

VARIO-LINE

Cable carriers with variable chain widths

- Aluminum or plastic stays
- Inside and outside easy and quick to open
- Light, robust or link-free series – a suitable solution for every application



K Series

Cost-effective, robust cable carrier also suitable for large additional loads

page 154



MASTER Series

Quiet and weight-optimized cable carriers

page 170



M Series

Multivariable cable carrier with extensive accessories and stay variants

page 180



TKP91

Easy to assemble, stable cable carriers with variable dimensions

page 202



XL Series

Cable carrier with large inside height

page 210



QUANTUM

Link-free cable carrier – light, extremely quiet and low vibration for high speeds and accelerations

page 216



TKR

Extremely quiet and low-vibration for highly dynamic applications

page 224



K Series

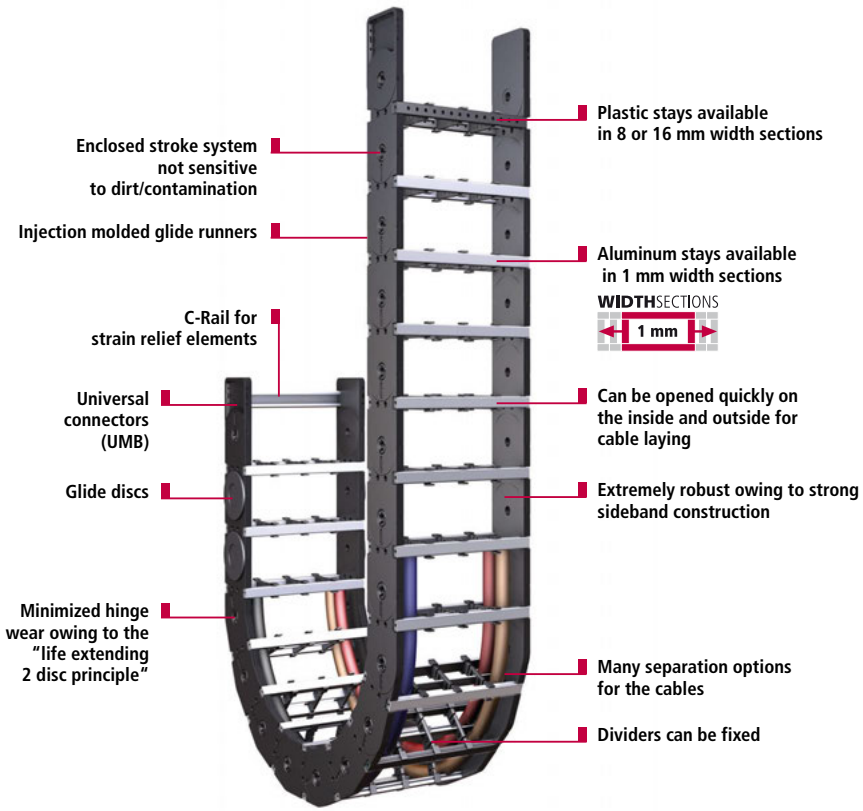
Cost-effective, robust cable carrier – also suitable for large additional loads

■ TÜV design approved in accordance with 2PFG 1036/10.97

Inside heights



Inside widths

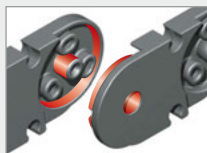


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TSUBAKI KABELSCHLEPP
 Cable Carrier Configuration

Subject to change.



Minimized hinge wear owing to the "life extending 2 disc principle"



Glide discs for long service life for applications where the carrier is rotated through 90°



Injection molded glide runners for long service life in gliding arrangement



Many separation options for the cables

Overview K Series

Type KC with aluminum stays

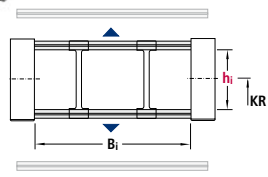
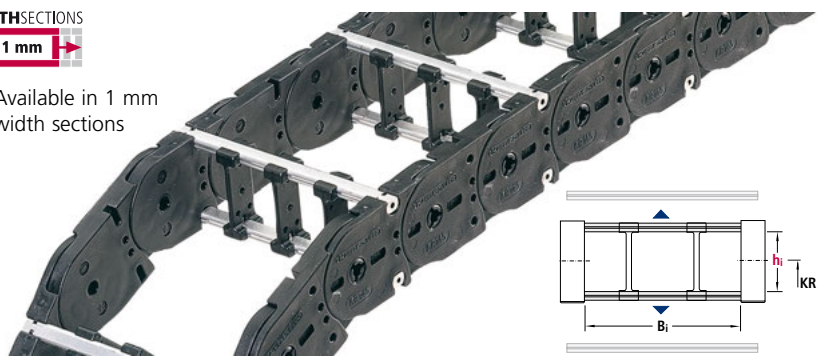
Inside heights
38
58

