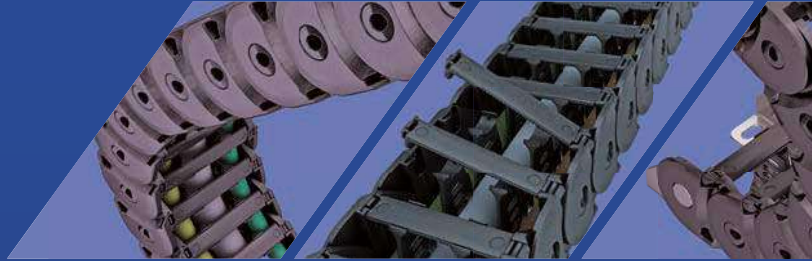**Innovation in Motion**

TSUBAKI

KABELSCHLEPP

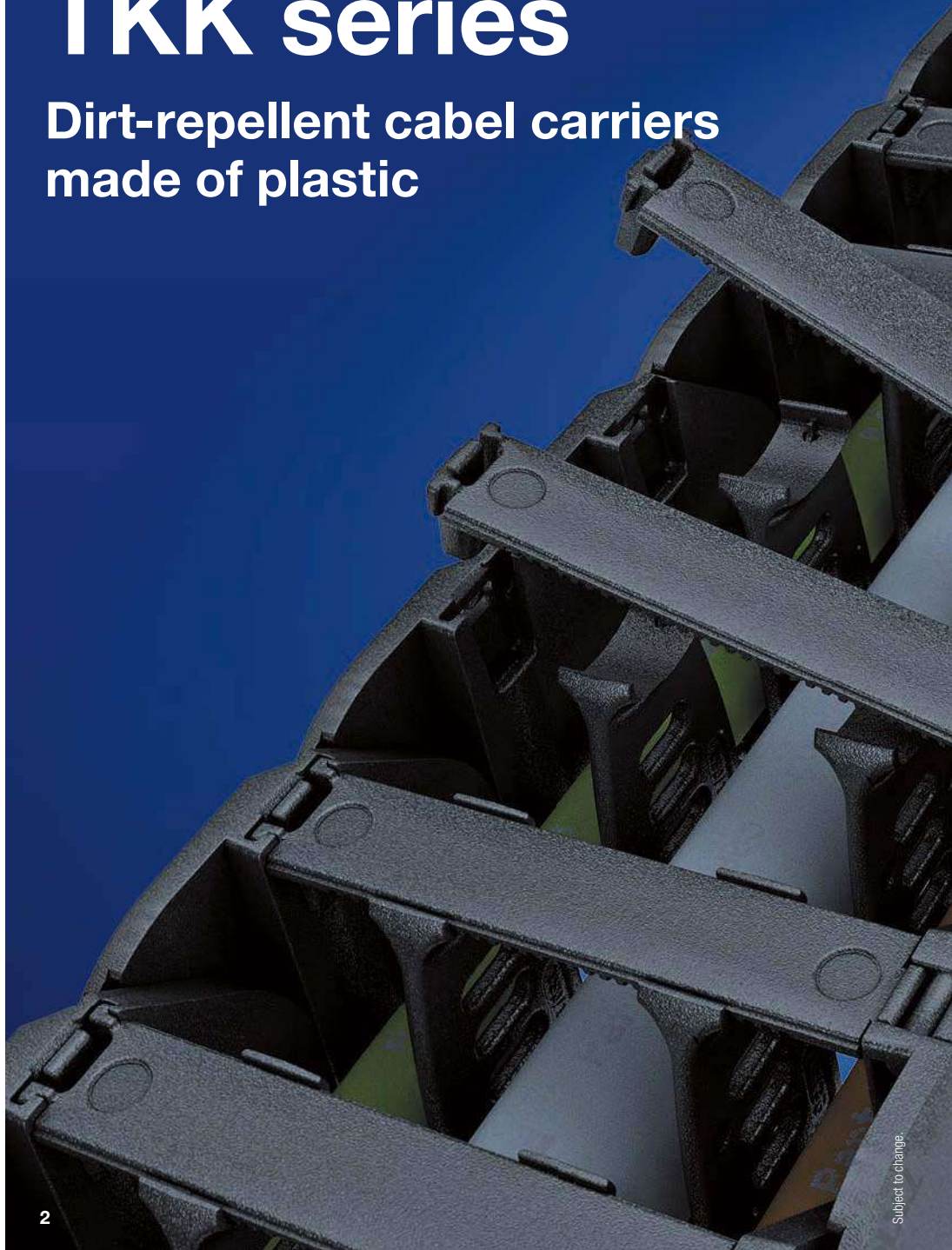# TKK series

CABLE CARRIER MADE OF PLASTIC

VERY SHORT END CONNECTORS

DIRT RESISTANT

TKK series

Dirt-repellent cabel carriers made of plastic

Subject to change.

Inner height
39 mm

Inner widths
74 mm

Pitch
39 mm

Additional load
up to 10 kg/m

Travel length unsupported
up to 5 m

Travel length gliding
up to 80 m

Travel speed
up to 3 m/s

Travel acceleration
up to 9 m/s^2

All technical data and features depend on application and type.
Let us know your requirements – we are here to help!

Fon: +49 2762 4003-0 or
E-mail: technik@kabelschlepp.de

Subject to change.

TKK | Overview

kabelschlepp.de/
tkk

Configure your cable carrier:
online-engineer.de

Technical support:
technik@kabelschlepp.de

online-engineer.de
Cable Carrier Configurator

Features

- High torsional rigidity
- Optimized dividers for cable protection: rounded inner and outer profile
- Extensive unsupported lengths
- New dirt-repellent construction of chain links as dust and chip protection
- Smooth surface for easy operation due

- Designs with closed frame and with inward opening crossbars
- Very short end connectors
- Fixable dividers
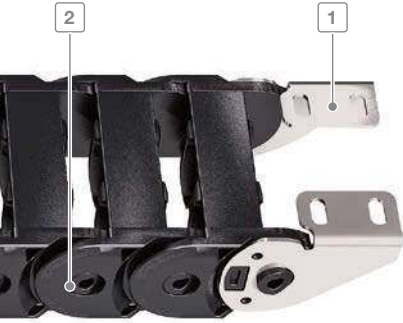- Optimized stroke system

Optimized dividers for cable protection

New construction of chain links. Repellent against dust and chips in the link design, dirt-repellent
