Innovation in Motion

TSUBAKI

KabelSchlepp

EasyTrax® series

PLASTIC CABLE CARRIERS

EASY INSTALLATION

WITH LAMELLA

TWO-COMPONENT TECHNOLOGY

2K

EasyTrax® series

Extremely fast cable laying thanks to easy cable insertion

Fraunhofer IPA TESTED® DEVICE
KABELSCHLEPP GmbH
ET.0320.030.038.038
Report No. KA 1008-531

TSUBAKI ECO LINK

Inner heights
4.6 – 31 mm

Inner 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 80 m

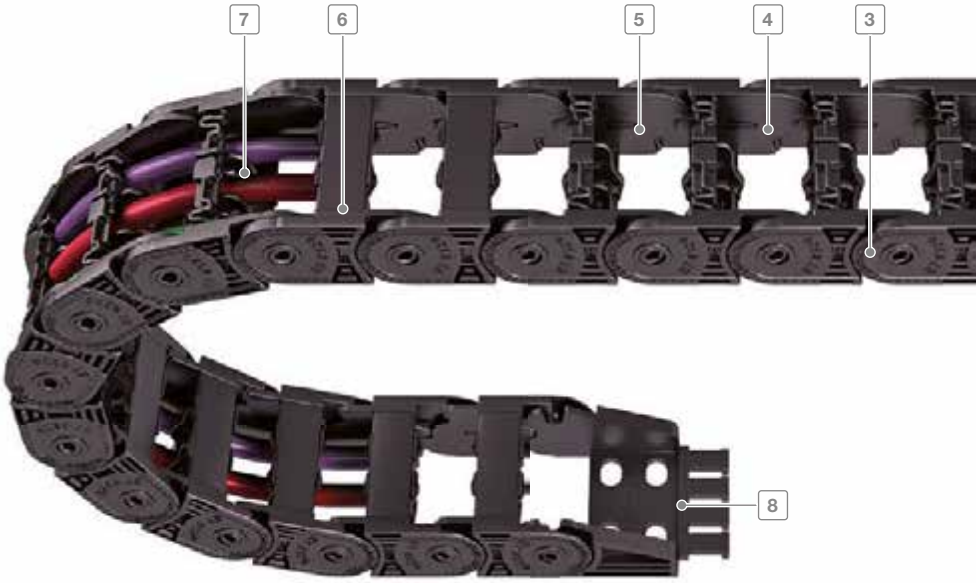
Travel speed
up to 10 m/s

Travel acceleration
up to 50 m/s^2

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

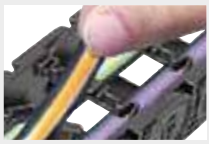
Fon: +49 (0) 2762 4003-0 or
e-mail: technik@kabelschlepp.de

EasyTrax® | Overview



Features

- Extremely fast cable laying thanks to easy cable insertion
- Very high fill level due to the crossbar pivoting to the side – crossbars do not pivot into the cable space
- Each chain link consists of two different materials:
  - Hard cable carrier body made of glass fiber-reinforced material
  - Crossbar with flexible film hinge made of elastic special plastic
- Sturdy chain design
- High torsional rigidity
- Extensive unsupported length
- Extremely low noise due to integrated noise damping



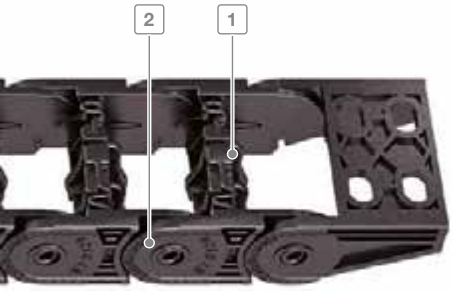
Fast and easy installation of cables and hoses

Very high filling level

High side stability

Divider systems for reliable cable separation

EasyTrax® | Overview



Example of inner distribution

1 Sturdy two-component design: hard cable carrier body, flexible film hinge
2 Chain links made of plastic
3 Extensive unsupported length
4 Inside space is gentle on the cables – no interfering edges
5 Extremely low noise due to integrated noise damping
6 For inside/outside opening
7 Dividers for cable separation
8 Single-part end connectors with and without integratable strain relief

Selection criteria for EasyTrax®

- Where extremely fast cable laying is required
- For high fill levels
- Where an extensive unsupported length is required
- Where rigidity is required
- For low noise applications

Type	h_i [mm]	B_i [mm]	t [mm]	Page
ET0115	4.6	7	11.5	8
ET0180	11.9	40	18	14
ET0320	18	15 – 65	32	24
ET0350	31	50	35	38
ET1455	25	78	45.5	48

Subject to change.

EasyTrax® | Overview

Cable carrier design

Solid plastic cable carriers: side bands and end connectors made of plastic

Each chain link consists of two different materials:

- Hard cable carrier body made of glass fiber-reinforced material
- Flexible lamella crossbars made of elastic plastic

The two-component technology

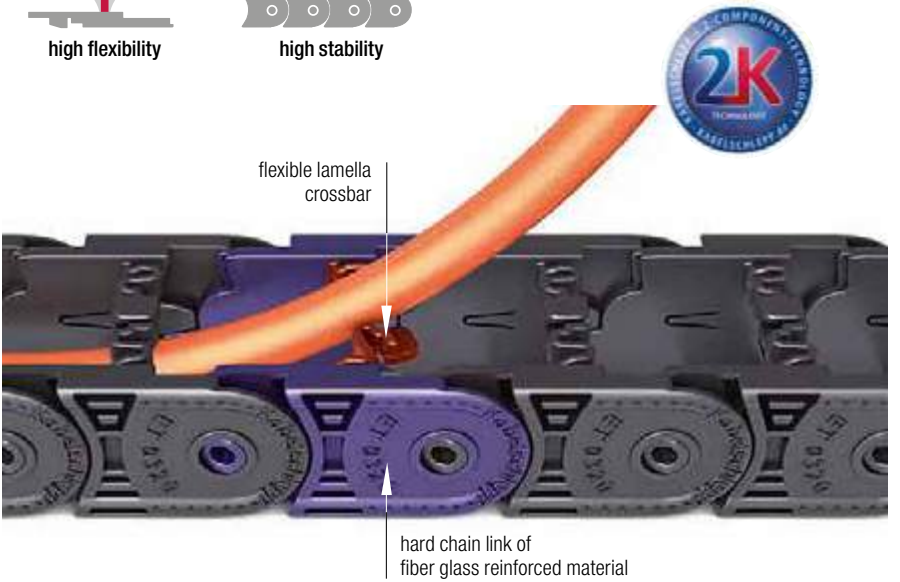
The two-component technology of the EasyTrax® combines two seemingly incompatible features: **stability and flexibility**.

Cable carriers need to be extremely sturdy, with extensive unsupported length. At the same time, cables need to be inserted easily for fast cable laying.

The EasyTrax® meets these requirements thanks to its innovative design and material combination of a hard cable carrier body made from fiber glass reinforced material and crossbars with lamella crossbars made of elastic plastic.

high flexibility

high stability

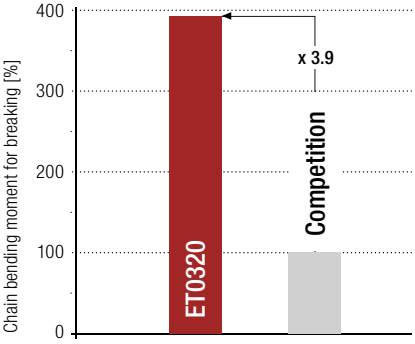


EasyTrax® | Comparison Test

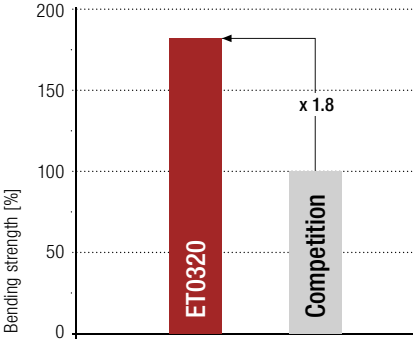
Comparison of dimensions

Manufacturer	h_i [mm]	h_G [mm]	t [mm]	Identical connection hole pattern
ET0320	18	25.5	32	yes
Competitive product	19	25	30.5	yes

Comparison of bending moment

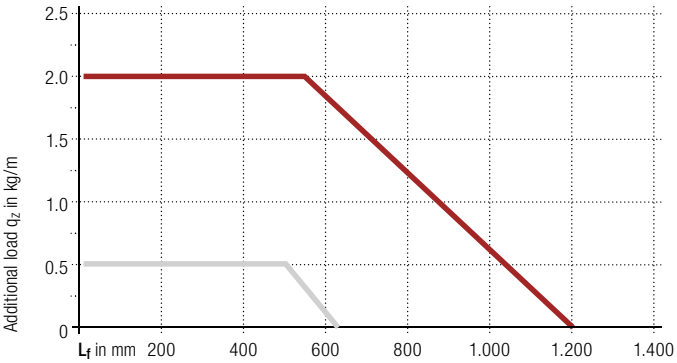


Comparison of bending strength

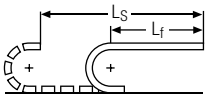


Load diagram

for unsupported length depending on additional load



Unsupported length L_f



ET0320
Competitive product

Advantages over competitive product

- 4 times bigger additional load compared to competitive product
- Double unsupported length compared to competitive product
- Faster cable laying at a higher utilization faktor
- Low noise operation due to internal damping system
- High side stability through locking in the stroke system
- Dividers can be used for cable separation

Inner heights
4.6 – 25
Inner widths
7 – 78
Key for abbreviations on page 60
Assembly instructions on kabelschlepp.de/assembly

ET0115

Pitch 11.5 mm

Height 4.6 mm

Width 7 mm

Bending radius 10 mm

Stay variants

Design 040

From page 10

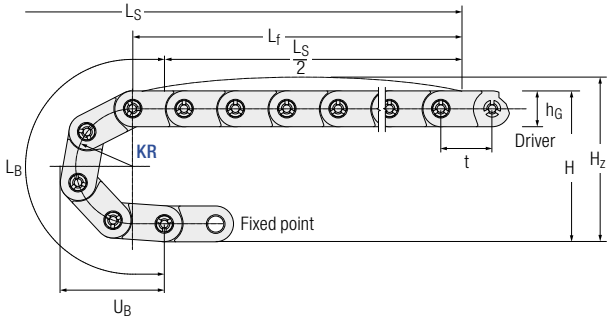
Frame with lamella crossbars in the inner radius
- Weight-optimized plastic frame with particularly high torsional rigidity.
- Swivable on one side in any position.