Inside widths
68
561

WIDTH SECTIONS



- Available in 1 mm width sections



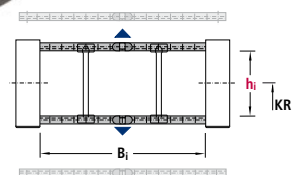
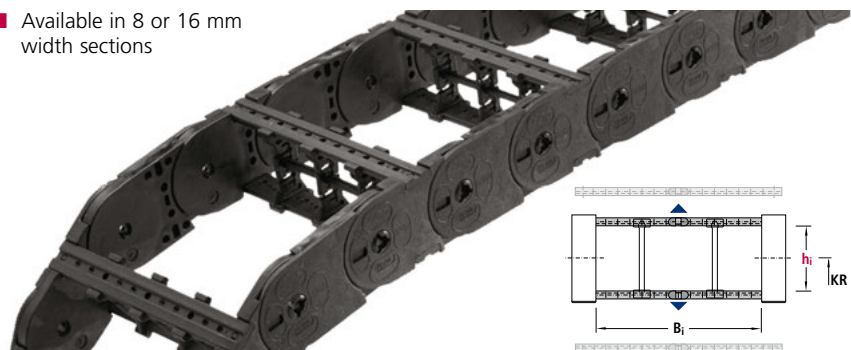
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Type	h _i	B _i	Maximum travel length in m	Dynamics of unsupported arrangement		Page
				Travel speed v _{max} in m/s	Travel acceleration a _{max} in m/s ²	
KC 0650	38	75-400	220	8	40	157
KC 0900	58	100-500	260	6	30	157

Dimensions in mm

Type KE with plastic stays

- Available in 8 or 16 mm width sections



Type	h _i	B _i	Maximum travel length in m	Dynamics of unsupported arrangement		Page
				Travel speed v _{max} in m/s	Travel acceleration a _{max} in m/s ²	
KE 0650	42	68-260	220	8	40	164
KE 0900	58	81-561	260	6	30	164

Dimensions in mm

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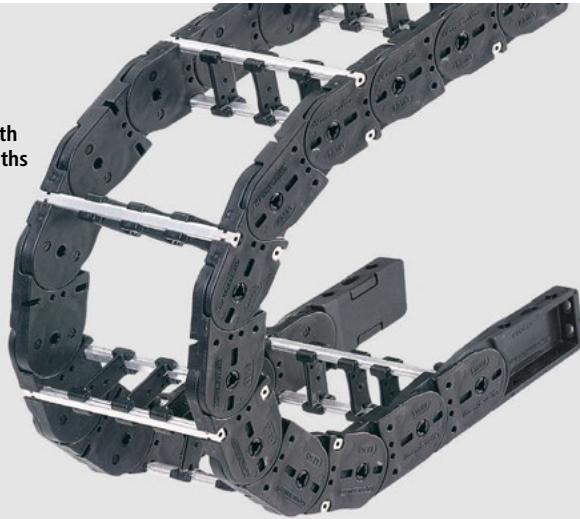
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Type KC

with aluminum stays

- Available in 1 mm width sections (standard widths available ex-stock)

WIDTH SECTIONS



Inside heights



Inside widths



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 cable carrier configurator

Stay variants

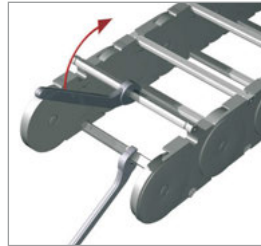
Frame stay RS

Standard design –
Types 0650 and 0900

For lightweight to medium loads.

Opening options:

Outside/inside: the cable carrier can be opened quickly and easily simply by rotating the stays through 90°.



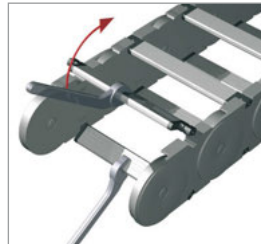
Frame stay RV

Reinforced design –
Type 0900

For medium to heavy loads and for large chain widths.

