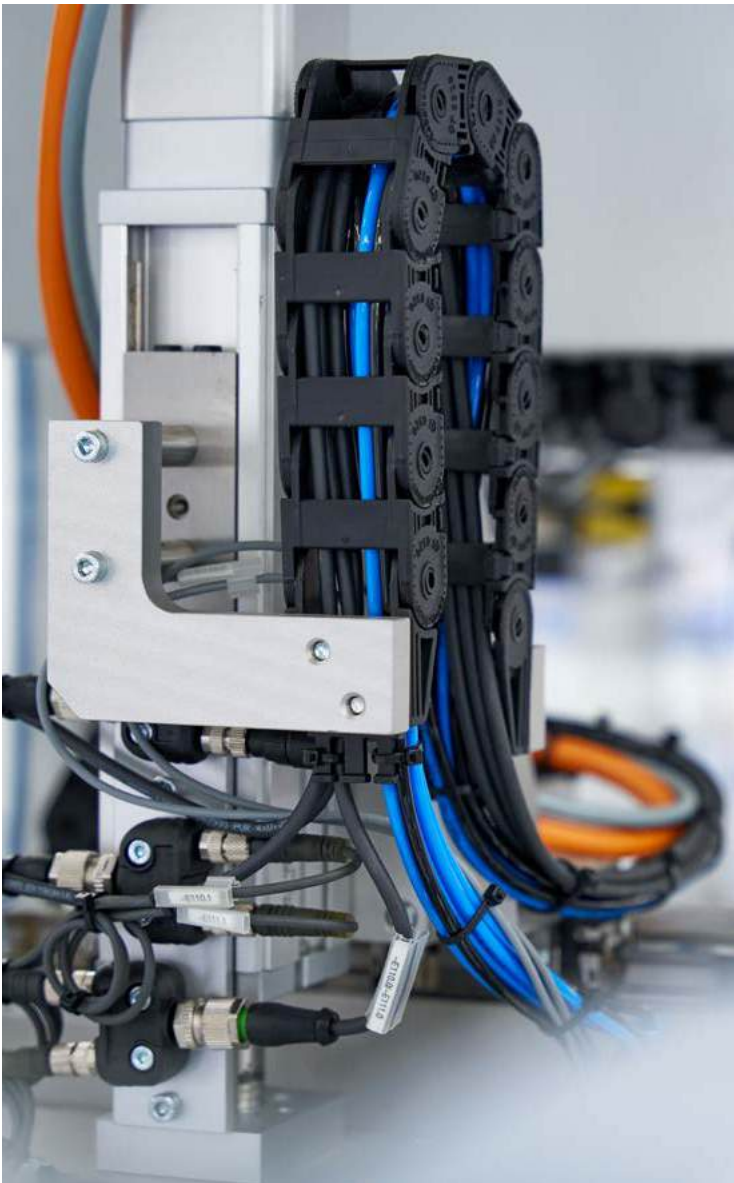
Our web-based OnlineEngineer platform with world-wide online access provides a variety of functions to support you with the selection and configuration of products for your application. All necessary technical and calculation information for the individual products from the areas of cable carriers, cables and other accessories are provided on a central, clearly structured platform. Selection of the suitable products is made substantially easier by entering different parameters.

- » optimal price/performance ratio in the configuration of cable carrier system
- » time savings through automatic configuration function
- » all information of the cable carrier system is displayed as a glance
- » online price inquiry to KABELSCHLEPP

CADENAS 3D CAD catalog

CADENAS is an internationally used platform for providing 3D component models in a variety of CAD formats. It includes a large number of renowned companies from mechanical engineering, plant engineering and other industry sectors. We are currently offering CAD models in all standard CAD formats for the entire product portfolio. The database also contains the corresponding models for guide channels and support trays. The catalog is continuously expanded and supplemented.







HINGED BELT CONVEYORS

PROVEN FOR A WIDE RANGE OF DISPOSAL TASKS

Transportation of the material takes place on the upper trough of a revolving hinged belt. Drivers ensure transport of the material up the inclined section. For wet machining the cooling lubrications are collected in the conveyor housing and can be fed back into the machine circuit via an optionally available coolant container or a pump station. Our

hinged belt conveyors can be used either as stand-alone conveyors at machine tools, or as linked conveyor systems. Depending on the design, the material to be conveyed is brought to the required height at a defined incline and then discharged.