Opening options
inside: Swivable.

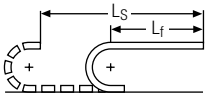
Technical data on p. 9

ET0115 | 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.

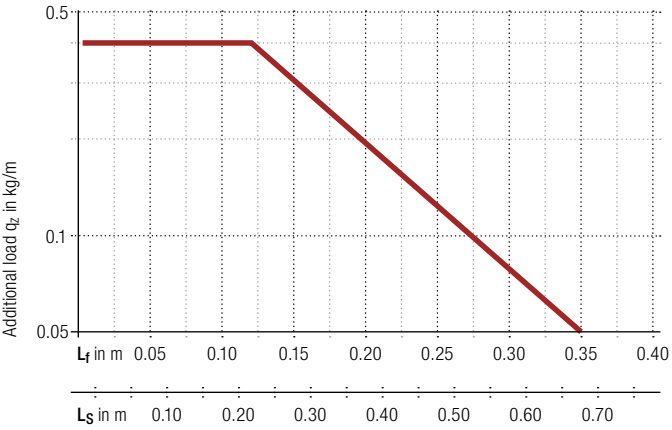
Dynamics of unsupported arrangement		t
v_{max} [m/s]	a_{max} [m/s²]	[mm]
3	10	11.5

Installation dimensions unsupported

KR [mm]	H [mm]	H_Z [mm]	L_B [mm]	U_B [mm]
10	28	38	54.5	25.5

Load diagram

for unsupported length depending on additional load



Intrinsic cable carrier weight q_k = 0.044 kg/m with B_i 7 mm.
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.

Inner heights 4.6
Inner widths 7
Key for abbreviations on page 60
Assembly instructions on kabelschlepp.de/assembly
Order key on page 13

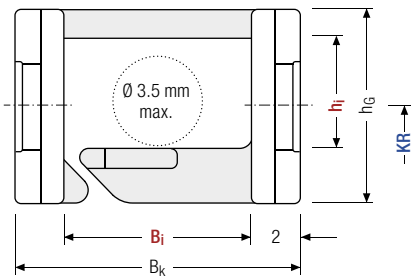
ET0115.040 | Overview

Stay variant 040 – with lamella crossbars in the inner radius

- Weight-optimized plastic frame with particularly high torsional rigidity.
- Swivable on one side in any position.
- **Opening options inside:** Swivable.

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

B_i 7 mm



Calculating the cable carrier width

Outer width B_k

$B_k = B_i + 4$ mm

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

ET0115.040 | Dimensions · Technical Data

Pitch, inner height and chain link height

t [mm]	h_i [mm]	h_G [mm]
11.5	4.6	8

Bend radii

KR [mm]
10

Inner/outer width and intrinsic cable carrier weight

B_i [mm]	B_k [mm]	q_k [kg/m]
7	11	0.044

Order example

ET0115	.	040	.	7	.	10	-	1.280
Type		Stay variant		B_i [mm]		KR [mm]		L_K [mm]

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

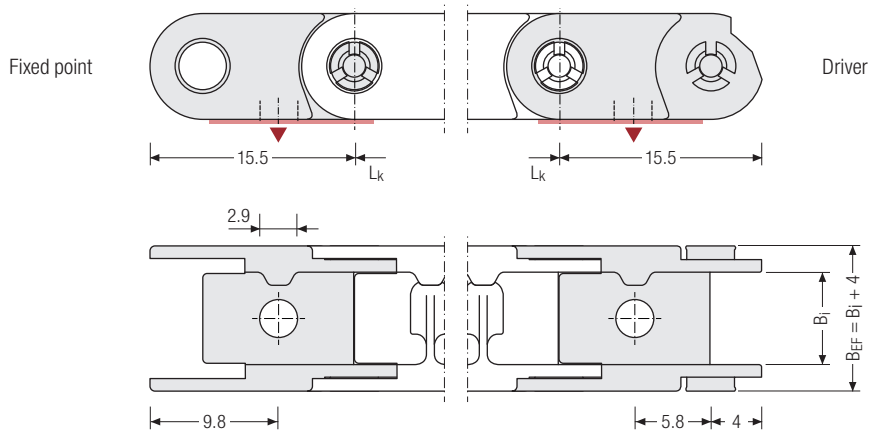
Assembly instructions etc.: Receive additional info via your smartphone or check online at **kabelschlepp.de/support**

Configure your custom cable carrier: **onlineengineer.de**

Information on the connection dimensions for the cable carrier can be found on page 12 f.

End connectors – plastic

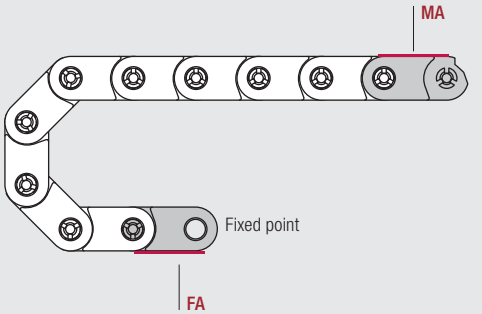
The plastic end connectors can be **connected from above or below**.



▲ Assembly options

The end connectors can be swiveled in KR direction.

Connection variants



Connection point
F – fixed point
M – driver

Connection type
A – threaded joint outside (standard)

ET0115 | Order Key

Order

Cable carrier

Type	Stay variant	B_i [mm]	KR [mm]	L_K [mm]
ET0115	040	7	10	

ET0115	.	040	.	7	.	10	-	276
Type		Stay variant		B_i [mm]		KR [mm]		L_K [mm]

International order specification INTOK: Information about the International Order Key can be found in the chapter “International Order Key” from page 1.

Connection variant

End connector	Connection point	Connection type
	F	A
End connector	M	A

End connector	.	F	A
End connector	.	M	A

ET0180

Teilung
18 mm

Höhe
11,9 mm

Breite
40 mm

Krümmungs-radius
28 – 50 mm

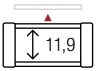
Stegbauarten

Bauart 030

Ab Seite 18

Rahmen mit Lamellenbügeln im Außenradius
- Gewichtsoptimierter Kunststoffrahmen mit besonders hoher Torsionssteifigkeit.
- Lamellen einseitig an beliebiger Position schwenkbar.

Öffnungsmöglichkeiten
Außen: Schwenkbar.



Technische Daten auf S. 16

Änderungen vorbehalten.

Bestellschlüssel auf Seite 22

Montagehinweise auf kabelschlepp.de/montage

Legende für Kurzzeichen auf Seite 60

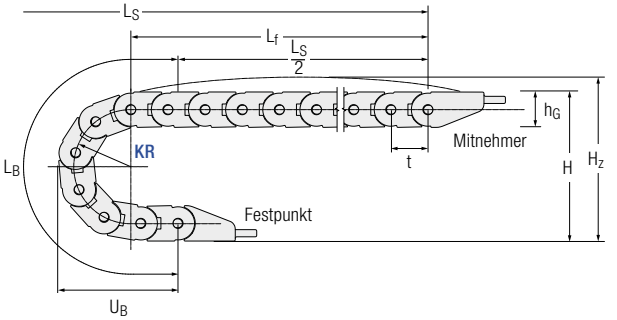
40 Innenbreiten

11,9 Innenhöhen

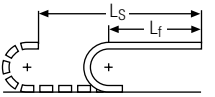
EasyTrax®

ET0180 | Einbaumaße | Freitragend

Freitragende Anordnung



Freitragende Länge L_f



Bei längeren Verfahrwegen ist ein Durchhang der Energieführung je nach Einsatzfall technisch zulässig.

