CABLE CHAIN SYSTEMS
THE COMPLETE SOLUTIONS

LONGO | EN 2021

LONGO

Contents

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Corporate value and product idea

LONGO specialized in the research, production, sales and service of cable chain systems.

As the hub of energy transmission in automation industry, cable chain systems have been widely used in various industries. With the rapid development of automation technology, higher requirements are increased for cable chain systems: higher speed and acceleration, higher load, long travel, or terrible conditions, etc. It depends on not only good products, but also professional solutions to make the application best.

LONGO has been developing the cable chain systems for more than ten years. We are constantly improving our product range and getting the expert knowledge from the help of our customers, which lead to the reliable and cost-effective solutions. Thanks to the cooperation with internationally renowned polymer material manufacturers, our modified materials can be used in various applications and working conditions.

At any time, "Protecting cables and hoses" is our first consideration when designing cable chains. They have smooth inner surface, rounded crossbar, cover and interior separation. The wear of cables and hoses is minimal because of no burrs and bumps. Higher strength and stability of cable chain, longer life of the whole sysytems. We are also committed to modularizing products, improving assembly efficiency and accuracy.

Improving quality and reducing costs for customers are our core values. This concept is rooted in the whole process from design to product delivery and after-sales service.

- Available from stock
- Delivery time today
- No minimum order value
- 3 years guarantee
- Professional solution design
- 3D CAD files
- Free samples for test

" LONGO + ‹DUPONT› = londur "

High performace materials

LONGO has developed a high performance material named **londur,** cooperating with DuPont in depth. The **londur G**, **londur N**, **londur ESD** and other materials derived from this can be used in different working conditions. LONGO standard cable chains made from londur G material have high tensile resistance, low friction coefficient, good strength and toughness. They can be widely used in a variety of environments and temperature conditions. We are still expanding our material library. For some special applications, we are happy to offer solutions made from other materials. Please consult us.

Temperature resistance

LONGO cable chains made from londur G have a very wide temperature range. They can be used at temperatures from -40°C to +120°C. The diagram on the right shows the effect of temperature on load.

The lower the temperatures, the better the rigidity and the worse the toughness of cable chains. The impact resistance of cable chains will weaken sharply caused being brittle at temperatures below -20°C. In such case, we offer special cable chains made from cold-tough materials.

The rigidity of cable chains will weaken sharply caused lower fill weight and unsupported length at temperatures over +50°C. In such case, it should be especially checked whether the fill weight and driving force exceed the limit values of the cable chains. We also offer special cable chains made from heat-resistant materials.

Temperature range of londur G
-40°C to +120°C

Humidity resistance

The performance of cable chains made from londur G is greatly affected by the relative humidity of the environment. The diagram on the right shows the effect of the relative humidity on load.

The lower the relative humidity, the better the rigidity and the worse the toughness of cable chains at saturated moisture absorption. In such case, cable chains are brittle and wear more.

The higher the relative humidity, the better the toughness and the worse the rigidity of cable chains at saturated moisture absorption. In such case, cable chains have lower fill weight and unsupported length, and wears more too.

londur G material has good performance in the range of 35-65%RH. For applications with extreme humidity conditions, please consult us.

Humidity range of londur G
35% - 65%RH

*The original load is based on the measured value at 23°C and 50% relative humidity

Weathering resistance

londur G has good weathering resistance and is very suitable for outdoor applications. The diagram on the right shows the change curve of tensile strength and impact strength of londur G with weathering time. Cable chains are in conditioning in the first year. After several years of weathering, the surface layer of standard grades is likely to show signs of wear down to several micrometers. Only a slight reduction of mechanical values is observed once the conditioned state has been reached. Cable chains made from londur G are stable and have a long service life in outdoor applications.

Weather resistance of londur G
UV-resistant

Radiation resistance

londur G has good radiation resistance and is suitable for applications with strong radiation such as nuclear power plants. The diagram on the right shows the change curve of tensile strength and impact strength of londur G with gamma radiation dose. In the range of 2.0MGy, the tensile strength of londur G changes little, and the impact strength is only reduced by 30%. In the range of 0.5MGy, the mechanical properties chang very little. In the range of 10MGy, the electrical properties are almost unchanged.

Radiation resistance of londur G
High radiation resistance

Flammability

Tested according to "UL94-Standard Tests for Flammability of Plastic Materials for Parts in Devices and Appliances", londur G falls into class HB for 3mm to 1mm thickness.

Tested according to DIN 4102, Part 1, "Fire Behaviour of Building Materials and Parts", londur G falls into class B2.

For further requirements such as materials with UL94-V2 or V0, please consult us.

Flammability of londur G
UL94 HB

Chemical resistance

londur G is good resistant to lubricants, fuels, hydraulic fluids, coolants, refrigerants, dyes, paints, cleaners, degreasing agents, aliphatic and aromatic hydrocarbons and many other solvents, but not resistant to oxidants, chlorinated hydrocarbons and acids.

Chemical resistance of londur G
The table for details on page 9

Cleanroom

According to ISO 14644-1 cleanroom standard, cable chains made from londur G fall into calss 1000 to 100,000, depending on the type of cable chains. For a higher cleanroom class, we offer super wear-resistant materials or other solutions, please consult us.

Cleanroom class of londur G
Class 1000 to 100,000

ATEX/ESD

londur G is an electrical insulating material. In some applications, such as prevention of explosive static charge in hazardous environments, and avoidance of static charge in manufacturing processes for electronic components or assemblies, cable chains made from londur ESD have permanent conductivity and can be safely used. LONGO ESD cable chains have certified by ATEX 2014/34/EU and correspond to classification EX II 2 GD Ex h IIC T6 Gb according to EN ISO 80079-36:2016 and EN ISO 80079-37:2016.

ATEX/ESD of londur ESD
Resistance $< 10^9\,\Omega \cdot cm$

Material data

Material property	Units	londur G	londur N	londur ESD
General properties				
Density	g/cm³	1.36	1.14	1.2
Colour	—	Black	Black	Grey
Moisture absorption 23/50 r.h.	%	1.9	2.6	1.9
Maximum water absorption	%	6.3	8.5	7.3
Sliding friction coefficient	—	0.3	0.3	0.3
Mechanical properties				
Yield stress (dry/wet)	MPa	190/115	85/55	170/110
Elongation at break (dry/wet)	%	3.5/6	20/>50	3/5
Tensile modulus (dry/wet)	MPa	9800/5800	3100/1400	12000/7400
Flexural modulus (dry/wet)	MPa	8200/6000	2800/1300	10400/7000
Hardness Shore D	—	79	79	83
Electrical properties				
Volume resistivity	Ω*cm	>10¹¹	>10¹¹	<10⁹
Surface resistivity	Ω	>10¹¹	>10¹¹	<10⁹
Thermal properties				
Lower operating temperature	°C	-40	-40	-40
Upper operating temperature	°C	+120	+80	+80
Fire resistance as per UL94	—	HB	V2	HB

Colours

The colour of LONGO standard cable chains is black, and other colors offered upon request. The data listed in this catalog applies only to black chains. The characteristics of coloured chains may differ.

Chemical resistance

Medium	Concentration Weight %	londur G / N / ESD
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	+
Colour		++
Diesel oil	100	++
Fats, cooking fat		++
Fluorinated hydrocarbons		++
Formaldehyde (aqueous)	30	+
Formic acid (aqueous)	2	+
Gasoline	100	++
Hydraulic oils		++
Hydrochloric acid	pH₂	+
Hydrochloric acid	2	—
Hydrochloric acid	10	—
Ink, printing ink		++
Mercury		++
Methyl acetate	100	++
Milk		++
Mineral oil		++
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)	10	++

++ = Resistant
+ = Conditionally resistant
— = Non-resistant

Design, 3D-CAD

Based on more than ten years of products and applications experience, LONGO can provide you with professional design and drawing services, such as the layout of cable chains, distribution of cables and hoses, BOM, etc. 3D models are downloaded for free and easily inserted into your product design. Then, you intuitively simulate the trajectory of cable chains and calculate the installation dimensions.

√ Layout of cable chains

√ Distribution of cables and hoses

√ BOM

√ 3D models inserted

√ Simulate the trajectory

√ Intuitive installation dimensions

3D-CAD
▶ www.longo-tech.com/3D-CAD.html

X轴拖链

Testing, testing, testing ...

√ Tensile limit test

√ Load diagram measuring

√ Locking force of crossbar test

√ Noise test

√ Wear test

√ ...

Information | Abbreviations

Abbreviations

α	=	Angle of rotation	[°]
β	=	Fixed end angle	[°]
ΔC	=	Offset fixed end	[mm]
ΔM	=	Deviation of the centre point	[mm]
μ	=	Friction factor	[1]
a	=	Acceleration	[m/s^2]
B_a	=	Outer cable chain width	[mm]
B_{Ga}	=	Outer guide trough width	[mm]
B_{Gi}	=	Inner guide trough width	[mm]
B_i	=	Inner cable chain width	[mm]
d	=	Outer cable diameter	[mm]
D	=	Over-length chain radius in final position	[mm]
D_1	=	Over-length for gliding	[mm]
F_μ	=	Driving force against friction	[N]
F_a	=	Driving force against acceleration	[N]
F_d	=	Driving force of system	[N]
FL_B	=	Unsupported length with sag	[m]
FL_G	=	Unsupported straight length	[m]
FL_U	=	Unsupported lower run	[m]
Fz_{max}	=	Maximum fill weight for gliding	[kg/m]
H	=	Nominal clearance height	[mm]
H_1	=	Clearance height with lowered moving end	[mm]
ha	=	Outer cable chain height	[mm]
H_{Ga}	=	Outer guide trough height	[mm]
H_{Gi}	=	Inner guide trough height	[mm]
hi	=	Inner cable chain height	[mm]
H_z	=	Required clearance height	[mm]
K	=	Add-on for bending radius	[mm]
K_1	=	Add-on for bending radius if the mounting point is lowered	[mm]
L_C	=	C-rail length	[mm]
L_G	=	Length of guide trough bottom	[mm]
L_K	=	Cable chain length	[mm]
m	=	Total mass of system	[kg]
n	=	Number of links	[1]
n_R	=	Number of the first rotated chain links	[1]
n_z	=	Number of tiewrap plate teeth	[1]
P	=	Chain link pitch	[mm]
R	=	Bending radius	[mm]
ra	=	Outer rail radius	[mm]
R_a	=	Outer RBR chain radius	[mm]
ri	=	Inner rail radius	[mm]
R_i	=	Inner RBR chain radius	[mm]
S	=	Length of travel	[mm]
T_1	=	Guide trough thickness	[mm]
T_2	=	Glide bar thickness	[mm]
v	=	Speed	[m/s]
Y_{max}	=	Maximum deflection	[mm]
z	=	Camber	[mm]

Information | Icons

Icons

 Inner height **hi**

 Cable outer diameter

 Outer height **ha**

 Inner width **Bi**

 Outer width **Ba**

 Chain link pitch **P**

 Bending radius **R**

 Unsupported fill weight

 Unsupported travel length

 Gliding fill weight

 Gliding travel length

 Speed **v**

 Acceleration **a**

 Vertical separator

 Full-width horizontal separator

 Horizontal separator or distribution

 Unsupported

 Gliding

 Vertical hanging

 Vertical standing

 Side-mounted straight

 Side-mounted rotary

 Other applications

 Openable along the outer radius from both sides

 Openable along the inner radius from both sides

 Openable along the inner and outer radius

 Standard

 Noise-optimised

 RBR

 NC

 ESD

 Load diagram

 Mounting brackets

 Tiewrap plate

 Clamp

 C-rail

 Guide trough

 Order example

 Information

Legend ■ Standard □ Partially — Not available	Opening principle	Series	Inner height h_i [mm]	Cable dia. d_{max} [mm]	Outer height ha [mm]	Inner width B_i [mm]	Outer width Ba [mm]	Bending radii R [mm]	Link pitch P [mm]		Fill weight max [kg/m]	Travel length $FL_{G\,max}$ [m]	Speed v_{max} [m/s]	Acceleration a_{max} [m/s²]	Fill weight max [kg/m]	Travel length S_{max} [m]	Speed v_{max} [m/s]	Acceleration a_{max} [m/s²]	Vertical separator	Full-horizontal separator	Horizontal separator	Page
							General dimensions					Unsupported				Sliding				Interior separation			
EasyClip mini - small size, easy to assemble																							
Open	Crossbars openable along the outer radius from both sides																							
		E15	15	Φ 13	19.4	10 - 50	18 - 58	28 - 75	20		1.25	2	10	50	0.8	60	4	20	■	■	—	50
Open	Crossbars openable along the inner radius from both sides																							
		E15i	15	Φ 13	19.4	10 - 50	18 - 58	28 - 75	20		1.25	2	10	50	0.8	60	4	20	■	■	—	50
EasyClip - lightweight, easy and quiet																							
Open	Crossbars openable along the outer radius from both sides																							
		E26	26	Φ 23	36	25 - 100	40 - 115	48 - 250	46		5	3.5	10	50	2	100	4	25	■	■	■	64
Open	Crossbars openable along the inner radius from both sides																							
		E26i	26	Φ 23	36	25 - 100	40 - 115	48 - 250	46		5	3.5	10	50	2	100	4	25	■	■	■	64

Legend	Opening principle	Series	General dimensions								Unsupported				Sliding				Interior separation			Page
			Inner height h_i [mm]	Cable dia. d_{max} [mm]	Outer height h_a [mm]	Inner width B_i [mm]	Outer width B_a [mm]	Bending radii R [mm]	Link pitch P [mm]		Fill weight max [kg/m]	Travel length $FL_{G\,max}$ [m]	Speed v_{max} [m/s]	Accel-eration a_{max} [m/s²]	Fill weight max [kg/m]	Travel length S_{max} [m]	Speed v_{max} [m/s]	Accel-eration a_{max} [m/s²]	Vertical separator	Full-horizontal separator	Horizontal separator	
■ Standard ▢ Partially — Not available																							
GeMotion - stable, high load and long travel																							
**Open	Crossbars every link**																							
		G34	34	Φ 31	54	50 - 400	72 - 422	63 - 300	56		27	6	10	50	8	200	5	30	■	▢	■	78
		G44	44	Φ 40	64	50 - 400	76 - 426	75 - 350	67		40	6.8	10	50	12	250	5	30	■	▢	■	90
		G60	60	Φ 54	88	75 - 500	109 - 534	135 - 500	91		67	9	10	50	15	350	5	30	■	▢	■	102
		G80	80	Φ 72	108	75 - 500	125 - 550	150 - 600	111		75	10	10	50	30	350	5	30	■	▢	■	114
**Open	Crossbars every 2nd link**																							
		G34H	34	Φ 31	54	50 - 400	72 - 422	63 - 300	56		27	6	10	50	8	200	5	30	■	▢	■	78
		G44H	44	Φ 40	64	50 - 400	76 - 426	75 - 350	67		40	6.8	10	50	12	250	5	30	■	▢	■	90
		G60H	60	Φ 54	88	75 - 500	109 - 534	135 - 500	91		67	9	10	50	15	350	5	30	■	▢	■	102
		G80H	80	Φ 72	108	75 - 500	125 - 550	150 - 600	111		75	10	10	50	30	350	5	30	■	▢	■	114
**Closed	Swarf protection**																							
		G34T	34	Φ 31	54	50 - 300	72 - 322	125 - 300	56		27	6	10	50	8	200	5	30	■	▢	■	78
		G44T	44	Φ 40	64	50 - 300	76 - 326	125 - 350	67		40	6.8	10	50	12	250	5	30	■	▢	■	90
		G60T	60	Φ 54	88	100 - 400	134 - 434	150 - 500	91		67	9	10	50	15	350	5	30	■	▢	■	102
		G80T	80	Φ 72	108	100 - 400	150 - 450	200 - 600	111		75	10	10	50	30	350	5	30	■	▢	■	114

Design

applications, distribution rules

Based on the technology accumulated by our laboratory and experience of applications, some important technical information is summarized for helping you to design quickly and securely.

- Unsupported | Short travels
- Sliding | Long travels
- Vertical | Hanging
- Vertical | Standing
- Side-mounted | Straight
- Side-mounted | Rotary
- Distribution rules | Cables and hoses

Unsupported | Short travels

Unsupported

Definition: The upper run of cable chain operates without touching the lower run over the entire travel.

The unsupported application is the most common for short travels within 10m. LONGO cable chains are very suitable for apllications with long unsupported length and high load, high speed and acceleration, and long service life.

Calculation of the cable chain length

For simple linear motion, if the fixed end of the cable chain is located in the centre of the travel, the cable chain length **L_K** is calculated by using half the length of travel **S/2** and adding the value **K** for the bend radius. If the fixed end deviated the centre of the travel with **ΔM**, the cable chain length should add the deviation. Placing the fixed end in the centre of the travel is always the first choice as the most cost-effective solution because it requires the shortest cable chains, cables and hoses.

■ **The fixed end in the centre of the travel**

$$L_K = S/2 + K$$

■ **The fixed end deviated the centre of the travel**

$$L_K = S/2 + K + ΔM$$

The fixed end in the centre of the travel is the most cost-effective solution!

$$K = π·R + 2·P$$

L_K	=	Cable chain length
S	=	Length of travel
R	=	Bending radius
P	=	Chain link pitch
ΔM	=	Deviation of the centre point
K	=	Add-on for bending radius

K is taken from the data tables of the individual series

Unsupported | Short travels

Unsupported length

Definition: The unsupported distance between the moving end and the start of the radius arc of the cable chain.

The maximum unsupported length depends on the chain series and the fill weight. According to the status of the unsupported cable chain, we differentiate among three types of unsupported length.

1. Unsupported with straight FL_G

Unsupported with straight is always recommended. The cable chain systems have high stability, and the minimum expected service life is 10 million cycles.

Advantages:

■ High speed and acceleration
■ Low noise and no additional vibration
■ Less stress on cable chains and cables, long service life

FL_G: Y_{max} ≤ 1/2·ha
The upper run has camber, or is straight, or has a maximum sag of 1/2 chain link outer height

2. Unsupported with permitted sag FL_B

Unsupported with permitted sag can be used in applications of low speed and acceleration. However, noise and vibration will increase, service life will be reduced.

Advantages:

■ Longer travel length or higher fill weight
■ Economical solution thanks to smaller cable chain used

FL_B: 1/2·ha < Y_{max} ≤ R_{min}
The sag is less than the minimum bending radius of the selected chain series

3. Critical sag

Critical sag should be avoided. It greatly reduces the service life of the cable chains and the safety coefficient of the equipments. Applications may reach critical sag after long service times. In these cases, the cable chains should be replaced or the design should be changed. Please contact us.

Critical sag: Y_{max} > R_{min}
The sag is more than the minimum bending radius of the selected chain series

Checking the unsupported length and fill weight of applications by "**Load diagram**" of the selected cable chain, you can find the most suitable cable chain!