Structure

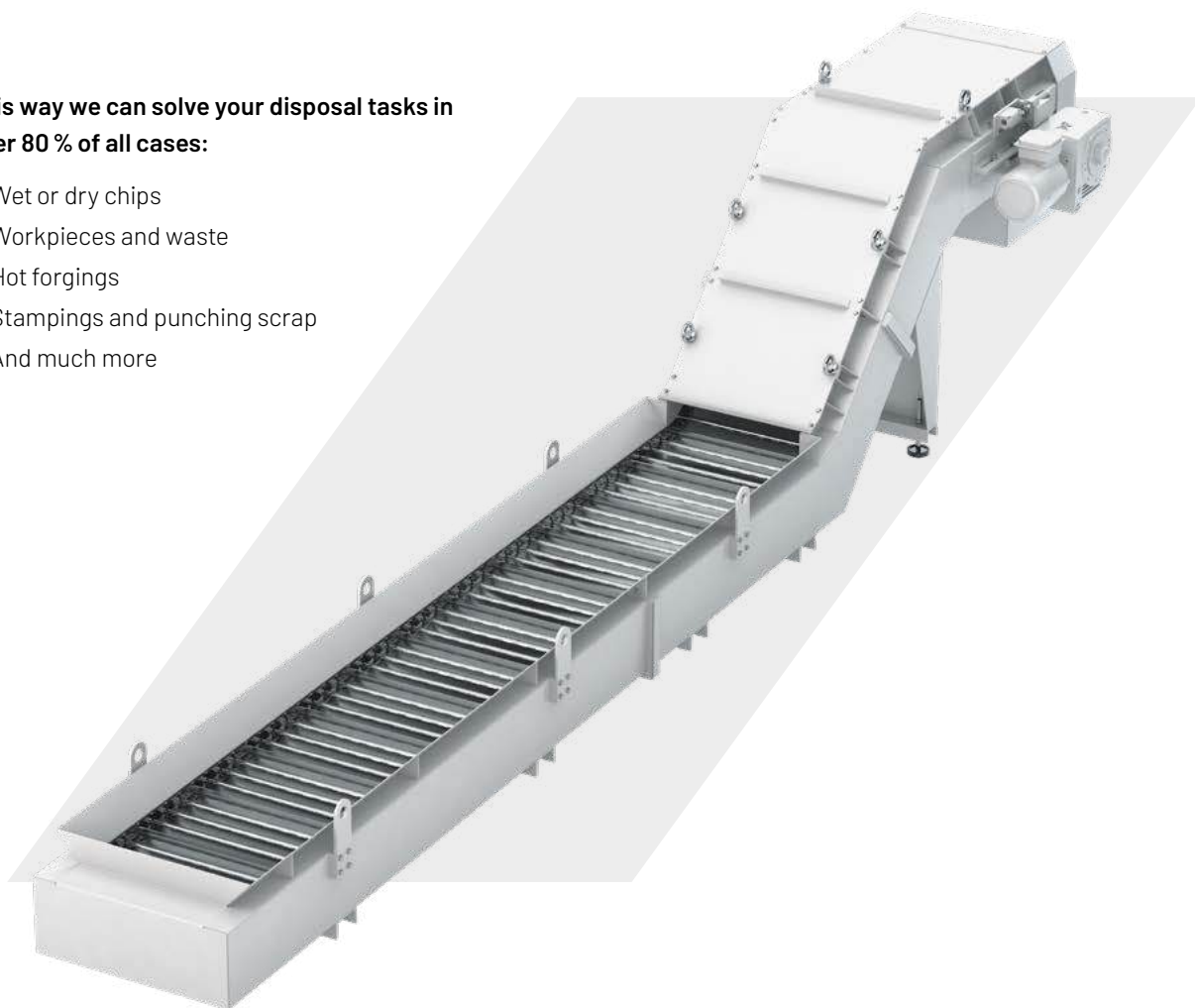
- » Stable metal plate construction
- » Standardized housing cross-section with variable width
- » Robust worm gear motor
- » Customized discharge height
- » Customized incline standards = 30°, 45° and 60°
- » Floor mounting or as a push-in version into the machine base

Accessory examples

- » Motor monitoring systems with current-monitoring relay
- » Other overload safety devices (on request)
- » Coolant container with pump station
- » Direct electrical connection to your machine controller
- » Other special solutions are available.
- » Please do get in touch with us, we will be happy to advise you

This way we can solve your disposal tasks in over 80 % of all cases:

- » Wet or dry chips
- » Workpieces and waste
- » Hot forgings
- » Stampings and punching scrap
- » And much more



Types and main areas of application

SRF 040.00 – the elegant “small one”, and compact

Pitch of the hinged belt
t = 40 mm

With its small pitch (40 mm) and extremely compact design, this conveyor is suitable for even the smallest machine tools.



