CABLE CARRIER SYSTEMS
TRAXLINE® CABLES FOR MOTION
TOTALTRAX® COMPLETE TURN-KEY CARRIER SYSTEMS
GUIDEWAY PROTECTION SYSTEMS
CONVEYOR SYSTEMS
Innovative solutions
for the machine tool industry

ENERGY AND SIGNALS
- 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

More Information:
call: 800-443-4216 or visit: ustsubaki.com
ENERGY AND SIGNALS see page 4

STANDARD applications

ADVANCED applications

EXTREME applications

3D applications

TRAXLINE Cables for Motion

TOTALTRAX Ready-to-install

Application examples see page 16
ENERGY AND SIGNALS

**STANDARD applications**

Solid plastic cable and hose carrier systems with fixed chain widths

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.

Sub-division | Height | Width | Load | Travel path | Travel speed | Acceleration
--- | --- | --- | --- | --- | --- | ---
Simple | 4.6 – 44 mm | 6 – 250 mm | up to 10 kg/m | up to 150 m | up to 10 m/s | up to 50 m/s²

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

**MONO**

Cable carriers with simple design for standard applications

- 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

**UNIFLEX Advanced**

Light, quiet standard track for a wide range of applications

- 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

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ENERGY AND SIGNALS

STANDARD applications

TKA Series
Chip-tight right to the end

Splash- and dustproof – in more than 300 sizes

The enclosed cable and hose carrier TKA55 was specifically developed for use in environments with contamination from chips and dirt. The design effectively prevents the ingress of foreign bodies into the cable space and provides reliable protection of the cables, up to the protection class IP54 – tested and attested by the TÜV Nord (German Technical Inspection Authority, North).*

The geometry of the chain links of the TKA series and the 3-fold, encapsulated stroke system enables extensive unsupported length and high torsional rigidity. Integrated gliding surfaces also predestine them for long travel lengths. Easy to open cover provides secure hold, even under severe mechanical stresses, e.g. when used with hydraulic cables.

The TKA45, TKA38 and TKA30 types were developed modeled on the TKA55. There is a total of more than 300 versions available with inner widths of 15 to 175 mm and inner heights of 20.5 to 45 mm.

* Refers to type TKA55 with Bi 50 – 175.
TKA Series
 Chip-tight right to the end

Splash- and dustproof – in more than 300 sizes
- Impermeability against chips, excellent cable protection also in the connection area
- TKA55: IP54 tested and attested (TÜV NORD)
- On request, also in special material with protection against hot chips up to 850 °C
- Quick routing of the cables, easy to open

TKA Series

TKA30
- 6 inside widths
- 15 – 65 mm

TKA38
- 6 inside widths
- 25 – 130 mm

TKA45
- 5 inside widths
- 50 – 150 mm

TKA55
- 6 inside widths
- 50 – 175 mm

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

ENERGY AND SIGNALS
STANDARD applications

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TKA45
- 5 inside widths
- 50 – 150 mm

TKA55
- 6 inside widths
- 50 – 175 mm

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ADVANCED applications

Cable and hose carrier systems with variable chain widths

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.

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

Sub-division | Height | Width | Load | Travel path | Travel speed | Acceleration
---|---|---|---|---|---|---
complex | 19 – 108 mm | 25 – 1000 mm | up to 65 kg/m | up to 350 m | up to 40 m/s | up to 300 m/s²

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

MASTER Series
Quiet and weight-optimized carriers

- Light design with weight-optimized sideband construction
- Excellent ratio of inside to outside height
- Customized bend radii are available
- Plastic covers available

M Series / MT Series
Robust and versatile design

- 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
Light, quiet, low-vibration

- 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

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INNOVATIVE solutions for the machine tool industry

ENERGY AND SIGNALS

EXTREME applications

Steel/stainless steel cable carrier systems – solutions for 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.