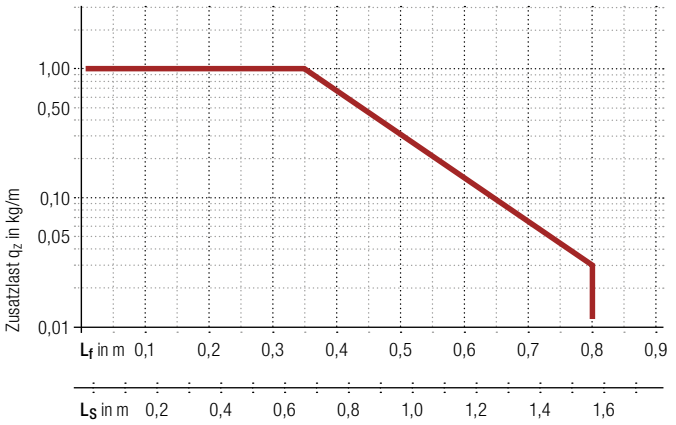
Dynamik bei freitragender Anordnung		t
v_{max} [m/s]	a_{max} [m/s²]	[mm]
10	50	18

Einbaumaße freitragend

KR [mm]	H [mm]	H_z [mm]	L_B [mm]	U_B [mm]
28	74	89	124	55
37	92	107	153	64
50	118	133	194	77

Belastungsdiagramm

für freitragende Länge in Abhängigkeit von der Zusatzlast



Ketteneigengewicht $q_k = 0{,}25$ kg/m bei B_i 10 mm.
Bei abweichender Innenbreite verändert sich die maximale Zusatzlast.

Berechnung der Kettenlänge

Kettenlänge L_k

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

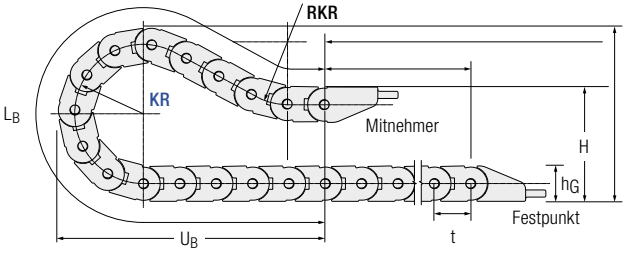
Kettenlänge L_k aufgerundet auf Teilung t

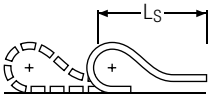
Freitragende Länge L_f

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

Festpunktversatz L_V: Bei außermittigem Festpunktanschluss sprechen Sie uns bitte an.

Gleitende Anordnung





Für weitere Informationen zur gleitenden Anordnung sprechen Sie uns bitte an.

Dynamik bei gleitender Anordnung		t
v_{max} [m/s]	a_{max} [m/s²]	[mm]
3	30	18

Die gleitende Energieführung muss in einem Kanal geführt werden. Unsere Techniker unterstützen Sie gerne bei der Projektierung – sprechen Sie uns an.

Berechnung der Kettenlänge

Kettenlänge L_K

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

Kettenlänge L_K aufgerundet auf Teilung t

TSUBAKI KABELSCHLEPP Beratungsservice

Bei Fragen zur Auslegung gleitender Energieführungen oder technischen Details, nehmen Sie doch einfach unsere technische Beratung unter technik@kabelschlepp.de in Anspruch. Wir helfen Ihnen gerne.

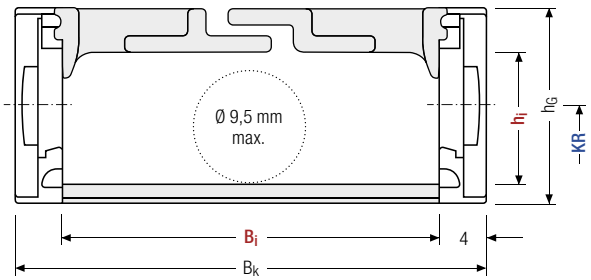
ET0180.030 | Übersicht

Stegbauart 030 – mit Lamellenbügeln im Außenradius

- Gewichtsoptimierter Kunststoffrahmen mit besonders hoher Torsionssteifigkeit.
- Lamellen einseitig an beliebiger Position schwenkbar.
- **Öffnungsmöglichkeiten Außen:** Schwenkbar.

Steganordnung an jedem Kettenglied **(VS)**

B_i von 40 mm



Berechnung der Kettenbreite

Außenbreite B_k

$B_k = B_i + 8$ mm

Der maximale Leitungsdurchmesser ist stark abhängig vom Krümmungsradius und dem gewünschten Leitungstyp. Bitte sprechen Sie uns an.

ET0180.030 | Abmessungen · Technische Daten

Teilung, Innenhöhe und Kettengliedhöhe

t [mm]	h_i [mm]	h_G [mm]
18	11,9	18

Krümmungsradien

KR [mm]		
28	37	50

Innen-, Außenbreite und Ketteneigengewicht

B_i [mm]	B_K [mm]	q_K [kg/m]
40	48	0,27

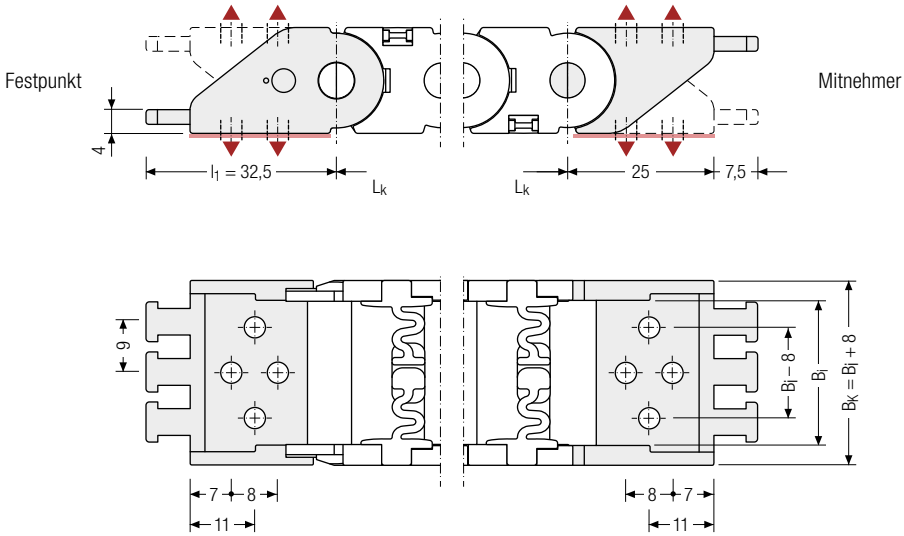
Bestellbeispiel

ET0180	.	030	.	40	.	37	-	720
Typenreihe		Stegbauart		B_i [mm]		KR [mm]		L_K [mm]

ET0180 | Anschlusselemente | Anschlusswinkel

Einteilige Anschlusswinkel – Kunststoff (mit integrierter Zugentlastung)

Die Anschlusswinkel aus Kunststoff lassen sich von **oben oder unten anschließen**. Die Anschlussart kann durch Umstecken des Anschlusswinkels geändert werden.



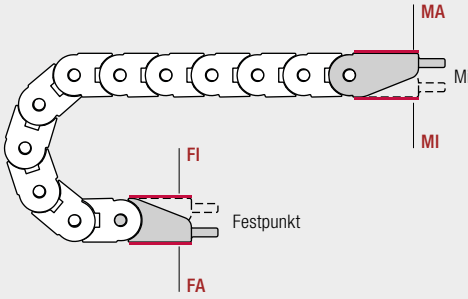
B_i [mm]	B_k [mm]	n_z
40	48	4

▲ Montagemöglichkeiten

Die Anschlusswinkel sind nicht schwenkbar.

Für beengte Einbauverhältnisse sind auch kurze Anschlussstücke ohne Zugentlastung verfügbar. Bitte sprechen Sie uns an.

Anschlussvarianten

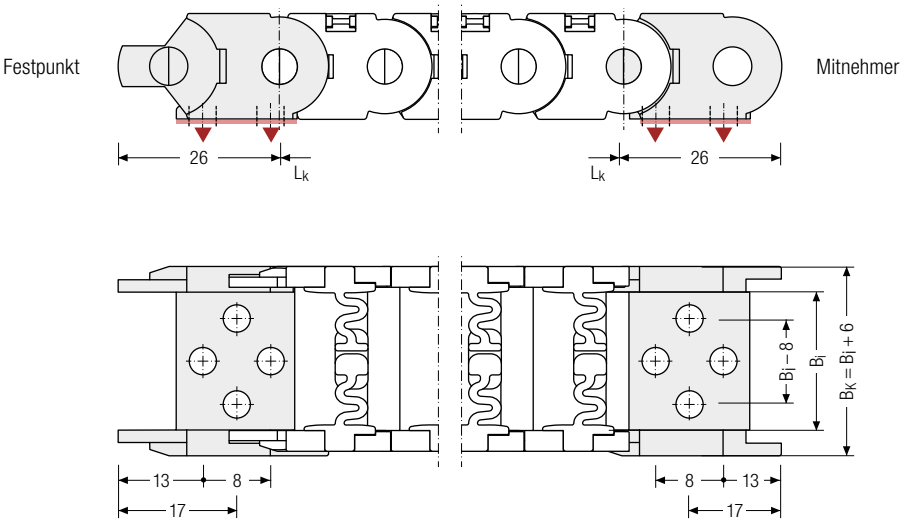


Anschlusspunkt
F – Festpunkt
M – Mitnehmer

Anschlussart
A – Verschraubung nach außen (Standard)
I – Verschraubung nach innen

Einteilige Anschlussstücke – Kunststoff

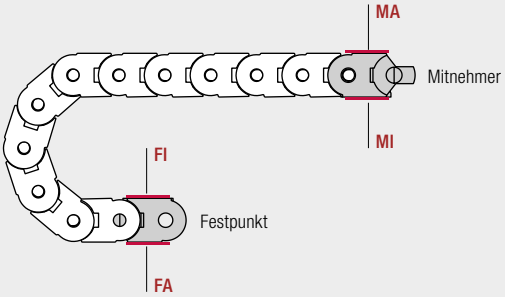
Die Anschlussstücke aus Kunststoff lassen sich von **oben oder unten anschließen**. Die Anschlussart kann durch Umstecken des Anschlussstücks geändert werden.



