

zhefchain.com

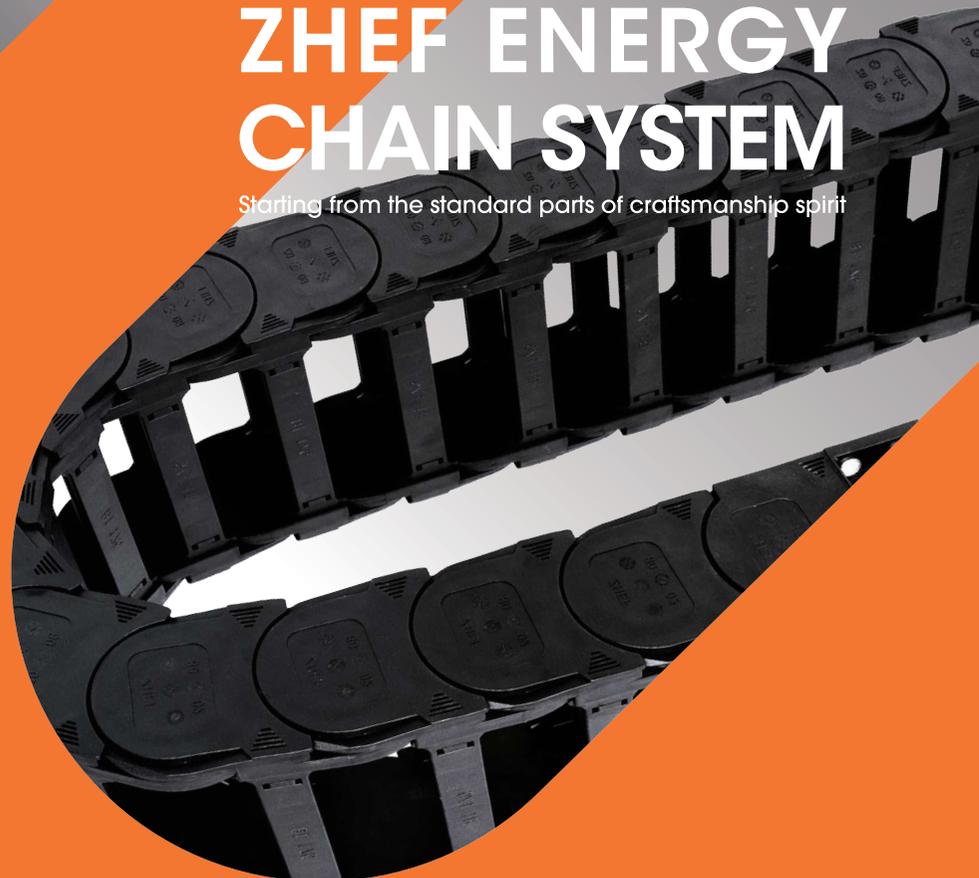
Better Chain Better Service

Better Chain  
Better Service

# ZHEF<sup>®</sup>

## ZHEF ENERGY CHAIN SYSTEM

Starting from the standard parts of craftsmanship spirit



Yifeng Energy Chain Technology (Jiangsu) Co., Ltd  
Shanghai Zhefeng Equipment Co., Ltd

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Yifeng Energy Chain Technology (Jiangsu) Co., Ltd

Shanghai Zhefeng Equipment Co., Ltd

• **ABOUT US**

Yifeng Energy chain Technology (Jiangsu) Co., Ltd specializes in engineering plastic energy chains, energy chains supporting Guide through systems, metal energy chains, and related energy chains accessories. The company adheres to the business philosophy of "customer first, forge ahead with determination," and insists on the principle of "customer first" to provide high-quality services to a wide range of customers. Our company is a high-tech enterprise mainly engaged in the design, manufacturing, sales, and after-sales installation services of energy chain systems. We have a team of professional talents in the field of engineering plastics, experienced production management personnel, and professional technical personnel. With advanced CNC machining equipment and testing equipment, we implement a strict quality management system. The company adopts advanced German technology and localized professional manufacturing to better meet the cost-effective needs of domestic and foreign users.

"Exploring the highest technology in the industry, creating a wonderful future in the field," looking to the new century, we will continue to uphold the business philosophy of integrity, professionalism, pragmatism, and excellence, and work with all employees and domestic and foreign users to create a bright future for China's independent research and development of energy chain power supply products!



**Timely Delivery**

Delivered by express or convenient logistics according to your needs.



**On-site Installation**

Please contact us if you need on-site installation.



**Customized Services**

Project designing according to your needs



**Service Hotline**

Fax: 021-67881706\*606  
 Email: sales@zhefchain.com



**Service Time**

Your call is always welcome!



**Your Questions**

Please call, email, or visit our website.

**SYMBOL INFORMATION**

**Symbol Information | Characters**

$\alpha$	Rotation Angle	[0]
Bi	Energy Chain Inner Width	[mm]
Ba	Energy Chain Outer Width	[mm]
Hi	Energy Chain Inner Height	[mm]
Ha	Energy Chain Outer Height	[mm]
P	Energy Chain Pitch	[mm]
R	Energy Chain Bending Radius	[mm]

**Symbol Information | Icon**

	Horizontal Unsupported Application		Sliding Application		Side-mounted Straight Application		Vertical Hanging Application
	Vertical Standing Application		Side-mounted Rotation Application		Load		Running Acceleration
	Energy Chain Running Speed		Material Allowable Temperature				

	Guide through		C-profile		Load		Connector
	Cable Clamp		Tiewrape plate		Ordering Example		Information
	Separator						

# ZHEF Energy Chain System Design Guide

## ■ Application Overview

### ■ Application Types



- Horizontal Unsupported Application
- Sliding Application
- Vertical Hanging
- Vertical Standing
- side-mounted Straight-line
- side-mounted Rotation

### ■ Environmental Parameters

Indoor/Outdoor \_\_\_\_\_ Temperature \_\_\_\_\_ [°C] Humidity \_\_\_\_\_ [%]  
 Dust, Dirt, Debris, Chemical Substances \_\_\_\_\_ Other \_\_\_\_\_

### ■ Dynamic Parameters

Travel length \_\_\_\_\_ [m] Load \_\_\_\_\_ [kg/m] Speed \_\_\_\_\_ [m/s]  
 Acceleration \_\_\_\_\_ [m/s²] Number of Cycles/Day \_\_\_\_\_ Day/Year \_\_\_\_\_

### ■ Installation Space

Installation Height \_\_\_\_\_ [mm] Installation Width \_\_\_\_\_ [mm] Bending Radius \_\_\_\_\_ [mm]  
 Distance from the Fixed End to the Midpoint of the travel length \_\_\_\_\_ [mm]  
 Installation Position \_\_\_\_\_

### ■ Hoses Parameters

Number	Type of Hose	Quantity	Outer Diameter[mm]	Weight[kg/m]	Minimum Bending Radius[mm]
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					

### ■ Additional Requirements

- Energy Chain with crossbar  Pivot connector  Stress-relief Component  Open along the Outer Diameter  Separator
- Energy Tube  Fixed connector  Openable on Both Sides  Open along the Inner Diameter  Guide Through

Special Requirements \_\_\_\_\_

# Experimental Apparatus



• Pendulum Impact Testing Machine



• Electronic Universal Testing Machine



• High and Low Temperature Test Chamber



• Drop Hammer Impact Tester (1)



• Drop Hammer Impact Tester (2)

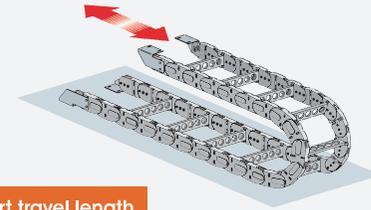


• Density Tester



• Long travel length testing platform

# Installation type of the Energy Chain System



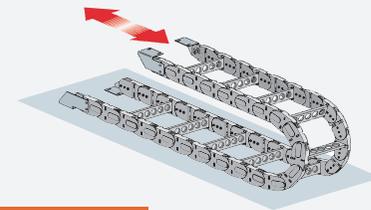
Horizontal Unsupported - Short travel length



3500 Series



4200 Series



Horizontal Unsupported - Short travel length

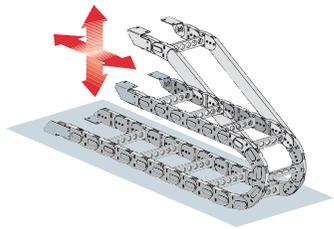


4280 Series



5600 Series

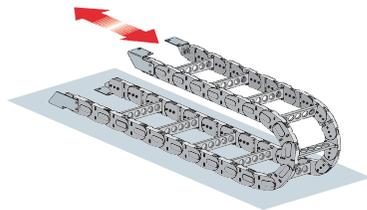
## Installation type of the Energy Chain System



Horizontal Unsupported  
- Short travel length along X and Z Axes



5600 Series



5680 Series



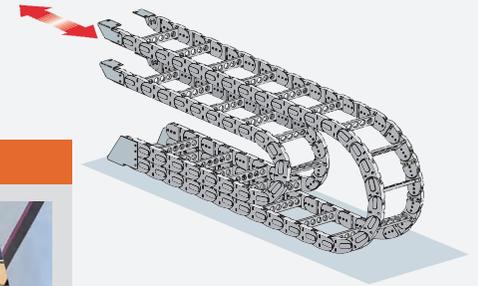
8000 Series

## Installation type of the Energy Chain System

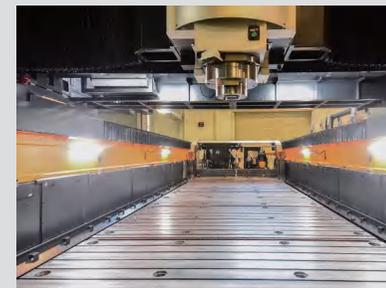
Horizontal Unsupported  
- nested short travel length



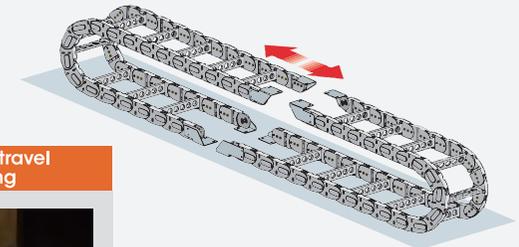
5600 Series



Horizontal Unsupported - Short travel length with two opposite running



5600 Series

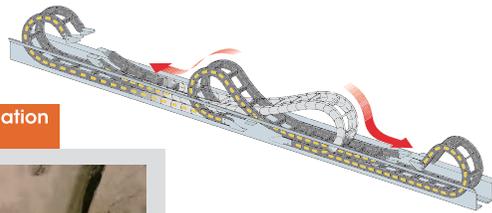


## Installation type of the Energy Chain System

Long travel length Sliding Application  
- Two Opposite Running



5600 Series



Long travel length Sliding Application



4200 Series



4280 Series



## Installation type of the Energy Chain System

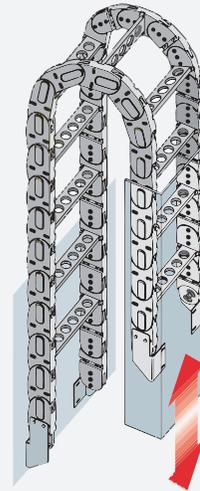
Vertical Standing Application



2500 Series



3500 Series



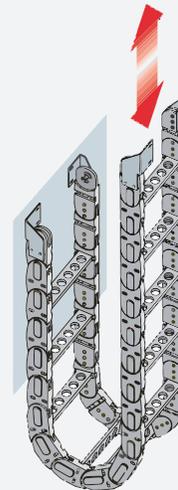
Vertical Hanging Application



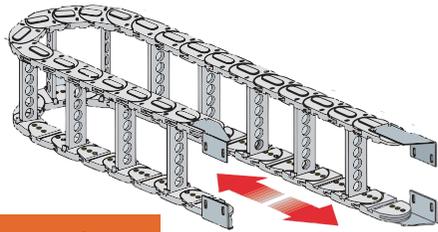
2500 Series



5600 Series



# Installation type of the Energy Chain System



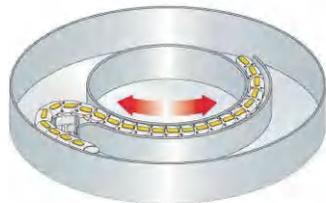
Side-mounted Installation Application



2500NOP Series



4200 Series



RBR rotation application



5600 Series



8000 Series

# Application Case of Energy Chain System



Railway Track Crane

Speed:  $V_{max}=120m/min$   
 Travel length:  $S=40m$   
 Energy Chain Type: ZF8000series



Ladle Transfer Car for a Large Steel Mill  
 Metallurgical Crane  
 Trolley Moving  
 Energy Chain

Speed:  $V_{max}=100m/min$   
 Travel length:  $S=39.5m$   
 Energy Chain Type: ZF8000series



Bucket Wheel Machine at Power Plant  
 Low-Temperature  
 Long-Travel length  
 Energy Chain

Speed:  $V_{max}=40m/min$   
 Travel length:  $S=200m$   
 Energy Chain Type: ZF8000series

## Application Case of Energy Chain System



### Pressure Machine Tool Vertical Hanging Application

Speed:  $V=100\text{m/min}$   
Travel length:  $S=4.5\text{m}$   
Acceleration:  $a=3\text{m/s}^2$   
Energy Chain Type: YFH5600series



### Energy chain for large gantry robot application

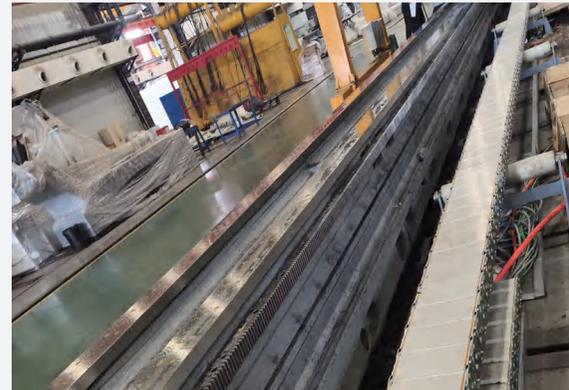
Speed:  $V_{\text{Horizontal}}=2.5\text{m/s}$   
 $V_{\text{Longitudinal}}=1.5\text{m/s}$   
Travel length:  $S_{\text{Horizontal}}=10\text{m}$   
 $S_{\text{Longitudinal}}=2.5\text{m}$   
Acceleration:  $a_{\text{Horizontal}}=3\text{m/s}^2$   
 $a_{\text{Longitudinal}}=3\text{m/s}^2$   
Energy Chain Type: YFM5600series



### Energy Chain System for special crane of Mining workshop application

Speed:  $V=60\text{m/min}$   
Travel length:  $S=106\text{m}$   
Acceleration:  $a=0.8\text{m/s}^2$   
Ultra-heavy Dust Condition  
Energy Chain Type: YFH5600series

## Application Case of Energy Chain System



### Fully-Enclosed steel chain for Y axis of Machine tool application

Speed:  $V=0.5\text{m/s}$   
Travel length:  $S=17\text{m}$   
Acceleration:  $a=0.5\text{m/s}^2$   
Heavy Oil, Long Travel length,  
Multiple Load Hydraulic  
cables and hoses  
Energy Chain Type:  
ZF-TLPS125 Series



### Stacking Machine Energy Chain System

Speed:  $V=60\text{m/min}$   
Travel length:  $S=23\text{m}$   
Acceleration:  $a=2\text{m/s}^2$   
Energy Chain Type: YFM3500 Series



### Energy Chain Sliding System for ship unloaders application

Speed:  $V=40\text{m/min}$   
Travel length:  $S=48\text{m}$   
Acceleration:  $a=1\text{m/s}^2$   
Energy Chain Type: YFM5600 Series

## Application Case of Energy Chain System



### Energy Chain System for Rotary Tippler application of a Power Plant

Speed:  $V=80/\text{min}$   
 Travel length:  $S=50\text{m}$   
 Acceleration:  $a=2\text{m}/\text{s}^2$   
 Energy Chain Type: ZF8000 Series

## Application Case of Energy Chain System



### Energy Chain System for Large Gantry machine tool application

Speed:  $V_x=20\text{m}/\text{min}$   
 $V_y=40\text{m}/\text{min}$   
 $V_z=15\text{m}/\text{min}$   
 Travel length:  $S_y=28\text{m}$   
 Acceleration:  $a=0.8\text{m}/\text{s}^2$   
 Heavy Load, Heavy Oil Conditions  
 Energy Chain Type:  
 ZF8080 + YFM5600 Series



### Energy Chain System for Foaming Line application of Refrigerator factory

Speed:  $V=80/\text{min}$   
 Travel length:  $S=20\text{m}$   
 Acceleration:  $a=3\text{m}/\text{s}^2$   
 Energy Chain Type: ZF8000 Series



### Reverse Bending Energy Chain System (Professional Circular Guide through Design)

Speed:  $V=150/\text{min}$   
 Travel length:  $S=18\text{m}$   
 Acceleration:  $a=2.5\text{m}/\text{s}^2$   
 Energy Chain Type: YFM4200 Series



### Reverse Bending Energy Chain System for Stacker-Reclaimer Rotation application (Including Cables/ Guide throughs)

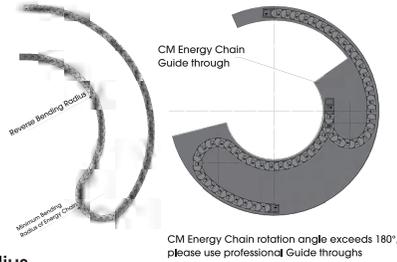
Speed:  $V=360^\circ/\text{min}$   
 Travel length:  $S=50\text{m}$   
 Heavy Load,  
 Side Panels Endure High Friction Force  
 Energy Chain Type:  
 ZF8000.300.300/2800.BK

# Reverse Bending Energy Chain System

(Professional Circular Guide through Design)

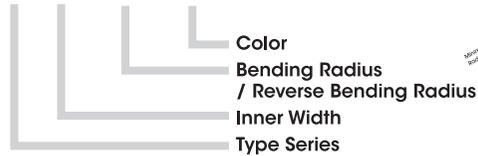
In the field of industrial automation, there are increasingly more applications where the energy chain is required to follow the equipment for reciprocating rotary application. Such an energy chain is not only required to bend in one direction but also to bend in the opposite direction. We refer to this type of energy chain as the reverse bending (CM) energy chain. The bending radius is generally determined based on the maximum outer diameter of the pipeline inside the energy chain, and the reverse bending radius is generally determined based on the inner radius of the equipment.

As shown in the figure:

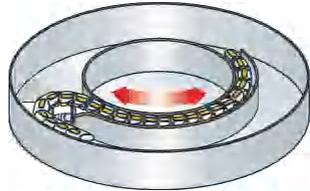


## Product Type

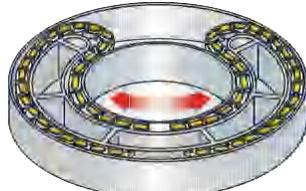
ZF2500 025 055/075 BK



## Application



For specific inquiries, please consult ZHEF Technical Sales Engineer.

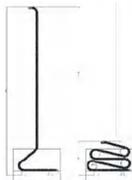


Automobile production line rotating fixtures, astronomical telescopes, medical equipment, machine tools, shield tunneling machines, household electric appliances production lines, power plant bucket wheel machines, welding robots, etc.

All Open-Type Plastic Energy Chains Can Be Transformed into Reverse Bending (CM) Type Energy Chains.



## Z-Shaped Energy Chain System



Space-Saving Solution:

It can be installed reliably in advance for a Travel length height of ≤30 meters.

No need to drive the mechanism:

The energy chain system rises and falls on its own, providing better protection for cables and hoses.

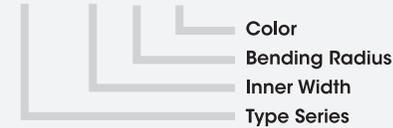
# Plastic Energy Chain Selection Illustration

## Order Example | Whole Energy Chain

ZFG2500.038.055.BK	* 20 links	+	ZFG2500.038.12	A4	+	ZFG25.1	Quantity	+	ZS38
Energy Chain Type	Number of Links		Mounting Bracket Type	Mounting Bracket Direction		Separator			Tiewrape plate

## Structure Description of the Mounting Bracket Type

ZFG2500 025 040 BK



## Structure Description of the Energy Chain Type

ZFG2500 038 12 A4



## Reverse Energy Chain Order Instructions | Whole Energy Chain

ZFG2500.038.055/075.BK	* 20 links	+	ZFG2500.038.12	A4	+	ZFG25.1	Quantity	+	ZS38
Energy Chain Type	Number of Links		Mounting Bracket Type	Mounting Bracket Direction		Separator			Tiewrape plate

## Structure Description of the Mounting Bracket Type

ZFG2500 038 055/075 BK



## Structure Description of the Energy Chain Type

ZFG2500 038 12 A4



## Metal Energy Chain Selection Illustration

## Ordering Example | Entire Energy Chain

TL-TL115	W150	R150	2800L	36片	A4
Type	Energy Chain Outer Width	Bending Radius	Energy Chain Length	Quantity	Mounting Bracket Direction

3D/CAD files, service life calculation, configuration, and more information are available at [www.zhefchain.com](http://www.zhefchain.com)

**ZHEF.**



# Plastic Chain

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1. Micro chain
2. Medium chain
3. Large chain

Legend	Opening type	Series	Inner Height [mm]	Inner Width [mm]	Outer Height [mm]	Outer Width [mm]	Bending Radius [mm]	Pitch [mm]	Page Number
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## Micro chain

		ZFG700	7	7	10	14	020	13	23
		ZFG1000	10	10 - 40	15.5 - 13	20 - 48	028	13 - 20	31
		ZFG1500	15	15 - 50	20	25 - 60	028   038   048	20 - 25	39
		ZFG1500nop	15	15 - 20	20	25 - 29	028	20/28	47
		ZFG1800	18	18 - 50	24	29 - 61	028 - 075	33.3	55
		ZFG1801	18	35	24	38	038   055   075	35	63

## Medium chain

		ZFG2500	25	25 - 103	35	40 - 118	040 - 150	46	73
		ZF2500	25	25 - 103	37	42 - 120	055 - 175	46	83
		ZF2500nop	25	38 - 103	37	55 - 120	055 - 150	46	93
		ZF2580	25	38 - 77	35	55 - 94	055 - 175	46	103
		LN2500	25	25 - 103	37	42 - 120	055 - 175	46	113
		E3200	32	50 - 175	50	68 - 193	075 - 250	56	121
		YFM3500	34	50 - 250	55	75 - 275	063 - 250	56	131
		YFM3580	34	50 - 125	55	75 - 150	125 - 250	56	141
		YFM4200	42	50 - 250	64	77 - 227	075 - 300	67	151
		YFMG4200	42	50 - 250	64	77 - 227	075 - 300	67	161
		YFM4280	42	75 - 175	64	102 - 202	125 - 300	67	169
		YFMG4280	42	75 - 175	64	102 - 202	125 - 300	67	179

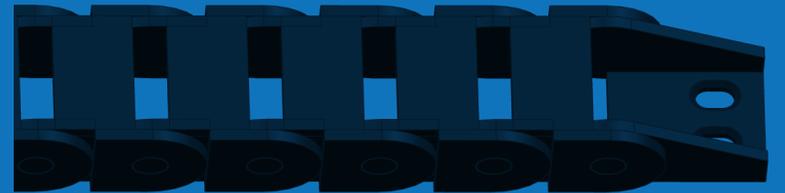
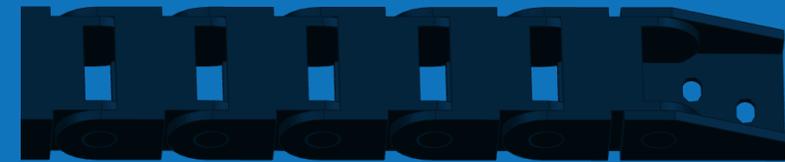
## Large chain

		YFM5600	56	75 - 500	83	110.2 - 535.2	125 - 500	91	189
		YFMG5600	56	75 - 500	83	110.2 - 535.2	125 - 500	91	199
		YFM5680	56	100 - 350	83	135.2 - 385.2	150 - 500	91	207
		YFMG5680	56	100 - 350	83	110.2 - 535.2	150 - 500	91	217
		ZF8000	80	75 - 500	108	125 - 550	150 - 500	91	225
		ZF8080	80	100 - 350	108	150 - 400	200 - 500	91	235
		ZF8000 - Triple Side-parts	80	150 - 1000	108	225 - 1075	150 - 500	91	245
		ZF8080 - Triple Side-parts	80	200 - 700	108	275 - 775	200 - 500	91	255
		System Guide through							264
		Cable Clamp   Separator							270



# Micro chain

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# ZFG700 Series

**Cost-effective  
7mm Inner Height  
Series of Energy Chain Products**



**Advantages of ZFG700 Series Energy Chains**

- Mini Perfect Size
- Light Self-Weight
- Smooth running



## Cost-effective 700 Series

### Advantages of energy chains with crossbar

- Smooth interior cavity to avoid cable wear
- Reasonable pre-stress for good load-bearing
- Smooth running

#### Typical applications

- Textile machinery
- Packaging machinery
- Logistics machinery
- Vending machines

ROHS Complied with ROHS IEC62321-7-2 environmental requirements

CE Complied with EN61386-1:2008+A1:2019 certification requirements

Smooth interior cavity  
Avoids cable wear

Reasonable pre-stress  
Good load-bearing

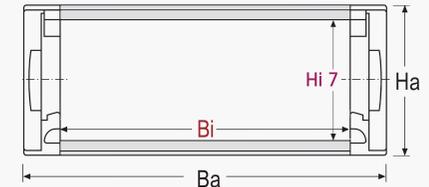
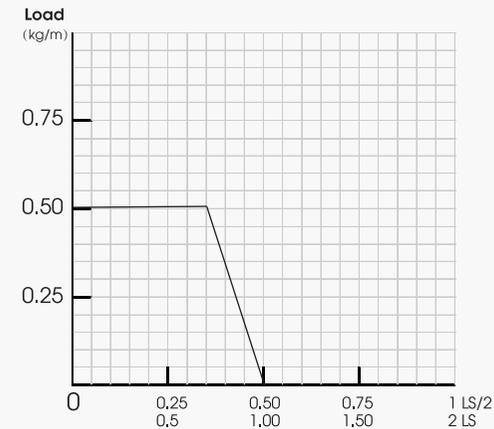
Smooth running

## ZFG700 Series

Cross bar not openable energy chain

Type	Bi [mm]	Ba [mm]	Ha [mm]	Bending radius R [mm]	Pitch P [mm]	Weight [Kg/m]
ZFG700.07.R.BK	7	14	10	020	13	≈0.08

### Unsupported - load



Bi=Inner width Ba=Outer width  
Hi=Inner height Ha=Outer height  
LS=Length of Travel length  
Inner height: 7mm  
Pitch P: 13mm  
Number of links : 77links /meter

Speed for Unsupported applications	max.5(m/s)
Gliding Speed	max.2(m/s)
Unsupported acceleration	max.50(m/s <sup>2</sup> )
Gliding acceleration	max.5(m/s <sup>2</sup> )
Material allowable temperature	-40 C ~+130 C

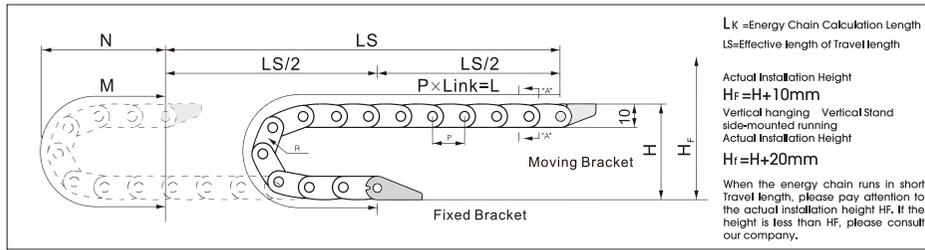
### Product Type ZFG700 07 020 BK





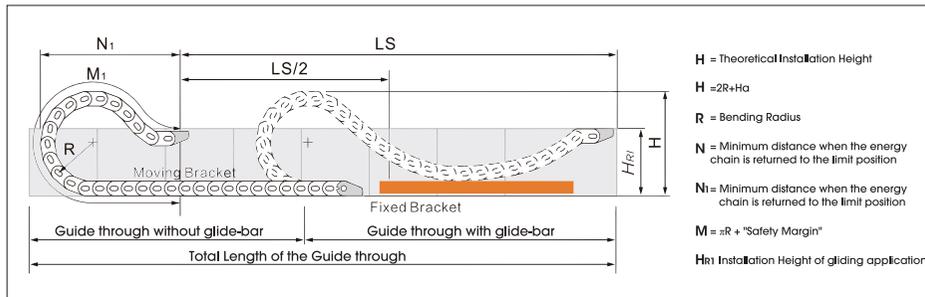
**Short Travel length-Unsupported application**

$L_k = LS/2 + M$



**Long Travel length - gliding Application**

$L_k = LS/2 + M_1$



R	Hr1	H	N	M	N1	M1
[mm]						
020	51	51	50	125	50	125

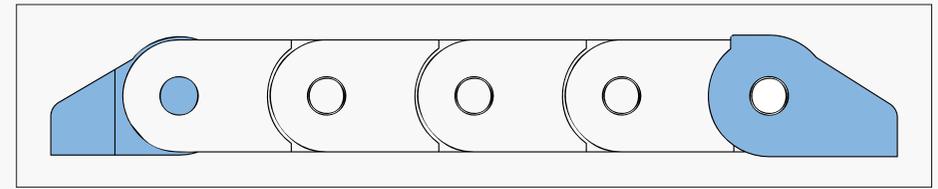
**Ordering Example | Entire Energy Chain**

ZFG700.07.020.BK \* 20 links + ZFG700.07.12 A4

Energy Chain Type	Number of Links	Mounting Bracket Type	Mounting Bracket Direction
ZFG700.07.020.BK	20	ZFG700.07.12	A4

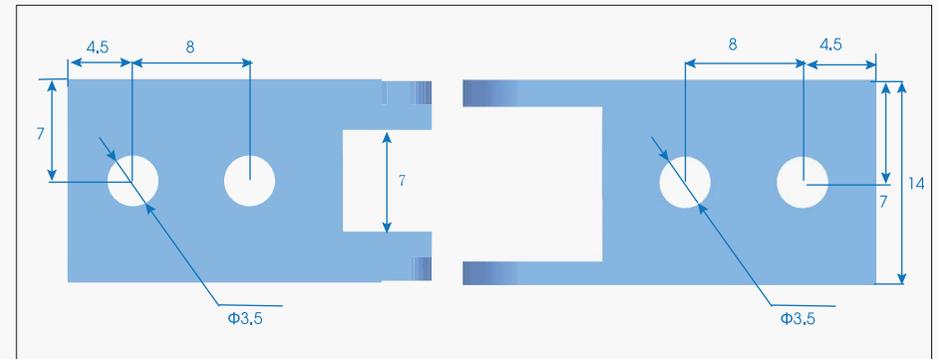
01end

02end

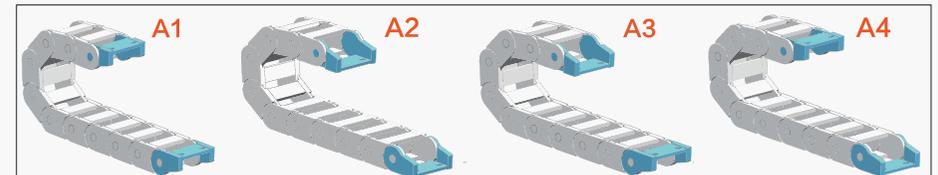


**Mounting Bracket Size**

Inner Width 7 Mounting Bracket Type: ZFG700.07.12



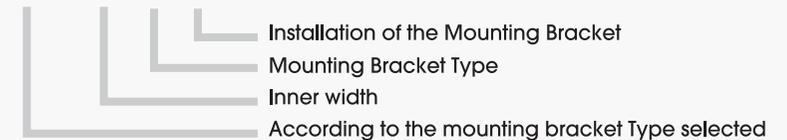
**Mounting Bracket Installation type**



For the installation of the mounting bracket of the energy chain, add the parameters A1...A4 for pre-assembled Types

**Product Type**

ZFG700 07 12 A4



**For small loads**

- For indoor applications;
- For narrow applications
- For textile machines, packaging machines, logistics machines, vending machines.



ZFG700 series is used for small packaging equipment.  
Energy chain Type: ZFG700.07.020.BK



# ZFG1000 Series

**Cost-effective  
10mm inner height  
Series of energy chain products**



Advantages of ZFG1000 energy chain series

- Mini perfect size
- Light self-weight
- Smooth running

## Cost-effective 1000Series

### Advantages of energy chains with crossbar

- Smooth interior cavity to avoid cable wear
- Reasonable pre-stress for good load-bearing
- Smooth running

### Typical applications

- Textile machinery
- Cutting machines
- Lithium-ion production equipment
- Rail vehicle doors and other fields

 ROHS Complied with ROHS IEC62321-7-2 environmental requirements

 CE Complied with EN61386-1:2008+A1:2019 certification requirements

Smooth interior cavity  
Avoids cable wear

Reasonable pre-stress  
Good load-bearing

Smooth running

## ZFG1000 Series

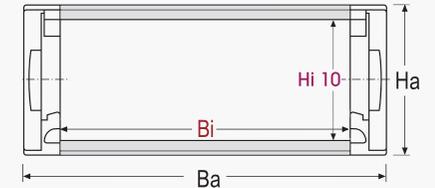
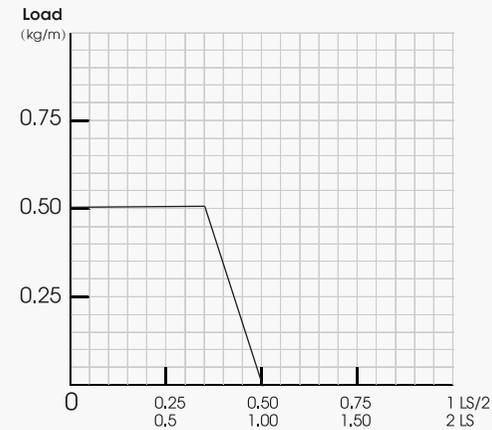
Cross bar not openable energy chain

10

Type	Bi [mm]	Ba [mm]	Ha [mm]	Bending radius R [mm]	Pitch P [mm]	Weight [Kg/m]
ZFG1000.010.R.BK	10	20	15.5	018   028	20	≈ 0.15
ZFG1000.015.R.BK	15	24	15.5	018   028	20	≈ 0.17
ZFG1000.020.R.BK	20	28	14.5	018   028	13	≈ 0.18
ZFG1000.030.R.BK	30	38	13	018   038	13	≈ 0.21
ZFG1000.040.R.BK	40	48	13	038	13	≈ 0.24

If you need products with bending radius of 18mm, please consult our sales engineers. Pitch, energy chain size, mounting bracket will not be the same as the sample Type.