Unsupported | Short travels

Load diagram

On the right load diagram, the solid line is **unsupported with straight FL_G**, and the dashed line is **unsupported with permitted sag FL_B**. The two lines divide 3 areas:

1. FL_G ▶ The area to the left of the solid line
2. FL_B ▶ The area between the solid and dashed lines
3. Critical sag ▶ The area to the right of the dashed line

Fill weight [kg/m] — Unsupported length FL_G / FL_B [m] — Travel S [m]

Load diagram used for:

■ Checking whether the selected cable chain meets your application demands, according to the area where the intersection of the unsupported length and fill weight (all cables and hoses including contents) in the cable chain falls

■ Identifying the maximum unsupported length with straight and permitted sag for the selected cable chain if the fill weight is fixed

■ Identifying the maximum fill weight with straight and permitted sag for the selected cable chain if the unsupported length is fixed

Example
Fill weight = 4.0 kg/m
Max. unsupported length FL_G = 2.5 m
Max. unsupported length FL_B = 3.2 m
Max. unsupported travel FL_G = 5.0 m
Max. unsupported travel FL_B = 6.4 m

ⓘ

Load diagram is measured by the new cable chain which has the average weight (the average inner width) of every serie at normal temperature and humidity conditions. For closed or extremely wide cable chains, the maximum fill weight and unsupported length are reduced due to the increased weight of the cable chains. The cable chains will weaken in applications with high temperature and high humidity, and also weaken along with long-term load and increased wear.

Unsupported | Short travels

Support

When the unsupported length is insufficient, support may be a good solution. But speed and acceleration are limited, and noise and vibration may arise. A stronger cable chain is always the first choice if conditions are permited.

Three fundamental supports examples are detailed to below. The supports can be made of rollers or trays.

1. One support

The unsupported travel can be increased by a maximum of 50%:
$S_{max} = 3 \cdot FL_G$

2. Two supports

The unsupported travel can be increased by a maximum of 100%:
$S_{max} = 4 \cdot FL_G$

3. Full supports

The unsupported travel can be increased by a maximum of 100%:
$S_{max} = 4 \cdot FL_G$

Opposed and nested

Opposed or nested is designed if the installation height and width are limited and the filled space needs to be increased. They are also good solutions for insufficient unsupported length.

Opposed with two cable chains

Nested with two cable chains

ⓘ

A certain gap between the nested cable chains is needed for smooth running
The difference in bending radius of the adjacent cable chains is recommended: $R_1 - R_2 > 3/2 \cdot ha$

Camber

Camber is the curve of the upper run along its unsupported length. All LONGO standard cable chains are manufactured with camber. The camber allows for longer unsupported lengths and increases service life.

$$H = 2 \cdot R + ha$$

Installation height

The required clearance height H_z is greater than the nominal clearance height H, taking the camber into account. In the installation dimensions section of each respective cable chain description, you will find the measurement H_z. Upon request, we can deliver cable chains without camber for restricted space applications - **NC** cable chains. However, the cable chains without camber have lower load-bearing capacity. Please consult us.

Mounting brackets

We recommend **pivoting mounting brackets** as standard for unsupported applications.

Pivoting mounting brackets can compensate for the camber, decrease the load on the first chain link in operation and be installed more easily.

Exception: If the acceleration is greater than 20m/s^2 or the clearrance height is limited. In such cases, locking mounting brackets are recommened to keep the cable chains under the H_z measurement and avoid taking the cable chains off.

Supporting surfaces

Unsupported cable chains normally require a supporting surface on which the lower run can roll. The surface can be made from many different materials with many configurations. Please ensure that dirt and debris cannot accumulate in the path of the cable chain.

If the lower run of the cable chains can not be supported, we call it **unsupported with overhang**. The maximum permitted overhang length **FL$_U$** depends on the chain type, the fill weight, and other factors. We recommend that the maximum overhang length is no more than 1/4 of the unsupported straight length.

unsupported with overhang *FL$_U$*:
FL$_{Umax}$ ≤ 1/4·FL$_G$
The maximum overhang length is no more than 1/4 of the unsupported straight length

Noise-optimised

LONGO provides a lot of noise-optimised solutions for low noise applications. The operating noise of the cable chains depends on the following factors:

1. Speed and acceleration

The higher the speed and the acceleration, the louder the noise. LONGO cable chains that have been tested reach a low decibel level even at high speed and acceleration.

Cable chains running at high dynamics

2. The ratio of bending radius to pitch R/P

The larger the R/P value, the closer the bending radius of the cable chain is to an arc, running more smoothly with lower noise and vibration. The R/P value is very important for some applications required high accuracy. LONGO cable chains had optimised the ratio of inner height to pitch. We can also customize special specifications for your special applications.

R/P: small on the left and large on the right

3. Installation conditions

The noise is lowest when the cable chain is unsupported with straight, and increased with sag or supports. The supporting surfaces should be flat and avoid interference during operation. Laying elastic elements such as PU pad under the cable chain can reduce the overall noise of the equipment.

PU pad laid under the cable chain to reduce noise

4. The structure of cable chains

We are innovating the cable chains continuously to find more effective, simple and economical noise-optimised solutions. LONGO cable chains are designed with noise-optimized structures, which can significantly reduce operating noise.

Series E26 cable chains with elastic damping stop dogs

Gliding | Long travels

Gliding

Definition: The upper run of cable chain glides on the lower run or the supporting surface such as glide bars.

If the unsupported length is not sufficient, the gliding solution is the best alternative for long travels. A guide trough is usually necessary against offset. The moving end of the cable chain must be lowered and the first chain links rotated.

Calculation of the cable chain length

If the fixed end of the cable chain is located near the centre of the travel (offset fixed end **ΔC**), the cable chain length **L_K** is calculated by using half the length of travel **S/2** and adding the value **K_1** for the bend radius. The add-on for bending radius increases if the mounting point is lowered. Placing the fixed end offset the centre of the travel **ΔC** is the first choice as the most cost-effective solution, more than the centre of the travel.

■ **Gliding with one cable chain**
 Offset the centre of the travel **ΔC**

■ **Gliding with two opposed cable chains**
 Restricted space, high load or two independent devices

Lowering the moving end and rotating the first chain links are very important!

$$L_K = S/2 + K_1$$

L_K	=	Cable chain length
S	=	Length of travel
R	=	Bending radius
H_1	=	Lowered mounting height
H_{Gi}	=	Inner guide trough height
ha	=	Outer cable chain height
ΔC	=	Offset fixed end
D_1	=	Over-length for gliding
n_R	=	Number of the first rotated chain links
K_1	=	Add-on with lowered moving end

K_1 is taken from the data tables of the individual series

Gliding | Long travels

Example of gliding application:
Lowering the moving end and rotating the first chain links

Lowered mounting height

If the bending radius is: **2·R > 3·ha**, the moving end of the cable chain must be lowered for gliding applications.

⊖ **If the moving end is not lowered: H = 2·R**
 ▶ Long unsupported length, critical sag and high internal stress of cable chain
 ▶ Big mounting angle, easy to break when cable chain returning

⊕ **If the moving end is lowered: H_1 = 3·ha**
 ▶ Greatly reduce the unsupported length and relieve the internal stress of cable chain
 ▶ The mounting angle is about 5° , reducing the risk of breaking when cable chain returning
 ▶ Reduce wear and vibration, long service life

Rotated moving end links

The first chain links must be rotated if the moving end lowered. **n_R** is taken from the data tables of the individual series, depending on chain type and bending radius **R**.

▶ Save installation space (smaller D_1)
▶ Reduce internal stress due to "S" shape of moving end
▶ Avoid cable chain rising up during operating

Gliding | Long travels

Support on moving end

Supporting the first chain links of moving end is usually necessary. The support plate can protect the moving end links against over-stressing and avoiding accidental break. The slope of the support plate is recommended to be 10°~15°, and it can support at least 3 moving end links or all rotated chain links.

Mounting brackets

We recommend **pivoting mounting brackets** as standard for gliding applications.

The moving end links rotate at an angle when running to different positions for gliding applications. As shown in the figure below, when the cable chain runs from left to right, the moving end links rotate from top to bottom. Pivoting mounting brackets can well adapt to the rotation of these chain links, decrease the load on the moving end links and avoide stress concentration.

Standard

Stability of the cable chain

To ensure the stability of the cable chain and avoid overturning for gliding applications, the recommended ratio of the bending radius R to the outer width Ba is:

R/Ba ≤ 4

The smaller the ratio, the higher the stability of the systems. If there is a lateral force, it is necessary to reduce the ratio or increase the height of the guide trough. Take outdoor high-altitude applications for example, the influence of wind must be considered.

Gliding | Long travels

Maximum fill weight Fz$_{max}$

The maximum fill weight of the cable chain for gliding applications depends on the bending radius and speed.

■ **The larger the bending radius, the lower the maximum fill weight**

A larger bending radius means a longer unsupported length causing a higher bending moment. Therefore, the bending radius of the cable chain allowed by the cables or hoses is as small as possible.

$$Fz_{max}(R_1) > Fz_{max}(R_2)$$

■ **The higher the speed, the lower the maximum fill weight**

The speed v has a great influence on the maximum fill weight Fz$_{max}$. The diagram on the right shows the relationship between Fz$_{max}$ of the cable chain G44.Bi.175 and v. On condition of v > 1m/s, Fz$_{max}$ decreases proportionally if v increases. The wear will increase sharply and the life time will be greatly shorten if the load exceeds Fz$_{max}$. Please consult us for detailed technical parameters.

Example: G44.Bi.175

v [m/s]	Ratio [%]	Fz$_{max}$ [kg/m]
1 m/s	100%	10 kg/m
2 m/s	50%	5 kg/m
3 m/s	33%	3.3 kg/m
4 m/s	25%	2.5 kg/m

Calculation of the driving force

For horizonal gliding applications, the dirving force of system **Fd** is calculated by using the driving force against acceleration **Fa** and adding the driving force against friction **Fμ**:

$$Fd = Fa + Fμ$$

Specially, the influence of gravity should be considered if the system is gliding on a slope.

The maximum driving force of the cable chain depends on the type, material and environment conditions. For complex sliding applications, please consult us to check the maximum driving force of the system and the cable chain.

Calculating the driving force is important for choosing the right chain!

$$Fa = m·a \quad Fμ = μ·m·g$$

Fd	=	Driving force of system
Fa	=	Driving force against acceleration
Fμ	=	Driving force against friction
m	=	Total mass of system
a	=	Acceleration
g	=	Gravitational acceleration: 10 m/s^2
μ	=	Friction factor

μ = 0.3 for one cable chain
μ = 0.4 for two opposed cable chains

Gliding | Long travels

Guide trough systems

Guide trough systems are necessary for the cable chain systems running stably in sliding applications. Various guide trough systems are available: modular, economical and easy to assemble. We recommend **GuidEasy** guide trough systems as standard for general guiding applications.

Standard guide trough systems

Standard guide trough systems consist of guide trough set without glide bars, guide trough set with glide bars and installation set. Where the upper run cannot glide on the lower run, glide bars must be installed for smooth operation and low noise.

The inner height of the trough must be at least twice that of the cable chain outer height. The trough inner width is the same as the cable chain outer width, plus 5mm. The guide troughs must be installed parallel to the rail, both horizontally and vertically with a tolerance of ±5mm. All trough parts should be align properly, and all screw heads should be flush with the trough.

ⓘ

We recommend **GuidEasy** guide trough systems as standard!

$$H_{Gi} \geq 2 \cdot ha$$
$$B_{Gi} = Ba + 5$$

ha	=	Outer cable chain height
Ba	=	Outer cable chain width
H$_{Gi}$	=	Inner guide trough height
B$_{Gi}$	=	Inner Guide trough width

Guide trough without glide bars:
the upper run glides on the lower run

Guide trough with glide bars:
the upper run glides on the glide bars

Gliding | Long travels

Floating moving arm

The floating moving arm is required to ensure guiding of the cable chain without lateral forces in applications with excessive lateral offset. As a flexible connection, the floating moving arm has a relative movement between the cable chain and the system driver to compensate lateral offset. A floating moving arm is usually to be used in case of travel lengths longer than 50m with less precise guidance.

- Minimum horizontal compensation: ±25mm
- Easy assembly with CableFix clamps for strain relief
- Integrated support plate for moving end
- Customized by chain types, loads and operating conditions
- Material: galvanized steel or stainless steel

Free project drawing design

We recommend that our engineers design the gliding applications for you. We will offer the most cost-effective solution, taking the technical requirements and operating safety into consideration. The project drawings include the installation dimensions of cable chains and guide troughs, and the distribution of cables and hoses, etc. If necessary, we also provide the service of installation guide aftersales to ensure your systems safe and long service life.

Long travel of 138m with systems GeMotion, GuidEasy guide trough and floating moving arm in condition of high temperature and humidity

Vertical | Hanging

Vertical hanging

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

With LONGO cable chain systems, travels of over 100m are possible in vertical hanging applications. The cable chains fulfils the function of orderly conduit bundling only and should not absorb any further tensile forces. All cables and hoses must be secured carefully to both ends of the cable chains with strain relief so that they bear their own weight.

Calculation of the cable chain length

The formula is the same as that of unsupported applications for regular linear vertical hanging applications.

Camber

A standard LONGO cable chain with camber is suitable for vertical hanging applications if enough space is available. If space is restricted, a cable chain without camber can be used - **NC** chain.

The camber must be considered for calculating installation space!

Required space for standard chain:
$$H_z = 2 \cdot R + ha + z$$

Required space for NC chain:
$$H_z = 2 \cdot R + ha$$

H_z = Required clearance height
R = Bending radius
ha = Outer cable chain height
z = Camber

z is depended on chain series

Vertical | Hanging

Mounting brackets

We recommend **locking mounting brackets** as standard for vertical hanging applications.

The cable chains can not sway with locking mounting brackets during the movement.

Standard

Support

■ **Without lateral acceleration**

If the application has a purely vertical movement without lateral acceleration, a lateral support is not necessary.

■ **With lateral acceleration**

If the application has lateral acceleration, a lateral support is required. Partial support is allowed, but it must at least cover the area in which the cable chain may sway. The layout in figure C is preferred.

A

B

C

Without support:
For applications without lateral acceleration

Planar support:
For applications with lateral acceleration as illustrated

U-shaped support:
For applications with lateral acceleration as illustrated

Vertical | Standing

Vertical standing

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

The cable chain must bear its own weight and the weight of the cables and hoses in vertical hanging applications, therefore the permitted travel is much shorter. The cable chain is far less stressed and more stable in a hanging application, so vertical hanging would be a better choice if the space is allowed. All cables and hoses must be secured carefully to both ends of the chains with strain relief.

Calculation of the cable chain length

The formula is the same as that of unsupported applications for regular linear vertical standing applications.

Camber

A standard LONGO cable chain with camber is suitable for vertical standing applications if enough space is available. If space is restricted, a cable chain without camber can be used - **NC** chain.

The camber must be considered for calculating installation space!

Required space for standard chain:
$$H_z = 2 \cdot R + ha + z$$

Required space for NC chain:
$$H_z = 2 \cdot R + ha$$

Hz	=	Required clearance height
R	=	Bending radius
ha	=	Outer cable chain height
z	=	Camber

z is depended on chain series

Vertical | Standing

Mounting brackets

We recommend **locking mounting brackets** as standard for vertical standing applications.

The cable chains can not sway with locking mounting brackets during the movement.

Support

■ **Without lateral acceleration**

If the application has a purely vertical movement without lateral acceleration, a lateral support is not necessary. For higher cable chain heights we recommend using a guide trough for the whole cable chain.

■ **With lateral acceleration**

If the application has lateral acceleration, a lateral support is required.

A

B

C

Without support:
For applications without lateral acceleration

Planar support:
For applications with lateral acceleration as illustrated

U-shaped support:
For applications with lateral acceleration as illustrated

Side-mounted | Straight

Side-mounted straight

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

Side-mounted is used for applications with restricted installation height instead of unsupported. Unsupported for short travels or gliding for long travels is available depending on the supporting conditions and guide troughs.

Calculation of the cable chain length

The formula is the same as that of unsupported applications for side-mounted straight applications.

Distribution of cables and hoses

Distribution rules of cables and hoses for side-mounted applications:

■ The cables and hoses are distributed from top to bottom in ascending order of weight for high stability
■ Different layers should be separated by **locking separators**. The cables and hoses can not move freely if using movable separators and wear is increased

With movable separators

With locking separators

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.

Side-mounted | Straight

Short travels, unsupported

Side-mounted chains can be used unsupported to a limited extent. The unsupported length is dependent on the following factors:

■ **Fill weight:** The greater the fill weight of the chains, the shorter the available unsupported length
■ **Width of the chains:** The wider the width of the chains, the longer the available unsupported length
■ **Bending radius:** The smaller the bending radius of the chains, the longer the available unsupported length

For applications with short travels and low fill weight, support is not necessary. If, however, the travels are long and the fill weight is high, the chains must then be supported either in whole or in part.

A. Without support

B. With single-sided support

C. With overall support

Long travels, gliding

Side-mounted chains can travel over 100m with adequate guidance. For regular side-mounted gliding applications, LONGO chains can glide directly on the guide surface which must be smooth and straight to reduce wear. For applications with high speed, great filling weight and long service life, chains with rolling accessories are available.

Cable chains with rolling accessories

Side-mounted | Rotary

Side-mounted rotary

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

RBR(Reverse Bending Radius) chain can rorate up to 540° along the outer rail or the inner rail. Circular movement in vertical direction is also possible. Guide troughs may be necessary, depending on the applications. Please consult us.

RBR Chain

RBR chain has two bending radius of standard and reverse, so it can bend in two directions. All LONGO chains can be used in RBR design except the tubes. For example, Part No. G34.100.125/500, describes series G34 series with an inner width of 100mm, standard bending radius of 100mm and reverse bending radius of 500mm. The reverse bending radius of the RBR chain can be customized, but it should not be less than the minimum standard bending radius of the selected chain series.

Distribution of cables and hoses

Distribution rules of cables and hoses for side-mounted applications are applied to side-mounted rotary. The cables and hoses bend in two directions in circular movement which should be distributed in the center of the chain, and only one cable or hose is placed in a separate chamber as far as possible.

With movable separators

With locking separators

Mounting brackets

We recommend **Pivoting mounting brackets** as standard for side-mounted rotary applications.

Pivoting mounting brackets fit the circular rails better.

Side-mounted | Rotary

Calculation of the cable chain length

■ **Stationary point at the inner radius**

If $β = α·Ra / (Ri + Ra)$, the length of chain is shortest

$$L_K = π·(β / 180°)·Ri + K$$

■ **Stationary point at the outer radius**

If $β = α·Ri / (Ri + Ra)$, the length of chain is shortest

$$L_K = π·(β / 180°)·Ra + K$$

With guide troughs, RBR chain can rotate smoothly!

$$Ra= ra - 1/2·ha$$
$$Ri = ri + 1/2·ha$$

L_K	=	Cable chain length
$α$	=	Angle of rotation
$β$	=	Fixed end angle
Ra	=	Outer RBR chain radius
Ri	=	Inner RBR chain radius
ra	=	Outer rail radius
ri	=	Inner rail radius
R	=	Bending radius
ha	=	Outer cable chain height
K	=	Add-on for bending radius

K is taken from the data tables of the individual series

Distribution rules | Cables and hoses

Benifits of distribution

- Make your equipments more orderly
- Optimise the chain size and reduce costs
- Reduce wear of cables and hoses
- Prevent cables from torsion and breakage
- Maximize the service life of chain systems

General distribution rules for cables and hoses are as follow. For complex applications, we are happy to provide professional distribution solutions for free, please consult us.

