

Cable carriers with  
variable chain widths

# QUANTUM



# QUANTUM – Link-free cable carriers



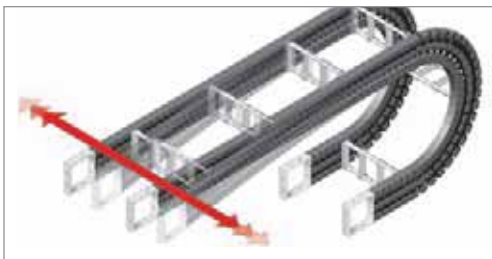
- Aluminium stays in 1 mm width sections
- Plastic stays in 8 or 16 mm width sections
- Extremely quiet < 40 dB (A)
- Low-vibration operation – almost no polygon effect = low-oscillation operation
- No hinges, no hinge wear = clean room-compatible
- Extremely lightweight
- Very long service life: 25 million cycles = unsurpassed service life
- For additional 3D movements
- Flexible construction: Driver connection is flexible in the lateral direction and can be turned through up to ± 30 degrees
- Gentle on the cables, since there is almost no polygon effect
- Standard universal mounting brackets (UMBs), suitable for any assembly situation
- Large choice of stay systems and ways of separating the cables
- Highly wear-resistant, replaceable glide shoes available – resulting in minimal wear at high speeds, sliding in the guide channel
- Optionally available with different strain relief systems
- TÜV design approved in accordance with 2PFG 1036/10.97



## High-speed applications

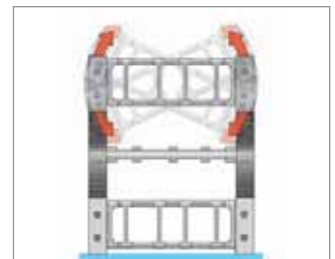
Owing to the low intrinsic weight and the absence of hinge friction, the force required for moving the cable carrier is minimal. Optimum conditions for:

- high accelerations up to max. 300 m/s<sup>2</sup>
- high operating speeds up to max. 40 m/s



## 3D-movements

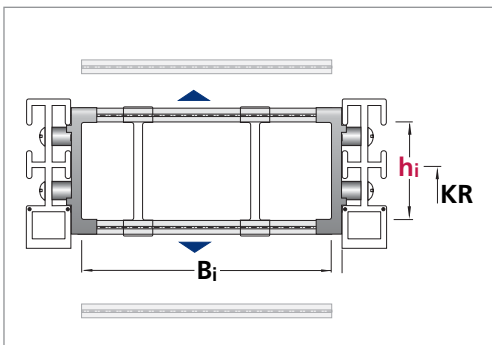
The driver connection can move sideways and can be turned through up to ± 30 degrees.



## Types Q 040, Q 060, Q 080 and Q 100

Available in 1, 8 or 16 mm width sections

Dimensions in mm



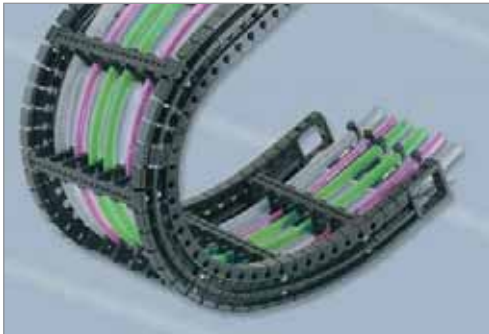
Type	h <sub>i</sub>	B <sub>i</sub>	Maximum travel length in m	Dynamics of unsupported arrangement		Page
				Travel speed v <sub>max</sub> in m/s	Travel acceleration a <sub>max</sub> in m/s <sup>2</sup>	
Q 040	28	28-284	100	40	300	128
Q 060	42*	38-500	150	30	160	128
Q 080	58	50-600	180	25	100	128
Q 100	72	70-600	200	20	70	128

\* with stay variant RE

# Quantum – Types Q 040, Q 060, Q 080, and Q 100

## The design

### Extruded sidebands



With the QUANTUM cable carrier system, sidebands made of extruded special plastic are used.