1. Link design with special bolts for long service life
2. Various cable separation options
3. Dividers made of plastic or steel
4. Aluminum cover available in custom 1 mm width increments
5. Various custom crossbar options available in 1 mm width increments
6. Extremely robust sidebands; zinc plated or made of stainless steel

Example of cross section

Sub-division | Height | Width | Load | Travel path | Travel speed | Acceleration
---|---|---|---|---|---|---
complex | 24 – 370 mm | 26 – 1500 mm | up to 600 kg/m | up to 25 m | up to 10 m/s | up to 20 m/s²

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

LS/LSX Series

Cost-effective, light-weight steel chains

- Improved dynamic characteristics due to weight-optimized design
- Long unsupported lengths for small to medium additional loads
- Cover with steel band for optimum cable protection available on request

S/SX Series

Extremely robust and heavy-duty steel chains

- Extremely robust and heavy-duty steel chains for large mechanical loads and harsh environmental conditions
- Very long unsupported lengths even for heavy additional loads
- Various types in a variety of dimensions available
- Aluminum cover available for maximum protection of the cables

More Information:
call: 800-443-4216 or visit: ustsubaki.com
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.

1. Steel wire for transmission of extremely large tensile forces
2. Protective covers or heat shields made of various materials are available for a diverse range of environmental conditions
3. Quick-opening mounting brackets easily attach any link of the ROBOTRAX system to any mounting point on the robot
4. Fast cable installation by simply pressing the cables into the carrier system’s cavity partitions: no threading through is required
5. Special plastic material for long service life

ROBOTRAX System

LineFix saddly-type clamps for strain relief

For secure and gentle cable installation. Multilayer strain relief with double and triple clamps available. Multiple systems can also be mounted one behind the other.

PULL-BACK-UNIT – PBU

Rapid, repetitive movements of relatively long cable carrier systems in large operating envelopes, constantly hitting the robot arm, are to blame for reducing the service life of the carrier and installed cables. This can lead to a failure of the overall robotic system with expensive downtime and production outages. By using the PULL-BACK UNIT, the service life of the cable carrier and cables is significantly extended and downtimes are kept to a minimum.

More Information:
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PROTECTOR

The service life of the cable carriers and cables is significantly reduced through impact when moving quickly and in large operating areas. The PROTECTOR protects the cable carrier from aggressive impact, excessive abrasion and premature wear and, simultaneously, provides limiting of the smallest bend radius. Down times are minimized. The complete cable carrier does not need to be replaced, just the PROTECTOR.

The assigned values are average values. Depending on the specific application, the maximum values may differ significantly. For detailed information please contact us.
Innovative solutions
for the machine tool industry

ENERGY AND SIGNALS

Our cable ranges meet the highest quality standards. With the TRAXLINE range, we offer cables which are cost-effective and extremely durable. A key factor is their tested and proven operational reliability, which meets all applicable standards. Competent, objective-driven systems consultation and global on-site service are both part of what we consider an on-going commitment to the technical and commercial optimization. We deliver stock cables with no minimum quantities, each cut-to-length without extra cutting costs.

TRAXLINE CAT.5E / CAT.6 700 CD
Double-shielded continuous bending hi-flex CAT.5E / CAT.6 PUR cable

Conductor: extremely fine stranded conductors of bare copper wires in an optimized hi-flex design

Shielding: coverage 85 %
Outer jacket: KS-PUR

Temperature range moved: – 30 up to + 80 °C
Minimum bend radius moved: KRmin ≥ 10 x Ø

Vmax unsupp.: 3 m/s
Vmax gliding: 3 m/s
a_max: 5 m/s²
Insulation resistance: ≥ 10 MΩ x km

Approvals: cULus, based on VDE

Core insulation KS-PP/TPE
concentrally stranded

Overall double-shielding
continuous bending hi-flex, tin-plated copper braiding
Coverage: approx. 90 % and foil shield

Element shield
continuous bending hi-flex, in-plated braided copper shield with the option of foil shield

TRAXLINE System S 700 C
Shielded continuous bending hi-flex PUR signal cables

Conductor: extra-fine wire conductor made from bare or tin-plated copper wires, design-optimized for maximum flexural strength