Clearance of cables and hoses

Cables and hoses must have additional clearances to move freely in the chain. Different minimum clearances are as fallows:

- **Round electrical cables:** 10% of diameter
- **Flat electrical cables:** 10% of width/thickness each
- **Hydraulic hoses:** 20% of diameter
- **Pneumatics hoses:** 5-10% of diameter

Please note: Don't fill chain more than 80%!

10% d min 2 mm
10% d min 1 mm *10% d min 1 mm*

Clearance all around for round electrical cables

Weight distribution

- For horizontal or vertical applications, the cable/hose weight should be symmetrically distributed along the width of the chain, with the heaviest cables/hoses laying on the outside. Even loading can help the chain to achieve its maximum service life.

- For side-mounted applications, the cables/hoses should be distributed from top to bottom inascending order of weight for high stability. Different layers should be separated by locking separators.

Poor weight distribution

Good weight distribution

Good weight distribution

Distribution rules | Cables and hoses

Distribution rules of different cables and hoses

- Cables and hoses with different outer jacket materials must be separated to avoid sticking together. Electrical cables and hydraulic/pneumatics hoses should be separated, cables of different voltages should be separated.

- It is beneficial to place each cable and hose in a separate chamber if the space is allowed.

- Two flat cables next to one another should be kept apart with vertical separators and top of one another with horizontal separators. Flat and round cables should be laid separately in the chain.

- Sufficient room must be left in the chain for hydraulic hoses because of the expansion or contraction during pressure changes. As lateral movements of the hydraulic hoses can lead to increased abrasion, we recommend locking separators for the fixed position.

Horizontal separator
Movable separator   Locking separator

1. Round electrical cable
2. Flat electrical cable
3. hose

Distribution rules for numbers of cables

- A separator is required when the sum of the diameters of the cables laid side by side falls below 1.2 x inner chain height hi.

$d1 + d2 > 1.2 \cdot hi$

A separator is not required

$d1 + d2 \leq 1.2 \cdot hi$

A vertical separator is required or a horizonal separator must be used to reduce the inner height

$d1 + d2 > 1.2 \cdot hi$ *$d3 + d4 \leq 1.2 \cdot hi$*

- If the inner width of the chain is not sufficient to separate the cables from each other, it is also possible to run two cables with similar diameter stacked one above the other. A horizontal sub-division using horizontal separator is required when the diameter of the cables vary too much.

$d1 > 0.5 \cdot d2$

A horizontal separator is not required for two stacked cables

$d1 \leq 0.5 \cdot d2$

A horizontal separator must be required for two stacked cables

$d1 > 0.5 \cdot d2$ *$d3 \leq 0.5 \cdot d4$*

ℹ

Standard separation: fitted every 2nd link
The distance between two sets of separators can be longer for applications with low speed and acceleration

Distribution rules | Cables and hoses

Cable unreeling

The cables must be laid straight without twisting from the drum. According to the requirements of the cable manufacturer, the cables after cutting may need to be laid out for some time to relieve stress before installation. Twisted cables should not be installed into the chain, otherwise the risk of torsion and breakage of cables would be increased.

Laying of cables and hoses

Cables and hoses must be able to move freely in the chain without any tension at the bending radius. They should be secured with strain relief at both ends. Hydraulic hoses expand or contract during pressure changes, so one-sided strain relief on the moving end is applied.

Bending radius R

The bending radius of the chain depends on the thickest or stiffest cable or hose. And it should be adjusted to the recommendations of the cable or hose manufacturer. The selection of a larger radius than the minimum will positively affect service life.

Reference for the permitted minimum bending radii of different cables and hoses are as follow:

Cable/hose	Min bending radius
Round electrical cable	7.5-10 x d
Fiber optic cable	10-15 x d
Pneumatics hose	10-12 x d
Hydraulic hose	10-15 x d

Design | Sketches

EasyClip mini

Small size, easy to assemble

EasyClip mini is suitable for applications with low load or small space. Small pitch, smooth running and low noise. Cables and hoses can be filled easily and quickly with openable hinged crossbars.

- Crossbars openable along the outer or inner radius from both sides
- Small pitch, low vibration, low noise
- Double stops, long service life even for highly dynamic applications
- Separators are available
- Strong mounting brackets with or without tiewrap plates

Typical industries and applications

Inkjet printer | Textile machines | Robots | Linear modules | Electronic

equipment | Test equipment | Medical equipment | Automatic doors

EasyClip mini | Advantages

Small size, easy to assemble

1	Mounting bracket with strain relief option
2	Smooth, cable-friendly crossbars
3	Standard: openable along the outer radius
4	Openable from both sides, opening angle > 180°
5	Smooth, cable-friendly inner surface
6	Double stops for high load-bearing capacity
7	Small pitch, low vibration, low noise
8	Option: openable along the inner radius

EasyClip mini | Advantages

Any interior separation with various separators

Built-in teeth of crossbars for secure grip on locking separators

Easy to assembly with crossbars openable from both sides

Pivoting or locking brackets for different applications

Mounting bracket with strain relief option, very economical

EasyClip mini | Overview

Legend	Series	Inner height hi [mm]	Outer height ha [mm]	Inner width Bi [mm]	Outer width Ba [mm]	Bending radii R [mm]	Link pitch P [mm]	Page
**Open	Crossbars openable along the outer radius from both sides	Standard**							
	E15	15	19.4	10 - 50	18 - 58	18 - 75	20	50
**Open	Crossbars openable along the inner radius from both sides	Not for gliding**							
	E15i	15	19.4	10 - 50	18 - 58	18 - 75	20	50

ⓘ **Travels**

Series	Unsupported	Gliding	Vertical hanging	Vertical standing	Side-mounted Unsupported
	⇄	⇄	⇅	⇑	⇆
E15	E15i	≤ 2.6 m	≤ 60 m	≤ 20 m	≤ 1.5 m	≤ 0.6 m

EasyClip mini | Order examples and Options

🛒 **Order example | Complete cable chains** Based on series E15

E15.**20**.028	-	50 pcs	+	E150.**20**.12.Z	+	ST15.1	-	25 pcs
Cable chains No.		Links		Mounting brackets No.		Separators No.		Quantity

Cable chains

E15	.	20	.	028	-	50 pcs
50 pcs (1m)		Series		Bi		R	Links

Mounting brackets

E150	.	20	.	12	.	Z
1set		Series		Bi		Full set	Tiewrap plates

Interior separation

ST15.1	-	25 pcs
1 separators assembled every 2nd link*		Separators No.	Quantity

* Separators are not pre-assembled by default. Please indicate the installation method or provide drawings for pre-assembled.
  Examples: ST15.1.A - 25 pcs **(1/2)**

🛒 **Order example | Options** based on series E15 | E15i

Part No. Standard Available from stock	Part No. RBR Circular movement	Part No. NC No Camber	Part No. ESD ESD/ATEX
Standard			
E15.**20**.R	E15.**20**.R1/R2	E15.**20**.R.NC	E15.**20**.R.ESD
E15i.**20**.R	E15i.**20**.R1/R2	E15i.**20**.R.NC	E15i.**20**.R.ESD

Series E15 | Overview

E15

Links/m = 50 pcs/1000 mm

	Pitch P		Inner height hi		Inner widths Bi		Bending radii R
	20 mm		15 mm		10 – 50 mm		28 – 75 mm

E15 - Open | Openable along outer radius

- Openable along the outer radius from both side
- Applied for gliding

E15i - Open | Openable along inner radius

- Openable along the inner radius from both side
- Not for gliding

🛒 Order example | Complete cable chains

E15.20.028	-	50 pcs	+	E150.20.12.Z	+	ST15.1	-	25 pcs
Cable chains No.		Links		Mounting brackets No.		Separators No.		Quantity

Series E15 | Installation dimensions | Unsupported

⊑ Unsupported applications | Short travels | $L_K = S/2 + K$

R	[mm]	028	038	048	075
H	[mm]	75	95	115	170
Hz	[mm]	90	110	130	185
D	[mm]	68	78	88	115
K	[mm]	130	160	195	280
The required clearance height $H_z = H + 15$ mm					

	Fill weight ≤ 1.25 kg/m		Travel ≤ 2.6 m		Speed ≤ 10 m/s		Acceleration ≤ 50 m/s²

⊑ Load diagram

Series E15 | Installation dimensions | Gliding

⊑ Gliding applications | Long travels | $L_K = S/2 + K_1$

R	[mm]	028	038	048	075
H₁	[mm]	56	60	60	162
D₁	[mm]	68	125	175	255
K₁	[mm]	130	200	260	440
ΔC	[mm]	—	55	95	150
nR	[1]	—	2	2	4

	Fill weight ≤ 0.8 kg/m		Travel ≤ 60 m		Speed ≤ 4 m/s		Acceleration ≤ 20 m/s²

Series E15 | Product range | E15

E15 - Open | Openable along the outer radius

Part No. Cable chain	Bi [mm]	Ba [mm]	R [mm]	Weight [kg/m]
E15.10.R*	10	18	028 | 038 | 048 | 075	≈ 0.21
E15.15.R*	15	23	028 | 038 | 048 | 075	≈ 0.22
E15.20.R	20	28	028 | 038 | 048 | 075	≈ 0.23
E15.30.R*	30	38	028 | 038 | 048 | 075	≈ 0.26
E15.40.R	40	48	028 | 038 | 048 | 075	≈ 0.28
E15.50.R*	50	58	028 | 038 | 048 | 075	≈ 0.31

max.
13 mm

15

19.4

Bi

Ba

Series E15 | Product range | E15i

E15i - Open | Openable along the inner radius

Part No. Cable chain	Bi [mm]	Ba [mm]	R [mm]	Weight [kg/m]
E15i.10.R*	10	18	028 | 038 | 048 | 075	≈ 0.21
E15i.15.R*	15	23	028 | 038 | 048 | 075	≈ 0.22
E15i.20.R	20	28	028 | 038 | 048 | 075	≈ 0.23
E15i.30.R*	30	38	028 | 038 | 048 | 075	≈ 0.26
E15i.40.R	40	48	028 | 038 | 048 | 075	≈ 0.28
E15i.50.R*	50	58	028 | 038 | 048 | 075	≈ 0.31

* Available upon request, please consult us for delivery time

Ba

Bi

max.
13 mm

15

19.4

🛒 Order example | Cable chains

E15	.	20	.	028	-	50 pcs
Series		Bi		R		Links

Series E15 | ZB mounting brackets | E15·E15i

ZB mounting brackets | Open

- Used for series E15 and E15i
- Fixed from top and bottom with screws M3
- Pivoting or locking brackets available:
  - ZB Pivoting ▶ Recommended for unsupported and gliding applications
  - ZB Locking ▶ Recommended for vertical hanging and standing applications

E150.Bi.1

Pivoting

E150.Bi.2

E151.Bi.1

Locking

E151.Bi.2

Bi [mm]	Part No.	Pivoting with tiewrap plates	without tiewrap plates	Part No.	Locking with tiewrap plates	without tiewrap plates	A [mm]	Number of teeth nz [1]
10 ▶	E150.10.12.Z*	E150.10.12*		E151.10.12.Z*	E151.10.12*	—	1
15 ▶	E150.15.12.Z*	E150.15.12*		E151.15.12.Z*	E151.15.12*	—	2
20 ▶	E150.20.12.Z	E150.20.12		E151.20.12.Z	E151.20.12	—	2
30 ▶	E150.30.12.Z*	E150.30.12*		E151.30.12.Z*	E151.30.12*	22	3
40 ▶	E150.40.12.Z	E150.40.12		E151.40.12.Z	E151.40.12	32	4
50 ▶	E150.50.12.Z*	E150.50.12*		E151.50.12.Z*	E151.50.12*	42	5

* Available upon request, please consult us for delivery time

Order example | ZB mounting brackets

E150 . 20 . 12 . Z . A1   Default positon: A1

Series | Bi | Full set | Tiewrap plates | Position

A1 A2 A3 A4

Series E15 | Interior separation | Vertical·Horizontal

ST15.1 SH25.X ST15.2

Standard separation: **fitted every 2nd link**

Type	Part No. Unassembled	Part No. Assembled
**Vertical separator	Standard	For almost any application**		
	ST15.1	ST15.1.A

- Wide base for fitting in cable chains stably
- Movable, easy to adjust the position
- Horizontal separators can be fitted at 1 different heights

Vertical separator | Locking | For side-mounted applications

ST15.2   ST15.2.A

- Wide base for fitting in cable chains stably
- Locking, fitted in a specified position securely
- Preset in 2.5 mm increments
- Horizontal separators can be fitted at 1 different heights

Horizontal separator | Locking | For multilayer separation

SH25.X   SH25.X.A   **Order example:** SH25.020

- Full-width horizontal separator

X ≤ 150 mm   X - 1

EasyClip

Lightweight, easy and quiet

EasyClip is suitable for almost any application, which is rugged, lightweight and cost-effective. Easy to open with openable hinged crossbars and quieter operation with dampers option.

- ■ Crossbars openable along the outer or inner radius from both sides
- ■ High stability for unsupported and gliding applications
- ■ Quieter operation with dampers option
- ■ Smooth, cable-friendly inner surface
- ■ Various fastening options

Typical industries and applications

Gantry robots | Robots | Woodworking | logistics equipment | Textile machines | Construction machinery | Machine tools | Indoor cranes

EasyClip | Advantages

Lightweight, easy and quiet

1	Mounting bracket with strain relief option
2	Smooth, cable-friendly crossbars
3	Standard: openable along the outer radius
4	Openable from both sides, opening angle > 180°
5	Smooth, cable-friendly inner surface
6	Double stops for high load-bearing capacity
7	High torsional strength and high stability
8	Option: openable along the inner radius

EasyClip | Advantages

Any interior separation with various separators

Built-in teeth of crossbars for secure grip on locking separators

Horizontal separators locked into vertical separators securely

More useable interior space at the same external dimensions

Easy to assembly with crossbars openable from both sides

Integrated gliding surfaces ensure a long service life for long travels

Pivoting or locking brackets for different applications

Mounting bracket with strain relief option, very economical

Wings of crossbars cover the side links, increases stability.

Quieter operation with dampers option

Integrated strain relief e.g. clamps, tiewrap plates, etc.

Standard steel guide trough for gliding applications

EasyClip | Overview

Legend	Series	Inner height hi [mm]	Outer height ha [mm]	Inner width Bi [mm]	Outer width Ba [mm]	Bending radii R [mm]	Link pitch P [mm]	Page
Open | Crossbars openable along the outer radius from both sides | Standard								
	E26	26	36	25 - 100	40 - 115	48 - 250	46	64
Open | Crossbars openable along the inner radius from both sides | Not for gliding								
	E26	26	36	25 - 100	40 - 115	48 - 250	46	64

ⓘ Travels

Series	Unsupported	Gliding	Vertical hanging	Vertical standing	Side-mounted Unsupported
E26 | E26i	≤ 4 m	≤ 100 m	≤ 40 m	≤ 2.5 m	≤ 1.0 m

EasyClip | Order examples and Options

🛒 **Order example | Complete cable chains** Based on series E26

E26.060.048	-	44 pcs	+	E260.060.12.Z	+	ST26.1	-	66 pcs
Cable chains No.		Links		Mounting brackets No.		Separators No.		Quantity

Cable chains
44 pcs (2m)

E26	.	060	.	048	-	44 pcs
Series		Bi		R		Links

Mounting brackets
1set

E260	.	060	.	12	.	Z
Series		Bi		Full set		Tiewrap plates

Interior separation
3 separators assembled every 2nd link*

ST26.1	-	66 pcs
Separators No.		Quantity

* Separators are not pre-assembled by default. Please indicate the installation method or provide drawings for pre-assembled.
Examples: ST26.1.A - 66 pcs **(3/2)**

🛒 **Order example | Options** based on series E26 | E26i

Part No. Standard Available from stock	Part No. Low noise With noise dampers	Part No. RBR Circular movement	Part No. NC No Camber	Part No. ESD ESD/ATEX
Standard	🔇	◎	⌄	⚠
E26.060.R	ED26.060.R	E26.060.R1/R2	E26.060.R.NC	E26.060.R.ESD
E26i.060.R	ED26i.060.R	E26i.060.R1/R2	E26i.060.R.NC	E26i.060.R.ESD

Series E26 | Overview

E26

Links/m = 22 pcs/1012 mm

	Pitch P		Inner height hi		Inner widths Bi		Bending radii R
	46 mm		26 mm		25 – 100 mm		48 – 250 mm

E26 - Open | Openable along outer radius

■ Openable along the outer radius from both side
■ Dampers option ▶ ED26
■ Applied for gliding

E26i - Open | Openable along inner radius

■ Openable along the inner radius from both side
■ Dampers option ▶ ED26i
■ Not for gliding

🛒 Order example | Complete cable chains

E26.060.048	-	44 pcs	+	E260.060.12.Z	+	ST26.1	-	66 pcs
Cable chains No.		Links		Mounting brackets No.		Separators No.		Quantity

Series E26 | Installation dimensions | Unsupported

Unsupported applications | Short travels | $L_K = S/2 + K$

R	[mm]	048	055	075	100	125	150	175	200	225	250
H	[mm]	132	146	186	236	286	336	386	436	486	536
Hz	[mm]	157	171	211	261	311	361	411	461	511	561
D	[mm]	135	142	162	187	212	237	262	287	312	337
K	[mm]	245	265	330	410	485	565	645	725	800	880

The required clearance height $H_z = H + 25$ mm

Fill weight ≤ 5 kg/m	**Travel** ≤ 4 m	**Speed** ≤ 10 m/s	**Acceleration** ≤ 50 m/s²

Load diagram

Fill weight [kg/m]

— FL_G

--- FL_B

Unsupported length FL_G / FL_B [m]

Travel S [m]

Series E26 | Installation dimensions | Gliding

Gliding applications | Long travels | $L_K = S/2 + K_1$

Guide troughs without glide bars   Guide troughs with glide bars

Total length of guide troughs

R	[mm]	048	055	075	100	125	150	175	200	225	250
H1	[mm]	96	110	108	108	108	108	108	108	108	108
D1	[mm]	135	142	260	380	425	580	730	770	930	1090
K1	[mm]	245	265	414	598	736	920	1150	1242	1472	1702
ΔC	[mm]	—	—	115	210	230	360	490	500	630	770
nR	[1]	—	—	2	2	3	3	3	4	4	4

Fill weight ≤ 2 kg/m	**Travel** ≤ 100 m	**Speed** ≤ 4 m/s	**Acceleration** ≤ 25 m/s²

GuidEasy guide trough systems

Guide trough systems are necessary for sliding applications. GuidEasy guide trough systems designed by standard module are recommended in general. Please consult our engineers if you have any question.