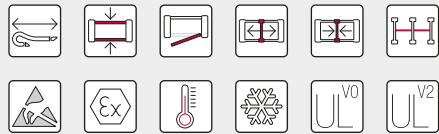

Very short end connectors

TKK | Overview
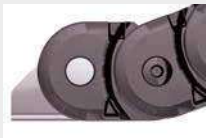
1 Very short end connectors made of steel

2 Chain links made of plastic

3 Extensive unsupported length

4 Repellent against dust and chips in the link design

5 Smooth surface for easy operation due

6 For inward opening (design 040)

7 Dividers and height separations for cable separation

Example of inner distribution

Inner heights

39

Inner widths

74

Key for abbreviations on page 22

Assembly instructions on kabelschlepp.de/assembly

Selection criteria for TKK

- Where an extensive unsupported length is required
- Where rigidity is required
- If the installation area is very restricted
- For dirty environmental conditions dor dirty environmental conditions (dirt resistant)
- If an optional divider fixing should be available (e.g. for cable carrier laying on its side)
- If a gliding arrangement should be optionally available

Type	h$_i$ [mm]	B$_i$ [mm]	t [mm]	Page
TKK39	39	74	39	8

Subject to change.

TKK39

Pitch
39 mm
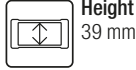
Height
39 mm

Width
74 mm

Bending radius
46 – 95 mm
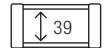
Stay variants

Design 020
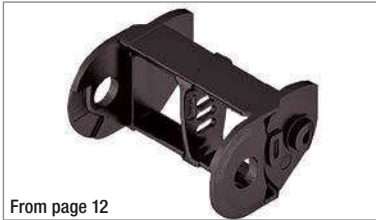
From page 12

Closed frame
- Weight-optimized, closed plastic frame with par-
  ticularly high torsional rigidity.