▲ Montagemöglichkeiten

Die Anschlussstück sind nicht schwenkbar.

Anschlussvarianten



Anschlusspunkt
F – Festpunkt
M – Mitnehmer

Anschlussart
A – Verschraubung nach außen (Standard)
I – Verschraubung nach innen

ET0180 | Bestellschlüssel

Bestellung

Energieführung

Typenreihe	Stegbauart	B_i [mm]	KR [mm]	L_K [mm]
			28	
			37	
ET0180	030	40	50	

ET0180	.	030	.	40	.	37	-	720
Typenreihe		Stegbauart		B_i [mm]		KR [mm]		L_K [mm]

Internationale Bestellbezeichnung intOK:
Hinweise zum International Order Key finden Sie im Kapitel „International Order Key“ ab Seite 1.

Anschlussvariante

Anschlusselement	Anschlusspunkt	Anschlussart
	F	A
Anschlusswinkel	M	I

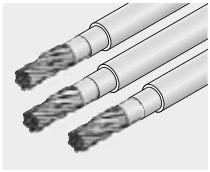
Anschlusswinkel	.	F	A
Anschlusswinkel	.	M	A

Bitte geben Sie die gewünschte Anschlussvariante sowie die gewünschte Zugentlastungsart sowohl für den Festpunkt, als auch für den Mitnehmer an.

Zubehör

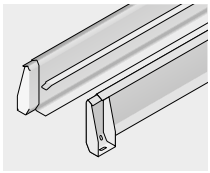
TRAXLINE® Leitungen für Energieführungen

Hochflexible Elektroleitungen, die speziell für den Einsatz in Energieführungsketten entwickelt, optimiert und getestet wurden.



Führungskanäle

Bei gleitenden Anwendungen muss die Energieführung zwingend in einem Kanal geführt werden. Ein Abrutschen des Ober- vom Untertrum wird verhindert.



TOTALTRAX® Komplettsysteme

Profitieren Sie von den Vorteilen eines TOTALTRAX®-Komplettsystems. Eine Komplettlieferung aus einer Hand – auf Wunsch mit Garantiezertifikat! Erfahren Sie mehr unter **kabelschlepp.de/totaltrax**

Weitere Produktinformationen online

Montageanleitungen uvm.:
Mehr Infos auf Ihrem Smartphone oder unter
kabelschlepp.de/support

Konfigurieren Sie hier Ihre Energieführungskette:
onlineengineer.de

ET0320 | Stay Variants | Overview

ET0320

Pitch 32 mm

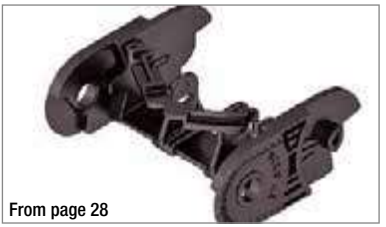
Height 18 mm

Width 15 – 65 mm

Bending radius 28 – 125 mm

Stay variants

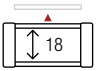
Design 030



From page 28

Frame with lamella crossbars in the outer radius
- Weight-optimized plastic frame with particularly high torsional rigidity.
- Swivable slats on one side in any position.

Opening options
outside: Swivable.

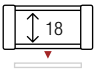


Design 040

From page 30

Frame with lamella crossbars in the inner radius
- Weight-optimized plastic frame with particularly high torsional rigidity.
- Swivable slats on one side in any position.

Opening options
inside: Swivable.

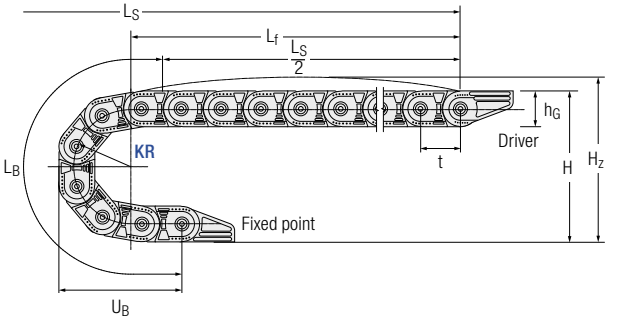


Technical data on p. 26

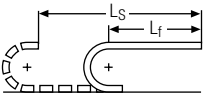
Subject to change.

ET0320 | 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.

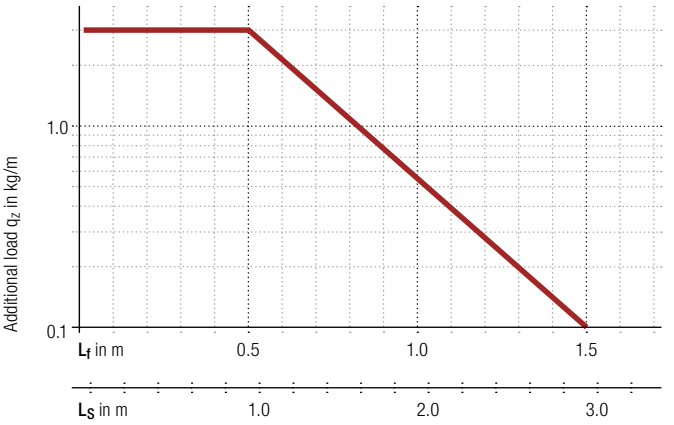
Dynamics of unsupported arrangement		t
v_{max} [m/s]	a_{max} [m/s²]	[mm]
10	50	32

Installation dimensions unsupported

KR [mm]	H [mm]	H_Z [mm]	L_B [mm]	U_B [mm]
28	81.5	101.5	152	73
38	101.5	121.5	184	83
48	121.5	141.5	215	93
75	175.5	195.5	300	120
100	225.5	245.5	379	145
125	275.5	295.5	457	170

Load diagram

for unsupported length depending on additional load



Intrinsic cable carrier weight q_k = 0.40 kg/m with B_i 38 mm.
For other inner widths the maximum additional load changes.

Calculating the cable carrier length

Cable carrier length L_k

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

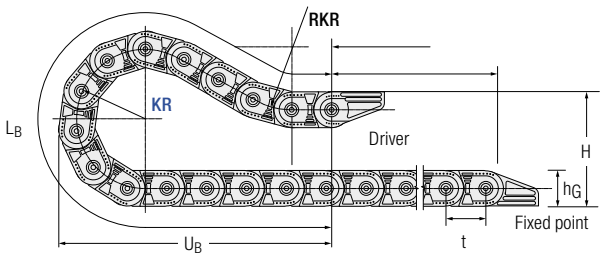
Cable carrier length L_k rounded to pitch t

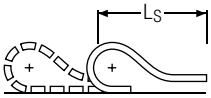
Unsupported length L_f

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

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

Gliding arrangement





For more information on gliding arrangement please contact us.

Only design 030 may be used for gliding arrangements.

Dynamics of gliding arrangement		t
v_{max} [m/s]	a_{max} [m/s²]	[mm]
2.5	25	32

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.

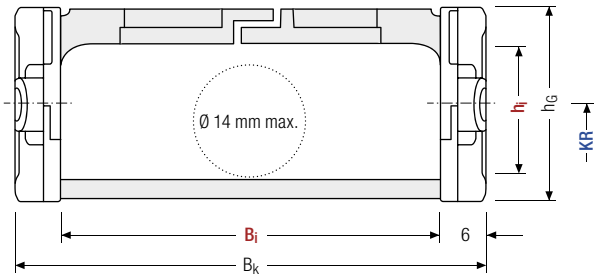
ET0320.030 | Overview

Stay variant 030 – with lamella crossbars in the outner radius

- Weight-optimized plastic frame with particularly high torsional rigidity.
- Swivable slats on one side in any position.
- **Opening options outside:** Swivable.

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

B_i from 15 – 65 mm



Calculating the cable carrier width

Outer width B_k

$B_k = B_i + 12$ 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 32 f.

ET0320.030 | Dimensions · Technical Data

Pitch, inner height and chain link height

t [mm]	h_i [mm]	h_G [mm]
32	18	25.5

Bend radii

KR [mm]					
28	38	48	75	100	125

Inner/outer width and intrinsic cable carrier weight

B_i [mm]	B_K [mm]	q_K [kg/m]
15	27	0.35
25	37	0.38
38	50	0.40
50	62	0.43
65	77	0.45

Order example

ET0320	.	030	.	50	.	100	-	1.280
Type		Stay variant		B_i [mm]		KR [mm]		L_K [mm]

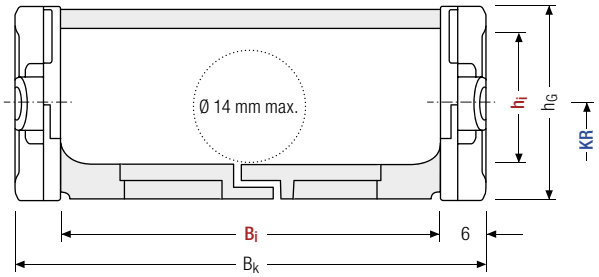
ET0320.040 | Overview

Stay variant 040 – with lamella crossbars in the inner radius

- Weight-optimized plastic frame with particularly high torsional rigidity.
- Swivable slats on one side in any position.
- **Opening options inside:** Swivable.