Standard guide trough systems for series E26 ▶ Page 134

Series E26 | Product range | E26·ED26

E26 - Open | Openable along the outer radius

Part No. Cable chain	Bi [mm]	Ba [mm]	R [mm]	Weight [kg/m]
E26.025.R*	25	40	048 | 055 | 075 | 100 | 125 | 150 | 175 | 200 | 225 | 250	≈ 0.74
E26.040.R*	40	55	048 | 055 | 075 | 100 | 125 | 150 | 175 | 200 | 225 | 250	≈ 0.80
E26.060.R	60	75	048 | 055 | 075 | 100 | 125 | 150 | 175 | 200 | 225 | 250	≈ 0.88
E26.080.R	80	95	048 | 055 | 075 | 100 | 125 | 150 | 175 | 200 | 225 | 250	≈ 0.95
E26.100.R*	100	115	048 | 055 | 075 | 100 | 125 | 150 | 175 | 200 | 225 | 250	≈ 1.03

ED26 - E26 with dampers

Part No. Cable chain	Bi [mm]	Ba [mm]	R [mm]	Weight [kg/m]
ED26.025.R*	25	40	048 | 055 | 075 | 100 | 125 | 150 | 175 | 200 | 225 | 250	≈ 0.74
ED26.040.R*	40	55	048 | 055 | 075 | 100 | 125 | 150 | 175 | 200 | 225 | 250	≈ 0.80
ED26.060.R	60	75	048 | 055 | 075 | 100 | 125 | 150 | 175 | 200 | 225 | 250	≈ 0.88
ED26.080.R	80	95	048 | 055 | 075 | 100 | 125 | 150 | 175 | 200 | 225 | 250	≈ 0.95
ED26.100.R*	100	115	048 | 055 | 075 | 100 | 125 | 150 | 175 | 200 | 225 | 250	≈ 1.03

max.
24 mm

26

36

Bi

Ba

Series E26 | Product range | E26i·ED26i

E26i - Open | Openable along the inner radius

Part No. Cable chain	Bi [mm]	Ba [mm]	R [mm]	Weight [kg/m]
E26i.025.R*	25	40	048 | 055 | 075 | 100 | 125 | 150 | 175 | 200 | 225 | 250	≈ 0.74
E26i.040.R*	40	55	048 | 055 | 075 | 100 | 125 | 150 | 175 | 200 | 225 | 250	≈ 0.80
E26i.060.R	60	75	048 | 055 | 075 | 100 | 125 | 150 | 175 | 200 | 225 | 250	≈ 0.88
E26i.080.R	80	95	048 | 055 | 075 | 100 | 125 | 150 | 175 | 200 | 225 | 250	≈ 0.95
E26i.100.R*	100	115	048 | 055 | 075 | 100 | 125 | 150 | 175 | 200 | 225 | 250	≈ 1.03

ED26i - E26i with dampers

Part No. Cable chain	Bi [mm]	Ba [mm]	R [mm]	Weight [kg/m]
ED26i.025.R*	25	40	048 | 055 | 075 | 100 | 125 | 150 | 175 | 200 | 225 | 250	≈ 0.74
ED26i.040.R*	40	55	048 | 055 | 075 | 100 | 125 | 150 | 175 | 200 | 225 | 250	≈ 0.80
ED26i.060.R	60	75	048 | 055 | 075 | 100 | 125 | 150 | 175 | 200 | 225 | 250	≈ 0.88
ED26i.080.R	80	95	048 | 055 | 075 | 100 | 125 | 150 | 175 | 200 | 225 | 250	≈ 0.95
ED26i.100.R*	100	115	048 | 055 | 075 | 100 | 125 | 150 | 175 | 200 | 225 | 250	≈ 1.03

* Available upon request, please consult us for delivery time

Ba

Bi

max.
24 mm

26

36

Order example | Cable chains

E26	.	040	.	048	-	44 pcs
Series		Bi		R		Links

ZB mounting brackets | Open

- Used for series E26 and E26i
- Fixed from top, bottom, end face with screws M6
- Pivoting or locking brackets available:
  - **ZB Pivoting** ▶ Recommended for unsupported and gliding applications
  - **ZB Locking** ▶ Recommended for vertical hanging and standing applications

E260.Bi.1

90°
57°
57°
90°

Pivoting

90°
57°

57°
90°

E260.Bi.2

E261.Bi.1

Locking

E261.Bi.2

Bi [mm]	Part No. | Pivoting with tiewrap plates	without tiewrap plates	Part No. | Locking with tiewrap plates	without tiewrap plates	A [mm]	Number of teeth n_z [1]
25 ▶	E260.025.12.Z*	E260.025.12*	E261.025.12.Z*	E261.025.12*	12	3
40 ▶	E260.040.12.Z*	E260.040.12*	E261.040.12.Z*	E261.040.12*	25	4
60 ▶	E260.060.12.Z	E260.060.12	E261.060.12.Z	E261.060.12	45	6
80 ▶	E260.080.12.Z	E260.080.12	E261.080.12.Z	E261.080.12	65	8
100 ▶	E260.100.12.Z*	E260.100.12*	E261.100.12.Z*	E261.100.12*	85	10

* Available upon request, please consult us for delivery time

Order example | ZB mounting brackets

E260	.	060	.	12	.	Z	.	A1	Default positon: A1
Series		Bi		Full set		Tiewrap plates		Position	

A1　　A2　　A3　　A4

Cmin　　ST26.1　　SH25.X　　ST26.2

ⓘ Standard separation: **fitted every 2nd link**

Cmin = the minimum lateral gap to the side links

Type	Part No. Unassembled	Part No. Assembled	C_{min} [mm] E26	E26i
Vertical separator | Standard | For almost any application				
	ST26.1	ST26.1.A	3	3
■ Wide base for fitting in cable chains stably ■ Movable, easy to adjust the position ■ Horizontal separators can be fitted at 3 different heights				
Vertical separator | Locking | For side-mounted applications				
	ST26.2	ST26.2.A	5	5
■ Wide base for fitting in cable chains stably ■ Locking, fitted in a specified position securely ■ Preset in 2.5 mm increments ■ Horizontal separators can be fitted at 3 different heights				
Horizontal separator | Locking | For multilayer separation				
	SH25.X	SH25.X.A	**Order example:** SH25.060	
■ Types in 2 mm increments ■ Locked securely into vertical separators at both ends				

$X \leq 150$ mm　　$X - 1$

GeMotion

Stability, high load and long travel

GeMotion is especially suitable for applications with high requirements of high load and long travel. GeMotion has remarkable performance and long service life even in terrible conditions.

■ Mortise/tenon design for high lateral stability and torsion resistance
■ Inner/outer-link design for straight run
■ Noise-reducing brake and optional noise dampers
■ Smooth, cable-friendly inner surface
■ Many modular options and accessories available

Typical industries and applications

Machine tools | Laser cutting | Material handling | Truss robot | Ground rail | Casting equipment | Construction machinery | Crane

GeMotion | Advantages

Stability, high load and long travel

1 Fixed from any side with MFB mounting brackets

2 Strong crossbars/lids with double locking

3 Smooth, cable-friendly crossbars

4 Inner/outer-link design for straight run

5 Smooth, cable-friendly inner surface

6 Mortise/tenon design for high stability

7 Noise-reducing brake for quiet operation

8 Increased sliding surface with special chain links

9 Many strain relief accessories available

GeMotion | Advantages

Any interior separation with various separators

Built-in teeth of crossbars/lids for secure grip on locking separators

Horizontal separators locked into vertical separators securely

Crossbars/lids with visual scale for precise separation

High stability due to mortise/tenon design

High wear resistance for gliding due to special chain link contour

Pivoting or locking brackets for different applications

Metal bushing for avoiding damage when assembling brackets

Quickly guiding conduits or cables with optional clip extension

Optional noise dampers for lower noise

Integrated strain relief e.g. clamps, tiewrap plates, etc.

Standard steel guide trough for gliding applications

GeMotion | Overview

Legend	Series	Inner height hi [mm]	Outer height ha [mm]	Inner width Bi [mm]	Outer width Ba [mm]	Bending radii R [mm]	Link pitch P [mm]	Page
Open | Crossbars every link | For high technical applications								
	G34	34	54	50 - 400	72 - 422	63 - 300	56	78
	G44	44	64	50 - 400	76 - 426	75 - 350	67	90
	G60	60	88	75 - 500	109 - 534	135 - 500	91	102
	G80	80	108	75 - 500	125 - 550	150 - 600	111	114
Open | Crossbars every 2nd link | For almost any application								
	G34H	34	54	50 - 400	72 - 422	63 - 300	56	78
	G44H	44	64	50 - 400	76 - 426	75 - 350	67	90
	G60H	60	88	75 - 500	109 - 534	135 - 500	91	102
	G80H	80	108	75 - 500	125 - 550	150 - 600	111	114
Closed | Swarf protection | For applications with swarf								
	G34T	34	54	50 - 300	72 - 322	125 - 300	56	78
	G44T	44	64	50 - 300	76 - 326	125 - 350	67	90
	G60T	60	88	100 - 400	109 - 434	150 - 500	91	102
	G80T	80	108	100 - 400	125 - 450	200 - 600	111	114

(i) Travels

Series	Unsupported	Gliding	Vertical hanging	Vertical standing	Side-mounted Unsupported
G34 | G34H | G34T	≤ 7.0 m	≤ 200 m	≤ 80 m	≤ 5.0 m	≤ 1.5 m
G44 | G44H | G44T	≤ 8.0 m	≤ 250 m	≤ 80 m	≤ 6.0 m	≤ 2.0 m
G60 | G60H | G60T	≤ 10.0 m	≤ 350 m	≤ 100 m	≤ 6.0 m	≤ 2.5 m
G80 | G80H | G80T	≤ 12.0 m	≤ 350 m	≤ 100 m	≤ 6.0 m	≤ 3.0 m

GeMotion | Order examples and Options

🛒 Order example | Complete cable chains Based on series G60

G60.200.250	-	22 pcs	+	G600.200.2.12	+	ST60.1	-	33 pcs
Cable chains No.		Links		Mounting brackets No.		Separators No.		Quantity

Cable chains
22 pcs (2m)

G60	.	200	.	250	-	22 pcs
Series		Bi		R		Links

Mounting brackets
1set

G600	.	200	.	2	.	12
Series		Bi		Odd/even		Full set

Interior separation
3 separators assembled every 2nd link*

ST60.1	-	33 pcs
Separators No.		Quantity

* Separators are not pre-assembled by default. Please indicate the installation method or provide drawings for pre-assembled.
Examples: ST60.1.A - 33 pcs **(3/2)**

🛒 Order example | Options based on series G60 | G60H | G60T

Part No. Standard Available from stock	Part No. Low noise With noise dampers	Part No. RBR Circular movement	Part No. NC No Camber	Part No. ESD ESD/ATEX
Standard	🔇	⭕	⌒	⚠
G60.200.R	GD60.200.R	G60.200.R1/R2	G60.200.R.NC	G60.200.R.ESD
G60H.200.R	GD60H.200.R	G60H.200.R1/R2	G60H.200.R.NC	G60H.200.R.ESD
G60T.200.R	GD60T.200.R	—	G60T.200.R.NC	G60T.200.R.ESD

Series G34 | Overview

G34

Links/m = 18 pcs/1008 mm

Pitch P 56 mm	**Inner height hi** 34 mm	**Inner widths Bi** 50 – 400 mm	**Bending radii R** 63 – 300 mm

G34 - Open | Crossbars every link

- Crossbars openable along inner and outer radius
- For high technical applications

G34H - Open | Crossbars every 2nd link

- Crossbars openable along inner and outer radius
- For almost any application
- Easy to assembly and economic

G34T - Closed | Swarf protection

- Lids openable along inner and outer radius
- For applications with swarf

Order example | Complete cable chains

G34.100.125	-	36 pcs	+	G340.100.2.12	+	ST34.1	-	54 pcs
Cable chains No.		Links		Mounting brackets No.		Separators No.		Quantity

Series G34 | Installation dimensions | Unsupported

Unsupported applications | Short travels | $L_K = S/2 + K$

R	[mm]	063*	075*	100*	125	150	175	200	225	250	300
H	[mm]	180	204	254	304	354	404	454	504	554	654
Hz	[mm]	220	244	294	344	394	444	494	544	594	694
D	[mm]	174	186	211	236	261	286	311	336	361	411
K	[mm]	310	350	430	505	585	665	745	820	900	1055

The required clearance height $H_Z = H + 40$ mm

* Radius not available for **G34T** tubes

Fill weight ≤ 27 kg/m	**Travel** ≤ 7 m	**Speed** ≤ 10 m/s	**Acceleration** ≤ 50 m/s^2

Load diagram

Series G34 | Installation dimensions | Gliding

Gliding applications | Long travels | $L_K = S/2 + K_1$

R	[mm]	063*	075*	100*	125	150	175	200	225	250	300
H1	[mm]	126	150	162	162	162	162	162	162	162	162
D1	[mm]	174	186	325	465	510	600	780	920	950	1270
K1	[mm]	310	350	504	728	840	1008	1232	1456	1568	2016
ΔC	[mm]	—	—	140	255	280	340	490	610	620	890
nR	[1]	—	—	2	2	3	3	3	3	4	4

* Radius not available for **G34T** tubes

Fill weight ≤ 8 kg/m	**Travel** ≤ 200 m	**Speed** ≤ 5 m/s	**Acceleration** ≤ 30 m/s^2

GuidEasy guide trough systems

Guide trough systems are necessary for sliding applications. GuidEasy guide trough systems designed by standard module are recommended in general. Please consult our engineers if you have any question.

Standard guide trough systems for series G34 ▶ Page 134

Series G34 | Product range | G34·G34H

G34 - Open | Crossbars every link

Part No. Cable chain	Bi [mm]	Ba [mm]	R [mm]	Weight [kg/m]
G34.050.R	50	72	063|075|100|125|150|175|200|225|250|300	≈ 1.65
G34.075.R	75	97	063|075|100|125|150|175|200|225|250|300	≈ 1.79
G34.100.R	100	122	063|075|100|125|150|175|200|225|250|300	≈ 1.94
G34.125.R	125	147	063|075|100|125|150|175|200|225|250|300	≈ 2.08
G34.150.R	150	172	063|075|100|125|150|175|200|225|250|300	≈ 2.24
G34.175.R	175	197	063|075|100|125|150|175|200|225|250|300	≈ 2.38
G34.200.R	200	222	063|075|100|125|150|175|200|225|250|300	≈ 2.52
G34.225.R*	225	247	063|075|100|125|150|175|200|225|250|300	≈ 2.67
G34.250.R	250	272	063|075|100|125|150|175|200|225|250|300	≈ 2.82
G34.275.R*	275	297	063|075|100|125|150|175|200|225|250|300	≈ 2.96
G34.300.R*	300	322	063|075|100|125|150|175|200|225|250|300	≈ 3.11
G34.350.R*	350	372	063|075|100|125|150|175|200|225|250|300	≈ 3.40
G34.400.R*	400	422	063|075|100|125|150|175|200|225|250|300	≈ 3.69

G34H - Open | Crossbars every 2nd link

Part No. Cable chain	Bi [mm]	Ba [mm]	R [mm]	Weight [kg/m]
G34H.050.R	50	72	063|075|100|125|150|175|200|225|250|300	≈ 1.52
G34H.075.R	75	97	063|075|100|125|150|175|200|225|250|300	≈ 1.60
G34H.100.R	100	122	063|075|100|125|150|175|200|225|250|300	≈ 1.67
G34H.125.R	125	147	063|075|100|125|150|175|200|225|250|300	≈ 1.74
G34H.150.R	150	172	063|075|100|125|150|175|200|225|250|300	≈ 1.82
G34H.175.R	175	197	063|075|100|125|150|175|200|225|250|300	≈ 1.89
G34H.200.R	200	222	063|075|100|125|150|175|200|225|250|300	≈ 1.96
G34H.225.R*	225	247	063|075|100|125|150|175|200|225|250|300	≈ 2.04
G34H.250.R	250	272	063|075|100|125|150|175|200|225|250|300	≈ 2.11
G34H.275.R*	275	297	063|075|100|125|150|175|200|225|250|300	≈ 2.18
G34H.300.R*	300	322	063|075|100|125|150|175|200|225|250|300	≈ 2.26
G34H.350.R*	350	372	063|075|100|125|150|175|200|225|250|300	≈ 2.40
G34H.400.R*	400	422	063|075|100|125|150|175|200|225|250|300	≈ 2.55

Series G34 | Product range | G34T

G34T - Closed | Swarf protection

Part No. Cable chain	Bi [mm]	Ba [mm]	R [mm]	Weight [kg/m]
G34T.050.R	50	72	—|—|—|125|150|175|200|225|250|300	≈ 1.80
G34T.075.R	75	97	—|—|—|125|150|175|200|225|250|300	≈ 2.03
G34T.100.R	100	122	—|—|—|125|150|175|200|225|250|300	≈ 2.26
G34T.125.R*	125	147	—|—|—|125|150|175|200|225|250|300	≈ 2.48
G34T.150.R*	150	172	—|—|—|125|150|175|200|225|250|300	≈ 2.71
G34T.175.R*	175	197	—|—|—|125|150|175|200|225|250|300	≈ 2.93
G34T.200.R*	200	222	—|—|—|125|150|175|200|225|250|300	≈ 3.15
G34T.250.R*	250	272	—|—|—|125|150|175|200|225|250|300	≈ 3.61
G34T.300.R*	300	322	—|—|—|125|150|175|200|225|250|300	≈ 4.06

* Available upon request, please consult us for delivery time

max. 31 mm

34

54

Bi

Ba

Order example | Cable chains

G34	.	100	.	125	-	36 pcs
Series		Bi		R		Links

Series G34 | MFB mounting brackets | G34·G34H

MFB mounting brackets | Open

- Used for series G34 and G34H
- Fixed from top, bottom, end face with screws M5
- Pivoting or locking brackets available:
  - **MFB Pivoting** ▶ Recommended for unsupported and gliding applications
  - **MFB Locking** ▶ Recommended for vertical hanging and standing applications

G340.Bi.1

Pivoting

G340.Bi.2

G341.Bi.1

Locking

G341.Bi.2

Bi [mm]		Part No. MFB pivoting	Part No. MFB locking	A [mm]	B [mm]
50	▶	G340.050.✲.12	G341.050.✲.12	64	76
75	▶	G340.075.✲.12	G341.075.✲.12	89	101
100	▶	G340.100.✲.12	G341.100.✲.12	114	126
125	▶	G340.125.✲.12	G341.125.✲.12	139	151
150	▶	G340.150.✲.12	G341.150.✲.12	164	176
175	▶	G340.175.✲.12	G341.175.✲.12	189	201
200	▶	G340.200.✲.12	G341.200.✲.12	214	226
225	▶	G340.225.✲.12*	G341.225.✲.12*	239	251
250	▶	G340.250.✲.12	G341.250.✲.12	264	276
275	▶	G340.275.✲.12*	G341.275.✲.12*	289	301
300	▶	G340.300.✲.12*	G341.300.✲.12*	314	326
350	▶	G340.350.✲.12*	G341.350.✲.12*	364	376
400	▶	G340.400.✲.12*	G341.400.✲.12*	414	426