Opening options
outside/inside: Closed.
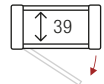
39

Design 040

From page 14

Frame with inside opening crossbars
- Weight-optimized plastic frame with particularly
  high torsional rigidity.
- Swivable crossbars on one side in any position.

Opening options
inside: Swivable.

39

Inner heights

39

Inner widths

74

Key for abbreviations on page 20

Assembly instructions on kabelschlepp.de/assembly

Order key on page 19

TKK

kabelschlepp.de/
tkk

Configure your cable carrier:
online-engineer.de

Technical support:
technik@kabelschlepp.de

online-engineer.de
Cable Carrier Configurator

TKK39 | Installation Dimensions | Unsupported
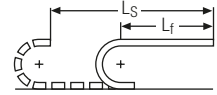
Unsupported arrangement
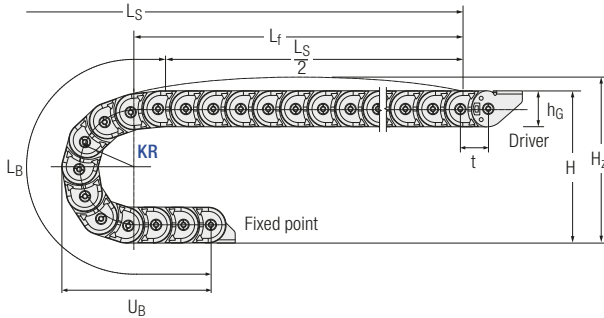
Unsupported length L_f

A sagging of the cable carrier is technically permitted for extended travel lengths, depending on the specific application.
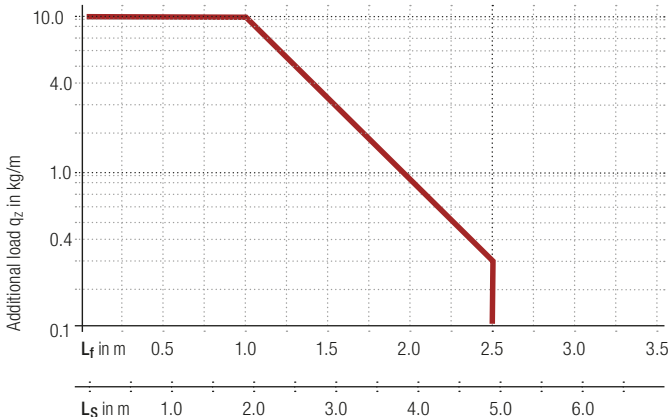
Dynamics of unsupported arrangement		t
v_{max} [m/s]	a_{max} [m/s²]	[mm]
3	9	39

Installation dimensions unsupported

KR [mm]	H [mm]	H_Z [mm]	L_B [mm]	U_B [mm]
46	142	172	222	149
58	166	196	260	161
70	190	220	298	173
95	240	270	376	198

Load diagram

for unsupported length depending on additional load

Intrinsic cable carrier weight q_k = 1.56 kg/m
For other inner widths the maximum additional load changes.

Calculating the cable carrier length

Cable carrier length L_k

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

Cable carrier length L_k rounded to pitch t
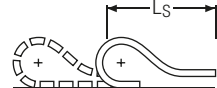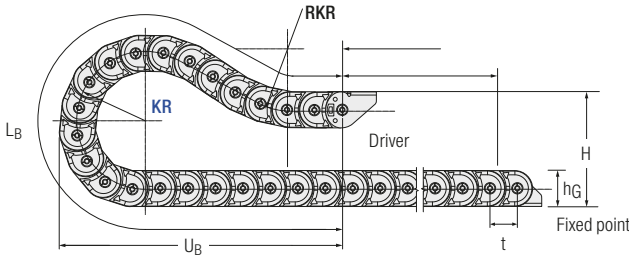
Unsupported length L_f

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

Fixed point offset L_v:
For off-center fixed point connections please contact us.

Subject to change.