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

B_i from 15 – 65 mm



Calculating the cable carrier width

Outer width B_k

$B_k = B_i + 12$ mm

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

Design 040 is not suitable for gliding arrangement.

Information on the inner distribution of the cable carrier can be found on page 32 f.

ET0320.040 | Dimensions · Technical Data

Pitch, inner height and chain link height

t [mm]	h_i [mm]	h_G [mm]
32	18	25.5

Bend radii

KR [mm]					
28	38	48	75	100	125

Inner/outer width and intrinsic cable carrier weight

B_i [mm]	B_K [mm]	q_K [kg/m]
15	27	0.35
25	37	0.38
38	50	0.40
50	62	0.43
65	77	0.45

Order example

ET0320	.	040	.	50	.	100	-	1.280
Type		Stay variant		B_i [mm]		KR [mm]		L_K [mm]

ET0320 | Inner Distribution | TS0

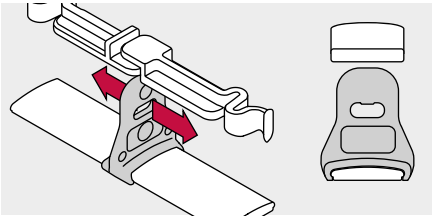
Divider systems

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).**

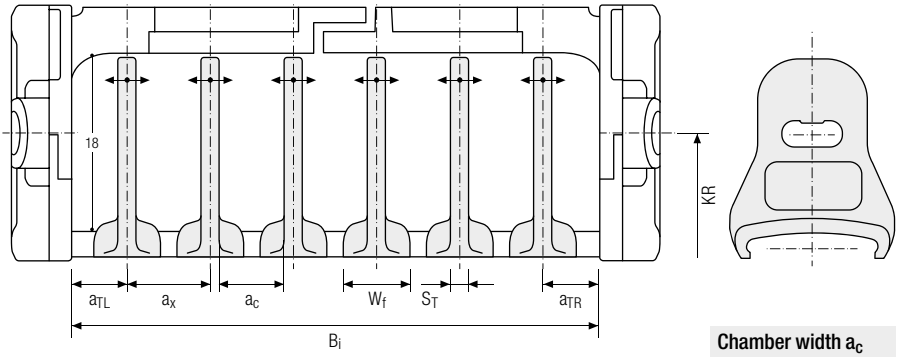
Movable divider

Version A



Divider system TS0 without height separation

Version A				
S_T [mm]	W_f [mm]	$a_{TL}/a_{TR\ min}$ [mm]	$a_{x\ min}$ [mm]	$a_{c\ min}$ [mm]
2	8	4	8	6



Chamber width a_c

$a_c = a_x - S_T$

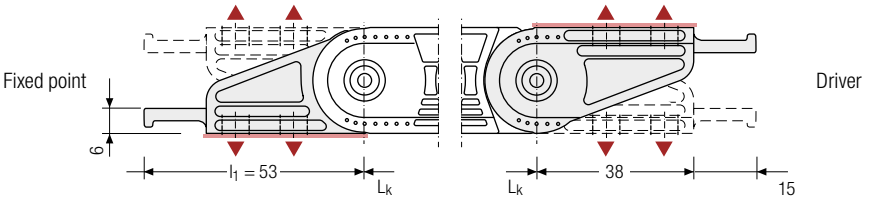
Information on the connection dimensions for the cable carrier can be found on page 34 f.

Subject to change.

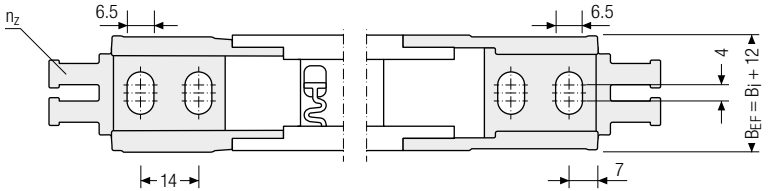
ET0320 | End Connectors | End Connectors

One part end connectors – plastic (with integrated strain relief)

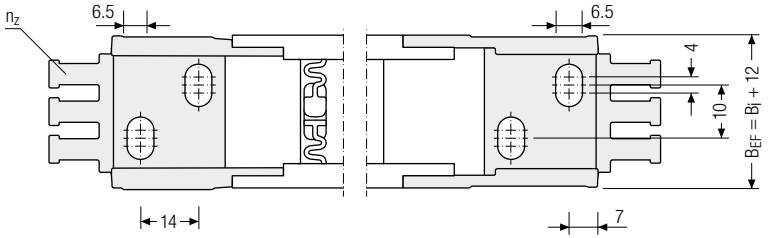
The plastic end connectors can be **connected from above and below**. The connection type can be changed by reconnecting the end connector.



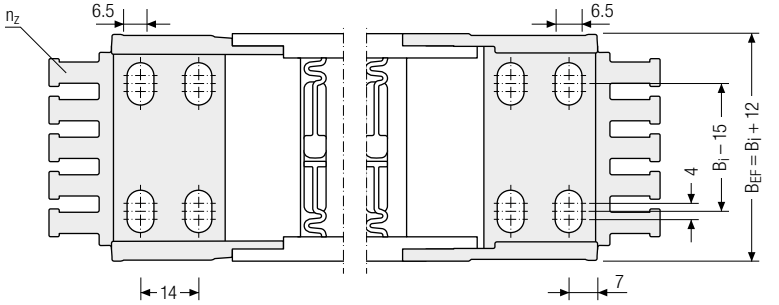
Bi: 15



Bi: 25



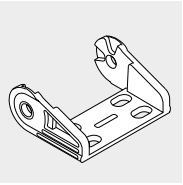
Bi: 38/50/65



▲ Assembly options

One part end connectors – plastic (with integrated strain relief)

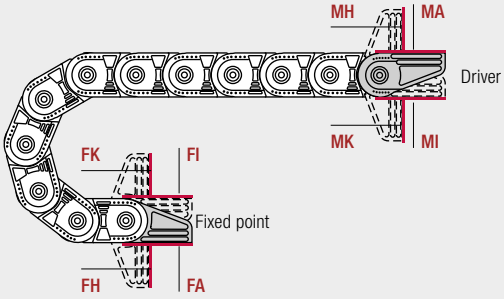
B_i [mm]	B_{EF} [mm]	n_z
15	27	2
25	37	3
38	50	4
50	62	5
65	77	6



The connecting elements are also available as an option **without** integrated strain relief. Please state when ordering.

The end connectors cannot be swiveled.

Connection variants



Connection point
- F – fixed point
- M – driver

Connection type
- A – threaded joint outside (standard)
- I – threaded joint inside
- H – threaded joint outside rotated by 90°
- K – threaded joint inside rotated by 90°

ET0320 | Order Key

Order

Cable carrier

Type	Stay variant	B_i [mm]	KR [mm]	L_K [mm]
ET0320	030	15	28	
	040	25	38	
		38	48	
		50	75	
		65	100	

ET0320	.	030	.	50	.	100	-	960
Type		Stay variant		B_i [mm]		KR [mm]		L_K [mm]

International order specification INTOK:
Information about the International Order Key can be found in the chapter "International Order Key" from page 1.

Divider system

Divider system	Version	n_T
TS0	A	min. 2
		...

TS1	.	A	.	2

Please state the designation of the divider system **(TS0)**, version and number of dividers per cross section [n_T].

Connection variant

End connector	Connection point	Connection type
End connector	F	A
	M	I
		H
		K

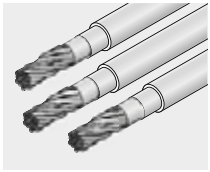
End connector	.	F	A
End connector	.	M	A

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

Accessories

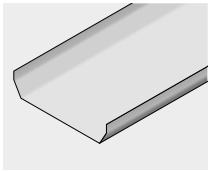
TRAXLINE® cables in motion

Hi-flex electric cables which were especially developed, optimized and tested for use in cable carriers.



Support trays

An even surface is required for safe unrolling of the cable carrier. This is ensured by a support tray.



TOTALTRAX® complete systems

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More product information online

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

Configure your custom cable carrier: **onlineengineer.de**

ET0350

Pitch 35 mm

Height 31 mm

Width 50 mm

Bending radius 48 – 125 mm

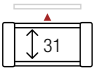
Stay variants

Design 030

From page 40

Frame with lamella crossbars in the outer radius
- Weight-optimized plastic frame with particularly high torsional rigidity.
- Swivable slats on one side in any position.

Opening options
outside: Swivable.

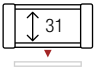


Design 040

From page 42

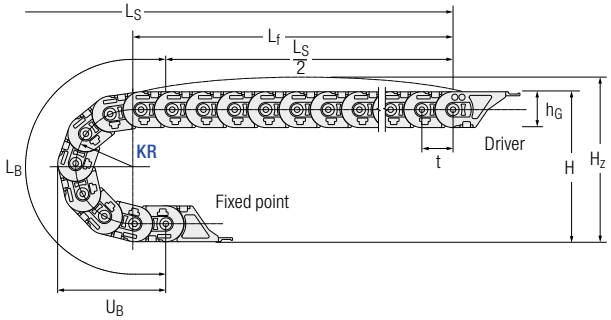
Frame with lamella crossbars in the inner radius
- Weight-optimized plastic frame with particularly high torsional rigidity.
- Swivable slats on one side in any position.