Owing to the link-free design, there is no more noise resulting from the impact of the chain links on the radius limits. Even the "striking" of individual chain links on the floor is eliminated. This reduces the noise level and vibrations almost to zero.

The low-vibration operation minimizes the wear of the outer sheaths of the cables.



Two steel wires in the supporting base of the profile bars increase the service life as well as the tensile and bending strength of the entire cable carrier system.



The sidebands are connected, as is the case with our variable chain width cable carriers, with stay systems that have proved themselves over many years.

### Stay variants for the types Q 040, Q 060, Q 080 and Q 100



#### Frame stay RS made of aluminium – Standard design – types Q 060, Q 080, Q 100

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 made of aluminium – Reinforced design – types Q 080, Q 100

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°.



#### Frame stay RE made of plastic – types Q 040, Q 060, Q 080, Q 100

##### Opening options:

**Outside / Inside:** simply by turning



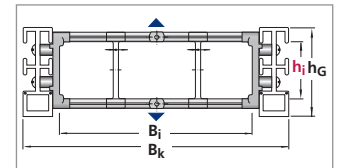
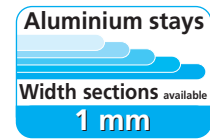
## Quantum – Types Q 040, Q 060, Q 080, and Q 100

### Dimensions and intrinsic weight

#### "Hybrid designs" with aluminium stay systems

Dimensions in mm/Weights in kg/m

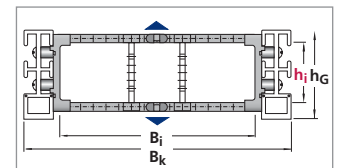
Type	Stay variant	$h_i$	$h_G$	$B_i$ min	$q_k$ min	$B_i$ max	$q_k$ max	$B_k$
Q 060	RS	38	60	38	1.25	500	2.40	$B_i + 52$
Q 080	RS	58	80	50	1.90	600	2.25	$B_i + 72$
Q 080	RV	58	80	50	2.10	600	2.90	$B_i + 72$
Q 100	RS	72	98	70	2.60	600	3.40	$B_i + 82$
Q 100	RV	72	98	70	2.80	600	4.60	$B_i + 82$



#### "Solid plastic designs"

Dimensions in mm/Weights in kg/m

Type	Stay variant	$h_i$	$h_G$	$B_i$ min	$q_k$ min	$B_i$ max	$q_k$ max	$B_k$
Q 040	RE	28	40	28	0.63	284	0.98	$B_i + 40$
Q 060	RE	42	60	68	1.16	276	1.54	$B_i + 52$
Q 080	RE	58	80	58	1.93	570	2.70	$B_i + 72$
Q 100	RE	72	98	74	2.74	570	3.67	$B_i + 82$



\* Widths without glide shoes

### Bend radius and pitch

Dimensions in mm

Type	Bend radii KR						
Q 040	60	75	90	110	150	180	
Q 060	100	120	150	190	250	300	
Q 080	170	200	250	320	420	500	
Q 100	180	250	300	370	460	600	

Pitch:

Q 040:  $t = 15$  mm

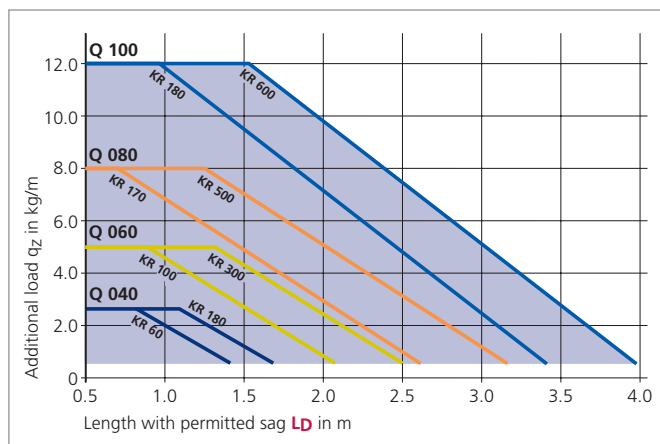
Q 060:  $t = 20$  mm

Q 080:  $t = 25$  mm

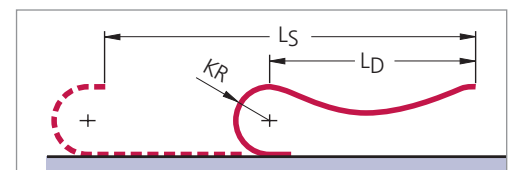
Q 100:  $t = 30$  mm

### Load diagram

for length with permissible (desired) sag  $L_D$  depending on the additional load



Length with permissible sag  $L_D$  and travel length  $L_S$



In the case of long travel lengths, the cable carriers are placed in a guide channel with the upper trough gliding on the lower trough. (see page 219).

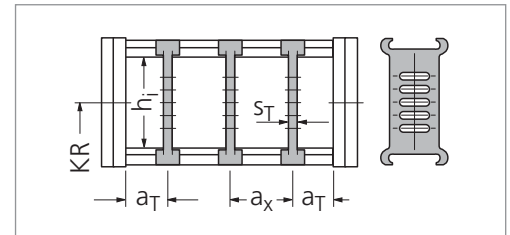
We are at your service to advise on these applications.

# Quantum – Types Q 040, Q 060, Q 080, and Q 100

## Divider systems

### Divider system TS 0

Type	Stay variant	$h_i$ mm	$S_T$ mm	$a_T$ min mm	$a_x$ min mm
Q 040	RE	28	2.8	8	8
Q 060	RS	38	3	13.5	13
Q 060	RE	42	4.2	14	13
Q 080	RS	58	4	11	14
Q 080	RV	58	4	11	14
Q 080	RE	58	6	12	14.5
Q 100	RS	72	5	11	14
Q 100	RV	72	6	13	16
Q 100	RE	72	8	12	14.5



#### Standard mounting distances of the divider systems:

Q 040, Q 060: on every **6th** pitch division  
 Q 080, Q 100: on every **8th** pitch division

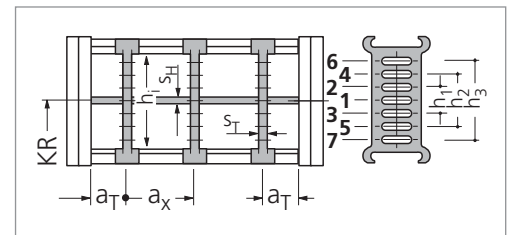
In the standard version, the dividers are movable.

In the case of plastic stays (stay variant RE), the dividers can also be mounted fixed (note the mounting distances).

### Divider system TS 1

with continuous height separation made of aluminium

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
Q 040	RE	28	2.8	8	8	2.4	15	-	-
Q 060	RS	38	3	13.5	13	4	15	-	-
Q 060	RE	42	4.2	14	13	2	10	-	-
Q 080	RS	58	4	11	14	4	30	-	-
Q 080	RV	58	4	11	14	4	15	30	-
Q 080	RE	58	6	12	14.5	4	22	-	-
Q 100	RV	72	6	13	16	4	15	30	45
Q 100	RE	72	8	12	14.5	4	32	-	-



#### Standard mounting distances of the divider systems:

Q 040, Q 060: on every **6th** pitch division  
 Q 080, Q 100: on every **8th** pitch division

In the standard version, the dividers are movable.

In the case of plastic stays (stay variant RE), the dividers can also be mounted fixed (note the mounting distances).

