

TECHNOLOGY

WHALE DESIGN

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WHALE
CABLE
CHAIN

2025

WHALE
TECHNOLOGY



Whale Technology 2025 Cable Chain System



Company profile



Whale Technology (Shanghai) Co., Ltd. focuses on research and development, driving our production, sales and customized services of injection mold plastic products. Our headquarters is located in Shanghai, with a factory spanning over 12,000 square meters in Changzhou. This facility is equipped with a modern injection molding workshop, a high-quality mold processing workshop, and an intelligent and efficient assembly warehouse.

We have independently developed innovative products, including WHALE nylon cable chains and dust-free cable chains, utilizing advanced processing and manufacturing techniques. These products excel in wear resistance, load-bearing capacity and durability, catering to various application scenarios and finding usage in industries such as the machine tools, the lasers, automotive, medical, automation, and more.

All our products series have undergone rigorous tests for dust, noise, and fatigue resistance, and have received certifications from authoritative institutions for fire resistance, ATEX/ESD compliance, and corrosion resistance.

Benefit by our localized production capabilities, we guarantee a swift delivery period of 1-3 days. Futhermore, we provide convenient selection software and a 3D model library, supported by a team of professional engineers available 24/7 to offer product selection advice and technical consultations.

WHALE's vision is to become a world-class expert in injection mold plastic products, dedicated to delivering superior products and services to our customers.





Series | Summary

The number in each series represents the product's inner height.

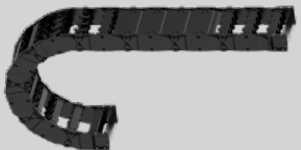
▶ Page 3-18



U-Shaped - easyclip | universal | openable

U10i/U10 series U19i/U19 series U26i/U26 series U35i/U35 series
U15i/U15 series U22i/U22 series U32i/U32 series U45i/U45 series

▶ Page 19-36



General - generic | high load

G28/GR28 series G45/GR45 series G65/GR65 series G112 series
G35/GR35 series G58/GR58 series G85/GR85 series

▶ Page 37-64



Radius - minimum bending radius

R25 series R40 series
R35 series R52 series

▶ Page 65-74



Quiet - low-noise | heavy-duty | ISO Class 3

Q21 series Q35/QR35 series Q52/QR52 series Q80 series
Q30/QR30 series Q40/QR40 series Q62 series

▶ Page 75-98



Quiet-Extra - extremely low noise | convenient | ISO Class 2

QE15 series
QE22 series

▶ Page 99-104



Single-Piece - one-piece | unopenable

S05 series S10 series
S07 series S15 series

▶ Page 105-114



Cleanroom - dust-free cable chains | ISO Class 1

Standard
Non-standard

▶ Page 115-118



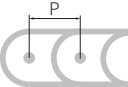
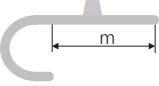
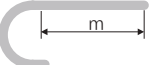
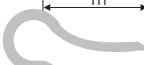

Accessories

Strain Relief Clamp | Tiewrap Plate | C-profile
Guide Trough











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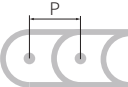


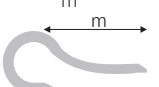
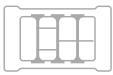
Quick Selection

Legend	Opening principle	Series	Inner height mm	Inner width mm	Outer height mm	Outer width mm	Bending radius mm	
<ul style="list-style-type: none"> ● suitable ☆ suitable to only a limited extent — unsuitable 								
U-Shaped series - easyclip, universal, openable								
	openable 	Ui series, snap-open crossbars along the inner radius						
		U10i	10	10-50	14.3	17-57.6	018-038	
		U15i	15	10-50	19.3	18.2-58.2	025-048	
		U19i	19	15-80	26	27-93.5	028-100	
		U22i	22	68-125	29	82.5-139.5	035-180	
		U26i	26	25-125	36	42-142	045-250	
		U32i	32	15-50	39	27-62	040-100	
		U35i	35	50-125	50	68-143	063-250	
U45i	45	50-175	64	71-196	075-250			
	openable 	U series, snap-open crossbars along the outer radius						
		U10	10	10-50	14.3	17-57.6	018-038	
		U15	15	10-50	19.3	18.2-58.2	025-048	
		U19	19	15-80	26	27-93.5	028-100	
		U22	22	68-125	29	82.5-139.5	035-180	
		U26	26	25-125	36	42-142	045-250	
		U32	32	15-50	39	27-62	040-100	
		U35	35	50-125	50	68-143	063-250	
U45	45	50-175	64	71-196	075-250			
General series - generic, high-load								
	openable 	G series, crossbars are swivelable on both sides, openable along the inner or outer radius						
		G28	28	40-200	43	59-219	046-250	
		G35	35	50-300	55	74-324	063-300	
		G45	45	50-300	66	76-326	075-300	
		G58	58	50-300	78	80-330	125-400	
		G65	65	50-550	94	84-584	135-400	
		G85	85	50-550	113	100-600	150-500	
G112	112	50-550	140	100-600	200-500			
	enclosed 	GR series, lids are swivelable on both sides, openable along the inner or outer radius						
		GR28	28	38-100	43	57-119	075-250	
		GR35	35	50-150	55	74-174	125-300	
		GR45	45	50-400	66	76-426	125-300	
		GR58	58	50-400	78	80-430	150-400	
		GR65	65	100-400	94	134-434	150-400	
GR85	85	100-400	113	150-450	200-500			

	Pitch mm 	Max unsupported load Kg/m 	Max unsupported length m 	Max sliding length m 	Separators 	Common Index ★★★★★	Page
	20	0.7	1.0	—	●	★★★	21-22
	20	1.3	1.1	—	●	★★★★	23-24
	30.5	2.5	1.5	—	●	★★★★★	25-26
	33.3	3	1.8	—	●	★★★★★	27-28
	46	4	2.3	—	●	★★★★★	29-30
	40	4	1.8	—	●	★★★	31-32
	56	10	2.4	—	●	★★★★★	33-34
	67	30	3.2	—	●	★★★★★	35-36
	20	0.7	1.0	10	●	★★	21-22
	20	1.3	1.1	20	●	★★★★	23-24
	30.5	2.5	1.5	40	●	★★	25-26
	33.3	3	1.8	50	●	★★	27-28
	46	4	2.3	60	●	★★	29-30
	40	4	1.8	50	●	★★	31-32
	56	10	2.4	80	●	★★	33-34
	67	30	3.2	100	●	★★	35-36
outer radius							
	46	20	2.3	60	●	★★	39-40
	58.8	20	2.8	80	●	★★★★	43-44
	70	35	3.3	100	●	★★★★★	47-48
	70	60	3.5	120	●	★★★★★	51-52
	100	70	4.2	140	●	★★★★	55-56
	100	75	5.2	150	●	★★	59-60
	125	90	6.2	180	●	★	63-64
inner radius							
	46	20	2.3	60	●	★★	41-42
	58.8	20	2.8	80	●	★★★	45-46
	70	35	3.3	100	●	★★★★★	49-50
	70	60	3.5	120	●	★★★★★	53-54
	100	70	4.2	140	●	★★★	57-58
	100	75	5.2	150	●	★★	61-62

Quick Selection

Legend	Opening principle	Series	Inner height mm	Inner width mm	Outer height mm	Outer width mm	Bending radius
<ul style="list-style-type: none"> ● suitable ☆ suitable to only a limited extent — unsuitable 							
Radius series - minimum bending radius							
	enclosed 	R series, removable lids along the inner or outer radius					
		R25	25	38-175	38	50-187	060-200
		R35	35	38-175	50	56-193	075-250
		R40	40	50-150	54	66-166	085-250
		R52	52	50-150	66	68-168	100-250
Quiet series - low-noise and dust-free							
	openable 	Q series, removable crossbars along the inner or outer radius					
		Q21	21	25-140	28	39-154	032-075
		Q30	30	25-140	37	45-160	055-150
		Q35	35	25-140	42	45-160	055-150
		Q40	40	40-200	54	64-224	063-200
		Q52	52	40-200	65	64-224	075-200
		Q62	62	50-300	84	86-336	115-300
	enclosed 	QR series, removable lids along the inner or outer radius					
		QR30	30	30-100	37	50-120	055-150
		QR35	35	30-100	42	50-120	055-150
		QR40	40	50-150	54	74-174	075-200
	openable 	QE series, zip-open crossbars along the outer radius					
		QE15	15	20-60	20	32-72	032-075
		QE22	22	20-60	27	32-72	038-075
Single-Piece series							
	one-piece 	S series, the crossbar cannot be opened					
		S05	5	8	8.7	12	010-028
		S07	7	7	10	12	015-038
		S10	10	6	12	10	018-038
S15	15	10	19.3	18.2	020-048		

	Pitch mm 	Max unsupported load Kg/m 	Max unsupported length m 	Max sliding length m 	Separators 横竖隔片 	Common Index ★★★★★	Page
	33.3	3	1.2	—	●	★★★★★	67-68
	33.3	6	1.6	—	●	★★★★★	69-70
	46	8	1.8	—	●	★★★★	71-72
	46	10	2.2	—	●	★★★	73-74
	20	3	1.1	—	●	★★	77-78
	25	7	1.6	—	●	★★★★★	79-80
	25	7	1.8	—	●	★★★★★	83-84
	30	20	2.5	—	●	★★★★★	87-88
	30	20	2.8	—	●	★★★★	91-92
	50	40	3.8	—	●	★★★	95-96
	65	40	4.5	—	●	★★	97-98
	25	7	1.6	—	●	★	81-82
	25	7	1.8	—	●	★	85-86
	30	20	2.5	—	●	★	89-90
	30	20	2.8	—	●	★	93-94
	16.7	0.2	0.6	—	●	★★	101-102
	16.7	0.3	1.0	—	●	★★	103-104
	10	0.4	0.4	—	—	★	107-108
	16.7	0.4	0.4	—	—	★	109-110
	20	0.7	0.5	—	—	★	111-112
	20	1.3	0.8	—	—	★	113-114

Terminology and Formulas

α	= The degree of rotation of the rotating machine element	[°]	H_{Gi}	= Guide trough inner height	[mm]
β	= Fixed end angle	[°]	H_i	= Cable chain inner height	[mm]
ΔM	= Deviation of the center point	[mm]	H_f	= Required clearance height	[mm]
μ	= Friction coefficient	[1]	K	= Add-on for bending radius	[mm]
a	= Acceleration	[m/s ²]	K_1	= Add-on for bending radius if the mounting poing is lowered	[mm]
B_a	= Cable chain outer width	[mm]	L_c	= C-profile length	[mm]
B_{Ga}	= Guide trough outer width	[mm]	L_G	= Length of guide trough bottom	[mm]
B	= Guide trough inner width	[mm]	L_k	= Cable chain length	[mm]
B_i	= Cable chain inner width	[mm]	M	= Total mass of system	[kg]
d	= Cable outer diameter	[mm]	N	= Number of links	[1]
D	= Over length chain radius in final position	[mm]	n_R	= Number of the first rotated chain links	[1]
D_1	= Over length for gliding	[mm]	n_z	= Number of tiwrap plate teeth	[1]
FL_B	= Unsupported length with permitted sag	[m]	P	= Chain link pitch	[mm]
FL_G	= Unsupported straight length	[m]	R	= Bending radius	[mm]
H	= Nominal clearance height	[mm]	S	= Travel length	[mm]
H_1	= Clearance height with lowered moving end	[mm]	T_1	= Guide trough thickness	[mm]
H_a	= Cable chain outer height	[mm]	T_2	= Glide bar thickness	[mm]
H_{Ga}	= Guide trough height	[mm]	v	= Speed	[m/s]

Application

● Project description _____

● Installation type

Unsupport (short travels)	Sliding (long travels)	Vertical hanging	Vertical standing	Side-mounted straight	Others

● Environment data

Outdoor/Indoor _____ [kg/m] Temperature _____ [°C] Humidity _____ [%]
 Any dust, dirt, debris and chemical substances outdoor/indoor _____ Others _____

● Operational parameters

Travel length _____ [m] Load _____ [kg/m] Speed _____ [m/s]
 Acceleration _____ [m/s²] Cycles/day _____ Days/year _____

● Spacial data

Installation height _____ [mm] Installation width _____ [mm] Bending radius _____ [mm]
 Deviation of the center point _____ [mm] Installation position _____

● Cable parameters

Number	Manufacturer/Type	Quantity	Outer radius[mm]	Weight[kg/m]	Minimum bending radius[mm]
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● Other requirements

Openable cable chain Connector configuration Strain relief Openable along the outer radius Separators
 Enclosed cable chain Quiet and dust-free Crossbar reversible Openable along the inner radius Guide trough
 Additional requirement _____

● Date | Contact Information

Technical engineer _____
 Method of contact _____
 Company _____
 Date _____

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● Unsupported - Short travels

Unsupported applications

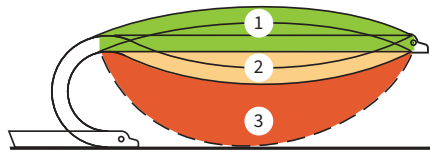


Figure 1 1) FL_G-unsupported with 'straight' upper run
 2) FL_B-unsupported with permitted sag
 3) Critical sag

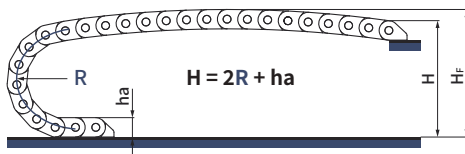


Figure 2



Figure 3

2. FL_B-unsupported with permitted sag

This refers to when the cable chain collapses more than 10-40mm (depending on the specifications of the cable chains) but less than the maximum collapse (generally less than the minimum bending radius of the cable chain used). It is allowed to collapse safely under certain circumstances, especially at low speed and low acceleration. However, when the cable chain runs in this state, it will increase wear and vibration, and the noise will also increase at the same time.

3. Critical sag

If the sag is greater than FL_B, it is called critical sag. In this case, it will seriously affect the life of the cable chain and the safety of the equipment. It should be avoided during selection. If the cable chain collapses dangerously after long service times, it should be replaced as soon as possible.

Definition:

When the cable chain moves horizontally, the unsupported part refers to the upper part of the cable chain that does not touch the lower part during its movement.

Unsupported length:

The supported distance between the moving end of the cable chain and the beginning of the radius arc.

The unsupported application is the most common. The maximum unsupported length is dependent upon the fill weight and the type of the cable chain. In general, travel lengths within 10 meters can be used in this way.

WHALE cable chain's structural design determines its high-load characteristics, making it suitable for high speed, high acceleration, and long travel applications, and can extend the lifespan of the cable chain.

Unsupported types:

As shown in Figure 1, there are three types of unsupported applications, which all correspond to different unsupported lengths.

In the introductions of each WHALE cable chain, there will be an 'Unsupported-Load Diagram' derived from experimental analysis, which reflects the unsupported capabilities of cable chains of different specifications in detail, serving as a reference for selection.

1. FL_G-Unsupported with 'straight' upper run

The upper run has camber or is straight, or has a maximum of 10-40mm sag (depending on the specifications of the cable chains). The FL_G type of installation is always preferred as it can extend the service life and reduce the noise and vibration during operation.

a. Unsupported with straight - Camber

As shown in Figure 2, since all standard WHALE chains have certain camber, slightly increasing installation space is necessary for the cable chain to fit. Proper camber can increase the unsupported length and prolong the lifespan. If you need a non-camber version, please contact us.

b. Unsupported with straight -Noise

As shown in the structure in Figure 3, when designing each product, WHALE uses a noise reducing structure, which helps to significantly lower the noise created as the product is in motion.

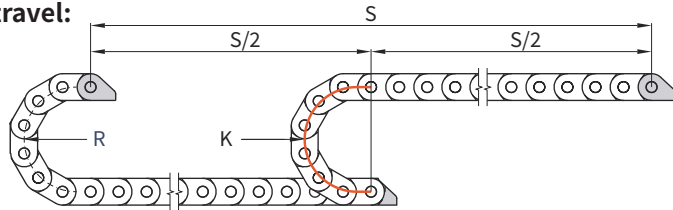
● Unsupported - Short travels

Cable Chain Length Calculation

During selection and design, we recommend installing the fixed end of the cable chain at the midpoint of the travel. By doing this, it uses the shortest cable chain necessary, and the lowest cost possible.

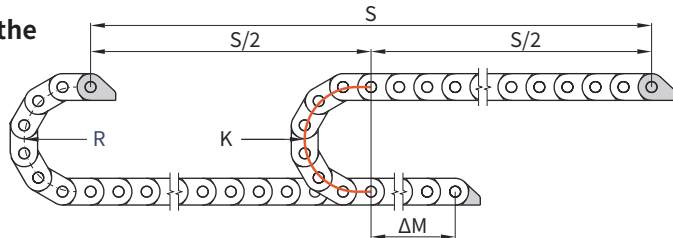
- The fixed end is at the midpoint of the travel:

$$L_K = S/2 + K$$



- The fixed end deviated the midpoint of the travel:

$$L_K = S/2 + K + \Delta M$$



The Unsupported Length is Insufficient - Solutions:

- Select a cable chain with a higher load capacity or longer unsupported length traveled without collapsing;
- Adding support to the unsupported segment:
 1. Add one support (shown in Figure 1), can extend the unsupported length by 50%;
 2. Add two supports (shown in Figure 2), can extend the unsupported length by 100%;
 3. Add area supports (shown in Figure 3), can extend the unsupported length by maximum by 100%;

Note: when adding support, the speed, acceleration and noise of the cable chains will be affected to some extent.

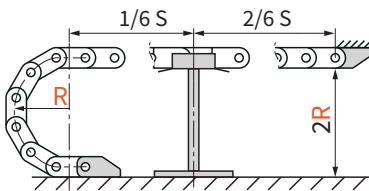


Figure 1

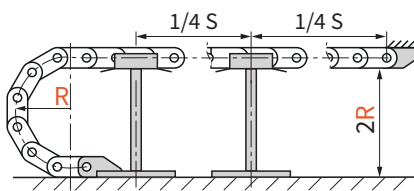


Figure 2

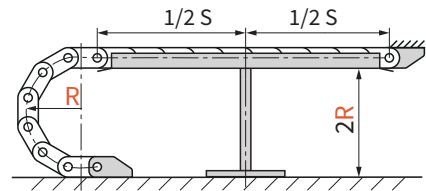
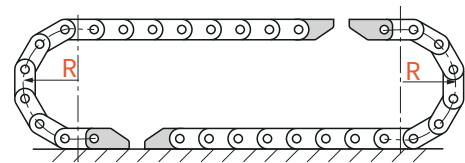


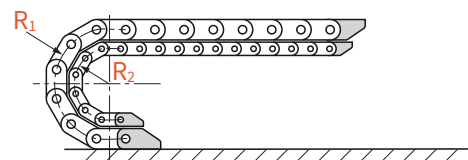
Figure 3

- Split and nest installation;

When the installation height and width are limited and increasing the load of the cable chain is required, we recommend installing two cable chains split or nested, as shown on the right. Please contact a WHALE engineer for more specific design.



Split installation



Nest installation

- Considering using sliding application. Please refer to 'Sliding - Long Travels' for more information.

● Sliding - Long travels

Sliding applications



If the travel length is beyond the limit of the unsupported range, sliding solution is recommended for long travel applications, with travel length up to hundreds of meters. Sliding is applied widely and proved to be an efficient, safe and reliable way of power supply.

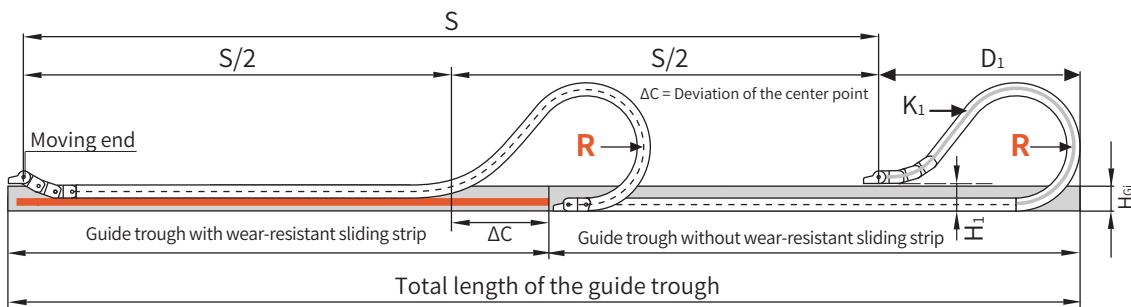
The upper section of the cable chain is supported by the lower section. Part of the upper section of the cable chain slides on the lower section of the cable chain, and the other part slides on the wear-resistant sliding bar with the same height. To prevent lateral deviation, the guide trough system must be used.

WHALE cable chain is very suitable for long-travel sliding application from structural design to raw material selection, especially U series and G series products, having the characteristics of high wear resistance, low noise and good straightness, which can greatly extend the lifespan of the cable chain.

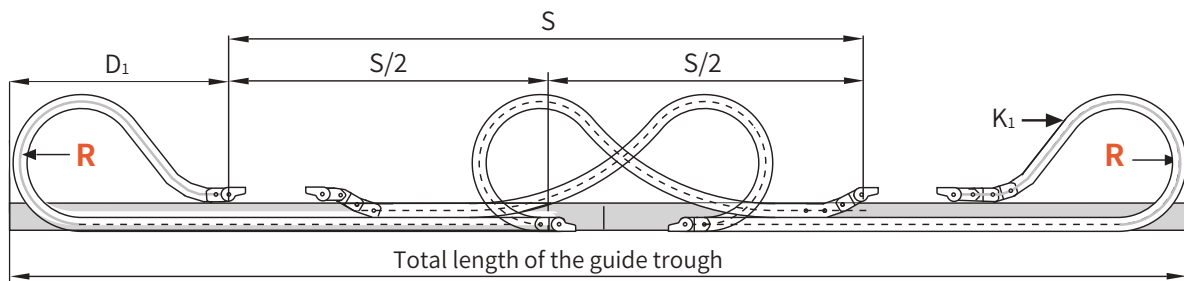
Sliding Cable Chain Length Calculation

$$L_k = S/2 + K_1$$

● Single sliding cable chain:



● Two cable chains split sliding: for restricted space or very high loads

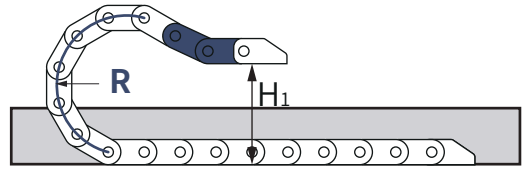


● Sliding - Long travels

1. Lower the Installation Height of the Moving End

In sliding application, if the moving end is high and the hanging section of the cable chain is too long, the cable chain will cause too much load when it returns, which may lead to the risk of breaking.

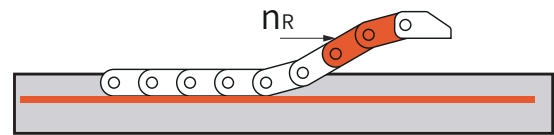
Reducing the height H_1 of the moving end can reduce the hanging length of the cable chain, reduce the included angle between the upper and lower cable chains, make the cable chain more stable in operation and prolong its service life.



2. During Installation, Flip the Orientation of the Moving End pitches:

When using the sliding cable chain, in addition to reducing the installation height, it is also necessary to flip the orientation of several pitches of the moving end of the cable chain during installation, as shown in the image on the right, so as to reduce the strain put on the cable chain and prevent the cable chain from arching.

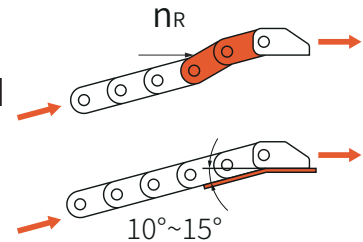
The specific number of flipped pitches (n_R) can be found in diagrams of the various cable chain series. If you have any related questions, please contact our engineers.



III. Mounting brackets and supports in the moving end

In sling application, we recommend the pivoting mounting brackets as the standard configuration, which can reduce the load of the links at both ends of the cable chain and avoid strain concentration.

In addition, we suggest adding support at the moving end of the cable chain to avoid accidental fracture due to excessive extrusion during operation. The support plate is recommended to be between 10 and 15 angles.



IV. Guide trough system

Guide trough is an important device of gliding application. We provide modular standard guide trough of WHALE cable chains to meet the normal sliding requirements.

Two kinds of materials, stainless steel and galvanized steel, are available.



V. Free design solutions and consultation

In the long travel application, the scheme design and cable chain selection have a great influence on the running state and lifespan of the cable chain in the later period. Therefore, we suggest consulting our engineer during the long travel design, and we will provide related consulting services such as design scheme, drawing model, pipeline arrangement and installation guidance free of charge.



● Vertical - Standing | Hanging



Standing application

Definition: The cable chain operates in the vertical direction and the arc bending upwards.

In truss manipulator, machine tool, laser and other industries, vertical standing is a common installation method. Under this working condition, since the cable chain needs to bear the weight of the cable and its own weight, there is a risk of lateral dumping, so the travel is generally short.

Attention

- **Mounting bracket** - We recommend **locking mounting brackets** as standard for vertical standing applications. The cable chains can not sway with locking mounting brackets during the movement.
- **Camber** - To prevent the cable chain from arching sideways, we recommend using the non-camber version of WHALE cable chains. Please contact our engineer if any questions.
- **Lateral guidance** - We recommend installing a lateral guidance when the cable chain has lateral acceleration in order to prevent the risk of toppling.



Hanging application

Definition: The cable chain operates in the vertical direction and the arc bending downwards.

In construction machinery, robots, truss manipulators, logistics warehousing and other industries, vertical hanging is a common installation method. Under this working condition, as the cable chain does not need to bear the weight of the cable, the travel can reach hundreds of meters.

Attention

- **mounting brackets** as standard for vertical hanging applications. The cable chains can not sway with locking mounting brackets during the movement.
- **Camber** - To prevent the cable chain from arching sideways, we recommend using the non-camber version of WHALE cable chains. Please contact our engineer if any questions.
- **Lateral guidance** - As the cable chain has lateral acceleration, we recommend installing a lateral guidance to protect it against swinging.
- **Clamp** - When the cable chain is hang vertically, in order to prevent additional tension from acting on the internal cable, we suggest installing clamps and other strain-relieving components at the mounting brackets to prevent the risk of cable wear and core fracture during long travel hanging.

● Side-mounted - Straight | Rotary



Straight application

Definition: The cable chain is placed on their side and has a linear movement in horizontal direction.

Attention

- **Mounting brackets** - We recommend **locking mounting brackets** as standard for side-mounted straight applications. Locking mounting brackets can prevent the cable chains from swinging during the movement.
- **Distribution of cables and hoses** - When the cable chain is installed straight, the internal pipeline will squeeze the cable at the bottom due to its own gravity, which will lead to cable wear. Therefore, we suggest to use vertical separators, and the hose layout should also follow the law of light up and heavy down. Please refer to the distribution of cables and hoses for details.
- **Bottom support** - For the side-mounted installation with low load or short travel, the cable chain can be hang. When the travel needs to be increased and the internal load of the cable chain is high, the bottom support needs to be added, as shown in the left figure. In addition, in practical application:

The wider the cable chain width, the longer the unsupported length;

The smaller the bending radius, the longer the unsupported length.



Rotary application

Definition: The cable chain is placed on their side and has a circular movement in horizontal direction.

In robotics, construction machinery, military and aerospace industries, due to the installation space and operation mode of equipment, rotary application is a common installation method.

Attention

- **Mounting bracket** - We recommend **pivoting mounting brackets** as standard for side-mounted rotary applications.
- **Calculation of the cable chain length and bending radius** - When the cable chain rotates, it can rotate along the outer or the inner track. Please contact our engineers for specific design and calculation.
- **Distribution of cables and hoses** - When the cable chain is installed rotatedly, the internal pipeline will squeeze the cable at the bottom due to its own gravity, which will lead to cable wear. Therefore, we suggest to use vertical separators, and the hose layout should also follow the law of light up and heavy down. Please refer to the distribution of cables and hoses for details.



● Distribution of Cable and Hose Packages - General Rules



General Rules

The cables and hoses inside the cable chain must be evenly distributed and separated from each other as far as possible, so as to ensure that there is a certain distance around the cable to move freely during operation, and prevent entanglement, abrasion and mutual extrusion of the cable, which will affect the service life of the cable chain and the hose. Therefore, the arrangement and internal cavity separation of the cable is particularly important.

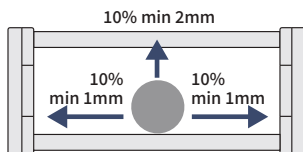
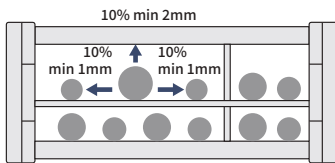
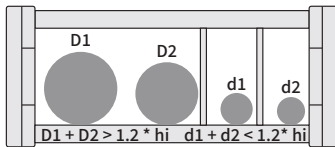
Principle Hoses of different materials need to be separated by separators.

Round electrical cables If space permits, use vertical separators as far as possible.

Flat cables Multiple flat cables should be separated by vertical separators when arranged side by side, and separated by horizontal separators when stacked.

Pneumatic hoses In principle, the same rules apply for pneumatic hoses as for round cables. For rubber hoses, it is suggested to enlarge the distance to avoid adhesion.

Hydraulic hoses When designing hydraulic hoses, special attention should be paid to the expansion of the hoses when pressurized. Sufficient room must be left in the cable chain.



Clearance Space

Round electrical cables: 10%

Flat cables: 10%

Hydraulic hoses: 20%

Hoses: 15-20%

Pneumatic hoses: 5-10%

Attention: The inner filling of cable chains should not exceed **65%**!

Reasons for Distribution Rules

- $D1 + D2 \geq 1.2 \times hi$

If the above rule is met, the adjacent cables and hoses do not need to use separators.

- $D1 + D2 \leq 1.2 \times hi$

If the above rule is met, a vertical separator or a horizontal shelf must be used to reduce the inner height.

Weight Distribution

- Horizontal installation: it is necessary to ensure that the weight of cables and hoses is symmetrically and evenly distributed along the width direction, otherwise, one side of the cable chain will be more worn, thus shortening the service life. Therefore, when arranging, try to put heavy cables on both sides.

- Side-mounted installation: It is necessary to ensure that the weight of internal pipelines is distributed from light to heavy from top to bottom, so as to avoid the risk of cable chain toppling.

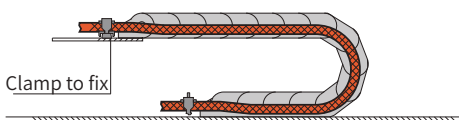
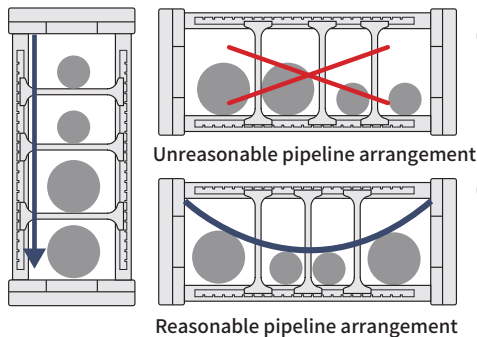
Bending Radius

The bending radius of the cable chain depends on the maximum transverse dimension and hardness of the designed cable, and should not be less than the minimum bending radius allowed by the internal cable. During the operation of the cable chain, the internal cable should be in a natural state of varicose, and there is enough free space to avoid receiving tension at the bending radius and aggravating wear.

Strain Relief

In the running process of the cable chain, in order to avoid the stretching and abrasion of the internal hose, it is suggested to use strain relief for fixing at both ends of the cable chain. The U series of WHALE cable chain has its own wire binding plate at the joint, which can be easily fixed with cable ties. For T series, R series, G series and Q series, we suggest fixing them with cable clamps or tie plates. If there is any demand, please contact our design engineer.

Reasonable pipeline arrangement



Material Characteristics

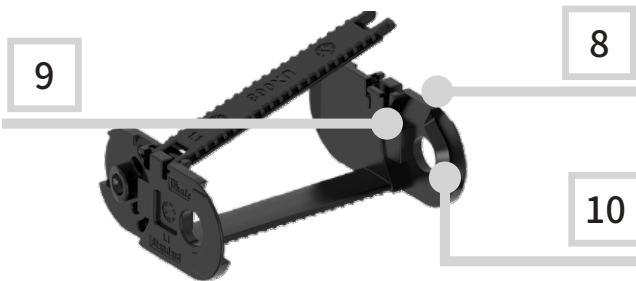
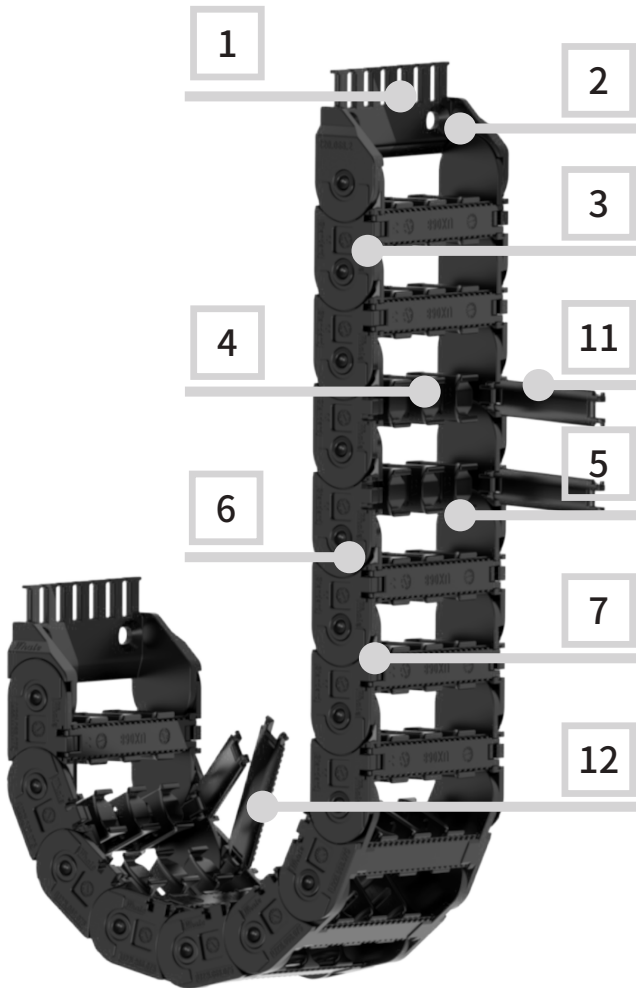
Item	Method	Unit	M163	M107	ESD9
Density	ISO 1183	g/cm ³	1.37	1.14	1.2
Color			Black	Black	Black
Max. moisture absorption at +23° C/RH50	ISO 62	%	1.8	3.4	1.9
Maximum water absorption	ISO 62	%	6.4	7.6	7.3
Yield stress [dry/wet]	ISO 527	MPa	190/130	80/40	150/100
Elongation at break [dry/wet]	ISO 527	%	2.8/6	40/50	2.5/4.5
Tensile modulus [dry/wet]	ISO 178	MPa	11000/7250	3200/1000	11500/7500
Flexural modulus [dry/wet]	ISO 178	MPa	9800/7000	2800/900	8900/6300
Flexural strength [dry/wet]	ISO 868	MPa	250/155	105/35	230
Shore hardness		D	79	79	83
Continuous work temperature		° C	-40/+120	-40/+80	-40/+80
Short-time work temperature		° C	-40/+180	-40/+170	-40/+150
Volume resistivity	IEC60093	Ωcm	>1011	>1011	<109
Surface resistivity	IEC60093	Ω	>1011	>1011	<109
Flammability	UL94		HB	V2	HB
Silicone-free			+	+	+
Halogen-free			+	+	+
2002/95/EG(RoHS)			+	+	+

Medium	Ratio %	M163	M107	ESD9
Acetic acid	2	++	++	++
Acetone	100	++	++	++
Ammonia(aqueous)	10	++	++	++
Benzene	100	++	++	++
Bitumen	100	+	+	+
Boric acid(aqueous)	10	++	++	++
Butyric acid	100	+	+	+
Calcium chloride(aqueous)	Sat. aq. sol.	++	++	++
Caustic potash	10	++	++	++
Chlorinated hydrocarbons		++	++	++
Chlorine water	Sat. aq. sol.	-	-	-
Chromic acid(aqueous)	1	+	+	+
Diesel Oil	100	++	++	++
Fats, cooking fat		++	++	++
Fluorinated hydrocarbons		++	++	++
Formaldehyde(aqueous)	30	+	+	+
Formic acid(aqueous)	2	++	++	++
Gasoline	100	++	++	++
Hydraulic oils		++	++	++
Hydrochloric acid	PH=2	+	+	+
Hydrochloric acid	2	+	+	+
Hydrochloric acid	10	+	+	+
Ink, printing ink		++	++	++

Medium	Ratio %	M163	M107	ESD9
Mercury		++	++	++
Methyl acetate	100	++	++	++
Milk		++	++	++
Mineral oil		++	++	++
Cooking oil		++	++	++
Lubricating oil		++	++	++
Oleic acid	100	+	+	+
Paraffin oil		++	++	++
Perchloroethylene	100	++	++	++
Polyester resins (with styrene)		++	++	++
Potassium carbonate (aqueous)	60	++	++	++
Potassium sulphate (aqueous)	100	++	++	++
Propane gas		++	++	++
Sodium carbonate (aqueous)	50	++	++	++
Tartaric acid		+	+	+
Vaseline		++	++	++
Zinc sulphate (aqueous)	210	++	++	++

++ Resistant
 + Conditional resistant
 - Non-resistant
 Sat. aq.sol. Saturated aqueous solution

U-Shaped Series ● Introduction | Benefits



Features & Benefits

- 1 The mounting brackets with its own tie-wrap plate is convenient for cable fixation.
- 2 The mounting brackets which can be applied to various occasions.
- 3 Proportional optimization of large-size shaft to improve load capacity.
- 4 Vertical and horizontal separators can be installed as required.
- 5 Smooth inner surface of cable chain effectively reduces wear.
- 6 Precise hollowed-out side plates reduce the weight of cable chain.
- 7 The integrated sliding surface is convenient for long-travel applications.
- 8 Two-piece structure, stable and torsion-resistance.
- 9 High-strength stop blocks increase unsupported length and load capacity.
- 10 Unique internal noise reduction structure.
- 11 U series, the cross bar can be split along the outer radius.
- 12 Ui series, the cross bar can be split along the inner radius.

Customized service of U series products




UL94 certification /CE certification is available.



ESD products can be provided as required.

U-Shaped Series ● Size Range | Application Scenario

Series	Hi [mm]	Ha [mm]	Bi [mm]	Ba [mm]	R [mm]	P [mm]	Maximum unsupported length [m]	Page
U-Shaped Easyclip Snap-open crossbars along the inner or outer radius								
U10i/U10	10	14.3	10-50	17-57.6	018-038	20	1.0	21-22
U15i/U15	15	19.3	10-50	18.2-58.2	028-048	20	1.1	23-24
U19i/U19	19	26	15-80	27-93.5	028-100	30.5	1.5	25-26
U22i/U22	22	29	68-125	82.5-139.5	035-180	33.3	1.8	27-28
U26i/U26	26	36	25-125	42-142	045-250	46	2.3	29-30
U32i/U32	32	39	15-50	27-62	040-100	40	1.8	31-32
U35i/U35	35	50	50-125	68-143	063-250	56	2.4	33-34
U45i/U45	45	64	50-175	71-196	075-250	67	3.2	35-36

★ If you need other sizes of cable chains, please contact our engineers.

Application requirements of U series products

- Unsupported | Moderate load
- Easy clip | Quick disassembly and assembly
- High speed | High acceleration
- Sliding | Moderate travel
- Longlife | Low noise



Application of U series in woodworking industry

Ordering example of U-Shaped Cable Chain

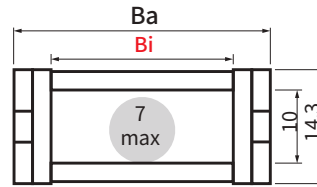
Example of standard material ordering



Special application ordering example:

- Anti-static (Resistance: $10^4 - 10^8$) ordering: U26i.057.075.ESD
- Sliding ordering: U26.057.075-36P-S
- Moderate and high temperature resistance (250°) ordering: U26i.057.075.MT
- Low temperature resistance (-40°) ordering: U26i.057.075.LT
- Corrosion protection (PH: 2.0-14.0) ordering: U26i.057.075.EG
- Flame retardant (flame retardant rating: V0) ordering: U26i.057.075.FR
- Bidirectional bending ordering: U26i.057.055/150 (Note: 055/150 respectively positive and reverse bending radii.)
- Non-camber cable chain ordering: U26i.057.075.NC

U10i/U10 Series | Openable | The crossbar can be split

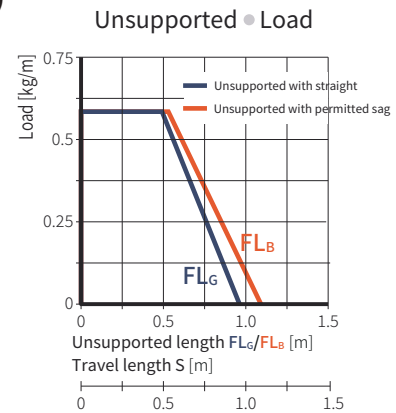
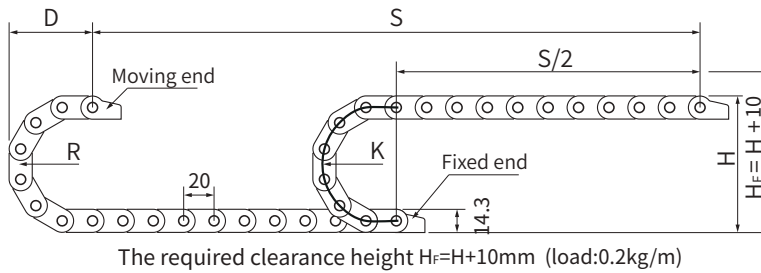


Hi: 10mm
Pitch: 20mm
Numbers of Pitch/m: 50

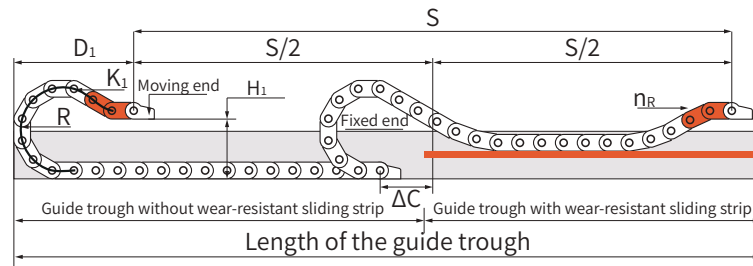
Product code Inner opening	Product code Outer opening	Bi [mm]	Ba [mm]	Available Radius [mm]	Weight [kg/m]
U10i.10.R	U10.10.R	10	17.0	018 028 038	≈ 0.13
U10i.15.R	U10.15.R	15	22.6	018 028 038	≈ 0.16
U10i.20.R	U10.20.R	20	27.0	018 028 038	≈ 0.17
U10i.30.R	U10.30.R	30	37.6	018 028 038	≈ 0.20
U10i.40.R	U10.40.R	40	47.6	018 028 038	≈ 0.23
U10i.50.R	U10.50.R	50	57.6	018 028 038	≈ 0.27

★ If there are special sizes and application requirements, we can provide customized services.

Unsupported | Short-travel | $L_K=S/2+K$ (Midpoint installation)



Sliding | Long-travel | $L_K=S/2+K_1$ (Midpoint installation)



Travel $\leq 20\text{m}$



Guide trough

R[mm]	H[mm]	D[mm]	K[mm]	H ₁ [mm]	D ₁ [mm]	K ₁ [mm]	ΔC[mm]
018	50.3	55	100	38	55	110	—
028	70.3	65	130	45	110	180	50
038	90.3	75	160	45	145	240	75

Note: If you need long-travel application, please choose U10 series (outer opening), or consult our engineers.

Technical data

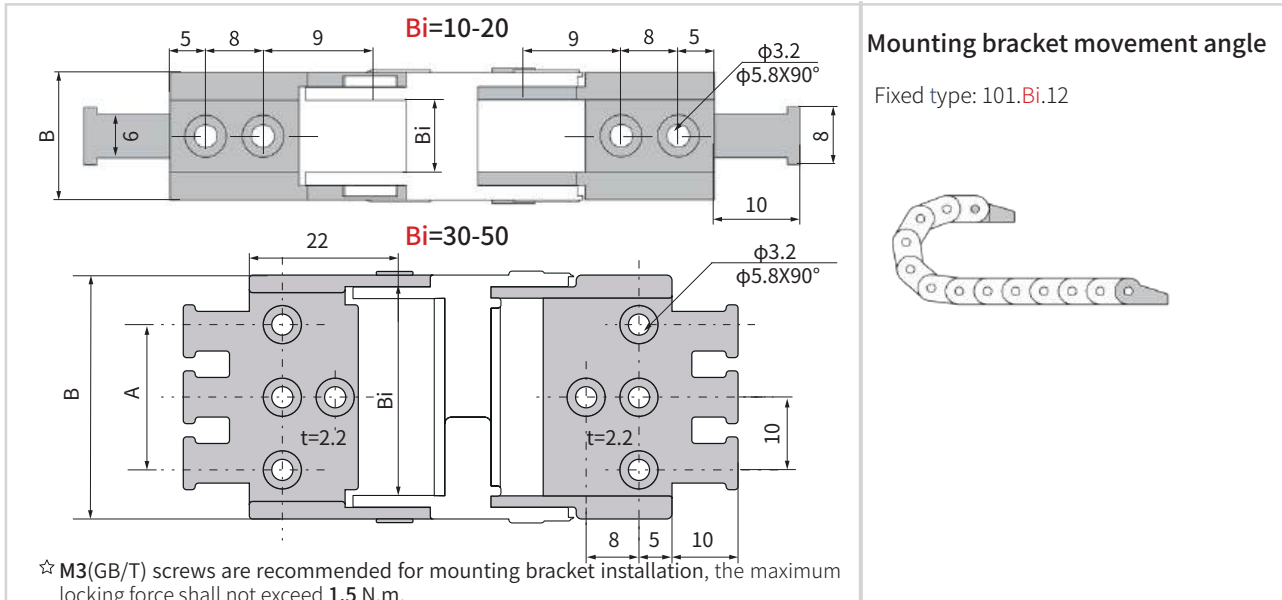
	Unsupported length	$\leq 1.0\text{m}$	Speed/Acceleration FL_G	≤ 20 [m/s] / 200 [m/s ²]
	Sliding length	$\leq 10\text{m}$	Speed/Acceleration FL_B	≤ 3 [m/s] / 6 [m/s ²]
	Vertical hanging	$\leq 10\text{m}$	Sliding speed/Acceleration	≤ 3 [m/s] / 10 [m/s ²]
	Vertical standing	$\leq 0.5\text{m}$	Permit temperature	-40°C ~120°C
	Side-mounted	$\leq 0.5\text{m}$	Flame retardant grade	UL94 HB
			Self-friction coefficient of cable chain	0.40
			Friction coefficient (cable chain&bar)	0.20

U10i/U10 Series | Openable | Accessories

Mounting bracket size ● Fixed

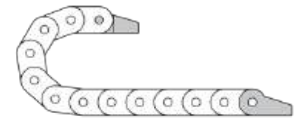
Inner mounting bracket code: 101.**Bi**.1

Outer mounting bracket code: 101.**Bi**.2

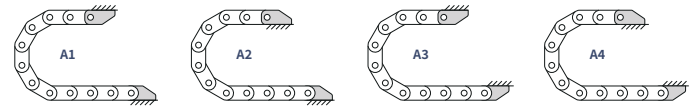


Mounting bracket movement angle

Fixed type: 101.**Bi**.12



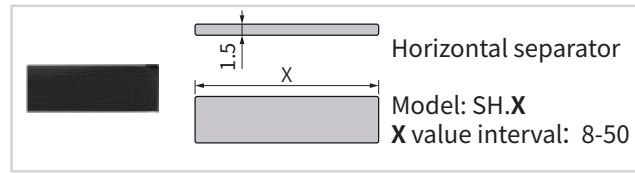
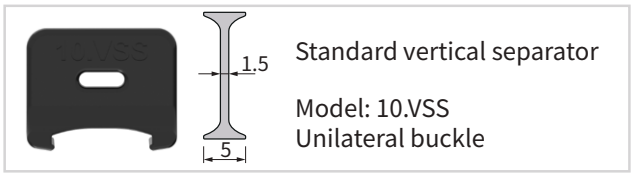
☆ M3(GB/T) screws are recommended for mounting bracket installation, the maximum locking force shall not exceed 1.5 N.m.