Opening options
inside: Swivable.

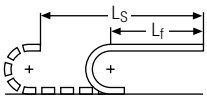


Technical data on p. 39

Unsupported arrangement



Unsupported length L_f



A sagging of the cable carrier is technically permitted for extended travel lengths, depending on the specific application.

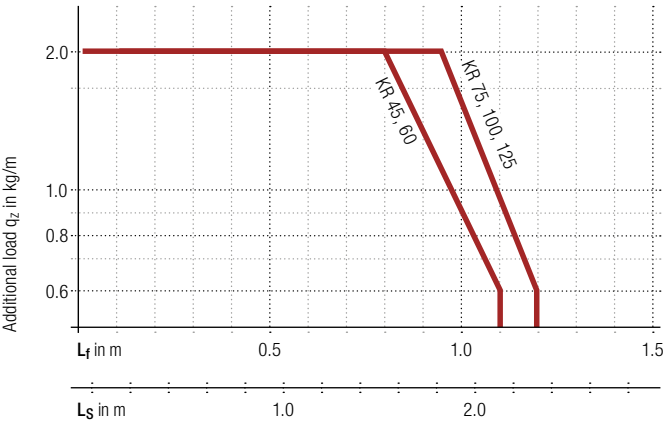
Dynamics of unsupported arrangement		t
v_{max} [m/s]	a_{max} [m/s²]	[mm]
5	20	35

Installation dimensions unsupported

KR [mm]	H [mm]	H_z [mm]	L_B [mm]	U_B [mm]
48	146	176	220	103
60	170	200	258	115
75	200	230	306	130
100	250	280	384	155
125	300	330	463	180

Load diagram

for unsupported length depending on additional load



Intrinsic cable carrier weight q_k = 0.2 kg/m with B_i 16 mm.
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.

EasyTrax®
Inner heights 31
Inner widths 50
Key for abbreviations on page 60
Assembly instructions on kabelschlepp.de/assembly
Order key on page 46

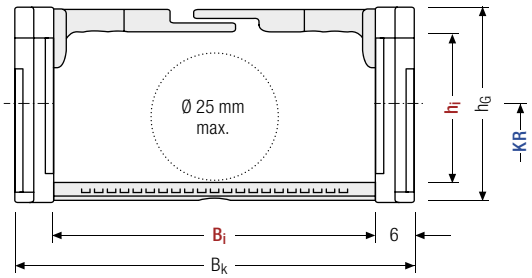
ET0350.030 | Overview

Stay variant 030 – with lamella crossbars in the outner radius

- Weight-optimized plastic frame with particularly high torsional rigidity.
- Swivable slats on one side in any position.
- **Opening options outside:** Swivable.

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

B_i from 50 mm



Calculating the cable carrier width

Outer width B_k

$B_k = B_i + 12$ 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 44.

ET0350.030 | Dimensions · Technical Data

Pitch, inner height and chain link height

t [mm]	h_i [mm]	h_G [mm]
35	31	40

Bend radii

KR [mm]				
48	60	75	100	125

Inner/outer width and intrinsic cable carrier weight

B_i [mm]	B_k [mm]	q_k [kg/m]
50	62	0.8

Order example

ET0350	.	030	.	50	.	100	-	700
Type		Stay variant		B_i [mm]		KR [mm]		L_K [mm]

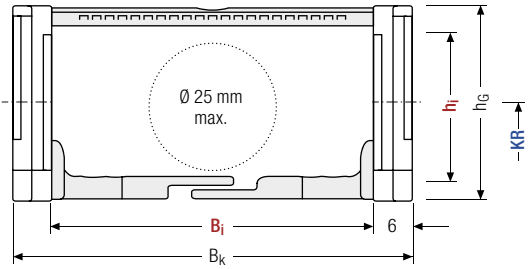
ET0350.040 | Overview

Stay variant 040 – with lamella crossbars in the inner radius

- Weight-optimized plastic frame with particularly high torsional rigidity.
- Swivable slats on one side in any position.
- **Opening options inside:** Swivable.

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

B_i from 50 mm



Calculating the cable carrier width

Outer width B_k

$B_k = B_i + 12$ 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 44.

ET0350.040 | Dimensions · Technical Data

Pitch, inner height and chain link height

t [mm]	h_i [mm]	h_G [mm]
35	31	40

Bend radii

KR [mm]				
48	60	75	100	125

Inner/outer width and intrinsic cable carrier weight

B_i [mm]	B_k [mm]	q_k [kg/m]
50	62	0.8

Order example

ET0350	.	040	.	50	.	100	-	700
Type		Stay variant		B_i [mm]		KR [mm]		L_K [mm]

ET0350 | Inner Distribution | TS0

Divider systems

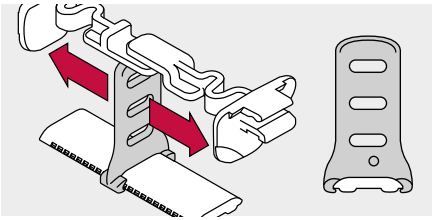
As standard, the divider system is assembled at each 2nd chain link.

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 by simply turning them. The locking cams click into place in the locking grids in the crossbars **(version B)**.

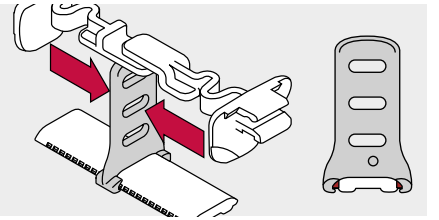
Movable divider

Version A (Standard)



Fixable divider (2 mm grid)

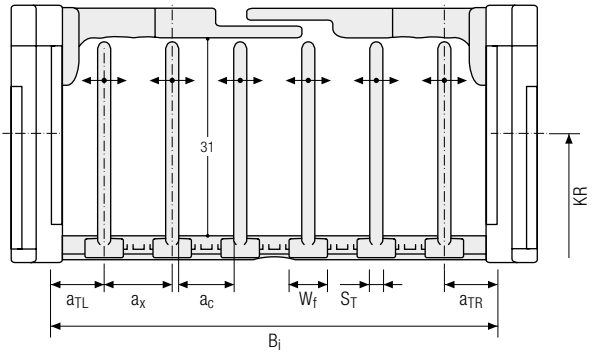
Version B

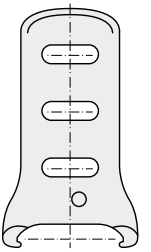


Divider system TS0 without height separation

		Version A			Version B			
S_T [mm]	W_f [mm]	$a_{TL}/a_{TR\ min}$ [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]
2	6	3	6	4	4.5* / 5	6	4	2

* Only B_i 25





Chamber width a_c

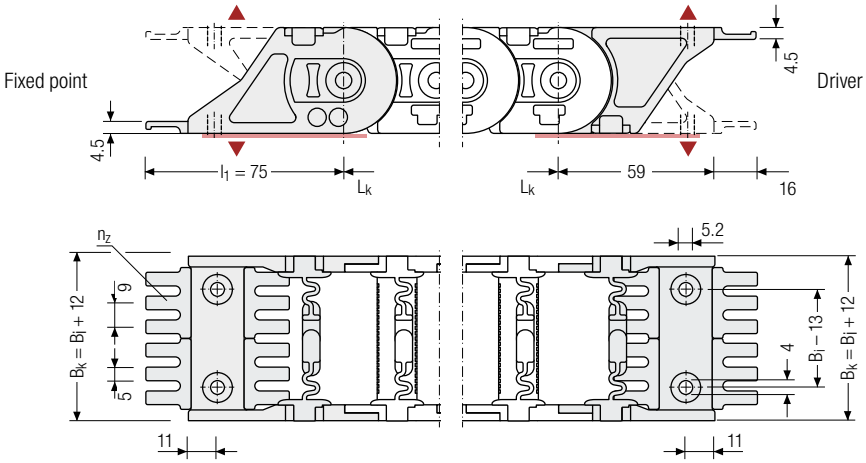
$a_c = a_x - S_T$

Information on the connection dimensions for the cable carrier can be found on page 45.

ET0350 | End Connectors

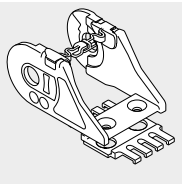
One part end connectors – plastic (suitable for B_i 25 – 50)

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



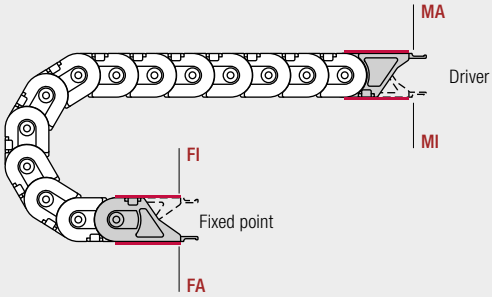
▲ Assembly options

B_i [mm]	B_K [mm]	n_z
50	62	6



The end connectors are also available as an option **without** strain relief comb.
Please state when ordering.