### Unsupported - load



Bi=Inner width Ba=Outer width  
Hi=Inner height Ha=Outer height  
Inner height: 10mm

ZFG1000.010.R.BK Pitch P: 20mm Number of links: 50links  
ZFG1000.015.R.BK Pitch P: 20mm Number of links: 50links  
ZFG1000.020.R.BK Pitch P: 13mm Number of links: 77links  
ZFG1000.030.R.BK Pitch P: 13mm Number of links: 77links  
ZFG1000.040.R.BK Pitch P: 13mm Number of links: 77links

 Speed for Unsupported applications	max.5(m/s)
 Gliding Speed	max.2(m/s)
 Unsupported acceleration	max.50(m/s <sup>2</sup> )
 Gliding acceleration	max.5(m/s <sup>2</sup> )
 Material allowable temperature	-40 C ~ +130 C

### Product Type

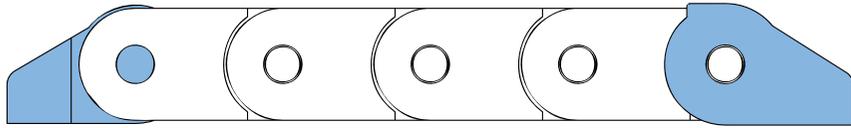
ZFG1000 010 028 BK





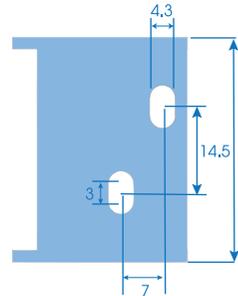
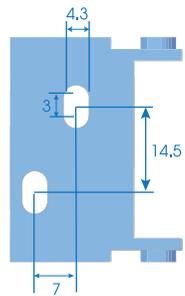
01端

02端

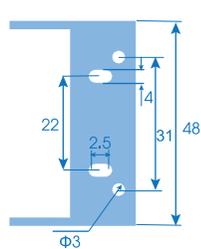
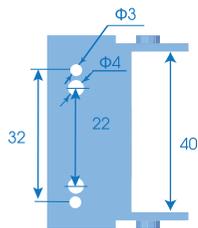


**Mounting Bracket Size**

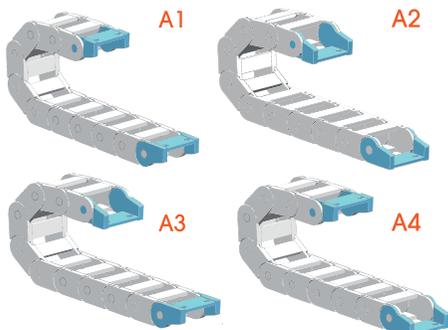
Inner Width 30 Mounting Bracket Type: ZFG1000.030.12



Inner Width 40 Mounting Bracket Type: ZFG1000.040.12



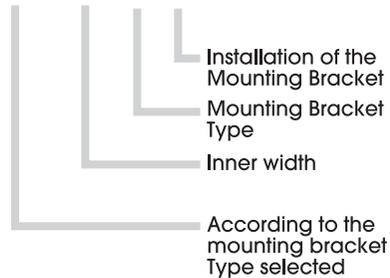
**Mounting Bracket Installation type**



The joints between ZFG1000.030,RK and ZFG1000.040,RK only have two installation methods A1 and A3, while all other joints have four installation methods A1... A4!

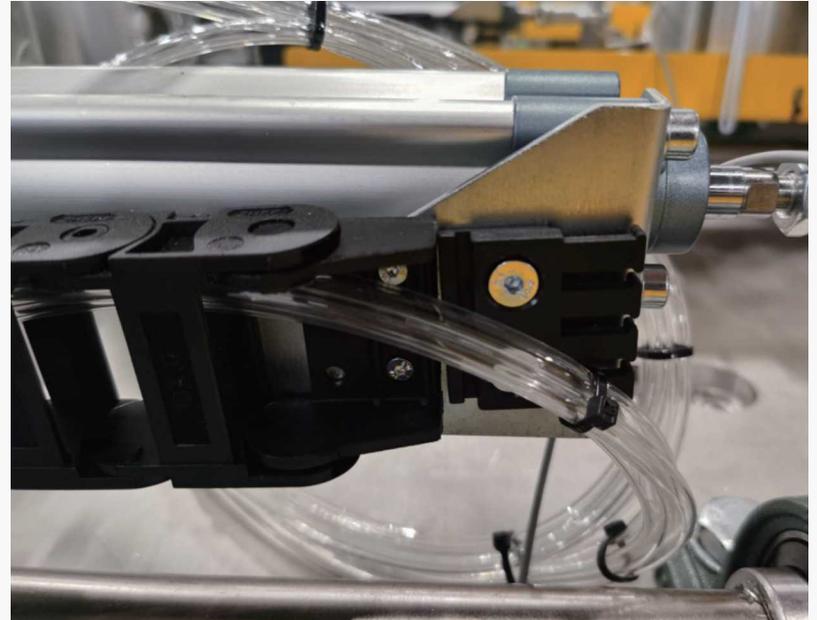
**Product Type**

ZFG1000 010 12 A4



**For small loads**

- For indoor applications;
- For narrow applications
- For textile machines, cutting machines, lithium-ion production equipment, rail vehicle doors and other fields.



ZFG1000.030.028.BK Applied in lithium battery production equipment



# ZFG1500 Series

**Cost-effective  
15mm inner height  
Series of energy chain products**



Advantages of ZFG1500 energy chain series

- Mini perfect size
- Light self-weight
- Smooth running

## Cost-effective 1500Series

### Advantages of energy chains with crossbar

- Smooth interior cavity to avoid cable wear
- Reasonable pre-stress for good load-bearing
- Smooth running

#### Typical applications

- Inkjet printing industry
- Textile machinery
- Automatic packaging industry
- Logistics equipment
- Automated electronic equipment

- ROHS Complied with ROHS IEC62321-7-2 environmental requirements
- CE Complied with EN61386-1:2008+A1:2019 certification requirements

Smooth interior cavity  
Avoids cable wear

Reasonable pre-stress  
Good load-bearing

Smooth running

## ZFG1500 Series

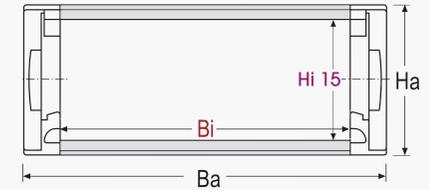
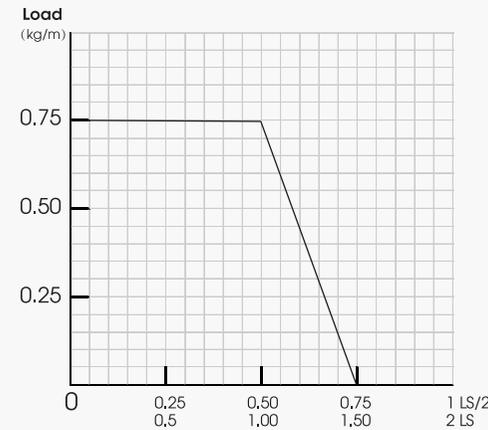
Semi-closed cross bar opens along the inner diameter

15

Type	Bi [mm]	Ba [mm]	Ha [mm]	Bending radius R [mm]	Pitch P [mm]	Weight [Kg/m]
ZFG1500.015.R.BK	15	25	20	028 038 048	22	≈0.24
ZFG1500.020.R.BK	20	30	20	028 038 048	25	≈0.25
ZFG1500.030.R.BK	30	40	20	028 038 048	25	≈0.28
ZFG1500.040.R.BK	40	50	20	028 038 048	20	≈0.31*
ZFG1500.050.R.BK	50	60	20	028 038 048	20	≈0.37*



#### Unsupported - load



Bi=Inner width Ba=Outer width  
Hi=Inner height Ha=Outer height  
LS=Length of Travel Length

ZFG1500.015.R.BK Pitch P: 22mm Number of links: 46links  
ZFG1500.020.R.BK Pitch P: 25mm Number of links: 40links  
ZFG1500.030.R.BK Pitch P: 25mm Number of links: 40links  
ZFG1500.040.R.BK Pitch P: 20mm Number of links: 50links  
ZFG1500.050.R.BK Pitch P: 20mm Number of links: 50links



Speed for Unsupported applications

max.10(m/s)

Gliding Speed

max.2(m/s)



Unsupported acceleration

max.100(m/s<sup>2</sup>)

Gliding acceleration

max.5(m/s<sup>2</sup>)



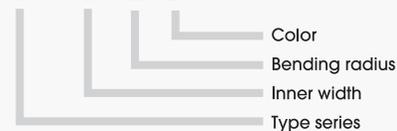
Material allowable temperature

-40 C ~ +130 C

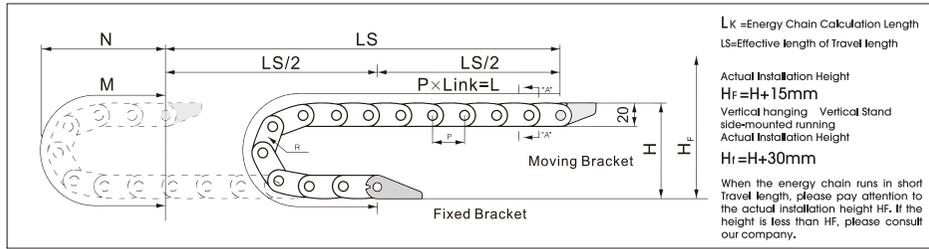


Product Type

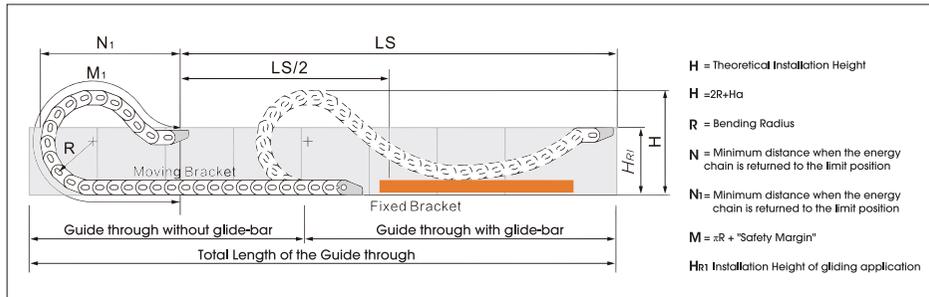
ZFG1500 015 028 BK



**Short Travel length-Unsupported application**  $L_k=LS/2+M$



**Long Travel length - gliding Application**  $L_k=LS/2+M_1$



R	H <sub>r1</sub>	H	N	M	N <sub>1</sub>	M <sub>1</sub>
[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
028	76	76	68	130	68	130
038	96	96	78	160	78	160
048	120	120	88	190	88	190

**Ordering Example | Entire Energy Chain**

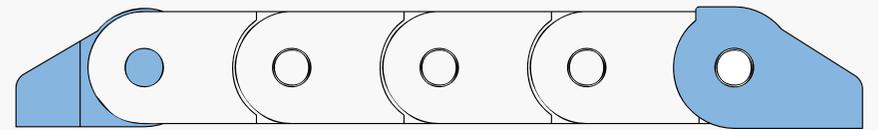
ZFG1500.020.028.BK \* 20 links + ZFG1500.020.12 A4

Energy Chain Type	Number of Links	Mounting Bracket Type	Mounting Bracket Direction
ZFG1500.020.028.BK	20	ZFG1500.020.12	A4



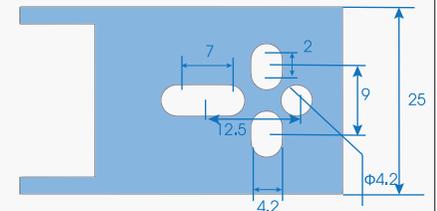
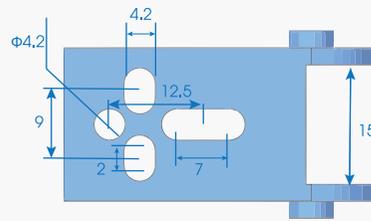
01end

02end

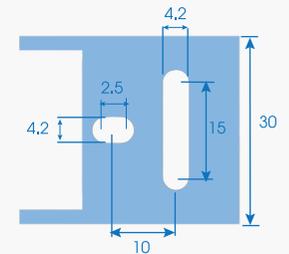
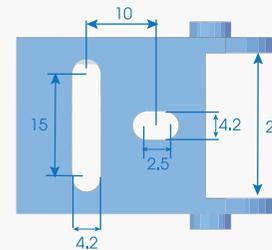


**Mounting Bracket Size**

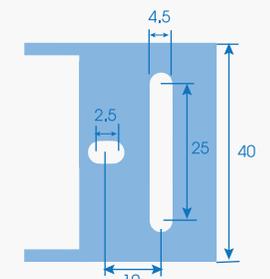
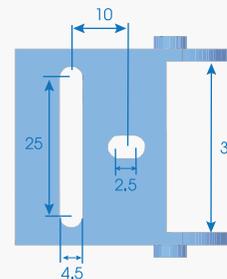
Inner Width 15 Mounting Bracket Type: ZFG1500.015.12



Inner Width 20 Mounting Bracket Type: ZFG1500.020.12

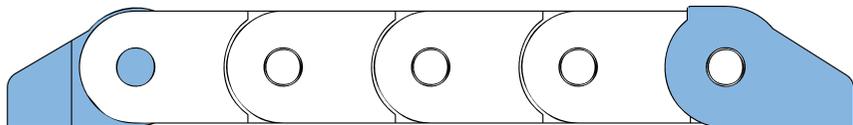


Inner Width 30 Mounting Bracket Type: ZFG1500.030.12



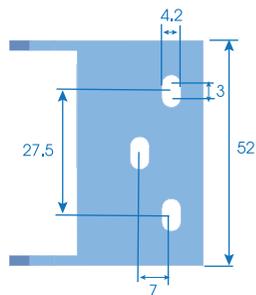
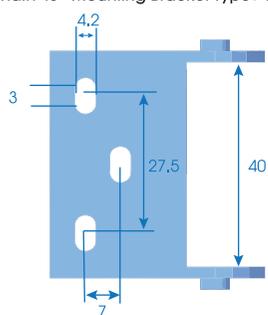
■ 01端

■ 02端

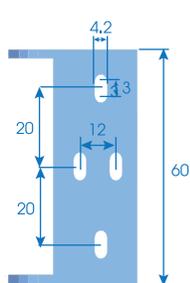
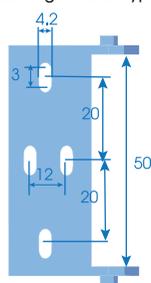


**Mounting Bracket Size**

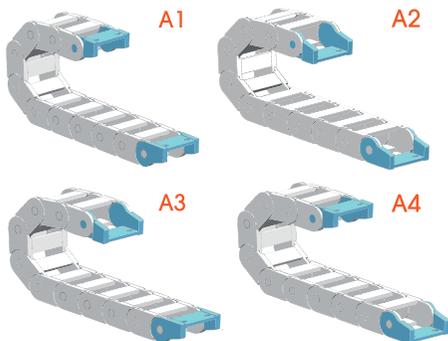
Inner Width 40 Mounting Bracket Type: ZFG1500.040.12



Inner Width 50 Mounting Bracket Type: ZFG1500.050.12



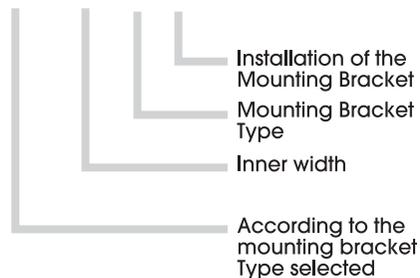
**Mounting Bracket Installation type**



For the installation of the mounting bracket of the energy chain, add the parameters A1...A4 for pre-assembled Types.

**Product Type**

ZFG1500 020 12 A4



**ZFG1500 Series  
Typical Applications**

**For small loads**

- For indoor and outdoor applications, resistant to radiation and ageing.
- Suitable for horizontal unsupported application and short travelling distances of less than 3m.
- For inkjet printing industry, textile machinery, automatic packaging industry, logistics equipment, automated electronic equipment.



Energy chain for small inkjet printing machine



# ZFG1500 NOP Series

**Cost-effective  
15mm inner height  
Series of energy chain products**



**Advantages of ZFG1500NOP energy chain series**

- Good energy chain rigidity
- Light self-weight
- Smooth running
- Non easily damaged crossbar

## Cost-effective 1500NOP Series Advantages of energy chains with crossbar

- Smooth interior cavity to avoid cable wear
- Reasonable pre-stress for good load-bearing
- Smooth running
- Air pipe and water hoses can be placed inside the cavity

### Typical applications

- Small machine tools
- Packaging industry
- Vending machines
- Supply chain automatic adjustment facilities
- Textile machinery
- Logistics equipment

- ROSH Complied with ROHS IEC62321-7-2 environmental requirements
- CE Complied with EN61386-1:2008+A1:2019 certification requirements

Smooth interior cavity  
Avoids cable wear

Reasonable pre-stress  
Good load-bearing

Smooth running

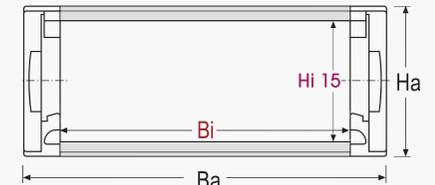
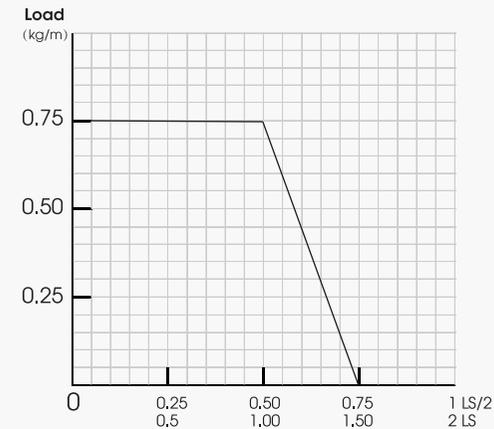
Air pipe and water hoses  
can be placed inside the cavity

## ZFG1500NOP Series Cross bar not openable energy chain

15

Type	Bi [mm]	Ba [mm]	Ha [mm]	Bending radius R [mm]	Pitch P [mm]	Weight [Kg/m]
ZFG1500nop. 015.R.BK	15	25	20	028	28	≈0.24
ZFG1500nop. 020R.BK	20	29	20	028	20	≈0.25

### Unsupported - load



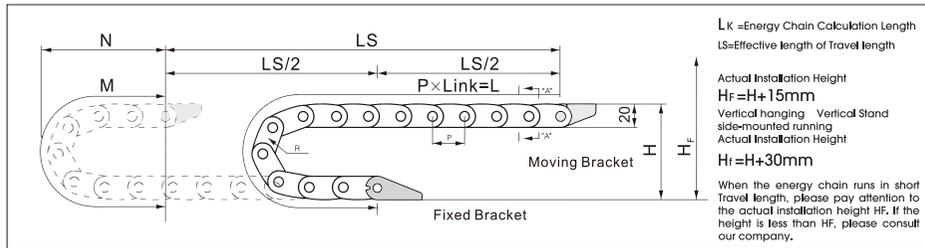
Bi=Inner width Ba=Outer width  
Hi=Inner height Ha=Outer height  
LS=Length of Travel length Inner height: 15mm  
ZFG1500nop,015,R,BK  
Pitch P: 28mm Number of links: 36section/meter  
ZFG1500nop,020,R,BK  
Pitch P: 20mm Number of links: 50section/meter

Speed for Unsupported applications	max.10(m/s)
Gliding Speed	max.2(m/s)
Unsupported acceleration	max.100(m/s <sup>2</sup> )
Gliding acceleration	max.5(m/s <sup>2</sup> )
Material allowable temperature	-40 C ~+130 C

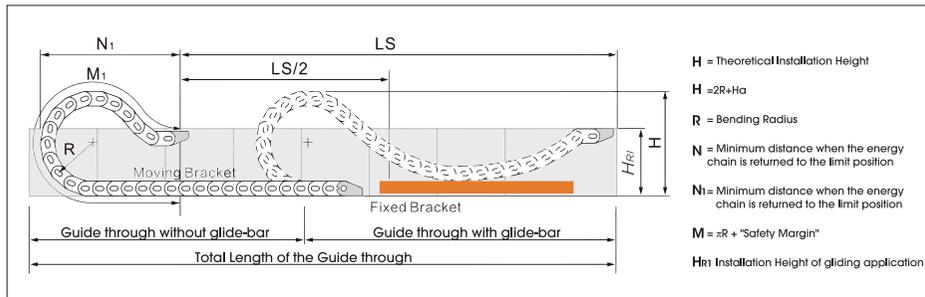
### Product Type ZFG1500nop 015 028 BK



**Short Travel length-Unsupported application**  $Lk=LS/2+M$



**Long Travel length - gliding Application**  $Lk=LS/2+M1$



R	Hr1	H	N	M	N1	M1
[mm]						
028	76	76	68	130	68	130

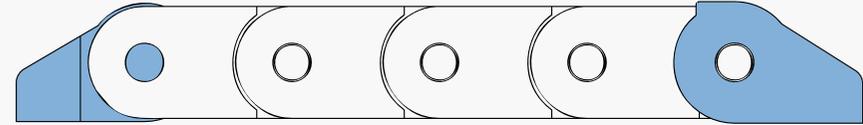
**Ordering Example | Entire Energy Chain**

ZFG1500nop.015.028.BK \* 20 links + ZFG1500nop.015.12 A4

Energy Chain Type	Number of Links	Mounting Bracket Type	Mounting Bracket Direction
ZFG1500nop.015.028.BK	20	ZFG1500nop.015.12	A4

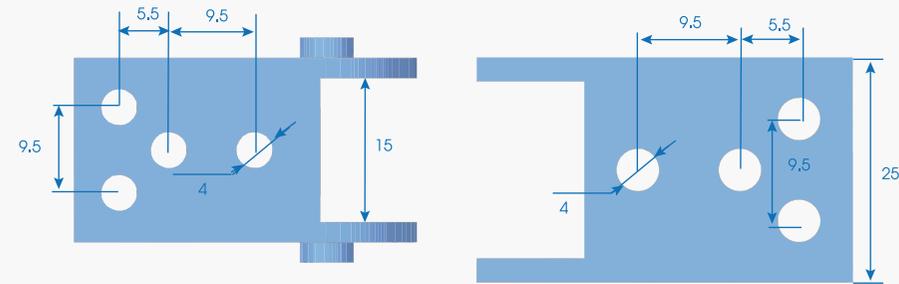
01end

02end



**Mounting Bracket Size**

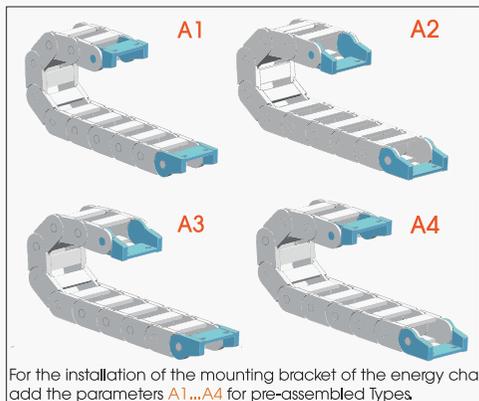
Inner Width 15 Mounting Bracket Type: ZFG1500NOP.015.12



Inner Width 20 Mounting Bracket Type: ZFG1500NOP.020.12

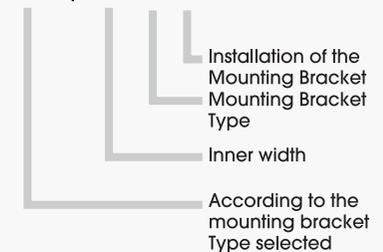


**Mounting Bracket Installation type**



**Product Type**

ZFG1500nop 015 12 A4



For the installation of the mounting bracket of the energy chain, add the parameters A1...A4 for pre-assembled Types.

3D/CAD files, service life calculation, configuration, and more information are available at [www.zhefchain.com](http://www.zhefchain.com)

## ZFG1500NOP Series Typical Applications



### For small loads

- For indoor application;
- For short travel length application with space-restricted requirements such as horizontal unsupported application and travel less than 2m;
- For small machine tools, textile machinery, packaging industry, logistics equipment, vending machines, supply chain automatic adjustment facilities.



ZFG 1500 NOP Series Energy chains for warehousing and logistics equipment



# ZFG1800 Series

**Cost-effective  
18mm inner height  
Series of energy chain products**



**Advantages of ZFG1800 energy chain series**

- High energy chain strength
- Light self-weight and high load-bearing capacity
- Smooth running

## 1800 Series Advantages of semi-closed type energy chains

- Smooth interior cavity to avoid cable wear
- Reasonable pre-stress for good load-bearing
- Smooth running

### Typical applications

- Inkjet printing industry
- Textile machinery
- Automatic packaging industry
- Logistics equipment
- Automated electronic equipment

 ROHS Complied with ROHS IEC62321-7-2 environmental requirements

 CE Complied with EN61386-1:2008+A1:2019 certification requirements

Smooth interior cavity  
Avoids cable wear

Reasonable pre-stress  
Good load-bearing

Smooth running

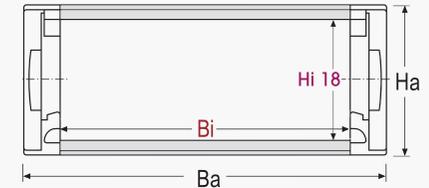
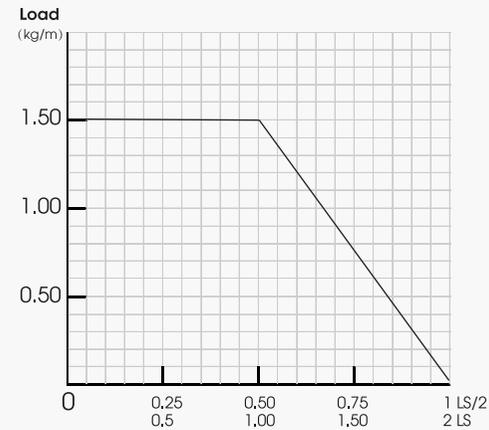
## ZFG1800 Series | Openable energy chain with semi-enclosed crossbar along the inner diameter



Type	Bi [mm]	Ba [mm]	Ha [mm]	Bending radius R [mm]	Pitch P [mm]	Weight [Kg/m]
ZFG1800.018.R.BK	18	29	24	028 038 048	33.3	≈0.35
ZFG1800.025R.BK	25	35	24	028 038 048 060 075	33.3	≈0.40
ZFG1800.037.R.BK	37	49	24	028 038 048 060 075	33.3	≈0.46
ZFG1800.050.R.BK	50	61	24	028 038 048 060 075	33.3	≈0.52



### Unsupported - load



Bi=Inner width Ba=Outer width  
Hi=Inner height Ha=Outer height  
LS=Length of Travel length  
Inner height: 18mm  
Pitch P: 33.3mm  
Number of links: 30section/meter



Speed for Unsupported applications

max.10(m/s)



Gliding Speed

max.2(m/s)



Unsupported acceleration

max.100(m/s<sup>2</sup>)



Gliding acceleration

max.5(m/s<sup>2</sup>)



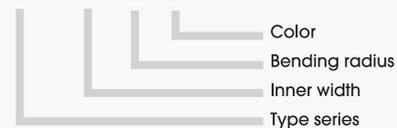
Material allowable temperature

-40 C ~ +130 C



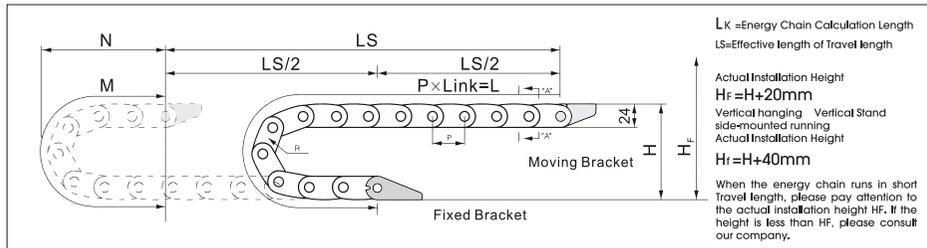
Product Type

ZFG1800 018 028 BK

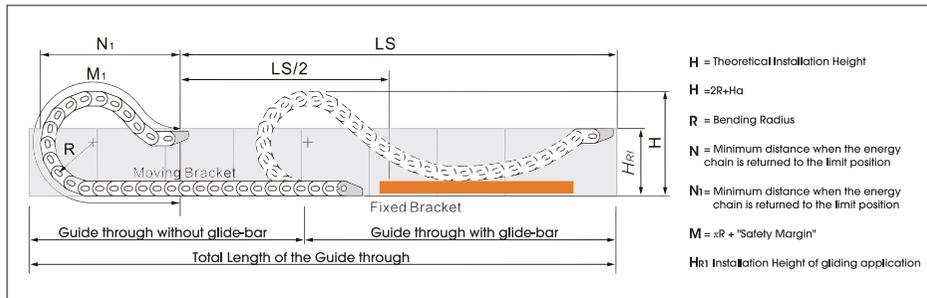




**Short Travel length-Unsupported application**  $L_k=LS/2+M$



**Long Travel length - gliding Application**  $L_k=LS/2+M_1$



R	H <sub>r1</sub>	H	N	M	N <sub>1</sub>	M <sub>1</sub>
[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
028	80	80	70	150	70	150
038	100	100	80	185	80	185
048	120	120	90	215	90	215
060	145	145	110	250	110	250
075	175	175	120	300	120	300

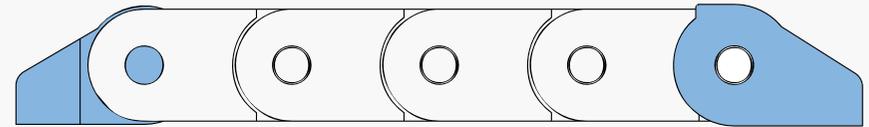
**Ordering Example | Entire Energy Chain**

ZFG1800.018.028.BK \* 20 links + ZFG1800.018.12 A4

Energy Chain Type	Number of Links	Mounting Bracket Type	Mounting Bracket Direction
ZFG1800.018.028.BK	20	ZFG1800.018.12	A4

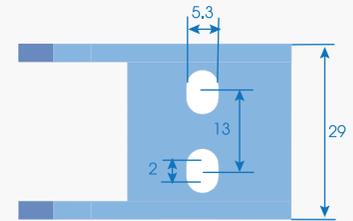
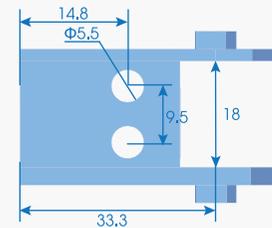
01end

02end

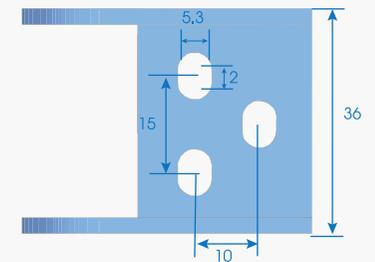
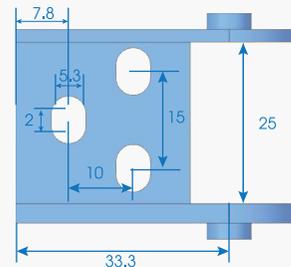


**Mounting Bracket Size**

Inner Width 18 Mounting Bracket Type: ZFG1800.018.12

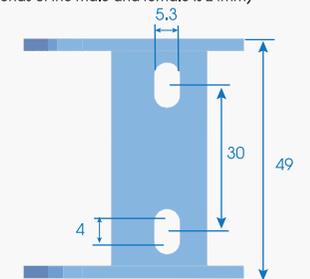
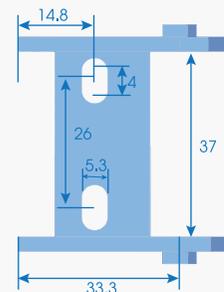


Inner Width 25 Mounting Bracket Type: ZFG1800.025.12



Inner Width 37 Mounting Bracket Type: ZFG1800.037.12

(Among them, for the bending radius R75, the distance between the joint holes at both ends of the male and female is 24mm)

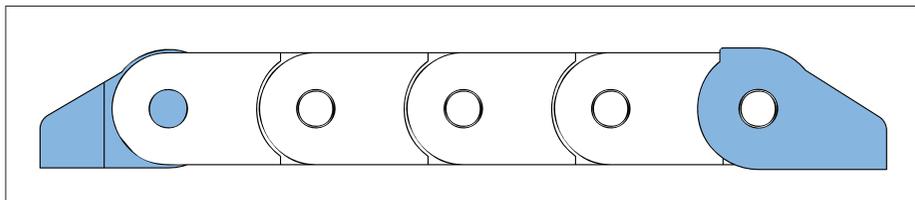


## ZFG1800 Series Mounting Bracket



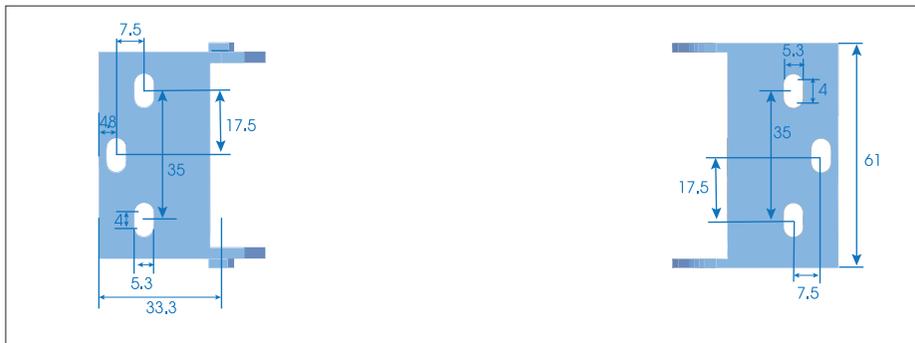
■ 01端

■ 02端

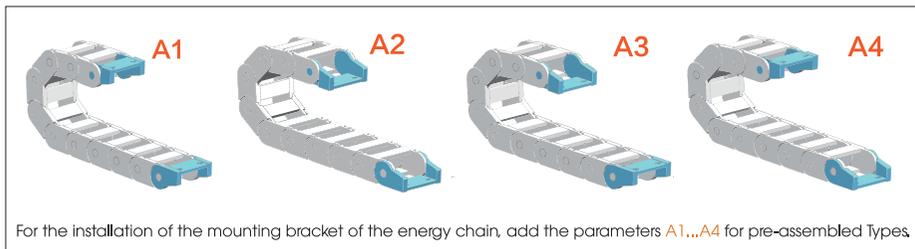


### Mounting Bracket Size

Inner Width 50 Mounting Bracket Type: ZFG1800.050.12

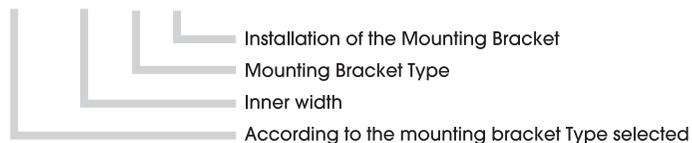


### Mounting Bracket Installation type



### Product Type

ZFG1800 018 12 A4



## ZFG1800 Series Typical Applications



### For small loads

- For indoor and outdoor applications, resistant to radiation and ageing.
- Suitable for horizontal unsupported application and short travelling distances of less than 3m.
- For inkjet printing industry, textile machinery, automatic packaging industry, logistics equipment, automated electronic equipment.