SRF 063.00 – the “classic”, and our best seller

Pitch of the hinged belt
t = 63 mm

The conveyor type for most mechanical engineering applications.



SRF 100.00 – the “big one” and especially robust

Pitch of the hinged belt
t = 100 mm

With a pitch of 100 mm, this conveyor is particularly useful when large quantities of chips are present.



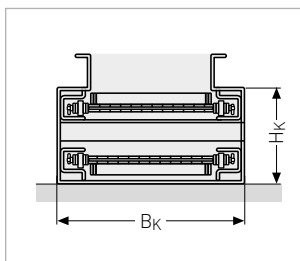
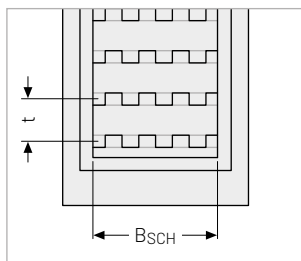
SRF 150.00 – the “strongest” one we build

Pitch of the hinged belt
t = 150 mm

Special solutions with 150 mm pitch for transporting away of large outputs or large parts.



Standard dimensions



Type	Pitch t	Box height H _k	Hinged belt width BSCH	Box width B _k
SRF 040.00	40 mm	140 mm	100, 150, 200, 250, 300, 400, 500, 600	BSCH + 75 mm
SRF 063.00	63 mm	216 mm	150, 300, 400, 500, 600, 1050, 1650, 2100	BSCH + 120 mm
SRF 100.00	100 mm	360 mm	150, 300, 400, 500, 600, 1050, 1650, 2100	BSCH + 150 mm
SRF 150.00	150 mm	540 mm	300, 400, 500, 600, 700, 1050, 1650, 2100	BSCH + 190 mm

Special widths on request.

Hinged belt designs



Hinged belt (standard)

for dry materials and chips with a low proportion of coolant



Hinged belt with perforations

for pre-separation of coolant for materials with a high proportion of coolant



Hinged belt conveyor with corrugations

for transporting adhering parts

HINGED BELT CONVEYOR WITH WAVE-BELT SYSTEM

NO HINGE – LOW WEAR

Chips and dirt can accumulate in the hinges with conventional hinge belt conveyors.

The Wave-Belt System has no hinges on the top side of the belt and is smooth in this area. Chips and dirt cannot get trapped. Due to the **“Wave-Form”** of the belt plates, there is hardly any gap between the plates. **This makes the hinge belts tighter, have a longer service life and require less maintenance.**

The side rims have also been further developed so that almost no conveyed material can get trapped in this area. In this way, **wear and the risk of failure are reduced.**

Hinged belt conveyor with Wave-Belt System

- » Longer service life due to optimized belt design
- » Tighter than conventional belts, as there are no hinges
- » Extremely stable due to special shaping of the individual belt plates
- » Easy to maintain due to bolted and thus very easily replaceable belt plates

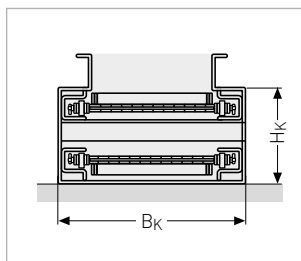
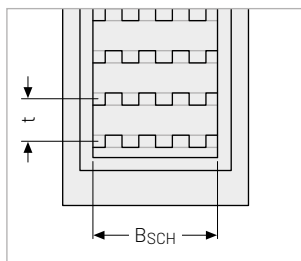


Due to the special form of the plates, the complete belt is extremely flexurally rigid and highly stressable.





Standard dimensions



Type	Pitch t	Box height H _K	Hinged belt width B _{SCH}	Box width B _K
SRF 063.00	63 mm	216 mm	165, 315, 415, 515, 615, 1065, 1665, 2115	B _{SCH} + 120 mm

Easy replacement of individual hinge belt plates

The belt plates are bolted and can be easily replaced if needed without having to dismantle the complete conveyor belt.



SCRAPER CONVEYORS

FOR DISPOSAL OF SMALL MATERIALS

Transport of the material takes place via drivers which push the material along the floor of the housing towards the discharge. Cooling lubricants are collected in the conveyor housing and can be fed back into the machine circuit via an added-on container or a pumping unit.

Our scraper conveyors can be used as stand-alone conveyors at machine tools or as linked conveyor systems. Depending on the design, the material to be conveyed is brought to the required height at a defined incline and then discharged.

