

KABELSCHLEPP

TSUBAKI KABELSCHLEPP

KABELSCHLEPP TALKABOUTS

hybrid, plastics, steel ... always a good deal

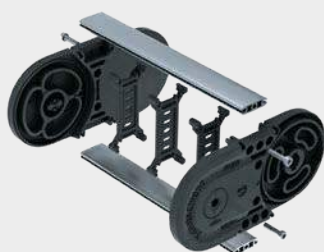


Hybrid chains from the modular system

Simply configure your customized cable carrier

Whether clipped, snapped, locked, screwed, riveted or even welded – we offer various connection types depending on the type of cable carrier. This allows to configure and order single elements or the whole cable carrier with cables and connection or a pre-assembled TOTALTRAX® system. The individual customer defines the depth of modularity.

The side plates of KABELSCHLEPP® hybrid chains are consisting of 100% the same material. This means an optimum pairing to transmit power and to retain the properties of the cable carrier system over its length and throughout its service life. Simple plug-in connections allow quick installation – screwing prevents from deformed dividers or dissolved individual links.



Maximum security for a permanent connection

In mechanical engineering screw connections are standard and provide the highest level of security. Mounting costs for such connections do not deviate from the usual expenses for assembling a cable carrier. Using modern assembly and machine technology the installation costs are reduced to a minimum.

Screwed structures allow easily assessing the condition of a connection through visual inspection, e.g. loosened screw.

Gaps and dissolved connections can be simply and immediately recognized – even after years. This simplifies inspection and maintenance. Additionally, screwed connections can be adjusted through type and material to the specific application.

Rivet connections provide an even higher safety level. They are a proven standard in bridge and aircraft construction and offer the highest level of safety – even when having extended/long maintenance intervals and difficult to access areas.

Our steel cable carriers retain their material properties even in cold conditions – for instance do they not embrittle as quickly as other materials. Thus, applications can be equipped in Cologne in summertime and in St. Petersburg, Russia in winter.

- all system variants available as completely assembled system
- modular design in all areas
- no mix of materials in the power transmitting chain bands:
 - constant force progression within the system
 - no unwanted tension in the chain stop system
 - system properties remain constant throughout the lifecycle
- screwed or simply pluggable
- Established procedures for safe/secure connection in mechanical engineering
 - Steel cable carrier: screwing, welding, riveting, bolts, circlip
 - Hybrid cable carrier: bolted or friction locking
 - Plastic cable carrier: friction locking
- Steel cable carrier stands out in heavy-duty application with their special properties:
 - highest mechanical load capability
 - no chain breaks
 - heat and cold-resistant, consistent mechanical properties
 - no change in property through moisture binding
 - in stainless steel 100 % corrosion-free
 - almost wear-free – easy and quick installation/maintenance
 - steel chains have an actual self-supporting length of up to 10 m in horizontal arrangements
 - 100% recyclable

Material variety from plastic to steel

Your application determines the material

Whether steel, hybrid or plastic, your application determines the material and we supply you the appropriate cable carrier in each case – made from standard material or various special materials – exactly matched to your respective application. The range of usage of our cable carriers extends from standard applications such as machine tools, crane systems, washing lines

and medical and laboratory technology all the way up to complex applications such as industrial robots, high-sea oil drilling platforms and space travel. We also offer solutions for special requirements such as in the chemical industry for EX-protection zones, in the semi-conductor industry for ESD applications, and for high and low temperature applications in steel plants and cold stores.



EX Protection

For Ex-protection applications, we offer customized solutions made from solid plastic, hybrid or steel cable carriers, which meet the requirements of the standard (with $< 10^5 \Omega$).



ESD

Our proven ESD cable carriers based on nano-technology with carbon tubes easily meet the requirements of the ESD standard (with $< 10^9 \Omega$) in terms of conductivity and resistance.



Flame Retardant

We offer special materials including V0 versions for operating areas having a risk of fire. All materials listed by UL94. Additional special solutions on request.



Low Temperature

Suited for usage in low temperature areas such as cold stores, etc., up to around $-40 \text{ }^\circ\text{C}$.



Clean Room

QUANTUM®: Clean room compatible, purity class "Class 1" is possible. Thanks to the usage of extruded sidebands, no links, no link wear, in contrast to conventional bore-hole and bolt connections, which makes QUANTUM® ideally suited for usage in clean rooms.