ZF1800 series is used for automated electronic equipment  
Energy Chain Type: ZFG1800.025.075.BK



# ZFG1801 Series

**Cost-effective  
18mm inner height  
Series of energy chain products**



**Advantages of ZFG1801 energy chain series**

- High energy chain strength
- Light self-weight
- Smooth running

## Cost-effective ZFG 1801 Series

### Advantages of energy chains with crossbar

- Smooth interior cavity to avoid cable wear
- Reasonable pre-stress for good load-bearing
- Smooth running

#### Typical applications

- Inkjet printing industry
- Textile machinery
- Automatic packaging industry
- Logistics equipment
- Automated electronic equipment

- ROSH Complied with ROHS IEC62321-7-2 environmental requirements
- CE Complied with EN61386-1:2008+A1:2019 certification requirements

Smooth interior cavity  
Avoids cable wear

Reasonable pre-stress  
Good load-bearing

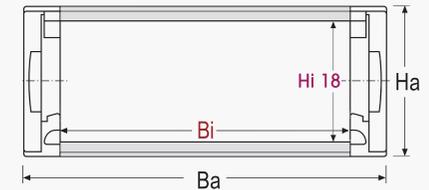
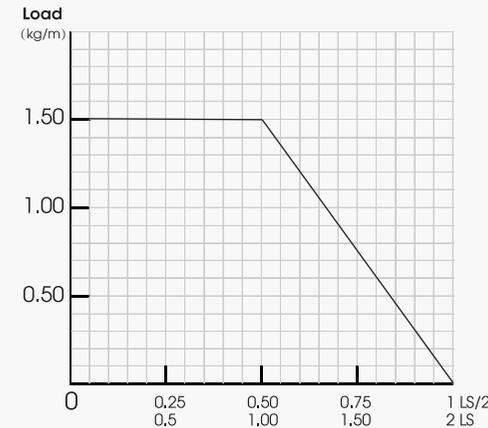
Smooth running

## ZFG1801 Series | Openable energy chains with open crossbars along the outer diameter



Type	Bi [mm]	Ba [mm]	Ha [mm]	Bending radius R [mm]	Pitch P [mm]	Weight [Kg/m]
ZFG1801.025.R.BK	25	38	24	038 048 055 075	35	≈0.40

### Unsupported - load



Bi=Inner width Ba=Outer width  
Hi=Inner height Ha=Outer height  
LS=Length of Travel length  
Inner height: 18mm  
Pitch P: 35mm  
Number of links: 29section/meter

Speed for Unsupported applications	max.10(m/s)
Gliding Speed	max.2(m/s)
Unsupported acceleration	max.100(m/s <sup>2</sup> )
Gliding acceleration	max.5(m/s <sup>2</sup> )
Material allowable temperature	-40 C ~+130 C

### Product Type

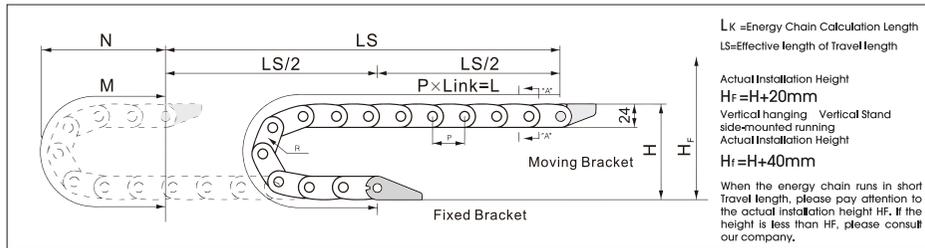
ZFG1801 025 038 BK





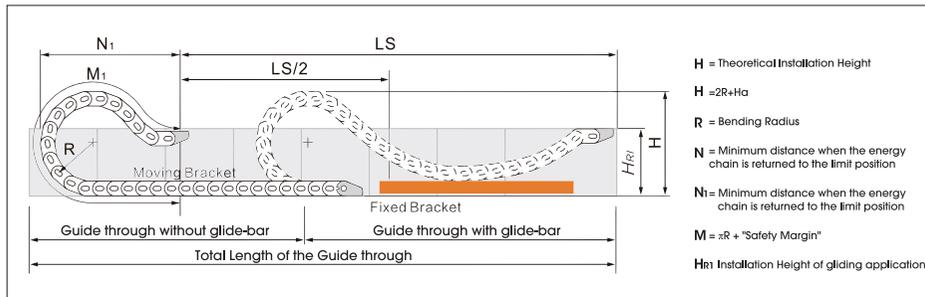
**Short Travel length-Unsupported application**

$L_k = LS/2 + M$



**Long Travel length - gliding Application**

$L_k = LS/2 + M_1$



R [mm]	H <sub>r1</sub> [mm]	H [mm]	N [mm]	M [mm]	N <sub>1</sub> [mm]	M <sub>1</sub> [mm]
038	100	100	95	185	95	185
048	120	120	105	216	105	216
055	145	145	120	250	120	250
075	175	175	132	300	132	300

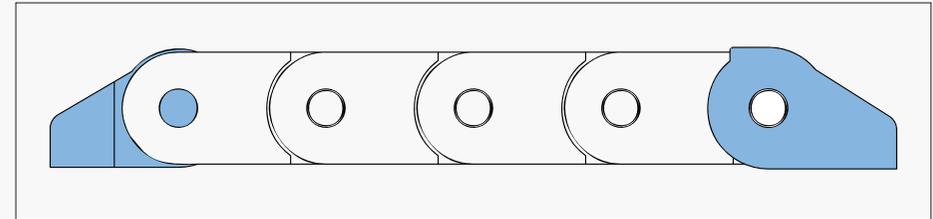
**Ordering Example | Entire Energy Chain**

ZFG1801.025.038.BK \* 20 links + ZFG1801.025.12 A4

Energy Chain Type	Number of Links	Mounting Bracket Type	Mounting Bracket Direction
ZFG1801.025.038.BK	20	ZFG1801.025.12	A4

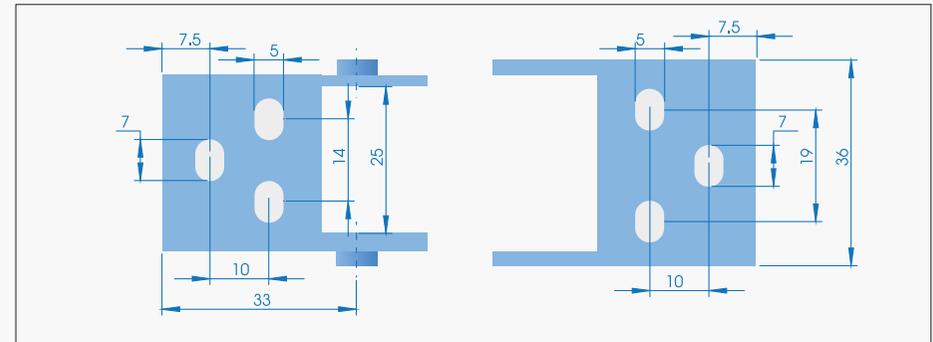
■ 01end

■ 02end

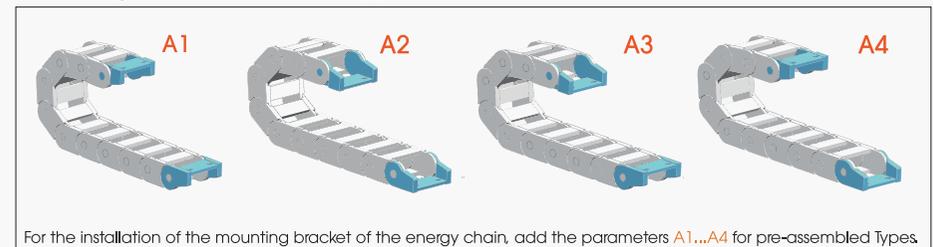


**Mounting Bracket Size**

Inner Width 25 Mounting Bracket Type: ZFG1801.025.12

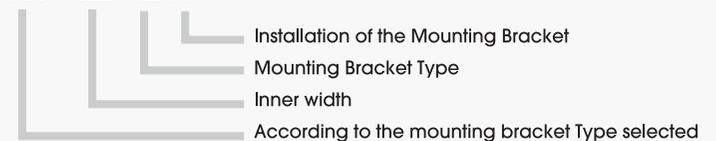


**Mounting Bracket Installation type**



**Product Type**

ZFG1801 025 12 A4



## ZFG1801 Series Typical Applications



### For small loads

- For indoor and outdoor applications, resistant to radiation and ageing.
- Suitable for horizontal unsupported application and short travelling distances of less than 3m.
- For inkjet printing industry, textile machinery, automatic packaging industry, logistics equipment, automated electronic equipment.

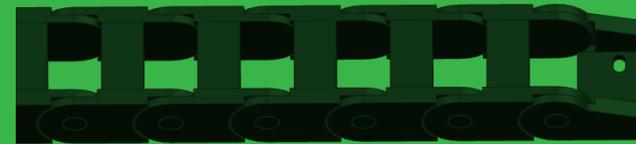


The application of ZFG1801 series energy chain in small automation equipment.



# Medium chain

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# ZFG2500 Series

**Cost-effective  
25mm inner height  
Series of energy chain products**



**Advantages of ZFG2500 energy chain series**

- High energy chain strength
- Light self-weight
- Smooth running

## Cost-effective 2500 Series Advantages of energy chains with crossbar

- Smooth interior cavity to avoid cable wear
- Reasonable pre-stress for good load-bearing
- Smooth running

### Typical applications

- Textile machinery
- Machine tool and welding industry
- Printing machinery and automation industry
- Logistics equipment
- Indoor crane

- ROHS Complied with ROHS IEC62321-7-2 environmental requirements
- CE Complied with EN61386-1:2008+A1:2019 certification requirements

Smooth interior cavity  
Avoids cable wear

Reasonable pre-stress  
Good load-bearing

Smooth running

## ZFG 2500 Series

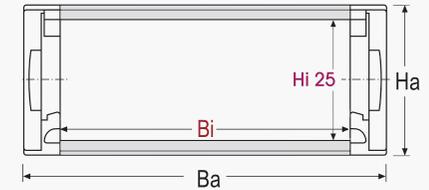
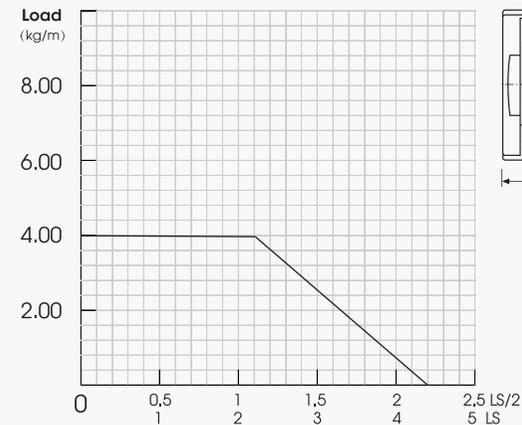
Openable energy chain with open crossbar up and down



Type	Bi [mm]	Ba [mm]	Ha [mm]	Bending radius R [mm]	Pitch P [mm]	Weight [Kg/m]
ZFG2500.025.R.BK	25	40	35	040 055 075 100 125 150	46	≈ 0.78
ZFG2500.038.R.BK	38	53	35	040	46	≈ 0.84
ZFG2500.050.R.BK	50	65	35	040	46	≈ 0.92
ZFG2500.057.R.BK	57	72	35	040	46	≈ 1.02
ZFG2500.077.R.BK	77	92	35	040	46	≈ 1.08
ZFG2500.103.R.BK	103	118	35	040	46	≈ 1.16



### Unsupported - load



Bi=Inner width Ba=Outer width  
Hi=Inner height Ha=Outer height  
LS=Length of Travel length  
Inner height: 25mm  
Pitch P: 46mm  
Number of links : 22links /meter



Speed for Unsupported applications

max.10(m/s)

Gliding Speed

max.5(m/s)



Unsupported acceleration

max.100(m/s<sup>2</sup>)

Gliding acceleration

max.25(m/s<sup>2</sup>)



Material allowable temperature

-40 C ~ +130 C



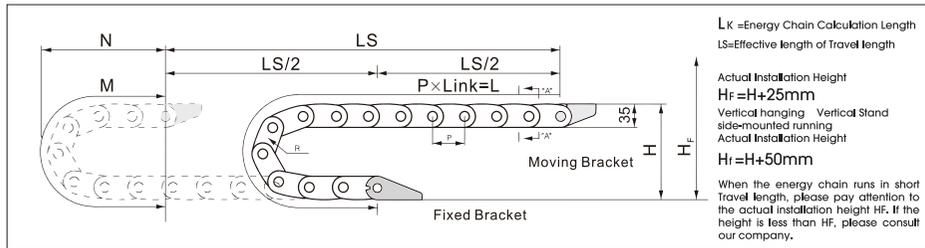
Product Type

ZFG2500 025 040 BK

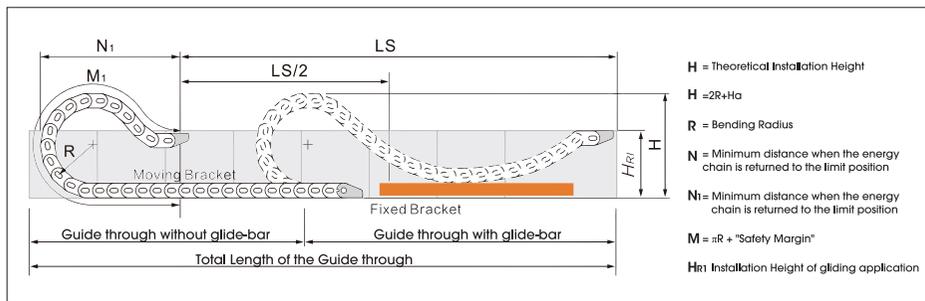




**Short Travel length-Unsupported application**  $L_k=LS/2+M$



**Long Travel length - gliding Application**  $L_k=LS/2+M_1$

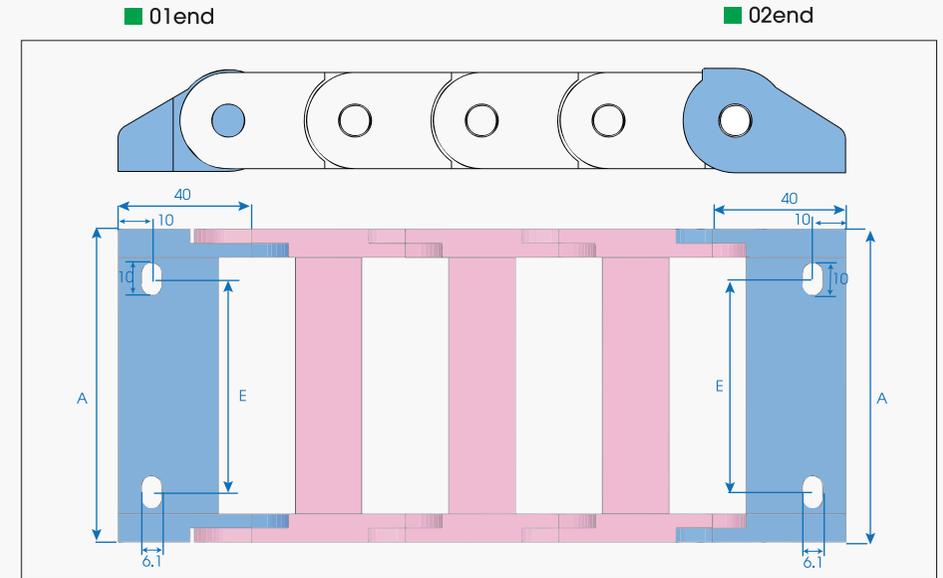


R	H <sub>r1</sub>	H	N	M	N <sub>1</sub>	M <sub>1</sub>
[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
040	115	115	125	278	125	276
055	145	145	125	278	125	276
075	185	185	150	346	150	346
100	158	235	170	414	380	644
125	158	285	195	496	440	736
150	158	335	220	578	590	1012

**Ordering Example | Entire Energy Chain**

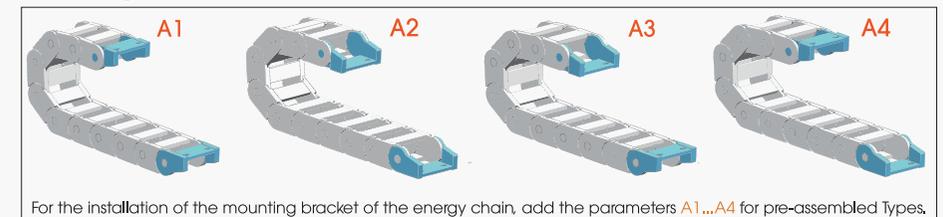
ZFG2500.038.055.BK \* 20 links + ZFG2500.038.12 A4 + ZFG25.1 Quantity + ZS38

Energy Chain Type	Number of Links	Mounting Bracket Type	Mounting Bracket Direction	Separator	Tiewrape plate
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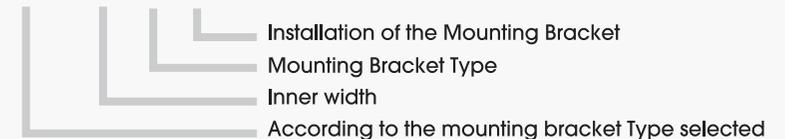
Inner Width	Energy Chain Type	Mounting Bracket Type	Size E	Size A
025	ZFG2500.025.BK	ZFG2500.025.12	12	42
038	ZFG2500.038.BK	ZFG2500.025.12	25	55
050	ZFG2500.050.BK	ZFG2500.025.12	37	65
057	ZFG2500.057.BK	ZFG2500.025.12	44	74
077	ZFG2500.077.BK	ZFG2500.025.12	60	94
103	ZFG2500.103.BK	ZFG2500.025.12	78	120

**Mounting Bracket Installation type**



**Product Type**

ZFG2500 025 12 A4

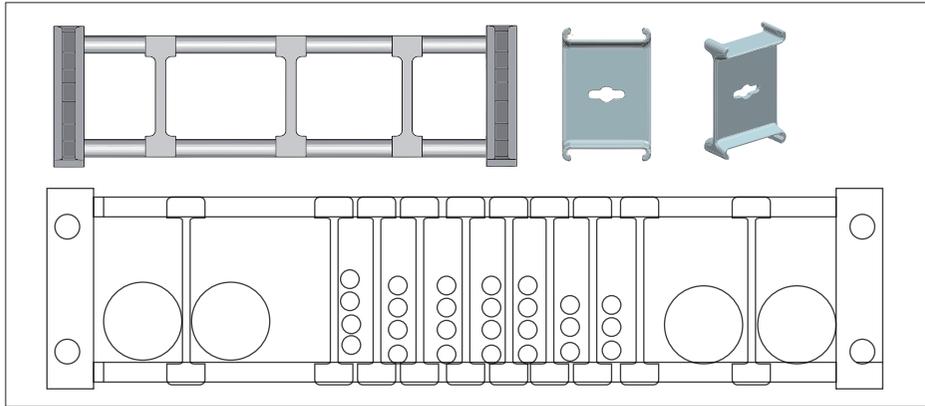


3D/CAD files, service life calculation, configuration, and more information are available at [www.zhefchain.com](http://www.zhefchain.com)

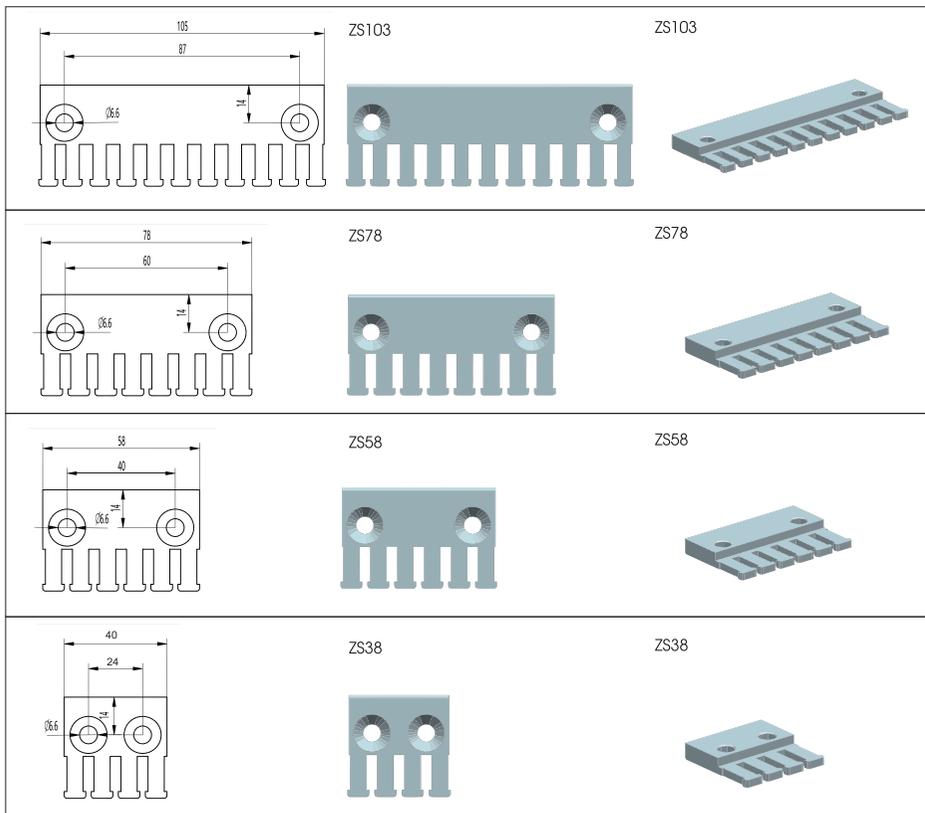


**Separator**

Separator plate ZFG25.1

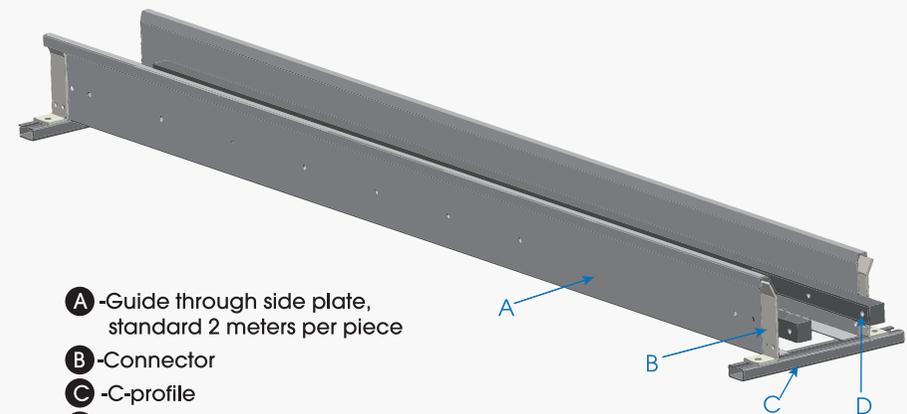
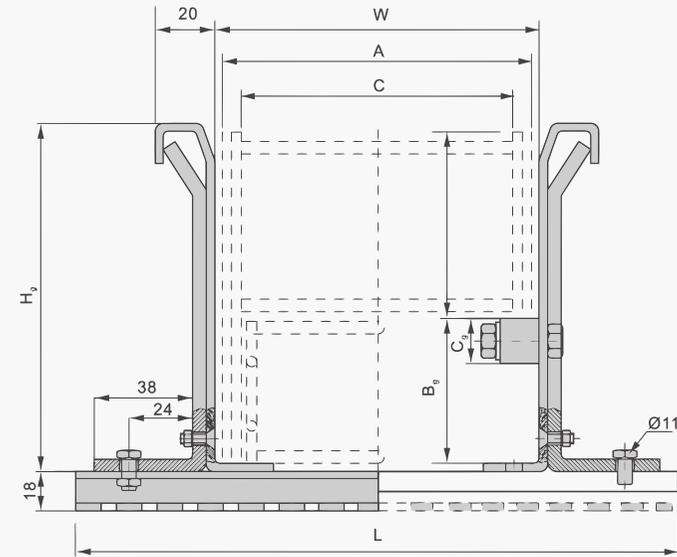


**Tiewrape plate**



Guide through Type: ZF70.1  
Wear-Resistant strip Type: ZF20/20  
Please refer to P266-267 for the type of installation set

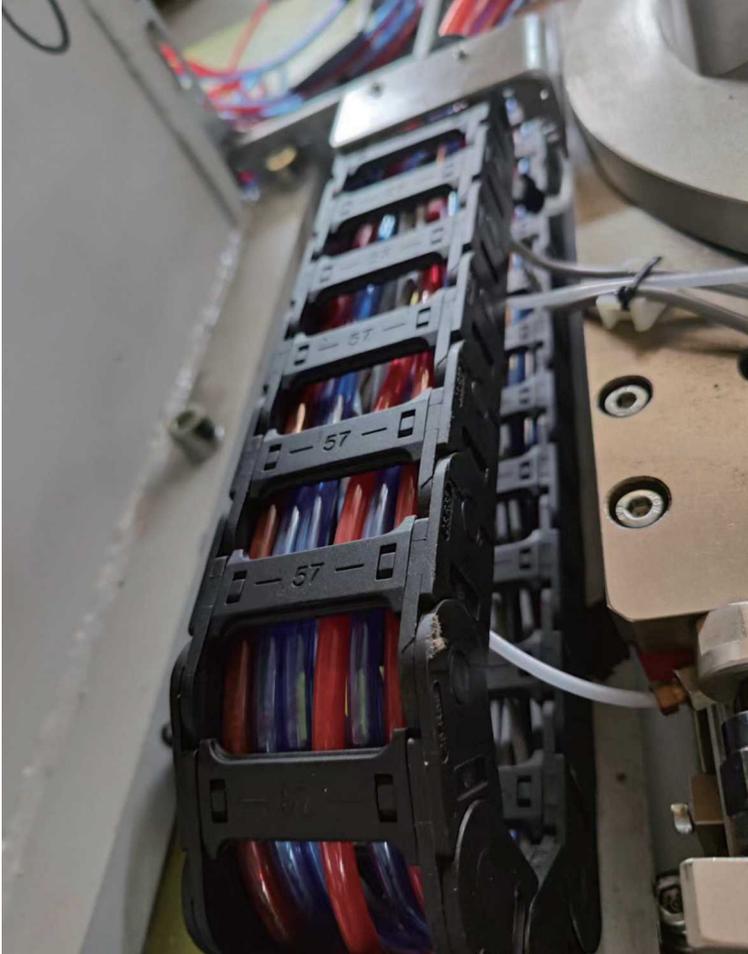
Bg	Cg	Hg	W	L
35	20	70.5	Ba+8	≧ W+125



- A** -Guide through side plate, standard 2 meters per piece
- B** -Connector
- C** -C-profile
- D** -Glide bar
- B & C** -Installation set

### For small loads

- For indoor and outdoor applications, resistant to radiation and ageing.
- For horizontal unsupported application and long travelling application where the travelling distance is less than 30m;
- For textile machinery industry, machine tool and welding industry, printing machinery and automation industry, logistics equipment, indoor cranes.



ZFG2500.057.040.BK is assembled with multiple air pipes for electric drive assembly lines.



# ZF2500 Series

**Cost-effective  
25mm inner height  
Series of energy chain products**



**Advantages of ZF2500 energy chain series**

- High energy chain strength
- Thicker side panels
- High precision, sliding capability

## Cost-effective 2500 Series Advantages of energy chains with crossbar

- Thick side panels with great load bearing capacity
- Smooth interior cavity to avoid cable wear
- Reasonable pre-stress for good unsupported condition
- When the energy chain is long, it has good straightness and is suitable for medium Travel length sliding

### Typical applications

- Textile machinery
- Machine tool and welding industry
- Printing machinery and automation industry
- Logistics equipment ● Indoor crane

- ⚠ Please use our ESD material for high explosion-proof requirement, and consult our engineers for details.
- 🇺🇸 ROHS Complied with ROHS IEC62321-7-2 environmental requirements
- 🇪🇺 CE Complied with EN61386-1:2008+A1:2019 certification requirements

Smooth interior cavity  
Avoids cable wear

Thick side panels with  
great load bearing capacity

Reasonable pre-stress  
Good unsupported condition

When the energy chain is long,  
it has good straightness  
Suitable for medium Travel length sliding

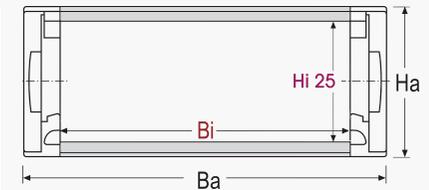
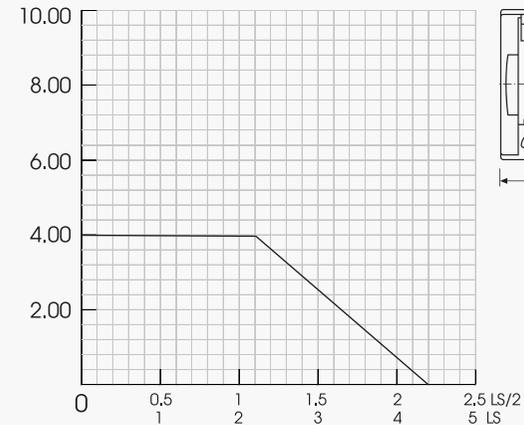
## ZF 2500 Series

Openable energy chain with crossbar up and down



Type	Bi [mm]	Ba [mm]	Ha [mm]	Bending radius R [mm]	Pitch P [mm]	Weight [Kg/m]
ZF2500.038.R.BK	38	55	37	055 075 100 125 150 175	46	≈ 0.84
ZF2500.057.R.BK	57	74	37	055 075 100 125 150 175	46	≈ 0.92
ZF2500.077.R.BK	77	94	37	055 075 100 125 150 175	46	≈ 1.02
ZF2500.103.R.BK	103	120	37	055 075 100 125 150 175	46	≈ 1.16

### Unsupported - load

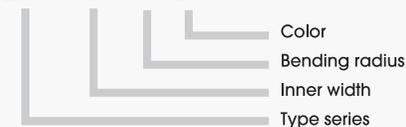


Bi=Inner width Ba=Outer width  
Hi=Inner height Ha=Outer height  
LS=Length of Travel length  
Inner height: 25mm  
Pitch P: 46mm  
Number of links : 22links /meter

Speed for Unsupported applications	max.10(m/s)
Gliding Speed	max.5(m/s)
Unsupported acceleration	max.100(m/s <sup>2</sup> )
Gliding acceleration	max.25(m/s <sup>2</sup> )
Material allowable temperature	-40 C ~ +130 C

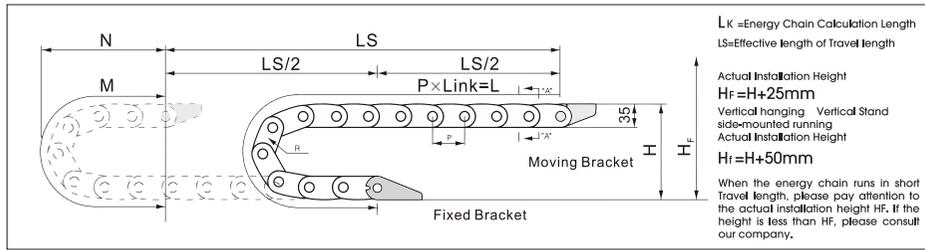
### Product Type

ZF2500 038 055 BK

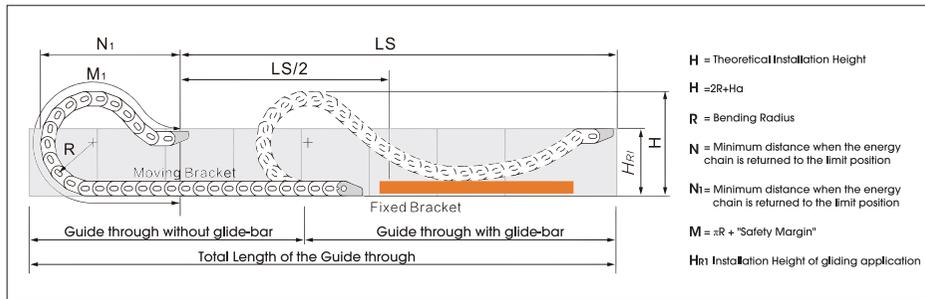




**Short Travel length-Unsupported application**  $L_k = LS/2 + M$



**Long Travel length - gliding Application**  $L_k = LS/2 + M_1$



R [mm]	Hr1 [mm]	H [mm]	N [mm]	M [mm]	N1 [mm]	M1 [mm]
055	145	145	125	276	125	276
075	185	185	150	346	150	346
100	158	235	170	414	380	644
125	158	285	195	496	440	736
150	158	335	220	578	590	1012
175	158	385	245	660	755	1242

**Ordering Example | Entire Energy Chain**

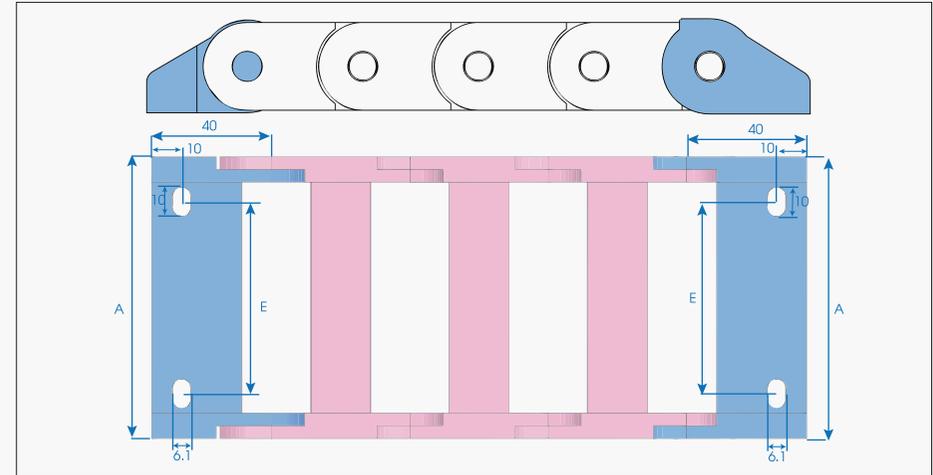
ZF2500.038.055.BK \* 20 links + ZF2500.038.12 A4 + ZF25.1 Quantity + ZS38

Energy Chain Type	Number of Links	Mounting Bracket Type	Mounting Bracket Direction	Separator	Tiewrap plate
ZF2500.038.055.BK	20	ZF2500.038.12	A4	ZF25.1	ZS38



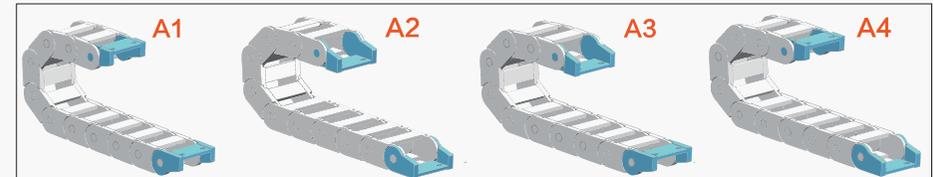
01end

02end



Inner Width	Energy Chain Type	Mounting Bracket Type	Size E	Size A
025	ZF2500.025.BK	ZF2500.025.12	14	42
038	ZF2500.038.BK	ZF2500.038.12	25	55
057	ZF2500.057.BK	ZF2500.057.12	44	74
077	ZF2500.077.BK	ZF2500.077.12	64	94
103	ZF2500.103.BK	ZF2500.103.12	78	120

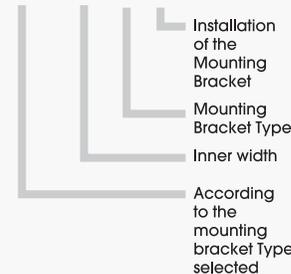
**Mounting Bracket Installation type**



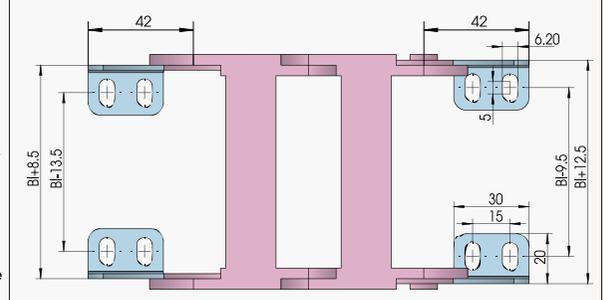
For the installation of the mounting bracket of the energy chain, add the parameters A1...A4 for pre-assembled Types.