## Quantum – Types Q 040, Q 060, Q 080, and Q 100

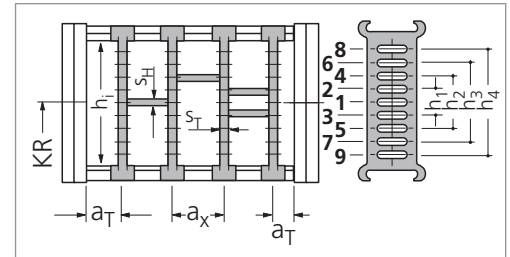
### Divider systems

#### Divider systems TS 2 and TS 3

**Q 040 with divider system TS 2 with aluminium height subdivision**  
available in 8 mm section widths.

**Q 060, Q 080 and Q 100 with divider system TS 3 with plastic partitions**  
For these types, divider system TS 2 with aluminium height subdivisions  
(in 1 mm width sections) is also available.

Type	Stay variant	$h_i$ mm	$S_T$ mm	$a_{T \text{ min}}$ mm	$a_{x \text{ min}}$ mm	$S_H$ mm	$h_1$ mm	$h_2$ mm	$h_3$ mm	$h_4$ mm
Q 040 <sup>A)</sup>	RE	28	2.8	14	8	2.4	15	–	–	–
Q 060 <sup>B)</sup>	RS	38	8	11	16*	4	14	–	–	–
Q 060 <sup>B)</sup>	RE	42	8	11	16*	4	14	28	–	–
Q 080 <sup>B)</sup>	RV	58	8	8	16*	4	14	28	42	–
Q 080 <sup>B)</sup>	RE	58	8	8	16*	4	14	28	42	–
Q 100 <sup>B)</sup>	RV	72	8	8	16*	4	14	28	42	56



#### Standard mounting distances of the divider systems:

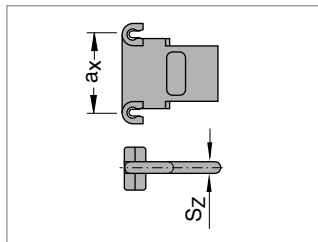
Q 040, Q 060: on every **6th** pitch division  
Q 080, Q 100: on every **8th** pitch division

\* When using plastic partitions

A) Only fixed mounting of the divider is possible, and at 8 mm intervals (also see mounting version B in Chapter ME/MK).

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

#### Dimensions of the plastic partitions for TS 3



Aluminium partitions in 1 mm width sections are also available.

$S_z$	$a_x$ (center-to-center distance, dividers)									
	16	18	23	28	32	33	38	43	48	58
4	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**.

Twin dividers are designed for subsequent fitting in the partition system. You can find further information on this in our main catalog.

## Gliding elements – the economical solution for gliding applications

### Replaceable glide shoes



! By means of a positive snap connection, the glide shoes sit firmly on the chain link.

#### Replaceable glide shoes made of plastic\*

To extend the life of cable carriers in gliding operations KABELSCHLEPP supplies detachable, exchangeable glide shoes.

Replaceable glide shoes are a very economical solution. When wear occurs only the glide shoes are replaced, and not the complete cable carrier.