TKR: The movable connectors are directly molded on the chain links. In contrast to conventional bore-hole bolt connections, hardly any wear occurs (link abrasion), which makes the TKR type outstanding for usage in clean rooms.



High Temperature

High temperature material 1:

Suited for a (dimensionally stable) long-term temperature range for 2,500 hrs. up to $190 \text{ }^\circ\text{C}$ and for 10,000 hrs. up to $160 \text{ }^\circ\text{C}$.

High temperature material 2:

Suited for transient surface contact temperatures of up to $800 \text{ }^\circ\text{C}$.

R-Roller Chain

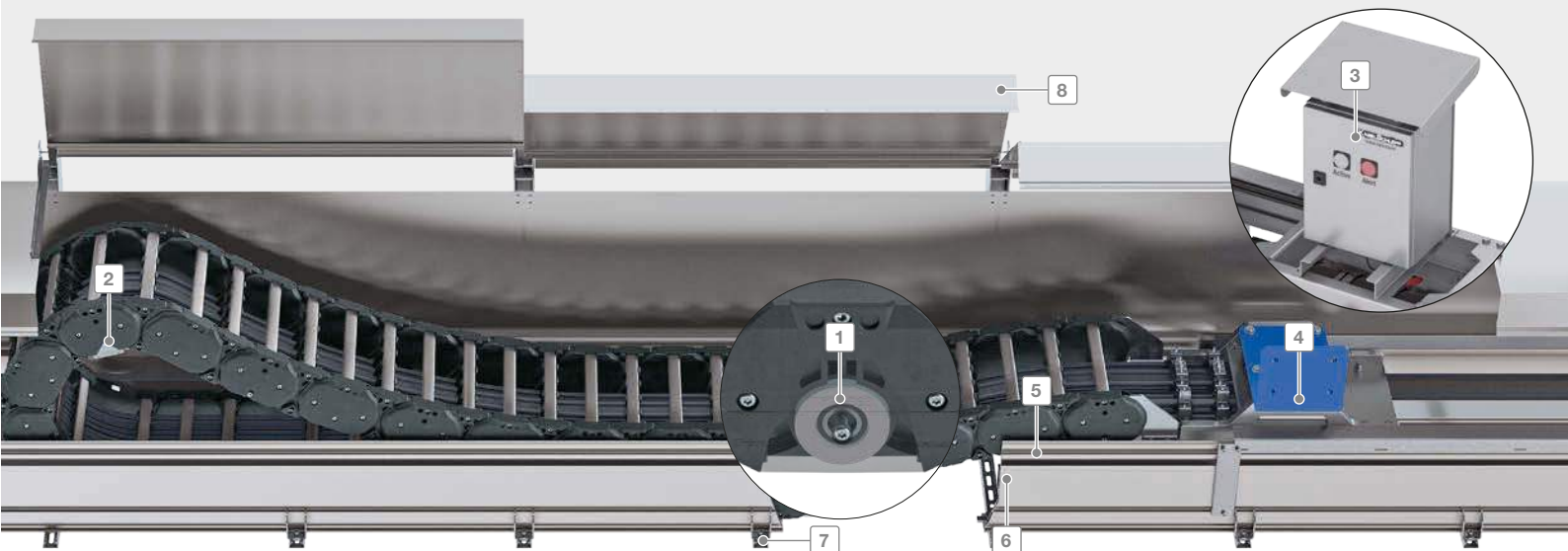
Rolling instead of gliding

Stainless steel ball bearings with application-specific lubrication and plastic rollers ensure quiet and smooth operation. Integrated,

- suitable for all long travel applications
- lower drive power required
- quiet and low-vibration operation
- space-saving and cost-optimized
- long service life – low maintenance
- easy access to rollers
- minimized loads on cable carrier and cables

wear-free damping systems minimize the mechanical load for the entire system.