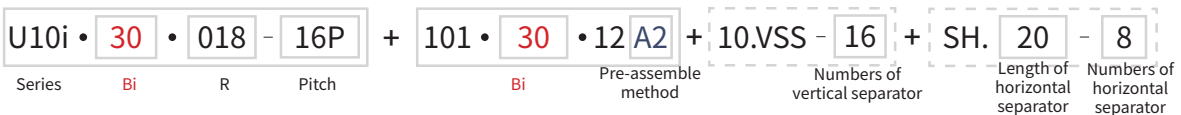
★ If the mounting bracket needs to be pre-assembled when it is delivered, please explain the installation method (A1|A2|A3|A4), e.g. 101.40.12A1

Bi [mm]	Full set fixed mounting bracket code With tiewrap plate	A [mm]	B [mm]	Teeth number [1]
.10.	101.10.12	—	17.0	1
.15.	101.15.12	—	22.6	2
.20.	101.20.12	—	27.0	2
.30.	101.30.12	22.0	37.6	3
.40.	101.40.12	32.0	47.6	4
.50.	101.50.12	42.0	57.6	5

Inner separation ● Vertical separator | Horizontal separator

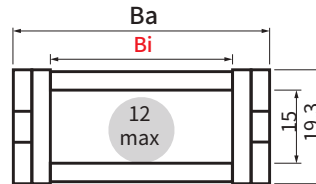
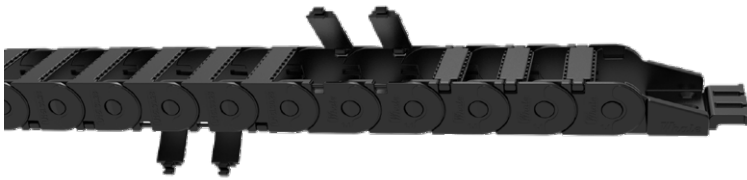


Example of standard material ordering



★ Please refer to page 20 for ordering special materials such as anti-static, sliding and non-camber.

U15i/U15 Series | Openable | The crossbar can be split

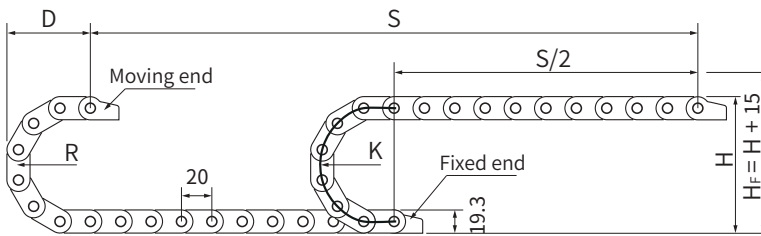


Hi: 15mm
Pitch: 20mm
Numbers of Pitch/m: 50

Product code Inner opening	Product code Outer opening	Bi [mm]	Ba [mm]	Available Radius [mm]	Weight [kg/m]
U15i.10.R	U15.10.R	10	18.2	028 038 048	≈ 0.10
U15i.15.R	U15.15.R	15	23.2	028 038 048	≈ 0.13
U15i.20.R	U15.20.R	20	28.2	028 038 048	≈ 0.16
U15i.30.R	U15.30.R	30	38.2	028 038 048	≈ 0.17
U15i.40.R	U15.40.R	40	48.2	028 038 048	≈ 0.20
U15i.50.R	U15.50.R	50	58.2	028 038 048	≈ 0.23

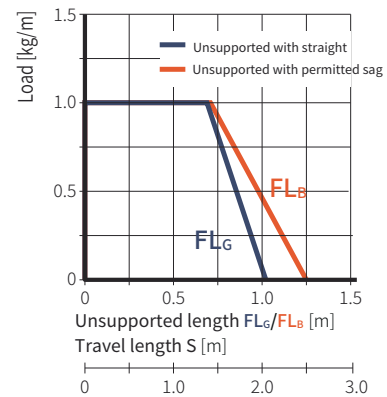
★ If there are special sizes and application requirements, we can provide customized services.

Unsupported | Short-travel | $L_K=S/2+K$ (Midpoint installation)

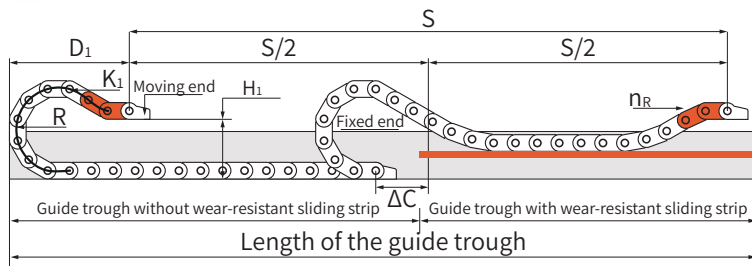


The required clearance height $H_f=H+15\text{mm}$ (load: 0.3kg/m)

Unsupported • Load



Sliding | Long-travel | $L_K=S/2+K_1$ (Midpoint installation)



Travel $\leq 40\text{m}$



Guide trough

R[mm]	H[mm]	D[mm]	K[mm]	H ₁ [mm]	D ₁ [mm]	K ₁ [mm]	ΔC[mm]
028	75.3	68	130	56	68	130	—
038	95.3	78	160	60	125	200	—
048	115.3	88	195	60	175	260	—

Note: If you need long-travel application, please choose U15 series(outer opening), or consult our engineers.

Technical data

	Unsupported length	$\leq 1.1\text{m}$	Speed/Acceleration FL_G	$\leq 20 \text{ [m/s]} / 200 \text{ [m/s}^2\text{]}$
	Sliding length	$\leq 20\text{m}$	Speed/Acceleration FL_B	$\leq 3 \text{ [m/s]} / 6 \text{ [m/s}^2\text{]}$
	Vertical hanging	$\leq 20\text{m}$	Sliding speed/Acceleration	$\leq 3 \text{ [m/s]} / 10 \text{ [m/s}^2\text{]}$
	Vertical standing	$\leq 1.0\text{m}$	Permit temperature	-40°C ~120°C
	Side-mounted	$\leq 1.0\text{m}$	Flame retardant grade	UL94 HB
			Self-friction coefficient of cable chain	0.40
			Friction coefficient (cable chain&bar)	0.20

U15i/U15 Series | Openable | Accessories

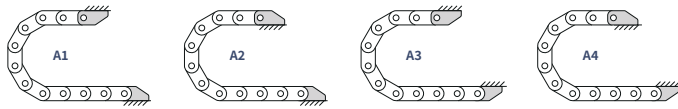
Mounting bracket size ● Fixed

Inner mounting bracket code: 151.**Bi.1**

Outer mounting bracket code: 151.**Bi.2**

Mounting bracket movement angle
Fixed type: 151.Bi.12

☆ M3(GB/T) screws are recommended for mounting bracket installation, the maximum locking force shall not exceed 1.5 N.m.



★ If the mounting bracket needs to be pre-assembled when it is delivered, please explain the installation method (A1|A2|A3|A4), e.g. 151.40.12A1

Bi [mm]	Full set fixed mounting bracket code With tie-wrap plate	A [mm]	B [mm]	Teeth number [1]
.10.	151.10.12	—	18.2	1
.15.	151.15.12	—	23.2	2
.20.	151.20.12	—	28.2	2
.30.	151.30.12	22.0	38.2	3
.40.	151.40.12	32.0	48.2	4
.50.	151.50.12	42.0	58.2	5

Inner separation ● Vertical separator | Horizontal separator

Standard vertical separator
Model: 15.VSS
Unilateral buckle

Horizontal separator
Model: SH.X
X value interval: 8-50

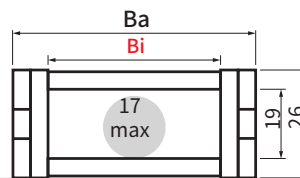
Example of standard material ordering

U15i • 30 • 028 - 16P + 151 • 30 • 12 A2 + 15.VSS - 16 + SH. 20 - 8

Series Bi R Pitch Bi Pre-assemble method Numbers of vertical separator Length of horizontal separator Numbers of horizontal separator

★ Please refer to page 20 for ordering special materials such as anti-static, sliding and non-camber.

U19i/U19 Series | Openable | The crossbar can be split

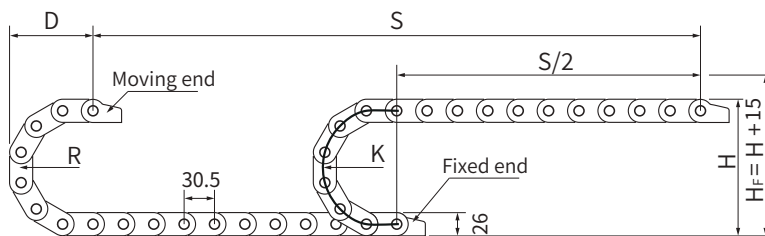


Hi: 19mm
Pitch: 30.5mm
Numbers of Pitch/m: 33

Product code Inner opening	Product code Outer opening	Bi [mm]	Ba [mm]	Available Radius [mm]	Weight [kg/m]
U19i.015.R	U19.015.R	15	27.0	028 035 038 048 075 100	≈ 0.38
U19i.020.R	U19.020.R	20	32.0	028 035 038 048 075 100	≈ 0.43
U19i.025.R	U19.025.R	25	38.0	028 035 038 048 075 100	≈ 0.48
U19i.038.R	U19.038.R	38	51.0	028 035 038 048 075 100	≈ 0.55
U19i.050.R	U19.050.R	50	63.0	028 035 038 048 075 100	≈ 0.65
U19i.068.R	U19.068.R	68	81.5	028 035 038 048 075 100	≈ 0.75
U19i.080.R	U19.080.R	80	93.5	028 035 038 048 075 100	≈ 0.85

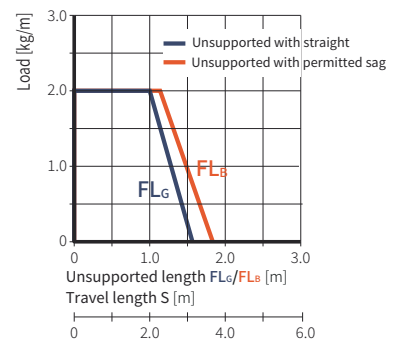
★ If there are special sizes and application requirements, we can provide customized services.

Unsupported | Short-travel | $L_K=S/2+K$ (Midpoint installation)

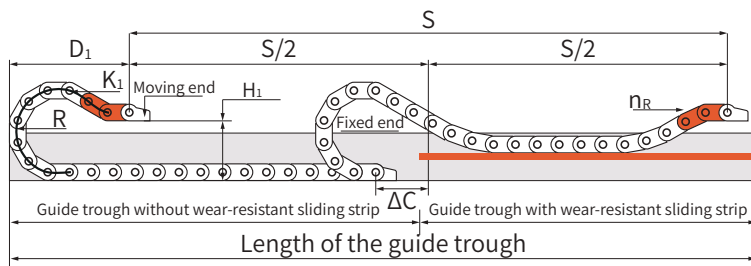


The required clearance height $H_f=H+15$ mm (load: 0.5kg/m)

Unsupported • Load



Sliding | Long-travel | $L_K=S/2+K_1$ (Midpoint installation)



Travel ≤ 80 m



Guide trough

R[mm]	H[mm]	D[mm]	K[mm]	H ₁ [mm]	D ₁ [mm]	K ₁ [mm]	ΔC [mm]
028	82	86	150	65	95	183	—
035	96	93	170	70	99	214	—
038	102	97	180	76	102	244	—
048	122	107	212	96	112	305	—
075	176	133	297	150	139	483	—
100	226	158	375	100	340	634	180

Note: If you need long-travel application, please choose U19 series(outer opening), or consult our engineers.

Technical data

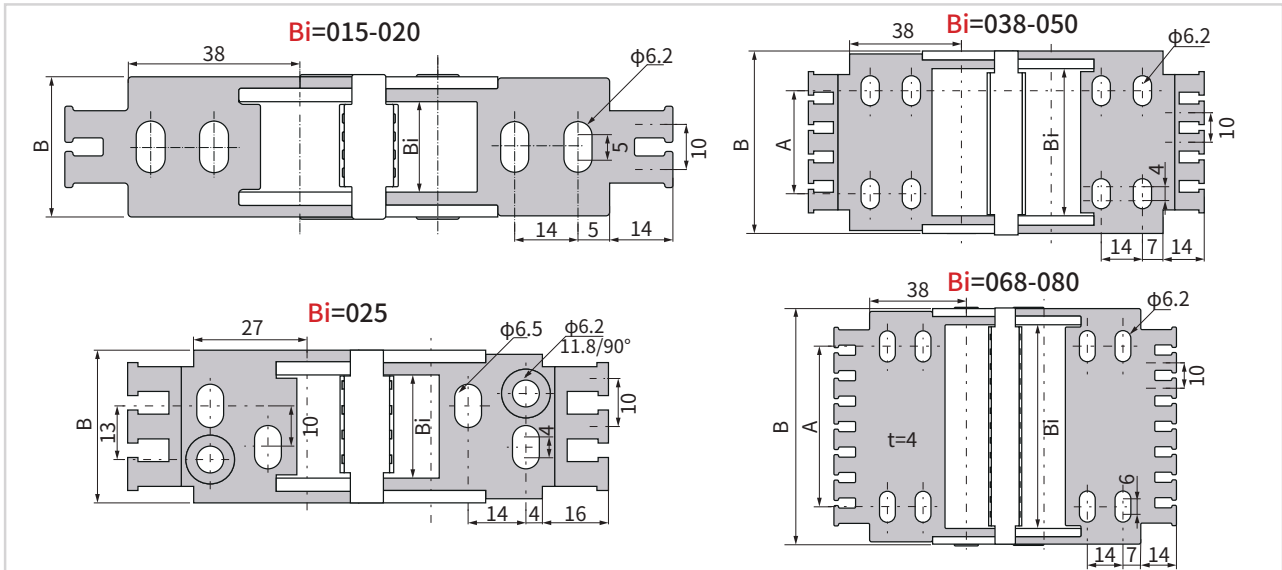
	Unsupported length	≤ 1.5 m	Speed/Acceleration FL _G	≤ 20 [m/s] / 200 [m/s ²]
	Sliding length	≤ 40 m	Speed/Acceleration FL _B	≤ 3 [m/s] / 6 [m/s ²]
	Vertical hanging	≤ 25 m	Sliding speed/Acceleration	≤ 10 [m/s] / 50 [m/s ²]
	Vertical standing	≤ 1.2 m	Permit temperature	-40°C ~120°C
	Side-mounted	≤ 1.2 m	Flame retardant grade	UL94 HB
			Self-friction coefficient of cable chain	0.40
			Friction coefficient (cable chain&bar)	0.20

U19i/U19 Series | Openable | Accessories

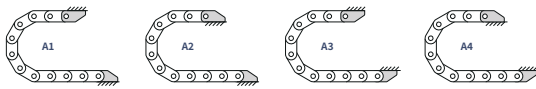
Mounting bracket size ● Fixed

Inner mounting bracket code: 191.Bi.1

Outer mounting bracket code: 191.Bi.2



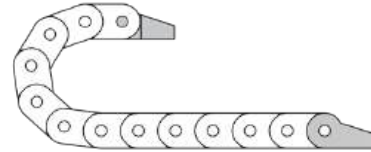
☆ M5/M6(GB/T) screws are recommended for mounting bracket installation, the maximum locking force shall not exceed 3 N.m.



☆ If the mounting bracket needs to be pre-assembled when it is delivered, please explain the installation method (A1|A2|A3|A4), e.g. 191.050.12A1

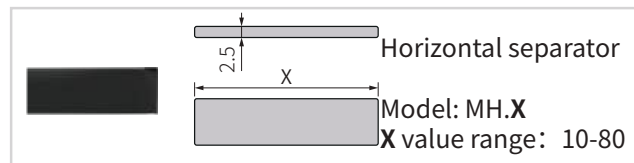
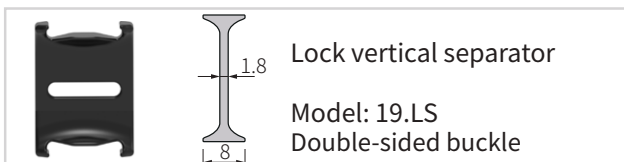
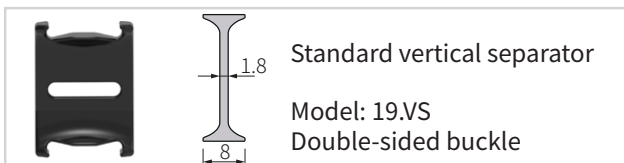
Mounting bracket movement angle

Fixed: 191.Bi.12



Bi [mm]	Full set fixed mounting bracket code With tiewrap plate	A [mm]	B [mm]	Teeth number [1]
.15.	191.015.12	—	27.0	2
.20.	191.020.12	—	32.0	2
.25.	191.025.12	—	38.0	3
.38.	191.038.12	23.0	51.0	4
.50.	191.050.12	35.0	63.0	5
.68.	191.068.12	51.0	81.5	7
.80.	191.080.12	63.0	93.5	8

Inner separation ● Vertical separator | Horizontal separator

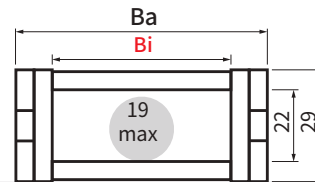
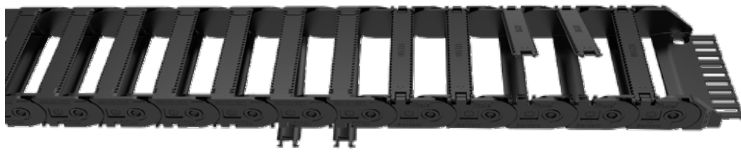


Example of standard material ordering



★ Please refer to page 20 for ordering special materials such as anti-static, sliding and non-camber.

U22i/U22 Series | Openable | The crossbar can be split

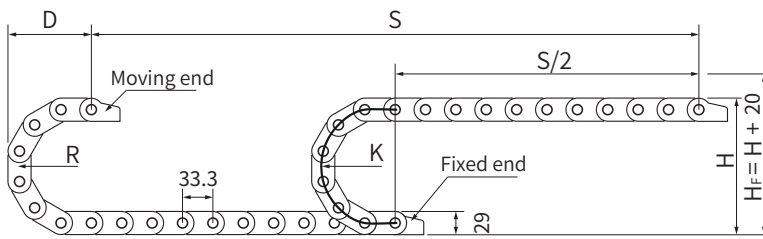


Hi: 22mm
Pitch: 33.3mm
Numbers of Pitch/m: 30

Product code Inner opening	Product code Outer opening	Bi [mm]	Ba [mm]	Available Radius [mm]	Weight [kg/m]
U22i.068.R	U22.068.R	68	82.5	035 038 048 075 100 125 145 180	≈ 0.66
U22i.080.R	U22.080.R	80	94.5	035 038 048 075 100 125 145 180	≈ 0.70
U22i.100.R	U22.100.R	100	114.5	035 038 048 075 100 125 145 180	≈ 0.76
U22i.125.R	U22.125.R	125	139.5	035 038 048 075 100 125 145 180	≈ 0.86

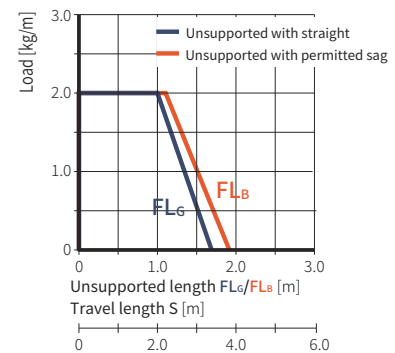
★ If there are special sizes and application requirements, we can provide customized services.

Unsupported | Short-travel | $L_k=S/2+K$ (Midpoint installation)

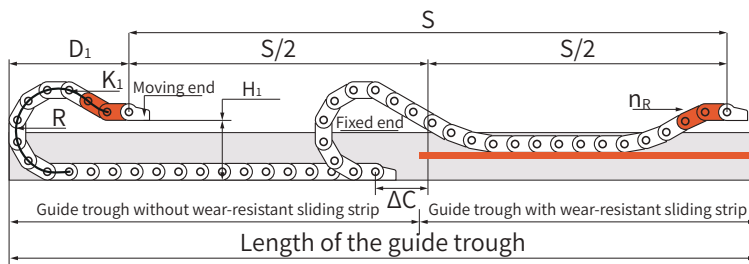


The required clearance height $H_f=H+20$ mm (load: 0.5kg/m)

Unsupported • Load



Sliding | Long-travel | $L_k=S/2+K_1$ (Midpoint installation)



Travel ≤ 100 m



Guide trough

R[mm]	H[mm]	D[mm]	K[mm]	H ₁ [mm]	D ₁ [mm]	K ₁ [mm]	ΔC [mm]
035	99	100	180	71	100	180	—
038	105	103	190	77	103	190	—
048	125	113	220	97	113	220	—
075	179	140	305	150	140	305	—
100	229	165	385	100	340	600	180
125	279	190	460	100	495	800	306
145	319	210	525	100	540	940	342
180	389	245	635	100	690	1180	446

Note: If you need long-travel application, please choose U22 series(outer opening), or consult our engineers.

Technical data

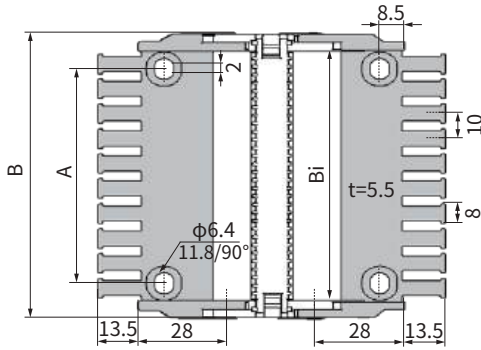
	Unsupported length	≤ 1.8 m	Speed/Acceleration FL_G	≤ 20 [m/s] / 200 [m/s ²]
	Sliding length	≤ 50 m	Speed/Acceleration FL_B	≤ 3 [m/s] / 6 [m/s ²]
	Vertical hanging	≤ 30 m	Sliding speed/Acceleration	≤ 10 [m/s] / 50 [m/s ²]
	Vertical standing	≤ 1.5 m	Permit temperature	-40°C ~120°C
	Side-mounted	≤ 1.5 m	Flame retardant grade	UL94 HB
			Self-friction coefficient of cable chain	0.40
			Friction coefficient (cable chain&bar)	0.20

U22i/U22 Series | Openable | Accessories

Mounting bracket size ● Fixed | Moving

Inner mounting bracket code: 221.**Bi.1**/220.**Bi.1**

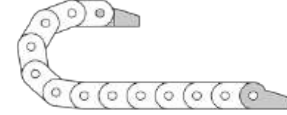
Outer mounting bracket code: 221.**Bi.2**/220.**Bi.2**



Mounting bracket movement angle

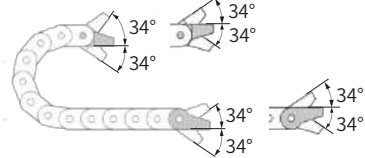
Fixed: 221.**Bi.12**

Recommended for unsupported, vertical hanging or standing applications.

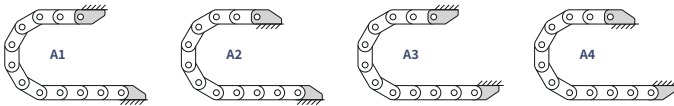


Moving: 220.**Bi.12**

Recommended for sliding applications.



☆ M5/M6(GB/T) screws are recommended for mounting bracket installation, the maximum locking force shall not exceed 3 N.m.



★ If the mounting bracket needs to be pre-assembled when it is delivered, please explain the installation method (A1|A2|A3|A4), e.g. 221.080.12A1

Bi [mm]	Full set fixed mounting bracket code With tiewrap plate	Full set moving mounting bracket code With tiewrap plate	A [mm]	B [mm]	Teeth number [1]
.68.	221.068.12	220.068.12	54.0	82.5	7
.80.	221.080.12	220.080.12	66.0	94.5	8
.100.	221.100.12	220.100.12	86.0	114.5	10
.125.	221.125.12	220.125.12	111.0	139.5	13

Inner separation ● Vertical separator | Horizontal separator

Standard vertical separator

Model: U22.VS

Double-sided buckle

Horizontal separator

Model: MH.X

X value range: 13-125

Lock vertical separator

Model: U22.LS

Double-sided buckle

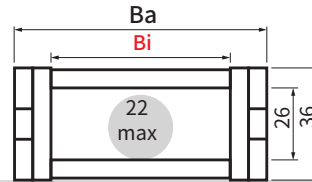
Example of standard material ordering

U22i • 080 • 035 - 36P + 221 • 080 • 12 A2 + U22.VS - 36 + MH. 60 - 18

Series
Bi
R
Pitch
Fixed/Moving
Bi
Pre-assemble method
Numbers of vertical separator
Length of horizontal separator
Numbers of horizontal separator

★ Please refer to page 20 for ordering special materials such as anti-static, sliding and non-camber.

U26i/U26 Series | Openable | The crossbar can be split

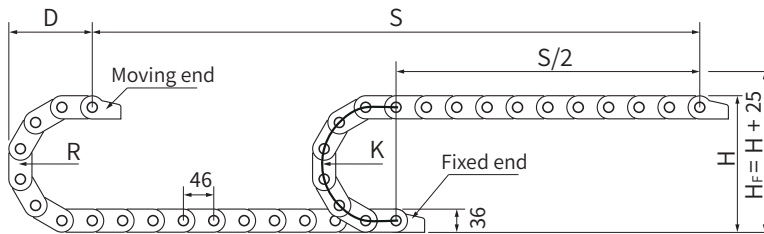


Hi: 26mm
Pitch: 46mm
Numbers of Pitch/m: 22

Product code Inner opening	Product code Outer opening	Bi [mm]	Ba [mm]	Available Radius [mm]	Weight [kg/m]
U26i.025.R	U26.025.R	25	42.0	045 055 075 100 125 150 175 200 250	≈ 0.78
U26i.038.R	U26.038.R	38	55.0	045 055 075 100 125 150 175 200 250	≈ 0.85
U26i.057.R	U26.057.R	57	74.0	045 055 075 100 125 150 175 200 250	≈ 0.93
U26i.077.R	U26.077.R	77	94.0	045 055 075 100 125 150 175 200 250	≈ 1.03
U26i.089.R	U26.089.R	89	106.0	045 055 075 100 125 150 175 200 250	≈ 1.11
U26i.103.R	U26.103.R	103	120.0	045 055 075 100 125 150 175 200 250	≈ 1.17
U26i.125.R	U26.125.R	125	142.0	045 055 075 100 125 150 175 200 250	≈ 1.27

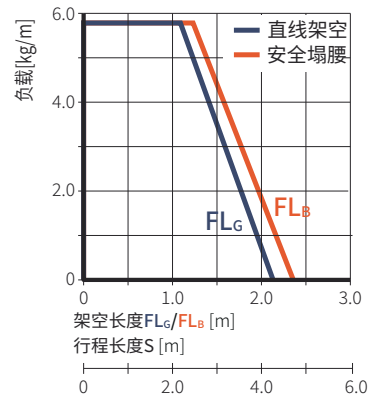
★ If there are special sizes and application requirements, we can provide customized services.

Unsupported | Short-travel | $L_k=S/2+K$ (Midpoint installation)

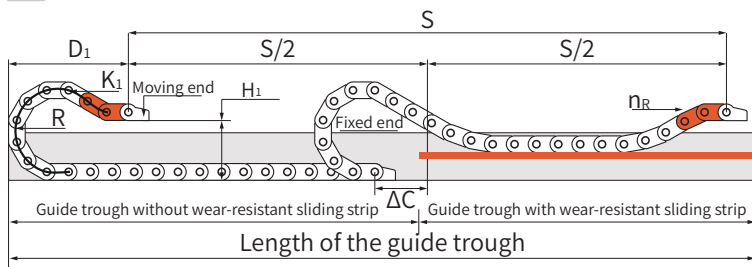


The required clearance height $H_f=H+25\text{mm}$ (load: 1.5kg/m)

架空 ● 负载图



Sliding | Long-travel | $L_k=S/2+K_1$ (Midpoint installation)



R[mm]	H[mm]	D[mm]	K[mm]	H ₁ [mm]	D ₁ [mm]	K ₁ [mm]	ΔC[mm]
045	126	133	235	90	134	226	—
055	146	143	266	110	144	266	—
075	186	163	332	150	164	332	—
100	236	189	412	100	388	646	206
125	286	213	488	100	442	738	246
150	336	238	566	100	592	1016	366
175	386	266	646	100	756	1246	506
200	436	288	726	100	952	1476	676
250	536	336	882	100	1136	1796	806



Travel ≤ 120m



Guide trough

Note: If you need long-travel application, please choose U26 series(outer opening), or consult our engineers.

Technical data

	Unsupported length	≤ 2.3m	Speed/Acceleration FL _G	≤ 20 [m/s] / 200 [m/s ²]
	Sliding length	≤ 60m	Speed/Acceleration FL _B	≤ 3 [m/s] / 6 [m/s ²]
	Vertical hanging	≤ 40m	Sliding speed/Acceleration	≤ 10 [m/s] / 50 [m/s ²]
	Vertical standing	≤ 2.0m	Permit temperature	-40°C ~120°C
	Side-mounted	≤ 1.6m	Flame retardant grade	UL94 HB
			Self-friction coefficient of cable chain	0.40
			Friction coefficient (cable chain&bar)	0.20

U26i/U26 Series | Openable | Accessories

Mounting bracket size ● Fixed | Moving

Inner mounting bracket code: 261.**Bi.1**/260.**Bi.1**

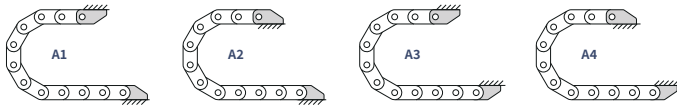
Outer mounting bracket code: 261.**Bi.2**/260.**Bi.2**

Mounting bracket movement angle

Fixed: 261.**Bi.12**
Recommended for unsupported, vertical hanging or standing applications.

Moving: 260.**Bi.12**
Recommended for sliding applications.


☆ M6(GB/T) screws are recommended for mounting bracket installation, the maximum locking force shall not exceed 3 N.m.



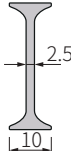

★ If the mounting bracket needs to be pre-assembled when it is delivered, please explain the installation method (A1|A2|A3|A4), e.g. 261.057.12A1

Bi [mm]	Full set fixed mounting bracket code With tiewrap plate	Full set moving mounting bracket code With tiewrap plate	A [mm]	B [mm]	Teeth number [1]
.25.	261.025.12	260.025.12	12.0	42.0	3
.38.	261.038.12	260.038.12	25.0	55.0	4
.57.	261.057.12	260.057.12	44.0	74.0	6
.77.	261.077.12	260.077.12	64.0	94.0	8
.89.	261.089.12	260.089.12	76.0	106.0	9
.103.	261.103.12	260.103.12	90.0	120.0	10
.125.	261.125.12	260.125.12	112.0	142.0	12

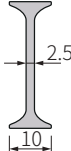

Inner separation ● Vertical separator | Horizontal separator



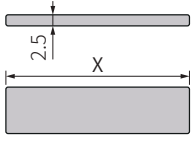
Standard vertical separator
Model: U26.VS
Double-sided buckle

Lock vertical separator
Model: U26.LS
Double-sided buckle

Horizontal separator
Model: MH.X
X value range: 13-125



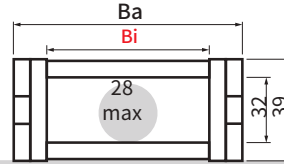
Example of standard material ordering

U26i • 077 • 045 - 36P + 261 • 077 • 12 A2 + U26.VS - 36 + MH. 60 - 18

Series Bi R Pitch Fixed/Moving Bi Pre-assemble method Numbers of vertical separator Length of horizontal separator Numbers of horizontal separator

★ Please refer to page 20 for ordering special materials such as anti-static, sliding and non-camber.

U32i/U32 Series | Openable | The crossbar can be split

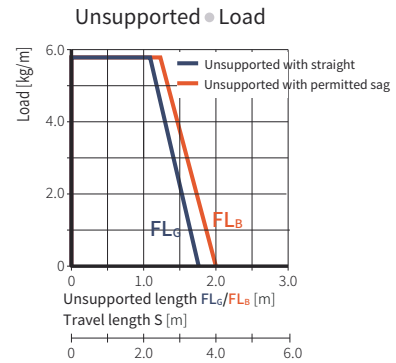
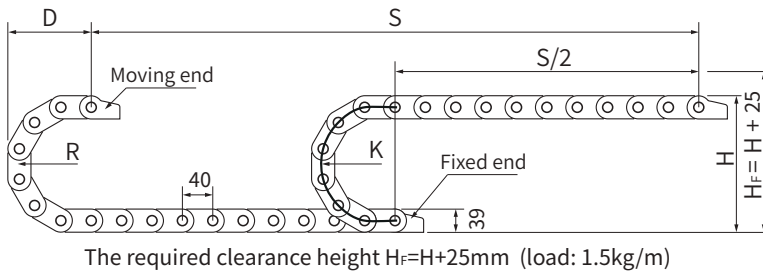


Hi: 32mm
Pitch: 40mm
Numbers of Pitch/m: 25

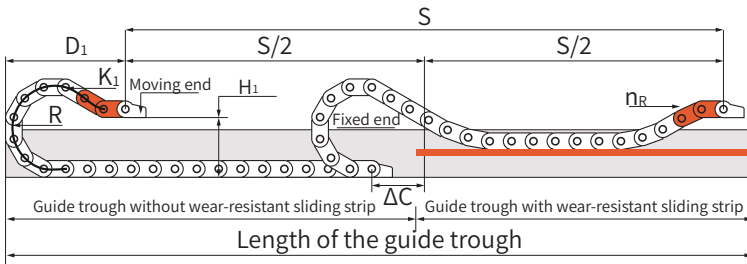
Product code Inner opening	Product code Outer opening	Bi [mm]	Ba [mm]	Available Radius [mm]	Weight [kg/m]
U32i.015.R	U32.015.R	15	27.0	040 048 063 075 100	≈ 0.48
U32i.025.R	U32.025.R	25	37.0	040 048 063 075 100	≈ 0.52
U32i.038.R	U32.038.R	38	50.0	040 048 063 075 100	≈ 0.56
U32i.050.R	U32.050.R	50	62.0	040 048 063 075 100	≈ 0.60

★ If there are special sizes and application requirements, we can provide customized services.

Unsupported | Short-travel | $L_k=S/2+K$ (Midpoint installation)



Sliding | Long-travel | $L_k=S/2+K_1$ (Midpoint installation)



R[mm]	H[mm]	D[mm]	K[mm]	H1[mm]	D1[mm]	K1[mm]	ΔC[mm]
040	119	121	205	80	124	240	—
048	135	129	230	96	134	320	—
063	165	144	280	126	144	400	—
075	189	156	315	150	164	480	—
100	239	181	395	100	388	640	206



Travel $\leq 30\text{m}$



Guide trough

Note: If you need long-travel application, please choose U32 series(outer opening), or consult our engineers.

Technical data

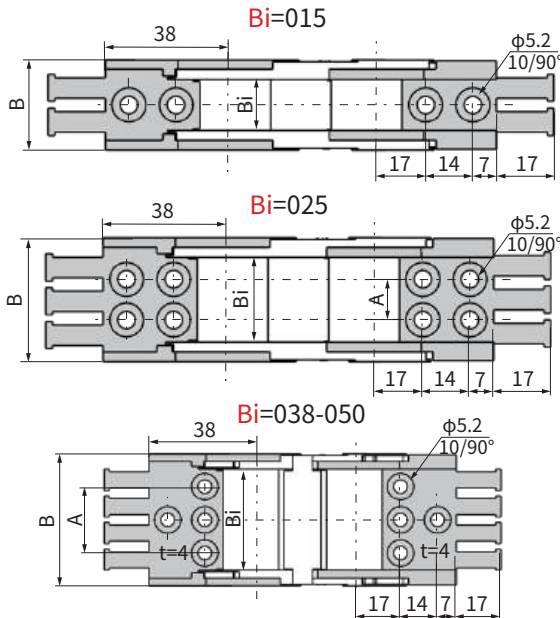
	Unsupported length	$\leq 1.8\text{m}$	Speed/Acceleration FL_G	$\leq 20 \text{ [m/s]} / 200 \text{ [m/s}^2\text{]}$
	Sliding length	$\leq 15\text{m}$	Speed/Acceleration FL_B	$\leq 3 \text{ [m/s]} / 6 \text{ [m/s}^2\text{]}$
	Vertical hanging	$\leq 30\text{m}$	Sliding speed/Acceleration	$\leq 10 \text{ [m/s]} / 50 \text{ [m/s}^2\text{]}$
	Vertical standing	$\leq 1.5\text{m}$	Permit temperature	$-40^\circ\text{C} \sim 120^\circ\text{C}$
	Side-mounted	$\leq 1.5\text{m}$	Flame retardant grade	UL94 HB
			Self-friction coefficient of cable chain	0.40
			Friction coefficient (cable chain&bar)	0.20

U32i/U32 Series | Openable | Accessories

Mounting bracket size ● Fixed | Moving

Inner mounting bracket code: 321.Bi.1/320.Bi.1

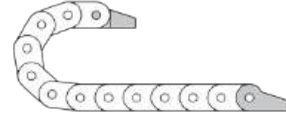
Outer mounting bracket code: 321.Bi.2/320.Bi.2



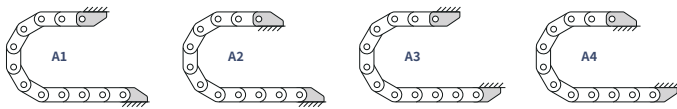
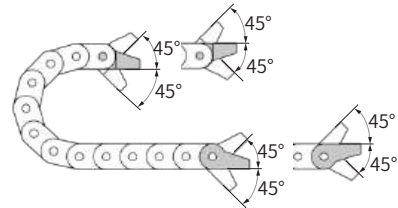
☆ M5(GB/T) screws are recommended for mounting bracket installation, the maximum locking force shall not exceed 3 N.m.

Mounting bracket movement angle

Fixed: 321.Bi.12
Recommended for unsupported, vertical hanging or standing applications.



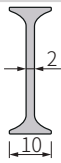
Moving: 320.Bi.12
Recommended for sliding applications.



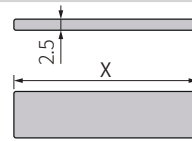
★ If the mounting bracket needs to be pre-assembled when it is delivered, please explain the installation method (A1|A2|A3|A4), e.g. 321.050.12A1

Bi [mm]	Full set fixed mounting bracket code With tiewrap plate	Full set moving mounting bracket code With tiewrap plate	A [mm]	B [mm]	Teeth number [1]
.15.	321.015.12	320.015.12	—	27.0	2
.25.	321.025.12	320.025.12	12.0	37.0	3
.38.	321.038.12	320.038.12	25.0	50.0	4
.50.	321.050.12	320.050.12	37.0	62.0	5

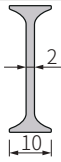
Inner separation ● Vertical separator | Horizontal separator



Standard vertical separator
Model: U32.VS
Double-sided buckle
Note: when R=40, the separator is not suitable.



Horizontal separator
Model: MH.X
X value range: 12-50



Lock vertical separator
Model: U32.LS
Double-sided buckle
Note: when R=40, the separator is not suitable.

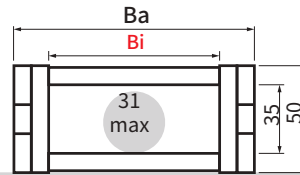
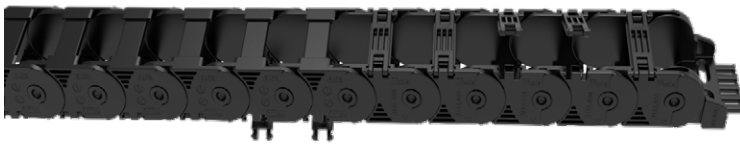
Example of standard material ordering

U32i • 038 • 048 - 36P + 321 • 038 • 12 A2 + U32.VS - 36 + MH. 30 - 18

Series Bi R Pitch Fixed/Moving Bi Pre-assemble method Numbers of vertical separator Length of horizontal separator Numbers of horizontal separator

★ Please refer to page 20 for ordering special materials such as anti-static, sliding and non-camber.

U35i/U35 Series | Openable | The crossbar can be split

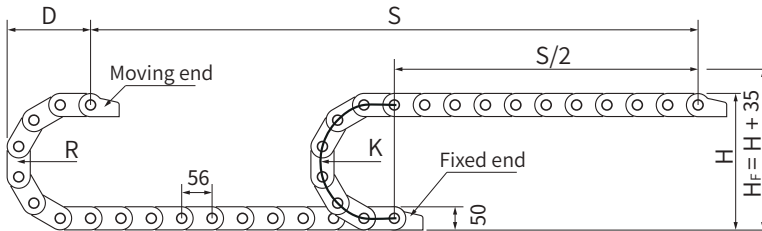


Hi: 35mm
Pitch: 56mm
Numbers of Pitch/m: 18

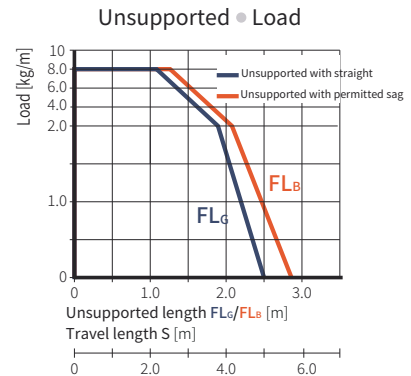
Product code Inner opening	Product code Outer opening	Bi [mm]	Ba [mm]	Available Radius [mm]	Weight [kg/m]
U35i.050.R	U35.050.R	50	68.0	063 075 100 125 150 175 200 250	≈ 1.19
U35i.065.R	U35.065.R	65	83.0	063 075 100 125 150 175 200 250	≈ 1.26
U35i.075.R	U35.075.R	75	93.0	063 075 100 125 150 175 200 250	≈ 1.32
U35i.090.R	U35.090.R	90	108.0	063 075 100 125 150 175 200 250	≈ 1.42
U35i.100.R	U35.100.R	100	118.0	063 075 100 125 150 175 200 250	≈ 1.48
U35i.125.R	U35.125.R	125	143.0	063 075 100 125 150 175 200 250	≈ 1.58

★ If there are special sizes and application requirements, we can provide customized services.

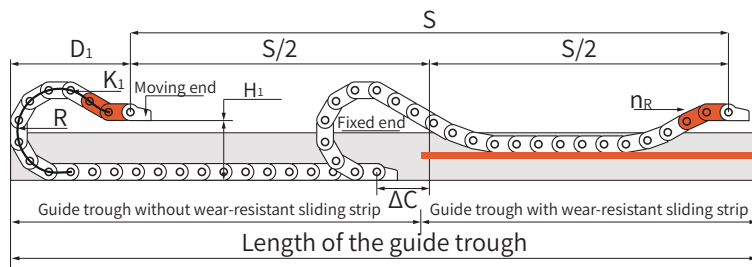
Unsupported | Short-travel | $L_k=S/2+K$ (Midpoint installation)



The required clearance height $H_f=H+35\text{mm}$ (load: 2.0kg/m)



Sliding | Long-travel | $L_k=S/2+K_1$ (Midpoint installation)



Travel $\leq 160\text{m}$



Guide trough

R[mm]	H[mm]	D[mm]	K[mm]	H ₁ [mm]	D ₁ [mm]	K ₁ [mm]	ΔC[mm]
063	176	172	310	130	140	335	—
075	200	184	350	150	150	375	—
100	250	209	430	166	395	616	144
125	300	234	505	166	510	784	244
150	350	259	585	166	545	896	244
175	400	284	665	166	700	1120	374
200	450	309	745	166	805	1288	464
250	550	359	900	166	995	1624	594

Note: If you need long-travel application, please choose U35 series(outer opening), or consult our engineers.

Technical data

	Unsupported length	$\leq 2.4\text{m}$	Speed/Acceleration FL_G	$\leq 20 [\text{m/s}] / 200 [\text{m/s}^2]$
	Sliding length	$\leq 80\text{m}$	Speed/Acceleration FL_B	$\leq 3 [\text{m/s}] / 6 [\text{m/s}^2]$
	Vertical hanging	$\leq 50\text{m}$	Sliding speed/Acceleration	$\leq 10 [\text{m/s}] / 50 [\text{m/s}^2]$
	Vertical standing	$\leq 2.2\text{m}$	Permit temperature	-40°C ~120°C
	Side-mounted	$\leq 2.0\text{m}$	Flame retardant grade	UL94 HB
			Self-friction coefficient of cable chain	0.40
			Friction coefficient (cable chain&bar)	0.20

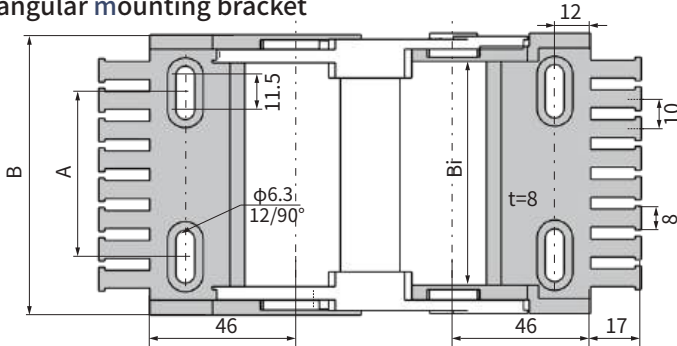
U35i/U35 Series | Openable | Accessories

Mounting bracket size ● Fixed | Moving

Inner mounting bracket code: 351.**Bi**.1/350.**Bi**.1(K)

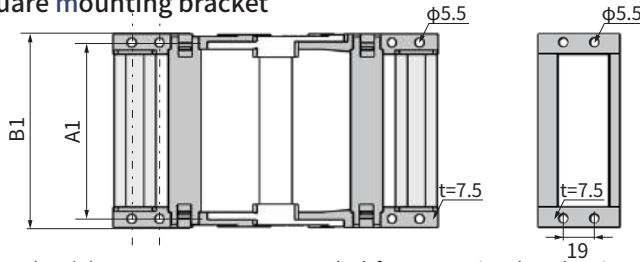
Outer mounting bracket code: 351.**Bi**.2/350.**Bi**.2(K)

Triangular mounting bracket



☆ M5(GB/T) screws are recommended for mounting bracket installation, the maximum locking force shall not exceed 3 N.m.

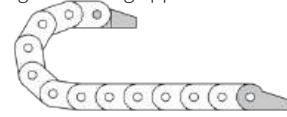
Square mounting bracket



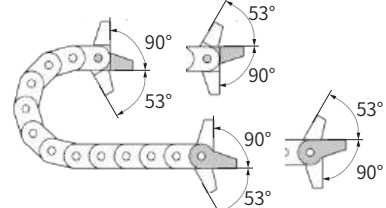
☆ M5(GB/T) screws are recommended for mounting bracket installation, the maximum locking force shall not exceed 3 N.m.