\* not for Q 040

#### Dimensions with glide shoes

Dimensions in mm

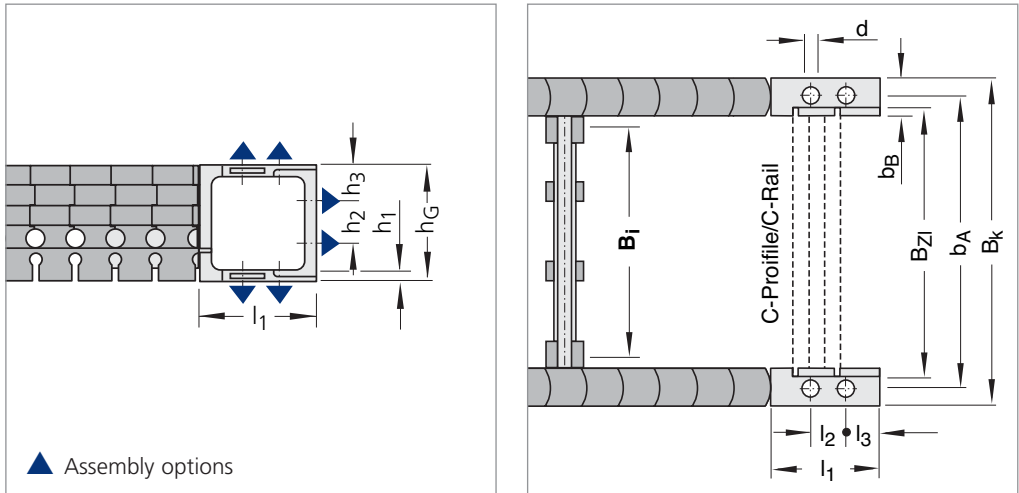
Type	Height $h_G'$	Width $B_{EF}'$
Q 060	$h_G' = h_G + 6 = 66$	$B_i + 56.0$
Q 080	$h_G' = h_G + 8 = 88$	$B_i + 79.5$
Q 100	$h_G' = h_G + 10 = 108$	$B_i + 89.5$



# Quantum – Types Q 040, Q 060, Q 080, and Q 100

## Connection dimensions

### UMB (Universal Mounting Brackets) made of aluminium



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

The connecting elements make the the last 3 pitch divisions at both ends of each sideband immobile.

### Connection dimensions:

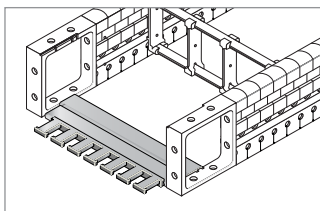
Dimensions in mm

Type	B <sub>ZL</sub>	b <sub>a</sub>	B <sub>k</sub>	d	l <sub>2</sub>	l <sub>3</sub>	l <sub>1</sub>	h <sub>1</sub>	h <sub>2</sub>	h <sub>3</sub>	h <sub>G</sub>	b <sub>B</sub>
Q 040	B <sub>i</sub> + 16	B <sub>i</sub> + 26	B <sub>i</sub> + 40	7	14	13.0	40	5	14	13.0	40	14
Q 060	B <sub>i</sub> + 18	B <sub>i</sub> + 32	B <sub>i</sub> + 52	7	25	17.5	60	5	25	17.5	60	20
Q 080	B <sub>i</sub> + 30	B <sub>i</sub> + 47	B <sub>i</sub> + 72	9	35	22.5	80	8	35	22.5	80	25
Q 100	B <sub>i</sub> + 30	B <sub>i</sub> + 52	B <sub>i</sub> + 82	11	35	32.5	100	10	35	31.5	98	30

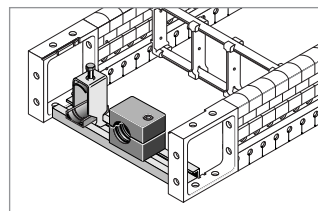
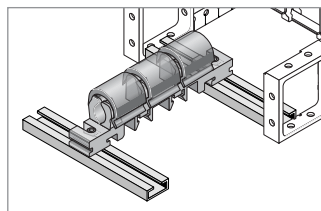
## Strain relief devices

KABELSCHLEPP SZL-strain relief devices can be fastened on the C-profile and C-rail.

### Strain relief comb (Q 040, Q 060)

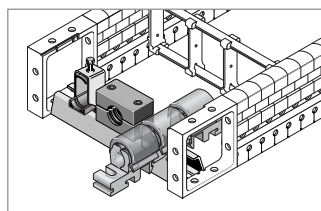


### C-profile bar, slot width 11 – 12 mm (Q 060) suitable for KABELSCHLEPP SZL-strain relief devices



(also for all common commercial bracket clamps with a small base)

### C rail, slot width 16 – 17 mm (Q 080Q, Q 100) suitable for KABELSCHLEPP SZL-strain relief devices



(also for all common commercial bracket clamps with a large base)

You can find further information in the chapter guide channels and other accessories, from page 218 onwards.