ⓘ

For the complete Part NO. of MFB mounting brackets, please specify index **1** or **2** into ✲
1 = Links for odd
2 = Links for even

Series G34 | MFB mounting brackets | G34T

MFB mounting brackets | Closed

- Used for series G34T
- Fixed from top, bottom, end face with screws M5
- Pivoting or locking brackets available:
  - **MFB Pivoting** ▶ Recommended for unsupported and gliding applications
  - **MFB Locking** ▶ Recommended for vertical hanging and standing applications

G340T.Bi.1

Pivoting

G340T.Bi.2

G341T.Bi.1

Locking

G341T.Bi.2

Bi [mm]		Part No. MFB pivoting	Part No. MFB locking	A [mm]	B [mm]
50	▶	G340T.050.✲.12	G341T.050.✲.12	64	76
75	▶	G340T.075.✲.12	G341T.075.✲.12	89	101
100	▶	G340T.100.✲.12	G341T.100.✲.12	114	126
125	▶	G340T.125.✲.12*	G341T.125.✲.12*	139	151
150	▶	G340T.150.✲.12*	G341T.150.✲.12*	164	176
175	▶	G340T.175.✲.12*	G341T.175.✲.12*	189	201
200	▶	G340T.200.✲.12*	G341T.200.✲.12*	214	226
250	▶	G340T.250.✲.12*	G341T.250.✲.12*	264	276
300	▶	G340T.300.✲.12*	G341T.300.✲.12*	314	326

* Available upon request, please consult us for delivery time

🛒 Order example | MFB mounting brackets

G340	.	100	.	2	.	12
Series		Bi		Odd/even		Full set

Series G34 | MFB accessories | C-rails

C-rails

- Standard material of C-rails: galvanized steel
- The tolerance of C-rail length: ±1mm
- Fixed to MFB mounting brackets without any other accessories
- Integrated CableFix strain relief with C-rails: clamps and tiewrap plates

Bi [mm]		Part No. MFB with C-rails*	Part No. C-rail, individual	C-rail length [mm]
50	▶	□.C	CR.055	55
75	▶	□.C	CR.080	80
100	▶	□.C	CR.105	105
125	▶	□.C	CR.130	130
150	▶	□.C	CR.155	155
175	▶	□.C	CR.180	180
200	▶	□.C	CR.205	205
225	▶	□.C	CR.230	230
250	▶	□.C	CR.255	255
275	▶	□.C	CR.280	280
300	▶	□.C	CR.305	305
350	▶	□.C	CR.355	355
400	▶	□.C	CR.405	405

* Standard: both MFB ends with one C-rail

 Option: both MFB ends with two C-rails - please add index "**2**", example: G340.100.2.12.C**2**

ⓘ Please specify standard MFB mounting brackets Part No. into □ ▶ Page 84/85

CableFix clamps

Strain relief with high holding force for one, two or three cables stacked
More information ▶ Page 130

Series G34 | MFB accessories | Tiewrap plates

Tiewrap plates

- Inner width $Bi \leq 175$ mm
  Fixed to MFB mounting brackets without any other accessories
- Inner width $Bi > 175$ mm
  Fixed to C-rails of MFB mounting brackets with screws and nuts M6

Bi [mm]		Part No. MFB with ZA*	Part No. ZA, standard	Part No. C-rail, individual	Number of teeth n_z [1]
50	▶	□.Z	ZA050	—	5
75	▶	□.Z	ZA075	—	7
100	▶	□.Z	ZA100	—	10
125	▶	□.Z	ZA125	—	12
150	▶	□.Z	ZA150	—	15
175	▶	□.Z	ZA175	—	17
200	▶	□.CZ	ZA175	CR.205	17
225	▶	□.CZ	ZA100 + ZA100	CR.230	20
250	▶	□.CZ	ZA100 + ZA125	CR.255	22
275	▶	□.CZ	ZA125 + ZA125	CR.280	24
300	▶	□.CZ	ZA125 + ZA150	CR.305	27
350	▶	□.CZ	ZA150 + ZA175	CR.355	32
400	▶	□.CZ	ZA125 + ZA125 + ZA125	CR.405	36

* Standard: both MFB ends with one tiewrap plate(ZA)

 Option: both MFB ends with two tiewrap plates - please add index "**2**", example: G340.100.2.12.Z**2**

ⓘ Please specify standard MFB mounting brackets Part No. into □ ▶ Page 84/85

CableFix tiewrap plates

Simple and economical stain relief for multiple cables
More information ▶ Page 131

Default installation position of C-rails and tiewrap plates: .A1
To indicate the installation position, please add index .A1, .A2, .A3 or .A4, example: G340.100.2.12.C.A2

.A1   .A2   .A3   .A4

Series G34 | Interior separation | Vertical·Horizontal

Cmin ST34.1 SH40.X ST34.2

(i) Standard separation: **fitted every 2nd link**

Cmin = the minimum lateral gap to the side links

Type	Part No. Unassembled	Part No. Assembled	Cmin [mm] G34	G34H	G34T
**Vertical separator	Standard	For almost any application**					
	ST34.1	ST34.1.A	8	8	0

■ Wide base for fitting in cable chains stably
■ Movable, easy to adjust the position
■ Horizontal separators can be fitted at 3 different heights

| | ST34.2 | ST34.2.A | 9/11.5* | 9/11.5* | 31.5/34* |

Vertical separator | Locking | For side-mounted applications

■ Wide base for fitting in cable chains stably
■ Locking, fitted in a specified position securely
■ Preset in 5 mm increments
■ Horizontal separators can be fitted at 3 different heights

Horizontal separator | Locking | For multilayer separation

| | SH40.X | SH40.X.A | **Order example:** SH40.100 |

■ Types in 2 mm increments
■ Locked securely into vertical separators at both ends

$X \leq 200$ mm $X - 1$

* Depended on inner width **Bi**, please consult us

Series G34 | Accessories | Clip extension

(icon) Clip extension

■ Quickly fill or replace conduits and cables, reducing assembly time and cost
■ Clip can be configurated to the left, the right, both ends or inner sides of the cable chains
■ Clip fits to conduits with NW 07, 10, 12, 17, 23, 29, (36, 48) mm
■ Standard configuration: 1 clip every 2nd link
■ The Part NO. includes clips; the conduits are ordered separately upon request
■ For the best use and appearance, make sure the chain links with odd number whenever possible

Part No. Left*	Part No. Right*	Part No. Both ends	Part No. Inner sides**	NW Φ[mm]	A [mm]	B [mm]
G34.BiEL07.R	G34.BiER07.R	G34.BiEB07.R	G34.BiEN07.R	07	21.5	17.0
G34.BiEL10.R	G34.BiER10.R	G34.BiEB10.R	G34.BiEN10.R	10	24.5	20.5
G34.BiEL12.R	G34.BiER12.R	G34.BiEB12.R	G34.BiEN12.R	12	27.0	24.0
G34.BiEL17.R	G34.BiER17.R	G34.BiEB17.R	G34.BiEN17.R	17	34.0	30.0
G34.BiEL23.R	G34.BiER23.R	G34.BiEB23.R	G34.BiEN23.R	23	42.0	38.5
G34.BiEL29.R	G34.BiER29.R	G34.BiEB29.R	G34.BiEN29.R	29	48.0	45.5
—	—	—	G34.BiEN36.R	36	56.0	55.5
—	—	—	G34.BiEN48.R	48	68.0	67.5

Bi = 050 | 075 | 100 | 125 | 150 | 175 | 200 | 225 | 250 | 275 | 300 | 350 | 400
R = 063 | 075 | 100 | 125 | 150 | 175 | 200 | 225 | 250 | 300

* As viewed from the fixed end

** Cable chains with specific widths or bending radii are not suitable for clip configurated to inner sides, please consult us

(i) Clip extension is also suitable for series **G34H** and **G34T**

Series G44 | Overview

G44

Links/m = 15 pcs/1005 mm

Pitch P 67 mm	**Inner height hi** 44 mm	**Inner widths Bi** 50 – 400 mm	**Bending radii R** 75 – 350 mm

G44 - Open | Crossbars every link

- Crossbars openable along inner and outer radius
- For high technical applications

G44H - Open | Crossbars every 2nd link

- Crossbars openable along inner and outer radius
- For almost any application
- Easy to assembly and economic

G44T - Closed | Swarf protection

- Lids openable along inner and outer radius
- For applications with swarf

Order example | Complete cable chains

G44.125.150	-	30 pcs	+	G440.125.2.12	+	ST44.1	-	54 pcs
Cable chains No.		Links		Mounting brackets No.		Separators No.		Quantity

Series G44 | Installation dimensions | Unsupported

Unsupported applications | Short travels | $L_K = S/2 + K$

R	[mm]	075*	100*	125*	150	175	200	225	250	300	350
H	[mm]	214	264	314	364	414	464	514	564	664	764
Hz	[mm]	254	304	354	404	454	504	554	604	704	804
D	[mm]	208	233	258	283	308	333	358	383	433	483
K	[mm]	370	450	530	610	685	765	845	920	1080	1235

The required clearance height $H_z = H + 40$ mm

* Radius not available for G44T tubes

Fill weight ≤ 40 kg/m	**Travel** ≤ 8 m	**Speed** ≤ 10 m/s	**Acceleration** ≤ 50 m/s²

Load diagram

Fill weight [kg/m]

— FLG
- - - FLB

Unsupported length FLG / FLB [m]
Travel S [m]

Series G44 | Installation dimensions | Gliding

Gliding applications | Long travels | $L_K = S/2 + K_1$

Guide troughs without glide bars   Guide troughs with glide bars

Total length of guide troughs

R	[mm]	075*	100*	125	150	175	200	225	250	300	350
H1	[mm]	150	200	192	192	192	192	192	192	192	192
D1	[mm]	208	233	400	560	710	760	850	1010	1140	1450
K1	[mm]	370	450	603	871	1072	1206	1340	1541	1876	2278
ΔC	[mm]	—	—	170	305	440	450	520	650	730	990
nR	[1]	—	—	2	2	2	3	3	3	4	4

* Radius not available for G44T tubes

Fill weight ≤ 12 kg/m	**Travel** ≤ 250 m	**Speed** ≤ 5 m/s	**Acceleration** ≤ 30 m/s²

GuidEasy guide trough systems

Guide trough systems are necessary for sliding applications. GuidEasy guide trough systems designed by standard module are recommended in general. Please consult our engineers if you have any question.

Standard guide trough systems for series G44 ▶ Page 134

Series G44 | Product range | G44·G44H

G44 - Open | Crossbars every link

Part No. Cable chain	Bi [mm]	Ba [mm]	R [mm]	Weight [kg/m]
G44.050.R	50	76	075|100|125|150|175|200|225|250|300|350	≈ 2.08
G44.075.R	75	101	075|100|125|150|175|200|225|250|300|350	≈ 2.20
G44.100.R	100	126	075|100|125|150|175|200|225|250|300|350	≈ 2.32
G44.125.R	125	151	075|100|125|150|175|200|225|250|300|350	≈ 2.44
G44.150.R	150	176	075|100|125|150|175|200|225|250|300|350	≈ 2.57
G44.175.R	175	201	075|100|125|150|175|200|225|250|300|350	≈ 2.69
G44.200.R	200	226	075|100|125|150|175|200|225|250|300|350	≈ 2.81
G44.225.R*	225	251	075|100|125|150|175|200|225|250|300|350	≈ 2.93
G44.250.R	250	276	075|100|125|150|175|200|225|250|300|350	≈ 3.05
G44.275.R*	275	301	075|100|125|150|175|200|225|250|300|350	≈ 3.17
G44.300.R*	300	326	075|100|125|150|175|200|225|250|300|350	≈ 3.30
G44.350.R*	350	376	075|100|125|150|175|200|225|250|300|350	≈ 3.54
G44.400.R*	400	426	075|100|125|150|175|200|225|250|300|350	≈ 3.78

G44H - Open | Crossbars every 2nd link

Part No. Cable chain	Bi [mm]	Ba [mm]	R [mm]	Weight [kg/m]
G44H.050.R	50	76	075|100|125|150|175|200|225|250|300|350	≈ 1.97
G44H.075.R	75	101	075|100|125|150|175|200|225|250|300|350	≈ 2.03
G44H.100.R	100	126	075|100|125|150|175|200|225|250|300|350	≈ 2.10
G44H.125.R	125	151	075|100|125|150|175|200|225|250|300|350	≈ 2.15
G44H.150.R	150	176	075|100|125|150|175|200|225|250|300|350	≈ 2.22
G44H.175.R	175	201	075|100|125|150|175|200|225|250|300|350	≈ 2.28
G44H.200.R	200	226	075|100|125|150|175|200|225|250|300|350	≈ 2.34
G44H.225.R*	225	251	075|100|125|150|175|200|225|250|300|350	≈ 2.40
G44H.250.R	250	276	075|100|125|150|175|200|225|250|300|350	≈ 2.46
G44H.275.R*	275	301	075|100|125|150|175|200|225|250|300|350	≈ 2.52
G44H.300.R*	300	326	075|100|125|150|175|200|225|250|300|350	≈ 2.58
G44H.350.R*	350	376	075|100|125|150|175|200|225|250|300|350	≈ 2.70
G44H.400.R*	400	426	075|100|125|150|175|200|225|250|300|350	≈ 2.83

Series G44 | Product range | G44T

G44T - Closed | Swarf protection

Part No. Cable chain	Bi [mm]	Ba [mm]	R [mm]	Weight [kg/m]
G44T.050.R*	50	76	— | — |125|150|175|200|225|250|300|350	≈ 2.26
G44T.075.R*	75	101	— | — |125|150|175|200|225|250|300|350	≈ 2.48
G44T.100.R	100	126	— | — |125|150|175|200|225|250|300|350	≈ 2.70
G44T.125.R	125	151	— | — |125|150|175|200|225|250|300|350	≈ 2.91
G44T.150.R	150	176	— | — |125|150|175|200|225|250|300|350	≈ 3.13
G44T.175.R*	175	201	— | — |125|150|175|200|225|250|300|350	≈ 3.34
G44T.200.R	200	226	— | — |125|150|175|200|225|250|300|350	≈ 3.55
G44T.250.R	250	276	— | — |125|150|175|200|225|250|300|350	≈ 3.99
G44T.300.R*	300	326	— | — |125|150|175|200|225|250|300|350	≈ 4.42

* Available upon request, please consult us for delivery time

max.
40 mm

44

64

Bi

Ba

Order example | Cable chains

G44	.	125	.	150	-	30 pcs
Series		Bi		R		Links

Series G44 | MFB mounting brackets | G44·G44H

MFB mounting brackets | Open

- Used for series G44 and G44H
- Fixed from top, bottom, end face with screws M5
- Pivoting or locking brackets available:
  - **MFB Pivoting ▶** Recommended for unsupported and gliding applications
  - **MFB Locking ▶** Recommended for vertical hanging and standing applications

82 82 64 22 8 8 8 5.5 B A Bi 15 22.5 22.5 15

G440.Bi.1
30°
30°
Pivoting
30°
G440.Bi.2
30°
30°

G441.Bi.1
Locking
G441.Bi.2

Bi [mm]		Part No. MFB pivoting	Part No. MFB locking	A [mm]	B [mm]
50	▶	G440.050.⁎.12	G441.050.⁎.12	66	80
75	▶	G440.075.⁎.12	G441.075.⁎.12	91	105
100	▶	G440.100.⁎.12	G441.100.⁎.12	116	130
125	▶	G440.125.⁎.12	G441.125.⁎.12	141	155
150	▶	G440.150.⁎.12	G441.150.⁎.12	166	180
175	▶	G440.175.⁎.12	G441.175.⁎.12	191	205
200	▶	G440.200.⁎.12	G441.200.⁎.12	216	230
225	▶	G440.225.⁎.12*	G441.225.⁎.12*	241	255
250	▶	G440.250.⁎.12	G441.250.⁎.12	266	280
275	▶	G440.275.⁎.12*	G441.275.⁎.12*	291	305
300	▶	G440.300.⁎.12*	G441.300.⁎.12*	316	330
350	▶	G440.350.⁎.12*	G441.350.⁎.12*	366	380
400	▶	G440.400.⁎.12*	G441.400.⁎.12*	416	430

ℹ

For the complete Part NO. of MFB mounting brackets, please specify index **1** or **2** into ⁎
1 = Links for odd
2 = Links for even

Series G44 | MFB mounting brackets | G44T

MFB mounting brackets | Closed

- Used for series G44T
- Fixed from top, bottom, end face with screws M5
- Pivoting or locking brackets available:
  - **MFB Pivoting ▶** Recommended for unsupported and gliding applications
  - **MFB Locking ▶** Recommended for vertical hanging and standing applications

82 82 64 22 8 8 8 5.5 B A Bi 15 22.5 22.5 15

G440T.Bi.1
30°
Pivoting
30°
G440T.Bi.2

G441T.Bi.1
Locking
G441T.Bi.2

Bi [mm]		Part No. MFB pivoting	Part No. MFB locking	A [mm]	B [mm]
50	▶	G440T.050.⁎.12	G441T.050.⁎.12	66	80
75	▶	G440T.075.⁎.12	G441T.075.⁎.12	91	105
100	▶	G440T.100.⁎.12	G441T.100.⁎.12	116	130
125	▶	G440T.125.⁎.12	G441T.125.⁎.12	141	155
150	▶	G440T.150.⁎.12	G441T.150.⁎.12	166	180
175	▶	G440T.175.⁎.12*	G441T.175.⁎.12*	191	205
200	▶	G440T.200.⁎.12*	G441T.200.⁎.12*	216	230
250	▶	G440T.250.⁎.12*	G441T.250.⁎.12*	266	280
300	▶	G440T.300.⁎.12*	G441T.300.⁎.12*	316	330

* Available upon request, please consult us for delivery time

🛒 Order example | MFB mounting brackets

G440	.	125	.	2	.	12
Series		Bi		Odd/even		Full set

Series G44 | MFB accessories | C-rails

⬡ C-rails

■ Standard material of C-rails: galvanized steel
■ The tolerance of C-rail length: ±1mm
■ Fixed to MFB mounting brackets without any other accessories
■ Integrated CableFix strain relief with C-rails: clamps and tiewrap plates

Bi [mm]		Part No. MFB with C-rails*	Part No. C-rail, individual	C-rail length [mm]
50	▶	☐.C	CR.055	55
75	▶	☐.C	CR.080	80
100	▶	☐.C	CR.105	105
125	▶	☐.C	CR.130	130
150	▶	☐.C	CR.155	155
175	▶	☐.C	CR.180	180
200	▶	☐.C	CR.205	205
225	▶	☐.C	CR.230	230
250	▶	☐.C	CR.255	255
275	▶	☐.C	CR.280	280
300	▶	☐.C	CR.305	305
350	▶	☐.C	CR.355	355
400	▶	☐.C	CR.405	405