Opening options:

Outside/inside: the cable carrier can be opened quickly and easily simply by rotating the stays through 90°.



Additional stay variant:



**Stay variant LG
made of aluminum:**
Optimum cable guidance
in the neutral bending line

Types KC 0650 and 0900

Dimensions and intrinsic chain weight

Inside heights

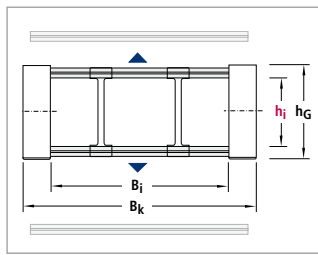


Inside widths



Type	Stay variant	h _i	h _G	B _i min	q _k min	B _i max	q _k max	B _k
KC 0650	RS	38	57.5	75	1.87	400	3.60	B _i + 28
KC 0900	RS	58	78.5	100	2.80	400	5.80	B _i + 31
KC 0900	RV	58	78.5	100	3.20	500	7.00	B _i + 31

WIDTH SECTIONS



Dimensions in mm/Weights in kg/m

Standard widths in 25 mm steps available **ex-stock**.

Type 0650: B_i = 75, 100, 125, 150 ... 400

Type 0900: B_i = 100, 125, 150, 175 ... 500

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Bend radius and pitch

Type	Bend radii KR mm					
KC 0650	75	115	145	175	220	300
KC 0900	130	150	190	245	300	385

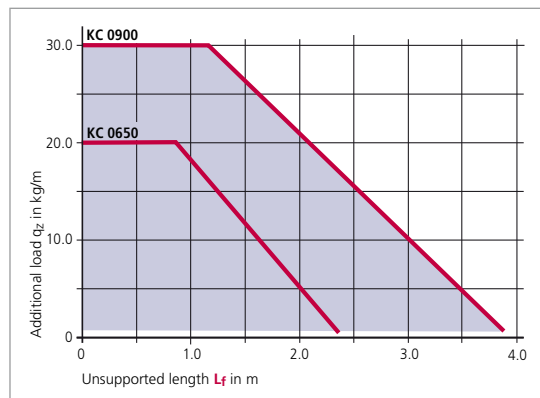
Pitch:

KC 0650: t = 65 mm

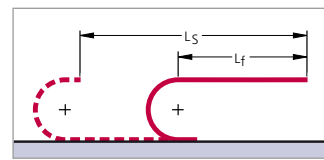
KC 0900: t = 90 mm

Load diagram

for unsupported length L_f depending on the additional load



Unsupported length L_f



In the case of longer travel lengths, sag of the cable carriers is technically permissible depending on the application.

In a gliding arrangement, even longer travel lengths are possible (see page 375).

We are at your service to advise on these applications.

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Example of ordering

Cable carrier
KC 0900 · **225** · **RV** · **150** - **1890**
 Type Inside width B_i in mm Stay variant Bend radius KR in mm Chain length L_k in mm (without connection)

Divider system
TS 0 / **4**
 Divider system Number of dividers n_T

Connection
FU/MU
 Connection Fixed point/Driver

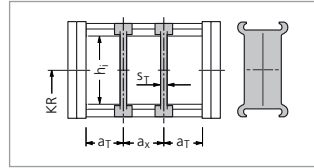
Ordering divider systems:

Please state the designation of the divider system (TS 0, TS 1 ...) and the number of dividers. Possibly attach a sketch with the dimensions.

Types KC 0650 and 0900

Divider system TS 0

Type	Stay variant	h _i mm	S _T mm	a _T min mm	a _x min mm
KC 0650	RS	38	3	6,5	13
KC 0900	RS	58	4	7	14
KC 0900	RV	58	4	7	14



In the standard version, the divider systems are mounted on every second chain link.

Inside heights

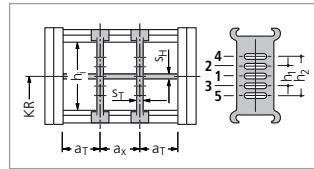


Inside widths



Divider system TS 1 with continuous height subdivision made of aluminum

Type	Stay variant	h _i mm	S _T mm	a _T min mm	a _x min mm	S _H mm	h ₁ mm	h ₂ mm
KC 0650	RS	38	3	6,5	13	4	15	—
KC 0900	RS	58	4	7	14	4	30	—
KC 0900	RV	58	4	7	14	4	15	30

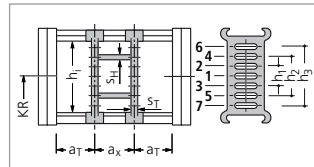


In the standard version, the divider systems are mounted on every second chain link.