**Product Type**

ZF2500 025 12 A4



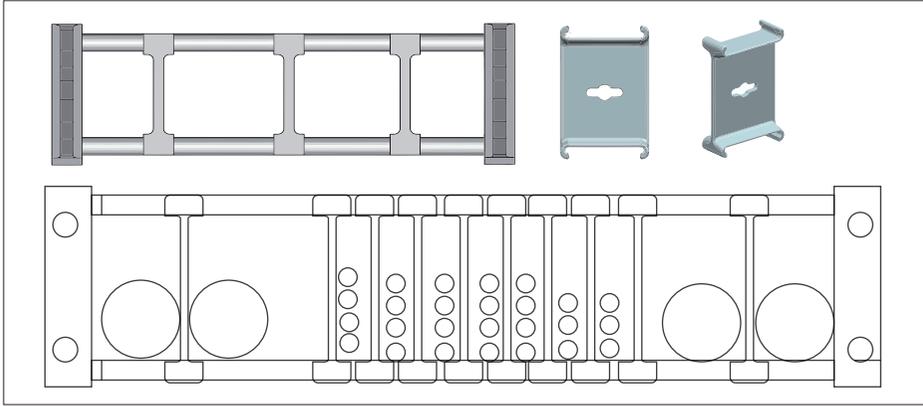
**Steel Mounting Bracket (2500HD.12) Illustration**



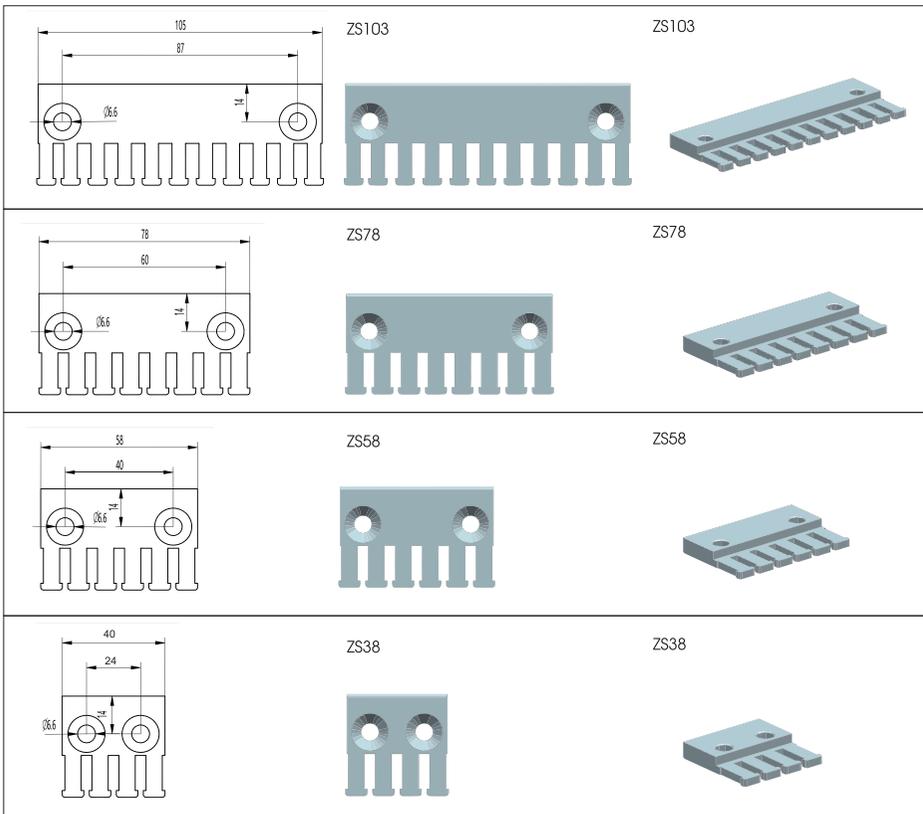


**Separator**

Separator plate ZF25.1

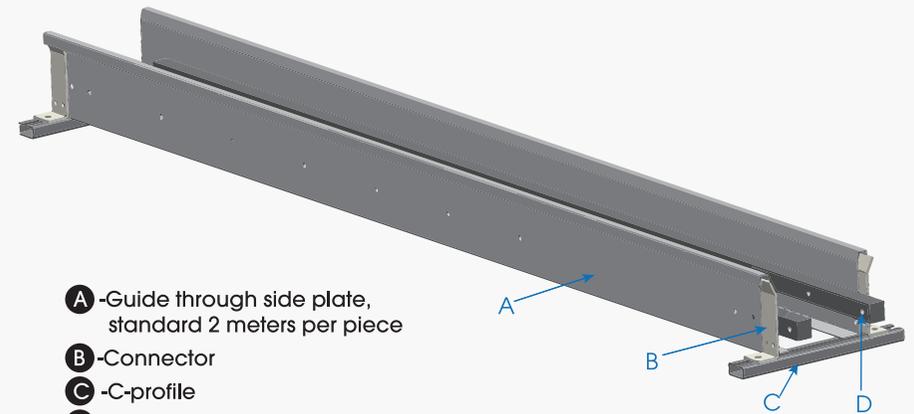
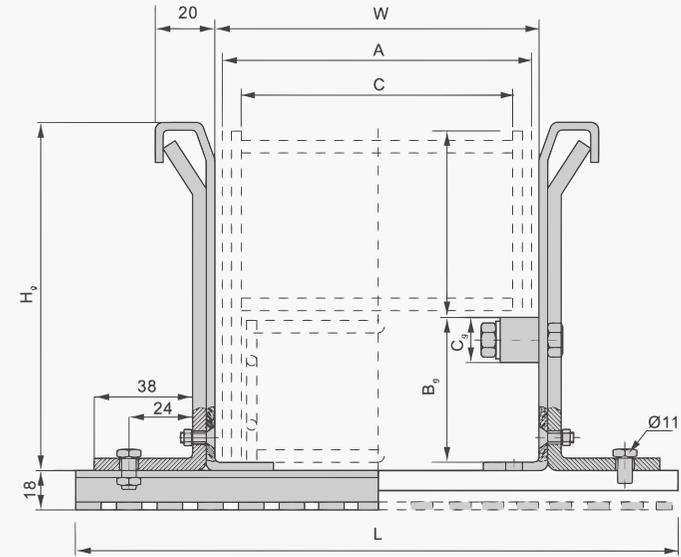


**Tiewrape plate**



Guide through Type: ZF70.1  
Wear-resistant strip Type: ZF20/20  
Please refer to P266-267 for the type of installation set

Bg	Cg	Hg	W	L
35	20	70.5	Ba+8	≅ W+125



- A** -Guide through side plate, standard 2 meters per piece
- B** -Connector
- C** -C-profile
- D** -Glide bar
- B & C** -Installation set



### For medium to low loads

- For indoor and outdoor applications, resistant to radiation and ageing.
- For horizontal unsupported application and long travelling application where the travelling distance is less than 30m;
- For textile machinery industry, machine tool and welding industry, printing machinery and automation industry, logistics equipment, indoor cranes.



ZF2500.057.075.BK is used for sheet metal production lines



# ZF2500 NOP Series

**Cost-effective  
25mm inner height  
Series of energy chain products**



**Advantages of ZFG2500NOP energy chain series**

- High energy chain strength
- Good dimension to slide
- Non easily damaged crossbar

## Cost-effective 2500NOP Series Advantages of energy chains with crossbar

- Smooth interior cavity to avoid cable wear
- Reasonable pre-stress for good unsupported condition
- When the energy chain is long, it has good straightness and is suitable for medium Travel length sliding
- Suitable for assembling water pipes and medium low pressure oil pipes

### Typical applications

- Textile machinery
- Machine tool and welding industry
- Printing machinery and automation industry
- Logistics equipment ● Indoor crane

ROHS Complied with ROHS IEC62321-7-2 environmental requirements  
 CE Complied with EN61386-1:2008+A1:2019 certification requirements

Smooth interior cavity  
Avoids cable and oil pipes wear

Reasonable pre-stress  
Good unsupported condition

When the energy chain is long,  
it has good straightness  
Suitable for medium Travel length sliding

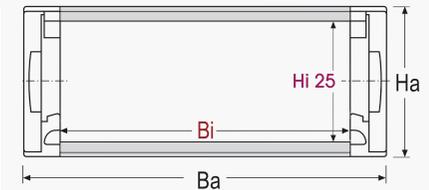
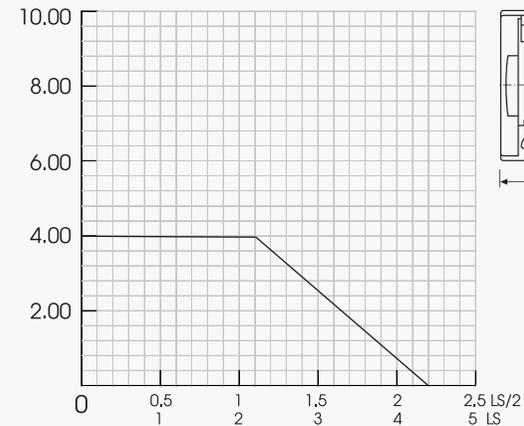
## ZF 2500NOP Series

Non-openable energy chains for crossbars



Type	Bi [mm]	Ba [mm]	Ha [mm]	Bending radius R [mm]	Pitch P [mm]	Weight [Kg/m]
ZF2500nop.038.R.BK	38	55	35	055 075 100 125 150 175	46	≈ 0.84
ZF2500nop.057.R.BK	57	74	35	055 075 100 125 150 175	46	≈ 0.92
ZF2500nop.077.R.BK	77	94	35	055 075 100 125 150 175	46	≈ 1.02

### Unsupported - load



Bi=Inner width Ba=Outer width  
 Hi=Inner height Ha=Outer height  
 LS=Length of Travel length  
 Inner height: 25mm  
 Pitch P: 46mm  
 Number of links : 22links /meter

Speed for Unsupported applications	max.10(m/s)
Gliding Speed	max.5(m/s)
Unsupported acceleration	max.100(m/s <sup>2</sup> )
Gliding acceleration	max.25(m/s <sup>2</sup> )
Material allowable temperature	-40 C ~+130 C

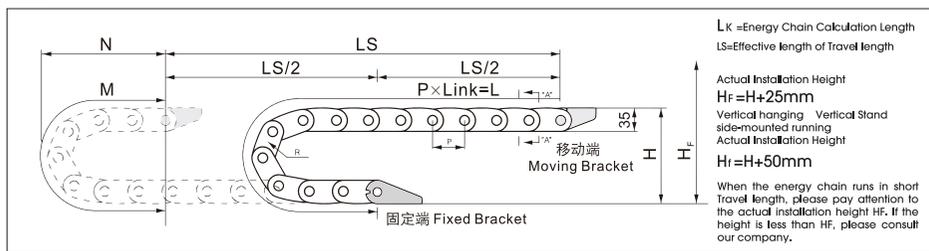
### Product Type ZF2500nop 038 055 BK





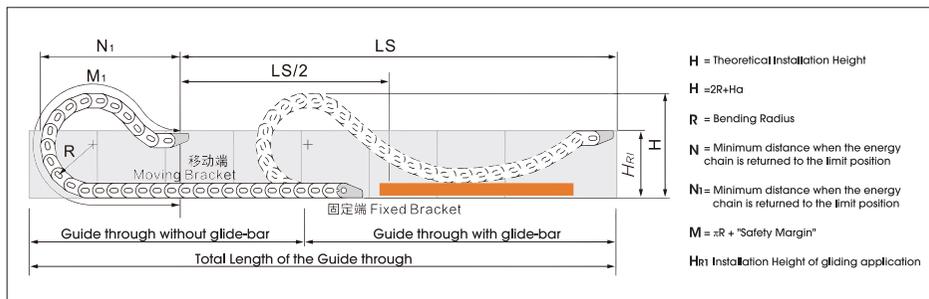
**Short Travel length-Unsupported application**

$L_k = LS/2 + M$



**Long Travel length - gliding Application**

$L_k = LS/2 + M_1$



R [mm]	H <sub>r1</sub> [mm]	H [mm]	N [mm]	M [mm]	N <sub>1</sub> [mm]	M <sub>1</sub> [mm]
055	145	145	125	276	125	276
075	185	185	150	346	150	346
100	158	235	170	414	380	644
125	158	285	195	496	440	736
150	158	335	220	578	590	1012
175	158	385	245	660	755	1242

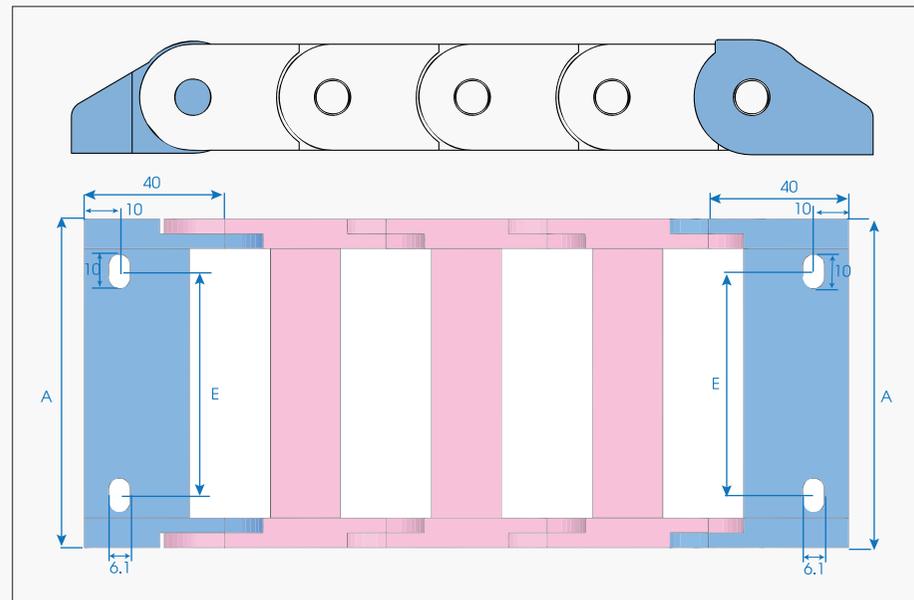
**Ordering Example | Entire Energy Chain**

ZF2500nop.038.055.BK \* 20 links + ZF2500.038.12 A4 + ZF25.1 Quantity + ZS38

Energy Chain Type	Number of Links	Mounting Bracket Type	Mounting Bracket Direction	Separator	Tiewrape plate
ZF2500nop.038.055.BK	20	ZF2500.038.12	A4	ZF25.1	ZS38

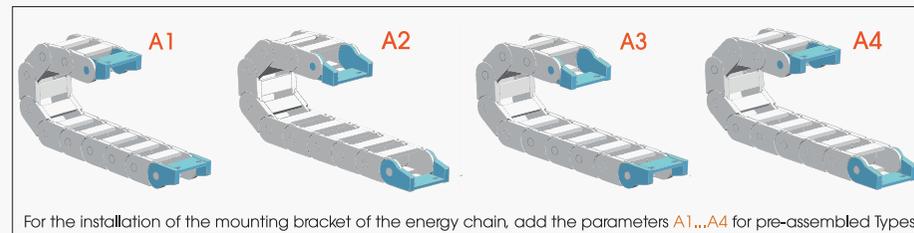
01end

02end



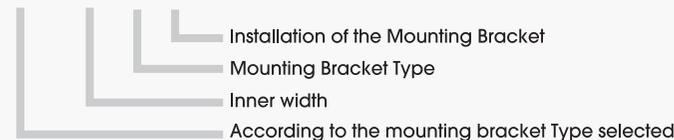
Inner Width	Energy Chain Type	Mounting Bracket Type	Size E	Size A
038	ZF2500.038.BK	ZF2500.038.12	25	55
057	ZF2500.057.BK	ZF2500.057.12	44	74
077	ZF2500.077.BK	ZF2500.077.12	64	94

**Mounting Bracket Installation type**



**Product Type**

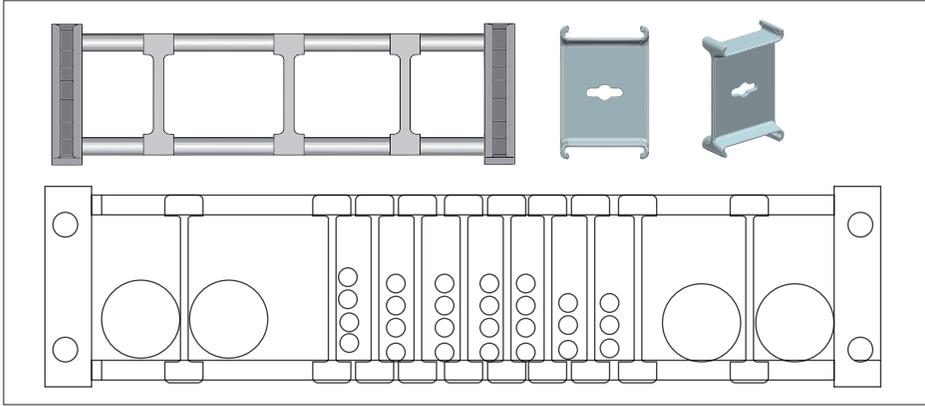
ZF2500 038 12 A4



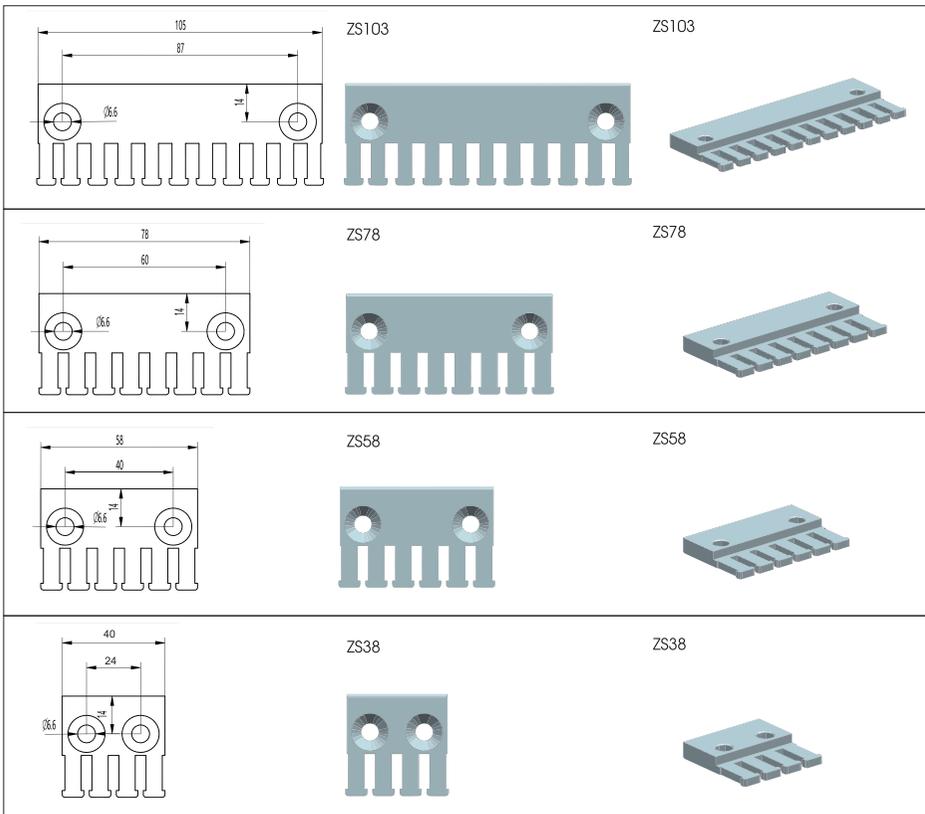


**Separator**

Separator plate ZF25.1

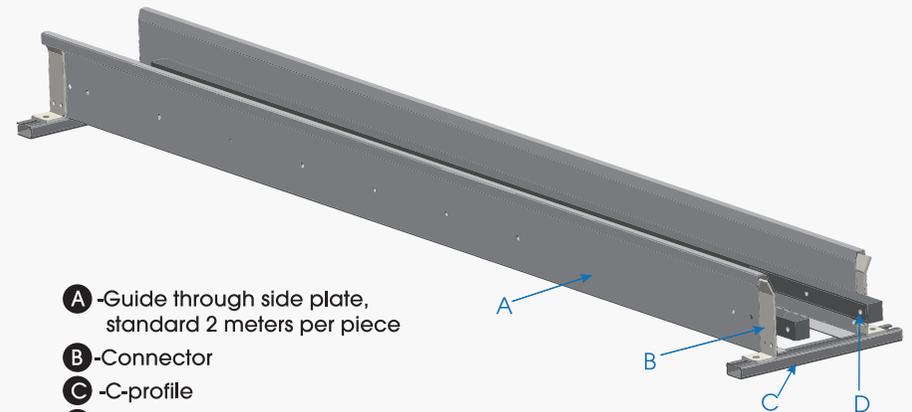
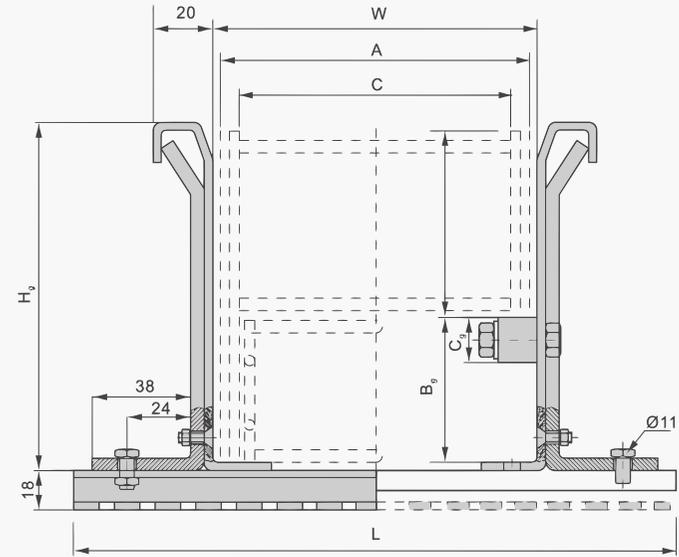


**Tiewrape plate**



Guide through Type: ZF70.1  
Wear-Resistant strip Type: ZF20/20  
Please refer to P266-267 for the type of installation set

Bg	Cg	Hg	W	L
35	20	70.5	Ba+8	≅ W+125



- A** -Guide through side plate, standard 2 meters per piece
- B** -Connector
- C** -C-profile
- D** -Glide bar
- B & C** -Installation set

## ZF2500NOP Series Typical Applications



### For medium to low loads

- For indoor and outdoor applications, resistant to radiation and ageing.
- For horizontal unsupported application and long travelling application where the travelling distance is less than 30m;
- For textile machinery industry, machine tool and welding industry, printing machinery and automation industry, logistics equipment, indoor cranes.



Metallurgy robotic hand  
Energy Chain Type: ZF2500nop.038.100.BK



# ZF2580 Series

**Cost-effective**  
**Anti-scum oil-rotting liquid splash**  
**25mm inner height series fully enclosed**  
**energy chain products**



Advantages of ZF2580 energy chain series

- High energy chain strength
- Good dimension to slide
- Excellent sealing

## Cost-effective 2580 Series Advantages of fully enclosed energy chain

- Smooth interior cavity to avoid cable wear
- Reasonable pre-stress for good unsupported condition
- When the energy chain is long, it has good straightness
- Excellent performance of anti-debris, oil, acid and alkali corrosion, ketone and ether corrosion.

### Typical applications

- Textile machinery
- Machine tool and welding industry
- Printing machinery and automation industry
- Logistics equipment ● Indoor crane

- ROHS Complied with ROHS IEC62321-7-2 environmental requirements
- CE Complied with EN61386-1:2008+A1:2019 certification requirements

Smooth interior cavity  
Avoids cable and oil pipes wear

Reasonable pre-stress  
Good unsupported condition

When the energy chain is long,  
it has good straightness

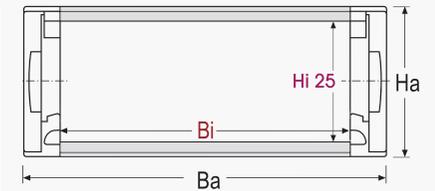
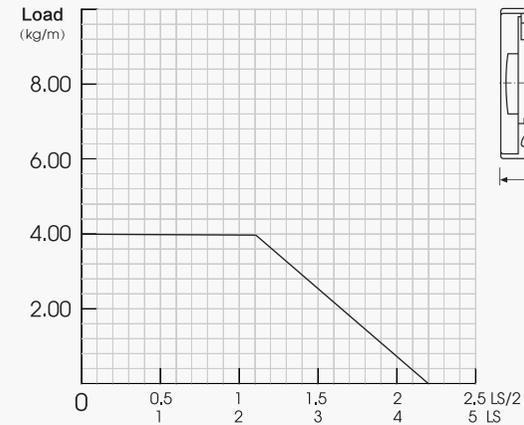
## ZF2580 Series

Openable energy chains above and below the cover



Type	Bi [mm]	Ba [mm]	Ha [mm]	Bending radius R [mm]	Pitch P [mm]	Weight [Kg/m]
ZF2580.038.R.BK	38	55	37	055 075 100 125 150	46	≈ 0.93
ZF2580.057.R.BK	57	74	37	055 075 100 125 150	46	≈ 1.04
ZF2580.077.R.BK	77	94	37	055 075 100 125 150	46	≈ 1.18
ZF2580.103.R.BK	103	120	37	055 075 100 125 150	46	≈ 1.35

### Unsupported - load



Bi=Inner width Ba=Outer width  
Hi=Inner height Ha=Outer height  
LS=Length of Travel length  
Inner height: 25mm  
Pitch P: 46mm  
Number of links : 22links /meter

	Speed for Unsupported applications	max.10(m/s)
	Gliding Speed	max.5(m/s)
	Unsupported acceleration	max.100(m/s <sup>2</sup> )
	Gliding acceleration	max.25(m/s <sup>2</sup> )
	Material allowable temperature	-40 C ~ +130 C

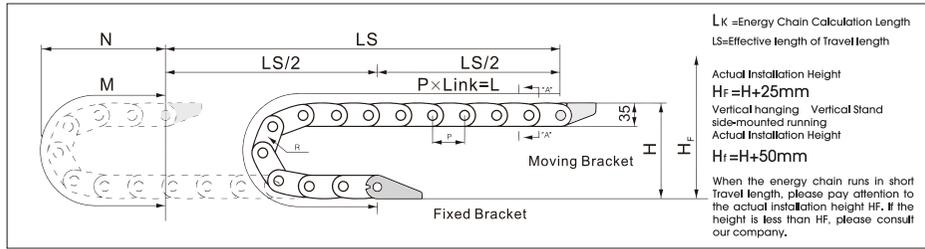
### Product Type

ZF2580 038 055 BK

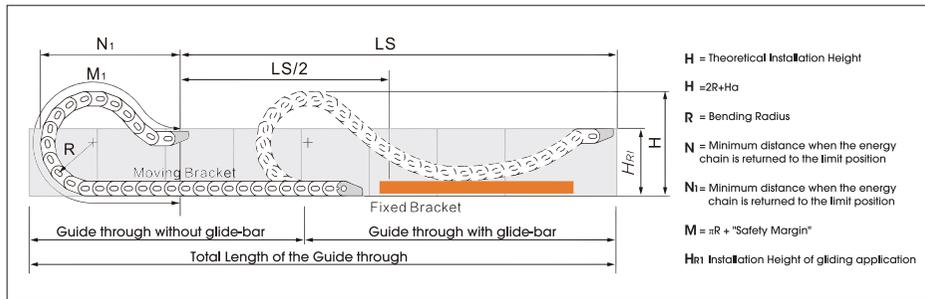




**Short Travel length-Unsupported application**  $L_k = LS/2 + M$



**Long Travel length - gliding Application**  $L_k = LS/2 + M_1$



R [mm]	H <sub>r1</sub> [mm]	H [mm]	N [mm]	M [mm]	N <sub>1</sub> [mm]	M <sub>1</sub> [mm]
055	145	145	125	276	125	276
075	185	185	150	346	150	346
100	158	235	170	414	380	644
125	158	285	195	496	440	736
150	158	335	220	578	590	1012
175	158	385	245	660	755	1242

**Ordering Example | Entire Energy Chain**

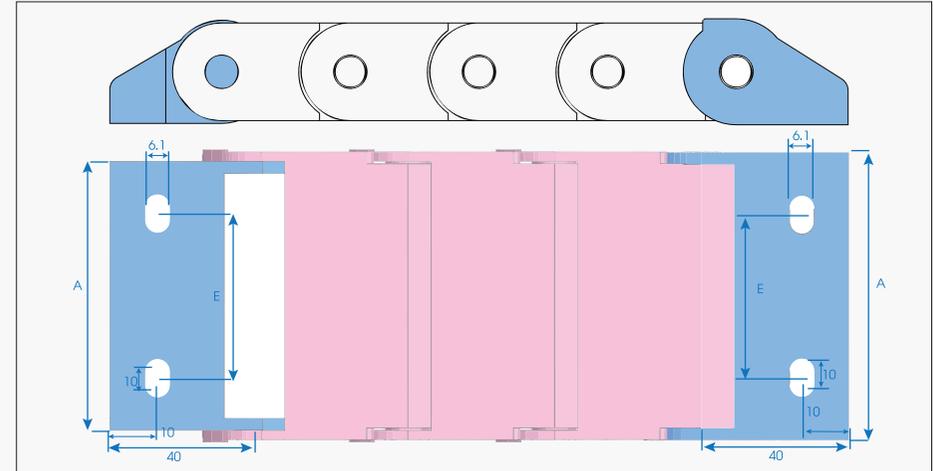
ZF2580.038.055.BK \* 20 links + ZF2500.038.12 A4 + ZF25.1 Quantity + ZS38

Energy Chain Type	Number of Links	Mounting Bracket Type	Mounting Bracket Direction	Separator	Tiewrap plate
ZF2580.038.055.BK	20	ZF2500.038.12	A4	ZF25.1	ZS38



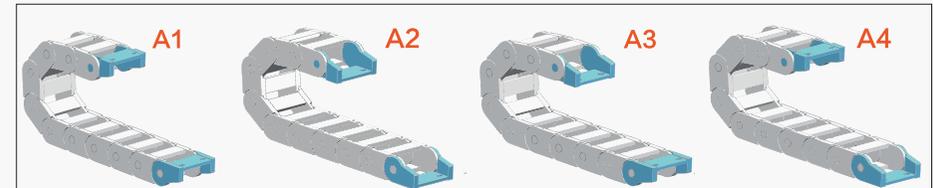
01end

02end



Inner Width	Energy Chain Type	Mounting Bracket Type	Size E	Size A
038	ZF2500.038.BK	ZF2500.038.12	25	55
057	ZF2500.057.BK	ZF2500.057.12	44	74
077	ZF2500.077.BK	ZF2500.077.12	64	94
103	ZF2500.103.BK	ZF2500.103.12	87	120

**Mounting Bracket Installation type**



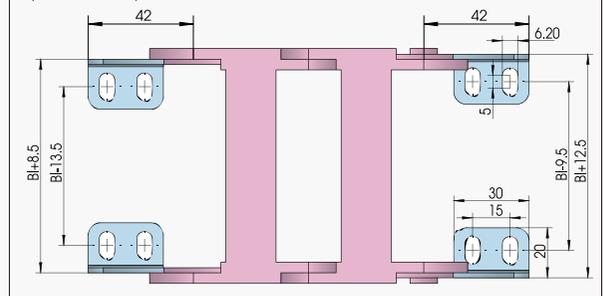
For the installation of the mounting bracket of the energy chain, add the parameters A1...A4 for pre-assembled Types.

**Product Type**

ZF2580 038 12 A4

- Installation of the Mounting Bracket
- Mounting Bracket Type
- Inner width
- According to the mounting bracket Type selected

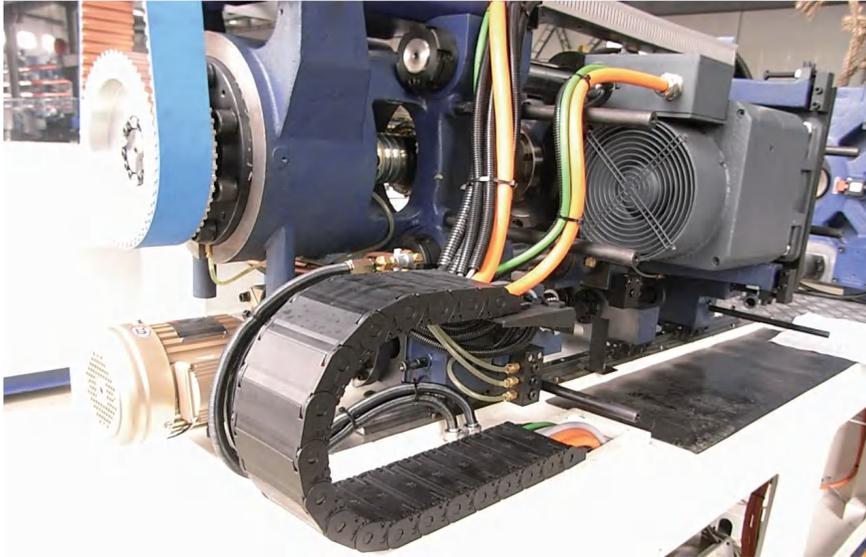
**Steel Mounting Bracket (2500HD.12) Illustration**





**For medium to low loads**

- For indoor and outdoor applications, resistant to radiation and ageing.
- For horizontal unsupported application and long travelling application where the travelling distance is less than 30m;
- For textile machinery industry, machine tool and welding industry, printing machinery and automation industry, logistics equipment, indoor cranes.