Mounting bracket movement angle

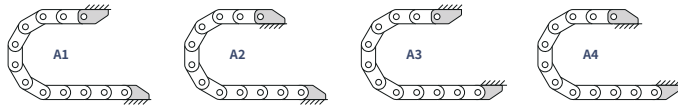
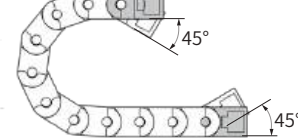
Fixed: 351.**Bi**.12/351.**Bi**.12K
Recommended for unsupported, vertical hanging or standing applications.



Triangular moving: 350.**Bi**.12
Recommended for sliding applications.



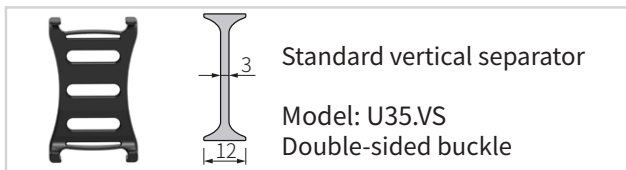
Square moving: 350.**Bi**.12K
Recommended for unsupported and sliding applications.



★ If the mounting bracket needs to be pre-assembled when it is delivered, please explain the installation method (A1|A2|A3|A4), e.g. 351.075.12A1 / 351.075.12KCA1

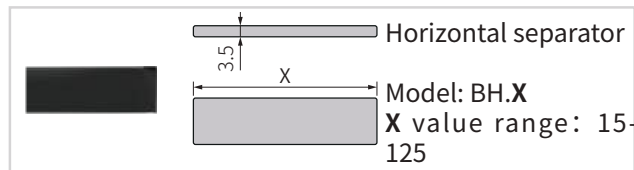
Bi [mm]	Triangular fixed mounting bracket code With tiewrap plate	Triangular moving mounting bracket code With tiewrap plate	A [mm]	B [mm]	Teeth number [1]	Square fixed mounting bracket code With tiewrap plate	Square moving mounting bracket code With tiewrap plate	A1 [mm]	B1 [mm]
.50.	351.050.12	350.050.12	30.0	69.0	5	351.050.12K	350.050.12K	58.0	69.0
.65.	351.065.12	350.065.12	45.0	84.0	5	351.065.12K	350.065.12K	73.0	84.0
.75.	351.075.12	350.075.12	55.0	94.0	7	351.075.12K	350.075.12K	83.0	94.0
.90.	351.090.12	350.090.12	70.0	109.0	9	351.090.12K	350.090.12K	98.0	109.0
.100.	351.100.12	350.100.12	80.0	119.0	10	351.100.12K	350.100.12K	108.0	119.0
.125.	351.125.12	350.125.12	105.0	144.0	12	351.125.12K	350.125.12K	133.0	144.0

Inner separation ● Vertical separator | Horizontal separator



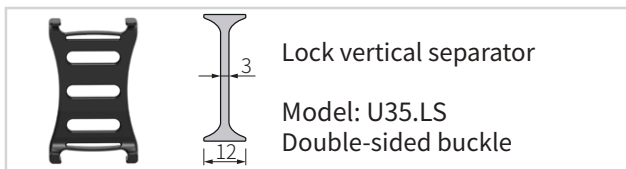
Standard vertical separator

Model: U35.VS
Double-sided buckle



Horizontal separator

Model: BH.X
X value range: 15-125



Lock vertical separator

Model: U35.LS
Double-sided buckle

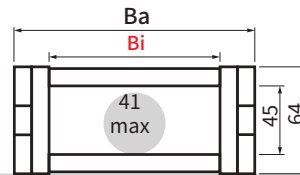
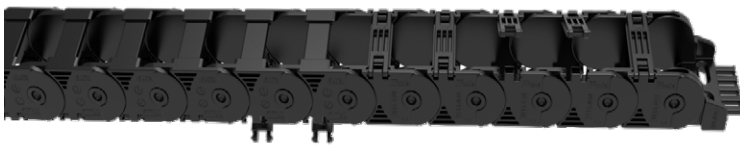
Example of standard material ordering

U35i • 100 • 075 - 36P + 351 • 100 • 12 A2 + U35.VS - 36 + BH. 80 - 18

Series Bi R Pitch Fixed/Moving Bi Pre-assemble method Numbers of vertical separator Length of horizontal separator Numbers of horizontal separator

★ Please refer to page 20 for ordering special materials such as anti-static, sliding and non-camber.

U45i/U45 Series | Openable | The crossbar can be split

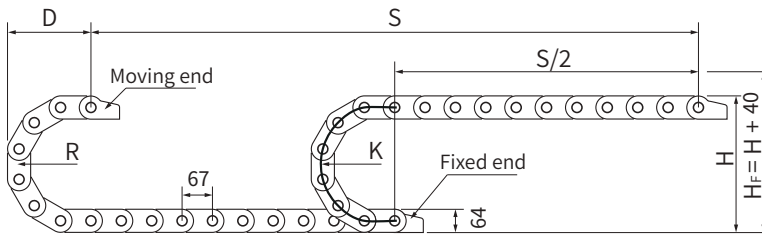


Hi: 45mm
Pitch: 67mm
Numbers of Pitch/m: 15

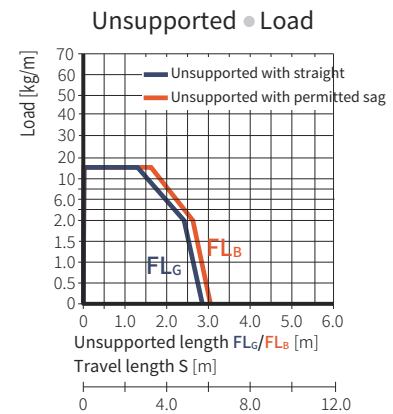
Product code Inner opening	Product code Outer opening	Bi [mm]	Ba [mm]	Available Radius [mm]	Weight [kg/m]
U45i.050.R	U45.050.R	50	71	075 100 125 150 200 250	≈ 1.61
U45i.075.R	U45.075.R	75	96	075 100 125 150 200 250	≈ 1.79
U45i.100.R	U45.100.R	100	121	075 100 125 150 200 250	≈ 1.94
U45i.125.R	U45.125.R	125	146	075 100 125 150 200 250	≈ 2.04
U45i.150.R	U45.150.R	150	171	075 100 125 150 200 250	≈ 2.18
U45i.175.R	U45.175.R	175	196	075 100 125 150 200 250	≈ 2.29

★ If there are special sizes and application requirements, we can provide customized services.

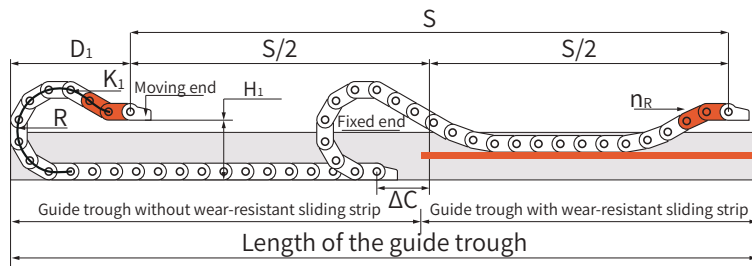
Unsupported | Short-travel | $L_K=S/2+K$ (Midpoint installation)



The required clearance height $H_f=H+40$ mm (load: 2.5kg/m)



Sliding | Long-travel | $L_K=S/2+K_1$ (Midpoint installation)



Travel ≤ 200m



Guide trough

R[mm]	H[mm]	D[mm]	K[mm]	H ₁ [mm]	D ₁ [mm]	K ₁ [mm]	ΔC[mm]
075	214	208	370	150	208	370	—
100	264	233	450	200	233	450	—
125	314	258	530	186	475	804	233
150	364	283	610	186	570	1005	303
200	464	333	765	186	780	1340	463
250	564	383	920	186	1010	1675	643

Note: If you need long-travel application, please choose U45 series(outer opening), or consult our engineers.

Technical data

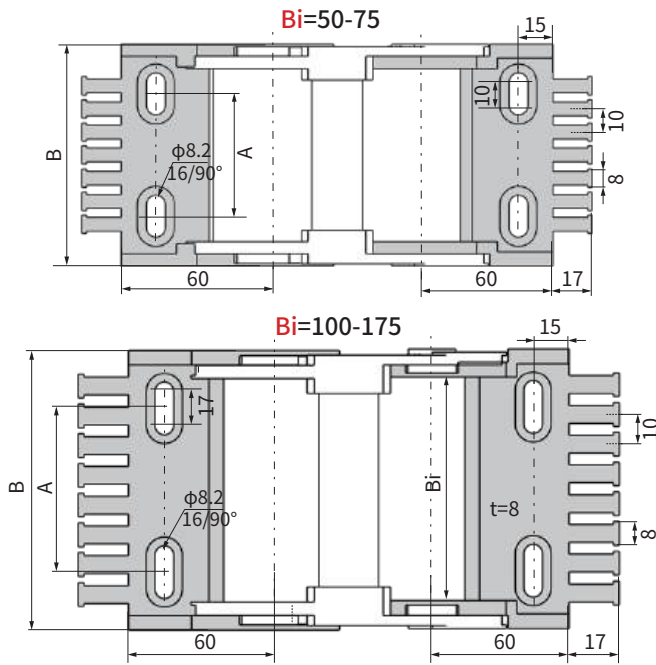
	Unsupported length	≤ 3.2m	Speed/Acceleration FL _G	≤ 20 [m/s] / 200 [m/s ²]
	Sliding length	≤ 100m	Speed/Acceleration FL _B	≤ 3 [m/s] / 6 [m/s ²]
	Vertical hanging	≤ 50m	Sliding speed/Acceleration	≤ 10 [m/s] / 50 [m/s ²]
	Vertical standing	≤ 2.5m	Permit temperature	-40°C ~120°C
	Side-mounted	≤ 2.4m	Flame retardant grade	UL94 HB
			Self-friction coefficient of cable chain	0.40
			Friction coefficient (cable chain&bar)	0.20

U45i/U45 Series | Openable | Accessories

Mounting bracket size ● Fixed | Moving

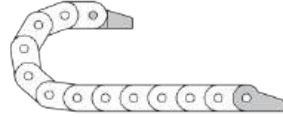
Inner mounting bracket code: 451.Bi.1/450.Bi.1

Outer mounting bracket code: 451.Bi.2/450.Bi.2

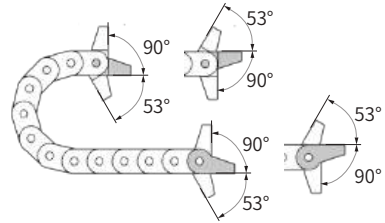


Mounting bracket movement angle

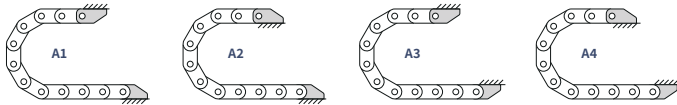
Fixed: 451.Bi.12
Recommended for unsupported, vertical hanging or standing applications.



Moving: 450.Bi.12
Recommended for sliding applications.



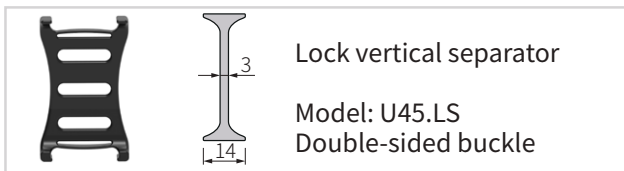
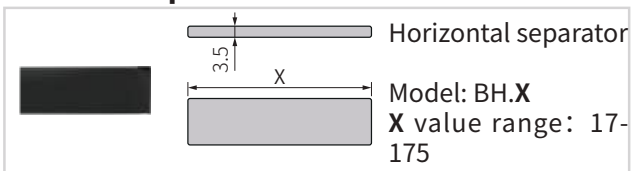
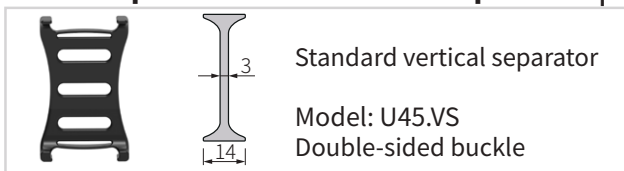
☆ M8(GB/T) screws are recommended for mounting bracket installation, the maximum locking force shall not exceed 3.5 N.m.



★ If the mounting bracket needs to be pre-assembled when it is delivered, please explain the installation method (A1|A2|A3|A4), e.g.451.075.12A1

Bi [mm]	Full set fixed mounting bracket code With tiewrap plate	Full set moving mounting bracket code With tiewrap plate	A [mm]	B [mm]	Teeth number [1]
.50.	451.050.12	450.050.12	28.0	71.0	5
.75.	451.075.12	450.075.12	53.0	96.0	7
.100.	451.100.12	450.100.12	75.0	121.0	10
.125.	451.125.12	450.125.12	100.0	146.0	12
.150.	451.150.12	450.150.12	125.0	171.0	15
.175.	451.175.12	450.175.12	150.0	196.0	17

Inner separation ● Vertical separator | Horizontal separator

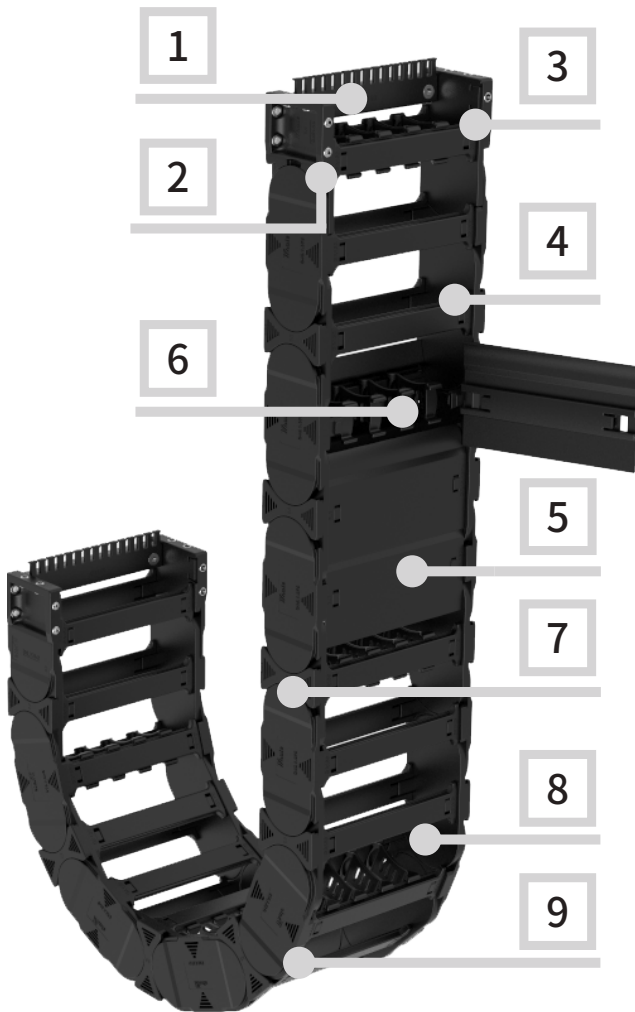


Example of standard material ordering

U45i • 100 • 075 - 36P + 451 • 100 • 12 A2 + U45.VS - 36 + BH. 80 - 18

Series Bi R Pitch Fixed/Moving Bi Pre-assemble method Numbers of vertical separator Length of horizontal separator Numbers of horizontal separator

★ Please refer to page 20 for ordering special materials such as anti-static, sliding and non-camber.



Features & Benefits

- 1** Tiewrap plates and clamps can be installed at the mounting bracket according to requirements, which is convenient to fix cables.
- 2** Mounting brackets with bushing can prevent cold cracking.
- 3** Multi-hole fixed and moving mounting brackets can be applied to various installation occasions.
- 4** Double-locked crossbar, improving internal load bearing.
- 5** Closed lid is to prevent oil pollution and flying debris.
- 6** Vertical and horizontal separators can be installed as required.
- 7** Mortise-tenon structure improves lateral bearing and stability.
- 8** Smooth inner surface of cable chain effectively reduces wear.
- 9** The integrated sliding surface is convenient for long-travel sliding applications.

Customized service of G series products



UL94 certification /CE certification is available.



ESD products can be provided as required.

General Series ● Size Range | Application Scenario

Series	Hi [mm]	Ha [mm]	Bi [mm]	Ba [mm]	R [mm]	P [mm]	Maximum unsupported length [m]	Page
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G series | High-load | Openable Crossbars are openable along the **inner** or **outer** radius



G28	28	43	40 - 200	59 - 219	046 - 250	46	2.3	39-40
G35	35	55	50 - 300	74 - 324	063 - 300	58.8	2.8	43-44
G45	45	66	50 - 300	76 - 326	075 - 300	70	3.3	47-48
G58	58	78	50 - 300	80 - 330	125 - 400	70	3.5	51-52
G65	65	94	75 - 550	84 - 584	135 - 400	100	4.2	55-56
G85	85	113	75 - 550	100 - 600	150 - 500	100	5.2	59-60
G112	112	140	50 - 550	100 - 600	200 - 500	125	6.2	63-64

G series | High-load | Enclosed Lids are along the **inner** or **outer** radius



GR28	28	43	38 - 100	57 - 119	075 - 250	46	2.3	41-42
GR35	35	55	50 - 100	74 - 124	125 - 300	58.8	2.8	45-46
GR45	45	66	50 - 400	76 - 426	125 - 300	70	3.3	49-50
GR58	58	78	50 - 400	80 - 430	150 - 400	70	3.5	53-54
GR65	65	94	100 - 400	134 - 434	150 - 400	100	4.2	57-58
GR85	85	113	100 - 400	150 - 450	200 - 500	100	5.2	61-62

Application requirements of G series products

- Long-travel sliding
- High-load | Long unsupported occasion
- High speed | High acceleration
- Long lifespan | Low noise
- Enclosed | Anti-debris



Application of G series in automobile industry

Ordering example of G Series Cable Chain

Example of standard material ordering

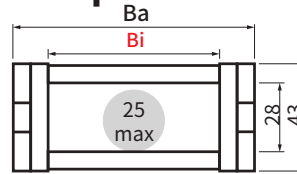
G45	•	100	•	125	-	40P	+	G451	•	100	•	12	+	45.VSS	-	60	+	BH.	70	-	20
Series		Bi		R		Pitch		Fixed/Moving		Bi				Numbers of vertical separator				Length of horizontal separator			Numbers of horizontal separator

Special application ordering example:

- Anti-static (Resistance: $10^4 - 10^8$) ordering: G45.100.125.ESD
- Sliding ordering: G45.100.125-136P-S
- Corrosion protection (PH: 2.0-14.0) ordering: G45.100.125.EG
- High temperature resistant debris (850°) order: GR45.100.125.HT
- Moderate and high temperature resistance (250°) ordering: G45.100.125.MT
- Low temperature resistance (-40°) ordering: G45.100.125.LT
- Flame retardant (flame retardant rating: V0) ordering: G45.100.125.FR
- Non-camber cable chain ordering: G45.100.125.NC
- Bidirectional bending ordering: G45.100.125/350

(Note 1: 125、350 respectively positive and reverse bending radii, Note 2: Close type is not applicable.)

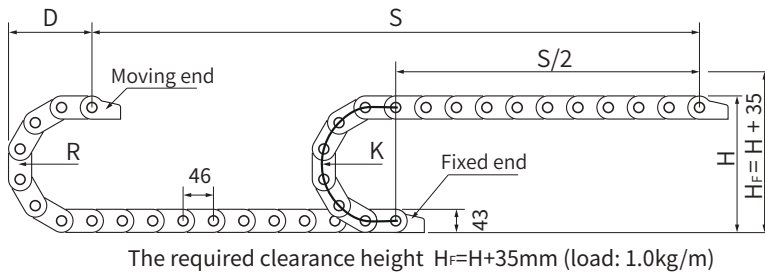
G28 Series | Openable | The crossbar can be split



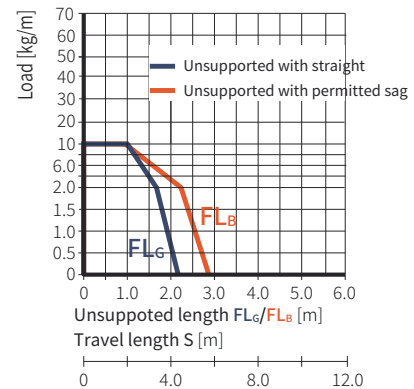
Hi: 28mm
Pitch: 46mm
Numbers of Pitch/m: 22

Product code	Bi[mm]	Ba[mm]	Available Radius [mm]	Weight [kg/m]
G28.040.R	40	59	046 055 063 075 100 125 150 175 200 250	≈ 1.03
G28.050.R	50	69	046 055 063 075 100 125 150 175 200 250	≈ 1.12
G28.060.R	60	79	046 055 063 075 100 125 150 175 200 250	≈ 1.13
G28.062.R	62	81	046 055 063 075 100 125 150 175 200 250	≈ 1.14
G28.070.R	70	89	046 055 063 075 100 125 150 175 200 250	≈ 1.22
G28.075.R	75	94	046 055 063 075 100 125 150 175 200 250	≈ 1.22
G28.087.R	87	106	046 055 063 075 100 125 150 175 200 250	≈ 1.26
G28.100.R	100	119	046 055 063 075 100 125 150 175 200 250	≈ 1.38
G28.125.R	125	144	046 055 063 075 100 125 150 175 200 250	≈ 1.52
G28.150.R	150	169	046 055 063 075 100 125 150 175 200 250	≈ 1.64
G28.175.R	175	194	046 055 063 075 100 125 150 175 200 250	≈ 1.72
G28.200.R	200	219	046 055 063 075 100 125 150 175 200 250	≈ 1.84

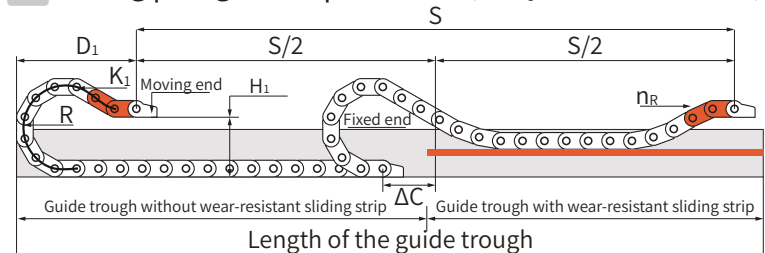
Unsupported | Short-travel | $L_K=S/2+K$ (Midpoint installation)



Unsupported • Load



Sliding | Long-travel | $L_K=S/2+K_1$ (Midpoint installation)



R[mm]	H[mm]	D[mm]	K[mm]	H ₁ [mm]	D ₁ [mm]	K ₁ [mm]	ΔC [mm]
046	135	136	238	92	115	260	—
055	153	145	265	110	122	265	—
063	169	153	290	126	130	290	—
075	193	165	330	150	142	330	—
100	243	190	410	158	350	598	150
125	293	215	485	158	490	782	270
150	343	240	565	158	530	920	300
175	393	265	645	158	664	1104	400
200	443	290	725	158	730	1242	450
250	543	340	880	158	935	1610	600



Travel $\leq 120\text{m}$



Guide trough

Note: If you need long-travel application, please consult our engineers.

Technical data

	Unsupported length	$\leq 2.3\text{m}$	Speed/Acceleration FL_G	$\leq 20 \text{ [m/s]} / 200 \text{ [m/s}^2\text{]}$
	Sliding length	$\leq 60\text{m}$	Speed/Acceleration FL_B	$\leq 3 \text{ [m/s]} / 6 \text{ [m/s}^2\text{]}$
	Vertical hanging	$\leq 25\text{m}$	Sliding speed/Acceleration	$\leq 10 \text{ [m/s]} / 50 \text{ [m/s}^2\text{]}$
	Vertical standing	$\leq 2.0\text{m}$	Permit temperature	$-40^\circ\text{C} \sim 120^\circ\text{C}$
	Side-mounted	$\leq 1.8\text{m}$	Flame retardant grade	UL94 HB
			Self-friction coefficient of cable chain	0.40
			Friction coefficient (cable chain&bar)	0.20

G28 Series | Openable | Accessories

Mounting bracket size ● Fixed | Moving

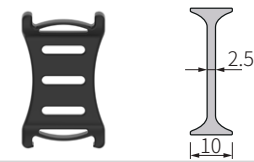
Inner mounting bracket code: G281.Bi.1/G280.Bi.1

Outer mounting bracket code: G281.Bi.2/G280.Bi.2

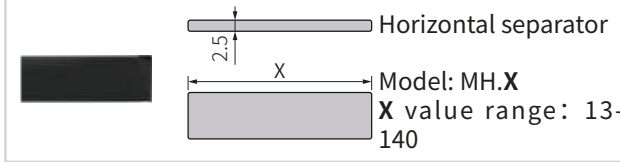
Bi[mm]	Full set fixed mounting bracket code With tiewrap plate	Full set moving mounting bracket code With tiewrap plate	A[mm]	B[mm]	Selection of tiewrap plate
.40.	G281.040.12	G280.040.12	52	63	ZG050
.50.	G281.050.12	G280.050.12	62	73	ZG050
.60.	G281.060.12	G280.060.12	72	83	ZG050
.62.	G281.062.12	G280.062.12	74	85	ZG050
.70.	G281.070.12	G280.070.12	82	93	ZG075
.75.	G281.075.12	G280.075.12	87	98	ZG075
.87.	G281.087.12	G280.087.12	99	110	ZG100
.100.	G281.100.12	G280.100.12	112	123	ZG100
.125.	G281.125.12	G280.125.12	137	148	ZG125
.150.	G281.150.12	G280.150.12	162	173	ZG150
.175.	G281.175.12	G280.175.12	187	198	ZG175
.200.	G281.200.12	G280.200.12	212	223	ZG200

★ If you need to select tiewrap pates and clamps, please refer to the strain relief accessories section on page 119.

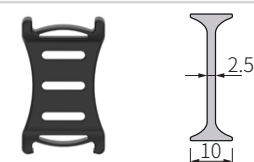
Inner separation ● Vertical separator | Horizontal separator



Standard vertical separator
Model: 28.VS
Double-sided buckle



Horizontal separator
Model: MH.X
X value range: 13-140



Lock vertical separator
Model: 28.LS
Double-sided buckle

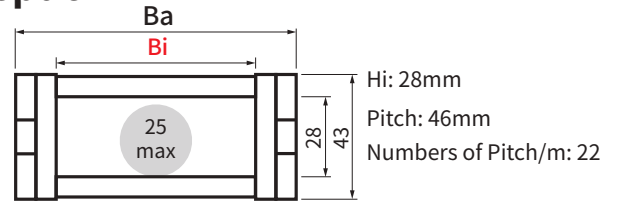
Example of standard material ordering

G28 • 100 • 075 - 36P + G281 • 100 • 12 + 28.VS - 36 + MH. 80 - 18

Series
Bi
R
Pitch
Fixed/Moving
Bi
Numbers of vertical separator
Length of horizontal separator
Numbers of horizontal separator

★ Please refer to page 38 for ordering special materials such as anti-static, sliding and non-camber.

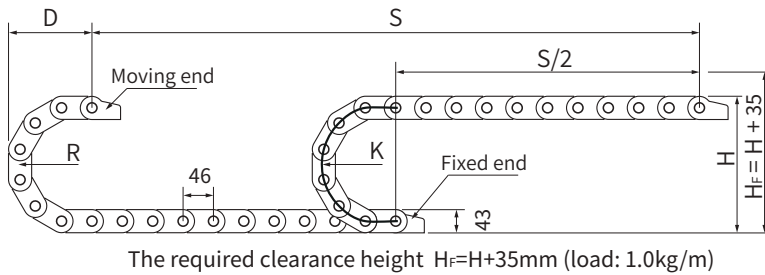
GR28 Series | Enclosed | The lid can be split



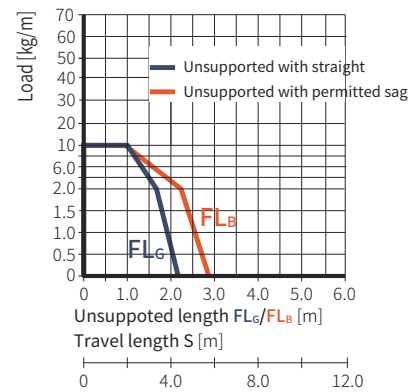
Product code	Bi[mm]	Ba[mm]	Available Radius [mm]	Weight [kg/m]
GR28.038.R	38	57	075 100 125 150 175 200 250	≈ 2.02
GR28.050.R	50	69	075 100 125 150 175 200 250	≈ 2.22
GR28.075.R	75	94	075 100 125 150 175 200 250	≈ 2.42
GR28.100.R	100	119	075 100 125 150 175 200 250	≈ 2.62

★ If there are special sizes and application requirements, we can provide customized services.

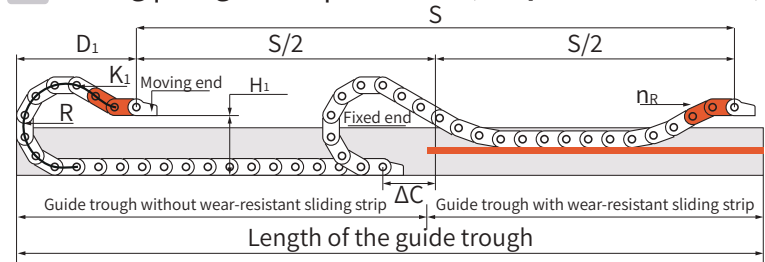
Unsupported | Short-travel | $L_K=S/2+K$ (Midpoint installation)



Unsupported • Load



Sliding | Long-travel | $L_K=S/2+K_1$ (Midpoint installation)



R[mm]	H[mm]	D[mm]	K[mm]	H ₁ [mm]	D ₁ [mm]	K ₁ [mm]	ΔC[mm]
075	193	165	330	150	142	330	—
100	243	190	410	158	350	598	150
125	293	215	485	158	490	782	270
150	343	240	565	158	530	920	300
175	393	265	645	158	664	1104	400
200	443	290	725	158	730	1242	450
250	543	340	880	158	935	1610	600



Travel ≤ 120m

Guide trough

Note: If you need long-travel application, please consult our engineers.

Technical data

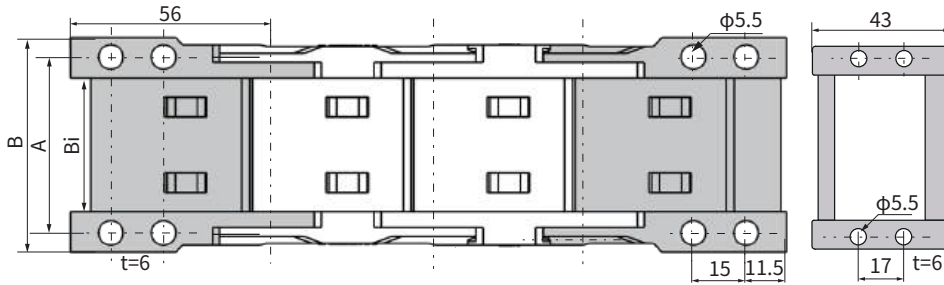
	Unsupported length	≤ 2.3m	Speed/Acceleration FL _G	≤ 20 [m/s] / 200 [m/s ²]
	Sliding length	≤ 60m	Speed/Acceleration FL _B	≤ 3 [m/s] / 6 [m/s ²]
	Vertical hanging	≤ 25m	Sliding speed/Acceleration	≤ 10 [m/s] / 50 [m/s ²]
	Vertical standing	≤ 2.0m	Permit temperature	-40°C ~120°C
	Side-mounted	≤ 1.8m	Flame retardant grade	UL94 HB
			Self-friction coefficient of cable chain	0.40
			Friction coefficient (cable chain&bar)	0.20

GR28 Series | Enclosed | Accessories

Mounting bracket size ● Fixed | Moving

Inner mounting bracket code: GR281.Bi.1/GR280.Bi.1

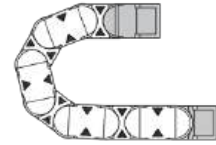
Outer mounting bracket code: GR281.Bi.2/GR280.Bi.2



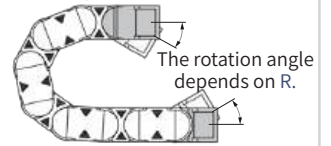
M5(GB/T) screws are recommended for mounting bracket installation, the maximum locking force shall not exceed 3 N.m.

Mounting bracket movement angle

Fixed: GR281.Bi.12
Recommended for vertical hanging or standing applications.



Moving: GR280.Bi.12
Recommended for unsupported and sliding applications.



Bi[mm]	Full set fixed mounting bracket code With tiewrap plate	Full set moving mounting bracket code With tiewrap plate	A[mm]	B[mm]	Selection of tiewrap plate
.38.	GR281.038.12	GR280.038.12	50	61	ZG050
.50.	GR281.050.12	GR280.050.12	62	73	ZG050
.75.	GR281.075.12	GR280.075.12	87	98	ZG075
.100.	GR281.100.12	GR280.100.12	112	123	ZG100

★ If you need to select tiewrap plates and clamps, please refer to the strain relief accessories section on page 119.

Inner separation ● Vertical separator | Horizontal separator

Standard vertical separator
Model: GR28.VS
Double-sided buckle

Horizontal separator
Model: MH.X
X value range: 13-100

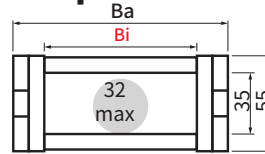
Example of standard material ordering

GR28 • 050 • 125 - 40P + GR281 • 050 • 12 + GR28.VS - 60 + MH. 30 - 20

Series Bi R Pitch Fixed/Moving Bi Numbers of vertical separator Length of horizontal separator Numbers of horizontal separator

★ Please refer to page 38 for ordering special materials such as anti-static, sliding and non-camber.

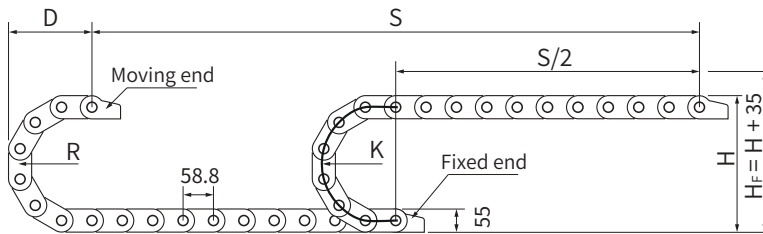
G35 Series | Openable | The crossbar can be split



Hi: 35mm
Pitch: 58.8mm
Numbers of Pitch/m: 17

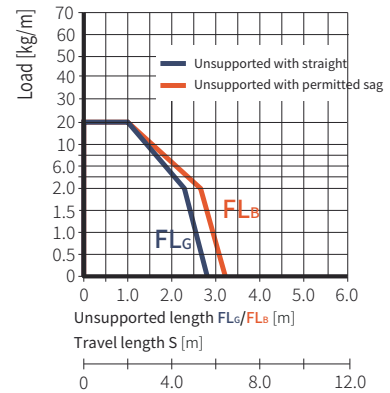
Product code	Bi[mm]	Ba[mm]	Available Radius [mm]	Weight [kg/m]
G35.050.R	50	74	063 075 100 125 150 175 200 250 300	≈ 1.47
G35.075.R	75	99	063 075 100 125 150 175 200 250 300	≈ 1.60
G35.087.R	87	111	063 075 100 125 150 175 200 250 300	≈ 1.70
G35.100.R	100	124	063 075 100 125 150 175 200 250 300	≈ 1.79
G35.112.R	112	136	063 075 100 125 150 175 200 250 300	≈ 1.89
G35.125.R	125	149	063 075 100 125 150 175 200 250 300	≈ 1.98
G35.150.R	150	174	063 075 100 125 150 175 200 250 300	≈ 2.22
G35.175.R	175	199	063 075 100 125 150 175 200 250 300	≈ 2.52
G35.200.R	200	224	063 075 100 125 150 175 200 250 300	≈ 2.82
G35.225.R	225	249	063 075 100 125 150 175 200 250 300	≈ 3.12
G35.250.R	250	274	063 075 100 125 150 175 200 250 300	≈ 3.42
G35.300.R	300	324	063 075 100 125 150 175 200 250 300	≈ 3.92

Unsupported | Short-travel | $L_k=S/2+K$ (Midpoint installation)

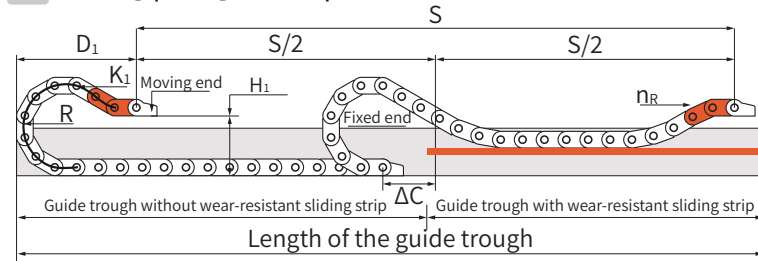


The required clearance height $H_f=H+35$ mm (load: 2.0kg/m)

Unsupported • Load



Sliding | Long-travel | $L_k=S/2+K_1$ (Midpoint installation)



R[mm]	H[mm]	D[mm]	K[mm]	H ₁ [mm]	D ₁ [mm]	K ₁ [mm]	ΔC[mm]
063	181	176	312	128	148	310	—
075	205	188	352	152	162	350	—
100	255	212	432	168	374	650	160
125	305	238	506	168	474	825	210
150	355	262	588	168	504	999	240
175	405	288	666	168	658	1176	370
200	455	312	756	168	774	1352	460
250	555	366	902	168	936	1646	570
300	655	414	1056	168	1110	1999	690



Travel ≤ 160m



Guide trough

Note: If you need long-travel application, please consult our engineers.

Technical data

	Unsupported length	≤ 2.8m	Speed/Acceleration FL_c	≤ 20 [m/s] / 200 [m/s ²]
	Sliding length	≤ 80m	Speed/Acceleration FL_b	≤ 3 [m/s] / 6 [m/s ²]
	Vertical hanging	≤ 30m	Sliding speed/Acceleration	≤ 10 [m/s] / 50 [m/s ²]
	Vertical standing	≤ 2.5m	Permit temperature	-40°C ~120°C
	Side-mounted	≤ 2.0m	Flame retardant grade	UL94 HB
			Self-friction coefficient of cable chain	0.40
			Friction coefficient (cable chain&bar)	0.20

G35 Series | Openable | Accessories

Mounting bracket size ● Fixed | Moving

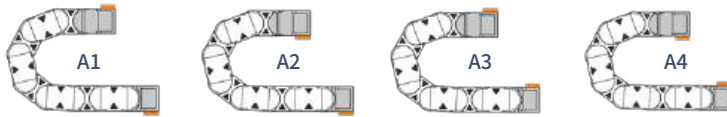
Inner mounting bracket code: G351.**Bi.1**/G350.**Bi.1**

Outer mounting bracket code: G351.**Bi.2**/G350.**Bi.2**

Mounting bracket movement angle
 Fixed: G351.**Bi.12**
 Recommended for vertical hanging or standing applications.

Moving: G350.**Bi.12**
 Recommended for unsupported and sliding applications.

M5(GB/T) screws are recommended for mounting bracket installation, the maximum locking force shall not exceed 3 N.m.



★ If the clamp needs to be pre-assembled when it is delivered, please explain the installation method (A1|A2|A3|A4), e.g. G351.100.12CA1

Bi[mm]	Full set fixed mounting bracket code With tiewrap plate	Full set moving mounting bracket code With tiewrap plate	A[mm]	B[mm]	Selection of tiewrap plate
.50.	G351.050.12	G350.050.12	64	77	ZG050
.75.	G351.075.12	G350.075.12	89	102	ZG075
.87.	G351.087.12	G350.087.12	101	114	ZG075
.100.	G351.100.12	G350.100.12	114	127	ZG100
.112.	G351.112.12	G350.112.12	126	139	ZG100
.125.	G351.125.12	G350.125.12	139	152	ZG125
.150.	G351.150.12	G350.150.12	164	177	ZG150
.175.	G351.175.12	G350.175.12	189	202	ZG175
.200.	G351.200.12	G350.200.12	214	227	ZG200
.225.	G351.225.12	G350.225.12	239	252	ZG100+ZG125
.250.	G351.250.12	G350.250.12	264	277	ZG125+ZG125
.300.	G351.300.12	G350.300.12	314	327	ZG150+ZG150

Inner separation ● Vertical separator | Horizontal separator

Standard vertical separator
 Model: 35.VSS
 Single-sided buckle

Lock vertical separator
 Model: 35.LS
 Double-sided buckle

Horizontal separator
 Model: BH.X
 X value range: 15-300

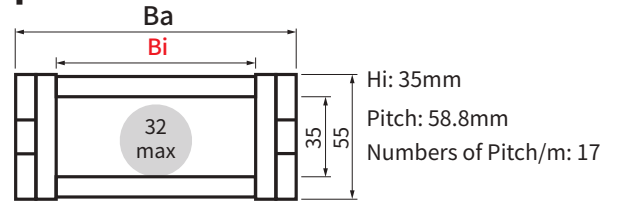
Example of standard material ordering

G35 • 100 • 075 - 36P + G351 • 100 • 12 + 35.VSS - 36 + BH. 80 - 18

Series Bi R Pitch Fixed/Moving Bi Numbers of vertical separator Length of horizontal separator Numbers of horizontal separator

★ Please refer to page 38 for ordering special materials such as anti-static, sliding and non-camber.

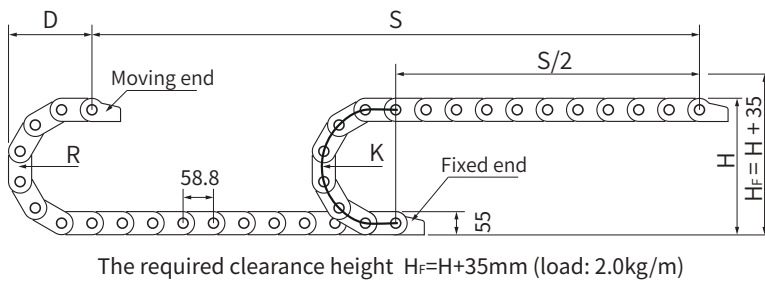
GR35 Series | Enclosed | The lid can be split



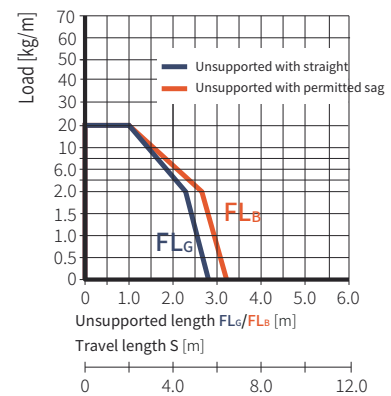
Product code	Bi[mm]	Ba[mm]	Available Radius [mm]	Weight [kg/m]
GR35.050.R	50	74	125 150 175 200 250 300	≈ 1.82
GR35.075.R	75	99	125 150 175 200 250 300	≈ 2.10
GR35.100.R	100	124	125 150 175 200 250 300	≈ 2.32

★ If there are special sizes and application requirements, we can provide customized services.

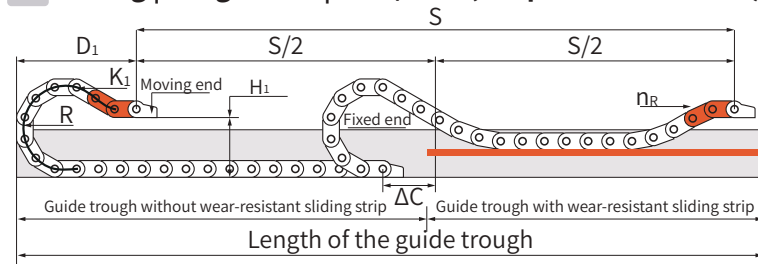
Unsupported | Short-travel | $L_K=S/2+K$ (Midpoint installation)



Unsupported • Load



Sliding | Long-travel | $L_K=S/2+K_1$ (Midpoint installation)



Travel $\leq 160\text{m}$



Guide trough

R[mm]	H[mm]	D[mm]	K[mm]	H ₁ [mm]	D ₁ [mm]	K ₁ [mm]	ΔC[mm]
125	305	238	506	168	474	825	210
150	355	262	588	168	504	999	240
175	405	288	666	168	658	1176	370
200	455	312	756	168	774	1352	460
250	555	366	902	168	936	1646	570
300	655	414	1056	168	1110	1999	690

Note: If you need long-travel application, please consult our engineers.

Technical data

	Unsupported length	$\leq 2.8\text{m}$	Speed/Acceleration FL_G	$\leq 20 \text{ [m/s]} / 200 \text{ [m/s}^2\text{]}$
	Sliding length	$\leq 80\text{m}$	Speed/Acceleration FL_B	$\leq 3 \text{ [m/s]} / 6 \text{ [m/s}^2\text{]}$
	Vertical hanging	$\leq 30\text{m}$	Sliding speed/Acceleration	$\leq 10 \text{ [m/s]} / 50 \text{ [m/s}^2\text{]}$
	Vertical standing	$\leq 2.5\text{m}$	Permit temperature	$-40^\circ\text{C} \sim 120^\circ\text{C}$
	Side-mounted	$\leq 2.0\text{m}$	Flame retardant grade	UL94 HB
			Self-friction coefficient of cable chain	0.40
			Friction coefficient (cable chain&bar)	0.20

GR35 Series | Enclosed | Accessories

Mounting bracket size ● Fixed | Moving

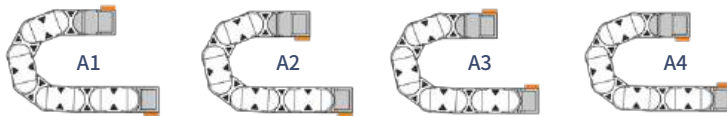
Inner mounting bracket code: GR351.Bi.1/GR350.Bi.1

Outer mounting bracket code: GR351.Bi.2/GR350.Bi.2

Mounting bracket movement angle
 Fixed: GR351.Bi.12
 Recommended for vertical hanging or standing applications.

Moving: GR350.Bi.12
 Recommended for unsupported and sliding applications.

M5(GB/T) screws are recommended for mounting bracket installation, the maximum locking force shall not exceed 3 N.m.



★ If the clamp needs to be pre-assembled when it is delivered, please explain the installation method (A1|A2|A3|A4), e.g. GR351.100.12CA1

Bi[mm]	Full set fixed mounting bracket code With tie-wrap plate	Full set moving mounting bracket code With tie-wrap plate	A[mm]	B[mm]	Selection of tie-wrap plate
.50.	GR351.050.12	GR350.050.12	64	77	ZG050
.75.	GR351.075.12	GR350.075.12	89	102	ZG075
.100.	GR351.100.12	GR350.100.12	114	127	ZG100
.125.	GR351.125.12	GR350.125.12	139	152	ZG125
.150.	GR351.150.12	GR350.150.12	164	177	ZG150

★ If you need to select tie-wrap plates and clamps, please refer to the strain relief accessories section on page 119.

Inner separation ● Vertical separator | Horizontal separator

Standard vertical separator
 Model: 35.VSS
 Single-sided buckle

Horizontal separator
 Model: BH.X
 X value range: 15-100

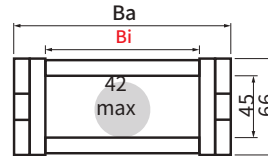
Example of standard material ordering

GR35 • 100 • 125 - 40P + GR351 • 100 • 12 + 35.VSS - 60 + BH. 80 - 20

Series Bi R Pitch Fixed/Moving Bi Numbers of vertical separator Length of horizontal separator Numbers of horizontal separator

★ Please refer to page 38 for ordering special materials such as anti-static, sliding and non-camber.