Divider system TS 3 with section subdivision, partitions made of plastic

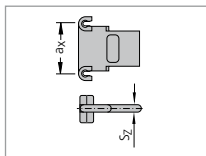
Type	Stay variant	h _i mm	S _T mm	a _T min mm	a _x min mm	S _H mm	h ₁ mm	h ₂ mm	h ₃ mm
KC 0650	RS	38	8	4	16*	4	14	28	—
KC 0900	RV	58	8	4	16*	4	14	28	42

The dividers are fixed by the partitions, * When using plastic partitions the complete divider system is movable.



In the standard version, the divider systems are mounted on every second chain link.

Dimensions of the plastic partitions for TS 3



S _Z	a _x (center-to-center dividers)									
	4	16	18	23	28	32	33	38	43	48
	64	68	78	80	88	96	112	128	144	160
	176	192	208	—	—	—	—	—	—	—

Dimensions in mm

When using partitions with a_x > 112 mm there should be an additional central support with a twin divider.

Thickness of the twin dividers: KC 0650 S_T = 3 mm, KC 0900 S_T = 4 mm

Twin dividers are designed for subsequent fitting in the partition system.

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 cable carrier configurator

Inside heights



Inside widths



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Types KC 0650 and 0900

Glide discs and injection molded glide runners

Glide discs

If the cable carrier is arranged rotated "through 90" (gliding on the outer side of the chain band), the glide discs attached to the side optimize the friction and wear conditions.

Determining the chain width with glide discs on both chain bands:

KC 0650: $B_{EF'} = B_i + 36 \text{ mm}$
 KC 0900: $B_{EF'} = B_i + 45 \text{ mm}$



Injection molded glide runners

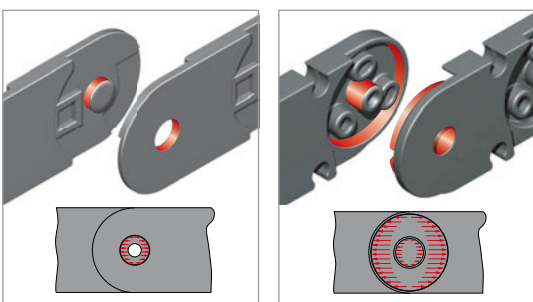
guarantee the long service life of the cable carrier in the case of long travel lengths and large additional loads.



Minimized hinge wear owing to the "life extending 2 disc principle"

In the K Series, the push and pull forces are transmitted via the optimum link design for this purpose.

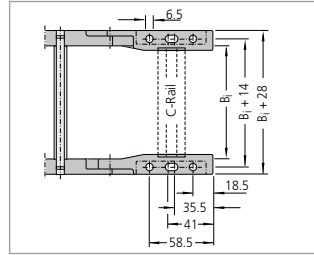
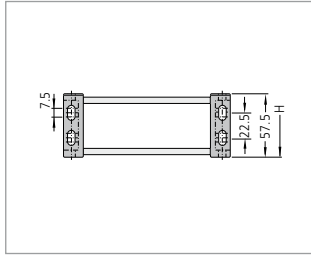
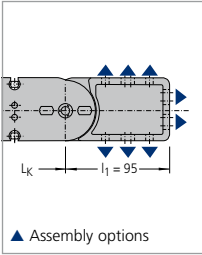
As a result link wear is reduced to a minimum and the life of the cable carrier is considerably lengthened.



- Force transmission with a pin-hole joint
- Force transmission with the "life extending 2 disc principle"

Types KC 0650 and 0900

UMB (Universal Mounting Brackets) made of plastic – Type KC 0650



Inside heights



Inside widths



The dimensions of the fixed point and driver connections are identical.