Connection variants



Connection point
F – fixed point
M – driver

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

Inner heights
31
Inner widths
50
Key for abbreviations on page 60
Assembly instructions on kabelschlepp.de/assembly
Order key on page 46

ET0350 | Order Key

Order

Cable carrier

Type	Stay variant	B_i [mm]	KR [mm]	L_K [mm]
			48	
			60	
			75	
	030		100	
ET0350	040	50	125	

ET0350	.	040	.	50	.	100	-	700
Type		Stay variant		B_i [mm]		KR [mm]		L_K [mm]

International order specification INTOK:
Information about the International Order Key can be found in the chapter "International Order Key" from page 1.

Divider system

Divider system	Version	n_T
	A	min. 2
TS0	B	...

TS0	.	B	.	3
Divider system		Version		n_T

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
	F	A
End connector	M	I

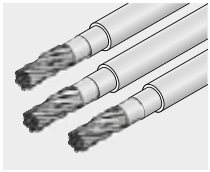
End connector	.	F	A
End connector	.	M	A

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

Accessories

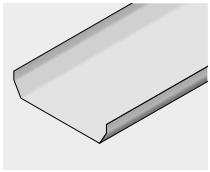
TRAXLINE® cables in motion

Hi-flex electric cables which were especially developed, optimized and tested for use in cable carriers.



Support trays

An even surface is required for safe unrolling of the cable carrier. This is ensured by a support tray.



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**

More product information online

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

Configure your custom cable carrier: **onlineengineer.de**

ET1455 | Stay Variants | Overview

ET1455

Pitch 45.5 mm

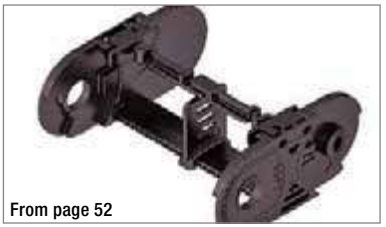
Height 25 mm

Width 78 mm

Bending radius 52 – 200 mm

Stay variants

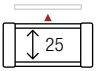
Design 030



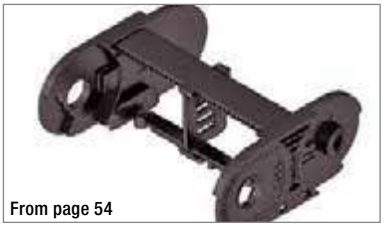
From page 52

Frame with lamella crossbars in the outer radius
- Weight-optimized plastic frame with particularly high torsional rigidity.
- Swivable slats on one side in any position.

Opening options
outside: Swivable.



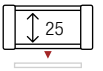
Design 040



From page 54

Frame with lamella crossbars in the inner radius
- Weight-optimized plastic frame with particularly high torsional rigidity.
- Swivable slats on one side in any position.

Opening options
inside: Swivable.

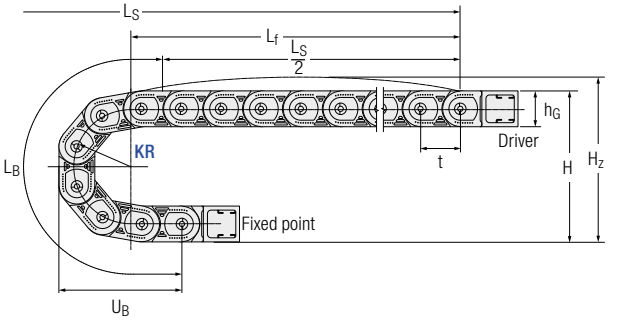


Technical data on p. 50

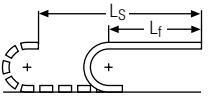
Subject to change.

ET1455 | 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]
10	50	45.5

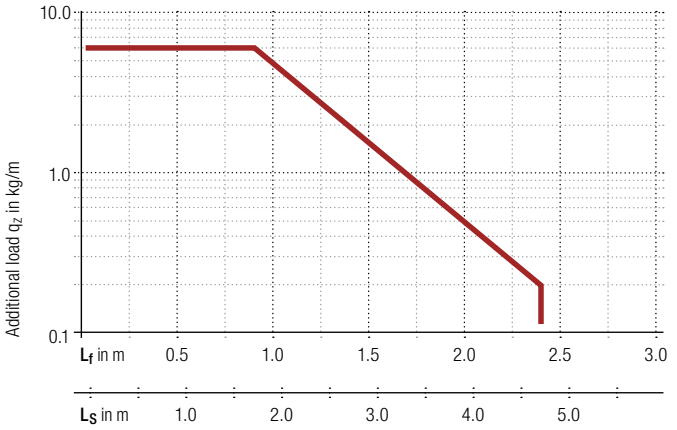
Installation dimensions unsupported

KR [mm]	H [mm]	H_z [mm]	L_B [mm]	U_B [mm]
52	140	165	255	116
65	166	191	296	129
95	226	251	390	159
125	286	211	484	189

KR [mm]	H [mm]	H_z [mm]	L_B [mm]	U_B [mm]
150	336	361	563	214
180	396	421	657	244
200	436	461	720	264

Load diagram

for unsupported length depending on additional load



Intrinsic cable carrier weight q_k = 0.75 kg/m with B_i 38 mm.
For other inner widths the maximum additional load changes.

Calculating the cable carrier length

Cable carrier length L_k

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

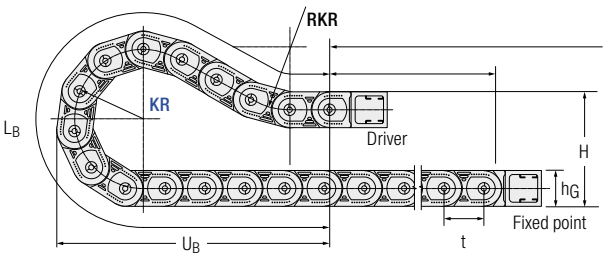
Cable carrier length L_k rounded to pitch t

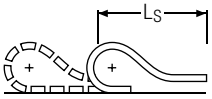
Unsupported length L_f

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

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

Gliding arrangement





For more information on gliding arrangement please contact us.

Only design 030 may be used for gliding arrangements.

Dynamics of gliding arrangement		t
v_{max} [m/s]	a_{max} [m/s²]	[mm]
2.5	20	45.5

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.

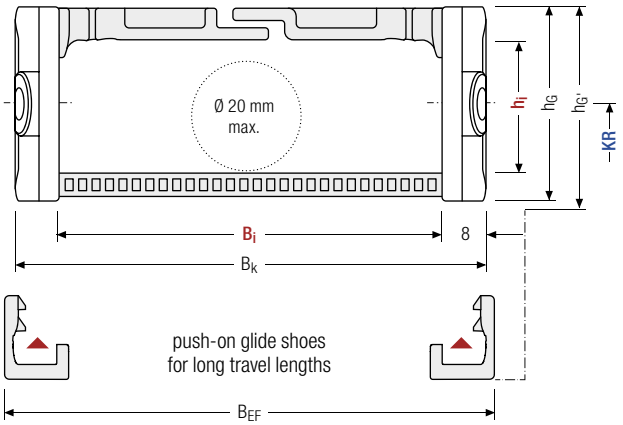
ET1455.030 | Overview

Stay variant 030 – with lamella crossbars in the outner radius

- Weight-optimized plastic frame with particularly high torsional rigidity.
- Swivable slats on one side in any position.
- **Opening options outside:** Swivable.

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

B_i from 78 mm



Calculating the cable carrier width

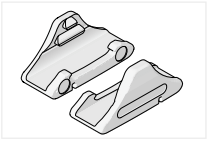
Outer width B_k

$B_k = B_i + 16$ mm

Total width B_{EF}

$B_{EF} = B_i + 19$ mm

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



Replaceable glide shoes

Information on the inner distribution of the cable carrier can be found on page 56.

ET1455.030 | Dimensions · Technical Data

Pitch, inner height and chain link height

t [mm]	h_i [mm]	h_G [mm]	$h_{G'}$ [mm]
45.5	25	36	38.5

Bend radii

KR [mm]						
52	65	95	125	150	180	200

Inner/outer width and intrinsic cable carrier weight

B_i [mm]	B_k [mm]	B_{EF} [mm]	q_k [kg/m]
78	94	97	0.8

Order example

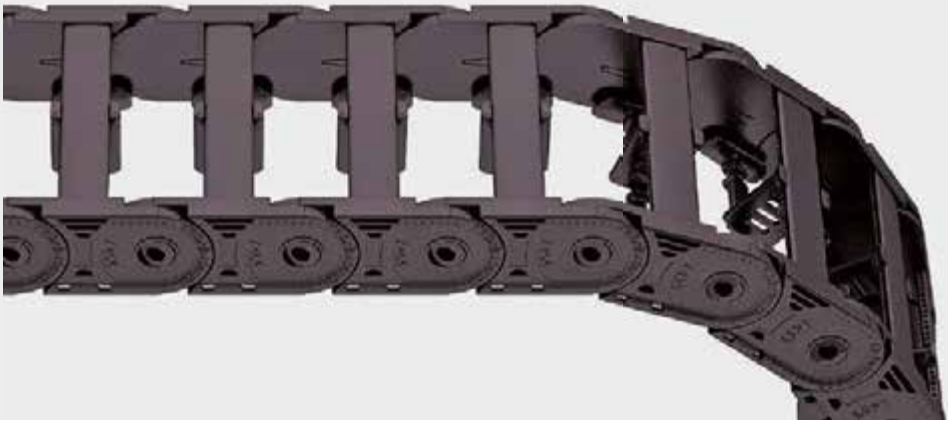
ET1455	.	030	.	78	.	150	-	1.456
Type		Stay variant		B_i [mm]		KR [mm]		L_K [mm]

Key for abbreviations on page 60
Assembly instructions on kabelschlepp.de/assembly
Order key on page 58

ET1455.040 | Overview

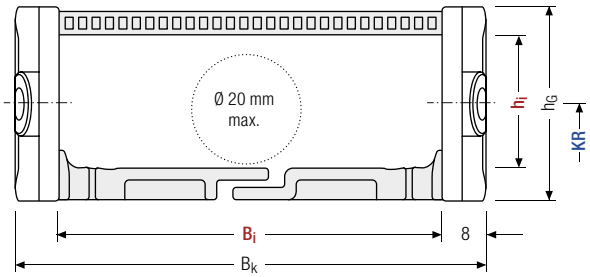
Stay variant 040 – with lamella crossbars in the inner radius

- Weight-optimized plastic frame with particularly high torsional rigidity.
- Swivable slats on one side in any position.
- **Opening options inside:** Swivable.