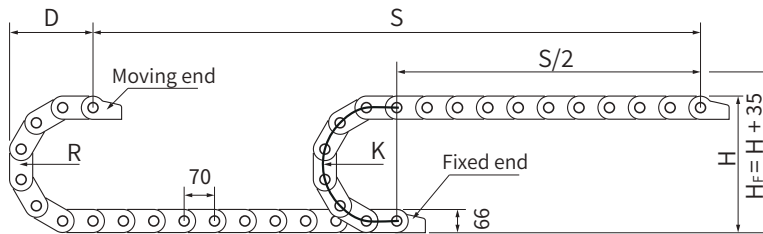
G45 Series | Openable | The crossbar can be split



Hi: 45mm
Pitch: 70mm
Numbers of Pitch/m: 14

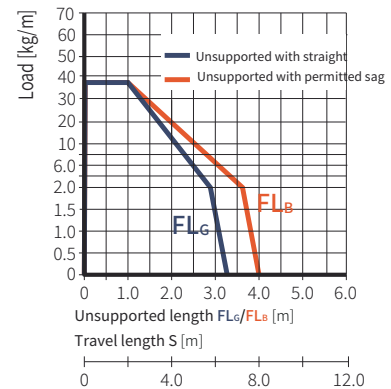
Product code	Bi[mm]	Ba[mm]	Available Radius [mm]	Weight [kg/m]
G45.050.R	50	76	075 100 125 150 175 200 250 300	≈ 2.10
G45.075.R	75	101	075 100 125 150 175 200 250 300	≈ 2.24
G45.087.R	87	113	075 100 125 150 175 200 250 300	≈ 2.34
G45.100.R	100	126	075 100 125 150 175 200 250 300	≈ 2.39
G45.112.R	112	138	075 100 125 150 175 200 250 300	≈ 2.45
G45.125.R	125	151	075 100 125 150 175 200 250 300	≈ 2.54
G45.150.R	150	176	075 100 125 150 175 200 250 300	≈ 2.66
G45.175.R	175	201	075 100 125 150 175 200 250 300	≈ 2.77
G45.200.R	200	226	075 100 125 150 175 200 250 300	≈ 2.92
G45.225.R	225	251	075 100 125 150 175 200 250 300	≈ 3.08
G45.250.R	250	276	075 100 125 150 175 200 250 300	≈ 3.18
G45.300.R	300	326	075 100 125 150 175 200 250 300	≈ 3.44

Unsupported | Short-travel | $L_K=S/2+K$ (Midpoint installation)

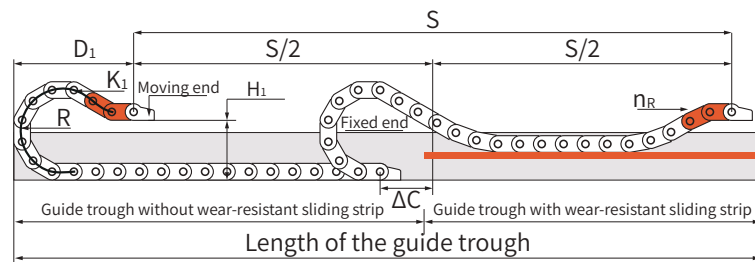


The required clearance height $H_f=H+35\text{mm}$ (load: 3.0kg/m)

Unsupported • Load



Sliding | Long-travel | $L_K=S/2+K_1$ (Midpoint installation)



R[mm]	H[mm]	D[mm]	K[mm]	H ₁ [mm]	D ₁ [mm]	K ₁ [mm]	ΔC[mm]
075	216	215	370	150	180	378	-
100	266	240	450	200	200	453	-
125	316	265	530	190	480	840	230
150	366	290	610	190	580	980	300
175	416	315	685	190	680	1120	380
200	466	340	765	190	790	1330	460
250	566	390	920	190	1040	1610	660
300	666	440	1080	190	1160	1890	730



Travel ≤ 200m



Guide trough

Note: If you need long-travel application, please consult our engineers.

Technical data

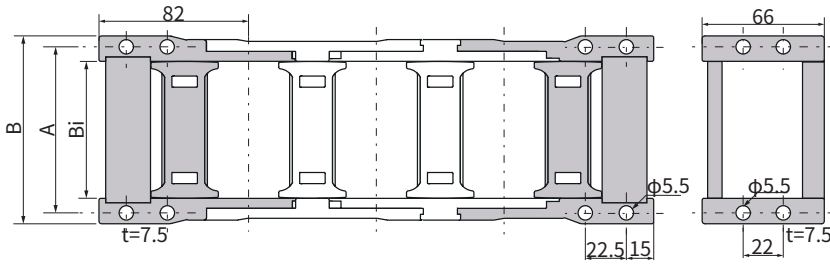
	Unsupported length	≤ 3.3m	Speed/Acceleration FL _c	≤ 20 [m/s] / 200 [m/s ²]
	Sliding length	≤ 100m	Speed/Acceleration FL _b	≤ 3 [m/s] / 6 [m/s ²]
	Vertical hanging	≤ 50m	Sliding speed/Acceleration	≤ 10 [m/s] / 50 [m/s ²]
	Vertical standing	≤ 3.0m	Permit temperature	-40°C ~120°C
	Side-mounted	≤ 2.1m	Flame retardant grade	UL94 HB
			Self-friction coefficient of cable chain	0.40
			Friction coefficient (cable chain&bar)	0.20

G45 Series | Openable | Accessories

Mounting bracket size ● Fixed | Moving

Inner mounting bracket code: G451.Bi.1/G450.Bi.1

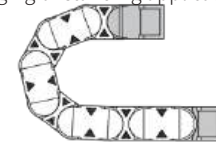
Outer mounting bracket code: G451.Bi.2/G450.Bi.2



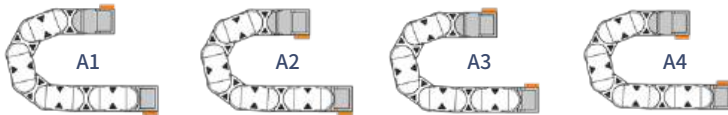
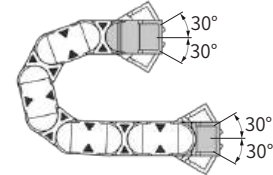
M5(GB/T) screws are recommended for mounting bracket installation, the maximum locking force shall not exceed 3 N.m.

Mounting bracket movement angle

Fixed: G451.Bi.12
Recommended for unsupported, vertical hanging or standing applications.



Moving: G450.Bi.12
Recommended for sliding applications.

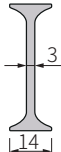


★ If the clamp needs to be pre-assembled when it is delivered, please explain the installation method (A1|A2|A3|A4), e.g. G451.100.12CA1

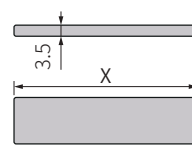
Bi[mm]	Full set fixed mounting bracket code With tiewrap plate	Full set moving mounting bracket code With tiewrap plate	A[mm]	B[mm]	Selection of tiewrap plate
.50.	G451.050.12	G450.050.12	66	78	ZG050
.75.	G451.075.12	G450.075.12	91	103	ZG075
.87.	G451.087.12	G450.087.12	103	115	ZG100
.100.	G451.100.12	G450.100.12	116	128	ZG100
.112.	G451.112.12	G450.112.12	128	140	ZG100
.125.	G451.125.12	G450.125.12	141	153	ZG125
.150.	G451.150.12	G450.150.12	166	178	ZG150
.175.	G451.175.12	G450.175.12	191	203	ZG175
.200.	G451.200.12	G450.200.12	216	228	ZG200
.225.	G451.225.12	G450.225.12	241	253	ZG100+ZG125
.250.	G451.250.12	G450.250.12	266	278	ZG125+ZG125
.300.	G451.300.12	G450.300.12	316	328	ZG150+ZG150

★ If you need to select tiewrap pates and clamps, please refer to the strain relief accessories section on page 119.

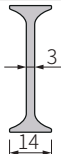
Inner separation ● Vertical separator | Horizontal separator



Standard vertical separator
Model: 45.VSS
Single-sided buckle



Horizontal separator
Model: BH.X
X value range: 17-300



Lock vertical separator
Model: 45.LS
Double-sided buckle

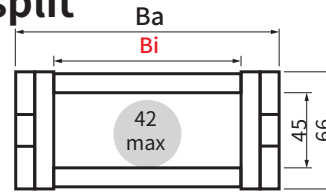
Example of standard material ordering

G45 • 100 • 075 - 36P + G451 • 100 • 12 + 45.VSS - 36 + BH. 80 - 18

Series Bi R Pitch Fixed/Moving Bi Numbers of vertical separator Length of horizontal separator Numbers of horizontal separator

★ Please refer to page 38 for ordering special materials such as anti-static, sliding and non-camber.

GR45 Series | Enclosed | The lid can be split

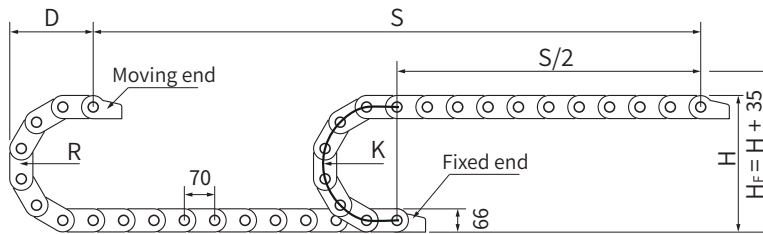


Hi: 45mm
Pitch: 70mm
Numbers of Pitch/m: 14

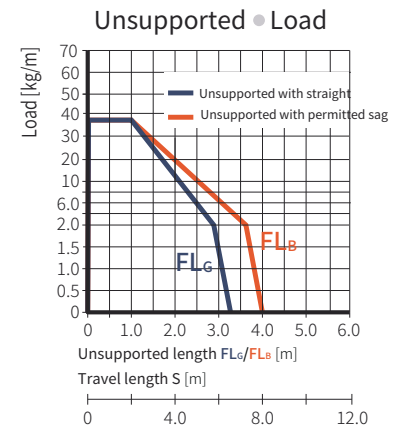
Product code	Bi[mm]	Ba[mm]	Available Radius [mm]	Weight [kg/m]
GR45.050.R	50	76	125 150 175 200 250 300	≈ 2.76
GR45.075.R	75	101	125 150 175 200 250 300	≈ 3.08
GR45.100.R	100	126	125 150 175 200 250 300	≈ 3.36
GR45.125.R	125	151	125 150 175 200 250 300	≈ 3.62
GR45.150.R	150	176	125 150 175 200 250 300	≈ 3.92
GR45.175.R	175	201	125 150 175 200 250 300	≈ 4.26
GR45.200.R	200	226	125 150 175 200 250 300	≈ 4.48
GR45.250.R	250	276	125 150 175 200 250 300	≈ 5.26
GR45.300.R	300☆	326	125 150 175 200 250 300	≈ 6.22
GR45.400.R	400☆	426	125 150 175 200 250 300	≈ 8.18

★ GR45 series have expansion parts, ☆ The width marked is expansion of the crossbar. If you need other widths, please refer to the crossbar expansion section on page 120 for details.

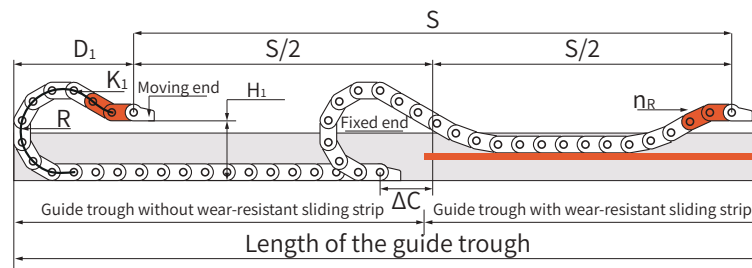
Unsupported | Short-travel | $L_k=S/2+K$ (Midpoint installation)



The required clearance height $H_f=H+35\text{mm}$ (load: 3.0kg/m)



Sliding | Long-travel | $L_k=S/2+K_1$ (Midpoint installation)



R[mm]	H[mm]	D[mm]	K[mm]	H ₁ [mm]	D ₁ [mm]	K ₁ [mm]	ΔC[mm]
125	316	265	530	190	480	840	230
150	366	290	610	190	580	980	300
175	416	315	685	190	680	1120	380
200	466	340	765	190	790	1330	460
250	566	390	920	190	1040	1610	660
300	666	440	1080	190	1160	1890	730



Travel ≤ 200m



Guide trough

Note: If you need long-travel application, please consult our engineers.

Technical data

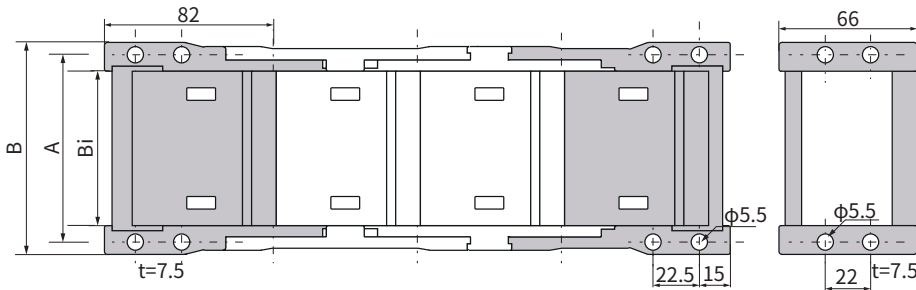
	Unsupported length	≤ 3.3m	Speed/Acceleration FL _c	≤ 20 [m/s] / 200 [m/s ²]
	Sliding length	≤ 100m	Speed/Acceleration FL _s	≤ 3 [m/s] / 6 [m/s ²]
	Vertical hanging	≤ 50m	Sliding speed/Acceleration	≤ 10 [m/s] / 50 [m/s ²]
	Vertical standing	≤ 3.0m	Permit temperature	-40°C ~120°C
	Side-mounted	≤ 2.1m	Flame retardant grade	UL94 HB
			Self-friction coefficient of cable chain	0.40
			Friction coefficient (cable chain&bar)	0.20

GR45 Series | Enclosed | Accessories

Mounting bracket size ● Fixed | Moving

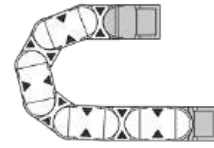
Inner mounting bracket code: GR451.Bi.1/GR450.Bi.1

Outer mounting bracket code: GR451.Bi.2/GR450.Bi.2

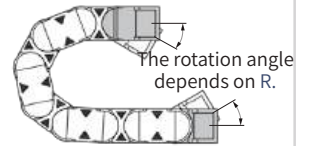


Mounting bracket movement angle

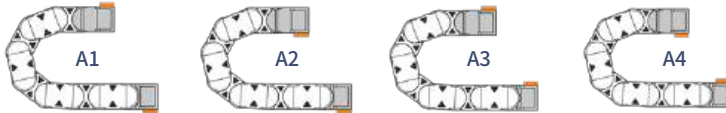
Fixed: GR451.Bi.12
Recommended for vertical hanging or standing applications.



Moving: GR450.Bi.12
Recommended for unsupported and sliding applications.



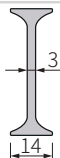
M5(GB/T) screws are recommended for mounting bracket installation, the maximum locking force shall not exceed 3 N.m.



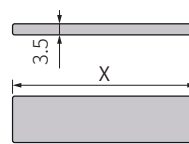
★ If the clamp needs to be pre-assembled when it is delivered, please explain the installation method (A1|A2|A3|A4), e.g. GR451.100.12CA1

Bi[mm]	Full set fixed mounting bracket code With tie-wrap plate	Full set moving mounting bracket code With tie-wrap plate	A[mm]	B[mm]	Selection of tie-wrap plate
.50.	GR451.050.12	GR450.050.12	66	78	ZG050
.75.	GR451.075.12	GR450.075.12	91	103	ZG075
.100.	GR451.100.12	GR450.100.12	116	128	ZG100
.125.	GR451.125.12	GR450.125.12	141	153	ZG125
.150.	GR451.150.12	GR450.150.12	166	178	ZG150
.175.	GR451.175.12	GR450.175.12	191	203	ZG175
.200.	GR451.200.12	GR450.200.12	216	228	ZG200
.250.	GR451.250.12	GR450.250.12	266	278	ZG125+ZG125
.300.	GR451.300.12	GR450.300.12	316	328	ZG150+ZG150
.400.	GR451.400.12	GR450.400.12	416	428	ZG200+ZG200

Inner separation ● Vertical separator | Horizontal separator



Standard vertical separator
Model: 45.VSS
Single-sided buckle



Horizontal separator
Model: BH.X
X value range: 17-300

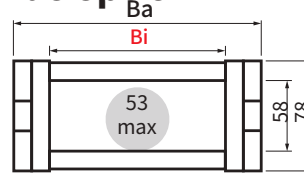
Example of standard material ordering

GR45 • 100 • 125 - 40P + GR451 • 100 • 12 + 45.VSS - 60 + BH. 80 - 20

Series Bi R Pitch Fixed/Moving Bi Numbers of vertical separator Length of horizontal separator Numbers of horizontal separator

★ Please refer to page 38 for ordering special materials such as anti-static, sliding and non-camber.

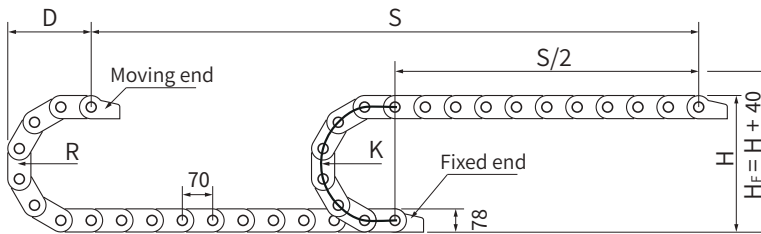
G58 Series | Openable | The crossbar can be split



Hi: 58mm
Pitch: 70mm
Numbers of Pitch/m: 14

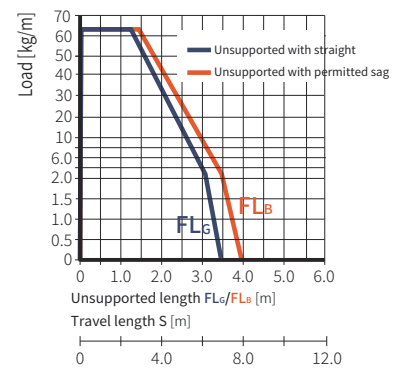
Product code	Bi[mm]	Ba[mm]	Available Radius [mm]	Weight [kg/m]
G58.050.R	50	80	125 150 175 200 250 300 350 400	≈ 2.58
G58.075.R	75	105	125 150 175 200 250 300 350 400	≈ 2.88
G58.087.R	87	117	125 150 175 200 250 300 350 400	≈ 2.98
G58.100.R	100	130	125 150 175 200 250 300 350 400	≈ 3.08
G58.112.R	112	142	125 150 175 200 250 300 350 400	≈ 3.18
G58.125.R	125	155	125 150 175 200 250 300 350 400	≈ 3.28
G58.150.R	150	180	125 150 175 200 250 300 350 400	≈ 3.48
G58.175.R	175	205	125 150 175 200 250 300 350 400	≈ 3.68
G58.200.R	200	230	125 150 175 200 250 300 350 400	≈ 3.88
G58.225.R	225	255	125 150 175 200 250 300 350 400	≈ 4.08
G58.250.R	250	280	125 150 175 200 250 300 350 400	≈ 4.18
G58.300.R	300	330	125 150 175 200 250 300 350 400	≈ 4.68

Unsupported | Short-travel | $L_K=S/2+K$ (Midpoint installation)

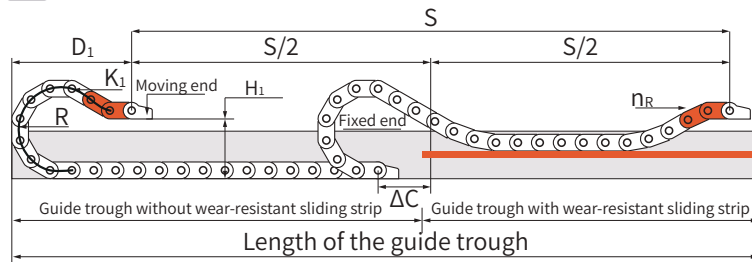


The required clearance height $H_f=H+40$ mm (load: 3.0kg/m)

Unsupported • Load



Sliding | Long-travel | $L_K=S/2+K_1$ (Midpoint installation)



R[mm]	H[mm]	D[mm]	K[mm]	H ₁ [mm]	D ₁ [mm]	K ₁ [mm]	ΔC[mm]
125	328	300	590	270	265	840	126
150	378	325	655	266	450	980	162
175	428	350	730	266	710	1120	212
200	478	375	815	266	710	1330	362
250	578	425	970	266	980	1610	512
300	678	475	1125	266	1180	1890	662
350	778	525	1285	266	1440	2240	812
400	878	575	1440	266	1530	2520	962



Travel ≤ 240m



Guide trough

Note: If you need long-travel application, please consult our engineers.

Technical data

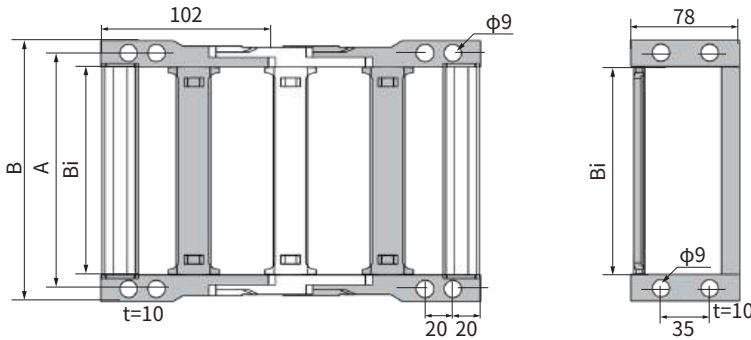
	Unsupported length	≤ 3.5m	Speed/Acceleration FL_G	≤ 20 [m/s] / 200 [m/s ²]
	Sliding length	≤ 120m	Speed/Acceleration FL_B	≤ 3 [m/s] / 6 [m/s ²]
	Vertical hanging	≤ 40m	Sliding speed/Acceleration	≤ 10 [m/s] / 50 [m/s ²]
	Vertical standing	≤ 3.0m	Permit temperature	-40°C ~120°C
	Side-mounted	≤ 2.5m	Flame retardant grade	UL94 HB
			Self-friction coefficient of cable chain	0.40
			Friction coefficient (cable chain&bar)	0.20

G58 Series | Openable | Accessories

Mounting bracket size ● Fixed | Moving

Inner mounting bracket code: G581.Bi.1/G580.Bi.1

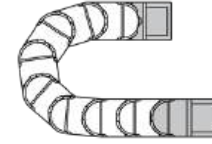
Outer mounting bracket code: G581.Bi.2/G580.Bi.2



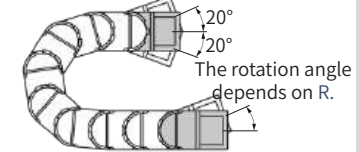
M8(GB/T) screws are recommended for mounting bracket installation, the maximum locking force shall not exceed 4.5 N.m.

Mounting bracket movement angle

Fixed: G581.Bi.12
Recommended for unsupported, vertical hanging or standing applications.



Moving: G580.Bi.12
Recommended for sliding applications.



★ If the clamp needs to be pre-assembled when it is delivered, please explain the installation method (A1|A2|A3|A4), e.g. G581.100.12CA1

Bi[mm]	Full set fixed mounting bracket code With tiewrap plate	Full set moving mounting bracket code With tiewrap plate	A[mm]	B[mm]	Selection of tiewrap plate
.50.	G581.050.12	G580.050.12	70	88	ZG050
.75.	G581.075.12	G580.075.12	95	113	ZG075
.87.	G581.087.12	G580.087.12	107	125	ZG100
.100.	G581.100.12	G580.100.12	120	138	ZG100
.112.	G581.112.12	G580.112.12	132	150	ZG100
.125.	G581.125.12	G580.125.12	145	163	ZG125
.150.	G581.150.12	G580.150.12	170	188	ZG150
.175.	G581.175.12	G580.175.12	195	213	ZG175
.200.	G581.200.12	G580.200.12	220	238	ZG200
.225.	G581.225.12	G580.225.12	245	263	ZG100+ZG125
.250.	G581.250.12	G580.250.12	270	288	ZG125+ZG125
.300.	G581.300.12	G580.300.12	320	338	ZG150+ZG150

★ If you need to select tiewrap pates and clamps, please refer to the strain relief accessories section on page 119.

Inner separation ● Vertical separator | Horizontal separator

Standard vertical separator

Model: 58.VSS
Single-sided buckle

Horizontal separator

Model: BH.X
X value range: 22-300

Lock vertical separator

Model: 58.LS
Double-sided buckle

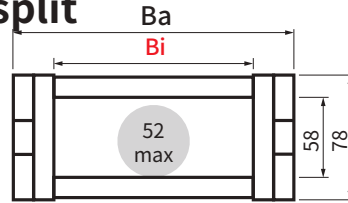
Example of standard material ordering

G58 • 100 • 125 - 36P + G581 • 100 • 12 + 58.VSS - 36 + BH. 80 - 18

Series
Bi
R
Pitch
Fixed/Moving
Bi
Numbers of vertical separator
Length of horizontal separator
Numbers of horizontal separator

★ Please refer to page 38 for ordering special materials such as anti-static, sliding and non-camber.

GR58 Series | Enclosed | The lid can be split

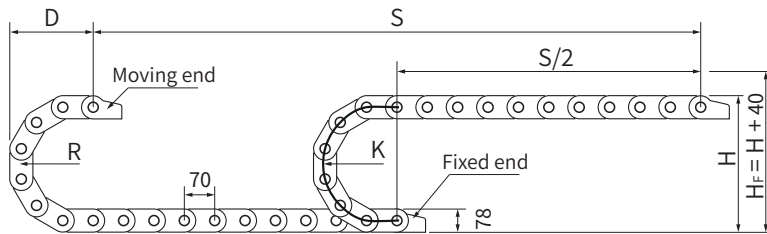


Hi: 58mm
Pitch: 70mm
Numbers of Pitch/m: 14

Product code	Bi[mm]	Ba[mm]	Available Radius [mm]	Weight [kg/m]
GR58.050.R	50	80	150 175 200 250 300 350 400	≈ 3.26
GR58.075.R	75	105	150 175 200 250 300 350 400	≈ 3.46
GR58.100.R	100	130	150 175 200 250 300 350 400	≈ 3.66
GR58.125.R	125	155	150 175 200 250 300 350 400	≈ 3.96
GR58.150.R	150	180	150 175 200 250 300 350 400	≈ 4.48
GR58.175.R	175	205	150 175 200 250 300 350 400	≈ 4.68
GR58.200.R	200	230	150 175 200 250 300 350 400	≈ 5.08
GR58.250.R	250	280	150 175 200 250 300 350 400	≈ 5.68
GR58.300.R	300☆	330	150 175 200 250 300 350 400	≈ 6.36
GR58.400.R	400☆	430	150 175 200 250 300 350 400	≈ 7.96

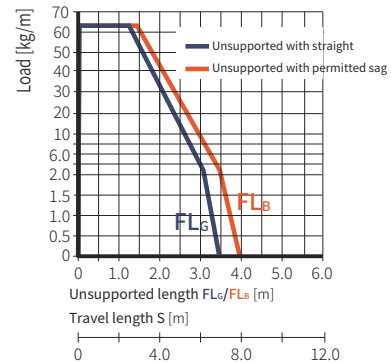
★GR58 series have expansion parts, ☆ The width marked is expansion of the crossbar. If you need other widths, please refer to the crossbar expansion section on page 120 for details.

Unsupported | Short-travel | $L_K=S/2+K$ (Midpoint installation)

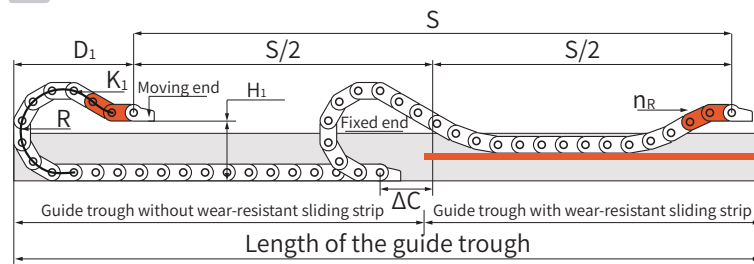


The required clearance height $H_f=H+40$ mm (load: 3.0kg/m)

Unsupported • Load



Sliding | Long-travel | $L_K=S/2+K_1$ (Midpoint installation)



R[mm]	H[mm]	D[mm]	K[mm]	H ₁ [mm]	D ₁ [mm]	K ₁ [mm]	ΔC[mm]
150	378	325	655	266	450	980	162
175	428	350	730	266	710	1120	212
200	478	375	815	266	710	1330	362
250	578	425	970	266	980	1610	512
300	678	475	1125	266	1180	1890	662
350	778	525	1285	266	1440	2240	812
400	878	575	1440	266	1530	2520	962



Travel ≤ 240m



Guide trough

Note: If you need long-travel application, please consult our engineers.

Technical data

	Unsupported length	≤ 3.5m	Speed/Acceleration FL _c	≤ 20 [m/s] / 200 [m/s ²]
	Sliding length	≤ 120m	Speed/Acceleration FL _b	≤ 3 [m/s] / 6 [m/s ²]
	Vertical hanging	≤ 40m	Sliding speed/Acceleration	≤ 10 [m/s] / 50 [m/s ²]
	Vertical standing	≤ 3.0m	Permit temperature	-40°C ~120°C
	Side-mounted	≤ 2.5m	Flame retardant grade	UL94 HB
			Self-friction coefficient of cable chain	0.40
			Friction coefficient (cable chain&bar)	0.20

GR58 Series | Enclosed | Accessories

Mounting bracket size ● Fixed | Moving

Inner mounting bracket code: GR581.Bi.1/GR580.Bi.1 Outer mounting bracket code: GR581.Bi.2/GR580.Bi.2

Mounting bracket movement angle
 Fixed: GR581.Bi.12
 Recommended for vertical hanging or standing applications.

Moving: GR580.Bi.12
 Recommended for unsupported and sliding applications.

The rotation angle depends on R.

M8(GB/T) screws are recommended for mounting bracket installation, the maximum locking force shall not exceed 4.5 N.m.

★ If the clamp needs to be pre-assembled when it is delivered, please explain the installation method (A1|A2|A3|A4), e.g. GR581.100.12CA1

Bi[mm]	Full set fixed mounting bracket code	Full set moving mounting bracket code	A[mm]	B[mm]	Selection of tiewrap plate
	With tiewrap plate	With tiewrap plate			
.50.	GR581.050.12	GR580.050.12	70	88	ZG050
.75.	GR581.075.12	GR580.075.12	95	113	ZG075
.100.	GR581.100.12	GR580.100.12	120	138	ZG100
.125.	GR581.125.12	GR580.125.12	145	163	ZG125
.150.	GR581.150.12	GR580.150.12	170	188	ZG150
.175.	GR581.175.12	GR580.175.12	195	213	ZG175
.200.	GR581.200.12	GR580.200.12	220	238	ZG200
.250.	GR581.250.12	GR580.250.12	270	288	ZG125+ZG125
.300.	GR581.300.12	GR580.300.12	320	338	ZG150+ZG150
.400.	GR581.400.12	GR580.400.12	420	438	ZG200+ZG200

★ If you need to select tiewrap pates and clamps, please refer to the strain relief accessories section on page 119.

Inner separation ● Vertical separator | Horizontal separator

Standard vertical separator
 Model: 58.VSS
 Single-sided buckle

Horizontal separator
 Model: BH.X
 X value range: 22-300

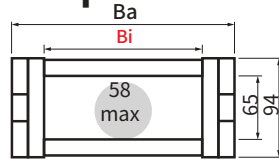
Example of standard material ordering

GR58 • 150 • 200 - 40P + GR581 • 150 • 12 + 58.VSS - 60 + BH. 80 - 20

Series Bi R Pitch Fixed/Moving Bi Numbers of vertical separator Length of horizontal separator Numbers of horizontal separator

★ Please refer to page 38 for ordering special materials such as anti-static, sliding and non-camber.

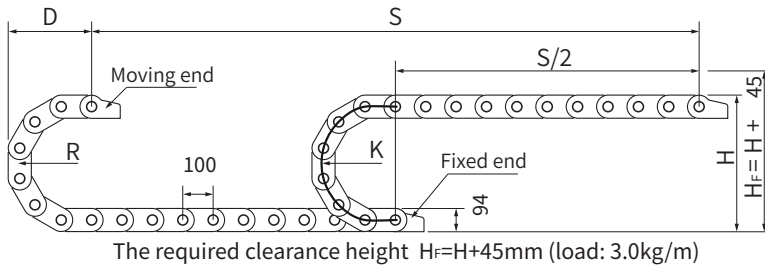
G65 Series | Openable | The crossbar can be split



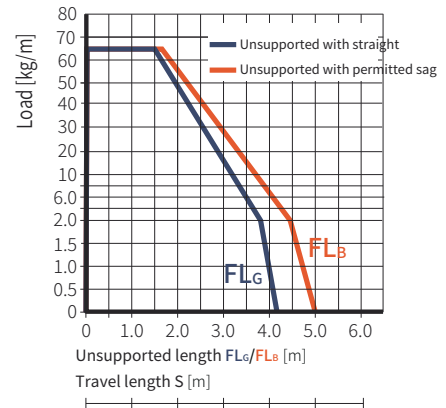
Hi: 65mm
Pitch: 100mm
Numbers of Pitch/m: 10

Product code	Bi[mm]	Ba[mm]	Available Radius [mm]							Weight[kg/m]
G65.050.R	50	84	135	150	200	250	300	350	400	≈ 3.28
G65.075.R	75	109	135	150	200	250	300	350	400	≈ 3.78
G65.100.R	100	134	135	150	200	250	300	350	400	≈ 3.96
G65.125.R	125	159	135	150	200	250	300	350	400	≈ 4.16
G65.150.R	150	184	135	150	200	250	300	350	400	≈ 4.28
G65.175.R	175	209	135	150	200	250	300	350	400	≈ 4.56
G65.200.R	200	234	135	150	200	250	300	350	400	≈ 4.76
G65.225.R	225	259	135	150	200	250	300	350	400	≈ 4.86
G65.250.R	250	284	135	150	200	250	300	350	400	≈ 4.98
G65.275.R	275	309	135	150	200	250	300	350	400	≈ 5.28
G65.300.R	300	334	135	150	200	250	300	350	400	≈ 5.56
G65.350.R	350	384	135	150	200	250	300	350	400	≈ 5.88
G65.400.R	400	434	135	150	200	250	300	350	400	≈ 6.06
G65.450.R	450	484	135	150	200	250	300	350	400	≈ 6.68
G65.550.R	550	584	135	150	200	250	300	350	400	≈ 7.68

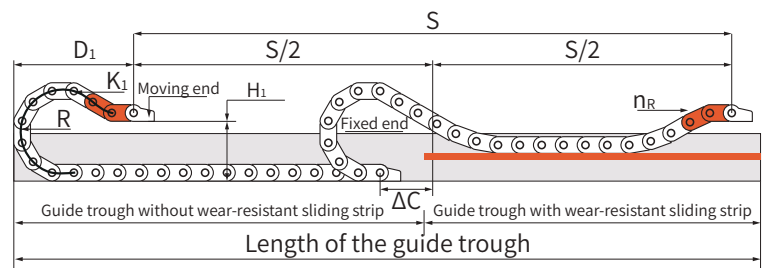
Unsupported | Short-travel | $L_K=S/2+K$ (Midpoint installation)



Unsupported • Load



Sliding | Long-travel | $L_K=S/2+K_1$ (Midpoint installation)



R[mm]	H[mm]	D[mm]	K[mm]	H ₁ [mm]	D ₁ [mm]	K ₁ [mm]	ΔC[mm]
135	364	335	625	270	265	625	—
150	394	350	670	266	450	900	164
200	494	400	830	266	710	1300	364
250	594	450	985	266	980	1600	564
300	694	500	1150	266	1180	1900	714
350	794	550	1300	266	1440	2200	914
400	894	600	1460	266	1530	2600	964



Travel ≤ 280m



Guide trough

Note: If you need long-travel application, please consult our engineers.

Technical data

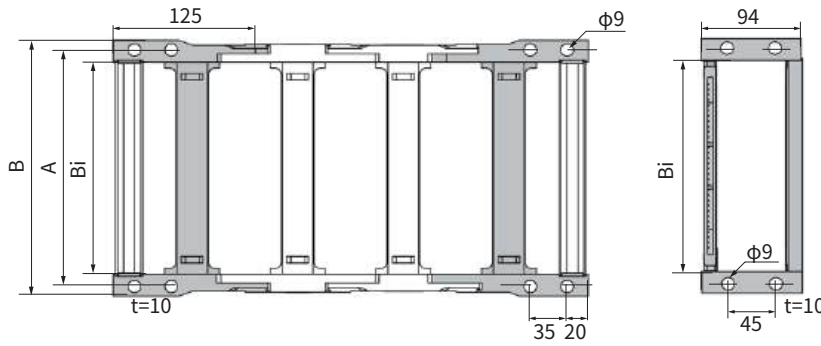
	Unsupported length	≤ 4.2m	Speed/Acceleration FL _G	≤ 20 [m/s] / 200 [m/s ²]
	Sliding length	≤ 140m	Speed/Acceleration FL _B	≤ 3 [m/s] / 6 [m/s ²]
	Vertical hanging	≤ 40m	Sliding speed/Acceleration	≤ 10 [m/s] / 50 [m/s ²]
	Vertical standing	≤ 3.0m	Permit temperature	-40°C ~120°C
	Side-mounted	≤ 2.8m	Flame retardant grade	UL94 HB
			Self-friction coefficient of cable chain	0.40
			Friction coefficient (cable chain&bar)	0.20

G65 Series | Openable | Accessories

Mounting bracket size ● Fixed | Moving

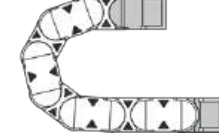
Inner mounting bracket code: G651.Bi.1/G650.Bi.1

Outer mounting bracket code: G651.Bi.2/G650.Bi.2

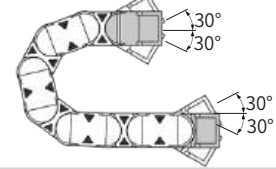


Mounting bracket movement angle

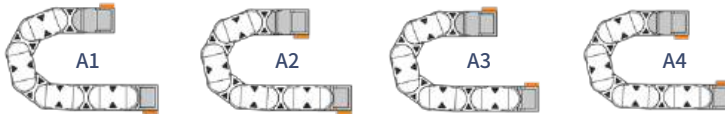
Fixed: G651.Bi.12
Recommended for unsupported, vertical hanging or standing applications.



Moving: G650.Bi.12
Recommended for sliding applications.



M8(GB/T) screws are recommended for mounting bracket installation, the maximum locking force shall not exceed 4.5 N.m.



★ If the clamp needs to be pre-assembled when it is delivered, please explain the installation method (A1|A2|A3|A4), e.g. G651.100.12CA1

Bi[mm]	Full set fixed mounting bracket code With tiewrap plate	Full set moving mounting bracket code With tiewrap plate	A[mm]	B[mm]	Selection of tiewrap plate
.50.	G651.050.12	G650.050.12	73	91	ZG050
.75.	G651.075.12	G650.075.12	98	116	ZG075
.100.	G651.100.12	G650.100.12	123	141	ZG100
.125.	G651.125.12	G650.125.12	148	166	ZG125
.150.	G651.150.12	G650.150.12	173	191	ZG150
.175.	G651.175.12	G650.175.12	198	216	ZG175
.200.	G651.200.12	G650.200.12	223	241	ZG200
.225.	G651.225.12	G650.225.12	248	266	ZG100+ZG125
.250.	G651.250.12	G650.250.12	273	291	ZG125+ZG125
.275.	G651.275.12	G650.275.12	298	316	ZG125+ZG150
.300.	G651.300.12	G650.300.12	323	341	ZG150+ZG150
.350.	G651.350.12	G650.350.12	373	391	ZG175+ZG175
.400.	G651.400.12	G650.400.12	423	441	ZG200+ZG200
.450.	G651.450.12	G650.450.12	473	491	ZG150+ZG150+ZG150
.550.	G651.550.12	G650.550.12	573	591	ZG150+ZG200+ZG200

Inner separation ● Vertical separator | Horizontal separator

Standard vertical separator
Model: 65.VS
Double-sided buckle

Horizontal separator
Model: BH.X
X value range: 22-300

Lock vertical separator
Model: 65.LS
Double-sided buckle

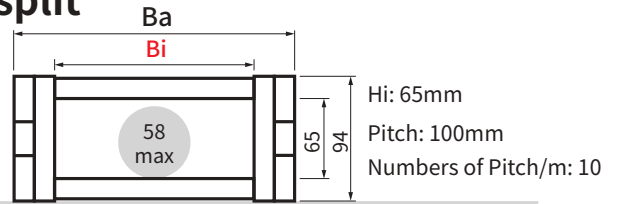
Example of standard material ordering

G65 • 150 • 135 - 36P + G651 • 150 • 12 + 65.VS - 36 + BH. 80 - 18

Series Bi R Pitch Fixed/Moving Bi Numbers of vertical separator Length of horizontal separator Numbers of horizontal separator

★ Please refer to page 38 for ordering special materials such as anti-static, sliding and non-camber.

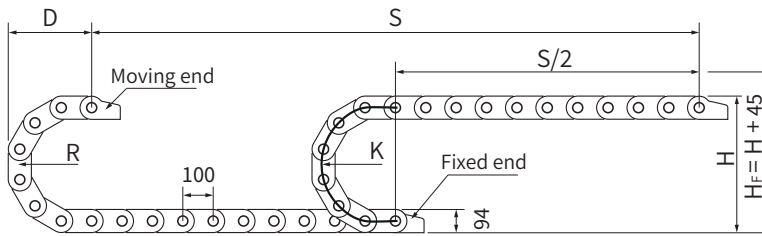
GR65 Series | Enclosed | The lid can be split



Product code	Bi[mm]	Ba[mm]	Available Radius [mm]	Weight[kg/m]
GR65.100.R	100	134	150 200 250 300 350 400	≈ 4.75
GR65.125.R	125	159	150 200 250 300 350 400	≈ 5.15
GR65.150.R	150	184	150 200 250 300 350 400	≈ 5.46
GR65.175.R	175	209	150 200 250 300 350 400	≈ 5.66
GR65.200.R	200	234	150 200 250 300 350 400	≈ 5.98
GR65.250.R	250	284	150 200 250 300 350 400	≈ 6.66
GR65.300.R	300☆	334	150 200 250 300 350 400	≈ 7.36
GR65.400.R	400☆	434	150 200 250 300 350 400	≈ 8.88

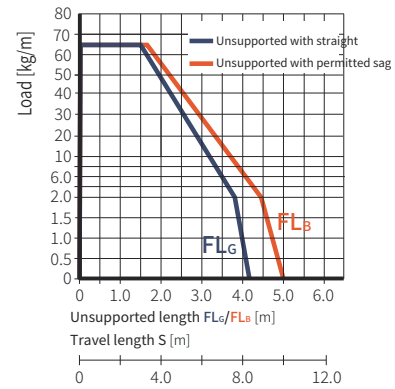
★ GR65 series have expansion parts, ☆ The width marked is expansion of the crossbar. If you need other widths, please refer to the crossbar expansion section on page 120 for details.

Unsupported | Short-travel | $L_K=S/2+K$ (Midpoint installation)

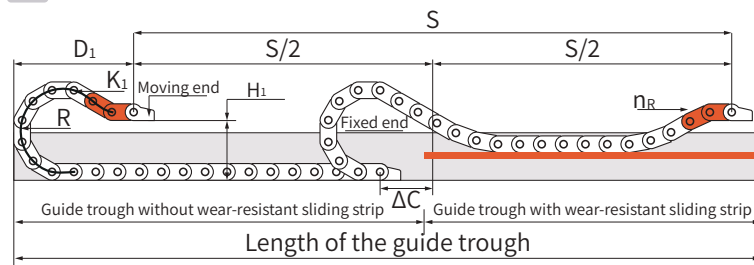


The required clearance height $H_f=H+45$ mm (load: 3.0kg/m)

Unsupported • Load



Sliding | Long-travel | $L_K=S/2+K_1$ (Midpoint installation)



R[mm]	H[mm]	D[mm]	K[mm]	H ₁ [mm]	D ₁ [mm]	K ₁ [mm]	ΔC[mm]
150	394	335	665	266	450	900	164
200	494	365	820	266	710	1300	364
250	594	435	980	266	980	1600	564
300	694	485	1145	266	1180	1900	714
350	794	535	1300	266	1440	2200	914
400	894	585	1460	266	1530	2600	964



Travel ≤ 280m



Guide trough

Note: If you need long-travel application, please consult our engineers.

Technical data

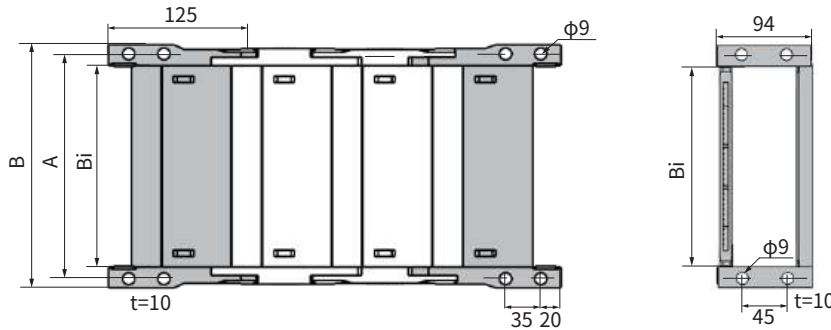
Unsupported length	≤ 4.2m	Speed/Acceleration FL _c	≤ 20 [m/s] / 200 [m/s ²]
Sliding length	≤ 140m	Speed/Acceleration FL _b	≤ 3 [m/s] / 6 [m/s ²]
Vertical hanging	≤ 40m	Sliding speed/Acceleration	≤ 10 [m/s] / 50 [m/s ²]
Vertical standing	≤ 3.0m	Permit temperature	-40°C ~120°C
Side-mounted	≤ 2.5m	Flame retardant grade	UL94 HB
		Self-friction coefficient of cable chain	0.40
		Friction coefficient (cable chain&bar)	0.20

GR65 Series | Enclosed | Accessories

Mounting bracket size ● Fixed | Moving

Inner mounting bracket code: GR651.**Bi.1**/GR650.**Bi.1**

Outer mounting bracket code: GR651.**Bi.2**/GR650.**Bi.2**

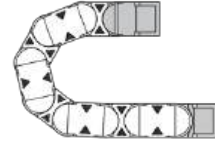


M8(GB/T) screws are recommended for mounting bracket installation, the maximum locking force shall not exceed 4.5 N.m.

Mounting bracket movement angle

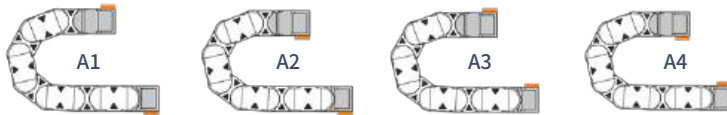
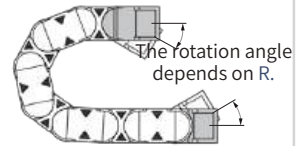
Fixed: GR651.**Bi.12**

Recommended for vertical hanging or standing applications.



Moving: GR650.**Bi.12**

Recommended for unsupported and sliding applications.