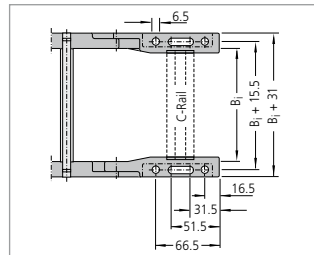
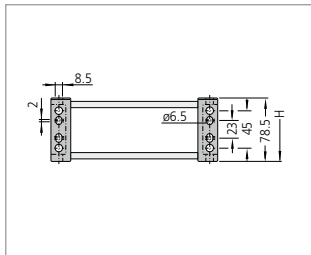
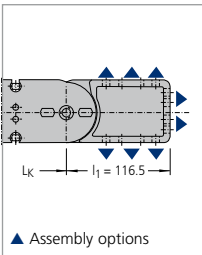
End connectors made of steel plate available on request.

Optional C-rails and strain relief elements for cables can be found on the following pages.

When ordering please specify the connection type FU/MU (see ordering key on page 419).



UMB (Universal Mounting Brackets) made of plastic – Type KC 0900



The dimensions of the fixed point and driver connections are identical.

End connectors made of steel plate available on request.

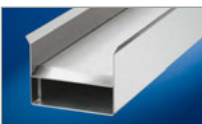
Optional C-rails and strain relief elements for cables can be found on the following pages.

When ordering please specify the connection type FU/MU (see ordering key on page 419).

Guide channels
► from page 375

Strain relief devices
► from page 381

Cables for cable carrier systems
► from page 438



Types KC 0650 and 0900

Strain relief devices

Strain relief combs made of plastic on both sides (KC 0650)

The cables can be fixed securely and simply using the **optional strain relief combs**.

The strain relief combs are installed between the UMBs, and do not need to be bolted on separately or mounted on a C-Rail.

Please state on the order whether strain relief combs are needed.

Inside heights



Inside widths



■ Universal mounting bracket with strain relief comb



■ Both-sided strain relief comb

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■ Fixing in the UMB.

Type	B _i mm	n _z
KC 0650	78	5
KC 0650	83	5
KC 0650	103	7
KC 0650	108	7
KC 0650	123	8
KC 0650	128	9
KC 0650	133	9
KC 0650	153	11
KC 0650	158	11
KC 0650	178	13
KC 0650	183	13
KC 0650	203	15
KC 0650	208	15
KC 0650	233*	17
KC 0650	258*	19

n_z = Number of teeth on one side of the comb

* on request

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Types KC 0650 and 0900

Strain relief devices

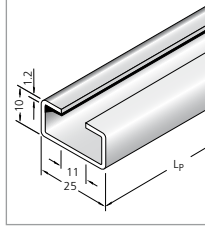
C-rails for LineFix bracket clamps, SZL strain reliefs and clamps

The optional C-rails are fixed by means of the universal mounting brackets and do not have to be screwed separately.

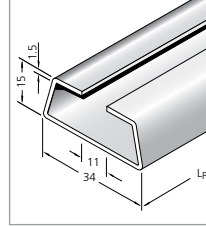
Please state in your order whether C-rails are needed.



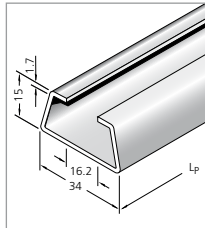
■ Universal mounting bracket with C-rail



■ **KC 0650:**
Integratable C-rail
25 x 10 mm,
slit width 11 mm,
material steel,
Item-No. 3931



■ **KC 0900:**
Integratable C-rail
34 x 15 mm,
slit width 11 mm,
material steel,
Item-No. 3935



■ **KC 0900:**
Integratable C-rail
34 x 15 mm,
slit width 16 – 17 mm,
material aluminum,
Item-No. 3926,
material steel,
Item-No. 3932

Inside heights



Inside widths



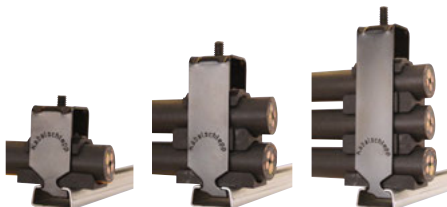
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Our LineFix strain reliefs are optimally suited for the C-rails. (LineFix bracket clamps and other strain relief devices – see Accessories chapter, from page 381 onwards).



■ C-rail with LineFix strain relief



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Cable carrier configuration

Inside
heights42
-
58Inside
widths68
-
561

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Type KE

with plastic stays

- KE 0650
available in 8 mm
width sections
- KE 0900
available in 16 mm
width sections



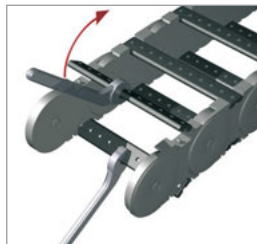
Stay variants

Frame stay RE

Standard design

Opening options:

Outside/inside: the cable carrier can be opened quickly and easily simply by rotating the stays through 90°.