Structure

- » Stable metal plate construction
- » Standardized housing cross-section with variable width
- » Robust worm gear motor
- » Customized discharge height
- » Customized incline standards = 30°, 45° and 60°
- » Floor mounting or as a push-in version into the machine base

Accessory examples

- » Motor monitoring systems with current monitoring relay
- » Other overload safety devices (on request)
- » Coolant container with pump station
- » Direct electrical connection to your machine controller
- » Other special solutions are available. Please do get in touch with us, we will be happy to advise you

The solution for small and short chips:

- » Frequently used for machining of non-ferrous metals
- » Can also be used for very hard, short chips
- » Casting chips, milling chips and sawing chips



Types and main areas of application

KRF 040 – the “classic” scraper conveyor

Pitch of the scraper belt
t = 40 mm

Our standard scraper conveyor for smaller machine tools and small quantities of chips.



KRF 063 – for somewhat “bigger” tasks

Pitch of the scraper belt
t = 63 mm

For larger machines and larger quantities of chips.



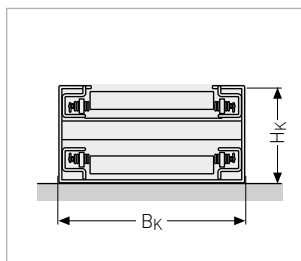
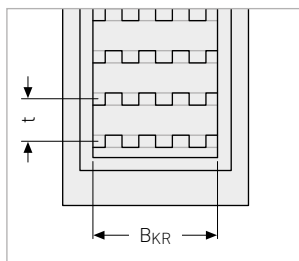
KRF 100 – the “Jumbo” for highest demands

Pitch of the scraper belt
t = 100 mm

Special solution for very large quantities of chips.



Standard dimensions



Type	Pitch t	Box height H _K	Scraper belt width B _{KR}	Box width B _K
KRF 040.00	40 mm	140 mm	150, 200, 250, 300, 350, 450, 500, 600	B _{KR} + 75 mm
SRF 063.00	63 mm	216 mm	150, 250, 300, 450, 550, 600, 750, 900	B _{KR} + 120 mm
SRF 100.00	100 mm	360 mm	150, 300, 375, 450, 525, 600, 750, 900	B _{KR} + 150 mm

Sonderbreiten auf Anfrage.

BELT CONVEYORS

THE ALL-ROUNDERS – ALSO FOR PARTS WITH SHARP EDGES

Our belt conveyors are predominantly used on punch-nibbling machines, for transporting punching scrap and punching trimmings. However, other parts can also be transported, such as waste parts from plastic injection machines. The transport belt of the conveyor is resistant to oil and grease.

Structure

- » Housing made of steel plate
- » Oil-resistant belt
- » Protective motor switch
- » Convex return shafts
- » Shafts with ball bearings
- » Adjustable belt tension

The universal transport solution, for applications where no cooling lubricant is present

- » Also suitable for parts with sharp edges
- » Not suitable for transporting hot chips

Type	Box height H _K	Belt width B _G	Box width B _K	Maximum conveying length F _L
GBF 113	134 mm	250, 450, 650, 850, 1050, 1200, 1400	B _G + 70 mm	12.000 mm



PART CONVEYOR

SCRATCH-FREE PARTS TRANSFER AT PRODUCTION MACHINES

The part conveyor is a solution for automatic production on punching nibbling machines. Both smooth and angular parts can be transported. The overall concept and the integration into the machine were developed in cooperation with our customers.

Gentle transport all the way to the parts depot

The parts conveyor provides the option of gently transporting parts with high standards for surface quality out into the required parts depot. The brush rollers in the discharge area ensure that the materials being transported are transferred to the parts depot virtually horizontally.

Part conveyor

- » Scratch-free transport of parts
- » For smooth and angular parts
- » Height-adjustable
- » Parts depot with swiveling floor
- » Height of conveyed material from 0.5 to 25 mm





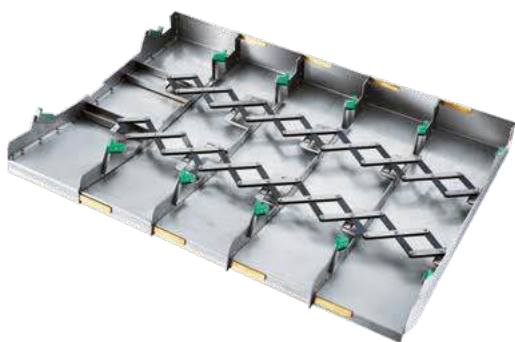
TELESCOPIC COVERS

PERFECT PROTECTION FOR GUIDEWAYS ON MACHINE TOOLS

Today, modern machine tools process workpieces at ever-greater cutting and travel speeds. The protection of guideways, measuring systems, drive elements and other vulnerable parts is absolutely essential. Accelerations and speeds of machines are constantly increasing. Telescopic



covers must also be able to cope with these challenges. This is where telescopic covers with harness mechanisms are used. So-called differential drives serve to synchronize the boxes and eliminate impact pulses.