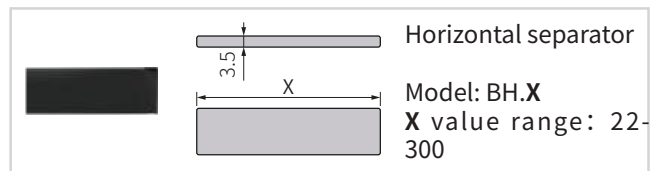
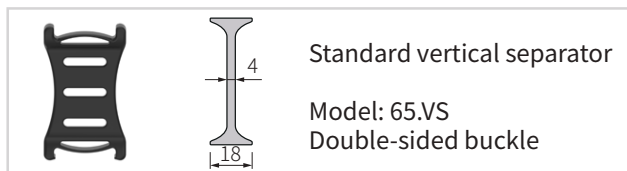


★ If the clamp needs to be pre-assembled when it is delivered, please explain the installation method (A1|A2|A3|A4), e.g. GR651.100.12CA1

Bi[mm]	Full set fixed mounting bracket code With tie-wrap plate	Full set moving mounting bracket code With tie-wrap plate	A[mm]	B[mm]	Selection of tie-wrap plate
.100.	GR651.100.12	GR650.100.12	123	141	ZG100
.125.	GR651.125.12	GR650.125.12	148	166	ZG125
.150.	GR651.150.12	GR650.150.12	173	191	ZG150
.175.	GR651.175.12	GR650.175.12	198	216	ZG175
.200.	GR651.200.12	GR650.200.12	223	241	ZG200
.250.	GR651.250.12	GR650.250.12	273	291	ZG125+ZG125
.300.	GR651.300.12	GR650.300.12	323	341	ZG150+ZG150
.400.	GR651.400.12	GR650.400.12	423	441	ZG200+ZG200

★ If you need to select tie-wrap plates and clamps, please refer to the strain relief accessories section on page 119.

Inner separation ● Vertical separator | Horizontal separator



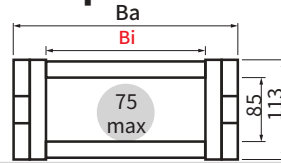
Example of standard material ordering

GR65 • 150 • 200 - 40P + GR651 • 150 • 12 + 65.VS - 60 + BH. 80 - 20

Series Bi R Pitch Fixed/Moving Bi Numbers of vertical separator Length of horizontal separator Numbers of horizontal separator

★ Please refer to page 38 for ordering special materials such as anti-static, sliding and non-camber.

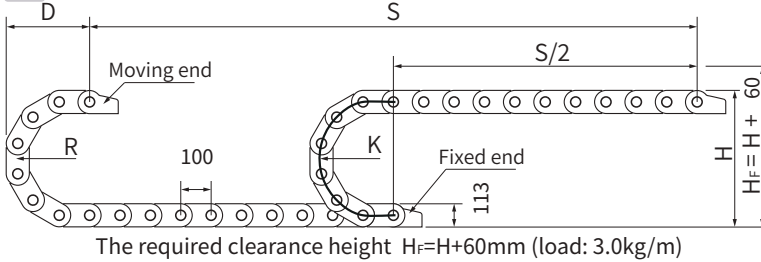
G85 Series | Openable | The crossbar can be split



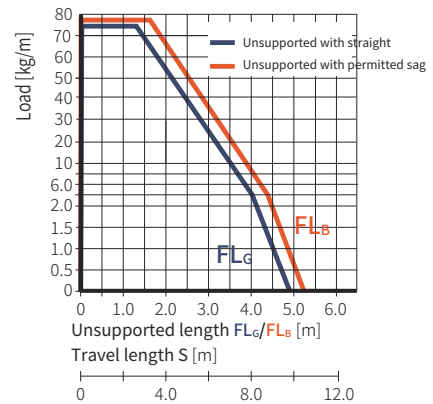
Hi: 85mm
Pitch: 100mm
Numbers of Pitch/m: 10

Product code	Bi[mm]	Ba[mm]	Available Radius [mm]	Weight[kg/m]
G85.050.R	50	100	150 200 250 300 400 500	≈ 5.28
G85.075.R	75	125	150 200 250 300 400 500	≈ 5.88
G85.100.R	100	150	150 200 250 300 400 500	≈ 6.06
G85.125.R	125	175	150 200 250 300 400 500	≈ 6.18
G85.150.R	150	200	150 200 250 300 400 500	≈ 6.36
G85.175.R	175	225	150 200 250 300 400 500	≈ 6.56
G85.200.R	200	250	150 200 250 300 400 500	≈ 6.66
G85.225.R	225	275	150 200 250 300 400 500	≈ 6.78
G85.250.R	250	300	150 200 250 300 400 500	≈ 6.98
G85.275.R	275	325	150 200 250 300 400 500	≈ 7.16
G85.300.R	300	350	150 200 250 300 400 500	≈ 7.36
G85.350.R	350	400	150 200 250 300 400 500	≈ 7.78
G85.400.R	400	450	150 200 250 300 400 500	≈ 8.28
G85.450.R	450	500	150 200 250 300 400 500	≈ 8.78
G85.550.R	550	600	150 200 250 300 400 500	≈ 9.28

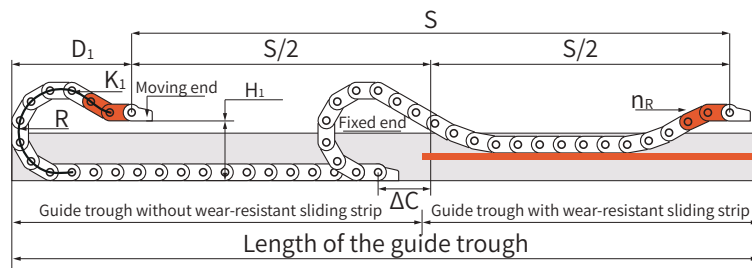
Unsupported | Short-travel | $L_k=S/2+K$ (Midpoint installation)



Unsupported • Load



Sliding | Long-travel | $L_k=S/2+K_1$ (Midpoint installation)



R[mm]	H[mm]	D[mm]	K[mm]	H ₁ [mm]	D ₁ [mm]	K ₁ [mm]	ΔC[mm]
150	413	371	675	242	550	900	196
200	513	421	830	242	800	1300	396
250	613	471	985	242	1000	1600	546
300	713	521	1150	242	1200	1900	696
400	913	621	1460	242	1600	2600	996
500	1113	721	1780	242	2100	3200	1396



Travel ≤ 300m



Guide trough

Note: If you need long-travel application, please consult our engineers.

Technical data

	Unsupported length	≤ 5.2m	Speed/Acceleration FL _G	≤ 20 [m/s] / 200 [m/s ²]
	Sliding length	≤ 150m	Speed/Acceleration FL _B	≤ 3 [m/s] / 6 [m/s ²]
	Vertical hanging	≤ 60m	Sliding speed/Acceleration	≤ 10 [m/s] / 50 [m/s ²]
	Vertical standing	≤ 4.0m	Permit temperature	-40°C ~120°C
	Side-mounted	≤ 3.0m	Flame retardant grade	UL94 HB
			Self-friction coefficient of cable chain	0.40
			Friction coefficient (cable chain&bar)	0.20

G85 Series | Openable | Accessories

Mounting bracket size ● Fixed | Moving

Inner mounting bracket code: G851.Bi.1/G850.Bi.1

Outer mounting bracket code: G851.Bi.2/G850.Bi.2



★ If the clamp needs to be pre-assembled when it is delivered, please explain the installation method (A1|A2|A3|A4), e.g. G851.100.12CA1

Bi[mm]	Full set fixed mounting bracket code With tiewrap plate	Full set moving mounting bracket code With tiewrap plate	A[mm]	B[mm]	Selection of tiewrap plate
.50.	G851.050.12	G850.050.12	78	100	ZG050
.75.	G851.075.12	G850.075.12	103	125	ZG075
.100.	G851.100.12	G850.100.12	128	150	ZG100
.125.	G851.125.12	G850.125.12	153	175	ZG125
.150.	G851.150.12	G850.150.12	178	200	ZG150
.175.	G851.175.12	G850.175.12	203	225	ZG175
.200.	G851.200.12	G850.200.12	228	250	ZG200
.225.	G851.225.12	G850.225.12	253	275	ZG100+ZG125
.250.	G851.250.12	G850.250.12	278	300	ZG125+ZG125
.275.	G851.275.12	G850.275.12	303	325	ZG125+ZG150
.300.	G851.300.12	G850.300.12	328	350	ZG150+ZG150
.350.	G851.350.12	G850.350.12	378	400	ZG175+ZG175
.400.	G851.400.12	G850.400.12	428	450	ZG200+ZG200
.450.	G851.450.12	G850.450.12	478	500	ZG150+ZG150+ZG150
.550.	G851.550.12	G850.550.12	578	600	ZG150+ZG200+ZG200

Inner separation ● Vertical separator | Horizontal separator

Standard vertical separator
Model: 85.VS
Double-sided buckle

Lock vertical separator
Model: 85.LS
Double-sided buckle

Horizontal separator
Model: BH.X
X value range: 22-300

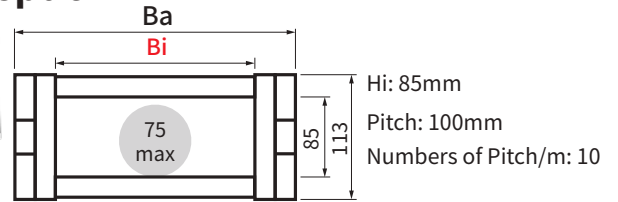
Example of standard material ordering

G85 • 150 • 200 - 36P + G851 • 150 • 12 + 85.VS - 36 + BH. 80 - 18

Series Bi R Pitch Fixed/Moving Bi Numbers of vertical separator Length of horizontal separator Numbers of horizontal separator

★ Please refer to page 38 for ordering special materials such as anti-static, sliding and non-camber.

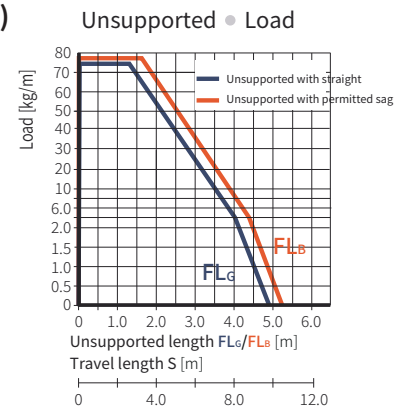
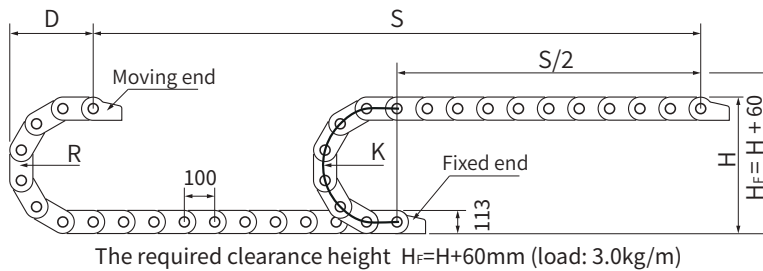
GR85 Series | Enclosed | The lid can be split



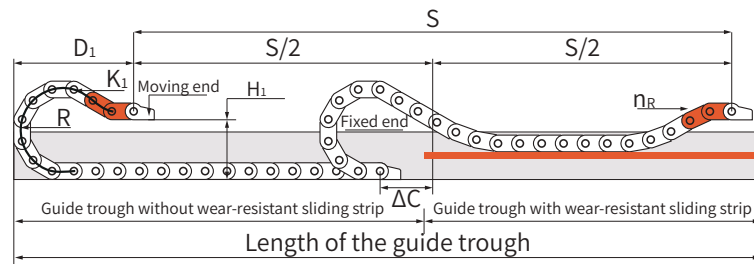
Product code	Bi[mm]	Ba[mm]	Available Radius [mm]	Weight[kg/m]
GR85.100.R	100	150	200 250 300 400 500	≈ 6.78
GR85.125.R	125	175	200 250 300 400 500	≈ 7.12
GR85.150.R	150	200	200 250 300 400 500	≈ 7.46
GR85.175.R	175	225	200 250 300 400 500	≈ 7.86
GR85.200.R	200	250	200 250 300 400 500	≈ 8.16
GR85.250.R	250	300	200 250 300 400 500	≈ 8.56
GR85.300.R	300☆	350	200 250 300 400 500	≈ 9.36
GR85.400.R	400☆	450	200 250 300 400 500	≈ 10.82

★ GR85 series have expansion parts, ☆ The width marked is expansion of the lid. If you need other widths, please refer to the crossbar expansion section on page 120 for details.

Unsupported | Short-travel | $L_K=S/2+K$ (Midpoint installation)



Sliding | Long-travel | $L_K=S/2+K_1$ (Midpoint installation)



R[mm]	H[mm]	D[mm]	K[mm]	H ₁ [mm]	D ₁ [mm]	K ₁ [mm]	ΔC[mm]
200	513	421	855	242	800	1330	396
250	613	471	1010	242	1000	1665	546
300	713	521	1165	242	1200	2000	696
400	913	621	1480	242	1600	2660	996
500	1113	721	1795	242	2100	3440	1396



Travel ≤ 300m



Guide trough

Note: If you need long-travel application, please consult our engineers.

Technical data

	Unsupported length	≤ 5.2m	Speed/Acceleration FL _G	≤ 20 [m/s] / 200 [m/s ²]
	Sliding length	≤ 150m	Speed/Acceleration FL _B	≤ 3 [m/s] / 6 [m/s ²]
	Vertical hanging	≤ 60m	Sliding speed/Acceleration	≤ 10 [m/s] / 50 [m/s ²]
	Vertical standing	≤ 4.0m	Permit temperature	-40°C ~120°C
	Side-mounted	≤ 3.0m	Flame retardant grade	UL94 HB
			Self-friction coefficient of cable chain	0.40
			Friction coefficient (cable chain&bar)	0.20

GR85 Series | Enclosed | Accessories

Mounting bracket size ● Fixed | Moving

Inner mounting bracket code: GR851.Bi.1/GR850.Bi.1 Outer mounting bracket code: GR851.Bi.2/GR850.Bi.2

Mounting bracket movement angle
 Fixed: GR851.Bi.12
 Recommended for vertical hanging or standing applications.

Moving: GR850.Bi.12
 Recommended for unsupported and sliding applications.

The rotation angle depends on R.



★ If the clamp needs to be pre-assembled when it is delivered, please explain the installation method (A1|A2|A3|A4), e.g. GR851.100.12CA1

Bi[mm]	Full set fixed mounting bracket code With tiewrap plate	Full set moving mounting bracket code With tiewrap plate	A[mm]	B[mm]	Selection of tiewrap plate
.100.	GR851.100.12	GR850.100.12	128	150	ZG100
.125.	GR851.125.12	GR850.125.12	153	175	ZG125
.150.	GR851.150.12	GR850.150.12	178	200	ZG150
.175.	GR851.175.12	GR850.175.12	203	225	ZG175
.200.	GR851.200.12	GR850.200.12	228	250	ZG200
.250.	GR851.250.12	GR850.250.12	278	300	ZG125+ZG125
.300.	GR851.300.12	GR850.300.12	328	350	ZG150+ZG150
.400.	GR851.400.12	GR850.400.12	428	450	ZG200+ZG200

★ If you need to select tiewrap pates and clamps, please refer to the strain relief accessories section on page 119.

Inner separation ● Vertical separator | Horizontal separator

Standard vertical separator
 Model: 85.VS
 Double-sided buckle

Horizontal separator
 Model: BH.X
 X value range: 22-300

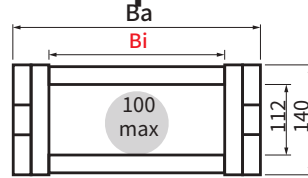
Example of standard material ordering

GR85 • 150 • 200 - 40P + GR851 • 150 • 12 + 85.VS - 60 + BH. 80 - 20

Series Bi R Pitch Fixed/Moving Bi Numbers of vertical separator Length of horizontal separator Numbers of horizontal separator

★ Please refer to page 38 for ordering special materials such as anti-static, sliding and non-camber.

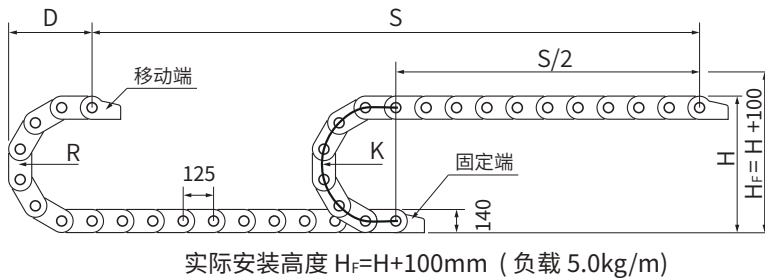
G112 Series | Openable | The crossbar can be split



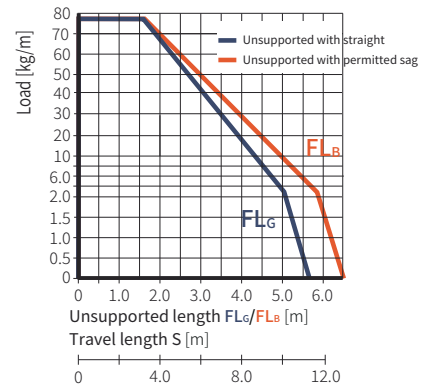
Hi: 112mm
Pitch: 125mm
Numbers of Pitch/m: 8

Product code	Bi[mm]	Ba[mm]	Available Radius [mm]	Weight[kg/m]
G112.050.R	50	100	200 250 300 350 400 500	≈ 7.68
G112.075.R	75	125	200 250 300 350 400 500	≈ 7.88
G112.100.R	100	150	200 250 300 350 400 500	≈ 7.98
G112.125.R	125	175	200 250 300 350 400 500	≈ 8.08
G112.150.R	150	200	200 250 300 350 400 500	≈ 8.18
G112.175.R	175	225	200 250 300 350 400 500	≈ 8.26
G112.200.R	200	250	200 250 300 350 400 500	≈ 8.38
G112.225.R	225	275	200 250 300 350 400 500	≈ 8.48
G112.250.R	250	300	200 250 300 350 400 500	≈ 8.68
G112.275.R	275	325	200 250 300 350 400 500	≈ 8.76
G112.300.R	300	350	200 250 300 350 400 500	≈ 8.86
G112.350.R	350	400	200 250 300 350 400 500	≈ 9.18
G112.400.R	400	450	200 250 300 350 400 500	≈ 9.48
G112.450.R	450	500	200 250 300 350 400 500	≈ 9.68
G112.550.R	550	600	200 250 300 350 400 500	≈ 10.18

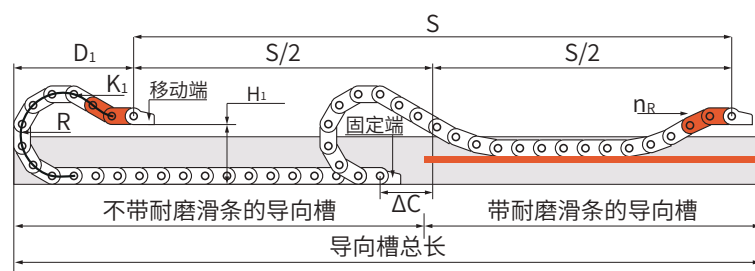
Unsupported | Short-travel | $L_k=S/2+K$ (Midpoint installation)



Unsupported • Load



Sliding | Long-travel | $L_k=S/2+K_1$ (Midpoint installation)



R[mm]	H[mm]	D[mm]	K[mm]	H ₁ [mm]	D ₁ [mm]	K ₁ [mm]	ΔC[mm]
200	540	467	878	325	900	1250	450
250	640	517	1035	325	1000	1625	500
300	740	567	1192	325	1100	1875	550
350	840	617	1350	325	1250	2250	650
400	940	667	1507	325	1450	2625	800
500	1140	767	1821	325	1700	3250	950



Travel ≤ 400m



Guide trough

Note: If you need long-travel application, please consult our engineers.

Technical data

	Unsupported length	≤ 6.2m
	Sliding length	≤ 200m
	Vertical hanging	≤ 65m
	Vertical standing	≤ 4.5m
	Side-mounted	≤ 3.5m

Speed/Acceleration FL _G	≤ 20 [m/s] / 200 [m/s ²]
Speed/Acceleration FL _B	≤ 3 [m/s] / 6 [m/s ²]
Sliding speed/Acceleration	≤ 10 [m/s] / 50 [m/s ²]
Permit temperature	-40°C ~ 120°C
Flame retardant grade	UL94 HB
Self-friction coefficient of cable chain	0.40
Friction coefficient (cable chain&bar)	0.20

G112 Series | Openable | Accessories

Mounting bracket size ● Fixed | Moving

Inner mounting bracket code: G1121S.1/G1120S.1

Outer mounting bracket code: G1121S.2/G1120S.2

M10(GB/T) screws are recommended for mounting bracket installation, the maximum locking force shall not exceed 4.5 N.m.

Mounting bracket movement angle

Fixed: G1121S.12
Recommended for vertical hanging or standing applications.

Moving: G1120S.12
Recommended for unsupported and sliding applications.

★ If the clamp needs to be pre-assembled when it is delivered, please explain the installation method (A1|A2|A3|A4), e.g. G112S.12CA1

- ★ At the time of delivery, the mounting brackets are equipped with a complete set of screw bolt accessories.
- ★ If you need to select tiewrap pates and clamps, please refer to the strain relief accessories section on page 119.

Inner separation ● Vertical separator | Horizontal separator

Standard vertical separator
Model: 112.VS
Double-sided buckle

Horizontal separator
Model: BH.X
X value range: 22-300

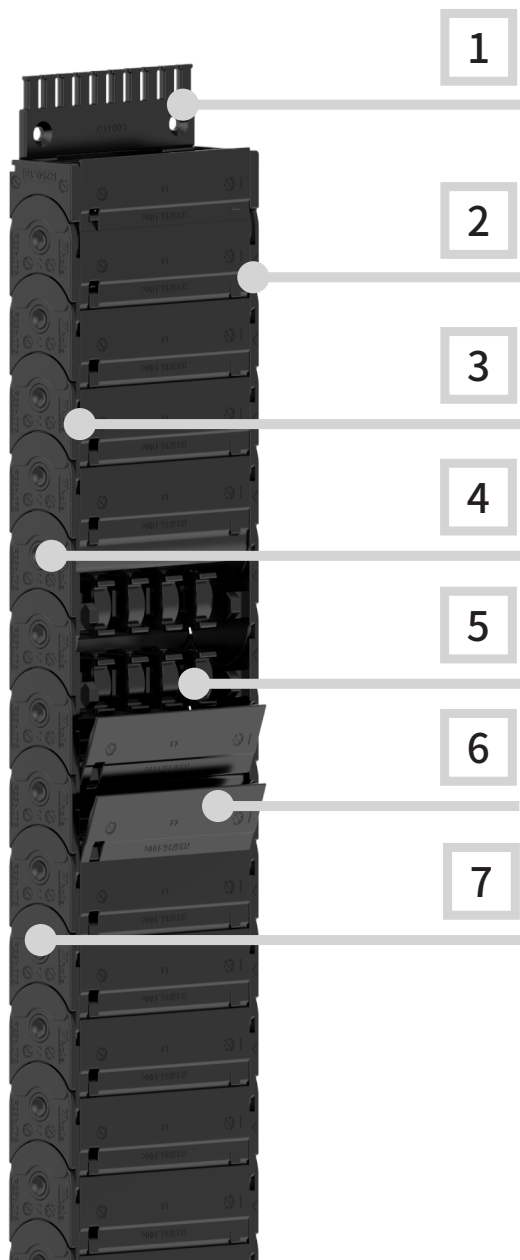
Example of standard material ordering

G112 • 300 • 200 - 36P + G112S • 12 + 112.VS - 36 + BH. 100 - 18

系列
内宽
弯曲半径
节数
固定 / 活动
竖隔片数量
横隔片长度
横隔片数量

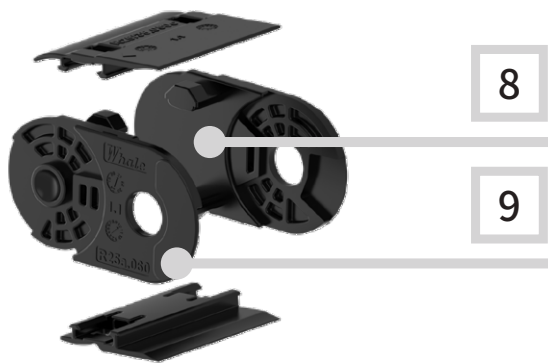
★ Please refer to page 38 for ordering special materials such as anti-static, sliding and non-camber.

Radius Series ● Introduction | Benefits



Features & Benefits

- 1 Tiewrap plates can be installed at the mounting bracket according to requirements.
- 2 The lid is sealed and smooth, dust-proof and debris-proof.
- 3 Four-piece design, the lid can be opened from the inside and outside.
- 4 Small pitch, low noise and smooth operation.
- 5 Vertical and horizontal separators can be installed as required.
- 6 The double-sided buckle lid is more stable.
- 7 Large-size hole pin connection, high strength.
- 8 Smooth inner surface of cable chain effectively reduces wear.
- 9 Lateral wear block prolongs life.



Customized service of R series products

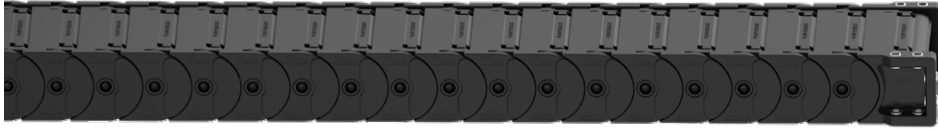


UL94 certification /CE certification is available.



ESD products can be provided as required.

Radius Series ● Size Range | Application Scenario

Series	Hi [mm]	Ha [mm]	Bi [mm]	Ba [mm]	R [mm]	P [mm]	Maximum unsupported length [m]	Page
R Series Enclosed Removable lids along the inner or outer radius								
R25	25	38	38 - 175	50 - 187	060 - 200	33.3	1.2	65-66
R35	35	50	38 - 175	56 - 193	075 - 250	33.3	1.6	67-68
R40	40	54	50 - 150	66 - 166	085 - 250	46	1.8	69-70
R52	52	66	50 - 150	68 - 168	100 - 250	46	2.2	71-72

★ If you need other sizes of cable chains, please contact our engineers.

Application requirements of R series products

- Medium-load | Medium unsupported occasion
- Easyclip | Fast disassemble and assemble
- Enclosed | Dustproof and high-temperature debris-proof
- Long lifespan | Wearproof



Application of R series in machine tool industry

Ordering example of R Series Cable Chain

Example of standard material ordering

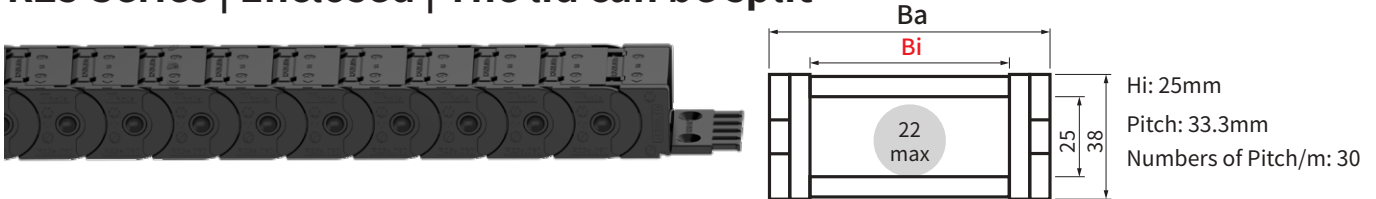
R40 • 075 • 100 - 40P + R401 • 075 • 12 + Q40.VS - 40 + BH. 75 - 20

Series Bi R Pitch Fixed/Moving Bi Numbers of vertical separator Length of horizontal separator Numbers of horizontal separator

Special application ordering example:

- Anti-static (Resistance: $10^4 - 10^8$) ordering: R40.075.100.ESD
- High temperature resistant debris (850°) order: R40.075.100.HT
- Moderate and high temperature resistance (250°) ordering: R40.075.100.MT
- Low temperature resistance (-40°) ordering: R40.075.100.LT
- Corrosion protection (PH: 2.0-14.0) ordering: R40.075.100.EG
- Non-camber cable chain ordering: R40.075.100.NC
- Flame retardant (flame retardant rating: V0) ordering: R40.075.100.FR

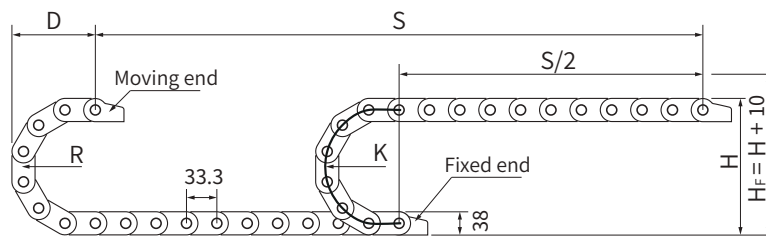
R25 Series | Enclosed | The lid can be split



Product code	Bi[mm]	Ba[mm]	Available Radius [mm]	Weight[kg/m]
R25.038.R	38	50	060 075 100 125 145 175 200	≈ 0.76
R25.050.R	50	62	060 075 100 125 145 175 200	≈ 0.85
R25.063.R	63	75	060 075 100 125 145 175 200	≈ 0.95
R25.075.R	75	87	060 075 100 125 145 175 200	≈ 1.05
R25.100.R	100	112	060 075 100 125 145 175 200	≈ 1.25
R25.175.R	175	187	060 075 100 125 145 175 200	≈ 1.95

★ If there are special sizes and application requirements, we can provide customized services.

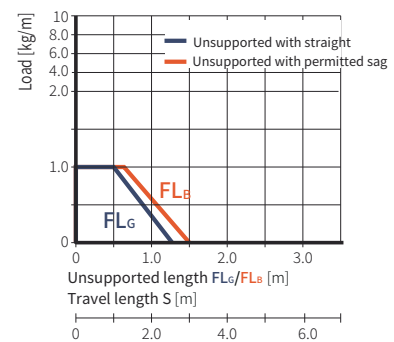
Unsupported | Short-travel | $L_k=S/2+K$ (Midpoint installation)



The required clearance height $H_f=H+10$ mm (load: 1.5kg/m)

R[mm]	H[mm]	D[mm]	K[mm]
060	158	124	250
075	188	137	300
100	238	162	375
125	288	187	455
145	328	210	525
175	388	236	615
200	438	260	690

Unsupported • Load



Technical data

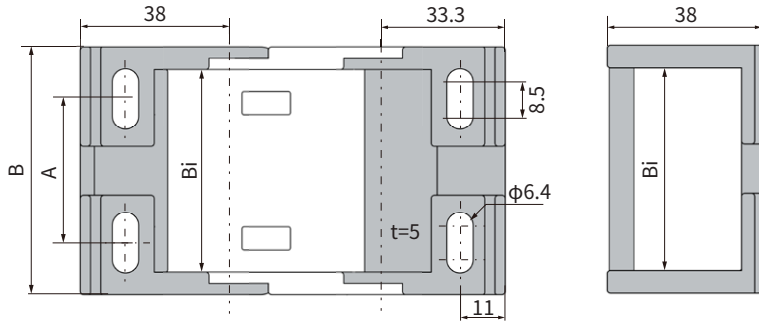
	Unsupported length	≤ 1.2m	Speed/Acceleration FL_G	≤ 10 [m/s] / 100 [m/s ²]
	Sliding length	Inapplicable	Speed/Acceleration FL_B	≤ 3 [m/s] / 6 [m/s ²]
	Vertical hanging	≤ 20m	Sliding speed/Acceleration	Inapplicable
	Vertical standing	≤ 1.5m	Permit temperature	-40°C ~120°C
	Side-mounted	≤ 1.1m	Flame retardant grade	UL94 HB
			Self-friction coefficient of cable chain	0.40

R25 Series | Enclosed | Accessories

Mounting bracket size ● Fixed | Moving

Inner mounting bracket code: R251.**Bi.1**/R250.**Bi.1**

Outer mounting bracket code: R251.**Bi.2**/R250.**Bi.2**

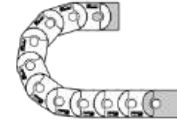


M5/M6(GB/T) screws are recommended for mounting bracket installation, the maximum locking force shall not exceed 3 N.m.

Mounting bracket movement angle

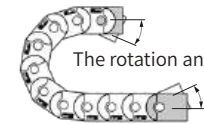
Fixed: R251.**Bi.12**

Recommended for vertical hanging or standing applications.



Moving: R250.**Bi.12**

Recommended for unsupported applications.



The rotation angle depends on R.

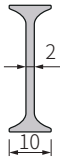


★ If the mounting bracket needs to be pre-assembled when it is delivered, please explain the installation method (A1|A2|A3|A4), e.g. R251.100.12A1

Bi[mm]	Full set fixed mounting bracket code	Full set moving mounting bracket code	A[mm]	B[mm]	Selection of tiewrap plate
.38.	R251.038.12	R250.038.12	23.5	50	ZB050S
.50.	R251.050.12	R250.050.12	35.5	62	ZB050S
.63.	R251.063.12	R250.063.12	48.5	75	ZB075S
.75.	R251.075.12	R250.075.12	60.5	87	ZB075S
.100.	R251.100.12	R250.100.12	85.5	112	ZB100S
.175.	R251.175.12	R250.175.12	160.5	187	ZB075S+ZB100S

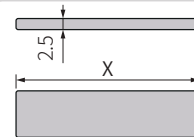
★ If you need to select tiewrap pates and clamps, please refer to the strain relief accessories section on page 119.

Inner separation ● Vertical separator | Horizontal separator



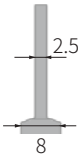
Standard vertical separator

Model: 25.VSS
Single-sided buckle



Horizontal separator

Model: MH.X
X value range: 12-140



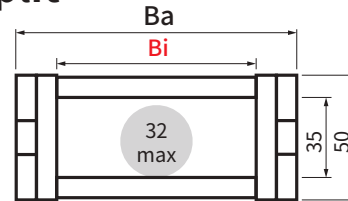
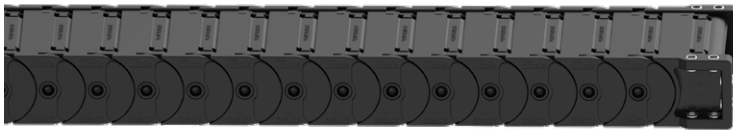
Narrow-footed vertical separator
Model: R25.1S
Single-sided buckle

Example of standard material ordering



★ Please refer to page 66 for ordering special materials such as anti-static, sliding and non-camber.

R35 Series | Enclosed | The lid can be split

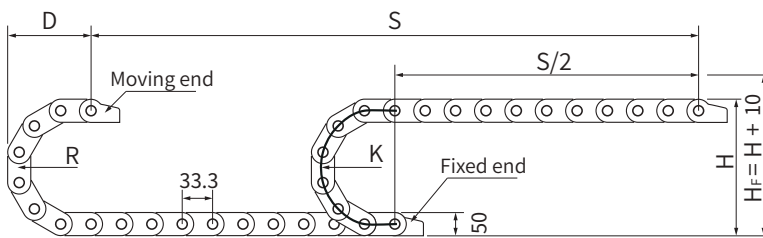


Hi: 35mm
Pitch: 33.3mm
Numbers of Pitch/m: 30

Product code	Bi[mm]	Ba[mm]	Available Radius [mm]	Weight[kg/m]
R35.038.R	38	56	075 100 125 150 175 200 250	≈ 1.38
R35.050.R	50	68	075 100 125 150 175 200 250	≈ 1.52
R35.063.R	63	81	075 100 125 150 175 200 250	≈ 1.62
R35.075.R	75	93	075 100 125 150 175 200 250	≈ 1.78
R35.100.R	100	118	075 100 125 150 175 200 250	≈ 2.12
R35.175.R	175	193	075 100 125 150 175 200 250	≈ 2.82

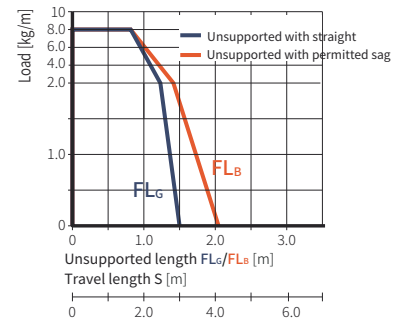
★ If there are special sizes and application requirements, we can provide customized services.

Unsupported | Short-travel | $L_K = S/2 + K$ (Midpoint installation)



The required clearance height $H_f = H + 10$ mm (load: 2.0kg/m)

Unsupported • Load



R[mm]	H[mm]	D[mm]	K[mm]
075	200	150	305
100	250	175	385
125	300	200	460
150	350	225	540
175	400	250	620
200	450	275	695
250	550	325	855

Technical data

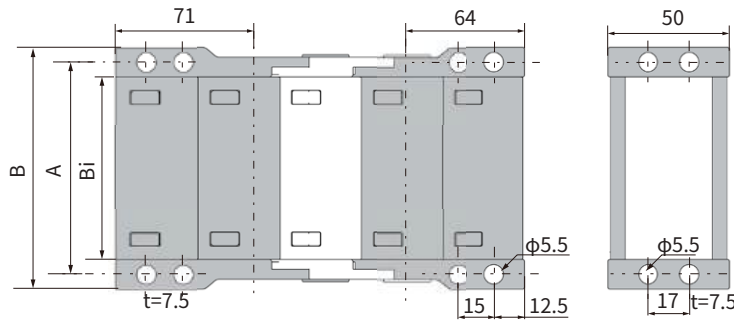
	Unsupported length	≤ 1.6m	Speed/Acceleration FL _G	≤ 10 [m/s] / 100 [m/s ²]
	Sliding length	Inapplicable	Speed/Acceleration FL _B	≤ 3 [m/s] / 6 [m/s ²]
	Vertical hanging	≤ 25m	Sliding speed/Acceleration	Inapplicable
	Vertical standing	≤ 2.0m	Permit temperature	-40°C ~120°C
	Side-mounted	≤ 1.2m	Flame retardant grade	UL94 HB
			Self-friction coefficient of cable chain	0.40

R35 Series | Enclosed | Accessories

Mounting bracket size ● Fixed | Moving

Inner mounting bracket code: R351.**Bi.1**/R350.**Bi.1**

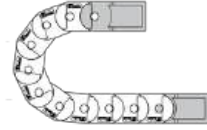
Outer mounting bracket code: R351.**Bi.2**/R350.**Bi.2**



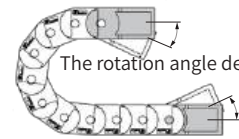
M5(GB/T) screws are recommended for mounting bracket installation, the maximum locking force shall not exceed 3 N.m.

Mounting bracket movement angle

Fixed: R351.**Bi.12**
Recommended for vertical hanging or standing applications.



Moving: R350.**Bi.12**
Recommended for unsupported applications.

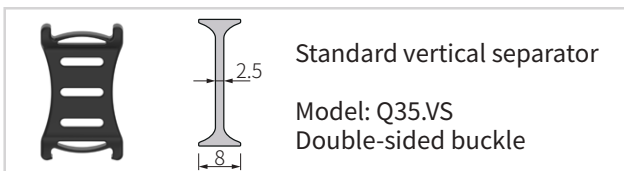


The rotation angle depends on R.

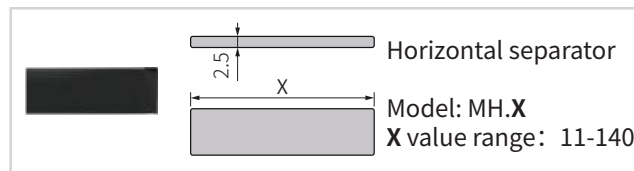
Bi[mm]	Full set fixed mounting bracket code	Full set moving mounting bracket code	A[mm]	B[mm]	Selection of tiewrap plate
.38.	R351. 038.12	R350. 038.12	50	62	ZG050
.50.	R351. 050.12	R350. 050.12	62	74	ZG050
.63.	R351. 063.12	R350. 063.12	75	87	ZG075
.75.	R351. 075.12	R350. 075.12	87	99	ZG075
.100.	R351. 100.12	R350. 100.12	112	124	ZG100
.175.	R351. 175.12	R350. 175.12	187	199	ZG175

★ If you need to select tiewrap plates and clamps, please refer to the strain relief accessories section on page 119.

Inner separation ● Vertical separator | Horizontal separator



Standard vertical separator
Model: Q35.VS
Double-sided buckle



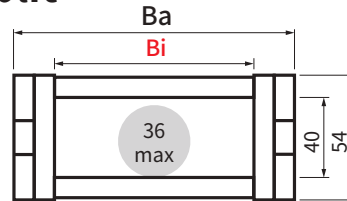
Horizontal separator
Model: MH.X
X value range: 11-140

Example of standard material ordering



★ Please refer to page 66 for ordering special materials such as anti-static, sliding and non-camber.

R40 Series | Enclosed | The lid can be split

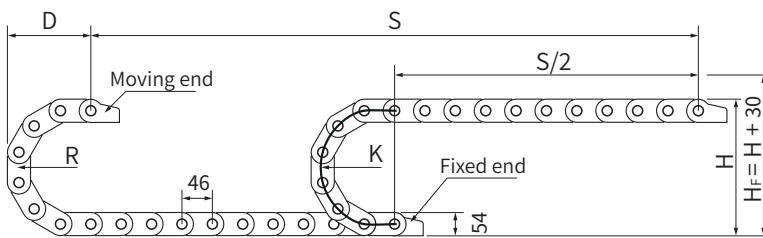


Hi: 40mm
Pitch: 46mm
Numbers of Pitch/m: 22

Product code	Bi[mm]	Ba[mm]	Available Radius [mm]	Weight[kg/m]
R40.050.R	50	66	085 100 125 150 175 200 250	≈ 1.31
R40.075.R	75	91	085 100 125 150 175 200 250	≈ 1.51
R40.100.R	100	116	085 100 125 150 175 200 250	≈ 1.72
R40.118.R	118	134	085 100 125 150 175 200 250	≈ 1.92
R40.150.R	150	166	085 100 125 150 175 200 250	≈ 2.22

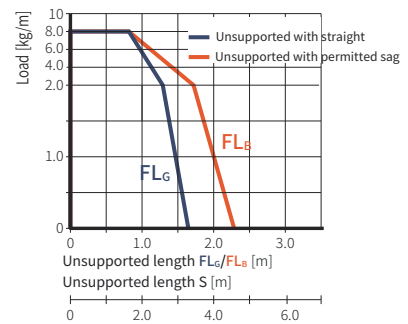
★ If there are special sizes and application requirements, we can provide customized services.

Unsupported | Short-travel | $L_K=S/2+K$ (Midpoint installation)



The required clearance height $H_f=H+30$ mm (load: 2.0kg/m)

Unsupported Load



R[mm]	H[mm]	D[mm]	K[mm]
085	224	178	438
100	254	200	486
125	304	224	566
150	354	248	648
175	404	266	688
200	454	274	726
250	554	298	888

Technical data

	Unsupported length	≤ 1.8m	Speed/Acceleration FL_G	≤ 10 [m/s] / 100 [m/s ²]
	Sliding length	Inapplicable	Speed/Acceleration FL_B	≤ 3 [m/s] / 6 [m/s ²]
	Vertical hanging	≤ 25m	Sliding speed/Acceleration	Inapplicable
	Vertical standing	≤ 2.1m	Permit temperature	-40°C ~120°C
	Side-mounted	≤ 1.3m	Flame retardant grade	UL94 HB
			Self-friction coefficient of cable chain	0.40

R40 Series | Enclosed | Accessories

Mounting bracket size ● Fixed | Moving

Inner mounting bracket code: R401.**Bi.1**/R400.**Bi.1**

Outer mounting bracket code: R401.**Bi.2**/R400.**Bi.2**

Bi[mm]	Full set fixed mounting bracket code	Full set moving mounting bracket code	A[mm]	B[mm]	Selection of tiewrap plate
.50.	R401.050.12	R400.050.12	60	71	ZG050
.75.	R401.075.12	R400.075.12	85	96	ZG075
.100.	R401.100.12	R400.100.12	110	121	ZG100
.118.	R401.118.12	R400.118.12	128	129	ZG125
.150.	R401.150.12	R400.150.12	160	171	ZG150

★ If you need to select tiewrap pates and clamps, please refer to the strain relief accessories section on page 119.

Inner separation ● Vertical separator | Horizontal separator

Standard vertical separator
Model: Q40.VS
Double-sided buckle

Horizontal separator
Model: BH.X
X value range: 13-150

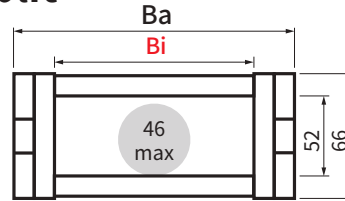
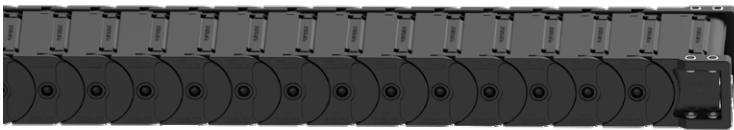
Example of standard material ordering

R40 • 100 • 085 - 36P + R401 • 100 • 12 + Q40.VS - 36 + BH. 80 - 18

Series Bi R Pitch Fixed/Moving Bi Numbers of vertical separator Length of horizontal separator Numbers of horizontal separator

★ Please refer to page 66 for ordering special materials such as anti-static, sliding and non-camber.

R52 Series | Enclosed | The lid can be split

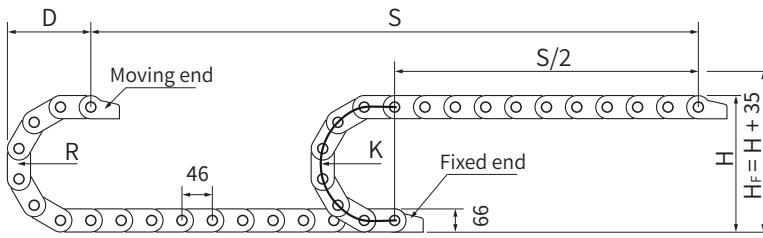


Hi: 52mm
Pitch: 46mm
Numbers of Pitch/m: 22

Product code	Bi[mm]	Ba[mm]	Available Radius [mm]	Weight[kg/m]
R52.050.R	50	68	100 125 150 175 200 225 250	≈ 1.60
R52.075.R	75	93	100 125 150 175 200 225 250	≈ 1.86
R52.100.R	100	118	100 125 150 175 200 225 250	≈ 2.12
R52.118.R	118	136	100 125 150 175 200 225 250	≈ 2.26
R52.150.R	150	168	100 125 150 175 200 225 250	≈ 2.62

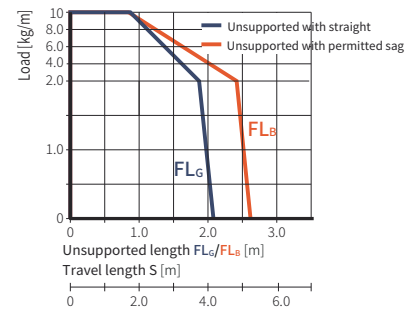
★ If there are special sizes and application requirements, we can provide customized services.