Stay arrangement

Standard: on every 2nd chain link

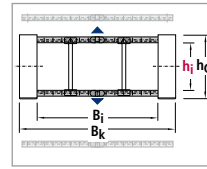
Stays can be fitted on every chain link, please specify when placing your order (not for KE 0650).

Types KE 0650 and 0900

Dimensions and intrinsic chain weight

Type	Stay variant	h _i	h _G	B _i min	q _k min	B _i max	q _k max	B _k	Width sections
KE 0650	RE	42	57.5	68	1.75	260	2.71	B _i + 28	8
KE 0900	RE	58	78.5	81	2.95	561	5.95	B _i + 31	16

Dimensions in mm/Weights in kg/m



Inside heights

42
-
58

Inside widths

68
-
561

Bend radius and pitch

Type	Bend radii KR mm					
KE 0650	75	115	145	175	220	300
KE 0900	130	150	190	245	300	385

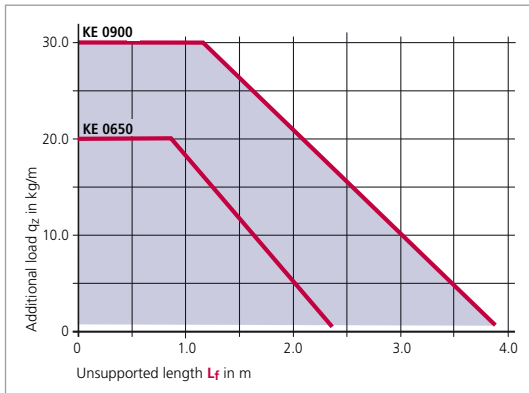
Pitch:

KE 0650: t = 65 mm

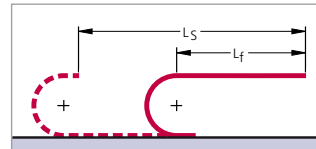
KE 0900: t = 90 mm

Load diagram

for unsupported length L_f depending on the additional load



Unsupported length L_f



In the case of longer travel lengths, sag of the cable carriers is technically permissible depending on the application.

In a gliding arrangement, even longer travel lengths are possible (see page 375).

We are at your service to advise on these applications.

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Example of ordering

Cable carrier

KE 0900	209	RE	190	2250
Type	Inside width B _i in mm	Stay variant	Bend radius KR in mm	Chain length L _k in mm (without connection)

Divider system

TS 0	4
Divider system	Number of dividers n _T

Connection

FU/MU
Connection Fixed point/Driver

Ordering divider systems:

Please state the designation of the divider system (TS 0, TS 1 ...) and the number of dividers. Possibly attach a sketch with the dimensions.

Types KE 0650 and 0900

Fixing the dividers

Inside heights



Inside widths



In the standard version, dividers or the complete divider system (dividers with height subdivisions) can be moved in the cross section (Mounting version A)

For divider systems TS 0 and TS 1 the dividers or complete divider systems (dividers with height subdivisions) can be fixed by turning the stays. (Mounting version B).

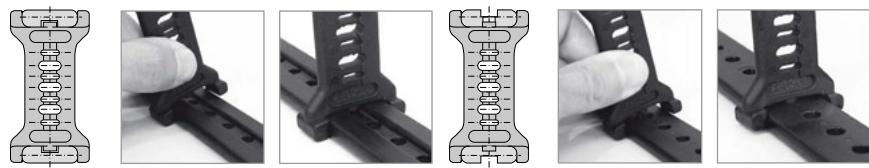
If the fixed mounting version is desired, please state this when placing your order.

Mounting version A (Standard)

Movable divider:
The arresting cam of the divider can move in the groove of the stay.

Mounting version B

Fixed divider:
The arresting cam of the divider is fixed in the hole of the stay.



With a movable assembly of the dividers (mounting version A), the holes in the stay do not have any function and hence the dimension a_x -section has is meaningless.

Please note that the dividers can only be fixed in positions at which there is a hole in the stay. The dimension a_x -section specifies the hole intervals in the stay.