- low push and pull forces
- high travel speed and acceleration
- large additional loads possible
- using proved standard cable carriers
- retrofit of existing systems
- exchange other makes up to 100 %
- integration of existing guide channels



1 Rolling instead of gliding

- reduced push/pull forces
- minimized wear
- defined minimum bending radius

2 Gliding shoes optional

- replaceable wear surface
- highly wear-resistant plastic

3 Condition monitoring

- pull/push forces
- wear
- fault alarm system Light and Professional

4 Floating moving device

- compensation of tolerances
- transfer of cables
- accommodation of strain relief

5 Lift lock / fixed installation

- safe operation on long travel
- fixed installation of cables on channel sidewall

6 Strong side profiles

- span up to 3 m
- strong double-wall profile
- seawater-resistant

7 Mounting kit inside and outside

- variable attachment
- Standard and Heavy Duty type
- fix point module for cable carrier mounting

8 Roof system

- housing for weather and foreign particle protection
- lift lock
- tool-free access

Condition Monitoring

Knowing what's (not) up



Safety devices for cranes and wear measurement for glide shoes

- signal is usable for a fully-automatic emergency stop-system
- direct measurement of the push-/pull-forces at the moving point
- force limits freely programmable (lower limit, upper limit)
- error indication if the limits are exceeded
- outgoing signal PLC usable (full stop, slow down)
- no speed limit
- scheduled gliding shoe replacement
- wear monitoring in real-time
- wear forecast
- sensor-free wear elements
- without additional cables and power supplies inside the cable carrier
- usable for all glide shoe chains



The installation conditions are difficult? In that case our service team will take care of the mounting or assists and advises you.



Outdoor testing facility

TSUBAKI KABELSCHLEPP stands for high quality and safe solutions. For meeting the highest standards we test gliding and roller systems with a tavel exceeding 100 m under real real conditions on our own outdoor testing facility.

Alu Guide System (TKAL)

Aluminium guide channels in the modular system

- Modular system with many mounting options
- Standard lengths and sets
- Lightweight design for high speeds
- Plastic sliding support



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Channel side wall
Al alloy



Standard lengths 2000 mm
Special lengths on request

Features

- Safe operation on long travel length
- Seawater resistant
- Connecting elements for parallel arrangement of several channels
- Standard- and Heavy-Duty-Version
- Variable fixation
- Multi-fastening kit for assembly of the cable carrier

The Alu Guide System for long travel applications and high loads ensures secure guidance and smooth running of the energy chain in a gliding application.

The standardized channel profiles of 2000 mm in length can be individually adjusted to the width of the chain. They can be quickly and easily be installed with the help of a mounting kit. Such mounting kits are also available for attaching the fixed-point of the energy chain.

Optional damping profiles additionally reduce noise emission and guarantee an even quieter running of the chain.

TSUBAKI KABELSCHLEPP also offer the Alu Guide together with the appropriate energy chain as well as with the ready-to-install TOTALTRAX® System including cables.



Long service life with GO modules

GO module with chain links optimized for gliding

The GO module mounted on the driver is a defined sequence of 5 different KR/RKR link plates. Faster and more controlled placing of the upper run on the lower run as well as a

smaller station in the thrust end position are ensured. A support plate on the driver is not necessary. The GO module is always assembled fully-stayed.

- GO module for gliding applications for medium and long travel
- Safe interplay between upper and lower trough reduces the point load of the cable carrier
- Many variants on stock with plastic or aluminium cover

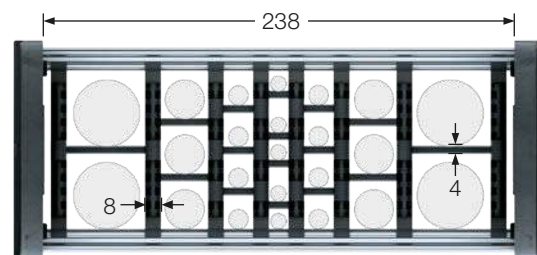


More space in the same cable carrier

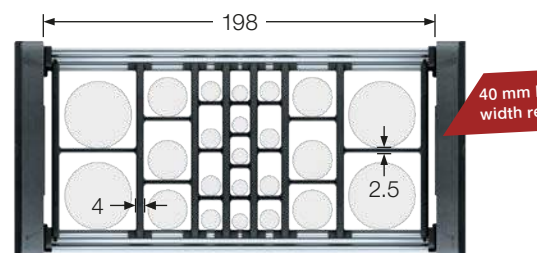
The next generation of the TS3 divider system