* Standard: both MFB ends with one C-rail

Option: both MFB ends with two C-rails - please add index "**2**", example: G440.125.2.12.C**2**

ⓘ Please specify standard MFB mounting brackets Part No. into ☐ ▶ Page 96/97

CableFix clamps

Strain relief with high holding force for one, two or three cables stacked
More information ▶ Page 130

Series G44 | MFB accessories | Tiewrap plates

▦ Tiewrap plates

■ Inner width **Bi ≤ 175 mm**
   Fixed to MFB mounting brackets without any other accessories
■ Inner width **Bi > 175 mm**
   Fixed to C-rails of MFB mounting brackets with screws and nuts M6

Bi [mm]		Part No. MFB with ZA*	Part No. ZA, standard	Part No. C-rail, individual	Number of teeth n_z [1]
50	▶	☐.Z	ZA050	—	5
75	▶	☐.Z	ZA075	—	7
100	▶	☐.Z	ZA100	—	10
125	▶	☐.Z	ZA125	—	12
150	▶	☐.Z	ZA150	—	15
175	▶	☐.Z	ZA175	—	17
200	▶	☐.CZ	ZA175	CR.205	17
225	▶	☐.CZ	ZA100 + ZA100	CR.230	20
250	▶	☐.CZ	ZA100 + ZA125	CR.255	22
275	▶	☐.CZ	ZA125 + ZA125	CR.280	24
300	▶	☐.CZ	ZA125 + ZA150	CR.305	27
350	▶	☐.CZ	ZA150 + ZA175	CR.355	32
400	▶	☐.CZ	ZA125 + ZA125 + ZA125	CR.405	36

* Standard: both MFB ends with one tiewrap plate(ZA)

Option: both MFB ends with two tiewrap plates - please add index "**2**", example: G440.125.2.12.Z**2**

ⓘ Please specify standard MFB mounting brackets Part No. into ☐ ▶ Page 96/97

CableFix tiewrap plates

Simple and economical stain relief for multiple cables
More information ▶ Page 131

Default installation position of C-rails and tiewrap plates: **.A1**
To indicate the installation position, please add index **.A1**, **.A2**, **.A3** or **.A4**, example: G440.125.2.12.C.**A2**

.A1   .A2   .A3   .A4

Series G44 | Interior separation | Vertical·Horizontal

Cmin   ST44.1   SH40.X   ST44.2

(i) Standard separation: **fitted every 2nd link**   ☐ Cmin = the minimum lateral gap to the side links

Type	Part No. Unassembled	Part No. Assembled	Cmin [mm] G44	G44H	G44T
Vertical separator | Standard | For almost any application					
ST44.1	ST44.1.A	8	8	0	
■ Wide base for fitting in cable chains stably ■ Movable, easy to adjust the position ■ Horizontal separators can be fitted at 3 different heights					
Vertical separator | Locking | For side-mounted applications					
ST44.2	ST44.2.A	8/10.5*	8/10.5*	30.5/33*	
■ Wide base for fitting in cable chains stably ■ Locking, fitted in a specified position securely ■ Preset in 5 mm increments ■ Horizontal separators can be fitted at 3 different heights					
Horizontal separator | Locking | For multilayer separation					
SH40.X	SH40.X.A	**Order example:** SH40.100			
■ Types in 2 mm increments ■ Locked securely into vertical separators at both ends					

X ≤ 200 mm   *X - 1*

* Depended on inner width **Bi**, please consult us

Series G44 | Accessories | Clip extension

⊙ Clip extension

■ Quickly fill or replace conduits and cables, reducing assembly time and cost
■ Clip can be configurated to the left, the right, both ends or inner sides of the cable chains
■ Clip fits to conduits with NW 07, 10, 12, 17, 23, 29, 36, (48) mm
■ Standard configuration: 1 clip every 2nd link
■ The Part NO. includes clips; the conduits are ordered separately upon request
■ For the best use and appearance, make sure the chain links with odd number whenever possible

Part No. Left*	Part No. Right*	Part No. Both ends	Part No. Inner sides**	NW Φ[mm]	A [mm]	B [mm]
G44.BiEL07.R	G44.BiER07.R	G44.BiEB07.R	G44.BiEN07.R	07	21.5	17.0
G44.BiEL10.R	G44.BiER10.R	G44.BiEB10.R	G44.BiEN10.R	10	24.5	20.5
G44.BiEL12.R	G44.BiER12.R	G44.BiEB12.R	G44.BiEN12.R	12	27.0	24.0
G44.BiEL17.R	G44.BiER17.R	G44.BiEB17.R	G44.BiEN17.R	17	34.0	30.0
G44.BiEL23.R	G44.BiER23.R	G44.BiEB23.R	G44.BiEN23.R	23	42.0	38.5
G44.BiEL29.R	G44.BiER29.R	G44.BiEB29.R	G44.BiEN29.R	29	48.0	45.5
G44.BiEL36.R	G44.BiER36.R	G44.BiEB36.R	G44.BiEN36.R	36	56.0	55.5
—	—	—	G44.BiEN48.R	48	68.0	67.5

Bi = 050 | 075 | 100 | 125 | 150 | 175 | 200 | 225 | 250 | 275 | 300 | 350 | 400
R = 075 | 100 | 125 | 150 | 175 | 200 | 225 | 250 | 300 | 350

* As viewed from the fixed end
** Cable chains with specific widths or bending radii are not suitable for clip configurated to inner sides, please consult us

(i) Clip extension is also suitable for series **G44H** and **G44T**

Series G60 | Overview

G60

Links/m = 11 pcs/1001 mm

	Pitch P		Inner height hi		Inner widths Bi		Bending radii R
	91 mm		60 mm		75 – 500 mm		135 – 500 mm

G60 - Open | Crossbars every link

■ Crossbars openable along inner and outer radius
■ For high technical applications

G60H - Open | Crossbars every 2nd link

■ Crossbars openable along inner and outer radius
■ For almost any application
■ Easy to assembly and economic

G60T - Closed | Swarf protection

■ Lids openable along inner and outer radius
■ For applications with swarf

Order example | Complete cable chains

G60.200.250	-	22 pcs	+	G600.200.2.12	+	ST60.1	-	33 pcs
Cable chains No.		Links		Mounting brackets No.		Separators No.		Quantity

Series G60 | Installation dimensions | Unsupported

Unsupported applications | Short travels | $L_K = S/2 + K$

R	[mm]	135*	150	175	200	250	300	350	400	450	500
H	[mm]	358	388	438	488	588	688	788	888	988	1088
H_Z	[mm]	408	438	488	538	638	738	838	938	1038	1138
D	[mm]	316	331	356	381	431	481	531	581	631	681
K	[mm]	610	655	735	815	970	1125	1285	1440	1600	1755

The required clearance height $H_Z = H + 50$ mm

* Radius not available for **G60T** tubes

Fill weight ≤ 67 kg/m	Travel ≤ 10 m	Speed ≤ 10 m/s	Acceleration ≤ 50 m/s²

Load diagram

FLG
FLB

Fill weight [kg/m]

Unsupported length FLG / FLB [m]
Travel S [m]

Series G60 | Installation dimensions | Gliding

Gliding applications | Long travels | $L_K = S/2 + K_1$

Guide troughs without glide bars   Guide troughs with glide bars
Total length of guide troughs

R	[mm]	135*	150	175	200	250	300	350	400	450	500
H_1	[mm]	270	264	264	264	264	264	264	264	264	264
D_1	[mm]	316	500	560	690	850	1080	1390	1460	1770	2090
K_1	[mm]	610	819	910	1092	1365	1729	2184	2457	2912	3276
ΔC	[mm]	—	210	240	335	455	630	890	920	1180	1450
n_R	[1]	—	2	2	2	3	3	3	4	4	4

* Radius not available for **G60T** tubes

Fill weight ≤ 15 kg/m	Travel ≤ 350 m	Speed ≤ 5 m/s	Acceleration ≤ 30 m/s²

GuidEasy guide trough systems

Guide trough systems are necessary for sliding applications. GuidEasy guide trough systems designed by standard module are recommended in general. Please consult our engineers if you have any question.

Standard guide trough systems for series G60 ▶ Page 134

Series G60 | Product range | G60·G60H

G60 - Open | Crossbars every link

Part No. Cable chain	Bi [mm]	Ba [mm]	R [mm]	Weight [kg/m]
G60.075.R	75	109	135 | 150 | 175 | 200 | 250 | 300 | 350 | 400 | 450 | 500	≈ 3.87
G60.100.R	100	134	135 | 150 | 175 | 200 | 250 | 300 | 350 | 400 | 450 | 500	≈ 4.05
G60.125.R	125	159	135 | 150 | 175 | 200 | 250 | 300 | 350 | 400 | 450 | 500	≈ 4.22
G60.150.R	150	184	135 | 150 | 175 | 200 | 250 | 300 | 350 | 400 | 450 | 500	≈ 4.40
G60.175.R	175	209	135 | 150 | 175 | 200 | 250 | 300 | 350 | 400 | 450 | 500	≈ 4.58
G60.200.R	200	234	135 | 150 | 175 | 200 | 250 | 300 | 350 | 400 | 450 | 500	≈ 4.76
G60.225.R*	225	259	135 | 150 | 175 | 200 | 250 | 300 | 350 | 400 | 450 | 500	≈ 4.95
G60.250.R	250	284	135 | 150 | 175 | 200 | 250 | 300 | 350 | 400 | 450 | 500	≈ 5.12
G60.275.R	275	309	135 | 150 | 175 | 200 | 250 | 300 | 350 | 400 | 450 | 500	≈ 5.31
G60.300.R	300	334	135 | 150 | 175 | 200 | 250 | 300 | 350 | 400 | 450 | 500	≈ 5.49
G60.350.R	350	384	135 | 150 | 175 | 200 | 250 | 300 | 350 | 400 | 450 | 500	≈ 5.83
G60.400.R	400	434	135 | 150 | 175 | 200 | 250 | 300 | 350 | 400 | 450 | 500	≈ 6.19
G60.450.R*	450	484	135 | 150 | 175 | 200 | 250 | 300 | 350 | 400 | 450 | 500	≈ 6.54
G60.500.R*	500	534	135 | 150 | 175 | 200 | 250 | 300 | 350 | 400 | 450 | 500	≈ 6.90

G60H - Open | Crossbars every 2nd link

Part No. Cable chain	Bi [mm]	Ba [mm]	R [mm]	Weight [kg/m]
G60H.075.R	75	109	135 | 150 | 175 | 200 | 250 | 300 | 350 | 400 | 450 | 500	≈ 3.62
G60H.100.R	100	134	135 | 150 | 175 | 200 | 250 | 300 | 350 | 400 | 450 | 500	≈ 3.71
G60H.125.R	125	159	135 | 150 | 175 | 200 | 250 | 300 | 350 | 400 | 450 | 500	≈ 3.79
G60H.150.R	150	184	135 | 150 | 175 | 200 | 250 | 300 | 350 | 400 | 450 | 500	≈ 3.89
G60H.175.R	175	209	135 | 150 | 175 | 200 | 250 | 300 | 350 | 400 | 450 | 500	≈ 3.97
G60H.200.R	200	234	135 | 150 | 175 | 200 | 250 | 300 | 350 | 400 | 450 | 500	≈ 4.06
G60H.225.R*	225	259	135 | 150 | 175 | 200 | 250 | 300 | 350 | 400 | 450 | 500	≈ 4.16
G60H.250.R	250	284	135 | 150 | 175 | 200 | 250 | 300 | 350 | 400 | 450 | 500	≈ 4.24
G60H.275.R	275	309	135 | 150 | 175 | 200 | 250 | 300 | 350 | 400 | 450 | 500	≈ 4.34
G60H.300.R	300	334	135 | 150 | 175 | 200 | 250 | 300 | 350 | 400 | 450 | 500	≈ 4.43
G60H.350.R	350	384	135 | 150 | 175 | 200 | 250 | 300 | 350 | 400 | 450 | 500	≈ 4.60
G60H.400.R	400	434	135 | 150 | 175 | 200 | 250 | 300 | 350 | 400 | 450 | 500	≈ 4.78
G60H.450.R*	450	484	135 | 150 | 175 | 200 | 250 | 300 | 350 | 400 | 450 | 500	≈ 4.95
G60H.500.R*	500	534	135 | 150 | 175 | 200 | 250 | 300 | 350 | 400 | 450 | 500	≈ 5.13

Series G60 | Product range | G60T

G60T - Closed | Swarf protection

Part No. Cable chain	Bi [mm]	Ba [mm]	R [mm]	Weight [kg/m]
G60T.100.R*	100	134	— | 150 | 175 | 200 | 250 | 300 | 350 | 400 | 450 | 500	≈ 4.68
G60T.125.R	125	159	— | 150 | 175 | 200 | 250 | 300 | 350 | 400 | 450 | 500	≈ 5.02
G60T.150.R	150	184	— | 150 | 175 | 200 | 250 | 300 | 350 | 400 | 450 | 500	≈ 5.38
G60T.175.R	175	209	— | 150 | 175 | 200 | 250 | 300 | 350 | 400 | 450 | 500	≈ 5.72
G60T.200.R	200	234	— | 150 | 175 | 200 | 250 | 300 | 350 | 400 | 450 | 500	≈ 6.08
G60T.250.R	250	284	— | 150 | 175 | 200 | 250 | 300 | 350 | 400 | 450 | 500	≈ 6.76
G60T.300.R*	300	334	— | 150 | 175 | 200 | 250 | 300 | 350 | 400 | 450 | 500	≈ 7.46
G60T.350.R*	350	384	— | 150 | 175 | 200 | 250 | 300 | 350 | 400 | 450 | 500	≈ 8.14
G60T.400.R*	400	434	— | 150 | 175 | 200 | 250 | 300 | 350 | 400 | 450 | 500	≈ 8.84

* Available upon request, please consult us for delivery time

max. 54 mm · 60 · 88 · Bi · Ba

Order example | Cable chains

G60	.	200	.	250	-	22 pcs
Series		Bi		R		Links

Series G60 | MFB mounting brackets | G60·G60H

MFB mounting brackets | Open

- Used for series G60 and G60H
- Fixed from top, bottom, end face with screws M8
- Pivoting or locking brackets available:

  MFB Pivoting ▶ Recommended for unsupported and gliding applications
  MFB Locking ▶ Recommended for vertical hanging and standing applications

G600.Bi.1
Pivoting
G600.Bi.2

G601.Bi.1
Locking
G601.Bi.2

Bi		Part No.	Part No.	A	B
[mm]		MFB pivoting	MFB locking	[mm]	[mm]
75	▶	G600.075.⊕.12	G601.075.⊕.12	98	116
100	▶	G600.100.⊕.12	G601.100.⊕.12	123	141
125	▶	G600.125.⊕.12	G601.125.⊕.12	148	166
150	▶	G600.150.⊕.12	G601.150.⊕.12	173	191
175	▶	G600.175.⊕.12	G601.175.⊕.12	198	216
200	▶	G600.200.⊕.12	G601.200.⊕.12	223	241
225	▶	G600.225.⊕.12*	G601.225.⊕.12*	248	266
250	▶	G600.250.⊕.12	G601.250.⊕.12	273	291
275	▶	G600.275.⊕.12	G601.275.⊕.12	298	316
300	▶	G600.300.⊕.12	G601.300.⊕.12	323	341
350	▶	G600.350.⊕.12	G601.350.⊕.12	373	391
400	▶	G600.400.⊕.12	G601.400.⊕.12	423	441
450	▶	G600.450.⊕.12*	G601.450.⊕.12*	473	491
500	▶	G600.500.⊕.12*	G601.500.⊕.12*	523	541

ⓘ

For the complete Part NO. of MFB mounting brackets, please specify index **1** or **2** into ⊕
1 = Links for odd
2 = Links for even

Series G60 | MFB mounting brackets | G60T

MFB mounting brackets | Closed

- Used for series G60T
- Fixed from top, bottom, end face with screws M8
- Pivoting or locking brackets available:

  MFB Pivoting ▶ Recommended for unsupported and gliding applications
  MFB Locking ▶ Recommended for vertical hanging and standing applications

G600T.Bi.1
Pivoting
G600T.Bi.2

G601T.Bi.1
Locking
G601T.Bi.2

Bi		Part No.	Part No.	A	B
[mm]		MFB pivoting	MFB locking	[mm]	[mm]
100	▶	G600T.100.⊕.12*	G601T.100.⊕.12*	123	141
125	▶	G600T.125.⊕.12	G601T.125.⊕.12	148	166
150	▶	G600T.150.⊕.12	G601T.150.⊕.12	173	191
175	▶	G600T.175.⊕.12*	G601T.175.⊕.12*	198	216
200	▶	G600T.200.⊕.12	G601T.200.⊕.12	223	241
250	▶	G600T.250.⊕.12	G601T.250.⊕.12	273	291
300	▶	G600T.300.⊕.12*	G601T.300.⊕.12*	323	341
350	▶	G600T.350.⊕.12*	G601T.350.⊕.12*	373	391
400	▶	G600T.400.⊕.12*	G601T.400.⊕.12*	423	441

* Available upon request, please consult us for delivery time

🛒 Order example | MFB mounting brackets

G600	.	200	.	2	.	12
Series		Bi		Odd/even		Full set

Series G60 | MFB accessories | C-rails

C-rails

- Standard material of C-rails: galvanized steel
- The tolerance of C-rail length: ±1mm
- Fixed to MFB mounting brackets without any other accessories
- Integrated CableFix strain relief with C-rails: clamps and tiewrap plates

Bi [mm]		Part No. MFB with C-rails*	Part No. C-rail, individual	C-rail length [mm]
75	▶	□.C	CR.083	83
100	▶	□.C	CR.108	108
125	▶	□.C	CR.133	133
150	▶	□.C	CR.158	158
175	▶	□.C	CR.183	183
200	▶	□.C	CR.208	208
225	▶	□.C	CR.233	233
250	▶	□.C	CR.258	258
275	▶	□.C	CR.283	283
300	▶	□.C	CR.308	308
350	▶	□.C	CR.358	358
400	▶	□.C	CR.408	408
450	▶	□.C	CR.458	458
500	▶	□.C	CR.508	508

* Standard: both MFB ends with one C-rail

Option: both MFB ends with two C-rails - please add index "**2**", example: G600.200.2.12.C**2**

ⓘ Please specify standard MFB mounting brackets Part No. into □ ▶ Page 108/109

CableFix clamps

Strain relief with high holding force for one, two or three cables stacked
More information ▶ Page 130

Series G60 | MFB accessories | Tiewrap plates

Tiewrap plates

- Inner width Bi ≤ 175 mm
  Fixed to MFB mounting brackets without any other accessories
- Inner width Bi > 175 mm
  Fixed to C-rails of MFB mounting brackets with screws and nuts M6