TKK39 | Installation Dimensions | Gliding

Gliding arrangement

RKR

KR

L_B

Driver

U_B

H

h_G

Fixed point

t

L_S

+ +

For more information on gliding arrangement please contact us.

Dynamics of gliding arrangement		t
v_{max} [m/s]	a_{max} [m/s^2]	[mm]
2.5	9	39

Installation dimensions gliding with RKR links

KR [mm]	H [mm]	n_{RKR}	L_B [mm]	U_B [mm]
46	142	0	222	149
58	150	2	405	196
70	150	3	551	257
95	150	4	770	341

Connection height H is standard. Please contact us if you require other connection heights H. We will be happy to advise you. Optionally, the Online Engineer is always available for the calculation.

The gliding cable carrier has to be routed in a channel. Our engineers will be happy to help with project planning – please contact us.

Calculating the cable carrier length

Cable carrier length L_k

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

Cable carrier length L_k rounded to pitch t

TSUBAKI KABELSCHLEPP Technical Support

If you have any questions about determining gliding cable carriers or other technical details please contact our technical support service at technik@kabelschlepp.de. We will be happy to help you.

Configure your cable carrier:
online-engineer.de

Technical support:
technik@kabelschlepp.de

online-engineer.de
Cable Carrier Configurator

TKK39.020 | Overview

Stay variant 020 – closed frame

■ Weight-optimized plastic frame with particularly high torsional rigidity.

■ **Opening options outside/inside:** Closed.

Stay arrangement on every chain link **(VS)**

B$_i$ 74 mm

Ø 31.2 mm max.

B$_i$

B$_k$

10.5

h$_i$

h$_G$

KR

Calculating the cable carrier width

Outer width B$_k$

$$B_k = B_i + 21 \text{ mm}$$

The maximum cable diameter strongly depends on the bending radius and the desired cable type. Please contact us.

Information on the inner distribution of the cable carrier can be found on page 16 f.

Subject to change.

TKK39.020 | Dimensions · Technical Data

Pitch, inner height and chain link height

t [mm]	h_i [mm]	h_G [mm]
39	39	50

Bend radii

KR [mm]			
46	58	70	95

Inner/outer width and intrinsic cable carrier weight

B_i [mm]	B_k [mm]	q_k [kg/m]
74	95	1.56

Order example

TKK39	.	020	.	74	.	70	-	1950
Type		Stay variant		B_i [mm]		KR [mm]		L_K [mm]

TOTALTRAX® complete systems

Benefit from the advantages of a TOTALTRAX® complete system.
Complete delivery from a single source – with a guarantee certificate
on request! Learn more at kabelschlepp.de/totaltrax

TRAXLINE® cables in motion

Hi-flex electric cables which were especially developed, optimized
and tested for use in cable carriers can be found at traxline.de

Subject to change.

TKK39.040 | Overview

Stay variant 040 – with inside opening crossbar

- Weight-optimized plastic frame with particularly high torsional rigidity.
- Swivable crossbars on one side in any position.

- **Opening options inside:** Swivable.

	Stay arrangement on every chain link **(VS)**		B_i 74 mm

Ø 31.2 mm max.

h_i h_{iG} KR

B_i 10.5

B_k

Calculating the cable carrier width

Outer width B_k

$B_k = B_i + 21$ mm

The maximum cable diameter strongly depends on the bending radius and the desired cable type. Please contact us.

Information on the inner distribution of the cable carrier can be found on page 16 f.

Subject to change.

TKK39.040 | Dimensions · Technical Data

Pitch, inner height and chain link height

t [mm]	h_i [mm]	h_G [mm]
39	39	50

Bend radii

KR [mm]			
46	58	70	95

Inner/outer width and intrinsic cable carrier weight

B_i [mm]	B_k [mm]	q_k [kg/m]
74	95	1.56

Order example

TKK39	.	040	.	74	.	70	-	1950
Type		Stay variant		B_i [mm]		KR [mm]		L_K [mm]

Subject to change.

TKK39 | Inner Distribution | TS0

Divider systems

As standard, the divider system is assembled at each 2nd chain link.