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

B_i from 78 mm



Calculating the cable carrier width

Outer width B_k

$B_k = B_i + 16$ mm

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

Design 040 is not suitable for gliding arrangement.

Information on the inner distribution of the cable carrier can be found on page 56.

ET1455.040 | Dimensions · Technical Data

Pitch, inner height and chain link height

t [mm]	h_i [mm]	h_G [mm]
45.5	25	36

Bend radii

KR [mm]						
52	65	95	125	150	180	200

Inner/outer width and intrinsic cable carrier weight

B_i [mm]	B_K [mm]	B_{EF} [mm]	q_K [kg/m]
78	94	97	0.8

Order example

ET1455	.	040	.	78	.	150	-	1.456
Type		Stay variant		B_i [mm]		KR [mm]		L_K [mm]

ET1455 | Inner Distribution | TS0

Divider systems

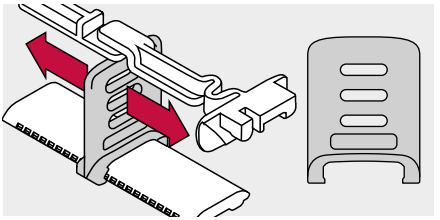
As standard, the divider system is assembled at each 2nd chain link.

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 by simply turning them.
The locking cams click into place in the locking grids in the crossbars **(version B)**.

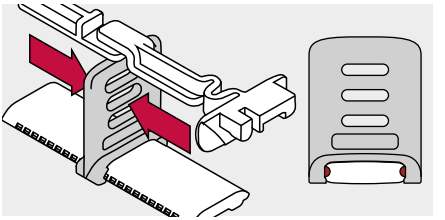
Movable divider

Version A (Standard)



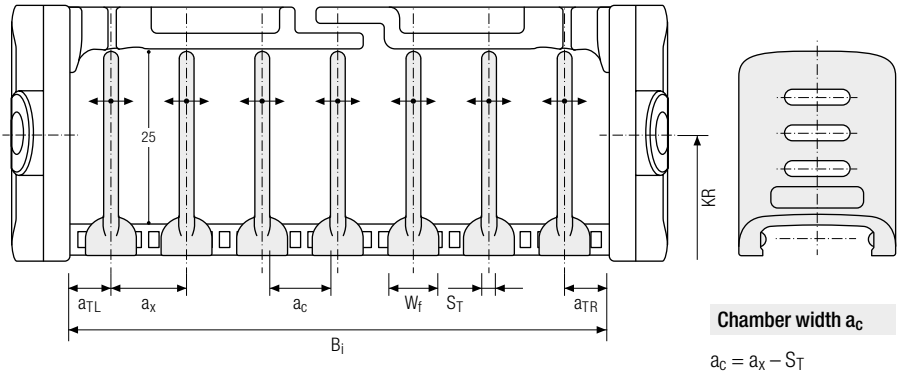
Fixable divider (2.5 mm grid)

Version B



Divider system TS0 without height separation

		Version A			Version B			
S_T [mm]	W_f [mm]	$a_{TL}/a_{TR\ min}$ [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]
2	7	3.5	7	5	4	7.5	5.5	2.5



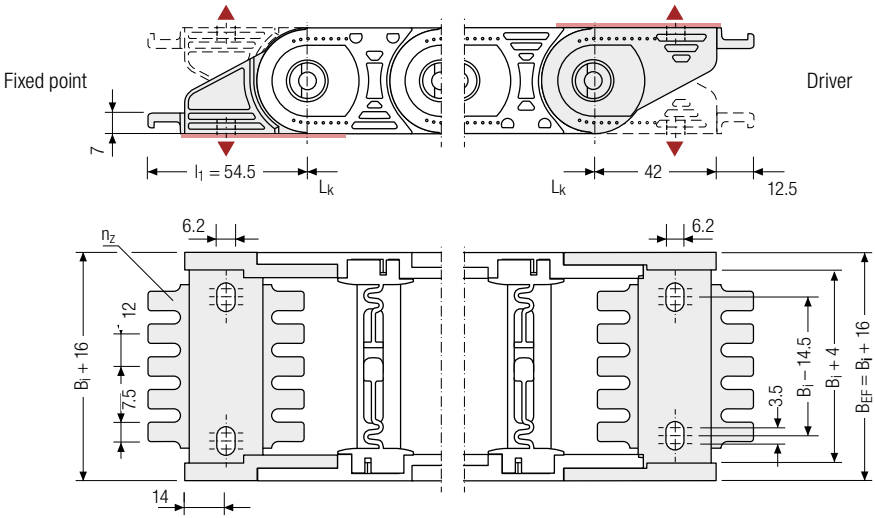
Chamber width a_c

$a_c = a_x - S_T$

Information on the connection dimensions for the cable carrier can be found on page 58

One part end connectors – plastic

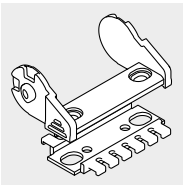
The plastic end connectors can be **connected from above and below**. The connection type can be changed by reconnecting the end connector.



Recommended tightening torque: 6 Nm for screws M6 - 8.8

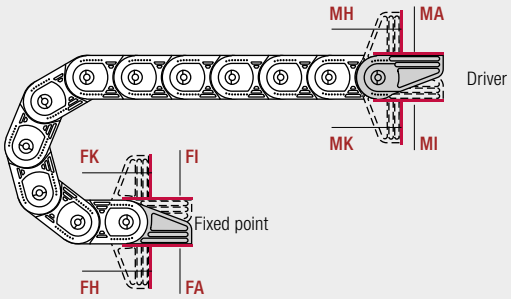
▲ Assembly options

B_i [mm]	B_{EF} [mm]	n_z
78	94	2 x 6



The end connectors are optionally also available **without** strain relief comb (except B_i 25). Please state when ordering.

Connection variants



Connection point
- **F** – fixed point
- **M** – driver

Connection type
- **A** – threaded joint outside (standard)
- **I** – threaded joint inside
- **H** – threaded joint outside rotated by 90°
- **K** – threaded joint inside rotated by 90°

ET1455 | Order Key

Order

Cable carrier

Type	Stay variant	B_i [mm]	KR [mm]	L_K [mm]
ET1455	030 040	78	52 65 95 125 150 180 200	

ET1455	.	030	.	78	.	150	-	1.456
Type		Stay variant		B_i [mm]		KR [mm]		L_K [mm]

International order specification INTOK:
Information about the International Order Key can be found in the chapter “International Order Key” from page 1.

Divider system

Divider system	Version	n_T
TS0	A B	min. 2 ...

TS0	.	B	.	3
Divider system		Version		n_T

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
Anschlusswinkel	F M	A I H K

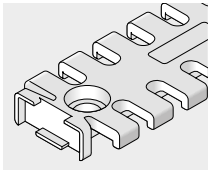
Anschlusswinkel	.	F	A
Anschlusswinkel		M	A

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

Accessories

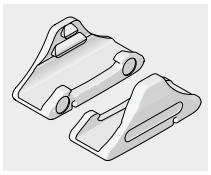
Single-sided strain relief combs

The optional plastic strain relief combs are assembled between the UMB end connectors and require no separate screw fixing.



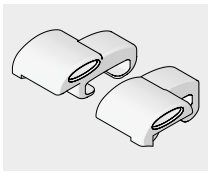
Gliding elements

The optional glide shoes ensure a substantially longer service life of the cable carrier in gliding operation.



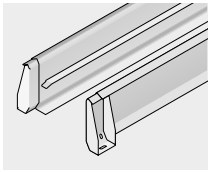
Outer dampers (Design 040)

The use of outer dampers effectively reduces uncoiling noise. Particularly recommended for support trays and guide channels.



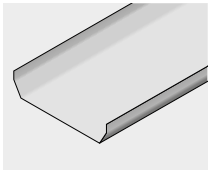
Guide channels

The cable carrier always has to be guided in a channel for gliding applications. This prevents the upper and lower run from slipping.



Support trays

An even surface is required for safe unrolling of the cable carrier. This is ensured by a support tray.



EasyTrax® | 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' = reduced 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

Pictographs


inner height


inner width

inner width (B_i) in x mm increments


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


height separation possible

height separation in 1 mm increments


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