Shielding: coverage 80/85 % (type-dependent)
Outer jacket: KS-PUR

Temperature range moved: – 35 up to + 90 °C
Minimum bend radius moved: KRmin ≥ 7.5 x Ø

Vmax unsupp.: 5 m/s
Vmax gliding: 5 m/s
a_max: 50 m/s²
Insulation resistance: ≥ 10 MΩ x km

Approvals: cULus, based on VDE

Core insulation KS-PP/TPE
hybrid stranded

Element shield
continuous bending hi-flex, in-plated braided copper shield with the option of foil shield

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

TRAXLINE Profibus 700 C
Shielded continuous bending hi-flex Profibus PUR cables

Conductor: extremely fine stranded conductors of bare copper wires in an optimized hi-flex design

Shielding: coverage 85 %
Outer jacket: KS-PUR

Temperature range moved: – 20 up to + 70 °C
Minimum bend radius moved: KRmin ≥ 15 x Ø

Vmax unsupp.: 3.5 m/s
Vmax gliding: 2 m/s
a_max: 10 m/s²
Insulation resistance: ≥ 10 MΩ x km

Approvals: cULus, based on VDE

Core insulation KS-PP/TPE
concentrally stranded

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

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

TRAXLINE System M 700 C
Shielded continuous bending hi-flex PUR motor/servo drive cables

Conductor: finely stranded conductors of bare copper wires in an optimized hi-flex design

Shielding: coverage 80/85 % (type-dependent)
Outer jacket: KS-PUR

Temperature range moved: – 35 up to + 90 °C
Minimum bend radius moved: ≥ 16 mm²: KRmin ≥ 7.5 x Ø
≥ 25 mm²: KRmin ≥ 7.5 x Ø

Vmax unsupp.: 5 m/s
Vmax gliding: 5 m/s
a_max: 50 m/s²
Insulation resistance: ≥ 10 MΩ x km

Approvals: cULus, based on VDE

Core insulation KS-PP/TPE
hydro-stranded

Element shield
continuous bending hi-flex, in-plated braided copper shield with the option of foil shield

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

Properties:*

- oil-resistant
- hi-flex design
- UV-resistant/UV-stable
- RoHS-conform
- metermarked
- halogen-free
- CFC-free
- silicone-free
- flame-retardant
- ozone-resistant

* some properties are type-dependent; please contact us.
ENERGY AND SIGNALS

TRAXLINE Power ONE 700 PE
Unshielded, continuous bending highly-flexible PUR single-core cables with PE core identification

Conductor: conductors class 6 of bare copper wires in an optimized hi-flex design
Outer jacket: KS-PUR
Temperature range moved: -35 up to +90 °C
Minimum bend radius moved: KRmin ≥ 7.5 x Ø
νmax unsupp.: 20 m/s
νmax gliding: 5 m/s
amax: 50 m/s²
Insulation resistance: ≥ 100 MΩ x km
Approvals: cURus, based on VDE
Core insulation KS-PUR
Overall shield continuous bending hi-flex, tin-plated copper braiding for smallest bend radius
Jacket colour black ozone-resistant, UV-resistant

TRAXLINE Data 700 TPi C
Shielded continuous bending hi-flex PUR data cables

Conductor: conductors class 6 of bare copper wires in an optimized hi-flex design
Shielding: coverage nom. 85 %
Outer jacket: KS-PUR
Temperature range moved: -35 up to +90 °C
Minimum bend radius moved: KRmin ≥ 7.5 x Ø
νmax unsupp.: 20 m/s
νmax gliding: 5 m/s
amax: 50 m/s²
Insulation resistance: ≥ 30 MΩ x km
Approvals: cURus, based on VDE
Core insulation KS-PP stranded in pairs
Overall shield continuous bending hi-flex, tin-plated copper braiding for smallest bend radius
Jacket colour black ozone-resistant UV-resistant

TRAXLINE Control 700 600 V
Unshielded continuous bending hi-flex PUR control cables