As standard, dividers and the complete divider system (dividers with height separations) can be moved in the cross section **(version A).**

The dividers are easily attached to the stay for applications with transverse acceleration and for laterally recumbent applications.
The locking cams click into place in the locking grids in the crossbars **(version B)**.

Movable divider
Version A (Standard)
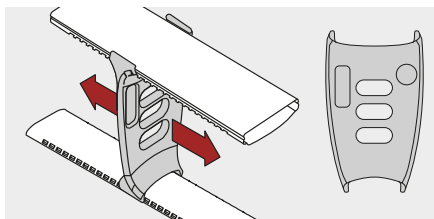
Fixable divider (2 mm grid)
Version B
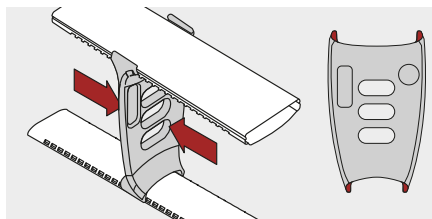
Divider system TS0 without height separation

S_T [mm]	W_f [mm]	Version A			Version B			
		$a_{TL}/a_{TR\,min}$ [mm]	$a_{x\,min}$ [mm]	$a_{c\,min}$ [mm]	$a_{TL}/a_{TR\,min}$ [mm]	$a_{x\,min}$ [mm]	$a_{c\,min}$ [mm]	$a_{x\,Raster}$ [mm]
3	10	5	10	7	5	10	7	2
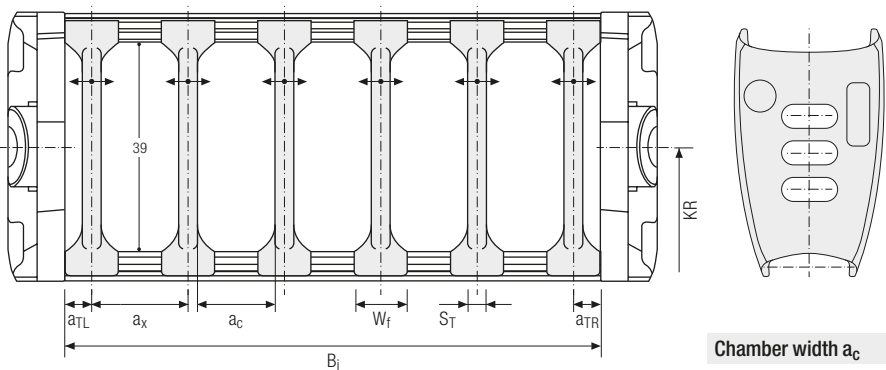
Chamber width a_c

$$a_c = a_x - S_T$$

ℹ For design 020, only version A can be used.

ℹ Information on the connection dimensions for the cable carrier can be found on page 18 f.

Divider system TS1 with continuous height separation

S_T [mm]	W_f [mm]	S_H [mm]	$n_{T\ min}$	Version A			Version B			
				$a_{T\ min}$ [mm]	$a_{X\ min}$ [mm]	$a_{C\ min}$ [mm]	$a_{T\ min}$ [mm]	$a_{X\ min}$ [mm]	$a_{C\ min}$ [mm]	$a_{X\ Raster}$ [mm]
3	10	4	2	5	10	7	5	10	7	2

Position of the partition(s) in the divider
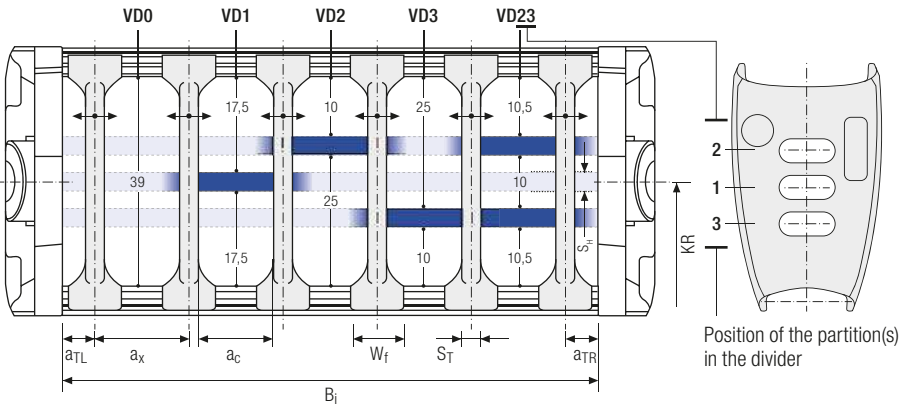
ℹ️ Standard height separation with **aluminum profile 11 × 4 mm**. The dividers can be moved in the cross section.