Bi [mm]		Part No. MFB with ZA*	Part No. ZA, standard	Part No. C-rail, individual	Number of teeth n_z [1]
75	▶	□.Z	ZA075	—	7
100	▶	□.Z	ZA100	—	10
125	▶	□.Z	ZA125	—	12
150	▶	□.Z	ZA150	—	15
175	▶	□.Z	ZA175	—	17
200	▶	□.Z	ZA175	CR.208	17
225	▶	□.CZ	ZA100 + ZA100	CR.233	20
250	▶	□.CZ	ZA100 + ZA125	CR.258	22
275	▶	□.CZ	ZA125+ ZA125	CR.283	24
300	▶	□.CZ	ZA125 + ZA150	CR.308	27
350	▶	□.CZ	ZA150 + ZA175	CR.358	32
400	▶	□.CZ	ZA125 + ZA125 + ZA125	CR.408	36
450	▶	□.CZ	ZA125 + ZA150 + ZA150	CR.458	42
500	▶	□.CZ	ZA150 + ZA150 + ZA175	CR.508	47

* Standard: both MFB ends with one tiewrap plate(ZA)

Option: both MFB ends with two tiewrap plates - please add index "**2**", example: G600.200.2.12.CZ**2**

ⓘ Please specify standard MFB mounting brackets Part No. into □ ▶ Page 108/109

CableFix tiewrap plates

Simple and economical stain relief for multiple cables
More information ▶ Page 131

Default installation position of C-rails and tiewrap plates: **.A1**
To indicate the installation position, please add index **.A1**, **.A2**, **.A3** or **.A4**, example: G600.200.2.12.C.**A2**

.A1　　.A2　　.A3　　.A4

Series G60 | Interior separation | Vertical·Horizontal

ℹ️ Standard separation: **fitted every 2nd link** ▪ C$_{min}$ = the minimum lateral gap to the side links

Type	Part No. Unassembled	Part No. Assembled	C$_{min}$ [mm] G60	G60H	G60T
Vertical separator | Standard | For almost any application					
ST60.1		ST60.1.A	16	16	0
▪ Wide base for fitting in cable chains stably ▪ Movable, easy to adjust the position ▪ Horizontal separators can be fitted at 5 different heights					
Vertical separator | Locking | For side-mounted applications					
ST60.2		ST60.2.A	16/18.5*	16/18.5*	41/43.5*
▪ Wide base for fitting in cable chains stably ▪ Locking, fitted in a specified position securely ▪ Preset in 5 mm increments ▪ Horizontal separators can be fitted at 5 different heights					
Horizontal separator | Locking | For multilayer separation					
SH40.X		SH40.X.A	**Order example:** SH40.100		
▪ Types in 2 mm increments ▪ Locked securely into vertical separators at both ends					

X ≤ 200 mm   X - 1

* Depended on inner width **Bi**, please consult us

Series G60 | Accessories | Clip extension

🔲 **Clip extension**

▪ Quickly fill or replace conduits and cables, reducing assembly time and cost
▪ Clip can be configurated to the left, the right, both ends or inner sides of the cable chains
▪ Clip fits to conduits with NW 07, 10, 12, 17, 23, 29, 36, 48 mm
▪ Standard configuration: 1 clip every 2nd link
▪ The Part NO. includes clips; the conduits are ordered separately upon request
▪ For the best use and appearance, make sure the chain links with odd number whenever possible

Part No. Left*	Part No. Right*	Part No. Both ends	Part No. Inner sides**	NW Φ[mm]	A [mm]	B [mm]
G60.BiEL07.R	G60.BiER07.R	G60.BiEB07.R	G60.BiEN07.R	07	21.5	17.0
G60.BiEL10.R	G60.BiER10.R	G60.BiEB10.R	G60.BiEN10.R	10	24.5	20.5
G60.BiEL12.R	G60.BiER12.R	G60.BiEB12.R	G60.BiEN12.R	12	27.0	24.0
G60.BiEL17.R	G60.BiER17.R	G60.BiEB17.R	G60.BiEN17.R	17	34.0	30.0
G60.BiEL23.R	G60.BiER23.R	G60.BiEB23.R	G60.BiEN23.R	23	42.0	38.5
G60.BiEL29.R	G60.BiER29.R	G60.BiEB29.R	G60.BiEN29.R	29	48.0	45.5
G60.BiEL36.R	G60.BiER36.R	G60.BiEB36.R	G60.BiEN36.R	36	56.0	55.5
G60.BiEL48.R	G60.BiER48.R	G60.BiEB48.R	G60.BiEN48.R	48	68.0	67.5

Bi = 075 | 100 | 125 | 150 | 175 | 200 | 225 | 250 | 275 | 300 | 350 | 400 | 450 | 500

R = 135 | 150 | 175 | 200 | 250 | 300 | 350 | 400 | 450 | 500

* As viewed from the fixed end

** Cable chains with specific widths or bending radii are not suitable for clip configurated to inner sides, please consult us

ℹ️ Clip extension is also suitable for series **G60H** and **G60T**

Series G80 | Overview

G80

Links/m = 9 pcs/999 mm

	Pitch P		Inner height hi		Inner widths Bi		Bending radii R
	111 mm		80 mm		75 – 500 mm		150 – 600 mm

G80 - Open | Crossbars every link

■ Crossbars openable along inner and outer radius
■ For high technical applications

G80H - Open | Crossbars every 2nd link

■ Crossbars openable along inner and outer radius
■ For almost any application
■ Easy to assembly and economic

G80T - Closed | Swarf protection

■ Lids openable along inner and outer radius
■ For applications with swarf

🛒 Order example | Complete cable chains

G80.250.300	-	18 pcs	+	G800.250.2.12	+	ST80.1	-	27 pcs
Cable chains No.		Links		Mounting brackets No.		Separators No.		Quantity

Series G80 | Installation dimensions | Unsupported

Unsupported applications | Short travels | $L_K = S/2 + K$

R	[mm]	150*	175*	200	250	300	350	400	450	500	600
H	[mm]	408	458	508	608	708	808	908	1008	1108	1308
Hz	[mm]	468	518	568	668	768	868	968	1068	1168	1368
D	[mm]	371	396	421	471	521	571	621	671	721	821
K	[mm]	695	775	855	1010	1165	1325	1480	1640	1795	2110

The required clearance height $H_z = H + 60$ mm

* Radius not available for **G80T** tubes

Fill weight	Travel	Speed	Acceleration
≤ 75 kg/m	≤ 12 m	≤ 10 m/s	≤ 50 m/s²

Load diagram

Fill weight [kg/m]

— FL$_G$
-- FL$_B$

Unsupported length FL$_G$ / FL$_B$ [m]
Travel S [m]

Series G80 | Installation dimensions | Gliding

Gliding applications | Long travels | $L_K = S/2 + K_1$

Guide troughs without glide bars   Guide troughs with glide bars

Total length of guide troughs

R	[mm]	150*	175*	200	250	300	350	400	450	500	600
H1	[mm]	300	350	324	324	324	324	324	324	324	324
D1	[mm]	371	396	650	840	1020	1290	1550	1630	1890	2530
K1	[mm]	695	775	999	1332	1665	1998	2442	2664	3108	3996
ΔC	[mm]	—	—	275	415	550	760	980	1010	1220	1760
n$_R$	[1]	—	—	2	2	3	3	3	4	4	4

* Radius not available for **G80T** tubes

Fill weight	Travel	Speed	Acceleration
≤ 30 kg/m	≤ 350 m	≤ 5 m/s	≤ 30 m/s²

GuidEasy guide trough systems

Guide trough systems are necessary for sliding applications. GuidEasy guide trough systems designed by standard module are recommended in general. Please consult our engineers if you have any question.

Standard guide trough systems for series G80 ▶ Page 134

Series G80 | Product range | G80·G80H

G80 - Open | Crossbars every link

Part No. Cable chain	Bi [mm]	Ba [mm]	R [mm]	Weight [kg/m]
G80.075.R	75	125	150 | 175 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 600	≈ 6.30
G80.100.R	100	150	150 | 175 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 600	≈ 6.45
G80.125.R	125	175	150 | 175 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 600	≈ 6.59
G80.150.R	150	200	150 | 175 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 600	≈ 6.74
G80.175.R	175	225	150 | 175 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 600	≈ 6.88
G80.200.R	200	250	150 | 175 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 600	≈ 7.03
G80.225.R*	225	275	150 | 175 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 600	≈ 7.18
G80.250.R	250	300	150 | 175 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 600	≈ 7.32
G80.275.R	275	325	150 | 175 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 600	≈ 7.48
G80.300.R	300	350	150 | 175 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 600	≈ 7.62
G80.350.R	350	400	150 | 175 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 600	≈ 7.90
G80.400.R	400	450	150 | 175 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 600	≈ 8.20
G80.450.R*	450	500	150 | 175 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 600	≈ 8.48
G80.500.R*	500	550	150 | 175 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 600	≈ 8.78

G80H - Open | Crossbars every 2nd link

Part No. Cable chain	Bi [mm]	Ba [mm]	R [mm]	Weight [kg/m]
G80H.075.R	75	125	150 | 175 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 600	≈ 6.10
G80H.100.R	100	150	150 | 175 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 600	≈ 6.17
G80H.125.R	125	175	150 | 175 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 600	≈ 6.24
G80H.150.R	150	200	150 | 175 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 600	≈ 6.31
G80H.175.R	175	225	150 | 175 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 600	≈ 6.38
G80H.200.R	200	250	150 | 175 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 600	≈ 6.46
G80H.225.R*	225	275	150 | 175 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 600	≈ 6.54
G80H.250.R	250	300	150 | 175 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 600	≈ 6.61
G80H.275.R	275	325	150 | 175 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 600	≈ 6.68
G80H.300.R	300	350	150 | 175 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 600	≈ 6.76
G80H.350.R	350	400	150 | 175 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 600	≈ 6.89
G80H.400.R	400	450	150 | 175 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 600	≈ 7.04
G80H.450.R*	450	500	150 | 175 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 600	≈ 7.18
G80H.500.R*	500	550	150 | 175 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 600	≈ 7.33

Series G80 | Product range | G80T

G80T - Closed | Swarf protection

Part No. Cable chain	Bi [mm]	Ba [mm]	R [mm]	Weight [kg/m]
G80T.100.R*	100	150	— | — | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 600	≈ 6.82
G80T.150.R*	150	200	— | — | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 600	≈ 7.47
G80T.200.R	200	250	— | — | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 600	≈ 8.12
G80T.250.R*	250	300	— | — | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 600	≈ 8.77
G80T.300.R*	300	350	— | — | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 600	≈ 9.42
G80T.350.R*	350	400	— | — | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 600	≈ 10.07
G80T.400.R*	400	450	— | — | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 600	≈ 10.72

* Available upon request, please consult us for delivery time

max. 72 mm

80

108

Bi

Ba

Order example | Cable chains

G80	.	250	.	300	-	18 pcs
Series		Bi		R		Links

Series G80 | Steel mounting brackets | G80·G80H·G80T

Steel mounting brackets | Standard

- Used for series G80, G80H and G80T
- Fixed from top or bottom by altering the position of brackets with screws M10
- Pivoting or locking brackets available:
  - **Pivoting** ▶ Recommended for unsupported and gliding applications
  - **Locking** ▶ Recommended for vertical hanging and standing applications

110   110   4

A B Bi 6 12 B A
15 50 45   45 50 15

G800.1

30°
30°

Pivoting

30°
30°

G800.2

G801.1

Locking

G801.2

Bi [mm]	Part No. Steel pivoting*	Part No. Steel locking*	A [mm]	B [mm]
75 ▶	G800.⊡.12	G801.⊡.12	53	23
100 ▶	G800.⊡.12	G801.⊡.12	78	48
125 ▶	G800.⊡.12	G801.⊡.12	103	73
150 ▶	G800.⊡.12	G801.⊡.12	128	98
175 ▶	G800.⊡.12	G801.⊡.12	153	123
200 ▶	G800.⊡.12	G801.⊡.12	178	148
225 ▶	G800.⊡.12	G801.⊡.12	203	173
250 ▶	G800.⊡.12	G801.⊡.12	228	198
275 ▶	G800.⊡.12	G801.⊡.12	253	223
300 ▶	G800.⊡.12	G801.⊡.12	278	248
350 ▶	G800.⊡.12	G801.⊡.12	328	298
400 ▶	G800.⊡.12	G801.⊡.12	378	348
450 ▶	G800.⊡.12	G801.⊡.12	428	398
500 ▶	G800.⊡.12	G801.⊡.12	478	448

* Standard version is galvanized steel. Stainless steel version available. Please add index "**S**". Example: G800.1.12.**S**

ℹ️

For the complete Part NO. of steel mounting brackets, please specify index **1** or **2** into ⊡
1 = Links for odd
2 = Links for even

Series G80 | Accessories | C-rails·Tiewrap plates

🔲 C-rails   🔳 Tiewrap plates

- Standard material of C-rails: galvanized steel
- The tolerance of C-rail length: ±1mm
- Fixed to steel mounting brackets with screws
- Integrated CableFix starin relief with C-rails: clamps and tiewrap plates

Bi [mm]		Part No. with C-rail	Part No. with ZA	Part No. ZA, standard	Part No. C-rail, individual	C-rail length [mm]	nz [1]
75	▶	⊡.C075	⊡.CZ075	ZA075	CR.075	75	7
100	▶	⊡.C100	⊡.CZ100	ZA100	CR.100	100	10
125	▶	⊡.C125	⊡.CZ125	ZA125	CR.125	125	12
150	▶	⊡.C150	⊡.CZ150	ZA150	CR.150	150	15
175	▶	⊡.C175	⊡.CZ175	ZA175	CR.175	175	17
200	▶	⊡.C200	⊡.CZ200	ZA100 + ZA100	CR.200	200	20
225	▶	⊡.C225	⊡.CZ225	ZA100 + ZA125	CR.225	225	22
250	▶	⊡.C250	⊡.CZ250	ZA125 + ZA125	CR.250	250	24
275	▶	⊡.C275	⊡.CZ275	ZA125 + ZA150	CR.275	275	27
300	▶	⊡.C300	⊡.CZ300	ZA150 + ZA150	CR.300	300	30
350	▶	⊡.C350	⊡.CZ350	ZA100 + ZA125 + ZA125	CR.350	350	34
400	▶	⊡.C400	⊡.CZ400	ZA125 + ZA125 + ZA150	CR.400	400	39
450	▶	⊡.C450	⊡.CZ450	ZA150 + ZA150 + ZA150	CR.450	450	45
500	▶	⊡.C500	⊡.CZ500	ZA150 + ZA175 + ZA175	CR.500	500	49

ℹ️ Please specify standard steel mounting brackets Part No. into ⊡ ▶ Page 120

🛒 Order example | Steel mounting brackets

G800	.	2	.	12	.	A1	Default installation position: .A1
Series		Odd/even		Full set		Assembly option	

.A1   .A2   .A3   .A4

Series G80 | MFB mounting brackets | G80·G80H

MFB mounting brackets | Open

- Used for series G80 and G80H
- Fixed from top, bottom, end face with screws M10
- Pivoting or locking brackets available:
  - **MFB Pivoting** ▶ Recommended for unsupported and gliding applications
  - **MFB Locking** ▶ Recommended for vertical hanging and standing applications

G800.Bi.1

Pivoting

G800.Bi.2

G801.Bi.1

Locking

G801.Bi.2

Bi [mm]	Part No. MFB pivoting	Part No. MFB locking	A [mm]	B [mm]
75 ▶	G800.075.*.12*	G801.075.*.12*	103	125
100 ▶	G800.100.*.12*	G801.100.*.12*	128	150
125 ▶	G800.125.*.12*	G801.125.*.12*	153	175
150 ▶	G800.150.*.12*	G801.150.*.12*	178	200
175 ▶	G800.175.*.12*	G801.175.*.12*	203	225
200 ▶	G800.200.*.12*	G801.200.*.12*	228	250
225 ▶	G800.225.*.12*	G801.225.*.12*	253	275
250 ▶	G800.250.*.12*	G801.250.*.12*	278	300
275 ▶	G800.275.*.12*	G801.275.*.12*	303	325
300 ▶	G800.300.*.12*	G801.300.*.12*	328	350
350 ▶	G800.350.*.12*	G801.350.*.12*	378	400
400 ▶	G800.400.*.12*	G801.400.*.12*	428	450
450 ▶	G800.450.*.12*	G801.450.*.12*	478	500
500 ▶	G800.500.*.12*	G801.500.*.12*	528	550

ⓘ

For the complete Part NO. of MFB mounting brackets, please specify index **1** or **2** into ✳
1 = Links for odd
2 = Links for even

Series G80 | MFB mounting brackets | G80T

MFB mounting brackets | Closed

- Used for series G80T
- Fixed from top, bottom, end face with screws M10
- Pivoting or locking brackets available:
  - **MFB Pivoting** ▶ Recommended for unsupported and gliding applications
  - **MFB Locking** ▶ Recommended for vertical hanging and standing applications

G800T.Bi.1

Pivoting

G800T.Bi.2

G801T.Bi.1

Locking

G801T.Bi.2

Bi [mm]	Part No. MFB pivoting	Part No. MFB locking	A [mm]	B [mm]
100 ▶	G800T.100.*.12*	G801T.100.*.12*	128	150
150 ▶	G800T.150.*.12*	G801T.150.*.12*	178	200
200 ▶	G800T.200.*.12*	G801T.200.*.12*	228	250
250 ▶	G800T.250.*.12*	G801T.250.*.12*	278	300
300 ▶	G800T.300.*.12*	G801T.300.*.12*	328	350
350 ▶	G800T.350.*.12*	G801T.350.*.12*	378	400
400 ▶	G800T.400.*.12*	G801T.400.*.12*	428	450

* Available upon request, please consult us for delivery time

🛒 Order example | MFB mounting brackets

G800	.	250	.	2	.	12
Series		Bi		Odd/even		Full set

Series G80 | MFB accessories | C-rails

C-rails

■ Standard material of C-rails: galvanized steel
■ The tolerance of C-rail length: ±1mm
■ Fixed to MFB mounting brackets without any other accessories
■ Integrated CableFix strain relief with C-rails: clamps and tiewrap plates

Bi [mm]		Part No. MFB with C-rails*	Part No. C-rail, individual	C-rail length [mm]
75	▶	□.C	CR.083	83
100	▶	□.C	CR.108	108
125	▶	□.C	CR.133	133
150	▶	□.C	CR.158	158
175	▶	□.C	CR.183	183
200	▶	□.C	CR.208	208
225	▶	□.C	CR.233	233
250	▶	□.C	CR.258	258
275	▶	□.C	CR.283	283
300	▶	□.C	CR.308	308
350	▶	□.C	CR.358	358
400	▶	□.C	CR.408	408
450	▶	□.C	CR.458	458
500	▶	□.C	CR.508	508

* Standard: both MFB ends with one C-rail

  Option: both MFB ends with two C-rails - please add index "**2**", example: G800.250.2.12.C**2**

ⓘ Please specify standard MFB mounting brackets Part No. into □ ▶ Page 122/123

CableFix clamps

Strain relief with high holding force for one, two or three cables stacked
More information ▶ Page 130