ZF2580 Series fully enclosed energy chain for electric injection moulding machine  
Energy Chain Type: ZF2580.103.150.BK



# LN2500 Series

Cost-effective  
25mm Inner height  
Series of silent energy  
chain products



Advantages of LN2500 series energy chain

- light in weight
- Smooth operation with low noise
- Suitable for high-speed and high acceleration conditions

## Cost-effective 2500 Series Advantages of energy chains with crossbar

- Smooth inner cavity, avoiding cable wear
- light in weight
- Smooth operation with low noise
- Suitable for high-speed and high acceleration conditions

### Typical applications

- InkJet printer
- Non-standard automation
- Truss manipulator
- Textile machinery

 Please use our ESD material for high explosion-proof requirement, and consult our engineers for details.

 ROHS Complied with ROHS IEC62321-7-2 environmental requirements

 CE Complied with EN61386-1:2008+A1:2019 certification requirements

Smooth inner cavity  
avoiding cable wear

light in weight

Smooth operation  
with low noise

Suitable for  
high-speed and high  
acceleration conditions

## LN2500 Series

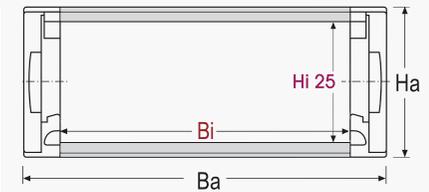
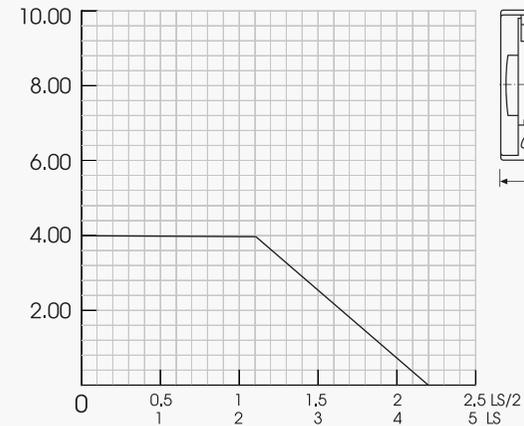
crossbar up/down openable energy chain



Type	Bi [mm]	Ba [mm]	Ha [mm]	Bending radius R [mm]	Pitch P [mm]	Weight [Kg/m]
LN2500.025.R.BK	25	46	35	055 075 100 125 150 175	23.2	≈ 0.75
LN2500.038.R.BK	38	59	35	055 075 100 125 150 175	23.2	≈ 0.81
LN2500.050.R.BK	50	71	35	055 075 100 125 150 175	23.2	≈ 0.88
LN2500.057.R.BK	57	78	35	055 075 100 125 150 175	23.2	≈ 0.94
LN2500.060.R.BK	60	81	35	055 075 100 125 150 175	23.2	≈ 0.95
LN2500.077.R.BK	77	98	35	055 075 100 125 150 175	23.2	≈ 1.02
LN2500.103.R.BK	103	124	35	055 075 100 125 150 175	23.2	≈ 1.11

\*The height inside the silent energy chain is not limited to this. Please contact our sales engineer for details!

### Unsupported - load



Bi=Inner width Ba=Outer width  
Hi=Inner height Ha=Outer height  
LS=Length of Travel length  
Inner height: 25mm  
Pitch P: 23.2mm  
Number of links : 43links /meter

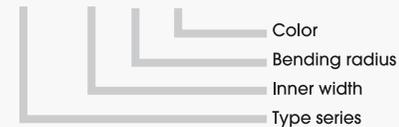
 Speed for Unsupported applications max.10(m/s)

 Unsupported acceleration max.100(m/s<sup>2</sup>)

 Material allowable temperature -20℃-130℃

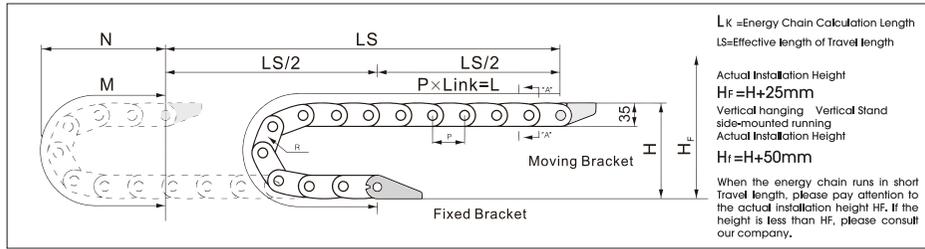
### Product Type

LN2500 025 055 BK





**Short Travel length-Unsupported application**  $L_k = LS/2 + M$

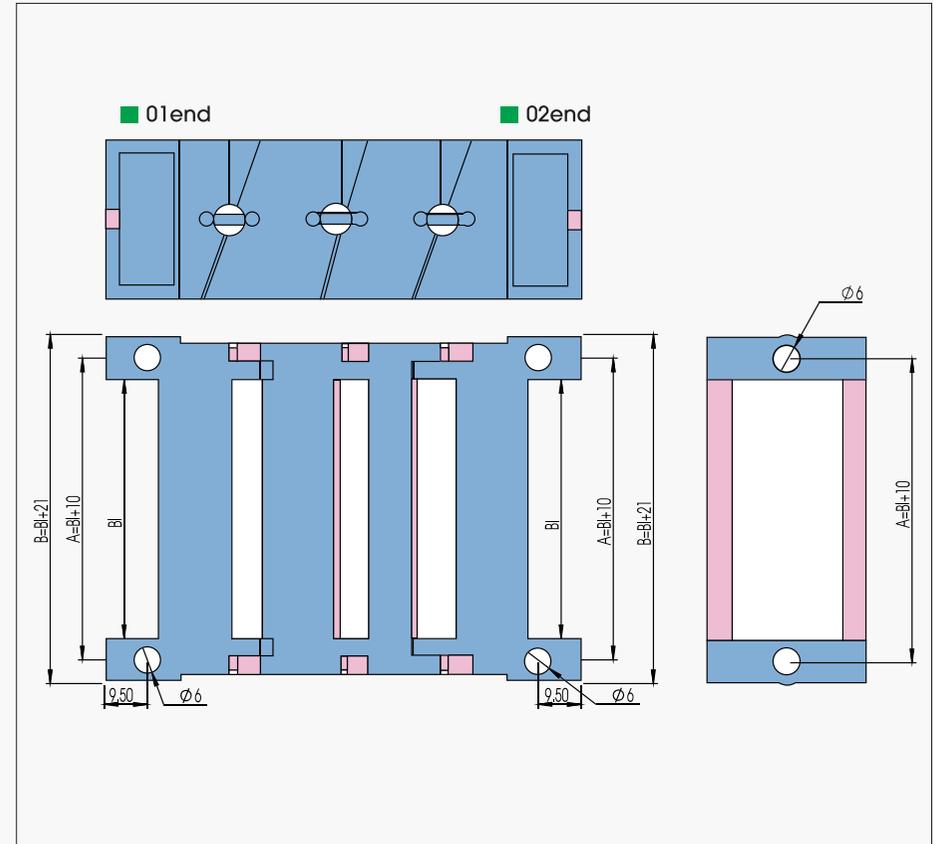


R [mm]	H [mm]	N [mm]	M [mm]
055	150	125	278
075	190	150	346
100	240	170	414
125	290	195	496
150	340	220	578
175	390	245	656

**Ordering Example | Entire Energy Chain**

LN2500.038.055.BK \* 20 links + LN2500.038.12 A4 + LN25.1 Quantity + ZS38

Energy Chain Type    Number of Links    Mounting Bracket Type    Mounting Bracket Direction    Separator    Quantity    Tie-wrap plate

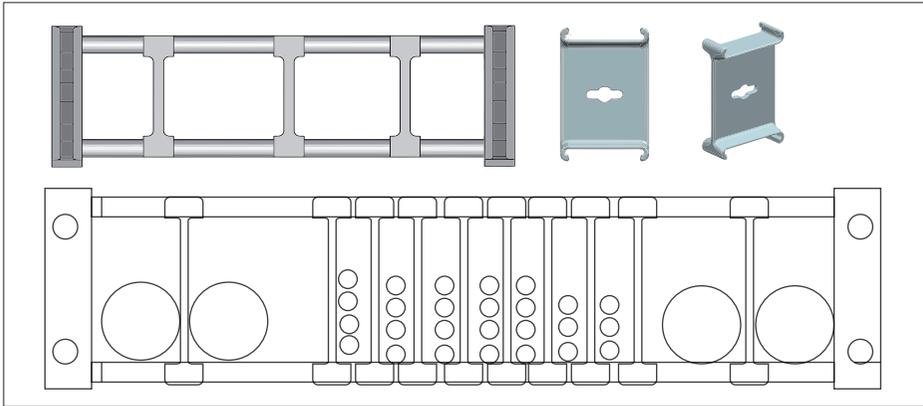


Inner Width	Mounting bracket Type	Size A	Size B
25	LN2500.025.12	35	46
38	LN2500.038.12	48	59
50	LN2500.050.12	60	71
57	LN2500.057.12	67	78
60	LN2500.060.12	70	81
77	LN2500.077.12	87	98
103	LN2500.103.12	113	124

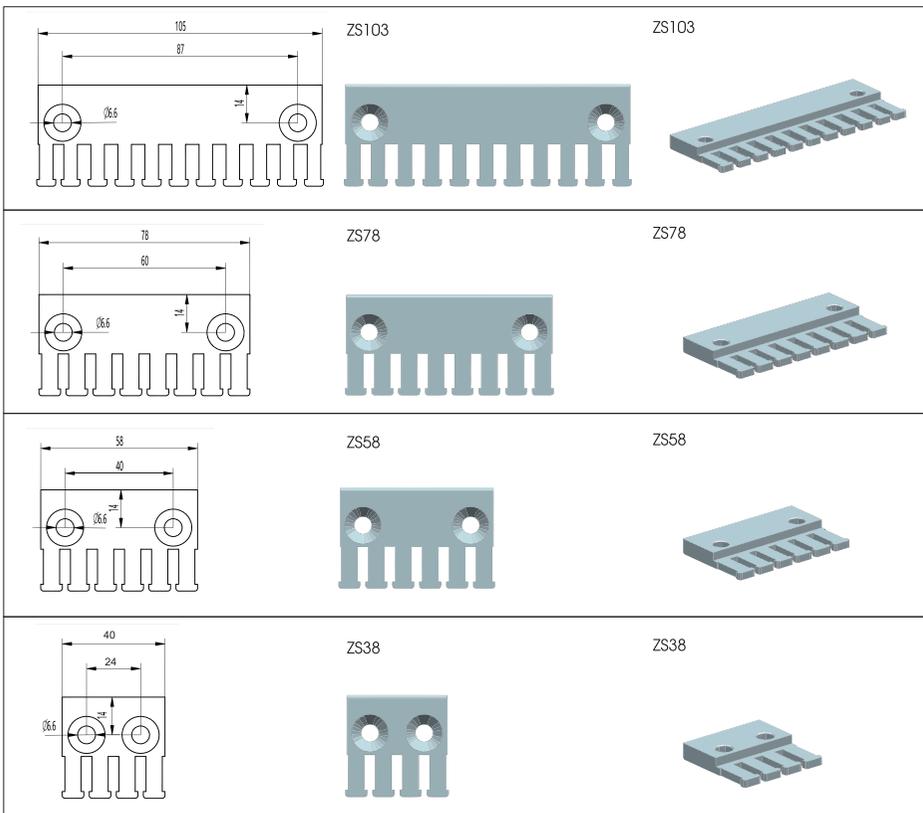


**Separator**

Separator plate LN25.1



**Tiewrape plate**



118 ▶ For more information, please visit [www.zhefchain.com](http://www.zhefchain.com)



**For small loads**

- Used for indoor low load and high-speed silent working conditions;
- Suitable for unsupported operation, not suitable for sliding;
- Perfect for spray painting machines, non-standard automation, truss manipulators, and textile machinery fields.



3D/CAD files, service life calculation, configuration, and more information are available at [www.zhefchain.com](http://www.zhefchain.com)



# E3200 Series

**Cost-effective  
32mm inner height  
Series of energy chain products**



**Advantages of E3200 energy chain series**

- High energy chain strength
- Simple structure and easy installation
- Good straightness and low noise level

## Cost-effective 3200 Series Advantages of open-type energy chain

Strong steel  
mounting brackets  
Not easily damaged by long  
distance and heavy load

- Steel mounting brackets are strong and resistant to damage over long distances and heavy loads.
- Double locking of cross bar for extra strength
- Smooth interior cavity to avoid cable and oil pipes wear
- Reasonable pre-stress for good unsupported condition
- When the energy chain is long, it has good straightness and is suitable for medium Travel length sliding

### Typical applications

- Logistics equipment
- Packaging machinery
- Machine tool and welding field
- Construction machinery
- Indoor crane
- Automated equipment automotive production line
- Processing equipment

Double locking  
of cross bar  
Higher strength

- ROSH Complied with ROHS IEC62321-7-2 environmental requirements
- CE Complied with EN61386-1:2008+A1:2019 certification requirements

Smooth interior cavity  
Avoids cable and oil pipes wear

Reasonable pre-stress  
Good unsupported condition

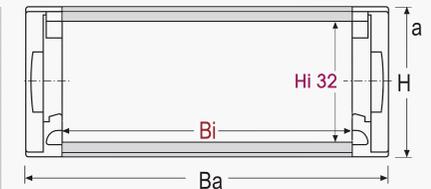
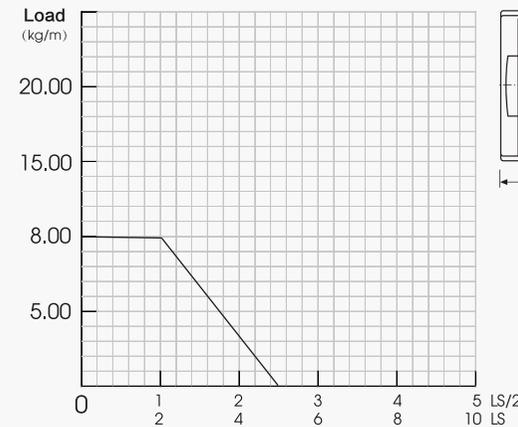
When the energy chain is long,  
it has good straightness  
Suitable for medium  
Travel length sliding



Openable cross bar along both sides of energy chain

Type	Bi [mm]	Ba [mm]	Ha [mm]	Bending radius R [mm]	Pitch P [mm]	Weight [Kg/m]
E3200.050.R.BK	50	68	50	075 100 125 150 175 200 250	56	≈ 2.12
E3200.075.R.BK	75	93	50	075 100 125 150 175 200 250	56	≈ 2.35
E3200.100.R.BK	100	118	50	075 100 125 150 175 200 250	56	≈ 2.57
E3200.125.R.BK	125	143	50	075 100 125 150 175 200 250	56	≈ 2.81
E3200.150.R.BK	150	168	50	075 100 125 150 175 200 250	56	≈ 3.02
E3200.175.R.BK	175	193	50	075 100 125 150 175 200 250	56	≈ 3.25

### Unsupported - load



Bi=Inner width Ba=Outer width  
Hi=Inner height Ha=Outer height  
LS=Length of Travel length  
Inner height: 32mm  
Pitch P: 56mm  
Number of links : 18links /meter

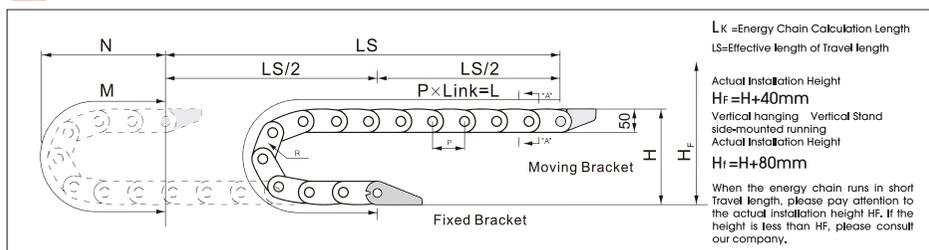
	Speed for Unsupported applications	max.10(m/s)
	Gliding Speed	max.5(m/s)
	Unsupported acceleration	max.100(m/s <sup>2</sup> )
	Gliding acceleration	max.25(m/s <sup>2</sup> )
	Material allowable temperature	-40 C ~+130 C

### Product Type E3200 050 075 BK

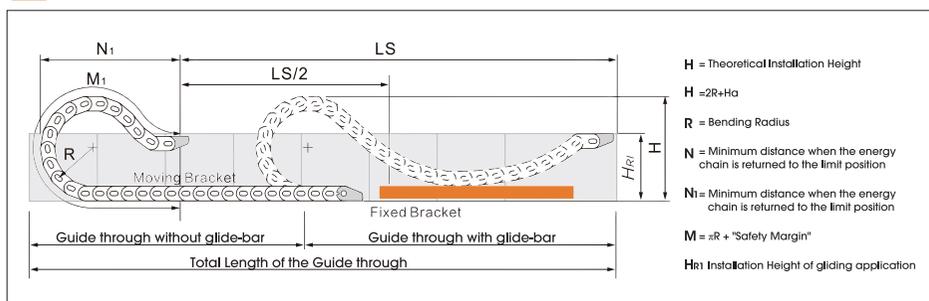




**Short Travel length-Unsupported application**  $Lk=LS/2+M$



**Long Travel length - gliding Application**  $Lk=LS/2+M1$



R	Hr1	H	N	M	N1	M1
[mm]						
075	168	200	158	375	158	375
100	168	250	180	475	400	616
125	168	300	208	550	470	784
150	168	350	225	650	610	896
175	168	400	258	750	775	1120
200	168	450	275	825	970	1288
250	168	550	325	925	1150	1624

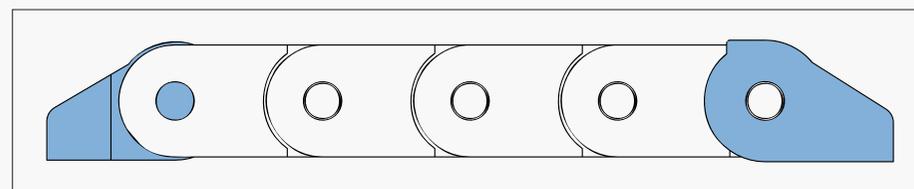
**Ordering Example | Entire Energy Chain**

E3200.050.075.BK \* 20 links + E3200.050.12 A4 + ZF32.1 Quantity + ZS58

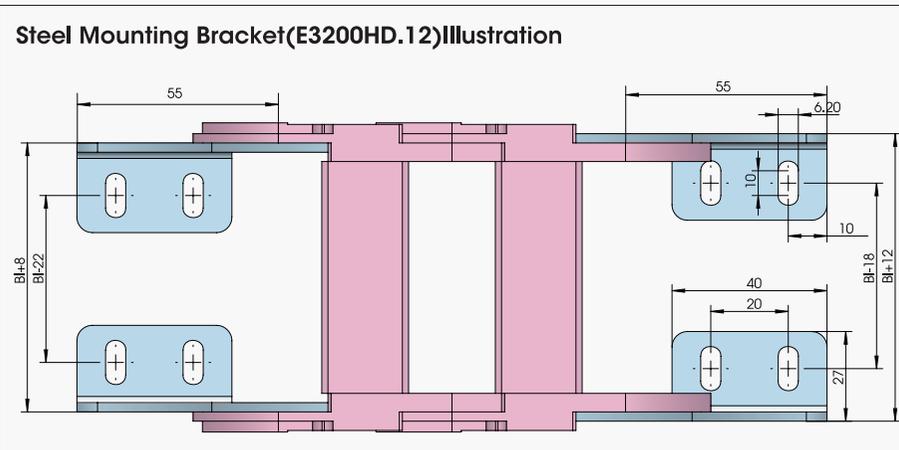
Energy Chain Type	Number of Links	Mounting Bracket Type	Mounting Bracket Direction	Separator	Tiewrape plate
E3200.050.075.BK	20	E3200.050.12	A4	ZF32.1	ZS58

01end

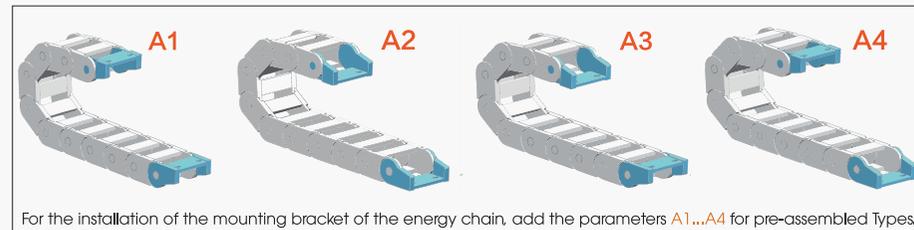
02end



**Mounting Bracket Size**



**Mounting Bracket Installation type**

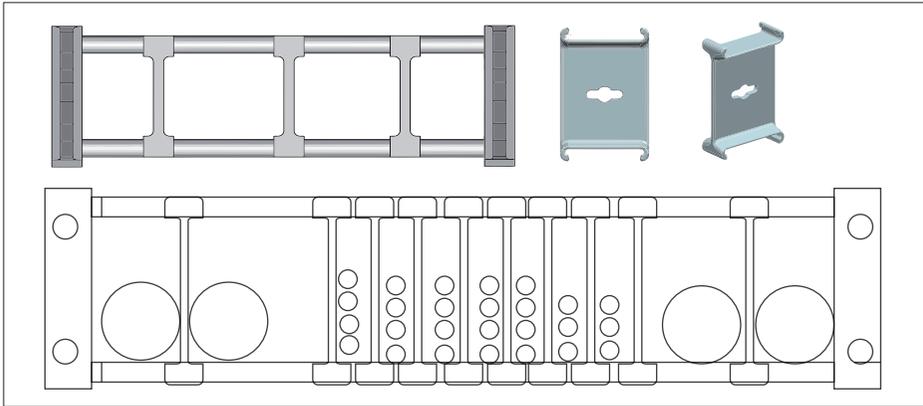


For the installation of the mounting bracket of the energy chain, add the parameters A1...A4 for pre-assembled Types.

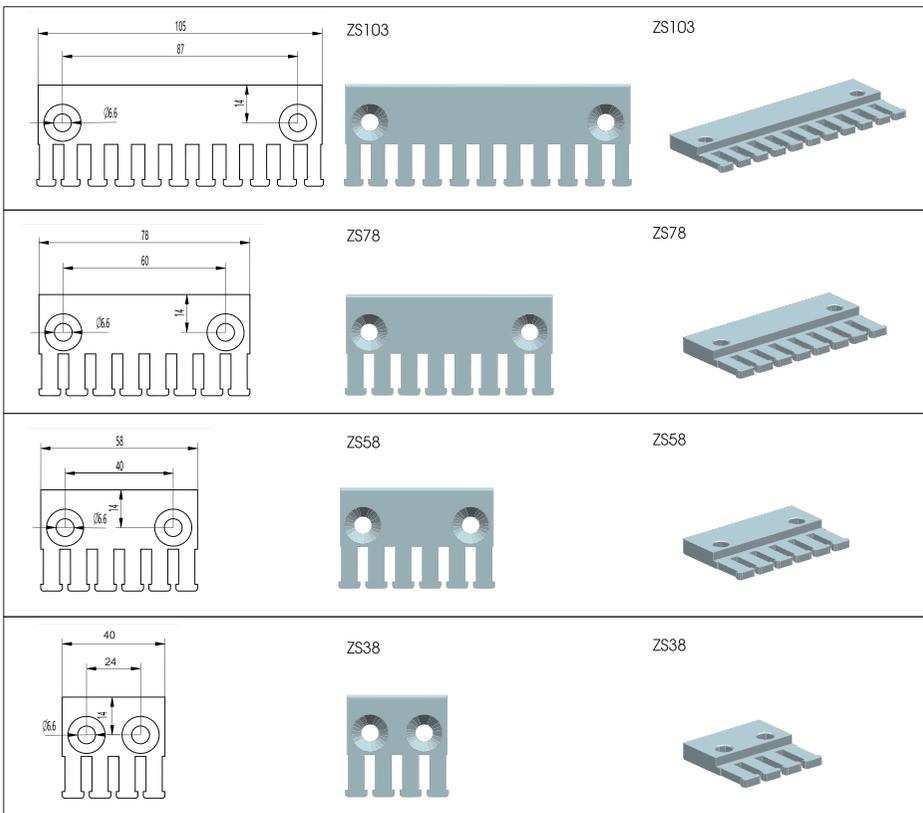


### Separator

Separator plate ZF32.1



### Tiewrape plate



126 ▶ For more information, please visit [www.zhefchain.com](http://www.zhefchain.com)

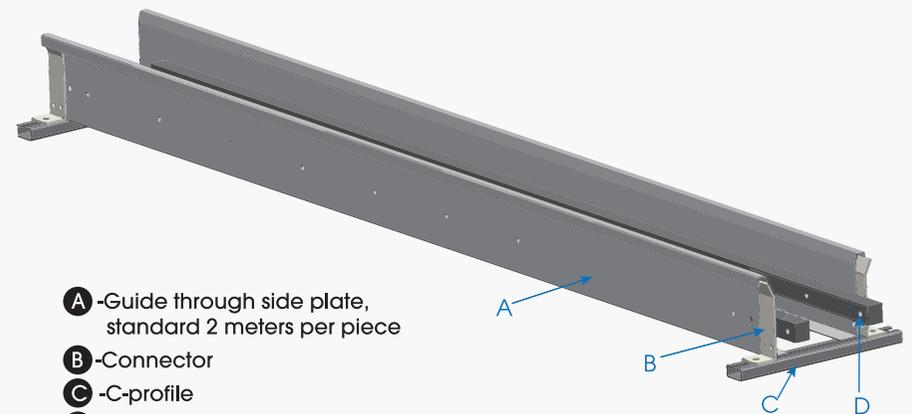
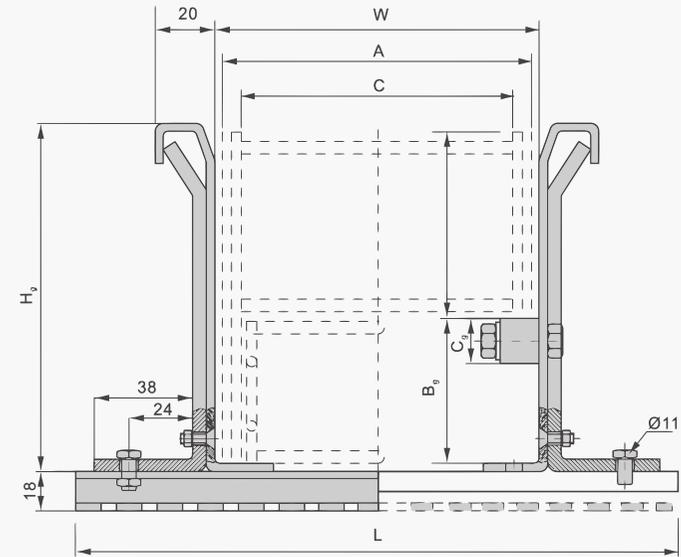


Guide through Type: ZF130.2

Wear-resistant strip Type: ZF20/20

Please refer to P266-267 for the type of installation set

Bg	Cg	Hg	W	L
54	20	130.5	Ba+8	≧ W+125



- A** -Guide through side plate, standard 2 meters per piece
- B** -Connector
- C** -C-profile
- D** -Glide bar
- B & C** -Installation set

3D/CAD files, service life calculation, configuration, and more information are available at [www.zhefchain.com](http://www.zhefchain.com)



### For medium loads

- For indoor and outdoor applications, resistant to radiation and ageing.
- For horizontal unsupported application and long travelling application where the travelling distance is less than 30m;
- For logistics equipment, processing equipment, packaging machinery, machine tools and welding fields, engineering machinery, indoor cranes, automation equipment, automotive production lines.



E3200.150.125.BK is used for small European style crane trolley sliding application, with a Travel length of 24 meters.



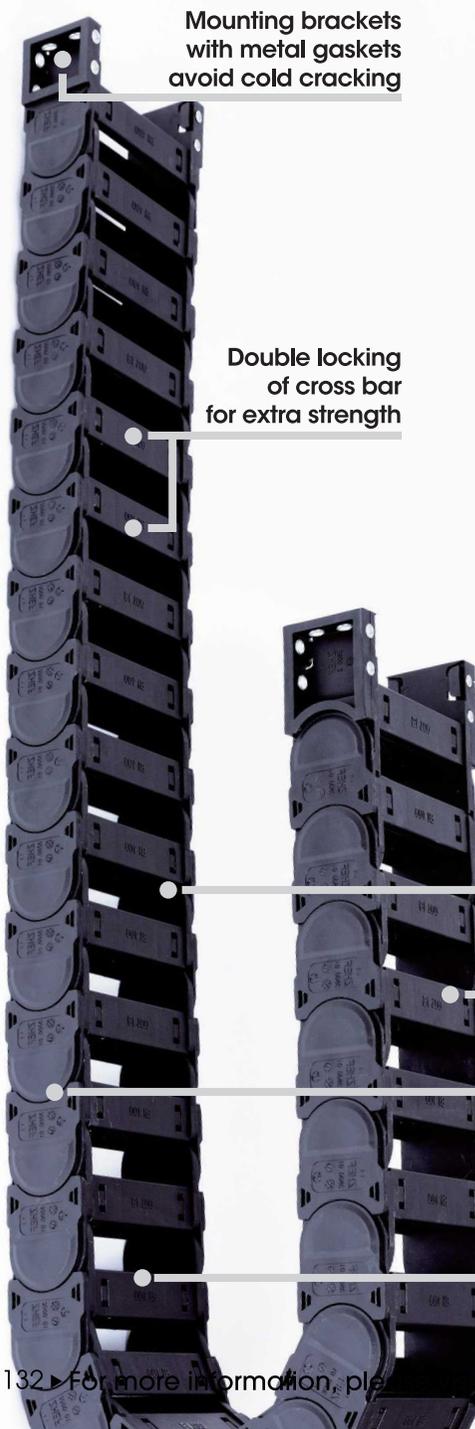
# YFM3500 Series

Cost-effective  
34mm inner height  
Series of energy chain products



Advantages of YFM3500 energy chain series

- High energy chain strength
- Simple structure and easy installation
- Good straightness and torsion resistance



Mounting brackets with metal gaskets avoid cold cracking

Double locking of cross bar for extra strength

Smooth interior cavity  
Avoids cable and oil pipes wear

Reasonable pre-stress  
Good unsupported condition

Anti-torsion structure of the side plate improves the overall stability and strength of the energy chain.