Chamber width a_c

$$a_C = a_X - S_T$$

ℹ️

TOTALTRAX® complete systems

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TRAXLINE® cables in motion

Hi-flex electric cables which were especially developed, optimized and tested for use in cable carriers can be found at **traxline.de**

More product information online

Assembly instructions etc.:
Receive additional info via your smartphone or check online at **kabelschlepp.de/support**

OnlineEngineer 2.2

Configure your custom cable carrier:
online-engineer.de

ℹ️ Information on the connection dimensions for the cable carrier can be found on page 18.

Subject to change.

TKK39 | End Connectors | End Connectors

One part end connectors – steel

The steel end connectors can be **connected from above or below**. The connection type can be changed by reconnecting the end connector.
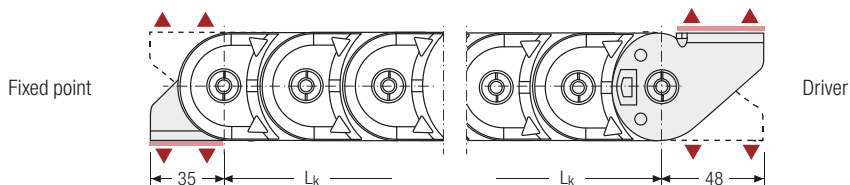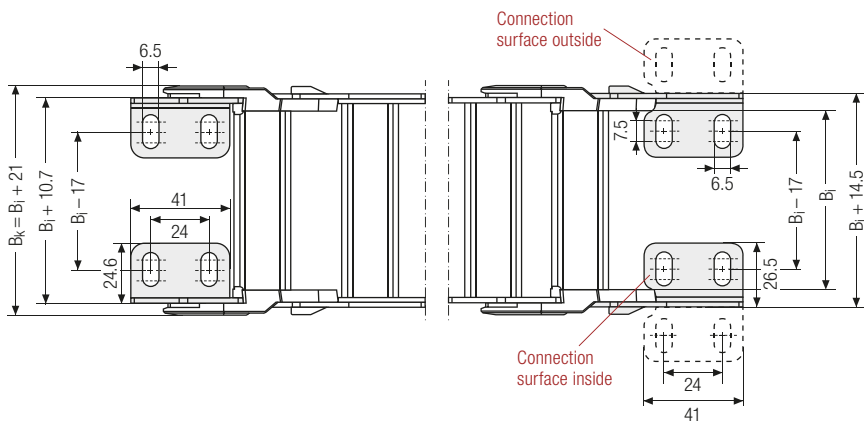
Fixed point

Driver

35 · L_k · L_k · 48

Connection surface outside

Connection surface inside

$B_k = B_i + 21$ · $B_i + 10.7$ · $B_i - 17$ · 24.6 · 41 · 24

7.5 · 6.5 · 6.5 · $B_i - 17$ · B_i · $B_i + 14.5$ · 26.5 · 24 · 41

TSUBAKI KABELSCHLEPP Technical Support

If you have any questions about determining gliding cable carriers or other technical details please contact our technical support service at technik@kabelschlepp.de. We will be happy to help you.