- Fast, time saving harnessing
- Easy to open and fill from all sides
- 50 % less packaging space required
- End divider for using the full inner width
- Secure seating of the height separators through locking divider
- Complete divider system can be moved and fixed in the cross section
- Available for many types of the K series, MASTER series, M series, QUANTUM® series, TKA series, LS/LSX series and S/SX series

Width comparison



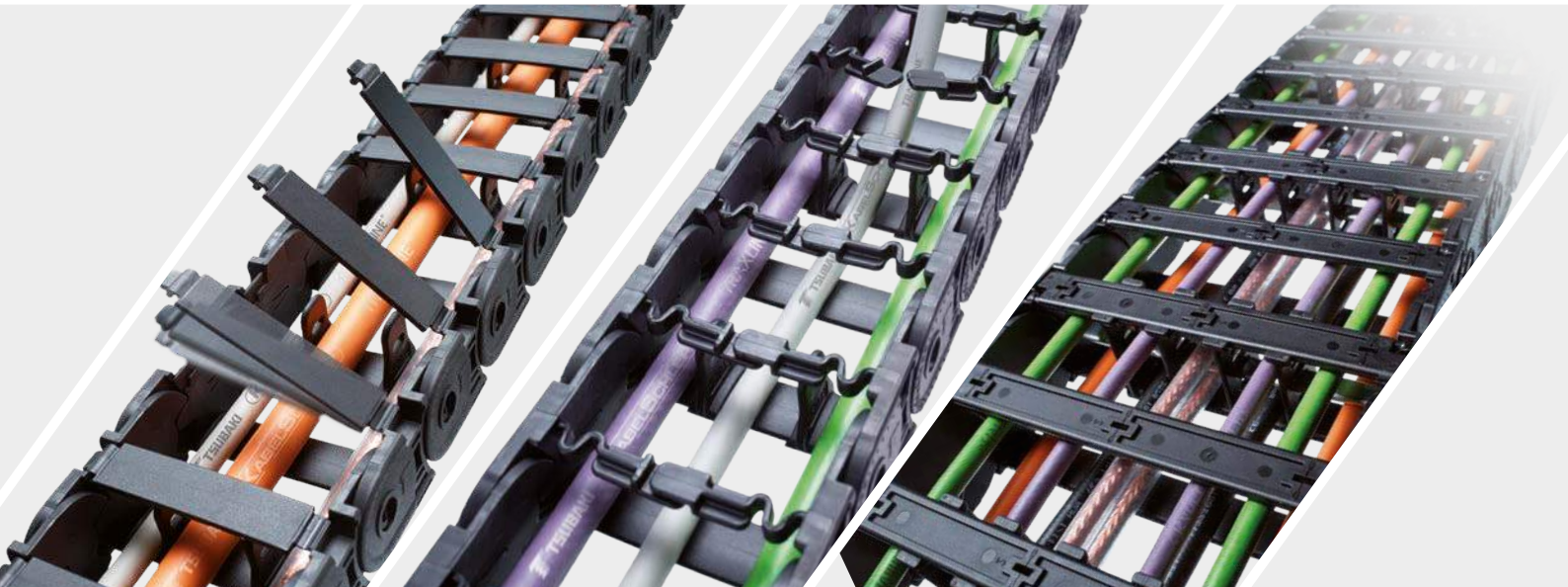
Previous divider system TS3 with stay variant RSH/RE



Clear space saving with same filling capacity through the new divider system TS3 with stay variant RSH/RE




From 0 to 100 in less than one second




QuickTrax® series


- Extremely fast and easy cable laying
- Low noise emissions
- Extensive unsupported length
- High torsional rigidity
- Each chain link consists of two different materials:
 - Hard cable carrier body made of glass fiber-reinforced material
 - Bracket with flexible film hinge made of elastic special plastic
- Sturdy chain design
- High fill level possible


 **Inside height**
20 mm


 **Inside widths**
15 – 65 mm


 **Pitch**
32 mm

 **Additional load**
up to 3 kg/m

 **Travel length unsupported**
up to 3 m


 **Travel length gliding**
up to 80 m


 **Travel acceleration**
up to 50 m/s²

 **Travel speed**
up to 10 m/s


EasyTrax® series


- Extremely fast cable laying thanks to easy cable insertion
- Very high fill level
- Each chain link consists of two different materials:
 - Hard cable carrier body made of glass fiber-reinforced material
 - Lamellae with flexible film hinge made of elastic special plastic
- Sturdy chain design
- High torsional rigidity
- Extensive unsupported length
- Low noise emissions