Unsupported | Short-travel | $L_K=S/2+K$ (Midpoint installation)



The required clearance height $H_f=H+35\text{mm}$ (load: 2.0kg/m)

Unsupported • Load



R[mm]	H[mm]	D[mm]	K[mm]
100	266	222	438
125	316	246	518
150	366	272	598
175	416	302	698
200	466	324	758
225	516	346	828
250	566	374	908

Technical data

	Unsupported length	≤ 2.2m	Speed/Acceleration FL_c	≤ 10 [m/s] / 100 [m/s ²]
	Sliding length	Inapplicable	Speed/Acceleration FL_s	≤ 3 [m/s] / 6 [m/s ²]
	Vertical hanging	≤ 30m	Sliding speed/Acceleration	Inapplicable
	Vertical standing	≤ 2.2m	Permit temperature	-40°C ~120°C
	Side-mounted	≤ 1.3m	Flame retardant grade	UL94 HB
			Self-friction coefficient of cable chain	0.40

R52 Series | Enclosed | Accessories

Mounting bracket size ● Fixed | Moving

Inner mounting bracket code: R521.**Bi**.1/R520.**Bi**.1 Outer mounting bracket code: R521.**Bi**.2/R520.**Bi**.2

Mounting bracket movement angle
 Fixed: R521.**Bi**.12
 Recommended for vertical hanging or standing applications.

Moving: R520.**Bi**.12
 Recommended for unsupported applications.

The rotation angle depends on R.

Bi[mm]	Full set fixed mounting bracket code	Full set moving mounting bracket code	A[mm]	B[mm]	Selection of tiewrap plate
.50.	R521.050.12	R520.050.12	62	74	ZG050
.75.	R521.075.12	R520.075.12	87	99	ZG075
.100.	R521.100.12	R520.100.12	112	124	ZG100
.118.	R521.118.12	R520.118.12	130	142	ZG125
.150.	R521.150.12	R520.150.12	162	174	ZG150

★ If you need to select tiewrap pates and clamps, please refer to the strain relief accessories section on page 119.

Inner separation ● Vertical separator | Horizontal separator

Standard vertical separator
 Model: Q52.VS
 Double-sided buckle

Horizontal separator
 Model: BH.X
 X value range: 13-150

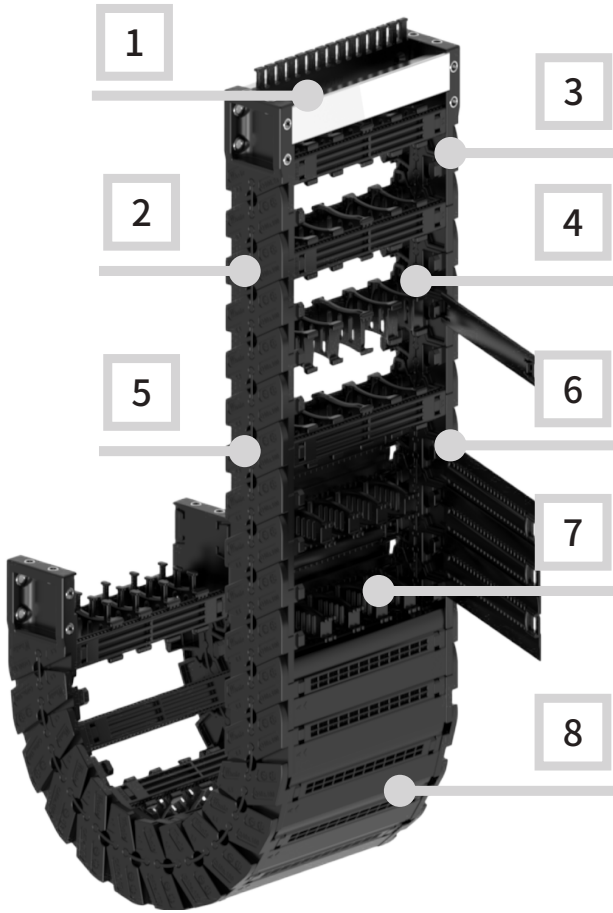
Example of standard material ordering

R52 • 100 • 100 - 36P + R521 • 100 • 12 + Q52.VS - 36 + BH. 80 - 18

Series Bi R Pitch Fixed/Moving Bi Numbers of vertical separator Length of horizontal separator Numbers of horizontal separator

★ Please refer to page 66 for ordering special materials such as anti-static, sliding and non-camber.

Quiet Series ● Introduction | Low-noise and dust-free



Features & Benefits

- 1** Universal connector, which can be installed on three sides.
- 2** Low noise, small pitch and smooth operation.
- 3** High dynamic performance, suitable for high-speed and high-acceleration occasions.
- 4** Elastic damping element, extremely low noise.
- 5** Non-hole shaft connection mode, zero wear and low vibration.
- 6** Lean hollowed-out side plates reduce the weight of cable chain.
- 7** Install horizontal and vertical separators as required.
- 8** Customizable closed specification.
- 9** Removable crossbar, easy to disassemble and assemble cables.
- 10** Multiple limits increase unsupported and load capacity.



Customized service of Q series products


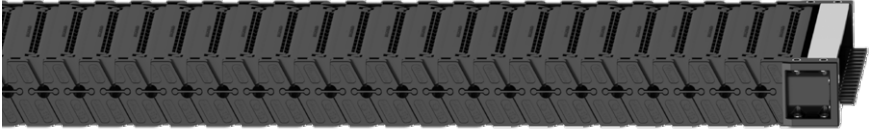


UL94 certification /CE certification is available.



ESD products can be provided as required.

Q Series ● Size Range | Application Scenario

Series	Hi [mm]	Ha [mm]	Bi [mm]	Ba [mm]	R [mm]	P [mm]	Maximum unsupported length [m]	Page
Q series Low-noise and dust-free Openable Removable crossbars along the outer or inner radius								
Q21	21	28	25 - 140	39 - 154	032 - 075	20	1.2	77-78
Q30	30	37	25 - 140	45 - 160	055 - 150	25	1.6	79-80
Q35	35	42	25 - 140	45 - 160	055 - 150	25	1.8	83-84
Q40	40	54	40 - 200	64 - 224	063 - 200	30	2.5	87-88
Q52	52	65	40 - 200	64 - 224	075 - 200	30	2.8	91-92
Q62	62	84	50-300	86 - 336	115-300	50	3.8	95-96
Q80	80	108	50 - 550	100 - 600	150-350	65	4.5	97-98
QR series Low-noise and dust-free Enclosed Removable lids along the outer or inner radius								
QR30	30	37	30-100	50 - 120	055-150	25	1.6	81-82
QR35	35	42	30-100	50 - 120	055-150	25	1.8	85-86
QR40	40	54	50-150	74 - 174	075 - 200	30	2.5	89-90
QR52	52	65	50-150	74 - 174	100 - 200	30	2.8	93-94

Application requirements of Q series products

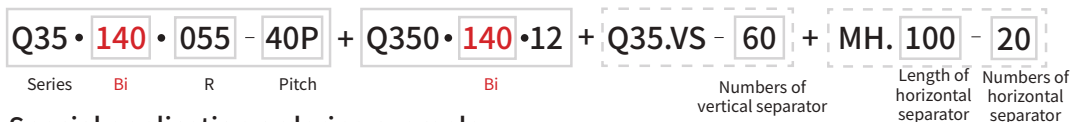
- Low-noise
- Light
- High speed | High acceleration
- Low wear



Application of Q series in flat printing industry

Ordering example of Q Series Cable Chain

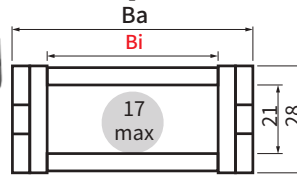
Example of standard material ordering:



Special application ordering example:

- Anti-static (Resistance: 10⁴ - 10⁸) ordering: Q35.140.055.ESD
- High temperature resistant debris (850°) ordering: QR35.030.075.HT (Note: only applicable to close type.)
- Moderate and high temperature resistance (250°) ordering: Q35.140.055.MT
- Low temperature resistance (-40°) ordering: Q35.140.055.LT
- Corrosion protection (PH: 2.0-14.0) ordering: Q35.140.055.EG
- Non-camber cable chain ordering: Q35.140.055.NC
- Flame retardant (flame retardant rating: V0) ordering: Q35.140.055.FR

Q21 Series | Openable | The crossbar can be split

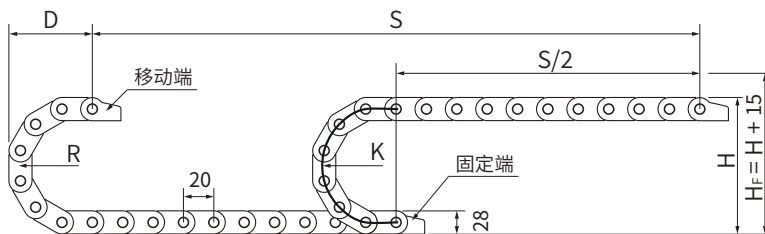


Hi: 21mm
Pitch: 20mm
Numbers of Pitch/m: 50

Product code	Bi[mm]	Ba[mm]	Available Radius [mm]	Weight[kg/m]
Q21.025.R	25	39	032 038 045 055 075	≈ 0.56
Q21.030.R	30	44	032 038 045 055 075	≈ 0.58
Q21.040.R	40	54	032 038 045 055 075	≈ 0.60
Q21.050.R	50	64	032 038 045 055 075	≈ 0.66
Q21.060.R	60	74	032 038 045 055 075	≈ 0.70
Q21.070.R	70	84	032 038 045 055 075	≈ 0.72
Q21.080.R	80	94	032 038 045 055 075	≈ 0.74
Q21.090.R	90	104	032 038 045 055 075	≈ 0.76
Q21.100.R	100	114	032 038 045 055 075	≈ 0.78
Q21.120.R	120	134	032 038 045 055 075	≈ 0.83
Q21.140.R	140	154	032 038 045 055 075	≈ 0.86

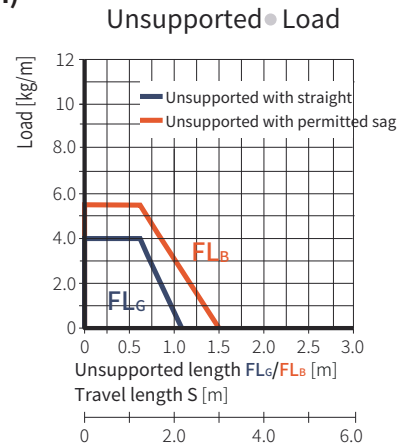
★ If there are special sizes and application requirements, we can provide customized services.

Unsupported | Short-travel | $L_K=S/2+K$ (Midpoint installation)



实际安装高度 $H_f=H+15\text{mm}$ (负载 1.5kg/m)

R[mm]	H[mm]	D[mm]	K[mm]
032	105	72	140
038	111	78	160
045	125	85	181
055	145	95	213
075	185	115	276



Technical data

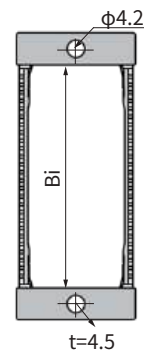
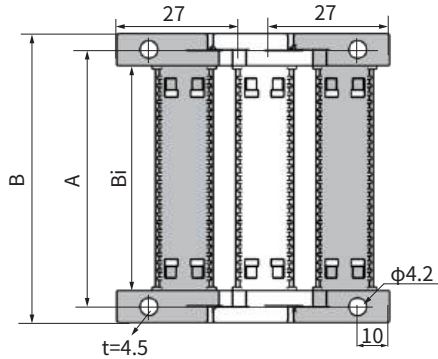
	Unsupported length	≤ 1.2m	Speed/Acceleration FL_G	≤ 20 [m/s] / 200 [m/s ²]
	Sliding length	Inapplicable	Speed/Acceleration FL_B	≤ 3 [m/s] / 6 [m/s ²]
	Vertical hanging	≤ 15m	Sliding speed/Acceleration	Inapplicable
	Vertical standing	≤ 1.5m	Permit temperature	-40°C ~120°C
	Side-mounted	≤ 1.0m	Flame retardant grade	UL94 HB
			Self-friction coefficient of cable chain	0.40

Q21 Series | Openable | Accessories

Mounting bracket size ● Moving

Inner mounting bracket code: Q210.**Bi.1**

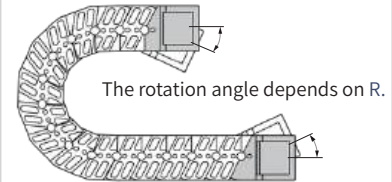
Outer mounting bracket code: Q210.**Bi.2**



Mounting bracket movement angle

Moving: Q210.Bi.12

Recommended for unsupported, vertical hanging or standing applications.

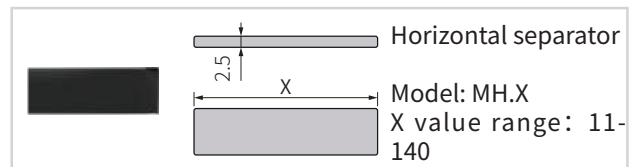
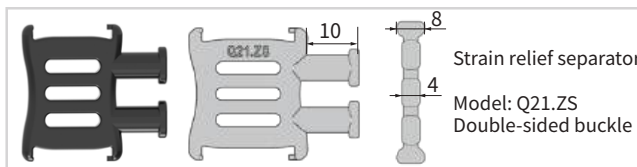
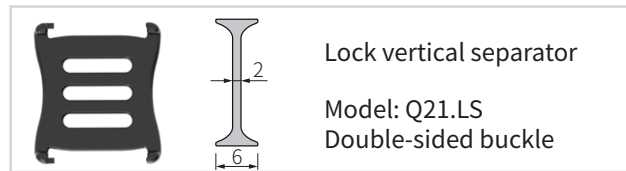
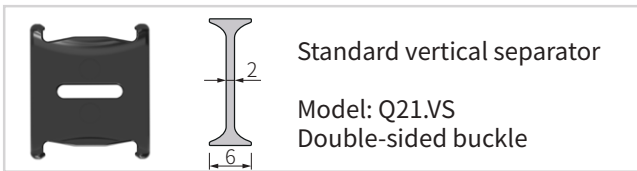


M4(GB/T) screws are recommended for mounting bracket installation, the maximum locking force shall not exceed 2 N.m.

Bi[mm]	Full set moving mounting bracket code	A[mm]	B[mm]	Selection of tiewrap plate
.25.	Q210.025.12	35	42	—
.30.	Q210.030.12	40	47	ZG050
.40.	Q210.040.12	50	57	ZG050
.50.	Q210.050.12	60	67	ZG050
.60.	Q210.060.12	70	77	ZG075
.70.	Q210.070.12	80	87	ZG075
.80.	Q210.080.12	90	97	ZG075
.90.	Q210.090.12	100	107	ZG100
.100.	Q210.100.12	110	117	ZG100
.120.	Q210.120.12	130	137	ZG125
.140.	Q210.140.12	150	157	ZG150

★ If you need to select tiewrap pates and clamps, please refer to the strain relief accessories section on page 119.

Inner separation ● Vertical separator | Horizontal separator



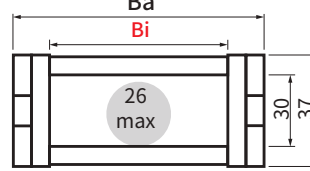
Example of standard material ordering

Q21 • 100 • 038 - 36P + Q210 • 100 • 12 + Q21.VS - 36 + MH. 80 - 18

Series Bi R Pitch Moving Bi Numbers of vertical separator Length of horizontal separator Numbers of horizontal separator

★ Please refer to page 76 for ordering special materials such as anti-static, sliding and non-camber.

Q30 Series | Openable | The crossbar can be split

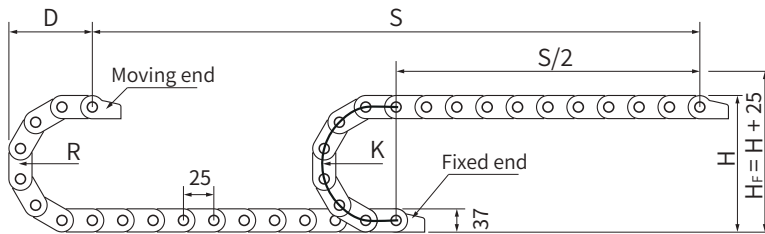


Hi: 30mm
Pitch: 25mm
Numbers of Pitch/m: 40

Product code	Bi[mm]	Ba[mm]	Available Radius [mm]	Weight[kg/m]
Q30.025.R	25	45	055 075 100 125 150	≈ 0.76
Q30.030.R	30	50	055 075 100 125 150	≈ 0.78
Q30.040.R	40	60	055 075 100 125 150	≈ 0.80
Q30.050.R	50	70	055 075 100 125 150	≈ 0.86
Q30.060.R	60	80	055 075 100 125 150	≈ 0.90
Q30.070.R	70	90	055 075 100 125 150	≈ 0.92
Q30.080.R	80	100	055 075 100 125 150	≈ 0.94
Q30.090.R	90	110	055 075 100 125 150	≈ 0.96
Q30.100.R	100	120	055 075 100 125 150	≈ 0.98
Q30.120.R	120	140	055 075 100 125 150	≈ 1.03
Q30.140.R	140	160	055 075 100 125 150	≈ 1.06

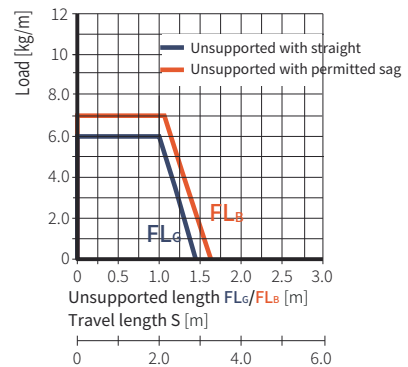
★ If there are special sizes and application requirements, we can provide customized services.

Unsupported | Short-travel | $L_K=S/2+K$ (Midpoint installation)



The required clearance height $H_f=H+25\text{mm}$ (load: 2.0kg/m)

Unsupported • Load



R[mm]	H[mm]	D[mm]	K[mm]
055	182	112	222
075	222	130	282
100	272	156	362
125	322	186	442
150	372	206	522

Technical data

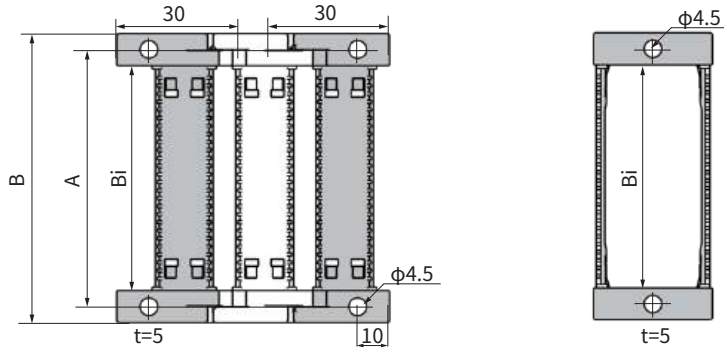
	Unsupported length	≤ 1.6m	Speed/Acceleration FL_c	≤ 20 [m/s] / 200 [m/s ²]
	Sliding length	Inapplicable	Speed/Acceleration FL_s	≤ 3 [m/s] / 6 [m/s ²]
	Vertical hanging	≤ 30m	Sliding speed/Acceleration	Inapplicable
	Vertical standing	≤ 2.0m	Permit temperature	-40°C ~120°C
	Side-mounted	≤ 1.0m	Flame retardant grade	UL94 HB
			Self-friction coefficient of cable chain	0.40

Q30 Series | Openable | Accessories

Mounting bracket size ● Moving

Inner mounting bracket code: Q300.**Bi.1**

Outer mounting bracket code: Q300.**Bi.2**

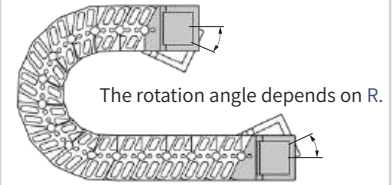


M4(GB/T) screws are recommended for mounting bracket installation, the maximum locking force shall not exceed 2 N.m.

Mounting bracket movement angle

Moving: Q300.**Bi.12**

Recommended for unsupported, vertical hanging or standing applications.



Bi[mm]	Full set moving mounting bracket code	A[mm]	B[mm]	Selection of tie-wrap plate
.25.	Q300.025.12	35	45	—
.30.	Q300.030.12	40	50	ZG050
.40.	Q300.040.12	50	60	ZG050
.50.	Q300.050.12	60	70	ZG050
.60.	Q300.060.12	70	80	ZG075
.70.	Q300.070.12	80	90	ZG075
.80.	Q300.080.12	90	100	ZG075
.90.	Q300.090.12	100	110	ZG100
.100.	Q300.100.12	110	120	ZG100
.120.	Q300.120.12	130	140	ZG125
.140.	Q300.140.12	150	160	ZG150

★ If you need to select tie-wrap plates and clamps, please refer to the strain relief accessories section on page 119.

Inner separation ● Vertical separator | Horizontal separator

<p>Standard vertical separator Model: Q30.VS Double-sided buckle</p>	<p>Lock vertical separator Model: Q30.LS Double-sided buckle</p>
<p>Strain relief separator Model: Q30.ZS Double-sided buckle</p>	<p>Horizontal separator Model: MH.X X value range: 11-140</p>

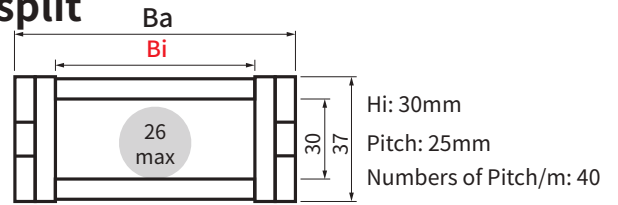
Example of standard material ordering

Q30 • 100 • 055 - 36P + Q300 • 100 • 12 + Q30.VS - 36 + MH. 80 - 18

Series Bi R Pitch Moving Bi Numbers of vertical separator Length of horizontal separator Numbers of horizontal separator

★ Please refer to page 76 for ordering special materials such as anti-static, sliding and non-camber.

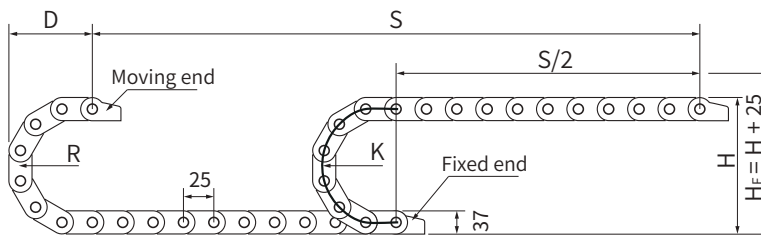
QR30 Series | Enclosed | The lid can be split



Product code	Bi[mm]	Ba[mm]	Available Radius [mm]	Weight[kg/m]
QR30.030.R	30	50	055 075 100 125 150	≈ 0.86
QR30.040.R	40	60	055 075 100 125 150	≈ 0.88
QR30.050.R	50	70	055 075 100 125 150	≈ 0.94
QR30.060.R	60	80	055 075 100 125 150	≈ 0.98
QR30.070.R	70	90	055 075 100 125 150	≈ 1.00
QR30.080.R	80	100	055 075 100 125 150	≈ 1.04
QR30.090.R	90	110	055 075 100 125 150	≈ 1.08
QR30.100.R	100	120	055 075 100 125 150	≈ 1.12

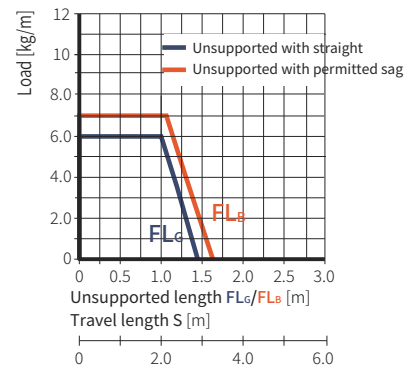
★ If there are special sizes and application requirements, we can provide customized services.

Unsupported | Short-travel | $L_K=S/2+K$ (Midpoint installation)



The required clearance height $H_f=H+25\text{mm}$ (load: 2.0kg/m)

Unsupported • Load



R[mm]	H[mm]	D[mm]	K[mm]
055	182	112	222
075	222	130	282
100	272	156	362
125	322	186	442
150	372	206	522

Technical data

	Unsupported length	≤ 1.6m	Speed/Acceleration FL_c	≤ 20 [m/s] / 200 [m/s ²]
	Sliding length	Inapplicable	Speed/Acceleration FL_s	≤ 3 [m/s] / 6 [m/s ²]
	Vertical hanging	≤ 30m	Sliding speed/Acceleration	Inapplicable
	Vertical standing	≤ 2.0m	Permit temperature	-40°C ~120°C
	Side-mounted	≤ 1.0m	Flame retardant grade	UL94 HB
			Self-friction coefficient of cable chain	0.40

QR30 Series | Enclosed | Accessories

Mounting bracket size ● Moving

Inner mounting bracket code: QR300.**Bi.1**

Outer mounting bracket code: QR300.**Bi.2**

Bi[mm]	Full set moving mounting bracket code	A[mm]	B[mm]	Selection of tiewrap plate
.30.	QR300.030.12	40	50	ZG050
.40.	QR300.040.12	50	60	ZG050
.50.	QR300.050.12	60	70	ZG050
.60.	QR300.060.12	70	80	ZG075
.70.	QR300.070.12	80	90	ZG075
.80.	QR300.080.12	90	100	ZG075
.90.	QR300.090.12	100	110	ZG100
.100.	QR300.100.12	110	120	ZG100

★ If you need to select tiewrap pates and clamps, please refer to the strain relief accessories section on page 119.

Inner separation ● Vertical separator | Horizontal separator

Standard vertical separator
Model: QR30.VS
Double-sided buckle

Horizontal separator
Model: SH.X
X value range: 8-60

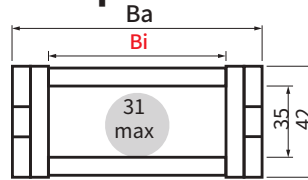
Example of standard material ordering

QR30 • 030 • 075 - 36P + QR300 • 030 • 12 + QR30.VS - 36 + MH. 30 - 18

Series
Bi
R
Pitch
Moving
Bi
Numbers of vertical separator
Length of horizontal separator
Numbers of horizontal separator

★ Please refer to page 76 for ordering special materials such as anti-static, sliding and non-camber.

Q35 Series | Openable | The crossbar can be split

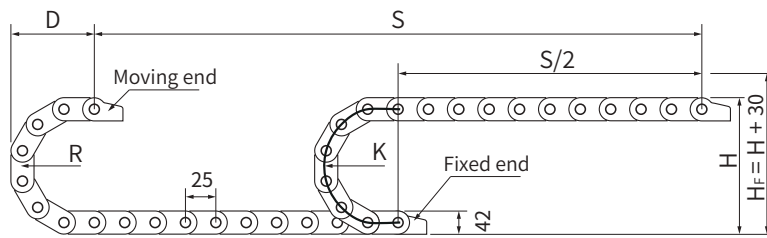


Hi: 35mm
Pitch: 25mm
Numbers of Pitch/m: 40

Product code	Bi[mm]	Ba[mm]	Available Radius [mm]	Weight[kg/m]
Q35.025.R	25	45	055 075 100 125 150	≈ 0.86
Q35.030.R	30	50	055 075 100 125 150	≈ 0.88
Q35.040.R	40	60	055 075 100 125 150	≈ 0.90
Q35.050.R	50	70	055 075 100 125 150	≈ 0.92
Q35.060.R	60	80	055 075 100 125 150	≈ 0.94
Q35.070.R	70	90	055 075 100 125 150	≈ 0.96
Q35.080.R	80	100	055 075 100 125 150	≈ 0.99
Q35.090.R	90	110	055 075 100 125 150	≈ 1.01
Q35.100.R	100	120	055 075 100 125 150	≈ 1.03
Q35.120.R	120	140	055 075 100 125 150	≈ 1.08
Q35.140.R	140	160	055 075 100 125 150	≈ 1.13

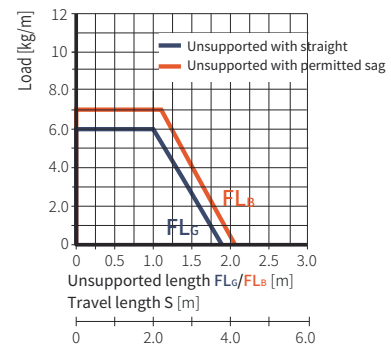
★ If there are special sizes and application requirements, we can provide customized services.

Unsupported | Short-travel | $L_k=S/2+K$ (Midpoint installation)



The required clearance height $H_f=H+30\text{mm}$ (load: 2.0kg/m)

Unsupported • Load



R[mm]	H[mm]	D[mm]	K[mm]
055	189	115	225
075	229	135	290
100	279	160	365
125	329	185	445
150	379	210	525

Technical data

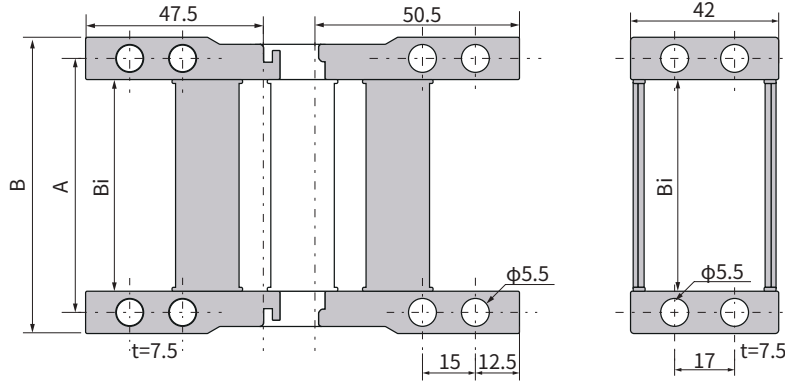
	Unsupported length	≤ 1.8m	Speed/Acceleration FL_G	≤ 20 [m/s] / 200 [m/s ²]
	Sliding length	Inapplicable	Speed/Acceleration FL_B	≤ 3 [m/s] / 6 [m/s ²]
	Vertical hanging	≤ 30m	Sliding speed/Acceleration	Inapplicable
	Vertical standing	≤ 2.0m	Permit temperature	-40°C ~120°C
	Side-mounted	≤ 1.0m	Flame retardant grade	UL94 HB
			Self-friction coefficient of cable chain	0.40

Q35 Series | Openable | Accessories

Mounting bracket size ● Moving

Inner mounting bracket code: Q350.**Bi.1**

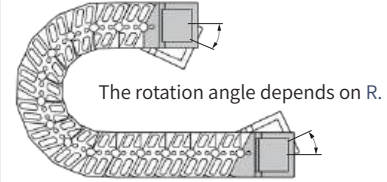
Outer mounting bracket code: Q350.**Bi.2**



Mounting bracket movement angle

Moving: Q350.**Bi.12**

Recommended for unsupported, vertical hanging or standing applications.



M5(GB/T) screws are recommended for mounting bracket installation, the maximum locking force shall not exceed 3 N.m.

Bi[mm]	Full set moving mounting bracket code	A[mm]	B[mm]	Selection of tiewrap plate
.25.	Q350.025.12	37	49	—
.30.	Q350.030.12	42	54	ZG050
.40.	Q350.040.12	52	64	ZG050
.50.	Q350.050.12	62	74	ZG050
.60.	Q350.060.12	72	84	ZG075
.70.	Q350.070.12	82	94	ZG075
.80.	Q350.080.12	92	104	ZG075
.90.	Q350.090.12	102	114	ZG100
.100.	Q350.100.12	112	124	ZG100
.120.	Q350.120.12	132	144	ZG125
.140.	Q350.140.12	152	164	ZG150

★ If you need to select tiewrap pates and clamps, please refer to the strain relief accessories section on page 119.

Inner separation ● Vertical separator | Horizontal separator

 Standard vertical separator Model: Q35.VS Double-sided buckle Dimensions: 2.5, 8	 Lock vertical separator Model: Q35.LS Double-sided buckle Dimensions: 2.5, 8
 Strain relief vertical separator Model: Q35.ZS Double-sided buckle Dimensions: 10, 8, 4	 Horizontal separator Model: MH.X X value range: 11-140 Dimensions: 2.5, X

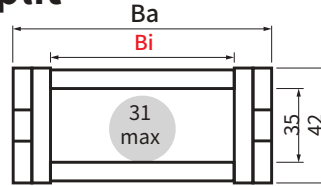
Example of standard material ordering

Q35 • 100 • 055 - 36P + Q350 • 100 • 12 + Q35.VS - 36 + MH. 80 - 18

Series Bi R Pitch Moving Bi Numbers of vertical separator Length of horizontal separator Numbers of horizontal separator

★ Please refer to page 76 for ordering special materials such as anti-static, sliding and non-camber.

QR35 Series | Enclosed | The lid can be split

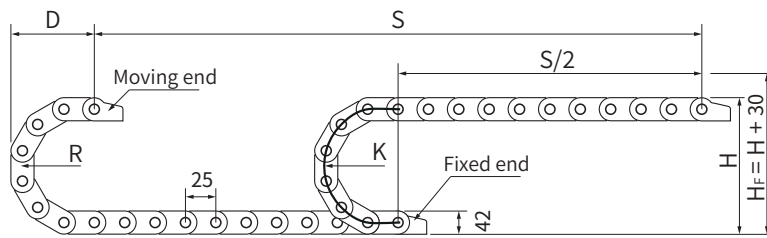


Hi: 35mm
Pitch: 25mm
Numbers of Pitch/m: 40

Product code	Bi[mm]	Ba[mm]	Available Radius [mm]	Weight[kg/m]
QR35.030.R	30	50	055 075 100 125 150	≈ 0.88
QR35.040.R	40	60	055 075 100 125 150	≈ 0.90
QR35.050.R	50	70	055 075 100 125 150	≈ 0.92
QR35.060.R	60	80	055 075 100 125 150	≈ 0.94
QR35.070.R	70	90	055 075 100 125 150	≈ 0.96
QR35.080.R	80	100	055 075 100 125 150	≈ 0.99
QR35.090.R	90	110	055 075 100 125 150	≈ 1.01
QR35.100.R	100	120	055 075 100 125 150	≈ 1.03

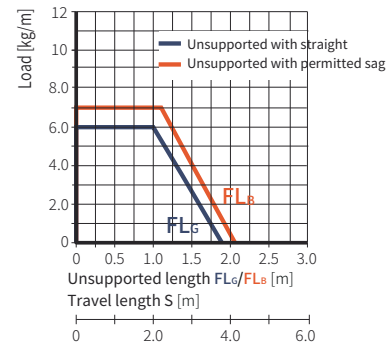
★ If there are special sizes and application requirements, we can provide customized services.

Unsupported | Short-travel | $L_k = S/2 + K$ (Midpoint installation)



The required clearance height $H_f = H + 30$ mm (load: 2.0kg/m)

Unsupported • Load



R[mm]	H[mm]	D[mm]	K[mm]
055	189	115	225
075	229	135	290
100	279	160	365
125	329	185	445
150	379	210	525

Technical data

	Unsupported length	≤ 1.8m	Speed/Acceleration FL_c	≤ 20 [m/s] / 200 [m/s ²]
	Sliding length	Inapplicable	Speed/Acceleration FL_s	≤ 3 [m/s] / 6 [m/s ²]
	Vertical hanging	≤ 30m	Sliding speed/Acceleration	Inapplicable
	Vertical standing	≤ 2.0m	Permit temperature	-40°C ~120°C
	Side-mounted	≤ 1.0m	Flame retardant grade	UL94 HB
			Self-friction coefficient of cable chain	0.40

QR35 Series | Enclosed | Accessories

Mounting bracket size ● Moving

Inner mounting bracket code: QR350.**Bi.1**

Outer mounting bracket code: QR350.**Bi.2**

Mounting bracket movement angle
 Moving: QR350.**Bi.12**
 Recommended for unsupported, vertical hanging or standing applications.

The rotation angle depends on R.

M5(GB/T) screws are recommended for mounting bracket installation, the maximum locking force shall not exceed 3 N.m.

Bi[mm]	Full set moving mounting bracket code	A[mm]	B[mm]	Selection of tiewrap plate
.30.	QR350.030.12	42	54	ZG050
.40.	QR300.040.12	52	64	ZG050
.50.	QR300.050.12	62	74	ZG050
.60.	QR300.060.12	72	84	ZG075
.70.	QR300.070.12	82	94	ZG075
.80.	QR300.080.12	92	104	ZG075
.90.	QR300.090.12	102	114	ZG100
.100.	QR300.100.12	112	124	ZG100

★ If you need to select tiewrap pates and clamps, please refer to the strain relief accessories section on page 119.

Inner separation ● Vertical separator | Horizontal separator

Standard vertical separator
 Model: QR35.VS
 Double-sided buckle

Horizontal separator
 Model: SH.X
 X value range: 8-60

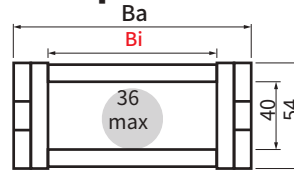
Example of standard material ordering

QR35 • 030 • 075 - 36P + QR350 • 030 • 12 + QR35.VS - 36 + MH. 30 - 18

Series Bi R Pitch Moving Bi Numbers of vertical separator Length of horizontal separator Numbers of horizontal separator

★ Please refer to page 76 for ordering special materials such as anti-static, sliding and non-camber.

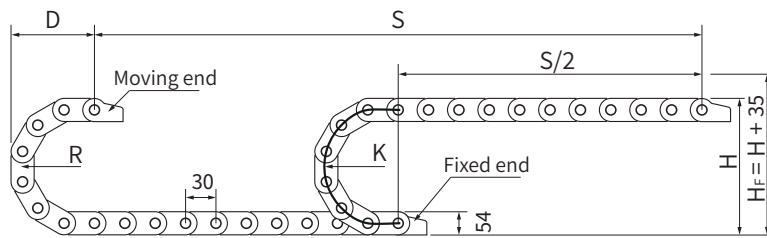
Q40 Series | Openable | The crossbar can be split



Hi: 40mm
Pitch: 30mm
Numbers of Pitch/m: 34

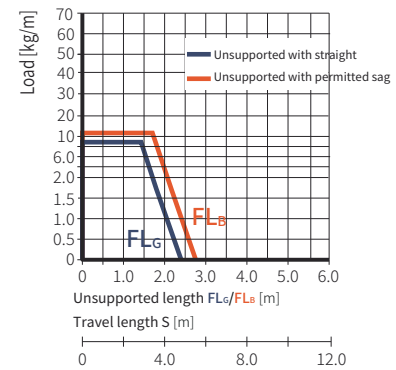
Product code	Bi[mm]	Ba[mm]	Available Radius [mm]	Weight[kg/m]
Q40.040.R	40	64	063 075 100 125 150 200	≈ 1.29
Q40.050.R	50	74	063 075 100 125 150 200	≈ 1.35
Q40.060.R	60	84	063 075 100 125 150 200	≈ 1.39
Q40.062.R	62	86	063 075 100 125 150 200	≈ 1.41
Q40.070.R	70	94	063 075 100 125 150 200	≈ 1.43
Q40.075.R	75	99	063 075 100 125 150 200	≈ 1.45
Q40.087.R	87	111	063 075 100 125 150 200	≈ 1.51
Q40.100.R	100	124	063 075 100 125 150 200	≈ 1.55
Q40.125.R	125	149	063 075 100 125 150 200	≈ 1.65
Q40.150.R	150	174	063 075 100 125 150 200	≈ 1.75
Q40.175.R	175	199	063 075 100 125 150 200	≈ 1.85
Q40.200.R	200	224	063 075 100 125 150 200	≈ 1.95

Unsupported | Short-travel | $L_K=S/2+K$ (Midpoint installation)



The required clearance height $H_f=H+35$ mm (load: 2.0kg/m)

Unsupported • Load



R[mm]	H[mm]	D[mm]	K[mm]
063	224	134	255
075	248	146	295
100	298	171	370
125	348	196	450
150	398	221	530
200	498	271	685

Technical data

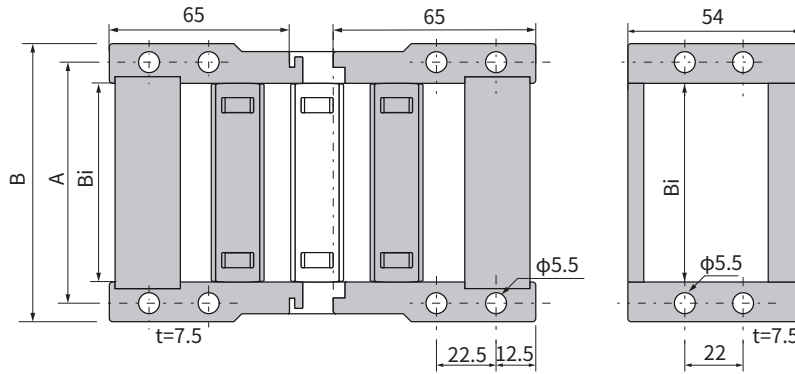
	Unsupported length	≤ 2.5m	Speed/Acceleration FL_G	≤ 20 [m/s] / 200 [m/s ²]
	Sliding length	Inapplicable	Speed/Acceleration FL_B	≤ 3 [m/s] / 6 [m/s ²]
	Vertical hanging	≤ 30m	Sliding speed/Acceleration	Inapplicable
	Vertical standing	≤ 2.0m	Permit temperature	-40°C ~120°C
	Side-mounted	≤ 1.5m	Flame retardant grade	UL94 HB
			Self-friction coefficient of cable chain	0.40

Q40 Series | Openable | Accessories

Mounting bracket size ● Moving

Inner mounting bracket code: Q400.Bi.1

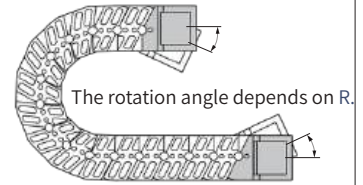
Outer mounting bracket code: Q400.Bi.2



Mounting bracket movement angle

Moving: Q400.Bi.12

Recommended for unsupported, vertical hanging or standing applications.



M5(GB/T) screws are recommended for mounting bracket installation, the maximum locking force shall not exceed 3 N.m.



★ If the clamp needs to be pre-assembled when it is delivered, please explain the installation method (A1|A2|A3|A4), e.g. Q400.100.12CA1

Bi[mm]	Full set moving mounting bracket code	A[mm]	B[mm]	Selection of tiewrap plate
.40.	Q400.040.12	54	68	ZG050
.50.	Q400.050.12	64	78	ZG050
.60.	Q400.060.12	74	88	ZG050
.62.	Q400.062.12	76	90	ZG050
.70.	Q400.070.12	84	98	ZG075
.75.	Q400.075.12	89	103	ZG075
.87.	Q400.087.12	101	115	ZG100
.100.	Q400.100.12	114	128	ZG100
.125.	Q400.125.12	139	153	ZG125
.150.	Q400.150.12	164	178	ZG150
.175.	Q400.175.12	189	203	ZG175
.200.	Q400.200.12	214	228	ZG200

★ If you need to select tiewrap pates and clamps, please refer to the strain relief accessories section on page 119.

Inner separation ● Vertical separator | Horizontal separator

Standard vertical separator
Model: Q40.VS
Double-sided buckle

Lock vertical separator
Model: Q40.LS
Double-sided buckle

Strain relief separator
Model: Q40.ZS
Double-sided buckle

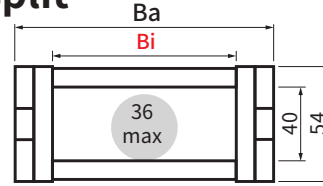
Horizontal separator
Model: BH.X
X value range: 13-200

Example of standard material ordering



★ Please refer to page 76 for ordering special materials such as anti-static, sliding and non-camber.

QR40 Series | Enclosed | The lid can be split

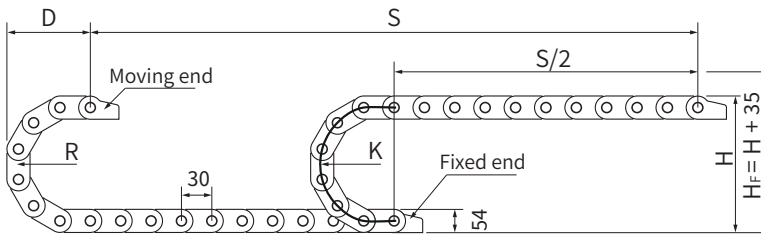


Hi: 40mm
Pitch: 30mm
Numbers of Pitch/m: 34

Product code	Bi[mm]	Ba[mm]	Available Radius [mm]	Weight[kg/m]
QR40.050.R	50	74	075 100 125 150 200	≈ 1.75
QR40.100.R	100	124	075 100 125 150 200	≈ 2.05
QR40.125.R	125	149	075 100 125 150 200	≈ 2.15
QR40.150.R	150	174	075 100 125 150 200	≈ 2.25

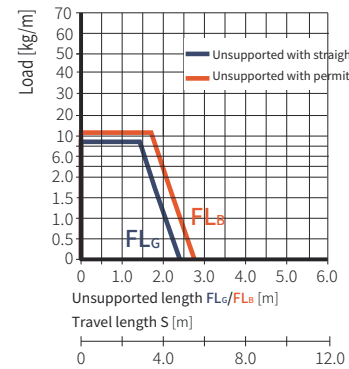
★ If there are special sizes and application requirements, we can provide customized services.

Unsupported | Short-travel | $L_k=S/2+K$ (Midpoint installation)



The required clearance height $H_f=H+40\text{mm}$ (load: 2.0kg/m)

Unsupported • Load



R[mm]	H[mm]	D[mm]	K[mm]
075	248	146	295
100	298	171	370
125	348	196	450
150	398	221	530
200	498	271	685

Technical data

	Unsupported length	≤ 2.5m	Speed/Acceleration FL_c	≤ 20 [m/s] / 200 [m/s ²]
	Sliding length	Inapplicable	Speed/Acceleration FL_b	≤ 3 [m/s] / 6 [m/s ²]
	Vertical hanging	≤ 30m	Sliding speed/Acceleration	Inapplicable
	Vertical standing	≤ 2.0m	Permit temperature	-40°C ~120°C
	Side-mounted	≤ 1.5m	Flame retardant grade	UL94 HB
			Self-friction coefficient of cable chain	0.40

QR40 Series | Enclosed | Accessories

Mounting bracket size ● Moving

Inner mounting bracket code: QR400.**Bi.1**

Outer mounting bracket code: QR400.**Bi.2**

Mounting bracket movement angle
 Moving: QR400.**Bi.12**
 Recommended for unsupported, vertical hanging or standing applications.



★ If the clamp needs to be pre-assembled when it is delivered, please explain the installation method (A1|A2|A3|A4), e.g. QR400.100.12CA1

Bi[mm]	Full set moving mounting bracket code	A[mm]	B[mm]	Selection of tiewrap plate
.50.	QR400. .050.12	64	78	ZG050
.100.	QR400.100.12	114	128	ZG100
.125.	QR400.125.12	139	153	ZG125
.150.	QR400. .150.12	164	178	ZG150

★ If you need to select tiewrap pates and clamps, please refer to the strain relief accessories section on page 119.

Inner separation ● Vertical separator | Horizontal separator

Lock vertical separator
 Model: QR40.LS
 Double-sided buckle

Horizontal separator
 Model: MH.X
 X value range: 17-140

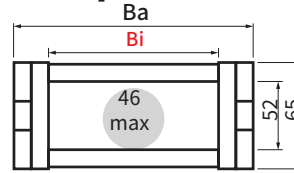
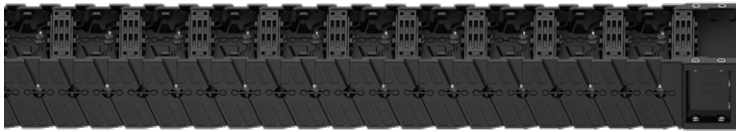
Example of standard material ordering

QR40 • **150** • 075 - 36P + QR400 • **150** • 12 + QR40.LS - 36 + MH. 80 - 18

Series **Bi** R Pitch Moving **Bi** Numbers of vertical separator Length of horizontal separator Numbers of horizontal separator

★ Please refer to page 76 for ordering special materials such as anti-static, sliding and non-camber.