Series G80 | MFB accessories | Tiewrap plates

Tiewrap plates

■ Inner width Bi ≤ 175 mm
  Fixed to MFB mounting brackets without any other accessories
■ Inner width Bi > 175 mm
  Fixed to C-rails of MFB mounting brackets with screws and nuts M6

Bi [mm]		Part No. MFB with ZA*	Part No. ZA, standard	Part No. C-rail, individual	Number of teeth n_z [1]
75	▶	□.Z	ZA075	—	7
100	▶	□.Z	ZA100	—	10
125	▶	□.Z	ZA125	—	12
150	▶	□.Z	ZA150	—	15
175	▶	□.Z	ZA175	—	17
200	▶	□.Z	ZA175	CR.208	17
225	▶	□.CZ	ZA100 + ZA100	CR.233	20
250	▶	□.CZ	ZA100 + ZA125	CR.258	22
275	▶	□.CZ	ZA125+ ZA125	CR.283	24
300	▶	□.CZ	ZA125 + ZA150	CR.308	27
350	▶	□.CZ	ZA150 + ZA175	CR.358	32
400	▶	□.CZ	ZA125 + ZA125 + ZA125	CR.408	36
450	▶	□.CZ	ZA125 + ZA150 + ZA150	CR.458	42
500	▶	□.CZ	ZA150 + ZA150 + ZA175	CR.508	47

* Standard: both MFB ends with one tiewrap plate(ZA)

  Option: both MFB ends with two tiewrap plates - please add index "**2**", example: G800.250.2.12.CZ**2**

ⓘ Please specify standard MFB mounting brackets Part No. into □ ▶ Page 122/123

CableFix tiewrap plates

Simple and economical stain relief for multiple cables
More information ▶ Page 131

Default installation position of C-rails and tiewrap plates: .A1
To indicate the installation position, please add index .A1, .A2, .A3 or .A4, example: G800.250.2.12.C.A2

.A1   .A2   .A3   .A4

Series G80 | Interior separation | Vertical·Horizontal

ⓘ Standard separation: **fitted every 2nd link** ▮ **Cmin** = the minimum lateral gap to the side links

Type	Part No. Unassembled	Part No. Assembled	Cmin [mm] G80	G80H	G80T
Vertical separator | **Standard** | For almost any application					
ST80.1	ST80.1.A	16	16	0
▮ Wide base for fitting in cable chains stably ▮ Movable, easy to adjust the position ▮ Horizontal separators can be fitted at 7 different heights					
Vertical separator | **Locking** | For side-mounted applications					
ST80.2	ST80.2.A	16/18.5*	16/18.5*	41/43.5*
▮ Wide base for fitting in cable chains stably ▮ Locking, fitted in a specified position securely ▮ Preset in 5 mm increments ▮ Horizontal separators can be fitted at 7 different heights					
Horizontal separator | **Locking** | For multilayer separation					
SH40.X	SH40.X.A	**Order example:** SH40.100		
▮ Types in 2 mm increments ▮ Locked securely into vertical separators at both ends					

* Depended on inner width **Bi**, please consult us

Series G80 | Accessories | Clip extension

◉ **Clip extension**

▮ Quickly fill or replace conduits and cables, reducing assembly time and cost
▮ Clip can be configurated to the left, the right, both ends or inner sides of the cable chains
▮ Clip fits to conduits with NW 07, 10, 12, 17, 23, 29, 36, 48 mm
▮ Standard configuration: 1 clip every 2nd link
▮ The Part NO. includes clips; the conduits are ordered separately upon request
▮ For the best use and appearance, make sure the chain links with odd number whenever possible

Part No. Left*	Part No. Right*	Part No. Both ends	Part No. Inner sides**	NW Φ[mm]	A [mm]	B [mm]
G80.BiEL07.R	G80.BiER07.R	G80.BiEB07.R	G80.BiEN07.R	07	21.5	17.0
G80.BiEL10.R	G80.BiER10.R	G80.BiEB10.R	G80.BiEN10.R	10	24.5	20.5
G80.BiEL12.R	G80.BiER12.R	G80.BiEB12.R	G80.BiEN12.R	12	27.0	24.0
G80.BiEL17.R	G80.BiER17.R	G80.BiEB17.R	G80.BiEN17.R	17	34.0	30.0
G80.BiEL23.R	G80.BiER23.R	G80.BiEB23.R	G80.BiEN23.R	23	42.0	38.5
G80.BiEL29.R	G80.BiER29.R	G80.BiEB29.R	G80.BiEN29.R	29	48.0	45.5
G80.BiEL36.R	G80.BiER36.R	G80.BiEB36.R	G80.BiEN36.R	36	56.0	55.5
G80.BiEL48.R	G80.BiER48.R	G80.BiEB48.R	G80.BiEN48.R	48	68.0	67.5

Bi = 075 | 100 | 125 | 150 | 175 | 200 | 225 | 250 | 275 | 300 | 350 | 400 | 450 | 500

R = 150 | 175 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 600

* As viewed from the fixed end

** Cable chains with specific widths or bending radii are not suitable for clip configurated to inner sides, please consult us

ⓘ Clip extension is also suitable for series **G80H** and **G80T**

CableFix

Strain relief, fixed securely

CableFix strain relief is specifically designed for use in chains. It offers high holding force to fix cables and hoses securely and long service life. Assembly time is optimised and space is saved.

■ Clamps ▶ Maximum holding force for high dynamic applications
■ Tiewrap plates ▶ Medium holding force for general applications

CableFix | Clamps

Clamps

- For fixing the ends of cables and hoses
- Installed on the C-rails of MFB mounting brackets
- For one, two or three cables stacked
- Tightening torque 1.5Nm
- High holding force for high dynamic applications
- Steel or stainless steel for different applications

Type	Part No. Steel	Part No. Stainless steel	Cable diameter Φ[mm]	B [mm]	H* [mm]
Single clamps					
	CFX12.1	CFX12.1.S	06 - 12	16	54
	CFX14.1	CFX14.1.S	12 - 14	18	50
	CFX16.1	CFX16.1.S	14 - 16	20	52
	CFX18.1	CFX18.1.S	16 - 18	22	54
	CFX20.1	CFX20.1.S	18 - 20	24	56
	CFX22.1	CFX22.1.S	20 - 22	26	58
	CFX26.1	CFX26.1.S	22 - 26	30	67
	CFX30.1	CFX30.1.S	26 - 30	34	71
	CFX34.1	CFX34.1.S	30 - 34	38	75
	CFX38.1	CFX38.1.S	34 - 38	42	79
	CFX42.1	CFX42.1.S	38 - 42	46	83
Double clamps					
	CFX12.2	CFX12.2.S	06 - 12	16	72
	CFX14.2	CFX14.2.S	12 - 14	18	74
	CFX16.2	CFX16.2.S	14 - 16	20	78
	CFX18.2	CFX18.2.S	16 - 18	22	82
	CFX20.2	CFX20.2.S	18 - 20	24	86
	CFX22.2	CFX22.2.S	20 - 22	26	90
	CFX26.2	CFX26.2.S	22 - 26	30	109
	CFX30.2	CFX30.2.S	26 - 30	34	117
	CFX34.2	CFX34.2.S	30 - 34	38	125
Triple clamps					
	CFX12.3	CFX12.3.S	06 - 12	16	100
	CFX14.3	CFX14.3.S	12 - 14	18	96
	CFX16.3	CFX16.3.S	14 - 16	20	102
	CFX18.3	CFX18.3.S	16 - 18	22	108
	CFX20.3	CFX20.3.S	18 - 20	24	114
	CFX22.3	CFX22.3.S	20 - 22	26	120

* H is the approximate value based on the maximum cable diameter

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CableFix | Tiewrap plates·C-rails

Tiewrap plates

- For fixing the ends of cables and hoses
- Easy to assembly
- Space-saving
- Sturdy and corrosion resistant due to polymer
- Built-in ribs for secure grip on cables and hoses
- Simple and economical, medium holding force

Part No. Tiewrap plate	Number of teeth n_z [1]	A [mm]	B [mm]
ZA050	5	55	30
ZA075	7	80	55
ZA100	10	105	80
ZA125	12	130	105
ZA150	15	155	130
ZA175	17	180	155

3 installations of tiewrap plates

- Clipped into MFB without any other accessories
- Screwed on MFB with C-rails
- Screwed outside the chains as an individual part

C-rails

- For installation of clamps and tiewrap plates
- Can be integrated into MFB
- Galvanized steel or stainless steel for different applications
- Length tolerances for C-rails of ±1mm possible

Part No. C-rail	Material	Length [mm]
CR.XXX	Galvanized steel	XXX
CR.XXX.S	Stainless steel	XXX

Guide troughs

Safe guide, modular assembly

Guide trough systems are necessary for sliding applications. Various modular guide troughs are available for different applications with high stability and long service life.

■ GuidEasy ▶ General and tough for heavy-duty applications
■ GuidSide ▶ Quick assembly for wall-mounted installation

GuidEasy | Advantages

General and tough for heavy-duty applications

(A) Guide trough side part, standard 2m/pcs

(B) Glide bar, standard 2m/pcs

(C) Fastening angle

(D) C-rail

(E) Rubber silencer profile option

1 Two-piece design, adjustable to the chain width

2 Galvanised steel and stainless steel available

3 Easy and secure installation with no welding

4 Open trough bottom with no dirt accumulation

5 Optional rubber silencer profile for noise-reducing

6 Easy to adjust the installation position with C-rails

7 Low-friction glide bars for smooth running

GuidEasy | Product range

For chain series	Guide trough set[1) without glide bar	Guide trough set[2) with glide bar	Installation set[3) with C-rail	Material standard
E26	GE.1.075	GE.2.075	GE.3.075.XXX*	Galvanized steel**
G34 ǀ G34H ǀ G34T	GE.1.110	GE.2.110	GE.3.110.XXX*	Galvanized steel**
G44 ǀ G44H ǀ G44T	GE.1.130	GE.2.130	GE.3.130.XXX*	Galvanized steel**
G60 ǀ G60H ǀ G60T	GE.1.180	GE.2.180	GE.3.180.XXX*	Galvanized steel**
G80 ǀ G80H ǀ G80T	GE.1.220	GE.2.220	GE.3.220.XXX*	Galvanized steel**

* XXX Depends on C-slot length ▶ Page 99
** Option: stainless steel - please add index "S", example: GE.1.075.**S**

1) 1 guide trough set without glide bar = 2 trough side parts(**2m**/pcs)
2) 1 guide trough set with glide bar = 2 trough side parts(**2m**/pcs) + 2 glide bars(**2m**/pcs)
3) 1 installation set with C-rail = 2 fastening angles + 1 C-rail

Calculation

■ The fixed end in the centre of the travel
■ n = half of the travel rounded to **2m** sections

▶

■ Guide trough sets without glide bars = **n**
■ Guide trough sets with glide bars = **n**
■ Installation sets = 2**n** +1

2000

n x 2000

n x 2000

Order example

Length of travel: 30m, centre fixed
Cable chain series: G44.150.200 ▶ XXX = 300

▼

Complete GuidEasy guide trough systems

1) Guide trough sets without glide bars | GE.1.130 | - | 8 sets

2) Guide trough sets with glide bars | GE.2.130 | - | 8 sets

3) Installation sets with C-rails | GE.3.130.300 | - | 17 sets

GuidEasy | Installation dimensions

Guide trough side part
Glide bar
C-rail
Fastening angle

* XXX shown on the tables on the right page

Chain series	ha [mm]	H_{Ga} [mm]	Ba [mm]	B_{Gi} [mm]	B_{Ga} [mm]	XXX [mm]	L_G [mm]	T₁ [mm]	T₂ [mm]
E26	36	75	Bi + 15	Bi + 20	Bi + 60	*	25	2	20
G34 | G34H | G34T	54	110	Bi + 22	Bi + 27	Bi + 67	*	35	2	20
G44 | G44H | G44T	64	130	Bi + 26	Bi + 31	Bi + 71	*	35	2	20
G60 | G60H | G60T	88	180	Bi + 34	Bi + 39	Bi + 79	*	50	2	30
G80 | G80H | G80T	108	220	Bi + 50	Bi + 55	Bi + 95	*	50	2.5	30

GuidEasy | C-rails

E26

Bi [mm]	XXX [mm]	Part No. Installation set
25 ▸	150	upon request
40 ▸	175	GE.3.075.175
60 ▸	200	GE.3.075.200
80 ▸	225	GE.3.075.225
100 ▸	250	GE.3.075.250

G34 | G34H | G34T

Bi [mm]	XXX [mm]	Part No. Installation set
50 ▸	200	GE.3.110.200
75 ▸	225	GE.3.110.225
100 ▸	250	GE.3.110.250
125 ▸	275	GE.3.110.275
150 ▸	300	GE.3.110.300
175 ▸	325	GE.3.110.325
200 ▸	350	GE.3.110.350
225 ▸	375	GE.3.110.375
250 ▸	400	GE.3.110.400
275 ▸	425	GE.3.110.425
300 ▸	450	GE.3.110.450
350 ▸	500	GE.3.110.500
400 ▸	550	GE.3.110.550

G44 | G44H | G44T

Bi [mm]	XXX [mm]	Part No. Installation set
50 ▸	200	GE.3.130.200
75 ▸	225	GE.3.130.225
100 ▸	250	GE.3.130.250
125 ▸	275	GE.3.130.275
150 ▸	300	GE.3.130.300
175 ▸	325	GE.3.130.325
200 ▸	350	GE.3.130.350
225 ▸	375	GE.3.130.375
250 ▸	400	GE.3.130.400
275 ▸	425	GE.3.130.425
300 ▸	450	GE.3.130.450
350 ▸	500	GE.3.130.500
400 ▸	550	GE.3.130.550

G60 | G60H | G60T

Bi [mm]	XXX [mm]	Part No. Installation set
75 ▸	225	GE.3.180.225
100 ▸	250	GE.3.180.250
125 ▸	275	GE.3.180.275
150 ▸	300	GE.3.180.300
175 ▸	325	GE.3.180.325
200 ▸	350	GE.3.180.350
225 ▸	375	GE.3.180.375
250 ▸	400	GE.3.180.400
300 ▸	450	GE.3.180.450
350 ▸	500	GE.3.180.500
400 ▸	550	GE.3.180.550
450 ▸	600	GE.3.180.600
500 ▸	650	GE.3.180.650

G80 | G80H | G80T

Bi [mm]	XXX [mm]	Part No. Installation set
75 ▸	250	GE.3.220.250
100 ▸	275	GE.3.220.275
125 ▸	300	GE.3.220.300
150 ▸	325	GE.3.220.325
175 ▸	350	GE.3.220.350
200 ▸	375	GE.3.220.375
225 ▸	400	GE.3.220.400
250 ▸	425	GE.3.220.425
300 ▸	475	GE.3.220.475
350 ▸	525	GE.3.220.525
400 ▸	575	GE.3.220.575
450 ▸	625	GE.3.220.625
500 ▸	675	GE.3.220.675

GuidSide | Advantages

Quick assembly for wall-mounted installation

(A) U-shaped guide trough, standard 2m/pcs
(B) Glide bar, standard 2m/pcs
(C) Trough bracket
(D) Connecting nut

1 One-piece design, easy to assembly

2 Galvanised steel and stainless steel available

3 Secure connection without misalignment

4 Open(standard) or closed(cleanroom)

5 Low-friction glide bars for smooth running

6 Minimum screws, quick assembly and time-saving

7 Special trough brackets for space-saving

GuidSide | Product range

For chain series	Guide trough set without glide bar	Guide trough set with glide bar	Installation set with nut	Material standard
E26.040.R	GS.1.075.040	GS.2.075.040	GS.3.110.4	Galvanized steel*
E26.060.R	GS.1.075.060	GS.2.075.060	GS.3.110.4	Galvanized steel*
E26.080.R	GS.1.075.080	GS.2.075.080	GS.3.110.4	Galvanized steel*
E26.100.R	GS.1.075.100	GS.2.075.100	GS.3.110.4	Galvanized steel*
G34.050.R	G34H.050.R	GS.1.110.050	GS.2.110.050	GS.3.110.5	Galvanized steel*
G34.075.R	G34H.075.R	GS.1.110.075	GS.2.110.075	GS.3.110.5	Galvanized steel*
G34.100.R	G34H.100.R	GS.1.110.100	GS.2.110.100	GS.3.110.5	Galvanized steel*

* Option: stainless steel - please add index "**S**", example: GS.1.075.040.**S**

Calculation

- The fixed end in the centre of the travel
- n = half of the travel rounded to **2m** sections

▶

- Guide trough sets without glide bars = n
- Guide trough sets with glide bars = n
- Installation sets = $2n + 1$

2000

n x 2000

n x 2000

Order example

Length of travel: 15m, centre fixed
Cable chain series: E26.060.100

▼

Complete GuidSide guide trough systems

1) Guide trough sets without glide bars | GS.1.075.060 | - | **4** sets

2) Guide trough sets with glide bars | GS.2.075.060 | - | **4** sets

3) Installation sets with nuts | GS.3.110.4 | - | **9** sets

GuidSide | Installation dimensions

$B_{Ga} = B_a + 45$
$B_{Gi} = B_a + 5$

- Guide trough side part
- Glide bar
- Trough bracket
- Cable

Chain series	ha [mm]	H_{Ga} [mm]	Ba [mm]	B_{Gi} [mm]	B_{Ga} [mm]	T_1 [mm]	T_2 [mm]
E26.040.R	36	75	55	60	100	4	15
E26.060.R	36	75	75	80	120	4	15
E26.080.R	36	75	95	100	140	4	15
E26.100.R	36	75	115	120	160	4	15
G34.050.R	G34H.050.R	54	110	72	77	117	5	20
G34.075.R	G34H.075.R	54	110	97	105	145	5	20
G34.100.R	G34H.100.R	54	110	122	127	167	5	20

Guide troughs | Sketches

LONGO guidelines for cable chain systems

■ **Application description** _____

■ **Type of application**

| ☐ Unsupported application | ☐ Gliding application | ☐ Vertical hanging | ☐ Vertical standing | ☐ Side-mounted straight | ☐ Side-mounted rotary | others ☐ Other application |

■ **Environment**

Indoor/Outdoor _____   Temperature _____ [°C]   Humidity _____ [%]

Dust, dirt, chips, chemicals _____   Others _____

■ **Dynamics**

Travel _____ [m]   Fill weight _____ [kg/m]   Speed _____ [m/s]

Acceleration _____ [m/s²]   Cycles/Day _____   Days/Year _____

■ **Installation Space**

Max height _____ [mm]   Max width _____ [mm]   Min bending radius _____ [mm]

Deviation of the centre point _____ [mm]   Assembly point _____

■ **Cables/Hoses**

NO.	Type	Number	Outer diameter [mm]	Weight [kg/m]	Bending Radius [mm]

■ **Further requirements**

| ☐ Open | ☐ Piovting bracket | ☐ Strain relief | ☐ Along outer radius | ☐ Separators |
| ☐ Closed | ☐ Locking bracket | ☐ Opened on both sides | ☐ Along inner radius | ☐ Guide troughs |

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