 **Inside heights**
4.6 – 25 mm


 **Inside widths**
7 – 78 mm


 **Pitch**
11.5 – 45.5 mm

 **Additional load**
up to 6 kg/m

 **Travel length unsupported**
up to 4.8 m


 **Travel length gliding**
up to 25 m


 **Travel acceleration**
up to 50 m/s²

 **Travel speed**
up to 10 m/s


UNIFLEX *Advanced* series


- Extensive unsupported lengths
- High torsional rigidity
- Low noise emissions
- Fast cable laying
- Stays with ball joint, opening on both sides
- Strain relief integrated into the end connector
- Fixable dividers
- Many possibilities for internal subdivision
- Wear surfaces for gliding applications involving long travel lengths


 **Inside heights**
20 – 44 mm


 **Inside widths**
15 – 250 mm


 **Pitch**
32 – 66.5 mm

 **Additional load**
up to 15 kg/m

 **Travel length unsupported**
up to 7 m

 **Travel length gliding**
up to 150 m

 **Travel acceleration**
up to 50 m/s²

 **Travel speed**
up to 10 m/s

TRAXLINE® Cables for cable carriers

Control cables



- Connection for controlling between moving consumer and control cabinet
- Four different quality classes available
- Jacket material: PVC, PUR, TPE; shield optional
- 2 to 49 wires

Motor cables 4 to 7 wires



- Connection for power supply between moving consumer and control cabinet
- In three different quality classes available
- Jacket material: PVC, PUR, TPE; shield optional
- Cross section from 1.5 mm² to 150 mm²

Motor cables 1 wire



- For applications in harsh conditions
- Secure transmission of large amounts of energy
- For long travel applications
- Cross section from 0.25 mm² to 700 mm²

BUS-/FOG-/KOAX-cables



- Data exchange between moving consumer and stationary end (control cabinet)
- Different quality classes available
- Jacket material: PUR, TPE shield respectively double shield optional
- Used in carriers with small bend radius

Data cables



- Data exchange between moving consumer and stationary end (control cabinet)
- Different quality classes available
- Jacket material: PUR, TPE shield respectively double shield optional
- Used in carriers with small bend radius

Medium voltage cables



- For applications in harsh conditions
- Secure transmission of large amounts of energy
- For long travel applications
- Cross section from 0.25 mm² to 700 mm²

TOTALTRAX® Complete Systems

From planning to the final complete system



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

One order, one contact person, components optimally matched to each other, including the cable and hose carrier, the electrical cables, the hydraulic and pneumatic hoses and the connectors. You receive the complete TOTALTRAX® system in one delivery.

Ready-to-install solutions

- Purchasing and handling under one material number for assembly as original equipment and for spare parts orders
- No picking of individual parts and simplified logistics through ready-to-install cable carrier systems
- Delivery includes substructure or assembly brackets

Efficient design engineering

Precise and fast



Decrease your engineering times, accelerate your design processes, configure with original data directly from the manufacturer.

We are continuously investing in providing product-related data online to make your work easier. This allows you to access current product and CAD data already during the design engineering phase.

We are currently offering comprehensive technical information materials in three online tools which are partially interlinked.



Our web-based OnlineEngineer platform with worldwide 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.

For even more efficient use, the data portals of OnlineEngineer and CADENAS are linked. This allows you to quickly and easily download the suitable CAD model for your product configuration without having to exit OnlineEngineer.

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.

Electrical engineering with ePLAN

The ePLAN Data Portal is an integrated, web-based data platform for providing current device data of market-leading component manufacturers for direct use in project planning with the ePLAN software solution. For the internationally used project planning software ePLAN ELECTRIC P8, we have stored the corresponding data for our TRAXLINE® cables in the ePLAN Data Portal for download.

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Industry solutions

Our cable carrier systems have been deployed successfully in a variety of industries around the world for over 50 years. We now offer Standard applications as customized solutions, taylormade for the individual needs of your industry ex stock.

Your industry sector is not listed? Get in touch with us directly – our industry experts will be happy to help!



More information:
tsubaki-kabelschlepp.com/industries

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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
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

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