Q52 Series | Openable | The crossbar can be split

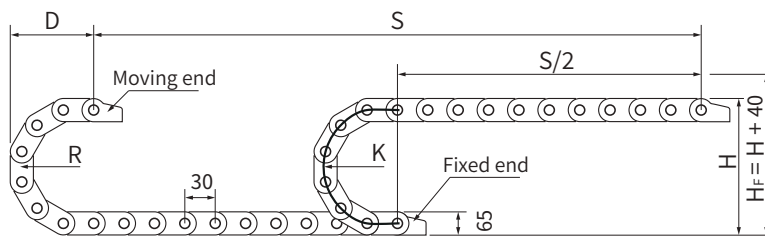


Hi: 52mm
Pitch: 30mm
Numbers of Pitch/m: 34

Product code	Bi[mm]	Ba[mm]	Available Radius [mm]	Weight[kg/m]
Q52.040.R	40	64	075 100 125 150 200	≈ 1.76
Q52.050.R	50	74	075 100 125 150 200	≈ 1.80
Q52.060.R	60	84	075 100 125 150 200	≈ 1.83
Q52.062.R	62	86	075 100 125 150 200	≈ 1.85
Q52.070.R	70	94	075 100 125 150 200	≈ 1.87
Q52.075.R	75	99	075 100 125 150 200	≈ 1.89
Q52.087.R	87	111	075 100 125 150 200	≈ 1.92
Q52.100.R	100	124	075 100 125 150 200	≈ 1.98
Q52.125.R	125	149	075 100 125 150 200	≈ 2.07
Q52.150.R	150	174	075 100 125 150 200	≈ 2.17
Q52.175.R	175	199	075 100 125 150 200	≈ 2.28
Q52.200.R	200	224	075 100 125 150 200	≈ 2.37

★ If there are special sizes and application requirements, we can provide customized services.

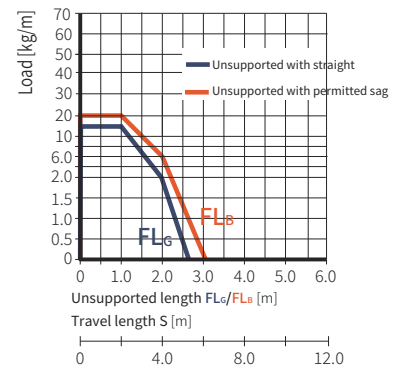
Unsupported | Short-travel | $L_K=S/2+K$ (Midpoint installation)



The required clearance height $H_f=H+40$ mm (load: 2.0kg/m)

R[mm]	H[mm]	D[mm]	K[mm]
075	270	155	300
100	320	180	375
125	370	205	455
150	420	230	535
200	520	280	690

Unsupported • Load



Technical data

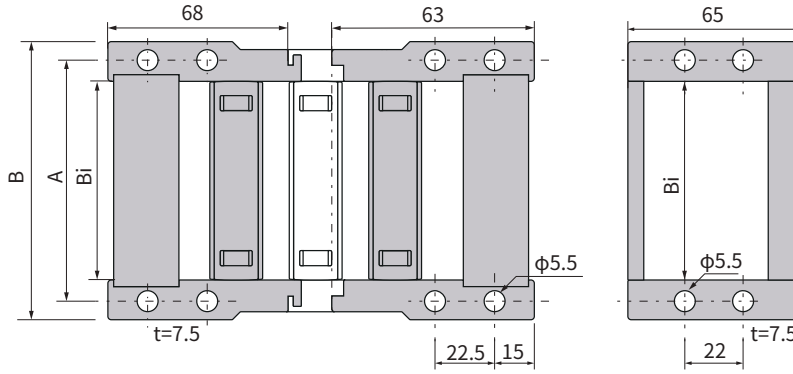
	Unsupported length	≤ 2.8m	Speed/Acceleration FL _c	≤ 20 [m/s] / 200 [m/s ²]
	Sliding length	Inapplicable	Speed/Acceleration FL _s	≤ 3 [m/s] / 6 [m/s ²]
	Vertical hanging	≤ 50m	Sliding speed/Acceleration	Inapplicable
	Vertical standing	≤ 2.0m	Permit temperature	-40°C ~120°C
	Side-mounted	≤ 2.0m	Flame retardant grade	UL94 HB
			Self-friction coefficient of cable chain	0.40

Q52 Series | Openable | Accessories

Mounting bracket size ● Moving

Inner mounting bracket code: Q520.Bi.1

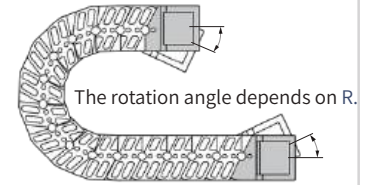
Outer mounting bracket code: Q520.Bi.2



Mounting bracket movement angle

Moving: Q520.Bi.12

Recommended for unsupported, vertical hanging or standing applications.



M5(GB/T) screws are recommended for mounting bracket installation, the maximum locking force shall not exceed 3 N.m.

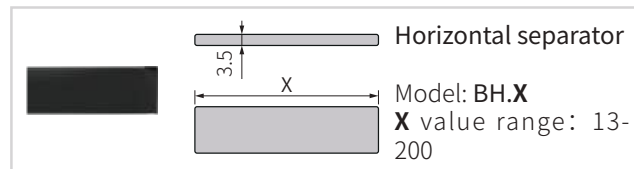
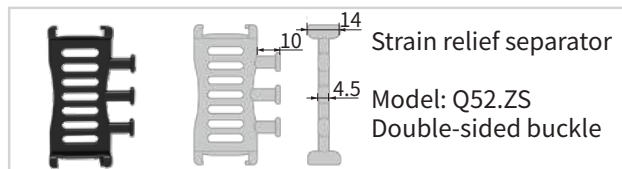
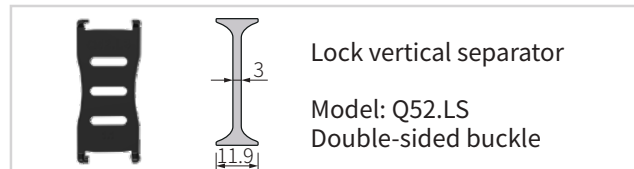
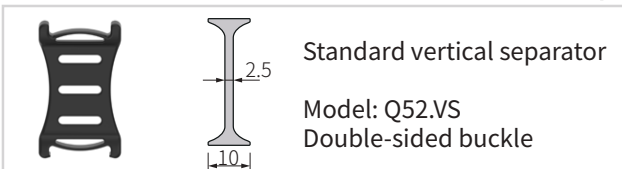


★ If the clamp needs to be pre-assembled when it is delivered, please explain the installation method (A1|A2|A3|A4), e.g. Q520.100.12CA1

Bi[mm]	Full set moving mounting bracket code	A[mm]	B[mm]	Selection of tiewrap plate
.40.	Q520.040.12	56	70	ZG050
.50.	Q520.050.12	66	80	ZG050
.60.	Q520.060.12	76	90	ZG050
.62.	Q520.062.12	78	92	ZG050
.70.	Q520.070.12	86	100	ZG075
.75.	Q520.075.12	91	105	ZG075
.87.	Q520.087.12	103	117	ZG100
.100.	Q520.100.12	116	130	ZG100
.125.	Q520.125.12	141	155	ZG125
.150.	Q520.150.12	166	180	ZG150
.175.	Q520.175.12	191	205	ZG175
.200.	Q520.200.12	216	230	ZG200

★ If you need to select tiewrap pates and clamps, please refer to the strain relief accessories section on page 119.

Inner separation ● Vertical separator | Horizontal separator



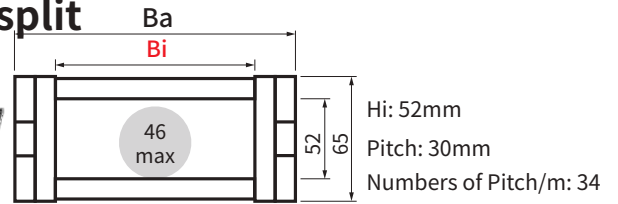
Example of standard material ordering

Q52 • 100 • 075 - 36P + Q520 • 100 • 12 + Q52.VS - 36 + BH. 80 - 18

Series Bi R Pitch Moving Bi Numbers of vertical separator Length of horizontal separator Numbers of horizontal separator

★ Please refer to page 76 for ordering special materials such as anti-static, sliding and non-camber.

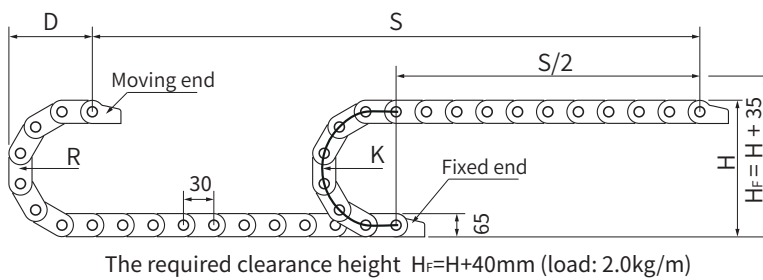
QR52 Series | Enclosed | The lid can be split



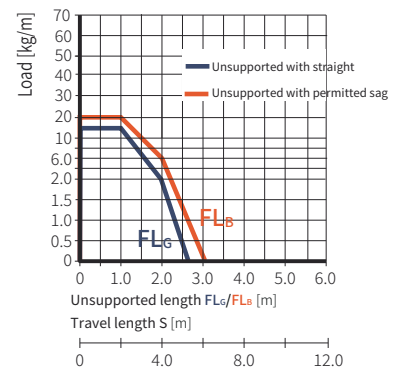
Product code	Bi[mm]	Ba[mm]	Available Radius [mm]	Weight[kg/m]
QR52.050.R	50	74	100 125 150 200	≈ 2.15
QR52.100.R	100	124	100 125 150 200	≈ 2.35
QR52.125.R	125	149	100 125 150 200	≈ 2.45
QR52.150.R	150	174	100 125 150 200	≈ 2.55

★ If there are special sizes and application requirements, we can provide customized services.

Unsupported | Short-travel | $L_k=S/2+K$ (Midpoint installation)



Unsupported • Load



R[mm]	H[mm]	D[mm]	K[mm]
100	298	171	370
125	348	196	450
150	398	221	530
200	498	271	685

Technical data

	Unsupported length	≤ 2.8m	Speed/Acceleration FL_c	≤ 20 [m/s] / 200 [m/s ²]
	Sliding length	Inapplicable	Speed/Acceleration FL_s	≤ 3 [m/s] / 6 [m/s ²]
	Vertical hanging	≤ 30m	Sliding speed/Acceleration	Inapplicable
	Vertical standing	≤ 2.0m	Permit temperature	-40°C ~120°C
	Side-mounted	≤ 1.5m	Flame retardant grade	UL94 HB
			Self-friction coefficient of cable chain	0.40

QR52 Series | Enclosed | Accessories

Mounting bracket size ● Moving

Inner mounting bracket code: QR520.**Bi.1**

Outer mounting bracket code: QR520.**Bi.2**

Mounting bracket movement angle
 Moving: QR520.**Bi.12**
 Recommended for unsupported, vertical hanging or standing applications.

M5(GB/T) screws are recommended for mounting bracket installation, the maximum locking force shall not exceed 3 N.m.

★ If the clamp needs to be pre-assembled when it is delivered, please explain the installation method (A1|A2|A3|A4), e.g. QR520.100.12CA1

Bi[mm]	Full set moving mounting bracket code	A[mm]	B[mm]	Selection of tie-wrap plate
.50.	QR520. 050.12	66	80	ZG050
.100.	QR520.100.12	116	130	ZG100
.125.	QR520.125.12	141	155	ZG125
.150.	QR520.150.12	166	180	ZG150

★ If you need to select tie-wrap plates and clamps, please refer to the strain relief accessories section on page 119.

Inner separation ● Vertical separator | Horizontal separator

Lock vertical separator
 Model: QR52.LS
 Double-sided buckle

Horizontal separator
 Model: MH.X
 X value range: 17-140

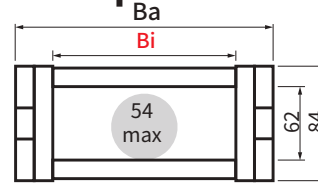
Example of standard material ordering

QR52 • 150 • 100 - 36P + QR520 • 150 • 12 + QR52.LS - 36 + BH. 80 - 18

Series Bi R Pitch Moving Bi Numbers of vertical separator Length of horizontal separator Numbers of horizontal separator

★ Please refer to page 76 for ordering special materials such as anti-static, sliding and non-camber.

Q62 Series | Openable | The crossbar can be split

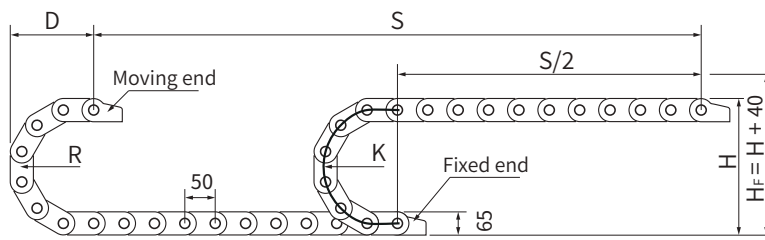


Hi: 62mm
Pitch: 50mm
Numbers of Pitch/m: 20

Product code	Bi[mm]	Ba[mm]	Available Radius [mm]	Weight[kg/m]
Q62.050.R	50	76	115 150 200 250 300	≈ 3.24
Q62.075.R	75	101	115 150 200 250 300	≈ 3.32
Q62.087.R	87	113	115 150 200 250 300	≈ 3.36
Q62.100.R	100	126	115 150 200 250 300	≈ 3.40
Q62.112.R	112	138	115 150 200 250 300	≈ 3.46
Q62.125.R	125	151	115 150 200 250 300	≈ 3.50
Q62.150.R	150	176	115 150 200 250 300	≈ 3.58
Q62.175.R	175	201	115 150 200 250 300	≈ 3.66
Q62.200.R	200	226	115 150 200 250 300	≈ 3.76
Q62.225.R	225	251	115 150 200 250 300	≈ 3.86
Q62.250.R	250	276	115 150 200 250 300	≈ 3.96
Q62.300.R	300	326	115 150 200 250 300	≈ 4.10

★ If there are special sizes and application requirements, we can provide customized services.

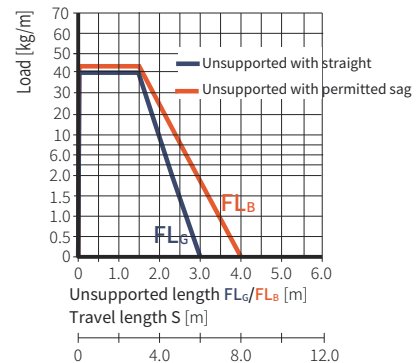
Unsupported | Short-travel | $L_K=S/2+K$ (Midpoint installation)



The required clearance height $H_f=H+40$ mm (load: 2.0kg/m)

R[mm]	H[mm]	D[mm]	K[mm]
115	388	234	465
150	458	269	575
200	558	319	730
250	658	369	890
300	758	419	1045

Unsupported • Load



Technical data

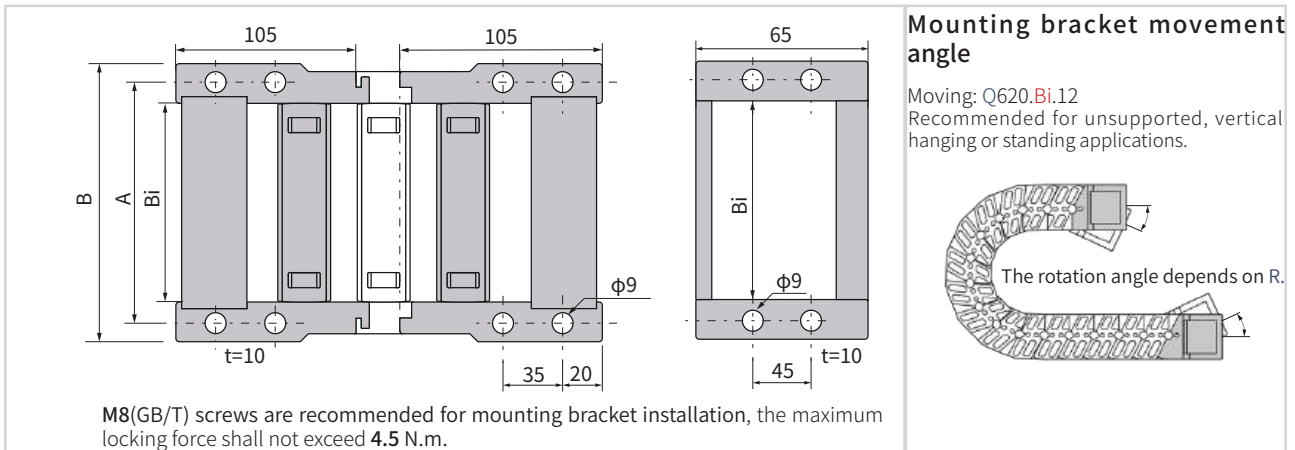
	Unsupported length	≤ 3.8m	Speed/Acceleration FL_g	≤ 20 [m/s] / 200 [m/s ²]
	Sliding length	Inapplicable	Speed/Acceleration FL_b	≤ 3 [m/s] / 6 [m/s ²]
	Vertical hanging	≤ 50m	Sliding speed/Acceleration	Inapplicable
	Vertical standing	≤ 2.5m	Permit temperature	-40°C ~120°C
	Side-mounted	≤ 2.5m	Flame retardant grade	UL94 HB
			Self-friction coefficient of cable chain	0.40

Q62 Series | Openable | Accessories

Mounting bracket size ● Moving

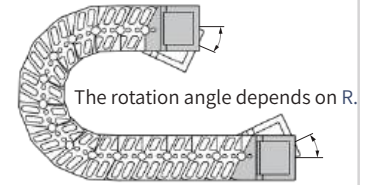
Inner mounting bracket code: Q620.**Bi.1**

Outer mounting bracket code: Q620.**Bi.2**



Mounting bracket movement angle

Moving: Q620.**Bi.12**
Recommended for unsupported, vertical hanging or standing applications.

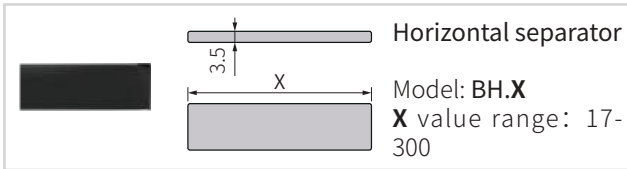
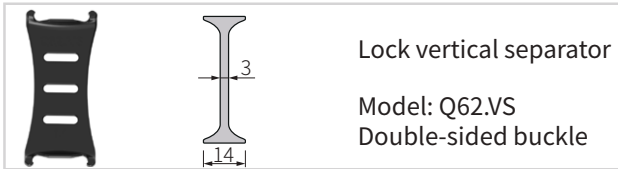


★ If the clamp needs to be pre-assembled when it is delivered, please explain the installation method (A1|A2|A3|A4), e.g. Q620.100.12CA1

Bi[mm]	Full set moving mounting bracket code	A[mm]	B[mm]	Selection of tiewrap plate
.50.	Q620.050.12	72	90	ZG050
.75.	Q620.075.12	97	115	ZG075
.87.	Q620.087.12	109	127	ZG075
.100.	Q620.100.12	122	140	ZG100
.112.	Q620.112.12	134	152	ZG100
.125.	Q620.125.12	147	165	ZG125
.150.	Q620.150.12	172	190	ZG150
.175.	Q620.175.12	197	215	ZG175
.200.	Q620.200.12	222	240	ZG200
.225.	Q620.225.12	247	265	ZG100+ZG125
.250.	Q620.250.12	272	290	ZG125+ZG125
.300.	Q620.300.12	322	340	ZG150+ZG150

★ If you need to select tiewrap pates and clamps, please refer to the strain relief accessories section on page 119.

Inner separation ● Vertical separator | Horizontal separator



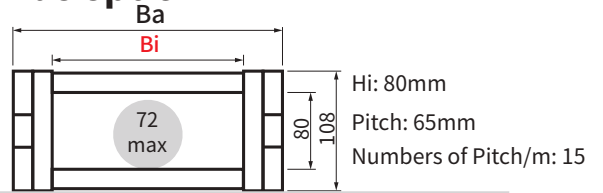
Example of standard material ordering

Q62 • 200 • 150 - 36P + Q620 • 200 • 12 + Q62.VS - 36 + BH. 80 - 18

Series Bi R Pitch Moving Bi Numbers of vertical separator Length of horizontal separator Numbers of horizontal separator

★ Please refer to page 76 for ordering special materials such as anti-static, sliding and non-camber.

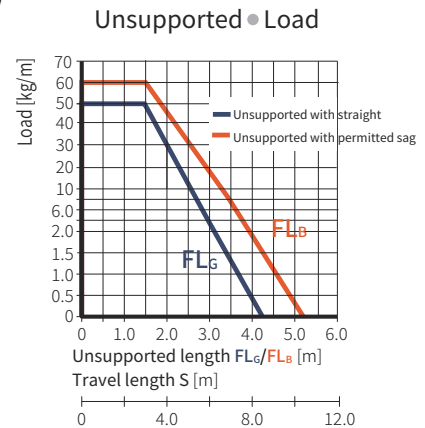
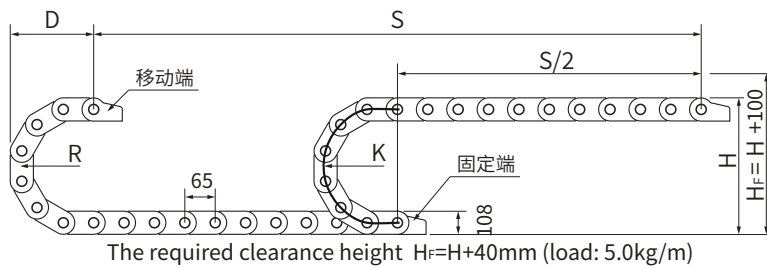
Q80 Series | Openable | The crossbar can be split



拖链代码	Bi[mm]	Ba[mm]	R 可供选择的弯曲半径 [mm]	重量 [kg/m]
Q80.050.R	50	100	150 200 250 300 350 400	≈ 5.18
Q80.075.R	75	125	150 200 250 300 350 400	≈ 5.28
Q80.100.R	100	150	150 200 250 300 350 400	≈ 5.38
Q80.125.R	125	175	150 200 250 300 350 400	≈ 5.46
Q80.150.R	150	200	150 200 250 300 350 400	≈ 5.66
Q80.175.R	175	225	150 200 250 300 350 400	≈ 5.76
Q80.200.R	200	250	150 200 250 300 350 400	≈ 5.86
Q80.225.R	225	275	150 200 250 300 350 400	≈ 5.96
Q80.250.R	250	300	150 200 250 300 350 400	≈ 6.06
Q80.275.R	275	325	150 200 250 300 350 400	≈ 6.16
Q80.300.R	300	350	150 200 250 300 350 400	≈ 6.26
Q80.350.R	350	400	150 200 250 300 350 400	≈ 6.58
Q80.400.R	400	450	150 200 250 300 350 400	≈ 6.78
Q80.450.R	450	500	150 200 250 300 350 400	≈ 7.06
Q80.550.R	550	600	150 200 250 300 350 400	≈ 7.56

★ If there are special sizes and application requirements, we can provide customized services.

Unsupported | Short-travel | $L_k=S/2+K$ (Midpoint installation)



R[mm]	H[mm]	D[mm]	K[mm]
150	516	306	605
200	616	356	760
250	716	406	920
300	816	456	1075
350	916	506	1230
400	1016	556	1390

Technical data

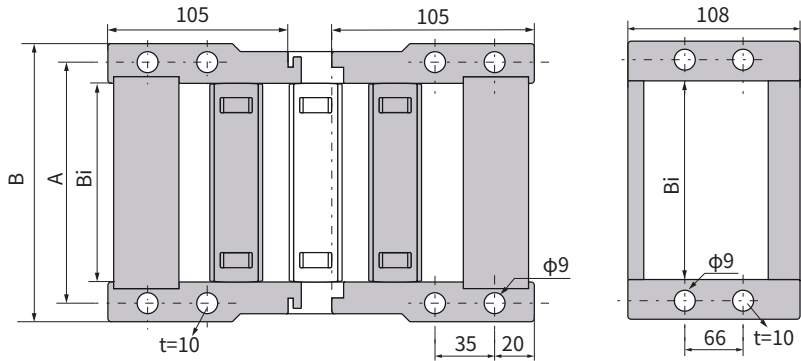
	Unsupported length	≤ 4.5m	Speed/Acceleration FL _c	≤ 20 [m/s] / 200 [m/s ²]
	Sliding length	Inapplicable	Speed/Acceleration FL _s	≤ 3 [m/s] / 6 [m/s ²]
	Vertical hanging	≤ 60m	Sliding speed/Acceleration	Inapplicable
	Vertical standing	≤ 3.0m	Permit temperature	-40°C ~120°C
	Side-mounted	≤ 3.0m	Flame retardant grade	UL94 HB
			Self-friction coefficient of cable chain	0.40

Q80 Series | Openable | Accessories

Mounting bracket size ● Moving

Inner mounting bracket code: Q800.**Bi.1**

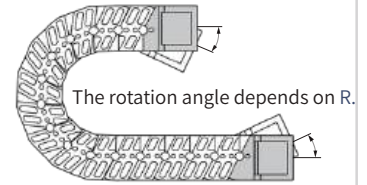
Outer mounting bracket code: Q800.**Bi.2**



Mounting bracket movement angle

Moving: Q800.**Bi.12**

Recommended for unsupported, vertical hanging or standing applications.



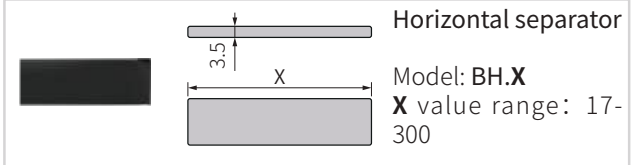
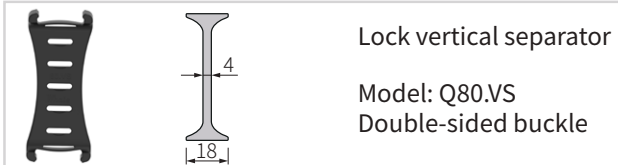
M8(GB/T) screws are recommended for mounting bracket installation, the maximum locking force shall not exceed 4.5 N.m.



★ If the clamp needs to be pre-assembled when it is delivered, please explain the installation method (A1|A2|A3|A4), e.g. Q800.200.12CA1

Bi[mm]	Full set moving mounting bracket code	A[mm]	B[mm]	Selection of tiwrap plateplate
.50.	Q800.050.12	78	100	ZG050
.75.	Q800.075.12	103	125	ZG075
.100.	Q800.100.12	128	150	ZG100
.125.	Q800.125.12	153	175	ZG125
.150.	Q800.150.12	178	200	ZG150
.175.	Q800.175.12	203	225	ZG175
.200.	Q800.200.12	228	250	ZG200
.225.	Q800.225.12	253	275	ZG100+ZG125
.250.	Q800.250.12	278	300	ZG125+ZG125
.300.	Q800.300.12	328	350	ZG150+ZG150
.350.	Q800.350.12	378	400	ZG175+ZG175
.400.	Q800.400.12	428	450	ZG200+ZG200
.450.	Q800.450.12	478	500	ZG150+ZG150+ZG150
.550.	Q800.550.12	578	600	ZG150+ZG200+ZG200

Inner separation ● Vertical separator | Horizontal separator

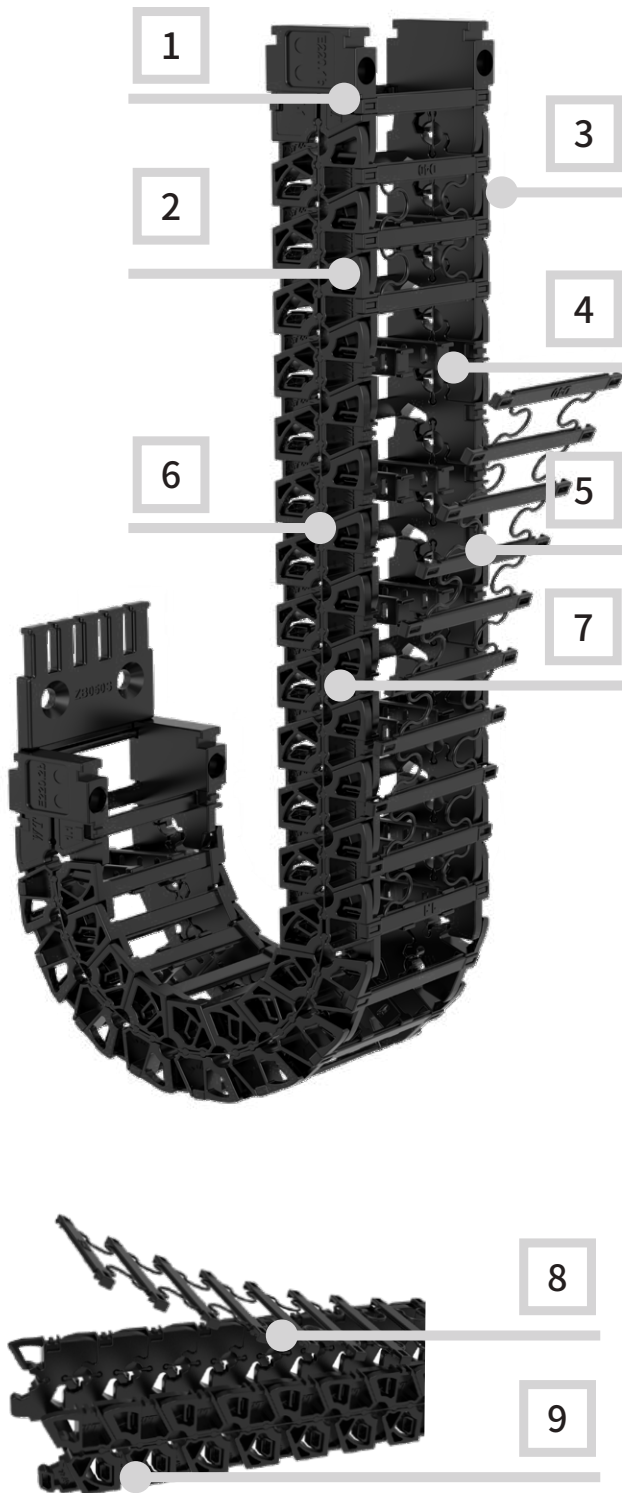


Example of standard material ordering

Q80 • 400 • 250 - 36P + Q800 • 400 • 12 + Q80.VS - 36 + BH. 200 - 18

Series Bi R Pitch Moving Bi Numbers of vertical separator Length of horizontal separator Numbers of horizontal separator

★ Please refer to page 76 for ordering special materials such as anti-static, sliding and non-camber.



Features & Benefits

- 1** The mounting bracket with clamp can facilitate the installation of the tiewrap plate.
- 2** Low noise, small pitch and smooth operation.
- 3** High dynamic performance, suitable for high-speed and high-acceleration occasions.
- 4** Elastic damping element, extremely low noise.
- 5** Install horizontal and vertical separators as required.
- 6** Lean hollowed-out side plates reduce the weight of cable chain.
- 7** Non-hole shaft connection mode, zero wear and low vibration.
- 8** Removable crossbar, easy to disassemble and assemble cables.
- 9** Multiple limits increase unsupported and load capacity.

Customized service of QE series products




UL94 certification /CE certification is available.



ESD products can be provided as required.

QE Series ● Size Range | Application Scenario

Series	Hi [mm]	Ha [mm]	Bi [mm]	Ba [mm]	R [mm]	P [mm]	Maximum unsupported length [m]	Page
QE series Extremely low-noise and dust-free Zip-open crossbars along the outer radius								
QE15	15	20	20 - 60	32 - 72	032 - 075	16.7	0.6	101-102
QE22	22	27	20 - 60	32 - 72	038 - 075	16.7	1.0	103-104

★ If there are special sizes and application requirements, we can provide customized services.

Application requirements of QE series products

- Low-noise
- Light | Quick disassemble and assemble
- High speed | High acceleration
- Low wear



Application of QE series in semiconductor device

Ordering example of QE Series Cable Chain

Example of standard material ordering

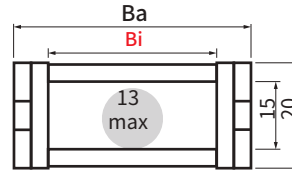
QE22 • 60 • 044 - 40P + QE220 • 60 • 12 + QE22.VS - 40 + SH. 40 - 5

Series Bi R Pitch Bi Numbers of vertical separator Length of horizontal separator Numbers of horizontal separator

Special application ordering example:

- Anti-static (Resistance: $10^4 - 10^8$) ordering: QE22.60.044.ESD
- Moderate and high temperature resistance (250°) ordering: QE22.60.044.MT
- Low temperature resistance (-40°) ordering: QE22.60.044.LT
- Corrosion protection (PH: 2.0-14.0) ordering: QE22.60.044.EG
- Non-camber cable chain ordering: QE22.60.044.NC
- Flame retardant (flame retardant rating: V0) ordering: QE22.60.044.FR

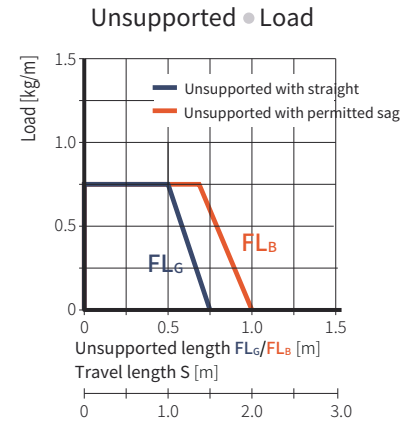
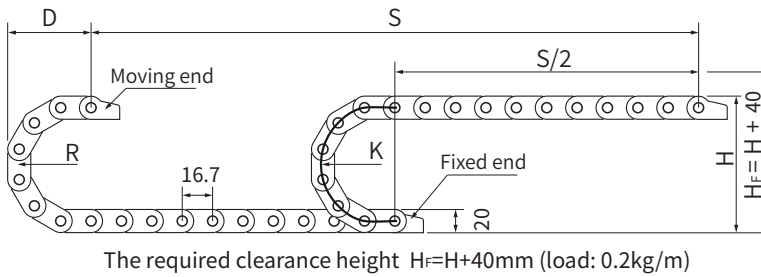
QE15 Series | Openable | The outer crossbar can be split



Hi: 15mm
Pitch: 16.7mm
Numbers of Pitch/m: 60

Product code	Bi[mm]	Ba[mm]	Available Radius [mm]	Weight[kg/m]
QE15.20.R	20	32	032 038 048 075	≈ 0.22
QE15.40.R	40	52	032 038 048 075	≈ 0.25
QE15.60.R	60	72	032 038 048 075	≈ 0.32

Unsupported | Short-travel | $L_K=S/2+K$ (Midpoint installation)



R[mm]	H[mm]	D[mm]	K[mm]
032	99	67	135
038	111	73	155
048	131	83	185
075	185	110	270

Technical data

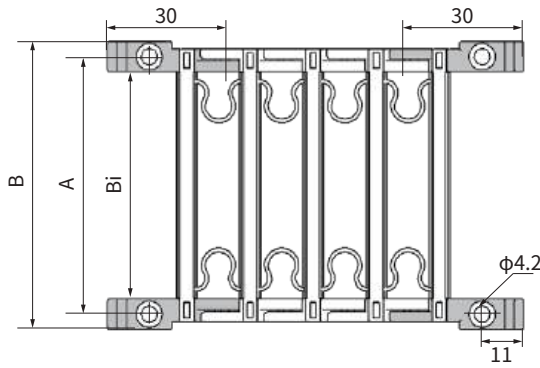
	Unsupported length	≤ 0.6m	Speed/Acceleration FL_c	≤ 20 [m/s] / 200 [m/s ²]
	Sliding length	Inapplicable	Speed/Acceleration FL_b	≤ 3 [m/s] / 6 [m/s ²]
	Vertical hanging	≤ 10m	Sliding speed/Acceleration	Inapplicable
	Vertical standing	≤ 0.3m	Permit temperature	-40°C ~120°C
	Side-mounted	≤ 0.3m	Flame retardant grade	UL94 HB
			Self-friction coefficient of cable chain	0.40

QE15 Series | Openable | Accessories

Mounting bracket size ● Moving

Inner mounting bracket code: QE150.**Bi.1**

Outer mounting bracket code: QE150.**Bi.2**

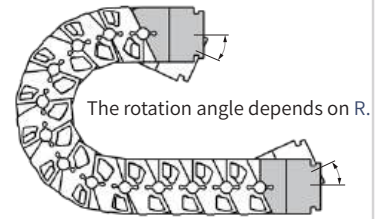


M4(GB/T) screws are recommended for mounting bracket installation, the maximum locking force shall not exceed 0.5 N.m.

Mounting bracket movement angle

Moving: QE150.**Bi.12**

Recommended for unsupported, vertical hanging or standing applications.



Bi[mm]	Full set moving mounting bracket code	A[mm]	B[mm]	Selection of tiewrap plate
.20.	QE150.20.12	28	36	—
.40.	QE150.40.12	48	56	ZB050S
.60.	QE150.60.12	68	76	ZB075S

★ If there are special sizes and application requirements, we can provide customized services.

Inner separation ● Vertical separator | Horizontal separator

Standard vertical separator
Model: QE15.VS
Double-sided buckle

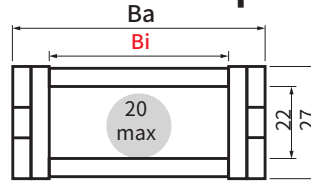
Horizontal separator
Model: SH.X
X value range: 7-60

Example of standard material ordering



★ Please refer to page 100 for ordering special materials such as anti-static, sliding and non-camber.

QE22 Series | Openable | The outer crossbar can be split

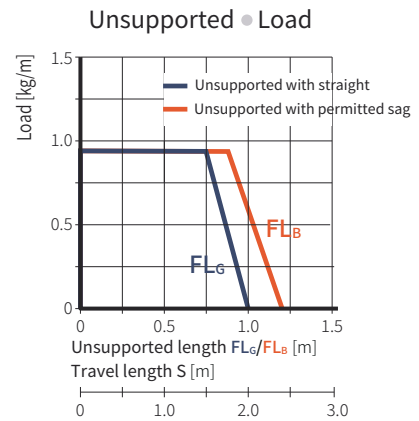
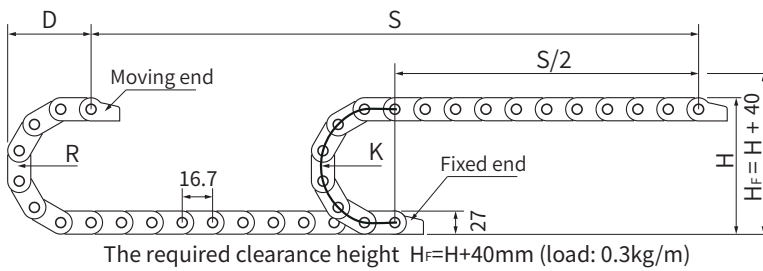


Hi: 22mm
 Pitch: 16.7mm
 Numbers of Pitch/m: 60

Product code	Bi[mm]	Ba[mm]	Available Radius [mm]	Weight[kg/m]
QE22.20.R	20	32	038 044 050 075	≈ 0.30
QE22.40.R	40	52	038 044 050 075	≈ 0.32
QE22.60.R	60	72	038 044 050 075	≈ 0.41

★ The above marked grey models are products that will be launched soon. Please contact us if you need them.

Unsupported | Short-travel | $L_k=S/2+K$ (Midpoint installation)



R[mm]	H[mm]	D[mm]	K[mm]
038	122	76	155
044	134	82	175
050	146	88	195
075	196	113	290

Technical data

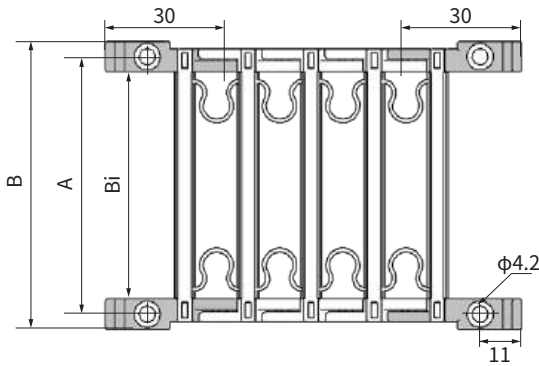
	Unsupported length	≤ 1.0m	Speed/Acceleration FL_G	≤ 20 [m/s] / 200 [m/s ²]
	Sliding length	Inapplicable	Speed/Acceleration FL_B	≤ 3 [m/s] / 6 [m/s ²]
	Vertical hanging	≤ 10m	Sliding speed/Acceleration	Inapplicable
	Vertical standing	≤ 0.5m	Permit temperature	-40°C ~120°C
	Side-mounted	≤ 0.5m	Flame retardant grade	UL94 HB
			Self-friction coefficient of cable chain	0.40

QE22 Series | Openable | Accessories

Mounting bracket size ● Moving

Inner mounting bracket code: QE220.**Bi.1**

Outer mounting bracket code: QE220.**Bi.2**

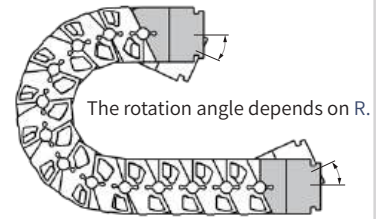


M4(GB/T) screws are recommended for mounting bracket installation, the maximum locking force shall not exceed 0.5 N.m.

Mounting bracket movement angle

Moving: QE220.**Bi.12**

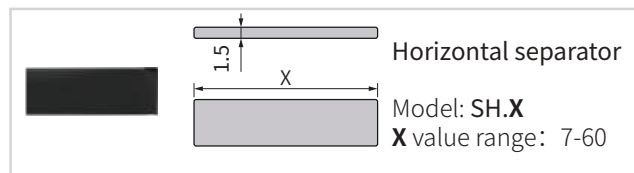
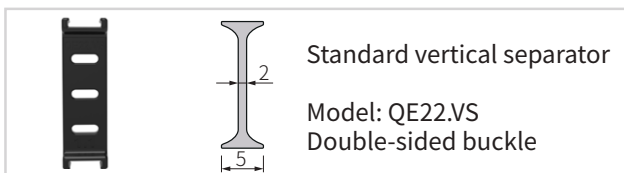
Recommended for unsupported, vertical hanging or standing applications.



Bi[mm]	Full set moving mounting bracket code	A[mm]	B[mm]	Selection of tiewrap plate
.20.	QE220.20.12	28	36	—
.40.	QE220.40.12	48	56	ZB050S
.60.	QE220.60.12	68	76	ZB075S

★ If there are special sizes and application requirements, we can provide customized services.

Inner separation ● Vertical separator | Horizontal separator

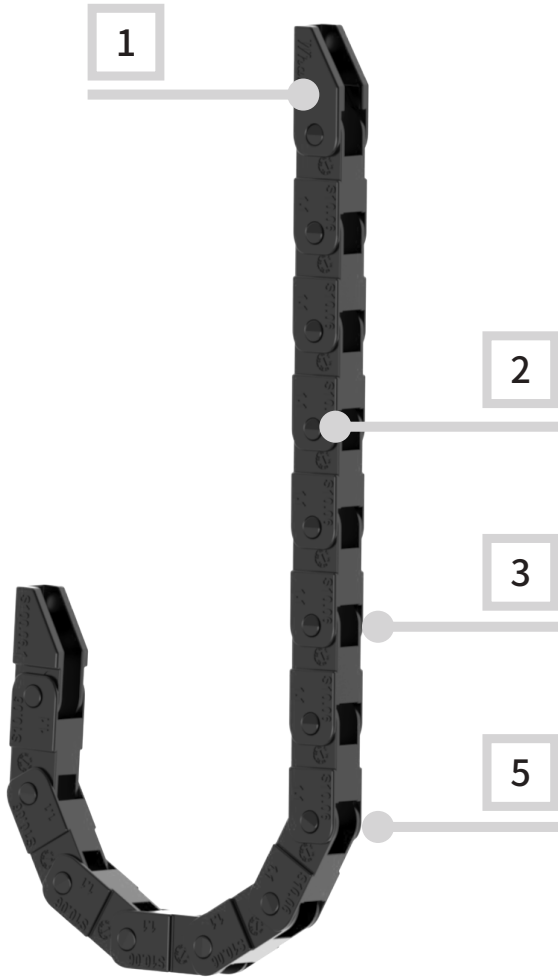


Example of standard material ordering



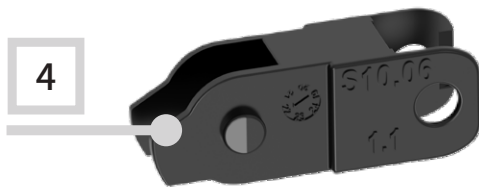
★ Please refer to page 100 for ordering special materials such as anti-static, sliding and non-camber.

Single-Piece Series ● Introduction | Benefits



Features & Benefits

- 1 Flexible small mounting brackets, can be used in many applications.
- 2 Proportional optimization of large-size shaft to improve load capacity.
- 3 High-strength stop blocks increase unsupported and load capacity.
- 4 Unique internal noise reduction structure.
- 5 Special small size, can be used in narrow spaces.



Customized service of S series products



UL94 certification /CE certification is available.



ESD products can be provided as required.

Single-Piece Series ● Size Range | Application Scenario

Series	Hi [mm]	Ha [mm]	Bi [mm]	Ba [mm]	R [mm]	P [mm]	Maximum unsupported length [m]	Page
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S series | Light and small size



S05	5	8	5	8.7	010-028	10	0.4	121-122
S07	7	10	7	12	015-038	16.7	0.4	115-116
S10	10	12	6	10	018-038	20	0.5	117-118
S15	15	19.3	10	18.2	020-048	20	0.8	119-120

★ If there are special sizes and application requirements, we can provide customized services.

Application requirements of S series products

- Short unsupported length | Low load
- Light | Quick disassemble and assemble
- High speed | High acceleration
- Longlife | Low-noise

Ordering example of S Series Cable Chain

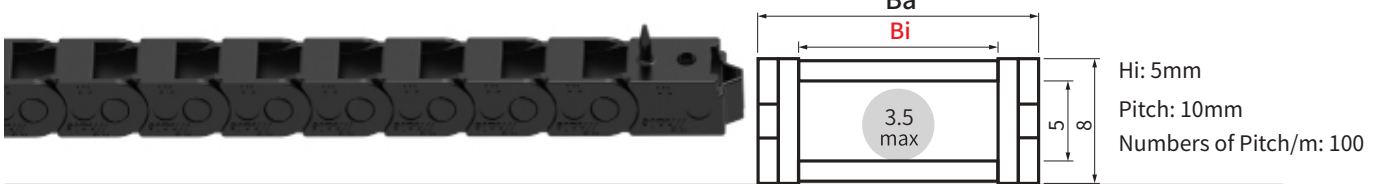
Example of standard material ordering:

S10 • 06 • 018 - 16P + 100 • 06 • 12A2
Series Bi R Pitch Bi Pre-assemble method

Special application ordering example:

- Anti-static (Resistance: $10^4 - 10^8$) ordering: S10.06.018.ESD
- Moderate and high temperature resistance (250°) ordering: S10.06.018.MT
- Low temperature resistance (-40°) ordering: S10.06.018.LT
- Corrosion protection (PH: 2.0-14.0) ordering: S10.06.018.EG
- Sliding ordering: S10.06.018-16P-S
- Bidirectional bending ordering: S10.06.018/075 (Note 1: 018/075 respectively positive and reverse bending radii.)
- Non-camber cable chain ordering: S10.06.018.NC

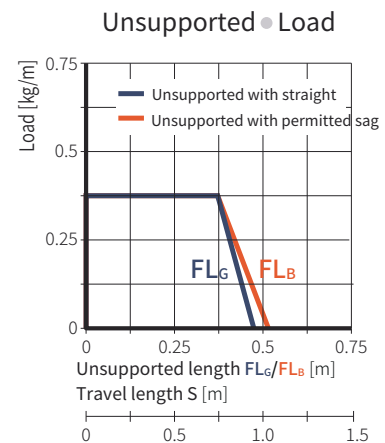
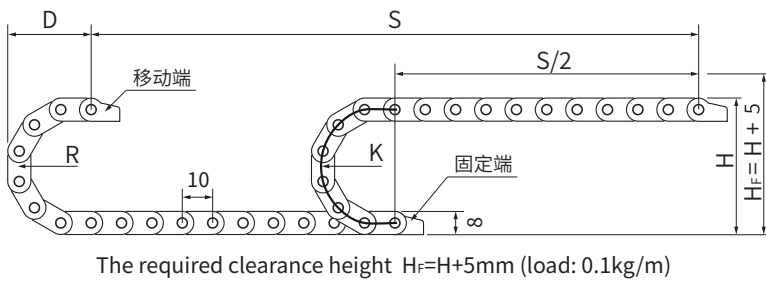
S05 Series | One-piece | The crossbar cannot be opened



Product code Non-open	Bi[mm]	Ba[mm]	Available Radius [mm]	Weight[kg/m]
S05.05.R	5	8.7	010 012 015 018 028	≈ 0.07

★ If there are special sizes and application requirements, we can provide customized services.