Connection variants

Driver

MAA

MII

FIA

Fixed point

FAI
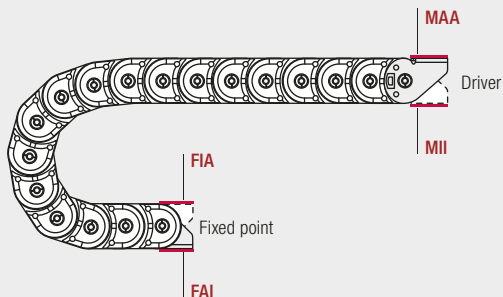
Connection point
F – fixed point
M – driver

Connection type
A – threaded joint outside (standard)
I – threaded joint inside

Connection surface
I – connection surface inside
A – connection surface outside

TKK

Inner heights

39

Inner widths

74

Key for abbreviations on page 20

Assembly instructions on kabelschlepp.de/assembly

Order key on page 19

Order

Cable carrier

Type		Stay variant		B$_i$ [mm]		KR [mm]		L$_K$ [mm]
						46		
						58		
		020				70		
TKK39		040		74		95		
▼		▼		▼		▼		▼
TKK39	.	020	.	74	.	70	-	1950
Type		Stay variant		B$_i$ [mm]		KR [mm]		L$_K$ [mm]

Divider system

Divider system		Version		n$_T$		Height separation (not for TS0)
TS0				min. 2		VD0
TS1		A		...		...
▼		▼		▼		▼
TS1	.	A	.	2	-	VD0
						⋮
					-	VD1
Divider system		Version		n$_T$		Height separation

ⓘ Please state the designation of the divider system **(TS0, TS1)**, version and number of dividers per cross section [n$_T$].

Connection variant

End connector		Connection point	Connection type	Connection surface
		F	A	I
End connector		M	I	A
▼		▼	▼	▼
End connector	.	F	I	A
End connector	.	M	A	I

ⓘ Please state the desired connection variant as well as the desired strain relief type for the fixed point and for the driver.

TKK | General abbreviations

General abbreviations

a_c = nominal width inner chamber

a_{max} = max. travel acceleration

a_{TL} = distance lateral tabs inside to center of first divider

a_{TR} = distance lateral tabs inside to center of last divider

a_x = divider center to center distance

b_1 = inner width of guide channel

b_A = distance between connection boreholes

B_{EF} = overall width of cable carrier incl. attachments

B_i = inner width

B_k = outer width

B_{KA} = outer width of guide channel

B_p = width of hole stay inserts

B_{St} = stay width

c = distance between hole stay bores

d = diameter

D = bore diameter

d_R = pipe diameter

H = connection height

h_G = chain link height

$h_{G'}$ = chain link height incl. glide shoe

h_i = inner height

H_i = inner height of frame stay assembly

h_{KA} = outer height of guide channel

HS = half-stayed

H_z = installation height

KR = bending radius

l_1 = connection length

l_{2-5} = connection dimensions

l_A = length of end connector

L_B = length of carrier in bend

L_D = length of permitted sag

L_f = unsupported length

L_{ES} = length of energy conduit

L_k = cable carrier length without connection

L_S = travel length

L_V = fixed point offset

n_p = number of hole stay inserts

n_{RKR} = number of RKR links

n_T = number of dividers

n_Z = number of comb teeth for strain relief

q_k = intrinsic cable carrier weight

q_z = additional load

RKR = reverse bending radius

s = sheet metal thickness

S_H = thickness of height separation

S_T = thickness of divider

t = pitch

U_B = loop overhang

VD = position of continuous height separations in divider

VR = position of partial height separations in divider

v_{max} = max. travel speed

VS = fully-stayed

W_f = base width of divider

z = pretension

Definitions

Driver view = view into the driver connection

TKK | Pictographs

Pictographs

inner height

inner width

inner width (B$_i$)
in x mm increments

X mm

pitch

bending radius

long travel length

travel length unsupported

travel length gliding

high additional load

high travel acceleration

high travel velocity

stay arrangement on
every 2nd chain link

stay arrangement on
every chain link

cannot be opened

opens outward

opens inward

opens inward/outward

covered cable carrier

sliding dividers

fixable dividers

fixable dividers
in x mm grid

X mm

height separation possible

height separation
in 1 mm increments

1 mm

hole stay available

guide channel required

strain relief

clean room suitable

quiet running/low noise

sold by the meter

ESD material

suitable for explosive
atmospheres

heat-resistant

cold-resistant

resistant to hot chips

flame-resistant V0
(UL94)

flame-resistant V2
(UL94)

order code

important information