Good straightness when the energy chain is long suitable for medium and long travelling

## Cost-effective 3500 Series Advantages of open-type energy chain

- Mounting brackets with metal gaskets avoid cold cracking
- Double locking of cross bar for extra strength
- Smooth interior cavity to avoid cable and oil pipes wear
- Anti-torsion structure of the side plate improves the overall stability and strength of the energy chain.
- Reasonable pre-stress for good unsupported condition
- When the energy chain is long, it has good straightness and is suitable for medium to long Travel Length sliding

### Typical applications

- Logistics transmission equipment
- Processing equipment
- Packaging machinery
- Machine tool and welding field
- Construction machinery
- Indoor crane
- Automotive production line
- Robotic arm

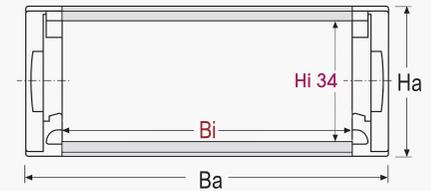
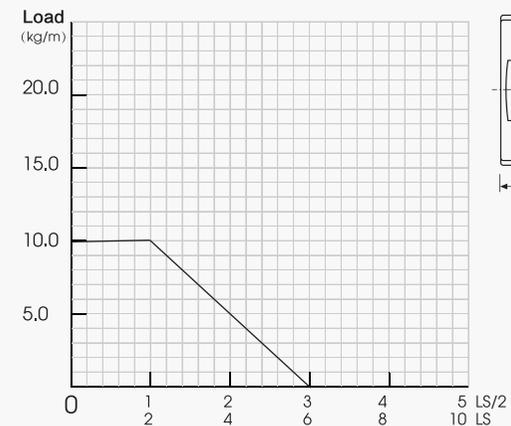
- ⚠ Please use our ESD material for high explosion-proof requirement, and consult our engineers for details.
- ROSH Complied with ROHS IEC62321-7-2 environmental requirements
- CE Complied with EN61386-1:2008+A1:2019 certification requirements

## YFM3500 Series

Openable cross bar along both sides of energy chain

Type	Bi [mm]	Ba [mm]	Ha [mm]	Bending radius R [mm]	Pitch P [mm]	Weight [Kg/m]
YFM3500.050.R.BK	50	75	55	063 075 100 125 150 175 200 250	56	≈ 2.12
YFM3500.075.R.BK	75	100	55	063 075 100 125 150 175 200 250	56	≈ 2.35
YFM3500.100.R.BK	100	125	55	063 075 100 125 150 175 200 250	56	≈ 2.57
YFM3500.125.R.BK	125	150	55	063 075 100 125 150 175 200 250	56	≈ 2.81
YFM3500.150.R.BK	150	175	55	063 075 100 125 150 175 200 250	56	≈ 3.02
YFM3500.175.R.BK	175	200	55	063 075 100 125 150 175 200 250	56	≈ 3.25
YFM3500.200.R.BK	200	225	55	063 075 100 125 150 175 200 250	56	≈ 3.49
YFM3500.250.R.BK	250	275	55	063 075 100 125 150 175 200 250	56	≈ 3.96

### Unsupported - load

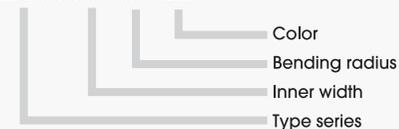


Bi=Inner width Ba=Outer width  
Hi=Inner height Ha=Outer height  
LS=Length of Travel length  
Inner height: 34mm  
Pitch P: 56mm  
Number of links : 18links / meter

Speed for Unsupported applications	max.10(m/s)
Gliding Speed	max.5(m/s)
Unsupported acceleration	max.100(m/s <sup>2</sup> )
Gliding acceleration	max.25(m/s <sup>2</sup> )
Material allowable temperature	-40 C ~ +130 C

### Product Type

YFM3500 050 063 BK

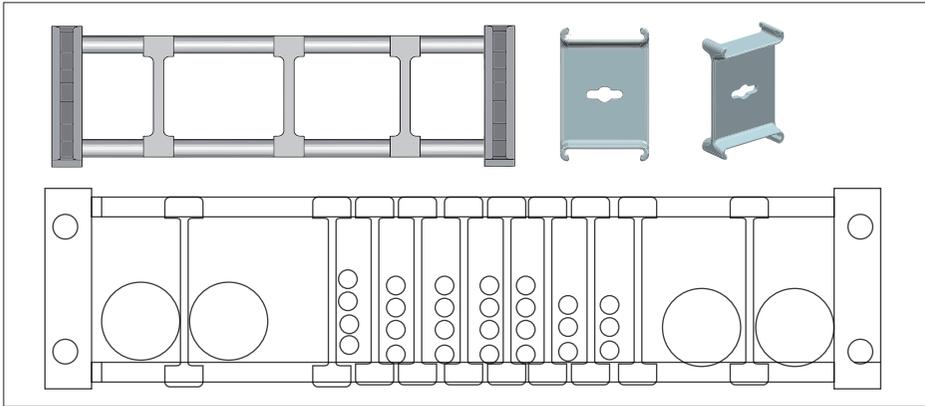




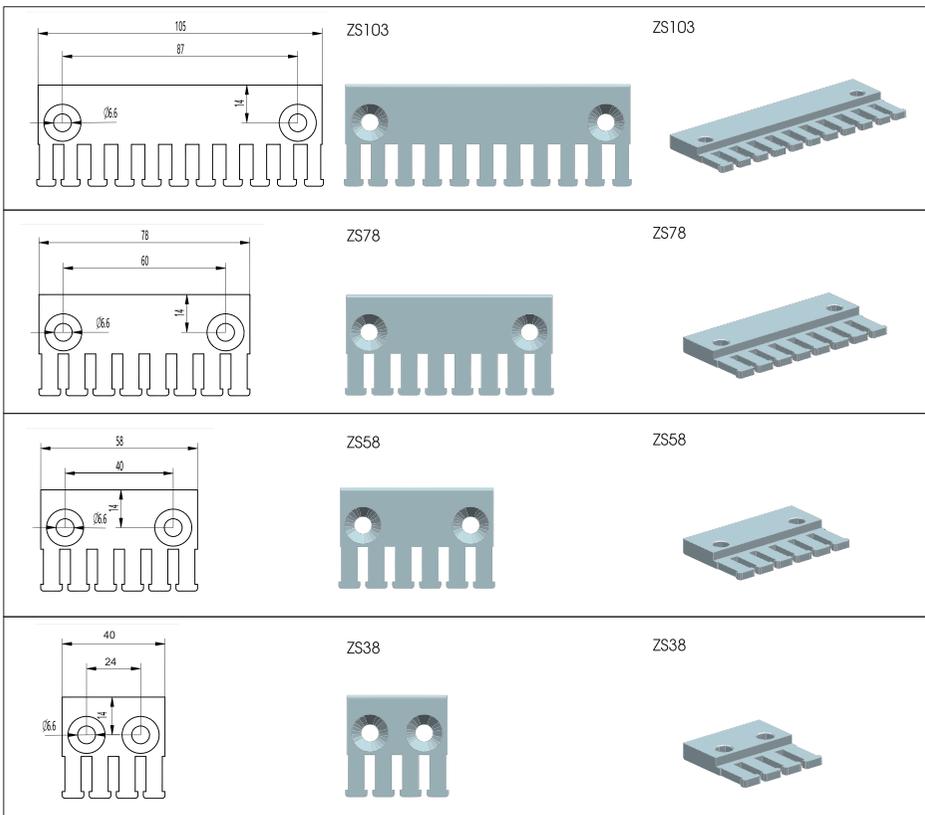


**Separator**

Separator plate YF35.1



**Tiewrape plate**



136 ▶ For more information, please visit [www.zhefchain.com](http://www.zhefchain.com)

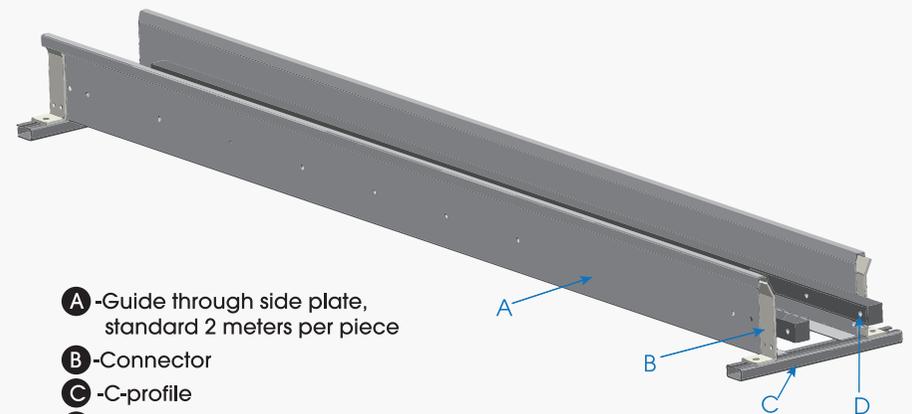
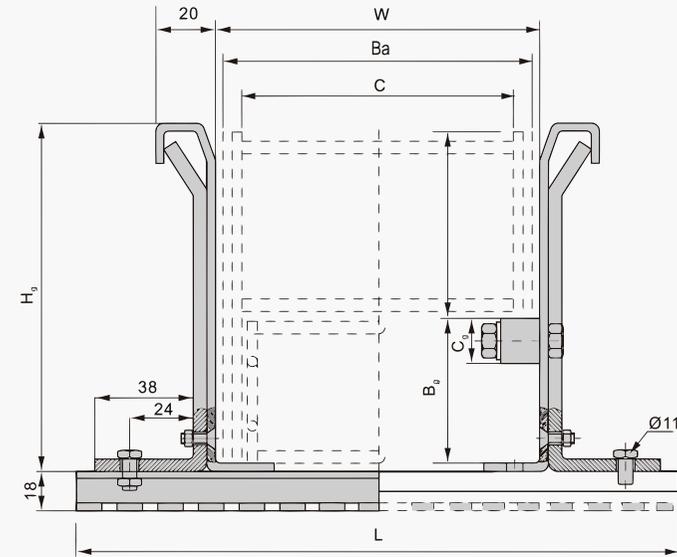


Guide through Type: ZF130.2

Wear-Resistant strip Type: ZF20/20

Please refer to P266-267 for the type of installation set

Bg	Cg	Hg	W	L
54	20	130.5	Ba+8	≅ W+125



- A** -Guide through side plate, standard 2 meters per piece
- B** -Connector
- C** -C-profile
- D** -Glide bar
- B & C** -Installation set

3D/CAD files, service life calculation, configuration, and more information are available at [www.zhefchain.com](http://www.zhefchain.com)



### For medium to high loads

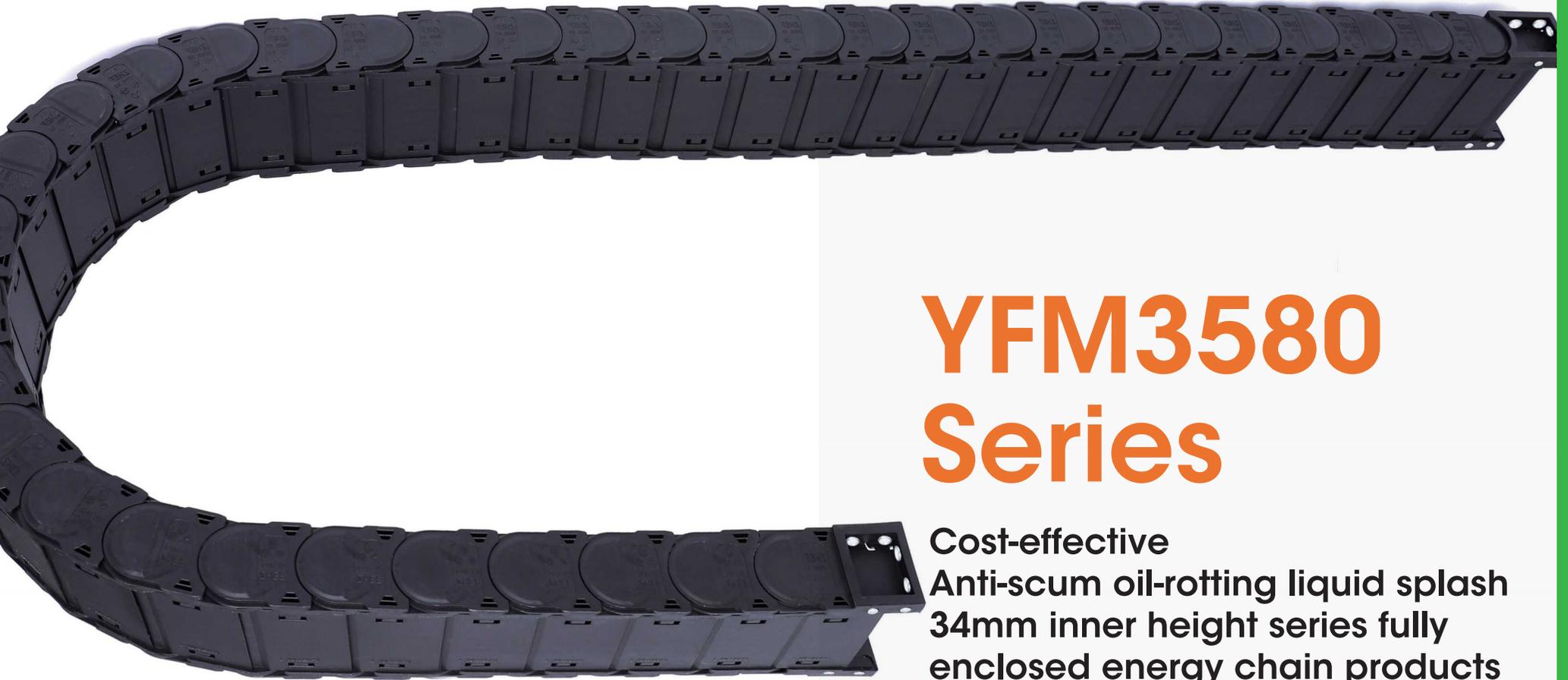
- For indoor and outdoor applications, resistant to radiation and ageing.
- For horizontal unsupported application and long travelling application where the travelling distance is less than 50m;
- For logistics transmission equipment, processing equipment, packaging machinery, machine tools and welding fields, engineering machinery, indoor cranes, automobile production lines, robotic arms.



YFM3500.075.150.BK and other accessories are used for vertical standing applications of CNC machine tools



YFM3500.125.150.BK and other accessories are used for side-mounted movement applications on road machinery control consoles



# YFM3580 Series

**Cost-effective  
Anti-scum oil-rotting liquid splash  
34mm inner height series fully  
enclosed energy chain products**



**Advantages of YFM3500 energy chain series**

- High energy chain strength
- Simple structure and easy installation
- Good straightness and torsion resistance
- Excellent sealing

## Cost-effective 3580 Series

### Advantages of fully enclosed energy chain

- Mounting brackets with metal gaskets avoid cold cracking
- Double locking of cover plate for extra strength
- Smooth interior cavity to avoid cable and oil pipes wear
- Anti-torsion structure of the side plate improves the overall stability and strength of the energy chain.
- Reasonable pre-stress for good unsupported condition
- When the energy chain is long, it has good straightness and is suitable for medium to long Travel length sliding
- Excellent performance of anti-debris, oil, acid and alkali corrosion, ketone and ether corrosion.

### Typical applications

- Textile machinery industry
- Machine tool and welding industry
- Printing machinery and automation industry
- Logistics equipment ● Indoor crane



Please use our ESD material for high explosion-proof requirement, and consult our engineers for details.



ROSH Complied with ROHS IEC62321-7-2 environmental requirements



CE Complied with EN61386-1:2008+A1:2019 certification requirements

Mounting brackets with metal gaskets avoid cold cracking

Double locking of cover plate for extra strength

Smooth interior cavity Avoids cable and oil pipes wear

Reasonable pre-stress Good unsupported condition

Anti-torsion structure of the side plate improves the overall stability and strength of the energy chain.

Good straightness when the energy chain is long suitable for medium and long travelling



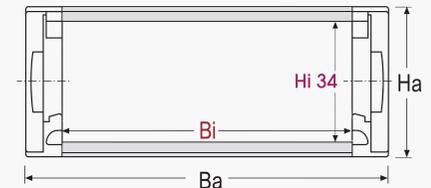
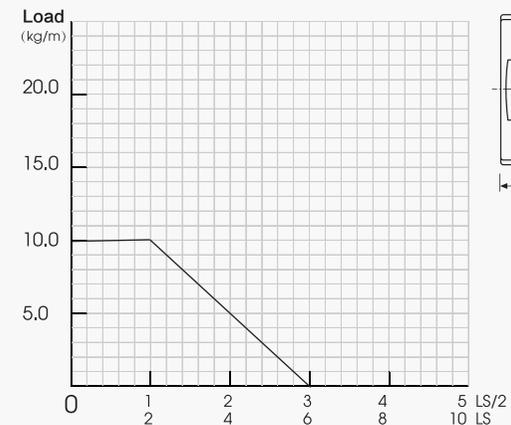
## YFM3580 Series

Openable energy chains above and below the cover plate

Type	Bi [mm]	Ba [mm]	Ha [mm]	Bending radius R [mm]	Pitch P [mm]	Weight [Kg/m]
YFM3580.050.R.BK	50	75	55	125   150   175   200   250	56	≈ 2.95
YFM3580.075.R.BK	75	100	55	125   150   175   200   250	56	≈ 3.07
YFM3580.100.R.BK	100	125	55	125   150   175   200   250	56	≈ 3.25
YFM3580.125.R.BK	125	150	55	125   150   175   200   250	56	≈ 3.41



### Unsupported - load



Bi=Inner width Ba=Outer width  
Hi=Inner height Ha=Outer height  
LS=Length of Travel length  
Inner height: 34mm  
Pitch P: 56mm  
Number of links : 18links /meter



### Speed for Unsupported applications

max.10(m/s)

### Gliding Speed

max.5(m/s)



### Unsupported acceleration

max.100(m/s<sup>2</sup>)

### Gliding acceleration

max.25(m/s<sup>2</sup>)



### Material allowable temperature

-40 C ~ +130 C



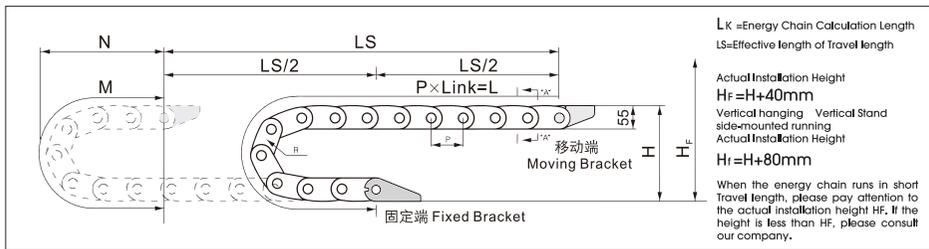
### Product Type

YFM3580 100 150 BK

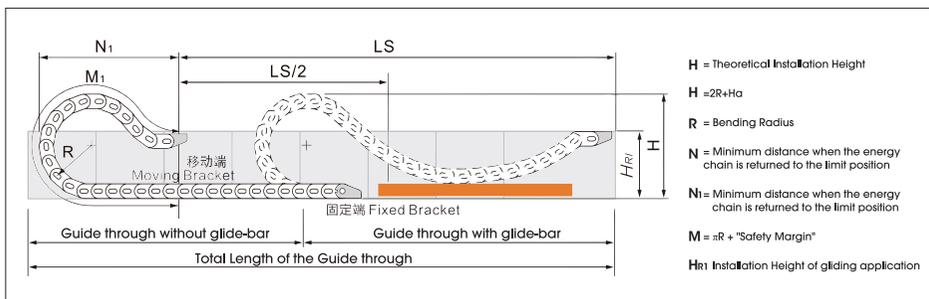




**Short Travel length-Unsupported application**  $LK=LS/2+M$



**Long Travel length - gliding Application**  $LK=LS/2+M_1$



R	H <sub>r1</sub>	H	N	M	N <sub>1</sub>	M <sub>1</sub>
[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
125	168	305	208	550	470	784
150	168	355	233	620	625	1008
175	168	405	258	700	655	1120
200	168	455	284	780	770	1288
250	168	555	333	940	930	1568

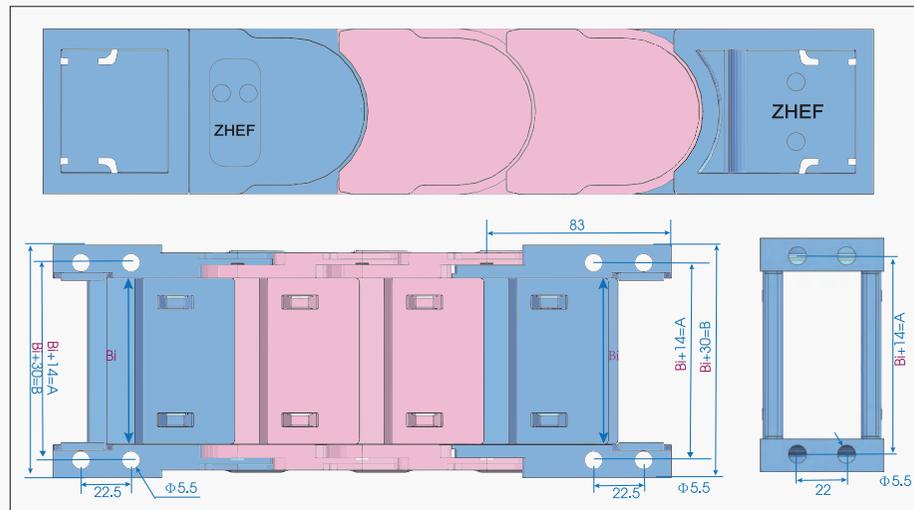
**Ordering Example | Entire Energy Chain**

YFM3580.100.150.BK \* 20 links + YF3580.100.12 + YF35.1 Quantity + ZS78

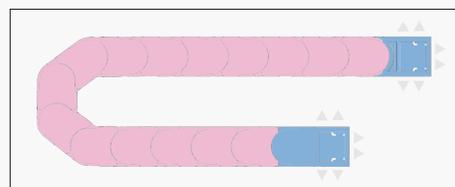
Energy Chain Type    Number of Links    Mounting Bracket Type    Separator    Tiewrap plate

01end

02end

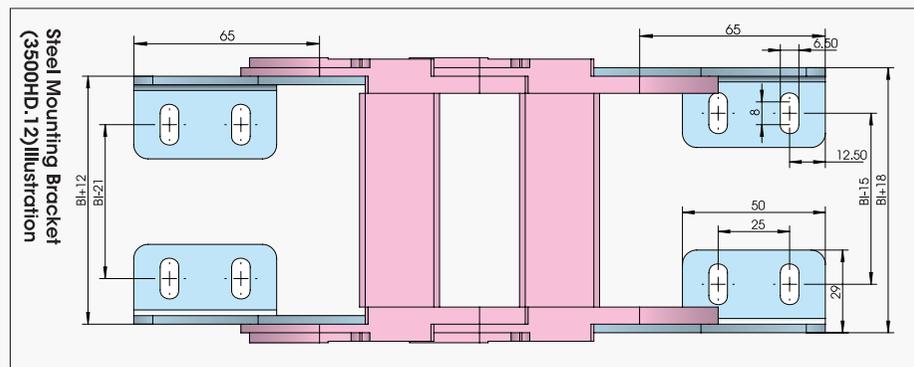


Inner Width	Full set of mounting bracket with C-channel type	Full set of mounting bracket without C-channel type	Size A	Size B
50	YF3580.050.12.C	YF3580.050.12	64	80
75	YF3580.075.12.C	YF3580.075.12	89	105
100	YF3580.100.12.C	YF3580.100.12	114	130
125	YF3580.125.12.C	YF3580.125.12	139	155



**Mounting Bracket Size**  
 YF3580 100 12 C

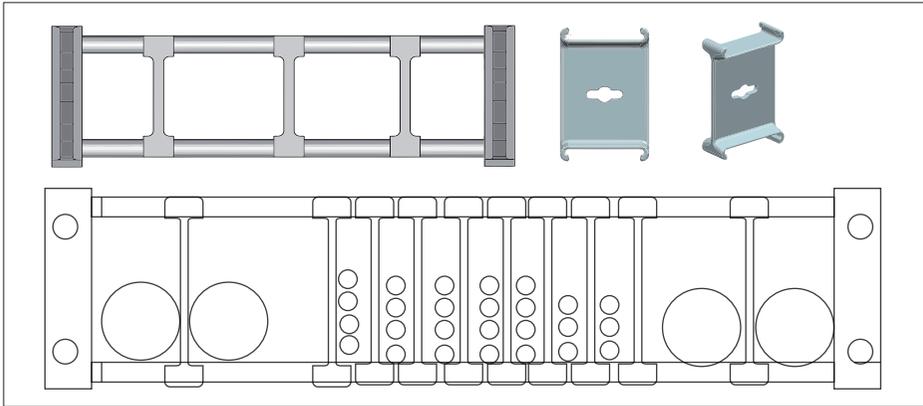
- C-channel
- Mounting Bracket Type
- Inner width
- According to the mounting bracket type selected



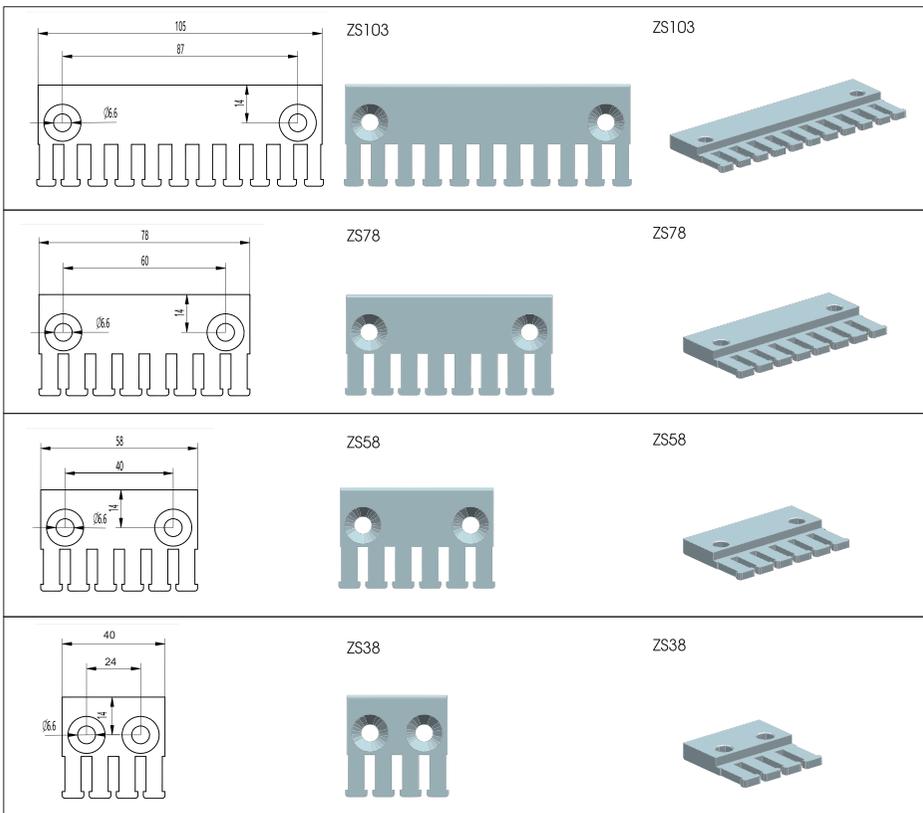


**Separator**

Separator plate YF35.1



**Tiewrape plate**



146 ▶ For more information, please visit [www.zhefchain.com](http://www.zhefchain.com)

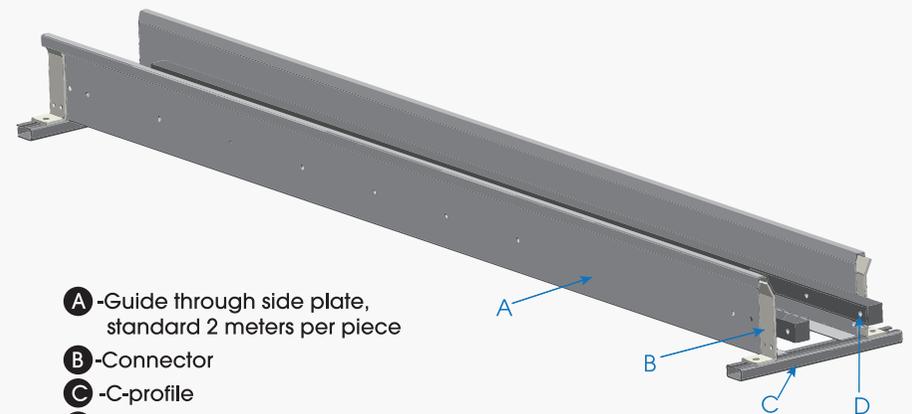
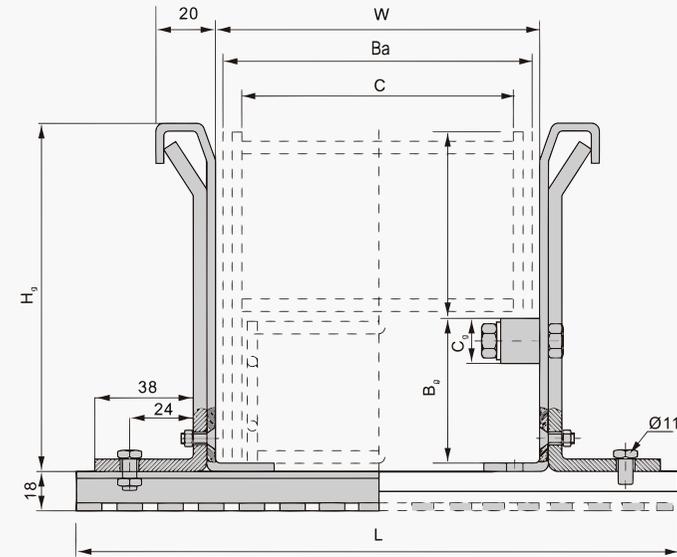


Guide through Type: ZF130.2

Wear-Resistant strip Type: ZF20/20

Please refer to P266-267 for the type of installation set

Bg	Cg	Hg	W	L
54	20	130.5	Ba+8	≅ W+125



- A** -Guide through side plate, standard 2 meters per piece
- B** -Connector
- C** -C-profile
- D** -Glide bar
- B & C** -Installation set

3D/CAD files, service life calculation, configuration, and more information are available at [www.zhefchain.com](http://www.zhefchain.com)



### For small loads

- For indoor and outdoor applications, resistant to radiation and ageing.
- For horizontal unsupported application and long travelling application where the travelling distance is less than 50m;
- For textile machinery industry, machine tool and welding industry, printing machinery and automation industry, logistics equipment, indoor cranes.



YFM3580.100.150.BK and other energy chain accessories,  
used for machine tool X-axis side-mounted movement occasions!



# YFM4200 Series

Cost-effective  
42mm inner height  
Series of energy chain products



Advantages of YFM4200 energy chain series

- High energy chain strength
- Simple structure and easy installation
- Good straightness and torsion resistance



## Cost-effective 4200 Series Advantages of open energy chain

- Mounting brackets with metal gaskets avoid cold cracking
- Double locking of cross bar for extra strength
- Smooth interior cavity to avoid cable and oil pipes wear
- Anti-torsion structure of the side plate improves the overall stability and strength of the energy chain.
- Reasonable pre-stress for good unsupported condition
- When the energy chain is long, it has good straightness and is suitable for medium to long Travel length sliding

### Typical applications

- Construction machinery
- Processing equipment
- Packaging machinery
- Indoor and outdoor cranes
- Automotive production line
- Robot seventh axis
- Household electric appliances production Line
- Laser cutting

Please use our ESD material for high explosion-proof requirement, and consult our engineers for details.

ROHS Complied with ROHS IEC62321-7-2 environmental requirements

CE Complied with EN61386-1:2008+A1:2019 certification requirements

Mounting brackets with metal gaskets avoid cold cracking

Double locking of cross bar for extra strength

Smooth interior cavity Avoids cable and oil pipes wear

Anti-torsion structure of the side plate improves the overall stability and strength of the energy chain

Reasonable pre-stress Good unsupported condition

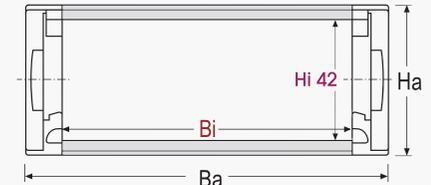
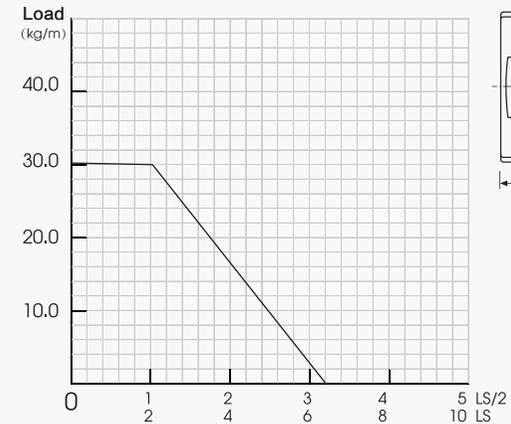
Good straightness when the energy chain is long suitable for medium and long travelling

## YFM4200 Series

Openable cross bar along both sides of energy chain

Type	Bi [mm]	Ba [mm]	Ha [mm]	Bending radius R [mm]	Pitch P [mm]	Weight [Kg/m]
YFM4200.050.R.BK	50	77	64	75   100   125   150   175   200   250   300	67	≈ 2.11
YFM4200.075.R.BK	75	102	64	75   100   125   150   175   200   250   300	67	≈ 2.17
YFM4200.100.R.BK	100	127	64	75   100   125   150   175   200   250   300	67	≈ 2.30
YFM4200.125.R.BK	125	152	64	75   100   125   150   175   200   250   300	67	≈ 2.45
YFM4200.150.R.BK	150	177	64	75   100   125   150   175   200   250   300	67	≈ 2.58
YFM4200.175.R.BK	175	202	64	75   100   125   150   175   200   250   300	67	≈ 2.67
YFM4200.200.R.BK	200	227	64	75   100   125   150   175   200   250   300	67	≈ 2.83
YFM4200.250.R.BK	250	277	64	75   100   125   150   175   200   250   300	67	≈ 3.10

### Unsupported - load



Bi=Inner width Ba=Outer width  
Hi=Inner height Ha=Outer height  
LS=Length of Travel length  
Inner height: 42mm  
Pitch P: 67mm  
Number of links: 15links /meter  
Length of energy chain: S/2+M

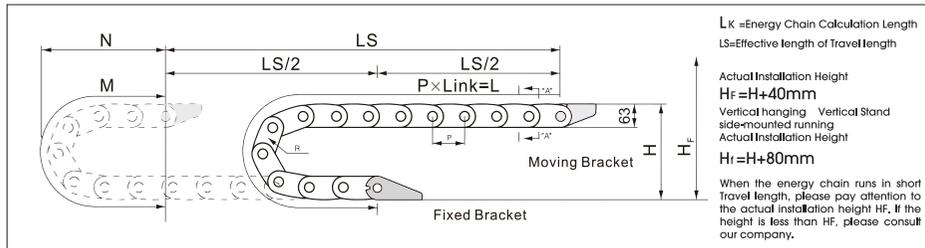
Speed for Unsupported applications	max.10(m/s)
Gliding Speed	max.5(m/s)
Unsupported acceleration	max.100(m/s <sup>2</sup> )
Gliding acceleration	max.25(m/s <sup>2</sup> )
Material allowable temperature	-40 C ~+130 C

### Product Type YFM4200 050 075 BK

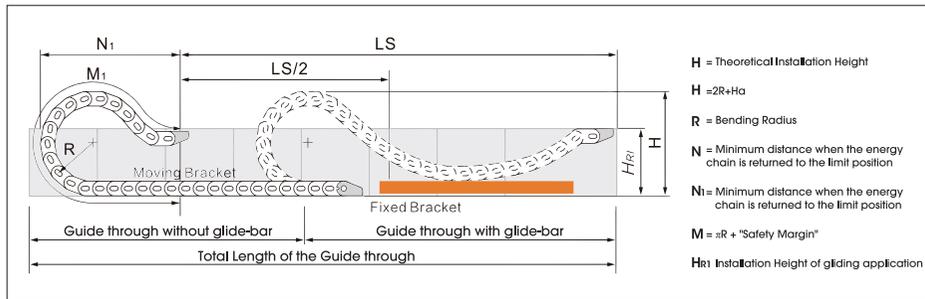




**Short Travel length-Unsupported application**  $L_k = LS/2 + M$



**Long Travel length - gliding Application**  $L_k = LS/2 + M_1$



R	Hr1	H	N	M	N1	H	M1
[mm]							
075	188	215	174	370	174	370	
100	188	265	200	450	200	450	
125	188	315	224	530	475	804	
150	188	365	249	610	570	1005	
175	188	415	274	685	695	1140	
200	188	465	299	765	780	1350	
250	188	565	349	920	1035	1675	
300	188	665	399	1080	1150	1945	

**Ordering Example | Entire Energy Chain**

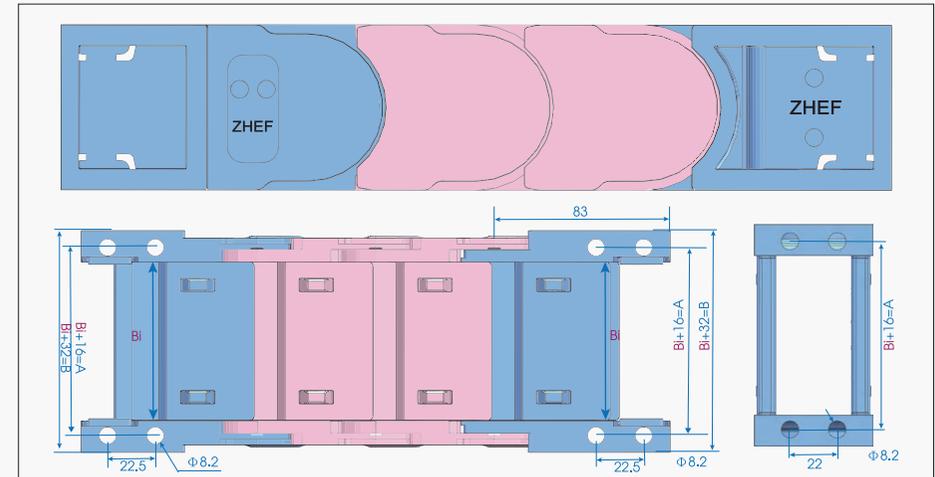
YFM4200.050.075.BK \* 20 links + YF4200.050.12 + YF42.1 Quantity + ZS58