Unsupported | Short-travel | $L_K=S/2+K$ (Midpoint installation)



R[mm]	H[mm]	D[mm]	K[mm]
010	28	25	52
012	32	27	58
015	38	30	67
018	46	33	77
028	66	43	108

Technical data

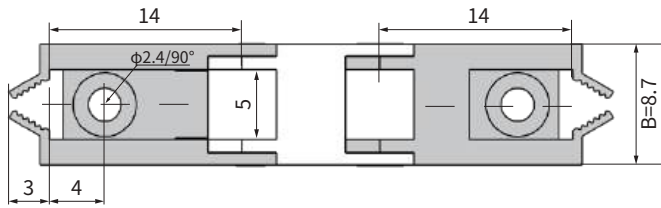
	Unsupported length	$\leq 0.4\text{m}$	Speed/Acceleration FL_G	$\leq 20 \text{ [m/s]} / 200 \text{ [m/s}^2\text{]}$
	Sliding length	不适用	Speed/Acceleration FL_B	$\leq 3 \text{ [m/s]} / 6 \text{ [m/s}^2\text{]}$
	Vertical hanging	$\leq 6\text{m}$	Sliding speed/Acceleration	$\leq 3 \text{ [m/s]} / 10 \text{ [m/s}^2\text{]}$
	Vertical standing	$\leq 0.3\text{m}$	Permit temperature	$-40^\circ\text{C} \sim 120^\circ\text{C}$
	Side-mounted	$\leq 0.3\text{m}$	Flame retardant grade	UL94 HB
			Self-friction coefficient of cable chain	0.40
			Friction coefficient (cable chain&bar)	0.20

S05 Series | One-piece | Accessories

Mounting bracket size ● Moving

Inner mounting bracket code: S050.**05.1**

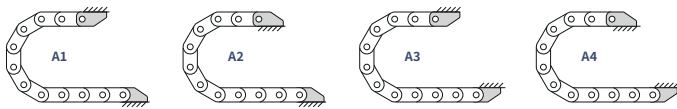
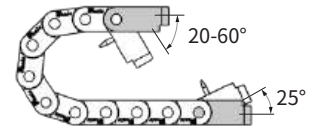
Outer mounting bracket code: S050.**05.2**



M3(GB/T) screws are recommended for mounting bracket installation, the maximum locking force shall not exceed 1.5 N.m.

Mounting bracket movement angle

Moving: S050.05.12
Recommended for unsupported or vertical hanging applications.



★ If the mounting bracket needs to be pre-assembled when it is delivered, please explain the installation method (A1|A2|A3|A4), e.g. S050.05.12A1

Bi [mm]	Full set moving mounting bracket code With tiewrap plate	A [mm]	B [mm]
.5.	S050.05.12	—	8.7

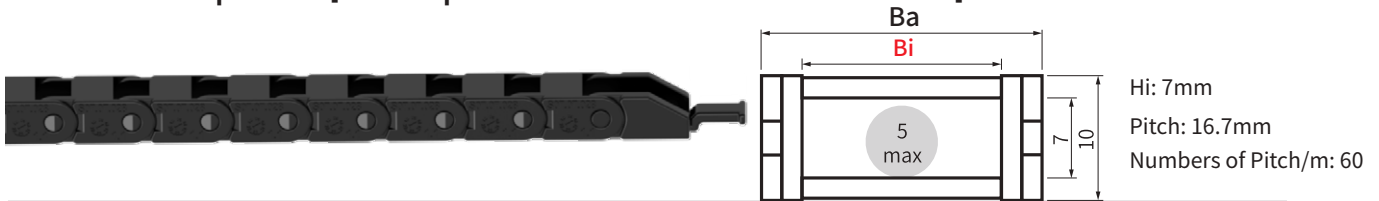
Example of standard material ordering

S05 • 05 • 018 - 16P + S050 • 05 • 12 A2

Series Bi R Pitch Bi Pre-assemble method

★ Please refer to page 106 for ordering special materials such as anti-static, sliding and non-camber.

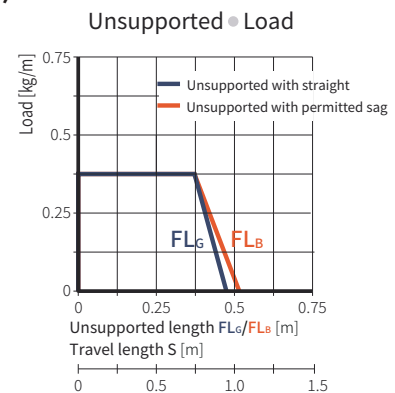
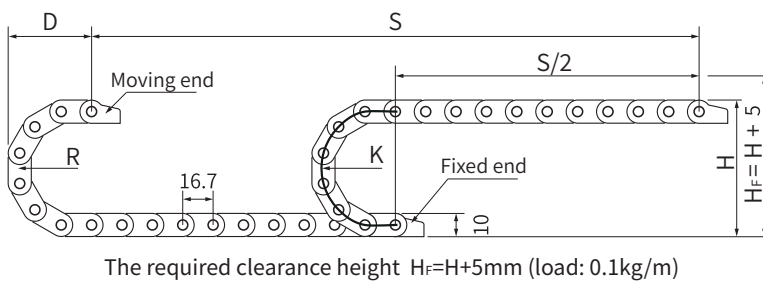
S07 Series | One-piece | The crossbar cannot be opened



Product code Non-open	Bi[mm]	Ba[mm]	Available Radius [mm]	Weight[kg/m]
S07.07.R	7	12	015 018 028 038	≈ 0.07

★ If there are special sizes and application requirements, we can provide customized services.

Unsupported | Short-travel | $L_k=S/2+K$ (Midpoint installation)



R[mm]	H[mm]	D[mm]	K[mm]
015	40	45	85
018	46	48	90
028	66	58	125
038	86	68	155

Technical data

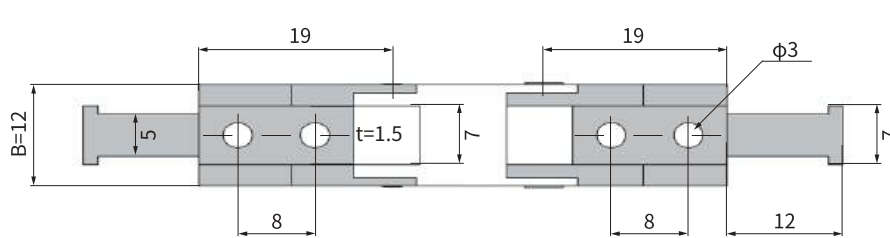
	Unsupported length	≤ 0.4m	Speed/Acceleration FL_G	≤ 20 [m/s] / 200 [m/s ²]
	Sliding length	Inapplicable	Speed/Acceleration FL_B	≤ 3 [m/s] / 6 [m/s ²]
	Vertical hanging	≤ 6m	Sliding speed/Acceleration	≤ 3 [m/s] / 10 [m/s ²]
	Vertical standing	≤ 0.3m	Permit temperature	-40°C ~120°C
	Side-mounted	≤ 0.3m	Flame retardant grade	UL94 HB
			Self-friction coefficient of cable chain	0.40
			Friction coefficient (cable chain&bar)	0.20

S07 Series | One-piece | Accessories

Mounting bracket size ● Moving

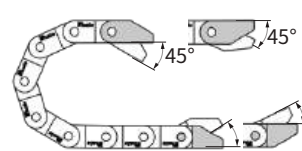
Inner mounting bracket code: S070.**07.1**

Outer mounting bracket code: S070.**07.2**

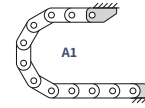
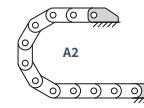
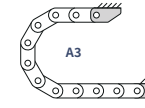
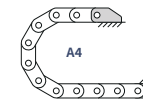


Mounting bracket movement angle

Moving: S070.07.12
Recommended for unsupported or vertical hanging applications.



The rotation angle depends on R.

★ If the mounting bracket needs to be pre-assembled when it is delivered, please explain the installation method (A1|A2|A3|A4), e.g. S070.07.12A1

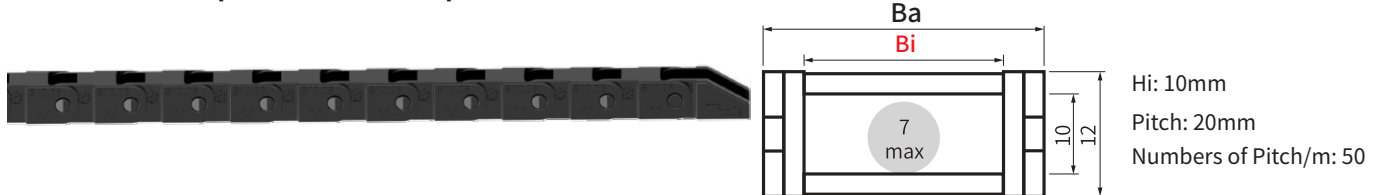
Bi [mm]	Full set moving mounting bracket code With tiewrap plate	A [mm]	B [mm]	Teeth number [1]
.07.	S070.07.12	—	12.0	1

Example of standard material ordering

S07 • 07 • 018 - 16P + S070 • 07 • 12 A2
Series Bi R Pitch Bi Pre-assemble method

★ Please refer to page 106 for ordering special materials such as anti-static, sliding and non-camber.

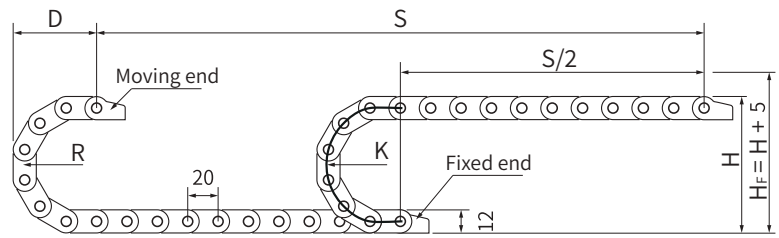
S10 Series | One-piece | The crossbar cannot be opened



Product code Non-open	Bi[mm]	Ba[mm]	Available Radius [mm]	Weight[kg/m]
S10.06.R	6	10	018 028 038	≈ 0.13

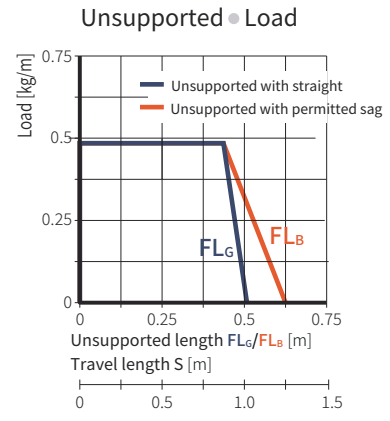
★ If there are special sizes and application requirements, we can provide customized services.

Unsupported | Short-travel | $L_k=S/2+K$ (Midpoint installation)



The required clearance height $H_f=H+5\text{mm}$ (load: 0.2kg/m)

R[mm]	H[mm]	D[mm]	K[mm]
018	48	54	88
028	68	64	74
038	88	130	160



Technical data

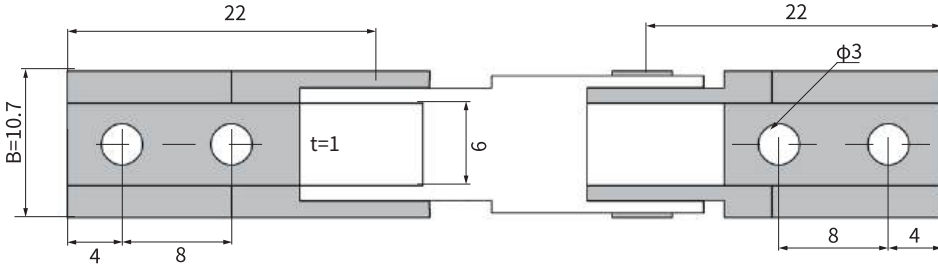
	Unsupported length	$\leq 0.5\text{m}$	Speed/Acceleration FL_G	$\leq 20 \text{ [m/s]} / 200 \text{ [m/s}^2\text{]}$
	Sliding length	Inapplicable	Speed/Acceleration FL_B	$\leq 3 \text{ [m/s]} / 6 \text{ [m/s}^2\text{]}$
	Vertical hanging	$\leq 8\text{m}$	Sliding speed/Acceleration	$\leq 3 \text{ [m/s]} / 10 \text{ [m/s}^2\text{]}$
	Vertical standing	$\leq 0.5\text{m}$	Permit temperature	$-40^\circ\text{C} \sim 120^\circ\text{C}$
	Side-mounted	$\leq 0.5\text{m}$	Flame retardant grade	UL94 HB
			Self-friction coefficient of cable chain	0.40
			Friction coefficient (cable chain&bar)	0.20

S10 Series | One-piece | Accessories

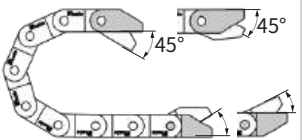
Mounting bracket size ● Moving

Inner mounting bracket code: 100.06.1

Outer mounting bracket code: 100.06.2

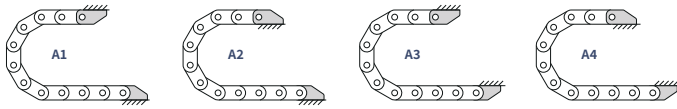


Mounting bracket movement angle
 Moving: 100.06.12
 Recommended for unsupported or vertical hanging applications.



The rotation angle depends on R.

M3(GB/T) screws are recommended for mounting bracket installation, the maximum locking force shall not exceed 1.5 N.m.



★ If the mounting bracket needs to be pre-assembled when it is delivered, please explain the installation method (A1|A2|A3|A4), e.g. 100.06.12A1

Bi [mm]	Full set moving mounting bracket code With tiewrap plate	A [mm]	B [mm]	Teeth number [1]
.6.	100.06.12	—	10.7	-

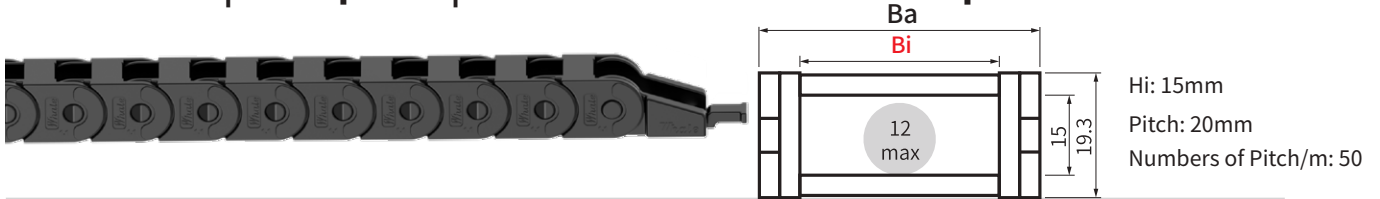
Example of standard material ordering

S10 • 06 • 018 - 16P + 100 • 06 • 12 A2

Series Bi R Pitch Bi Pre-assemble method

★ Please refer to page 106 for ordering special materials such as anti-static, sliding and non-camber.

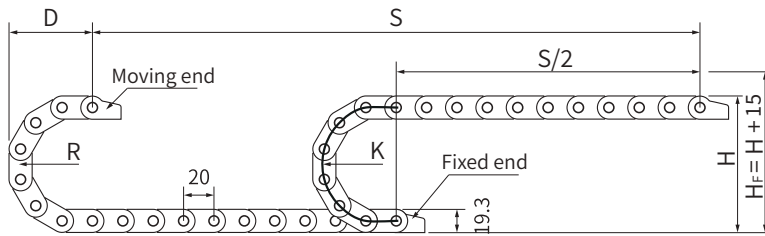
S15 Series | One-piece | The crossbar cannot be opened



Product code Non-open	Bi[mm]	Ba[mm]	Available Radius [mm]	Weight[kg/m]
S15.10.R	10	18.2	020 028 038 048	≈ 0.21

★ If there are special sizes and application requirements, we can provide customized services.

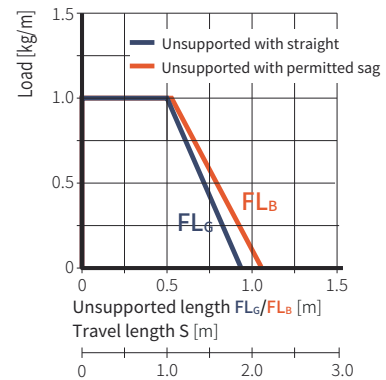
Unsupported | Short-travel | $L_K = S/2 + K$ (Midpoint installation)



The required clearance height $H_f = H + 15\text{mm}$ (load: 0.3kg/m)

R[mm]	H[mm]	D[mm]	K[mm]
020	59.3	60	102
028	75.3	68	130
038	95.3	78	160
048	115.3	88	195

Unsupported • Load



Technical data

	Unsupported length	≤ 0.8m	Speed/Acceleration FL_c	≤ 20 [m/s] / 200 [m/s ²]
	Sliding length	Inapplicable	Speed/Acceleration FL_b	≤ 3 [m/s] / 6 [m/s ²]
	Vertical hanging	≤ 10m	Sliding speed/Acceleration	≤ 3 [m/s] / 10 [m/s ²]
	Vertical standing	≤ 0.6m	Permit temperature	-40°C ~120°C
	Side-mounted	≤ 0.6m	Flame retardant grade	UL94 HB
			Self-friction coefficient of cable chain	0.40
			Friction coefficient (cable chain&bar)	0.20

S15 Series | One-piece | Accessories

Mounting bracket size ● Moving

Inner mounting bracket code: 151.10.1

Outer mounting bracket code: 151.10.2

M3(GB/T) screws are recommended for mounting bracket installation, the maximum locking force shall not exceed 1.5 N.m.

Mounting bracket movement angle
Fixed: 151.10.12

				<p>★ If the mounting bracket needs to be pre-assembled when it is delivered, please explain the installation method (A1 A2 A3 A4), e.g. 151.10.12A1</p>	
Bi [mm]	Full set fixed mounting bracket code With tie-wrap plate		A [mm]	B [mm]	Teeth number [1]
.10.	151.10.12		—	18.2	1

Example of standard material ordering

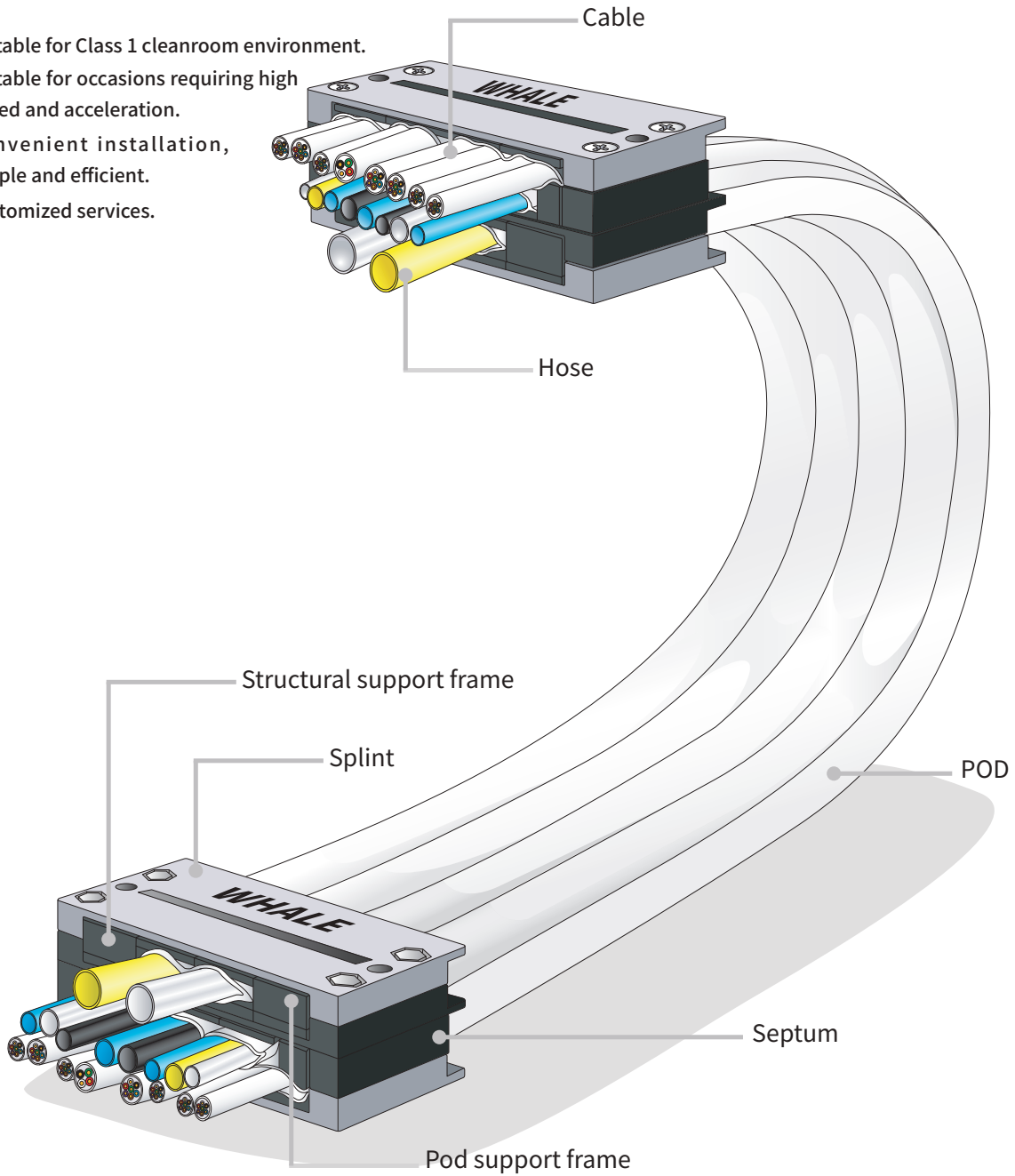
S15 • 10 • 028 - 16P + 151 • 10 • 12 A2

Series Bi R Pitch Bi Pre-assemble method

★ Please refer to page 106 for ordering special materials such as anti-static, sliding and non-camber.

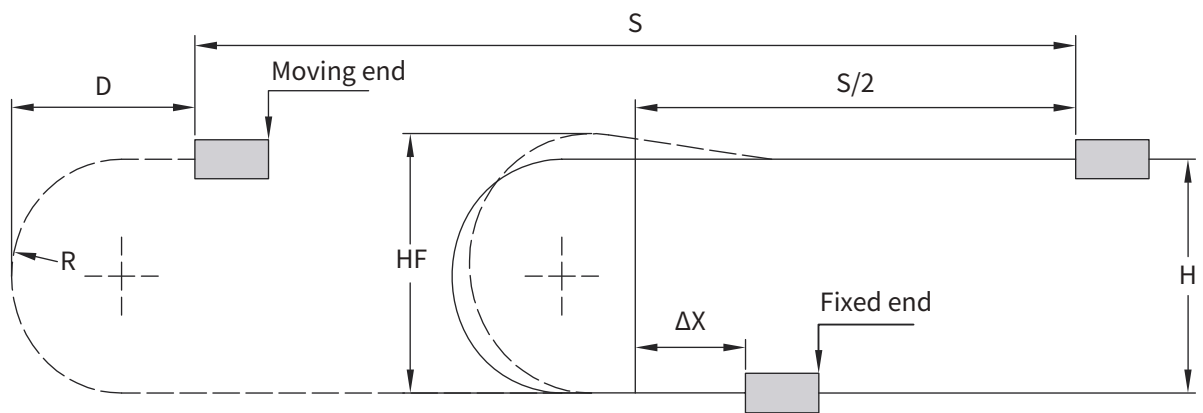
Cleanroom Series | Product Structure | Material

- Suitable for Class 1 cleanroom environment.
- Suitable for occasions requiring high speed and acceleration.
- Convenient installation, simple and efficient.
- Customized services.



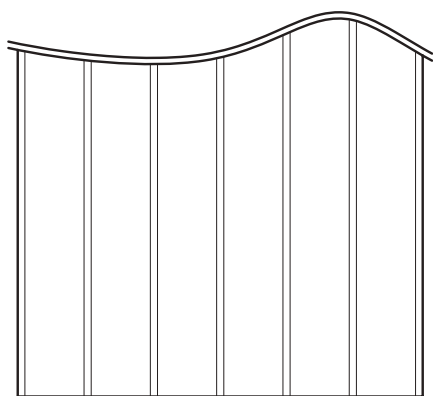
Component name	Component material	Description
Pod	E-PTFE	Flexible, light, longlife.
Mounting brackets	Aluminium alloy	Light and beautiful, easy to install.
Sternum	PA66	High strength, bending resistance and good dynamic performance.
Support frame	Rubber	Used to protect and clamp cables and hoses.
Shim	PVC	Reinforcing and protecting sheath
Column	PBT	Positioning and supporting function

Cleanroom Series | Installation parameters | Pod specifications



S = Length of travel	[mm]	D = Over length chain radius in final position	[mm]
R = Bending radius	[mm]	HF = Required clearance height	[mm]
H = Minimum installation height	[mm]	ΔX = Deviation of the center point	[mm]

Parameters	Value
Minimum bending radius	40 mm
Max length of travel	3000 mm
Max speed	2 m/s
Max acceleration	4 G
Moving life times	10,000,000
Allowed temperature	-10° ~ +80° C
Cleanroom class	PVC
Outer radius of Cable	PBT

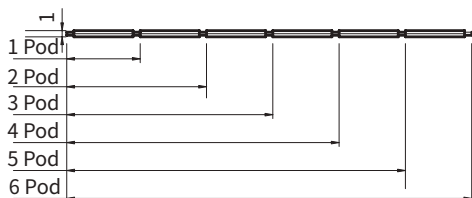


● Standard

Model	Pod number	Pod thickness mm	Pod width mm	Siding width mm	Total width mm
CP205N-1	1 Pod	1	20.5	2.5	26.0
CP205N-2	2 Pod				49.5
CP205N-3	3 Pod				71.5
CP205N-4	4 Pod				94.0
CP205N-5	5 Pod				117.0
CP205N-6	6 Pod				139.0

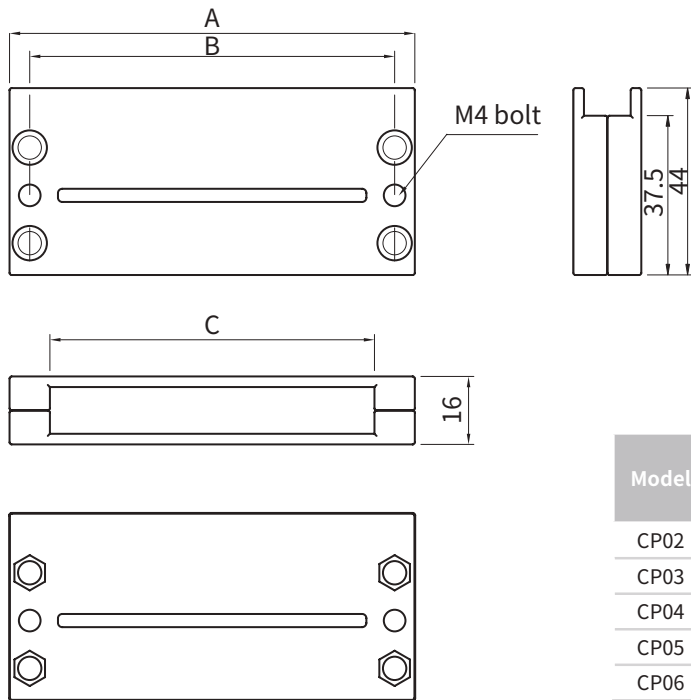
● Non-standard

Model	Pod number	Pod thickness mm	Pod width mm	Siding width mm	Total width mm
CP028N-1	1	1	28	2.5	33.0
CP028N-2	2		28		64.0
CP028N-3	3		28		94.0
CP028N-4	4		28		123.5
CP040N-1	1		40		44.6
CP062N-1	1		62		66.6
CP083N-1	1		83		87.6
CP096N-3	3		20/40/20		92.6



Cleanroo Series | Fixture | Superposition mode

● Splint fixture



Model	Matching pod number	A [mm]	B [mm]	C [mm]
CP02	2 Pod	57.2	47.7	38.2
CP03	3 Pod	76.3	66.8	57.3
CP04	4 Pod	95.4	85.9	76.4
CP05	5 Pod	114.5	105.0	95.5
CP06	6 Pod	133.6	124.1	114.6

● Superposition mode

Number of plies		Sample A	Sample B	Sample C
1	Height	16mm		
	Sample			
2	Height	30mm	30mm	
	Sample			
3	Height	44mm	44mm	44mm
	Sample			
4	Height	56mm	56mm	56mm
	Sample			
5	Height	70mm	70mm	70mm
	Sample			

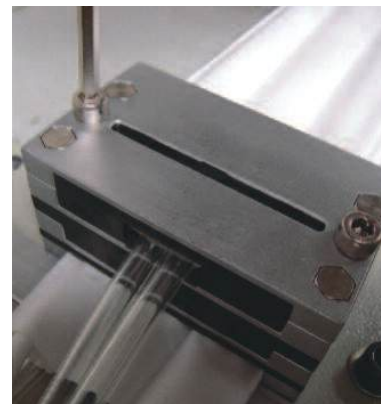
Cleanroom Series | Installation instructions | Ordering



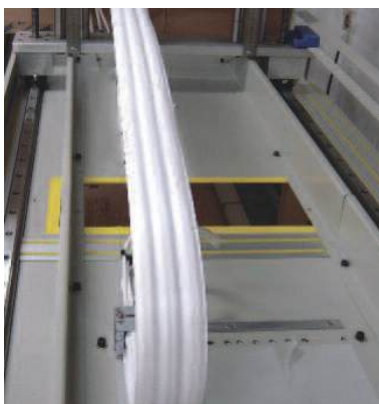
1. Stick a layer of PTFE on the workbench in contact with the cable chain.



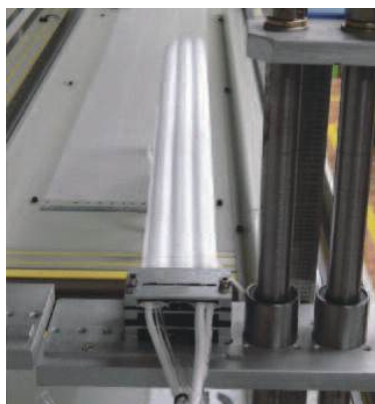
2. Fix the moving end connector with M4 bolt.



3. Fix the fixed end in the same way.



4. Adjust the posture during movement to keep it in a straight line in the direction of movement.



5. Installed state.

● Dynamic parameter

Travel _____ [m] Load _____ [kg/m] Speed _____ [m/s]
 Acceleration _____ [m/s²] Cyclic frequency _____ [1/min]

● Installation space

Installation height _____ [mm] Bending radius _____ [m/s]
 Installation width _____ [mm] Deviation of the center point _____ [m/s]

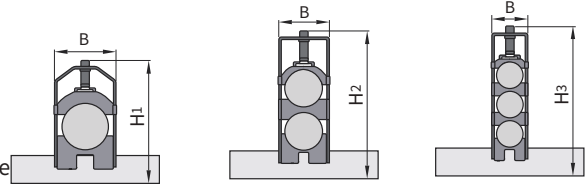
● Cable parameters

No.	Manufacturer/model	Number	Outer radius [mm]	Weight [kg/m]	Minimum bending radius [mm]

Strain Relief • Clamp | Tiewrap plate

Clamp

- For fixing the ends of cables and hoses.
- Installed on the C-profile or the external C-profile.
- One or three cables or hoses can be fixed.
- Suitable for high-speed and high-acceleration occasions.
- The height of the cable clamp at the fixed end shall not be higher than the outer height of the cable chain when gliding.



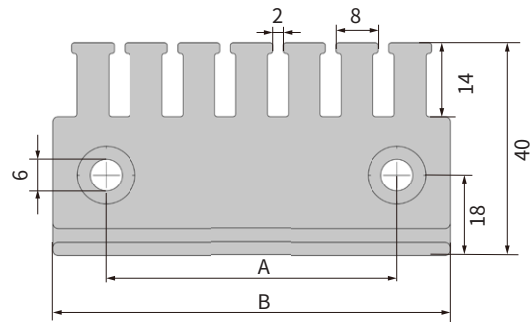
Single layer cable clamp	H1[mm]	Double cable clamp	H2[mm]	Triple cable clamp	H3[mm]	Cable diameter ϕ [mm]	B[mm]
CFX12.1	54	CFX12.2	72	CFX12.3	100	06-12	16
CFX14.1	50	CFX14.2	74	CFX14.3	96	20-22	18
CFX16.1	52	CFX16.2	78	CFX16.3	102	06-12	20
CFX18.1	54	CFX18.2	82	CFX18.3	108	12-14	22
CFX20.1	56	CFX20.2	86	CFX20.3	114	18-20	24
CFX22.1	58	CFX22.2	90	CFX22.3	120	20-22	26
CFX26.1	67	CFX26.2	109			22-26	30
CFX30.1	71	CFX30.2	117			26-30	34
CFX34.1	75	CFX34.2	125			30-34	38
CFX38.1	79					34-38	42
CFX42.1	83					38-42	46

Tiewrap plate

- For fixing the ends of cables and hoses.
- Installed on the slot of the connector or used externally.
- Different widths can be combined as requirements.
- Simple and efficient, easy to assemble and disassemble, saving space.

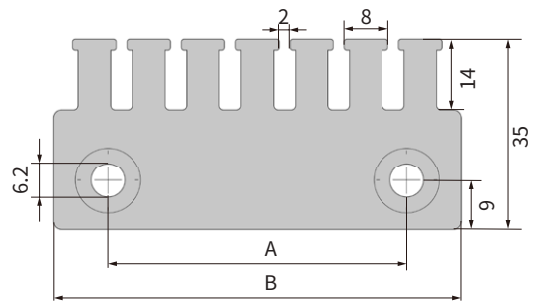
ZB/S Series | Suitable for R25/QE15/QE22

Tiewrap plate code	Teeth number	A[mm]	B[mm]
ZB050S	5	30	50
ZB075S	7	55	75
ZB100S	10	80	100



ZG Series | Suitable for Q series/G series/R35/R40/R52

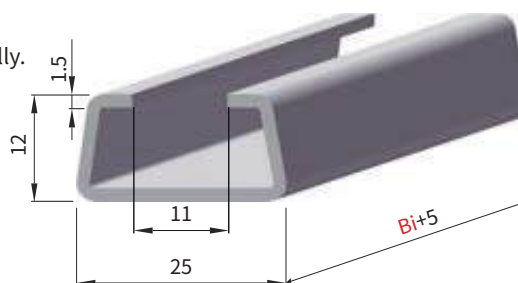
Tiewrap plate code	Teeth number	A[mm]	B[mm]
ZG050	5	30	50
ZG075	7	55	75
ZG100	10	80	100
ZG125	12	105	125
ZG150	15	130	150
ZG175	17	155	175
ZG200	20	180	200



Accessory • C-profile | Crossbar expansion | External buckle

C-profile

- For fixing cable clamp or ZG tiewrap plate.
- Can be installed on the slot of the mounting brackets or used externally.
- Different widths can be selected as requirements.
- Simple and efficient, easy to assemble and disassemble.
- Suitable for G/GR /Q40/QR40/Q52/QR52/Q62/U35.



Model code: ZC.X, where x is the length of C-profile (unit:mm)

Ordering example 1: ZC.100 (external use alone)

Ordering example 2: G451.100.12C (used directly on the mounting bracket)

Crossbar /Lid expansion

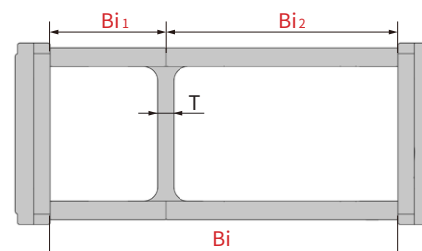
- The inner width of the cable chain can be increased by expanding the cross bar/lid expansion.
- Convenient to assemble and disassemble, and can be combined with different widths as required.
- The connection is reliable, and the internal cavities are completely independent.
- Increase the rigidity of cross bar/lid expansion, and reduce the risk of cross bar bending when it is wide and heavy.
- Suitable for G/GR series products.



Ordering example: **G45.100/150.200-40P+G451.250.12**

$$Bi=100+150$$

Series	Expansion name	T(mm)
G45/GR45	EXD45	6
G58/GR58	EXD58	7
G65/GR65	EXD65	7
G85/GR85	EXD85	7



External buckle

- For external applications of optical fiber or cable.
- Fixed on the outside of the cable chain.
- Convenient for the rapid filling of optical fiber or cable, saving assembly time and cost.
- Standard configuration: 1 set of buckles for each cable chain.
- Fit bellows with a nominal diameter of 17 mm.

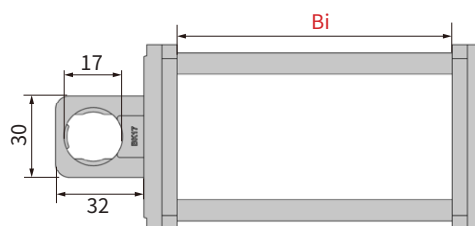
Model code: BK17

Suitable for G/GR series products.

Ordering example:

G45.100.200.BK17(20)-40P+G451.100.12

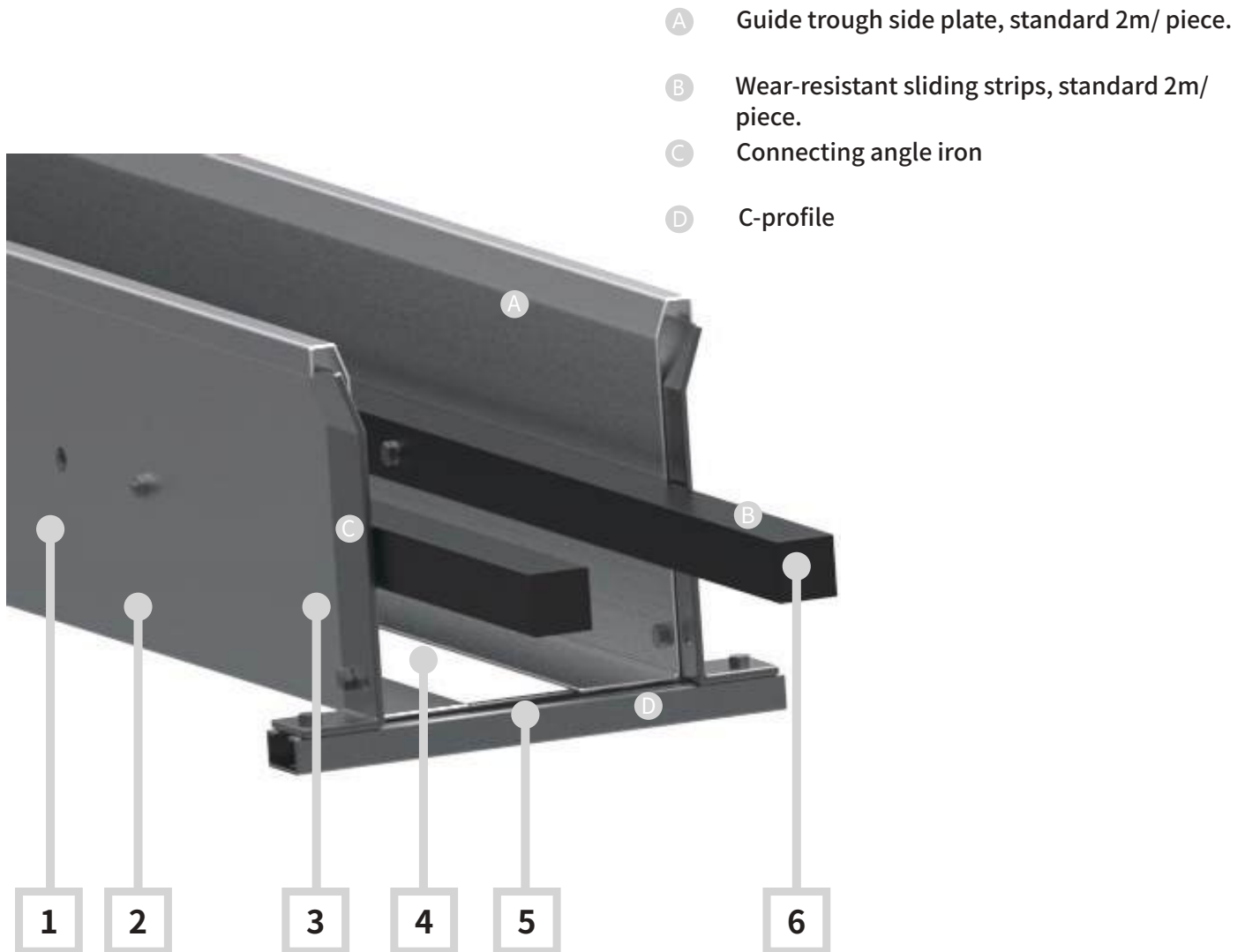
Cable chain External buckle number Mounting bracket



Guide Trough | Summary | Component

Guide trough system is an essential guide device for cable chain sliding application.

According to different working conditions, we can provide a variety of modular guide trough combinations.



1

Two-piece design can be used flexibly according to the width of cable chain.

2

According to different working conditions, galvanized steel or stainless steel can be selected.

3

Simple and reliable installation kit without welding.

4

Open bottom groove, no dirt accumulation, anti-corrosion.

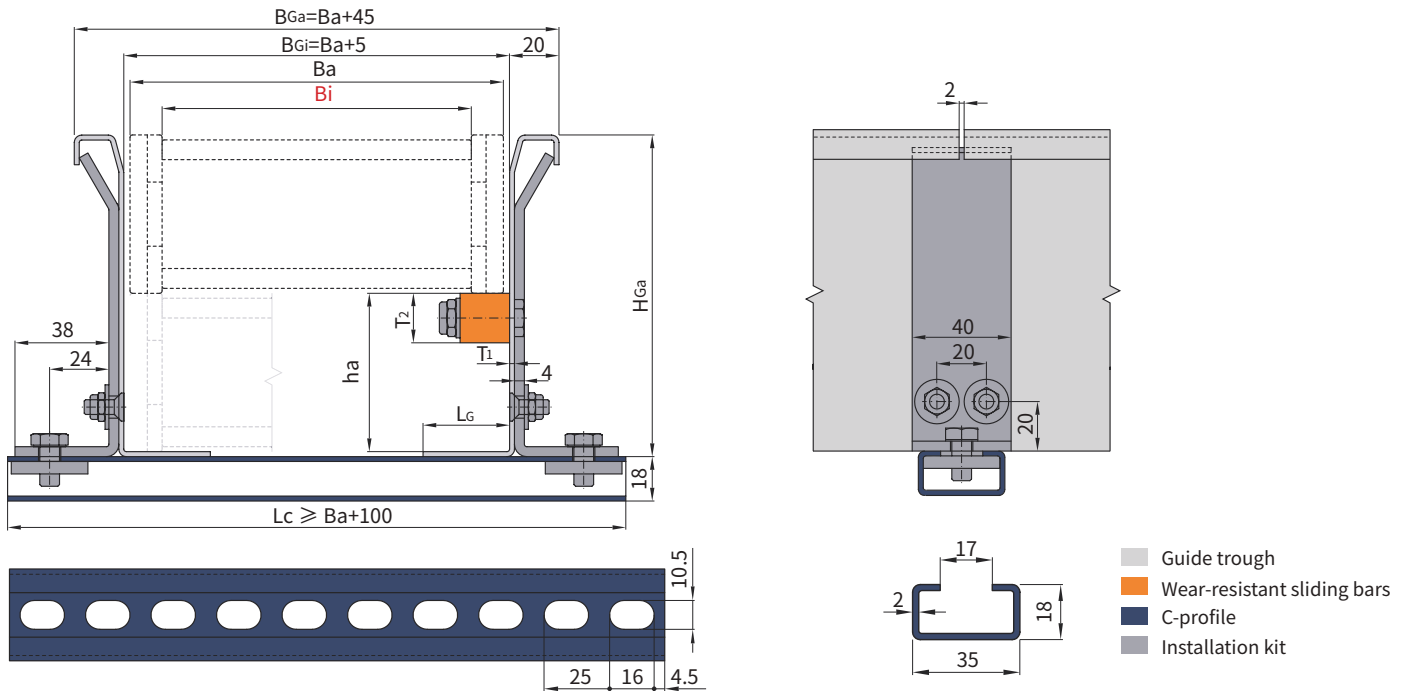
5

C-profile base, easy to adjust the installation position.

6

Low-friction sliding strip ensures smooth running of cable chain.

Guide Trough | Measure | Ordering example



- Standard guide trough side plate assembly: each set contains 2 side plates, each of which is 2m.
Product code: GD.HGa
- Guide trough side plate assembly with wear-resistant sliding bars: 1 set of standard guide groove side plate with 2 wear-resistant sliding bars, each is 2 meters.
Product code: GDW.HGa
- Installation kit: each set includes 2 connecting angle irons and 1 C-profile.
Product code: GDC.HGa.Lc

Cable chain series [mm]	ha[mm]	HGa[mm]	Ba[mm]	BGi[mm]	LG[mm]	T1[mm]	T2[mm]
U19/U22	61	Bi+14.5	Bi+5	20	2	20	20
U26	76	Bi+17	Bi+5	25	2	20	20
U32/G28/GR28	89	Bi+19	Bi+5	35	2	20	20
U35/G35/GR35	113	Bi+24	Bi+5	35	2	20	20
U45/G45/GR45	135	Bi+26	Bi+5	35	2	20	20
G58/GR58	160	Bi+30	Bi+5	50	2	20	20
G65/GR65	192	Bi+34	Bi+5	50	2.5	30	20
G85/GR85	230	Bi+50	Bi+5	50	2.5	30	20
G112	290	Bi+50	Bi+5	50	2.5	30	20

Ordering example

Take the length of 40 meters as an example, and calculate according to the midpoint installation method.

Select cable chain model: **G45.100.100**, $B_a=124$, the model and quantity of guide trough components to be ordered are as follows:

1. **Standard guide trough assembly:** GD.140-10 sets
2. **Guide trough assembly with wear-resistant slide bar:** GDW.140-10 sets
3. **Installation kit:** GDC.140.230-21 sets

★ If there are special sizes and application requirements, please contact us.

We are a manufacturing enterprise and we serve the manufacturing industry.

Partners and Customers