Conductor: conductors class 6 of bare copper wires in an optimized hi-flex design
Outer jacket: KS-PP
Temperature range moved: -35 up to +90 °C
Minimum bend radius moved: KRmin ≥ 7.5 x Ø
νmax unsupp.: 20 m/s
νmax gliding: 5 m/s
amax: 50 m/s²
Insulation resistance: ≥ 30 MΩ x km
Approvals: cURus, based on VDE
Core insulation KS-PP
Overall shield continuous bending hi-flex, tin-plated copper braiding for smallest bend radius
Jacket colour black ozone-resistant UV-resistant

TRAXLINE Power 700 C 1 kV
Shielded continuous bending hi-flex PUR power cables

Conductor: conductors class 6 of bare copper wires in an optimized hi-flex design
Shielding: coverage nom. 85 %
Outer jacket: KS-TPE
Temperature range moved: -35 up to +90 °C
Minimum bend radius moved: KRmin ≥ 7.5 x Ø
νmax unsupp.: 20 m/s
νmax gliding: 5 m/s
aax: 50 m/s²
Insulation resistance: ≥ 30 MΩ x km
Approvals: cURus, based on VDE
Core insulation KS-PP bundled stranding (> 8 cores)
Overall shield continuous bending hi-flex, tin-plated, copper braiding for smallest bend radius
Jacket colour black ozone-resistant, UV-resistant

Jacket colour black ozone-resistant, UV-resistant
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. 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 a 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

NOTE!
Harness 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

More Information:
call: 800-443-4216 or visit: ustsubaki.com
ENERGY AND SIGNALS

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 of 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 available upon request

. . . 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

Online configuration tool for cable carrier systems

Using TSUBAKI KABELSCHLEPP OnlineEngineer, in just a few clicks of the mouse you can quickly select and configure the optimal TSUBAKI KABELSCHLEPP cable carrier system for your application. Just input the parameters of your application and the OnlineEngineer will automatically calculate the TSUBAKI KABELSCHLEPP cable carrier system with the optimal price/performance ratio!

Alternatively, you can follow easy step-by-step menus and individually design your desired cable carrier system.

Finally, if you already know which TSUBAKI KABELSCHLEPP cable carrier systems you would like to use, just enter the order specifications and you will receive all applicable information by mouse click. Since any and all functions can be combined, the specification data needs to be entered only once. A corresponding 2D drawing or 3D model of your carrier can be immediately downloaded.

Save time with our 2D & 3D drawing library available online

Our 2D and 3D CAD drawings simplify the job for your design engineers. You can find the data for our cable carriers in the CADENAS component libraries. TSUBAKI KABELSCHLEPP provides free drawing libraries. Once selected, CAD data can be saved or exported in a wide range of formats for import into your CAD system. Can’t find what you are looking for, please contact us.
Application examples

Decades of application experience in hundreds of market segments, with thousands of product combinations has resulted in new many tailor-made and user oriented solutions for our customers.

Plastic cable carriers on a roll neck milling machine.

TKA Series cable carrier system on a machining center.

Plastic cable carrier on a CNC-machining center.

MASTER LT Series cable carriers on a tube end processing machine.
ROBOTRAX, K Series and M Series cable carriers on a laser cutting machine.

M Series cable carrier on a high-performance machining center.

QUANTUM cable carrier system on a handling system.

Plastic cable carriers on an automatic window frame setting station.

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CABLE CARRIER SYSTEMS
- Cable carriers made of steel and plastic
- QUANTUM cable and hose carrier system
- PROTUM cable and hose carrier system
- ROBOTRAX cable and hose carrier system

TRAXLINE Cables for Motion
- Continuous bending hi-flex cables for cable carriers
- TOTALTRAX complete turn-key carrier systems
- Pre-assembled cables

Guideway Protection Systems
- Telescopic covers
- Link apron covers
- Way wipers
- Conical spring covers
- Bellows
- Protective devices

Conveyor Systems
- Hinged belt conveyors
- Scraper conveyors
- Belt conveyors