Designs

Machine tools come in a wide variety of designs. That is why a modern lathe needs another type of telescopic cover than, for example, a large bed-type milling machine. The following designs provide an overview of typical designs.





WAY WIPERS

THE CLEANUP CREW

Way wipers are essential to keep the guideways in a proper functional state, and thus to keep the machine tool permanently in operation. Even if the guideways are already

protected by a telescopic cover, it is necessary to wipe fine, penetrating particles off of the vulnerable ways.

Designs

Available in a wide variety of shapes, harnessed according to your specifications, in bar form or available ex-stock.



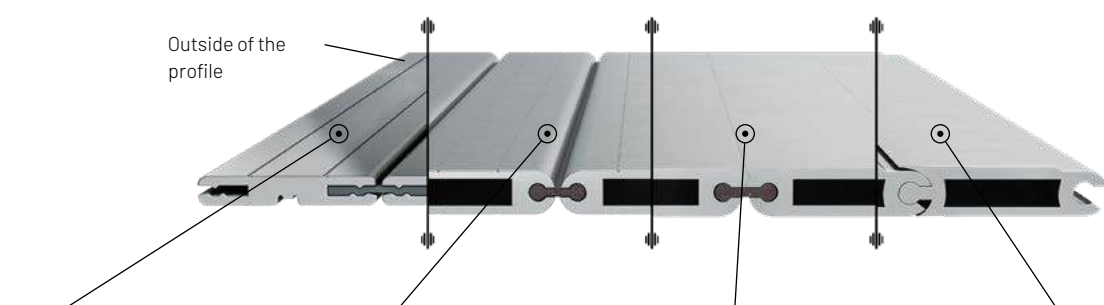
LINK APRON COVERS

SOLUTIONS FOR LIMITED SPACES

Link apron covers can be used anywhere where, for reasons of space, it is not possible to use telescopic covers. They lie directly on the guideways and can hang down freely at the end of the path, or be screwed on or wound around without any special guides.

Properties

- » Small space requirement
- » Protection against chips and lubricant
- » Protection against most cooling lubricants, oil, grease, dirt and dust
- » Splash- and hose-proof
- » Low weight
- » Long service life
- » Heat-resistant to 100 °C over extended periods
- » Customized end attachment
- » Can be supplied with a roller device (type-dependent)
- » Liquid-tight or self-extinguishing versions possible
- » Short delivery time
- » Attractive price/performance ratio



Design 1

Light, highly flexible solid profile apron cover, flat design
Solid aluminum profile 19 x 3 mm with PU connecting elements

Design 2N

Light and stable hollow profile apron cover, also for large widths
Hollow aluminum profile 20 x 5.5 mm with PU connecting elements

Design 2NG

Light and stable hollow profile apron cover, also for large widths
Hollow aluminum profile 20 x 5.5 mm with PU connecting elements and bending radius in one direction

Design 3

Flexible solid metal apron cover, with joints and a single-sided bending radius
Hollow aluminum profile 25 x 7.5 mm with integrated joint and one-sided bending radius



BELLOWS

GUIDEWAY PROTECTION SOLUTIONS WITH VERY LITTLE COMPRESSION

Bellows are used on all kinds of machine to provide protection for guideways and spindles.

Properties

- » Simple installation
- » High travel speed
- » Minimal compression
- » High quality
- » Protection against most cooling lubricants, oil, grease, dirt and dust
- » Liquid-tight or self-extinguishing versions possible



CONICAL SPRING COVERS

PROTECTION UNDER EXTREME CONDITIONS

Our conical spring covers are energy efficient. They follow the machine movements automatically. Conical spring covers protect spindles, columns, shafts, threads and rod guides reliably against contamination, chips and mechanical damage. They provide a good sealing function, and are self-cleaning if installed in a suitable position. High temperature resistance and resistance to chemicals guarantee reliable protection even under extreme operating conditions.

Properties

- » Accident prevention for operating personnel from revolving spindles and shafts
- » Reduction in downtimes resulting from contamination
- » Increased machine service life
- » Some conical spring covers are also available for retrofitting



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