Energy Chain Type    Number of Links    Mounting Bracket Type    Separator    Tiewrap plate

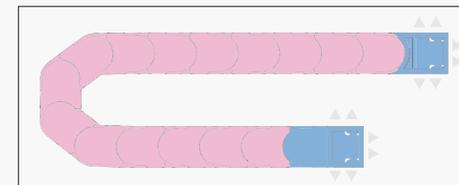


01end

02end



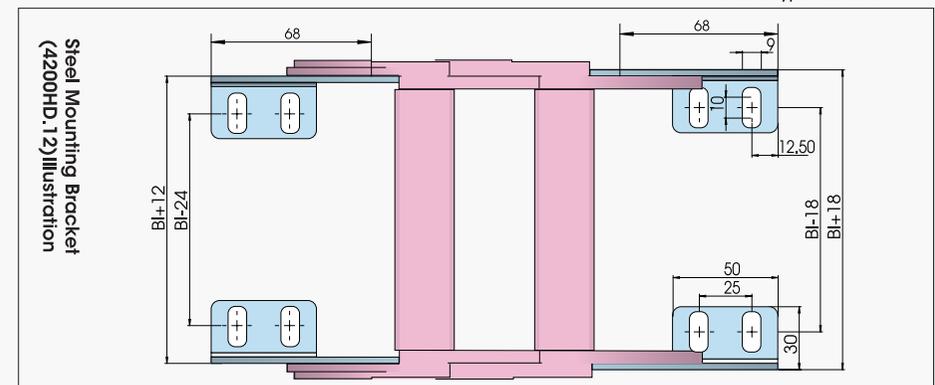
Inner Width	Full set of mounting bracket with C-channel type	Full set of mounting bracket without C-channel type	Size A	Size B
50	YF4200.050.12.C	YF4200.050.12	66	82
75	YF4200.075.12.C	YF4200.075.12	91	107
100	YF4200.100.12.C	YF4200.100.12	116	132
125	YF4200.125.12.C	YF4200.125.12	141	157
150	YF4200.150.12.C	YF4200.150.12	166	182
175	YF4200.175.12.C	YF4200.175.12	191	207
200	YF4200.200.12.C	YF4200.200.12	216	232
250	YF4200.250.12.C	YF4200.250.12	266	282



**Mounting Bracket Size**

YF4200 050 12 C

C-channel  
Mounting Bracket Type  
Inner width  
According to the mounting bracket Type selected

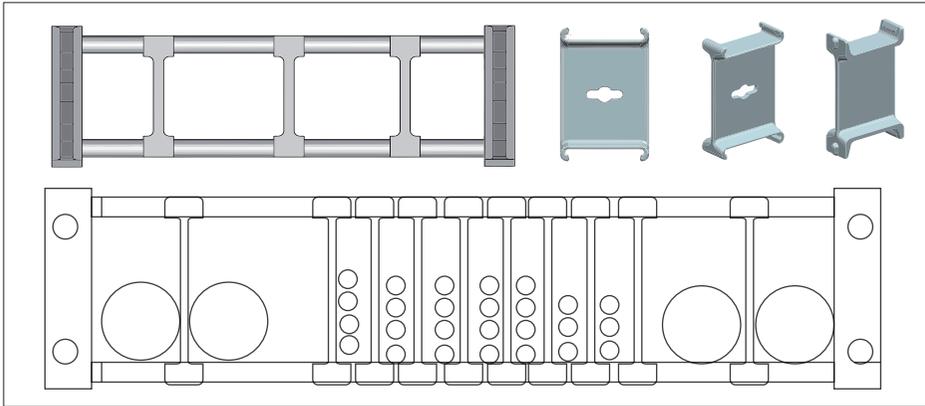


3D/CAD files, service life calculation, configuration, and more information are available at [www.zhefchain.com](http://www.zhefchain.com)

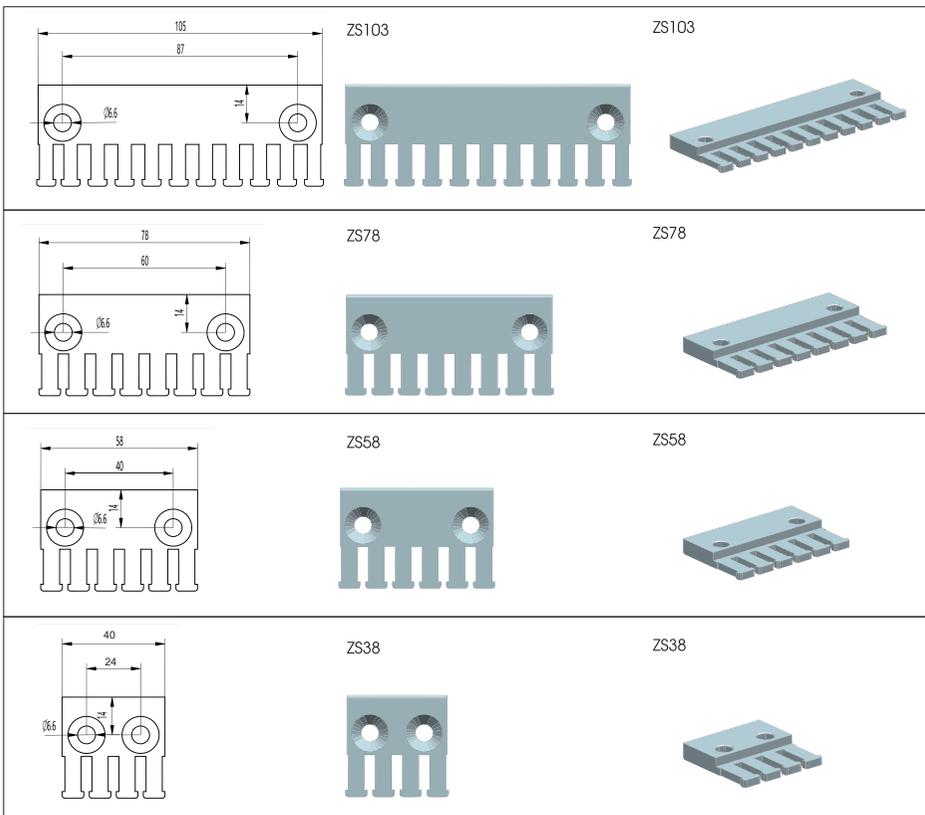


**Separator**

Separator plate YF42.1  
Locking Type Separator Type YF42.2



**Tiewrape plate**

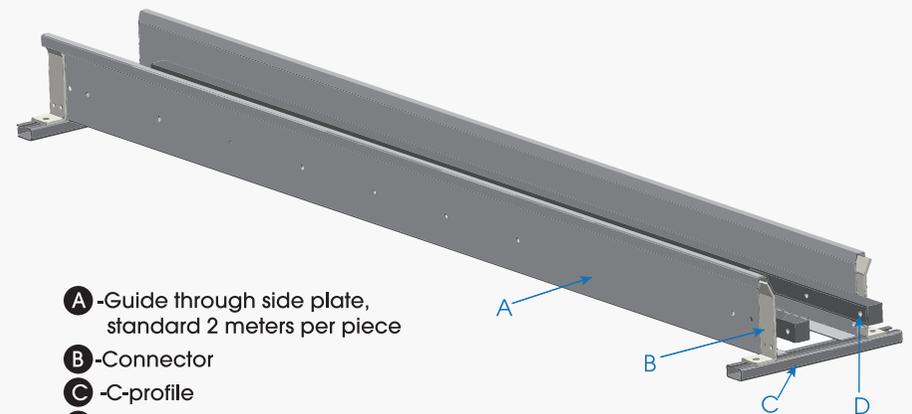
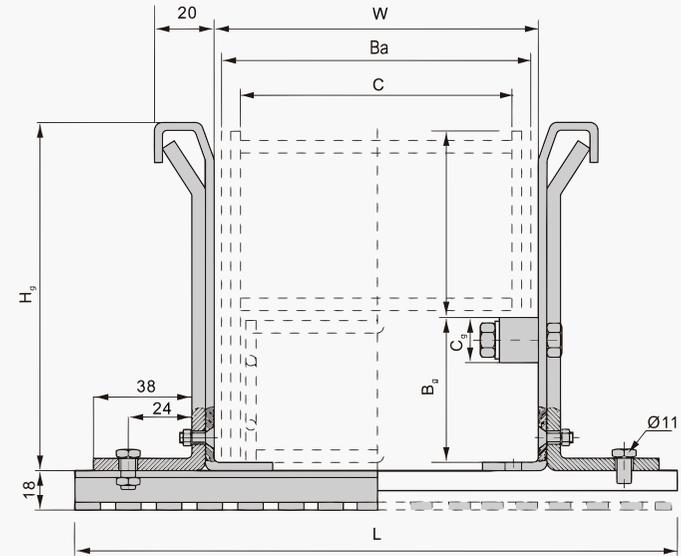


156 ▶ For more information, please visit [www.zhefchain.com](http://www.zhefchain.com)



Guide through Type: ZF130.1  
Wear-Resistant strip Type: ZF30/30  
Please refer to P266-267 for the type of installation set

Bg	Cg	Hg	W	L
64	30	130.5	Ba+8	≧W+125

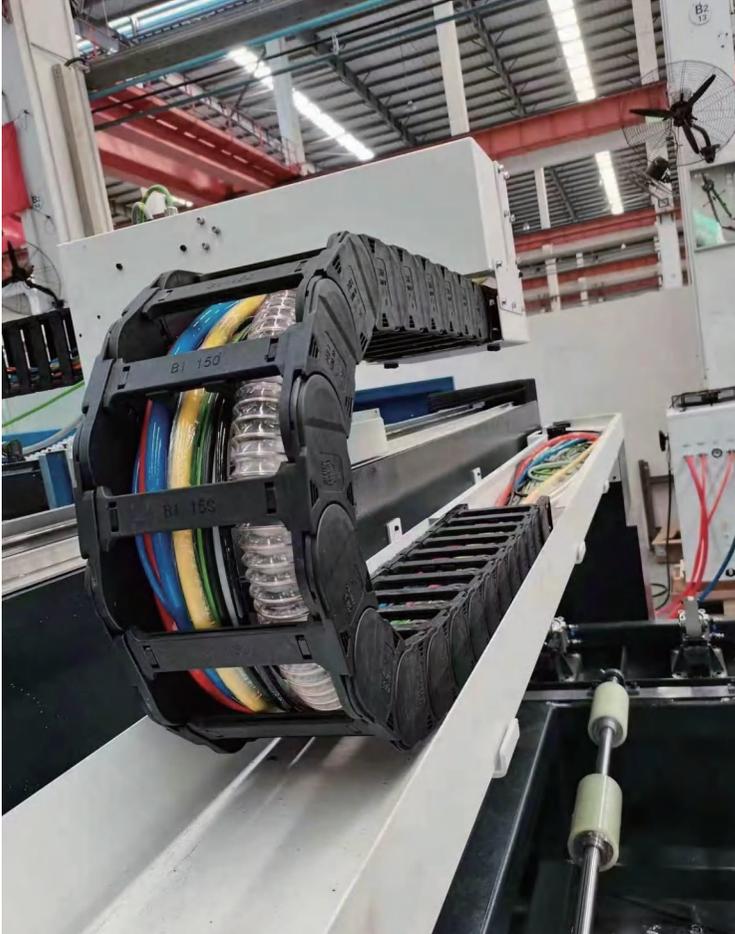


- A** -Guide through side plate, standard 2 meters per piece
- B** -Connector
- C** -C-profile
- D** -Glide bar
- B & C** -Installation set

3D/CAD files, service life calculation, configuration, and more information are available at [www.zhefchain.com](http://www.zhefchain.com)

**For high loads**

- For indoor and outdoor applications, resistant to radiation and aging.
- For horizontal unsupported and medium-length Travel length skidding.
- For construction machinery, processing equipment, packaging machinery, indoor and outdoor cranes, automobile production lines, robot seventh axis, household electric appliances production lines, laser cutting.



YFM4200.150.200.BK and other energy chain accessories are used for the traverse applications of one axis of laser cutting machine.

**For high loads**

- For indoor and outdoor applications, resistant to radiation and aging.
- For horizontal unsupported and medium-length Travel length skidding.
- Suitable for conveying and logistics equipment, machine tools and welding fields, construction machinery, processing equipment, packaging machinery, indoor and outdoor cranes, automobile production lines, robot seventh axis, household electric appliances production lines, laser cutting.



YFM4200.100.150.BK and other energy chain accessories are used in the field of home appliance production lines



# YFM4280 Series

**Cost-effective**  
**Preventing the splashing of debris**  
**and oil-rotting liquids**  
**42mm internal height series of fully**  
**enclosed energy chain products**



**Advantages of YFM4280 series energy chain**

- High strength of energy chain
- Simple structure and easy installation
- Good straightness and torsion resistance
- Excellent sealing



Metal gasket mounting bracket prevents cold cracks

Double locking of cover plate for extra strength

## Cost-effective 4280 Series Advantages of fully enclosed energy chain

- Metal gasket mounting bracket prevents cold cracks.
- Double locking of cover plate for extra strength
- Smooth inner cavity avoids abrasion of cables and oil pipes.
- Anti-torsion structure of side plate improves the overall stability and strength of the energy chain.
- Reasonable pre-stressing, good overhead performance.
- Good straightness when the energy chain is long, suitable for medium and long Travel length sliding.
- Excellent performance of anti-debris, oil, acid and alkali corrosion, ketone and ether corrosion.

### Typical applications

- Conveyor and logistics equipment
- Machine tools and welding field
- Engineering Machinery ● Processing Equipment
- Packaging Machinery ● Indoor and outdoor cranes
- Automobile production lines ● Robot seventh axis

Please use our ESD material for high explosion-proof requirement, and consult our engineers for details.

ROHS Complied with ROHS IEC62321-7-2 environmental requirements

CE Complied with EN61386-1:2008+A1:2019 certification requirements

Reasonable pre-stress setting  
Good overhead performance

Smooth inner cavity avoids abrasion of cables and oil pipes

Anti-torsion structure of side plate improves the overall stability and strength of the energy chain

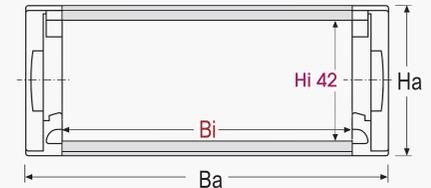
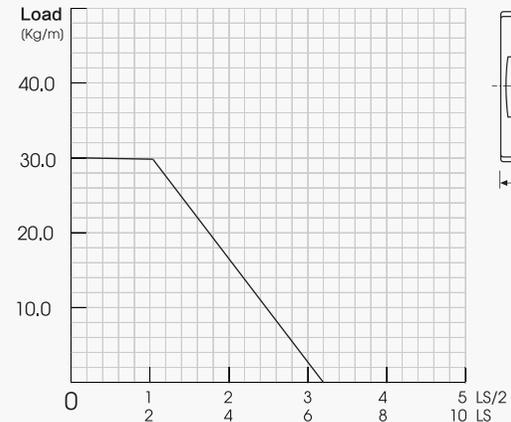
Good straightness when the energy chain is long suitable for medium and long Travel length sliding

## YFM4280 Series

cover plate up and down can be opened energy chain

Type	Bi [mm]	Ba [mm]	Ha [mm]	Bending radius R [mm]	Pitch P [mm]	Weight [Kg/m]
YFM4280.075.R.BK	75	102	64	125 150 175 200 250 300	67	≈ 2.40
YFM4280.100.R.BK	100	127	64	125 150 175 200 250 300	67	≈ 2.70
YFM4280.125.R.BK	125	152	64	125 150 175 200 250 300	67	≈ 2.90
YFM4280.150.R.BK	150	177	64	125 150 175 200 250 300	67	≈ 3.20
YFM4280.175.R.BK	175	202	64	125 150 175 200 250 300	67	≈ 3.50
YFM4280.200.R.BK	200	227	64	125 150 175 200 250 300	67	≈ 3.60

### Unsupported - load



Bi=Inner width Ba=Outer width  
Hi=Inner height Ha=Outer height  
LS=Length of Travel length  
Inner height: 42mm  
Pitch P: 67mm  
Number of links: 15links /meter

Speed for Unsupported applications	max.10(m/s)
Gliding Speed	max.5(m/s)
Unsupported acceleration	max.100(m/s <sup>2</sup> )
Gliding acceleration	max.25(m/s <sup>2</sup> )
Material allowable temperature	-40 C ~+130 C

### Product Type

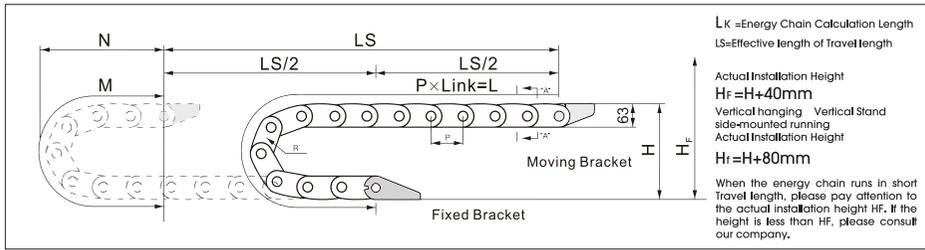
YFM4280 075 150 BK





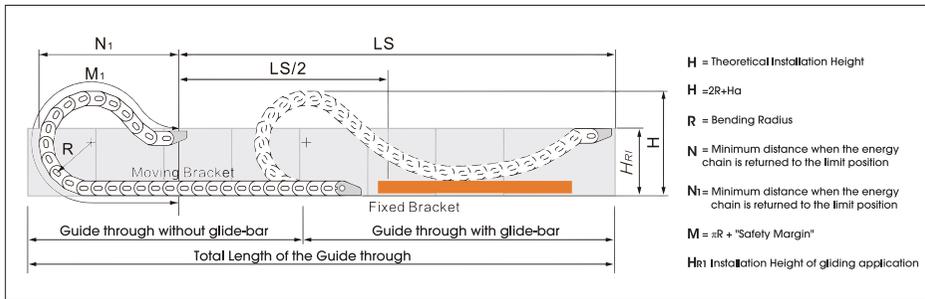
**Short Travel length-Unsupported application**

$L_k = LS/2 + M$



**Long Travel length - gliding Application**

$L_k = LS/2 + M_1$



R [mm]	Hr1 [mm]	H [mm]	N [mm]	M [mm]	N1 [mm]	M1 [mm]
125	188	315	224	530	475	804
150	188	365	249	610	570	1010
175	188	415	274	685	695	1150
200	188	465	299	765	780	1340
250	188	565	349	920	1035	1675
300	188	665	399	1080	1150	1945

**Ordering Example | Entire Energy Chain**

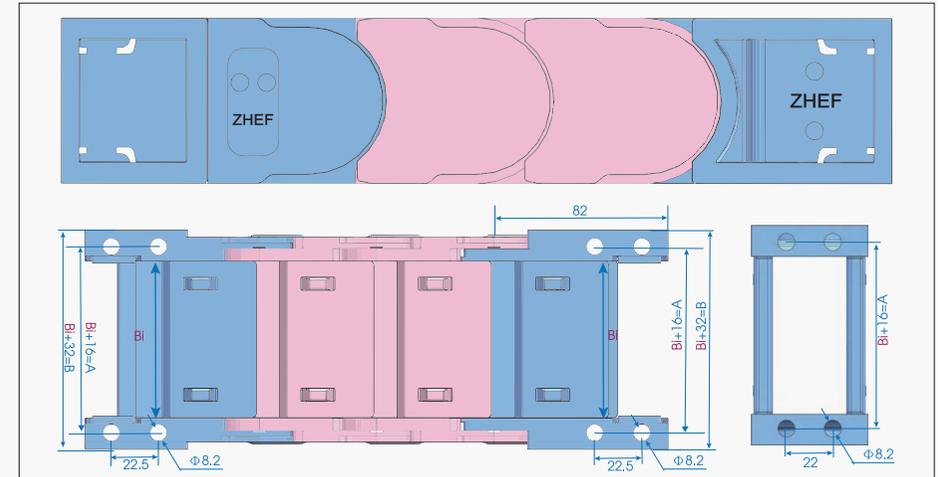
YFM4280.075.150.BK \* 20 links + YF4280.075.12 + YF42.1 Quantity + ZS78

Energy Chain Type    Number of Links    Mounting Bracket Type    Separator    Tiewrap plate

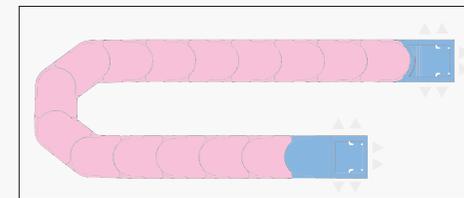


01end

02end

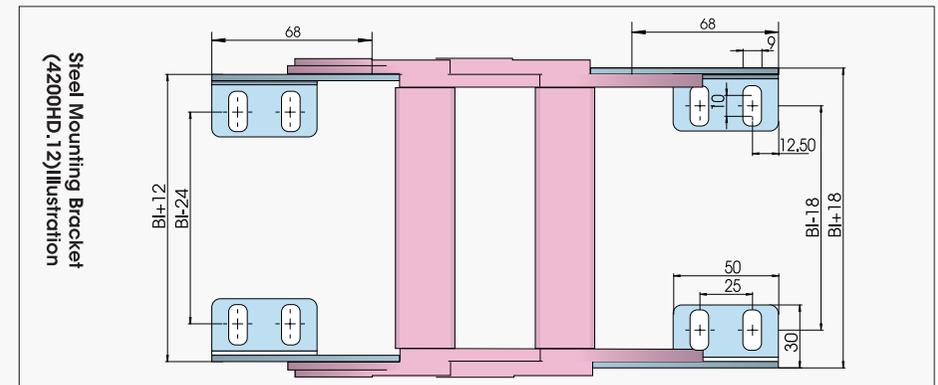


Inner Width	Full set of mounting bracket with C-channel type	Full set of mounting bracket without C-channel type	Size A	Size B
75	YF4280.075.12.C	YF4280.075.12	91	107
100	YF4280.100.12.C	YF4280.100.12	116	132
125	YF4280.125.12.C	YF4280.125.12	141	157
150	YF4280.150.12.C	YF4280.150.12	166	182
175	YF4280.175.12.C	YF4280.175.12	191	207
200	YF4280.200.12.C	YF4280.200.12	216	232



**Mounting Bracket Size**  
YF4280 100 12 C

C-channel  
Mounting Bracket Type  
Inner width  
According to the mounting bracket type selected

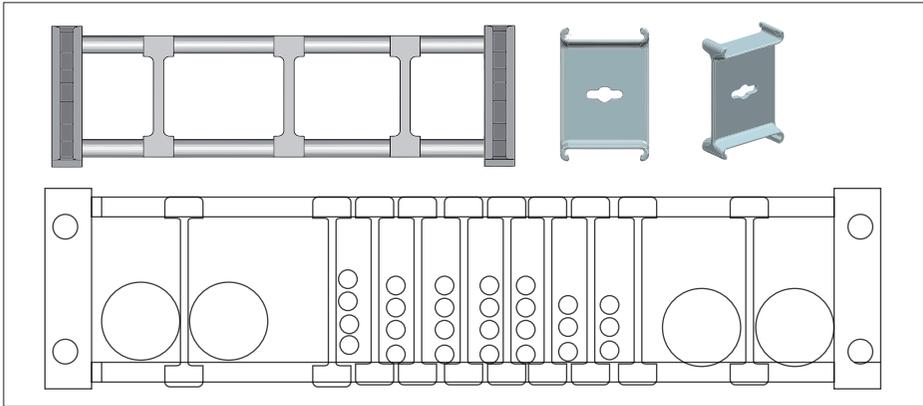


3D/CAD files, service life calculation, configuration, and more information are available at [www.zhefchain.com](http://www.zhefchain.com)

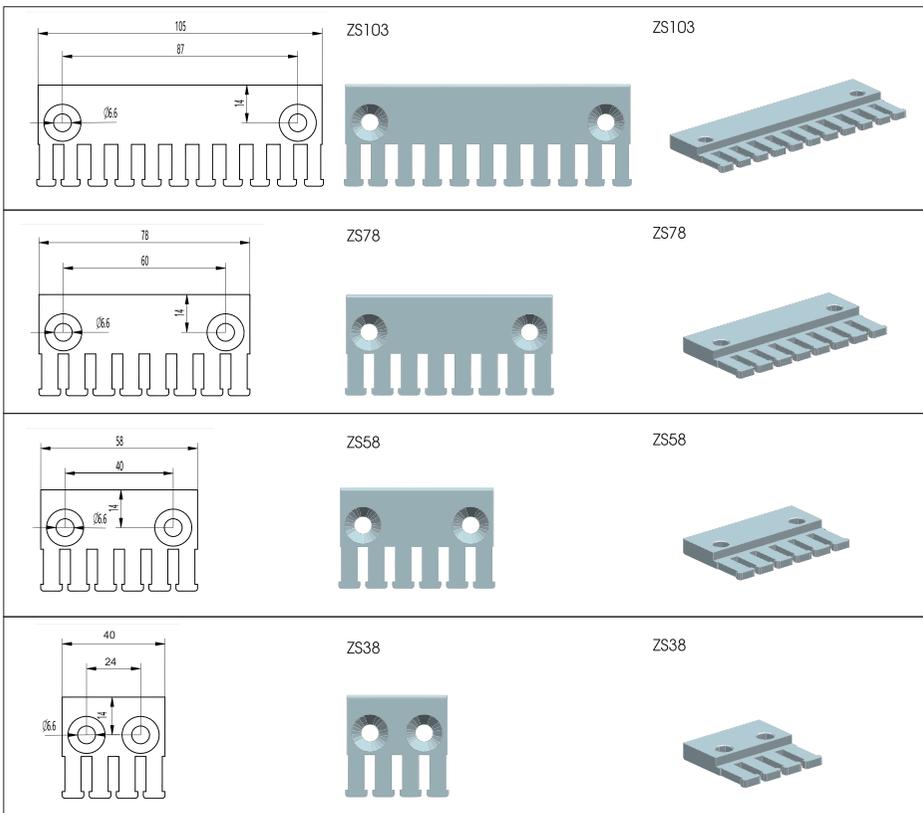


**Separator**

Separator plate YF42.1



**Tiewrape plate**

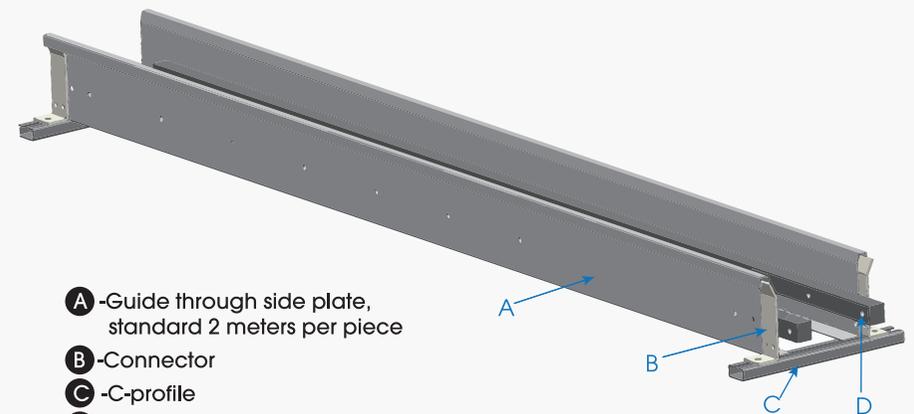
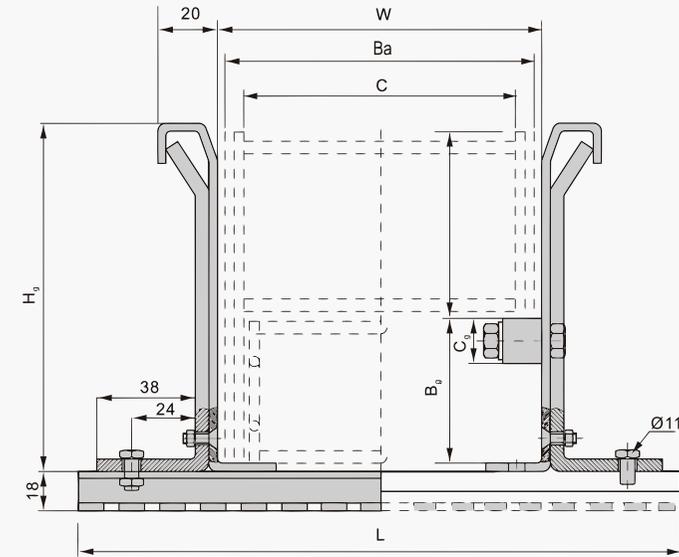


174 ▶ For more information, please visit [www.zhefchain.com](http://www.zhefchain.com)



Guide through Type: ZF130.1  
Wear-Resistant strip Type: ZF30/30  
Please refer to P266-267 for the type of installation set

Bg	Cg	Hg	W	L
64	30	130.5	Ba+8	≥W+125



- A** -Guide through side plate, standard 2 meters per piece
- B** -Connector
- C** -C-profile
- D** -Glide bar
- B & C** -Installation set

3D/CAD files, service life calculation, configuration, and more information are available at [www.zhefchain.com](http://www.zhefchain.com)

### For high loads

- For indoor and outdoor applications, resistant to radiation and aging.
- For horizontal unsupported and medium-length Travel length skidding.
- Suitable for conveying and logistics equipment, machine tools and welding fields, construction machinery, processing equipment, packaging machinery, indoor and outdoor cranes, automobile production lines, and the seventh axis of robots.



YFM4280.150.150.BK for 3D CNC plane stations



# YFMG4280 Series

Cost-effective  
Preventing the splashing of debris  
and oil-rotting liquids  
42mm Inner height  
Expanded fiber optic cable clamp  
series energy chain products



Advantages of YFMG4280 series energy chain

- High strength of energy chain
- Simple structure and easy installation
- Good straightness and torsion resistance
- Excellent sealing
- Can achieve external bending operation of fiber optic cables

## 4280 Series

### Fully expanded fiber optic cable clamp Advantages of energy chain products

- Metal gasket mounting bracket prevents cold cracks
- Double locking of cover plate for extra strength
- Smooth inner cavity avoids abrasion of cables and oil pipes.
- Anti-torsion structure of side plate improves the overall stability and strength of the energy chain.
- Reasonable pre-stressing, excellent unsupported capacity.
- Can achieve external bending operation of fiber optic cables
- Excellent performance of anti-debris, oil, acid and alkali corrosion, ketone and ether corrosion.

#### Typical applications

- Laser cutting machine
- Non-standard automation

- ⚠ Please use our ESD material for high explosion-proof requirement, and consult our engineers for details.
- ROSH Complied with ROHS IEC62321-7-2 environmental requirements
- CE Complied with EN61386-1:2008+A1:2019 certification requirements

Metal gasket mounting bracket prevents cold cracks

Double locking of cover plate for extra strength

Reasonable pre-stress for good unsupported condition

Smooth inner cavity avoids abrasion of cables and oil pipes

Anti-torsion structure of the side plate improves the overall stability and strength of the energy chain

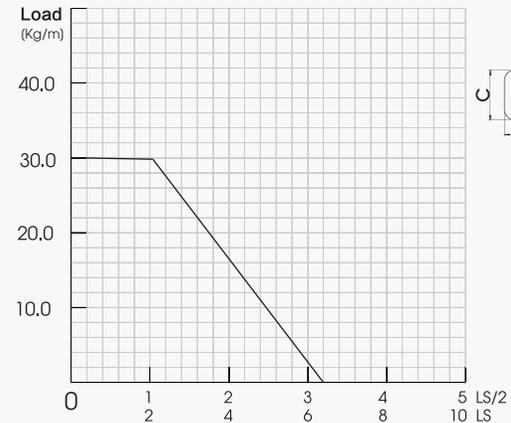
Can achieve external bending operation of fiber optic cables

## YFMG4280 Series

Openable energy chains above and below the cover plate

Type	Bi [mm]	Ba [mm]	Ha [mm]	Bending radius R [mm]	Pitch P [mm]	Weight [Kg/m]
YFMG4280.075.R.BK	75	102	64	125 150 175 200 250 300	67	≈ 2.40
YFMG4280.100.R.BK	100	127	64	125 150 175 200 250 300	67	≈ 2.70
YFMG4280.125.R.BK	125	152	64	125 150 175 200 250 300	67	≈ 2.90
YFMG4280.150.R.BK	150	177	64	125 150 175 200 250 300	67	≈ 3.20
YFMG4280.175.R.BK	175	202	64	125 150 175 200 250 300	67	≈ 3.50
YFMG4280.200.R.BK	200	227	64	125 150 175 200 250 300	67	≈ 3.60

### Unsupported - load

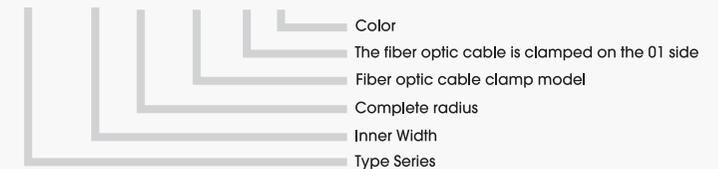


Bi=Inner width Ba=Outer width  
Hi=Inner height Ha=Outer height  
LS=Length of Travel length  
Inner height: 42mm  
Pitch P: 67mm  
Number of links: 15links /meter

	Speed for Unsupported applications	max.10(m/s)
	Unsupported acceleration	max.100(m/s <sup>2</sup> )
	Material allowable temperature	-40 C ~+130 C

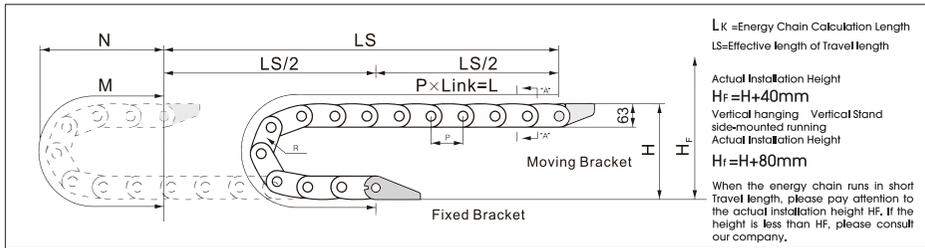
### Product Type

YFMG4280 075 150 ZFD17 01 BK





**Short Travel length-Unsupported application**  $Lk=LS/2+M$



Specification and model	Suitable hose model	Suitable outer diameter of hose(mm)
ZFD10	AD10	10
ZFD13	AD13	13
ZFD16	AD15.8	15.8
ZFD19	AD18.5	18.5
ZFD21	AD21.2	21.2
ZFD25	AD25	25
ZFD29	AD28.5	28.5
ZFD35	AD34.5	34.5

R	H	N	M
[mm]	[mm]	[mm]	[mm]
125	315	224	530
150	365	249	610
175	415	274	685
200	465	299	765
250	565	349	920
300	665	399	1080

**Ordering Example | Entire Energy Chain**

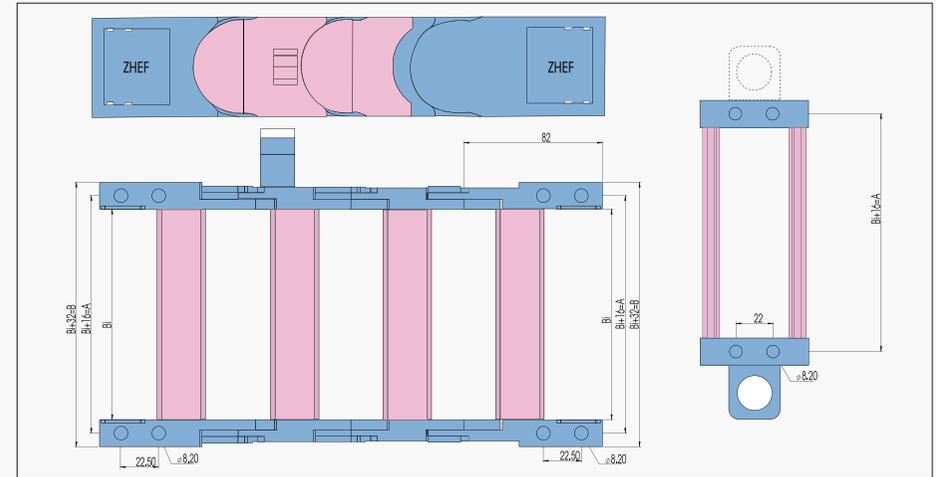
YFMG4280.075.150.ZFD17.01.BK \* 20 links + YF4280.075.12 + YF42.1 Quantity + ZS78

Energy Chain Type      Number of Links      Mounting Bracket Type      Separator      Tiewrap plate

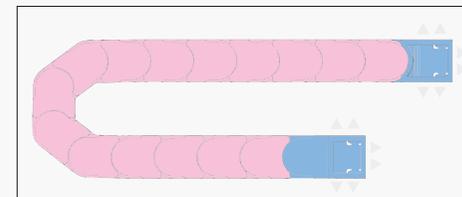
\*It is generally recommended to install one fiber optic cable clamp every two sections.  
 It is recommended to install the fiber optic cable clamp on the 01 side of the energy chain side panel.  
 If you have any special requirements, please contact our sales engineer!