Hole intervals = fixing positions of the dividers (a_x -sections)

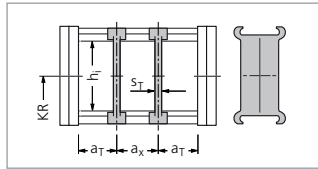
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Divider system TS 0

Type	Stay variant	h_i mm	Mounting version A			Mounting version B			
			S_T mm	a_T min mm	a_x min mm	S_T mm	a_T min mm	a_x min mm	a_x section mm
KE 0650	RE	42	4.2	6.5	13.0	4.2	22.0	16	8
KE 0900	RE	58	6.0	7.5	14.5	6.0	8.5	16	16

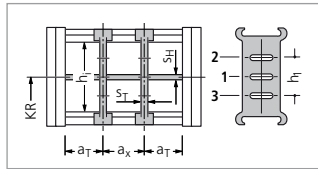
In the standard version, the divider systems are mounted on every second chain link.



Divider system TS 1 with continuous height subdivision made of aluminum

Type	Stay variant	h_i mm	Mounting version A			Mounting version B				S_H mm	h_1 mm
			S_T mm	a_T min mm	a_x min mm	S_T mm	a_T min mm	a_x min mm	a_x section mm		
KE 0650	RE	42	4.2	6.5	13.0	4.2	22.0	16	8	4	22
KE 0900	RE	58	6.0	7.5	14.5	6.0	24.5	16	16	4	22

In the standard version, the divider systems are mounted on every second chain link.

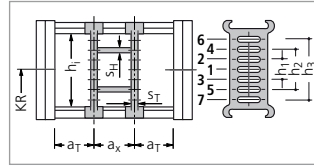


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Types KE 0650 and 0900

Divider system TS 3 with section subdivision, partitions made of plastic

Type	Stay variant	h _i mm	S _T mm	a _T min mm	a _x min mm	S _H mm	h ₁ mm	h ₂ mm	h ₃ mm
KE 0650	RE	42	8	4	16*	4	14	28	—
KE 0900	RE	58	8	4	16*	4	14	28	42



* When using plastic partitions

The dividers are fixed by the partitions, the complete divider system is movable.

In the standard version, the divider systems are mounted on every second chain link.

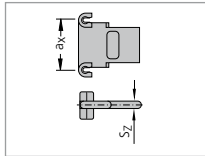
Inside heights



Inside widths



Dimensions of the plastic partitions for TS 3



S _z	a _x (center-to-center distance, dividers)									
4	16	18	23	28	32	33	38	43	48	58
	64	68	78	80	88	96	112	128	144	160
	176	192	208	—	—	—	—	—	—	—

Dimensions in mm

Aluminum partitions in 1 mm width sections are also available.

When using partitions with a_x > 112 mm there should be an additional central support with a twin divider.

Thickness of the twin dividers: KE 0650 S_T = 3 mm, KE 0900 S_T = 4 mm

Twin dividers are designed for subsequent fitting in the partition system.

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Glide discs and injection molded glide runners

Glide discs

If the cable carrier is arranged rotated "through 90°" (gliding on the outer side of the chain band), the glide discs attached to the side optimize the friction and wear conditions.



Determining the chain width with glide discs on both chain bands:

$$\text{KE 0650: } B_{EF'} = B_i + 36 \text{ mm}$$

$$\text{KE 0900: } B_{EF'} = B_i + 45 \text{ mm}$$



Injection molded glide runners

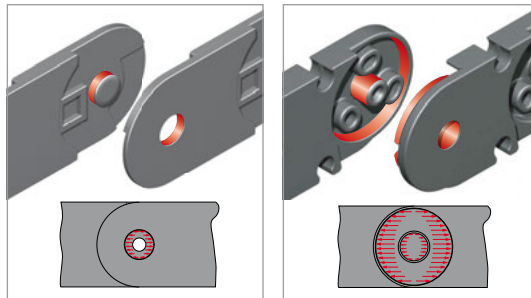
guarantee the long service life of the cable carrier in the case of long travel lengths and large additional loads.

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Minimized hinge wear owing to the "life extending 2 disc principle"

In the K Series, the push and pull forces are transmitted via the optimum link design for this purpose.

As a result link wear is reduced to a minimum and the life of the cable carrier is considerably lengthened.



■ Force transmission with a pin-hole joint

■ Force transmission with the "life extending 2 disc principle"

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 CABLE CARRIER CONFIGURATOR

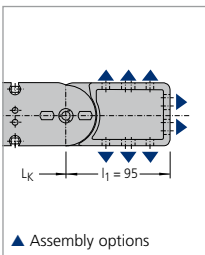
Types KE 0650 and 0900

UMB (Universal Mounting Brackets) made of plastic – Type KE 0650

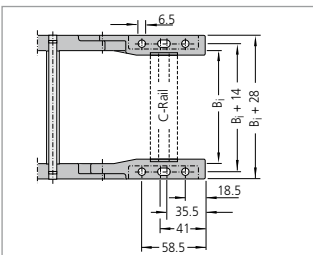
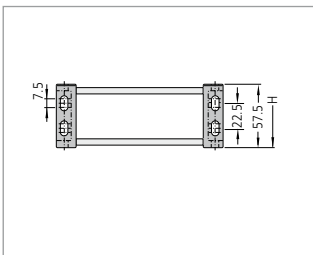
Inside heights



Inside widths



▲ Assembly options



The dimensions of the fixed point and driver connections are identical.
End connectors made of steel plate available on request.

Optional C-rails and strain relief elements for cables can be found on the following pages.

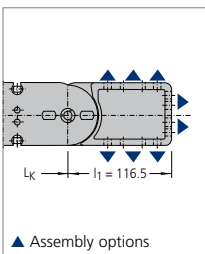
When ordering please specify the connection type FU/MU (see ordering key on page 419).

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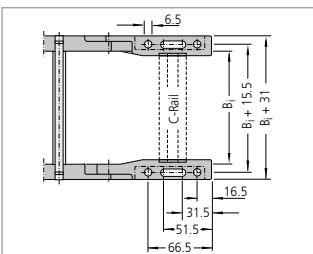
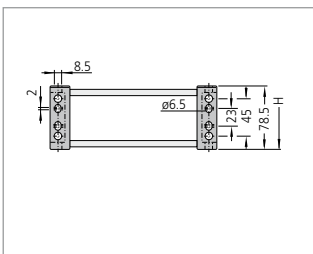


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UMB (Universal Mounting Brackets) made of plastic – Type KE 0900



▲ Assembly options



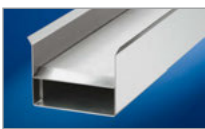
The dimensions of the fixed point and driver connections are identical.
End connectors made of steel plate available on request.

Optional C-rails and strain relief elements for cables can be found on the following pages.

When ordering please specify the connection type FU/MU (see ordering key on page 419).

Use our free project planning service.

Guide channels
➤ from page 375



Strain relief devices
➤ from page 381



Cables for cable carrier systems
➤ from page 438



Types KE 0650 and 0900

Strain relief devices

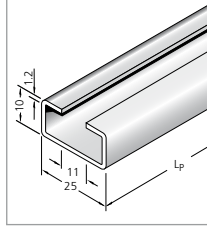
C-rails for LineFix bracket clamps, SZL strain reliefs and clamps

The optional C-rails are fixed by means of the universal mounting brackets and do not have to be screwed separately.

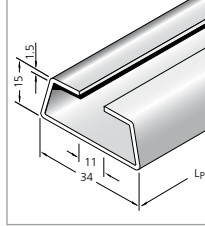
Please state in your order whether C-rails are needed.



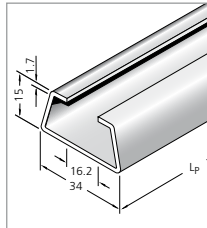
■ Universal mounting bracket with C-rail



■ **KE 0650:**
Integratable C-rail
25 x 10 mm,
slit width 11 mm,
material steel,
Item-No. 3931



■ **KE 0900:**
Integratable C-rail
34 x 15 mm,
slit width 11 mm,
material steel,
Item-No. 3935

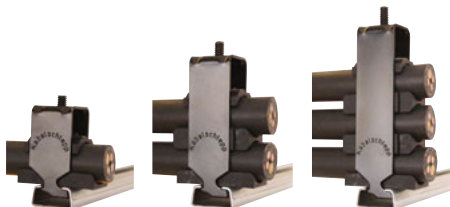


■ **KE 0900:**
Integratable C-rail
34 x 15 mm,
slit width 16 – 17 mm,
material aluminum,
Item-No. 3926,
material steel,
Item-No. 3932

Our LineFix strain reliefs are optimally suited for the C-rails. (LineFix bracket clamps and other strain relief devices – see Accessories chapter, from page 381 onwards).



■ C-rail with LineFix strain relief



Inside heights



Inside widths



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