■ 02end      ■ 01end

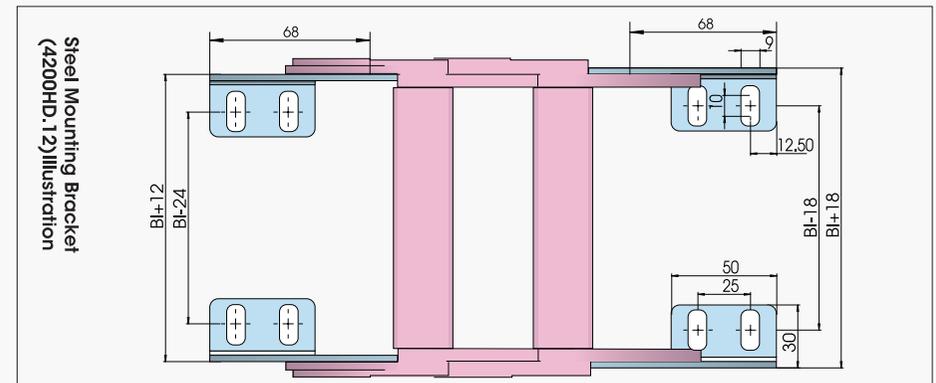


Inner Width	Full set of mounting bracket with C-channel type	Full set of mounting bracket without C-channel type	Size A	Size B
75	YF4280.075.12.C	YF4280.075.12	91	107
100	YF4280.100.12.C	YF4280.100.12	116	132
125	YF4280.125.12.C	YF4280.125.12	141	157
150	YF4280.150.12.C	YF4280.150.12	166	182
175	YF4280.175.12.C	YF4280.175.12	191	207
200	YF4280.200.12.C	YF4280.200.12	216	232



**Mounting Bracket Size**  
 YF4280 100 12 C

- C-channel
- Mounting Bracket Type
- Inner width
- According to the mounting bracket type selected

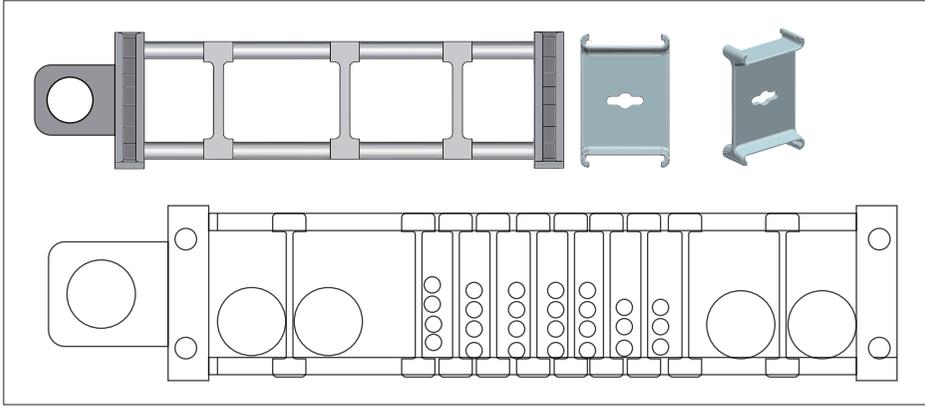


3D/CAD files, service life calculation, configuration, and more information are available at [www.zhefchain.com](http://www.zhefchain.com)

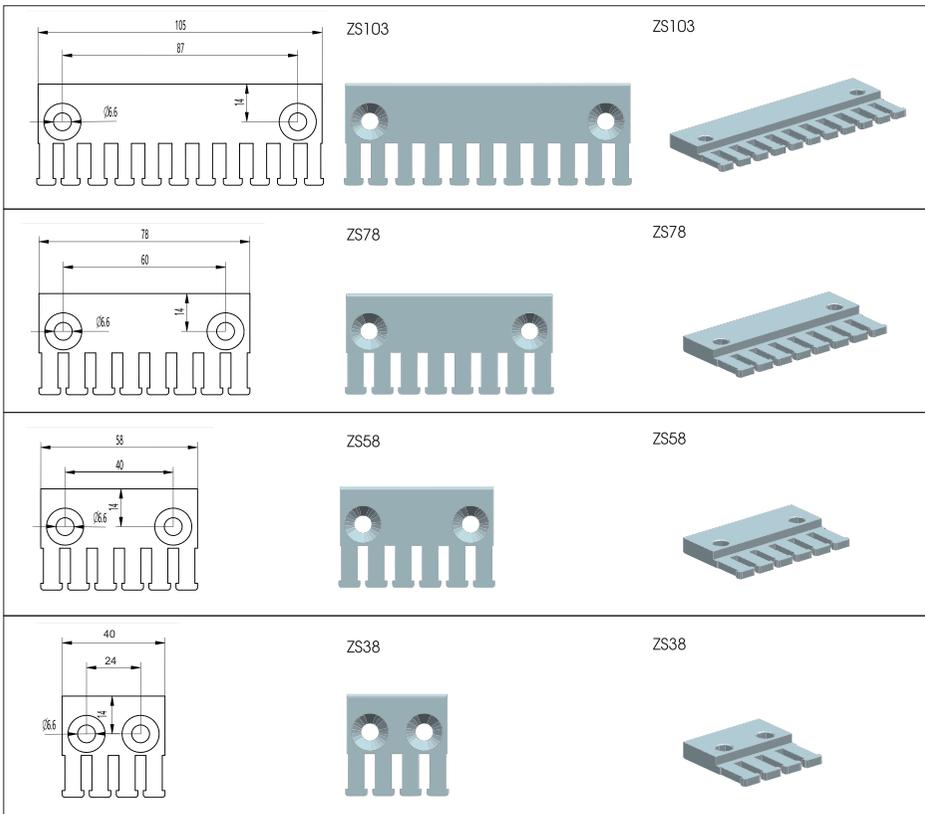


**Separator**

Separator plate YF42.1



**Tiewrape plate**





# Large chain

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# YFM5600 Series

Cost-effective  
56mm Inner height  
Series of energy chain products



Advantages of YFM5600 series energy chain

- High strength of energy chain
- Simple structure and easy installation
- Good straightness and torsion resistance



## Cost-effective 5600 Series Advantages of energy chains with crossbar

- Metal gasket mounting bracket prevents cold cracks.
- Double locking of the crossbar, higher strength
- Smooth inner cavity avoids abrasion of cables and oil pipes.
- Anti-torsion structure of side plate improves the overall stability and strength of the energy chain.
- Reasonable pre-stressing, excellent unsupported capacity.
- Good straightness when the energy chain is long, suitable for medium and long Travel length sliding.

### Typical applications

- Machine tools ● Logistics equipment
- Engineering machinery ● Foam equipment
- Line processing equipment
- Outdoor and indoor cranes
- Automobile production lines ● Gantry robots

Please use our ESD material for high explosion-proof requirement, and consult our engineers for details.

ROHS Complied with ROHS IEC62321-7-2 environmental requirements

CE Complied with EN61386-1:2008+A1:2019 certification requirements

Smooth inner cavity avoids abrasion of cables and oil pipes

Anti-torsion structure of side plate improves the overall stability and strength of the energy chain

Reasonable pre-stressing excellent unsupported capacity

Good straightness when the energy chain is long, suitable for medium and long Travel length sliding

Metal gasket mounting bracket prevents cold cracks

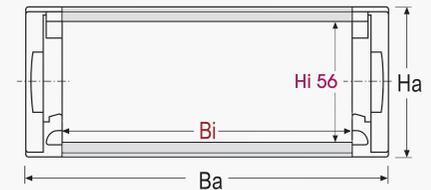
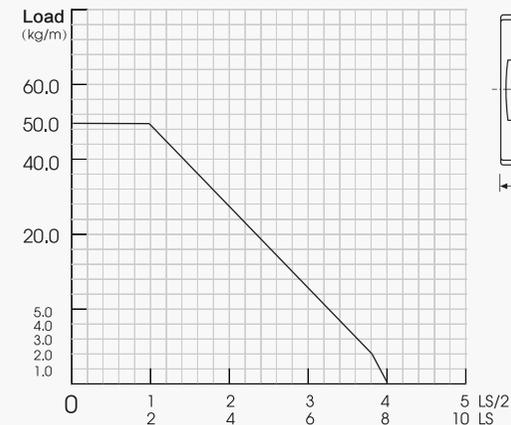
Crossbar double locking Higher strength

## YFM5600 Series

crossbar up/down openable energy chain

Type	Bi [mm]	Ba [mm]	Ha [mm]	Bending radius R [mm]	Pitch P [mm]	Weight [Kg/m]
YFM5600.075.R.BK	75	110.2	83	125   150   175   200   250   300   350   400   500	91	≈ 3.9
YFM5600.100.R.BK	100	135.2	83	125   150   175   200   250   300   350   400   500	91	≈ 4.0
YFM5600.125.R.BK	125	160.2	83	125   150   175   200   250   300   350   400   500	91	≈ 4.2
YFM5600.150.R.BK	150	185.2	83	125   150   175   200   250   300   350   400   500	91	≈ 4.4
YFM5600.175.R.BK	175	210.2	83	125   150   175   200   250   300   350   400   500	91	≈ 4.6
YFM5600.200.R.BK	200	235.2	83	125   150   175   200   250   300   350   400   500	91	≈ 4.8
YFM5600.225.R.BK	225	260.2	83	125   150   175   200   250   300   350   400   500	91	≈ 5.0
YFM5600.250.R.BK	250	285.2	83	125   150   175   200   250   300   350   400   500	91	≈ 5.2
YFM5600.275.R.BK	275	310.2	83	125   150   175   200   250   300   350   400   500	91	≈ 5.8
YFM5600.300.R.BK	300	335.2	83	125   150   175   200   250   300   350   400   500	91	≈ 6.0
YFM5600.350.R.BK	350	385.2	83	125   150   175   200   250   300   350   400   500	91	≈ 6.4
YFM5600.400.R.BK	400	435.2	83	125   150   175   200   250   300   350   400   500	91	≈ 7.0
YFM5600.425.R.BK	425	460.2	83	125   150   175   200   250   300   350   400   500	91	≈ 7.6
YFM5600.450.R.BK	450	485.2	83	125   150   175   200   250   300   350   400   500	91	≈ 7.8
YFM5600.475.R.BK	475	510.2	83	125   150   175   200   250   300   350   400   500	91	≈ 8.0
YFM5600.500.R.BK	500	535.2	83	125   150   175   200   250   300   350   400   500	91	≈ 8.2

### Unsupported - load



Bi=Inner width Ba=Outer width  
Hi=Inner height Ha=Outer height  
LS=Length of Travel length  
Inner height: 56mm  
Pitch P: 91mm  
Number of links: 11links /meter

Speed for Unsupported applications max.10(m/s)

Gliding Speed max.5(m/s)

Unsupported acceleration max.100(m/s<sup>2</sup>)

Gliding acceleration max.25(m/s<sup>2</sup>)

Material allowable temperature -40 C ~+130 C

### Product Type

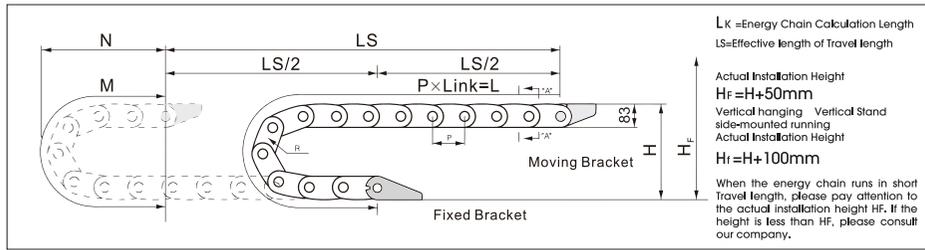
YFM5600 075 125 BK





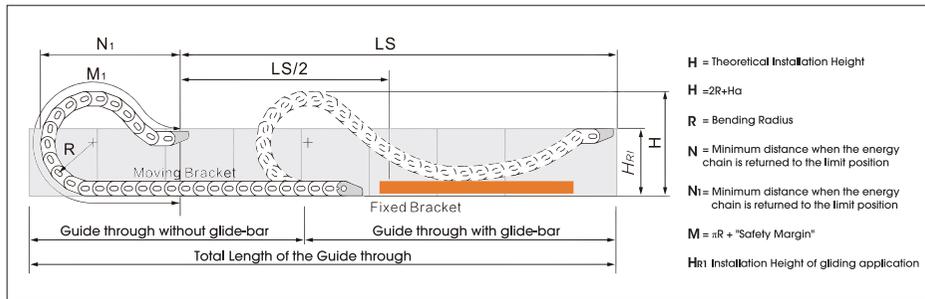
**Short Travel length-Unsupported application**

$Lk = LS/2 + M$



**Long Travel length - gliding Application**

$Lk = LS/2 + M_1$



R	Hr1	H	N	M	N1	M1
[mm]						
125	268	334	270	650	440	750
150	268	384	284	755	480	819
175	268	434	309	826	600	1092
200	268	484	334	900	730	1274
250	268	584	384	1050	980	1638
300	268	684	434	1225	1180	2002
350	268	784	484	1340	1440	2366
400	268	884	534	1450	1530	2588
500	268	1084	634	1775	1850	3280

**Ordering Example | Entire Energy Chain**

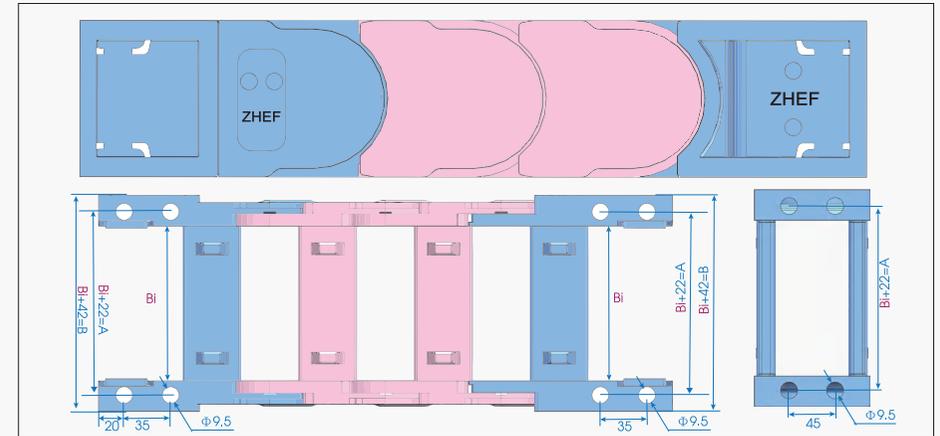
YFM5600.075.125.BK \* 20 links + YF5600.075.12 + YF56.1 Quantity + ZS78

Energy Chain Type    Number of Links    Mounting Bracket Type    Separator    Tiewrap plate

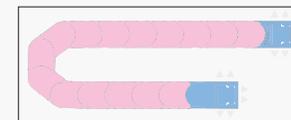


01end

02end



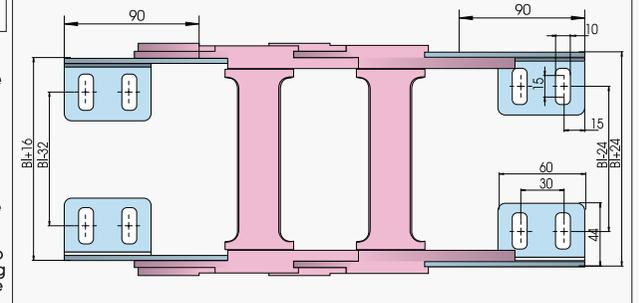
Inner Width	Full set of mounting bracket with C-channel type	Full set of mounting bracket without C-channel type	Size A	Size B
75	YF5600.075.12.C	YF5600.075.12	97	117
100	YF5600.100.12.C	YF5600.100.12	122	142
125	YF5600.125.12.C	YF5600.125.12	147	167
150	YF5600.150.12.C	YF5600.150.12	172	192
175	YF5600.175.12.C	YF5600.175.12	197	217
200	YF5600.200.12.C	YF5600.200.12	222	242
225	YF5600.225.12.C	YF5600.225.12	247	267
250	YF5600.250.12.C	YF5600.250.12	272	292
275	YF5600.275.12.C	YF5600.275.12	297	317
300	YF5600.300.12.C	YF5600.300.12	322	342
350	YF5600.350.12.C	YF5600.350.12	372	392
400	YF5600.400.12.C	YF5600.400.12	422	442
425	YF5600.425.12.C	YF5600.425.12	447	467
450	YF5600.450.12.C	YF5600.450.12	472	492
475	YF5600.475.12.C	YF5600.475.12	497	517
500	YF5600.500.12.C	YF5600.500.12	522	542



Steel Mounting Bracket (5600HD.12) Illustration

**Mounting Bracket Size**

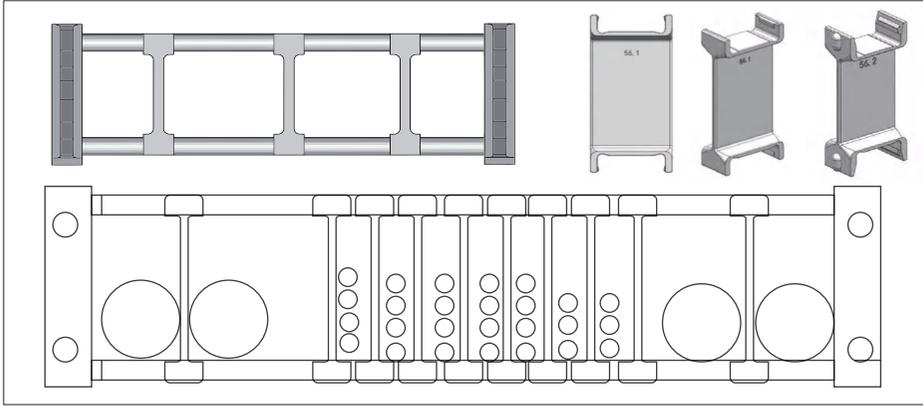
YF5600 075 12 C





**Separator**

Separator plate YF56.1  
Locking type separator Type YF56.2



**Cable Clamp**

**Cable Clamp Black**

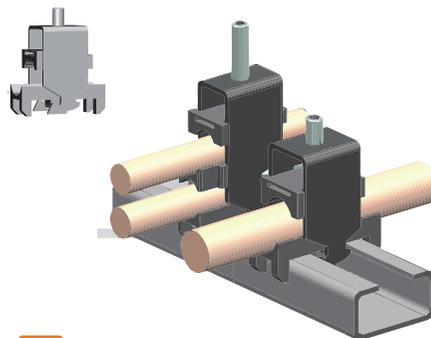
Specification Type	Outer diameter range (mm)	Outer width (mm)	Outer height (mm)
ZFX12.1	6-12	16	48
ZFX14.1	12-14	18	50
ZFX16.1	14-16	20	52
ZFX18.1	16-18	22	54
ZFX20.1	18-20	24	56
ZFX22.1	20-22	26	58
ZFX26.1	22-26	30	67
ZFX30.1	26-30	34	71
ZFX34.1	30-34	38	75
ZFX38.1	34-38	42	79
ZFX42.1	38-42	46	83

**Three-layer cable clamp Black**

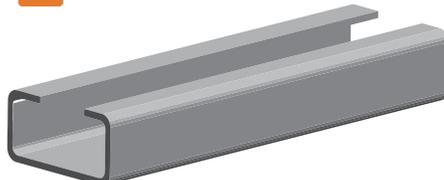
Specification Type	Outer diameter range (mm)	Outer width (mm)	Outer height (mm)
ZFX12.3	6-12	16	86
ZFX14.3	12-14	18	92
ZFX16.3	14-16	20	98
ZFX18.3	16-18	22	104
ZFX20.3	18-20	24	110
ZFX22.3	20-22	26	116

**Double-layer Cable Clamp Black**

Specification Type	Outer diameter range (mm)	Outer width (mm)	Outer height (mm)
ZFX12.2	6-12	16	69
ZFX14.2	12-14	18	71
ZFX16.2	14-16	20	75
ZFX18.2	16-18	22	79
ZFX20.2	18-20	24	83
ZFX22.2	20-22	26	87
ZFX26.2	22-26	30	105
ZFX30.2	26-30	34	113
ZFX34.2	30-34	38	121



**C-profile**



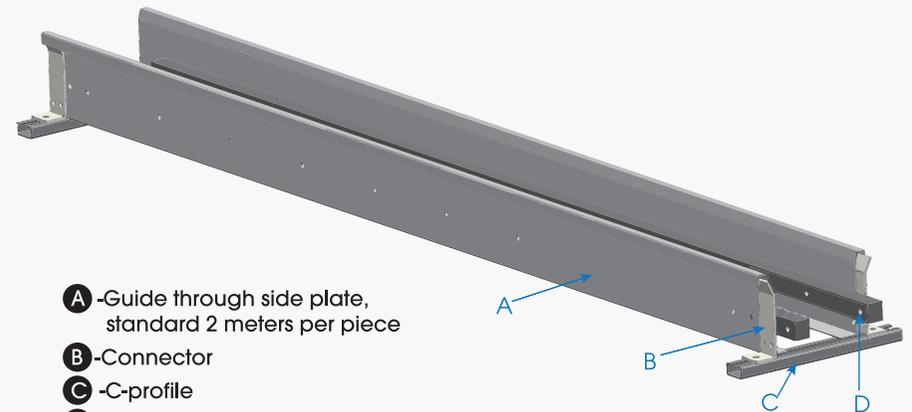
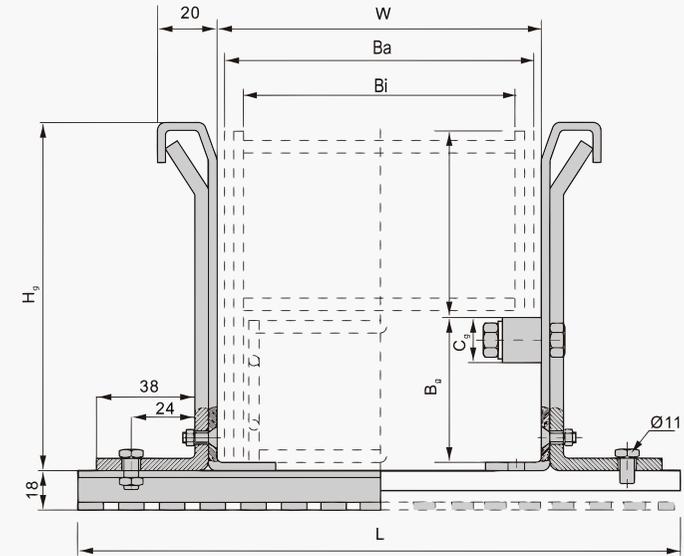
\*Stainless steel cable clamps require the st suffix. For example, ZFX12.1 stands for black color cable clamps and ZFX12.1st stands for silver color stainless steel cable clamps.

194 ▶ For more information, please visit [www.zhefchain.com](http://www.zhefchain.com)



Guide through Type: ZF170.1  
Wear-Resistant strip Type: ZF30/30  
Please refer to P266-267 for the type of installation set

Bg	Cg	Hg	W	L
84	30	170.5	Ba+8	≧ W+125



- A** -Guide through side plate, standard 2 meters per piece
- B** -Connector
- C** -C-profile
- D** -Glide bar
- B & C** -Installation set

3D/CAD files, service life calculation, configuration, and more information are available at [www.zhefchain.com](http://www.zhefchain.com)



### For high loads

- For indoor and outdoor applications, resistant to radiation and aging.
- For horizontal unsupported and medium-length Travel length skidding.
- Applicable to machine tools, logistics equipment, construction machinery, foaming equipment, assembly line processing equipment, indoor and outdoor cranes, automobile production lines, and gantry robots.



YFM5600.200.250.BK for special dedicated machine tools



YFM5600.200.250.BK Multipurpose crane for paper mills



# YFMG5600 Series

**Cost-effective  
56mm Inner height  
Expanded fiber optic cable clamp  
series energy chain products**



**Advantages of YFMG5600 series energy chain**

- High strength of energy chain
- Simple structure and easy installation
- Good straightness and torsion resistance
- Can achieve external bending operation of fiber optic cables

## 5600 Series Open-type expanded fiber optic cable clamp Advantages of energy chain products

- Metal gasket mounting bracket prevents cold cracks
- Double locking of the crossbar, higher strength
- Smooth inner cavity avoids abrasion of cables and oil pipes.
- Anti-torsion structure of side plate improves the overall stability and strength of the energy chain.
- Reasonable pre-stressing, excellent unsupported capacity.
- Can achieve external bending operation of fiber optic cables

### Typical applications

- Laser cutting machine
- Non-standard automation

 Please use our ESD material for high explosion-proof requirement, and consult our engineers for details.

 ROHS Complied with ROHS IEC62321-7-2 environmental requirements

 CE Complied with EN61386-1:2008+A1:2019 certification requirements

Metal gasket mounting bracket prevents cold cracks

Double locking of the crossbar, higher strength

Smooth inner cavity avoids abrasion of cables and oil pipes

Anti-torsion structure of side plate improves the overall stability and strength of the energy chain

Reasonable pre-stressing, excellent unsupported capacity

Can achieve external bending operation of fiber optic cables

200 more information, please visit [www.zhefchain.com](http://www.zhefchain.com)

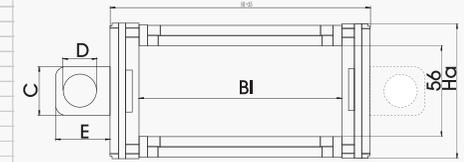
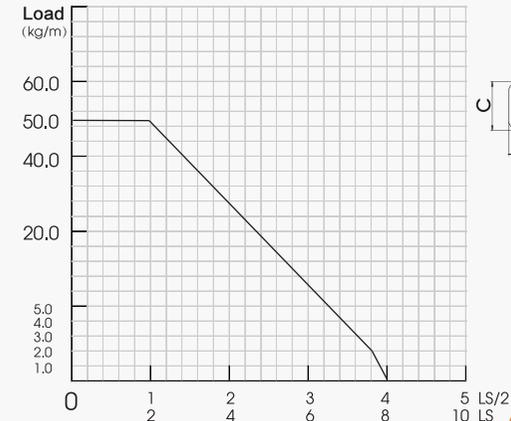
## YFMG5600 Series

crossbar up/down openable energy chain



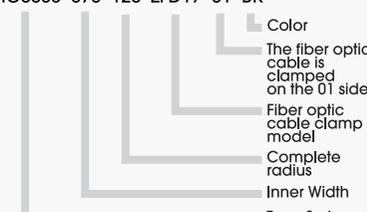
Type	Bi [mm]	Ba [mm]	Ha [mm]	Bending radius R [mm]	Pitch P [mm]	Weight [Kg/m]
YFMG5600.075.R.BK	75	110.2	83	125   150   175   200   250   300   350   400   500	91	≈ 3.9
YFMG5600.100.R.BK	100	135.2	83	125   150   175   200   250   300   350   400   500	91	≈ 4.0
YFMG5600.125.R.BK	125	160.2	83	125   150   175   200   250   300   350   400   500	91	≈ 4.2
YFMG5600.150.R.BK	150	185.2	83	125   150   175   200   250   300   350   400   500	91	≈ 4.4
YFMG5600.175.R.BK	175	210.2	83	125   150   175   200   250   300   350   400   500	91	≈ 4.6
YFMG5600.200.R.BK	200	235.2	83	125   150   175   200   250   300   350   400   500	91	≈ 4.8
YFMG5600.225.R.BK	225	260.2	83	125   150   175   200   250   300   350   400   500	91	≈ 5.0
YFMG5600.250.R.BK	250	285.2	83	125   150   175   200   250   300   350   400   500	91	≈ 5.2
YFMG5600.275.R.BK	275	310.2	83	125   150   175   200   250   300   350   400   500	91	≈ 5.8
YFMG5600.300.R.BK	300	335.2	83	125   150   175   200   250   300   350   400   500	91	≈ 6.0
YFMG5600.350.R.BK	350	385.2	83	125   150   175   200   250   300   350   400   500	91	≈ 6.4
YFMG5600.400.R.BK	400	435.2	83	125   150   175   200   250   300   350   400   500	91	≈ 7.0
YFMG5600.425.R.BK	425	460.2	83	125   150   175   200   250   300   350   400   500	91	≈ 7.6
YFMG5600.450.R.BK	450	485.2	83	125   150   175   200   250   300   350   400   500	91	≈ 7.8
YFMG5600.475.R.BK	475	510.2	83	125   150   175   200   250   300   350   400   500	91	≈ 8.0
YFMG5600.500.R.BK	500	535.2	83	125   150   175   200   250   300   350   400   500	91	≈ 8.2

### Unsupported - load



Bi=Inner width Ba=Outer width  
Hi=Inner height Ha=Outer height  
LS=Length of Travel length  
Inner height: 56mm  
Pitch P: 91mm  
Number of links: 11links /meter

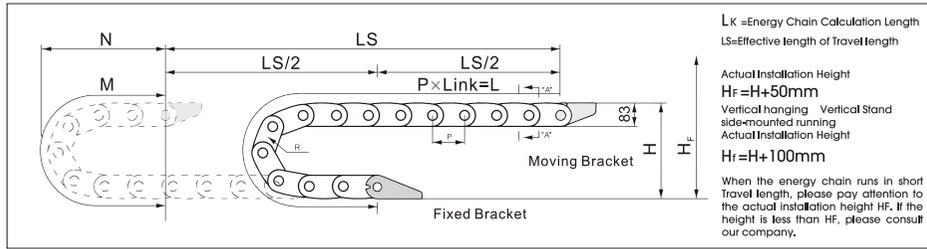
### Product Type

 Speed for Unsupported applications	max.10(m/s)	YFMG5600 075 125 ZFD17 01 BK	 <p>Color The fiber optic cable is clamped on the 01 side Fiber optic cable clamp model Complete radius Inner Width Type Series</p>
 Unsupported acceleration	max.100(m/s <sup>2</sup> )		
 Material allowable temperature	-40 C ~ +130 C		

3D/CAD files, service life calculation, configuration, and more information are available at [www.zhefchain.com](http://www.zhefchain.com)



**Short Travel length-Unsupported application**  $L_k = LS/2 + M$



Specification and model	Suitable hose model	Suitable outer diameter of hose(mm)
ZFD10	AD10	10
ZFD13	AD13	13
ZFD16	AD15.8	15.8
ZFD19	AD18.5	18.5
ZFD21	AD21.2	21.2
ZFD25	AD25	25
ZFD29	AD28.5	28.5
ZFD35	AD34.5	34.5

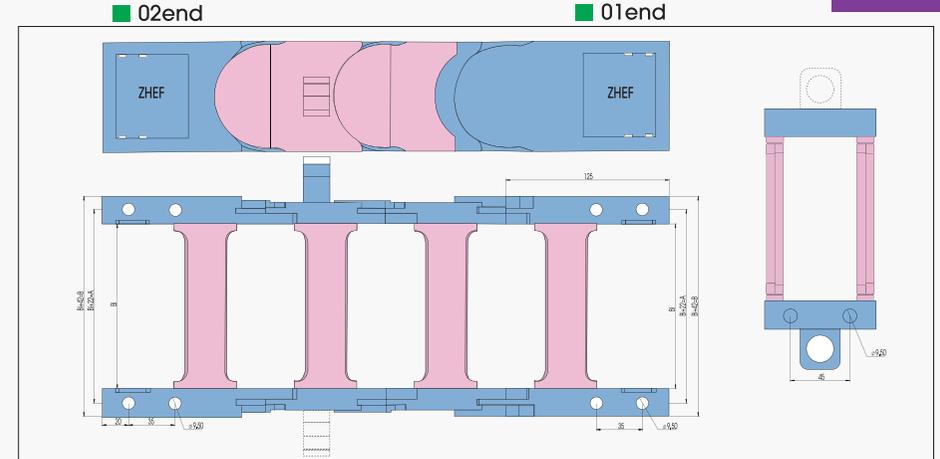
R	H	N	M
[mm]	[mm]	[mm]	[mm]
125	334	270	650
150	384	284	755
175	434	309	826
200	484	334	900
250	584	384	1050
300	684	434	1225
350	784	484	1340
400	884	534	1450
500	1084	634	1775

**Ordering Example | Entire Energy Chain**

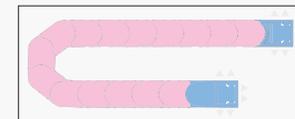
YFMG5600.075.125.ZFD17.01.BK \* 20 links + YF5600.075.12 + YF56.1 Quantity + ZS78

Energy Chain Type      Number of Links      Mounting Bracket Type      Separator      Tiewrap plate

\*It is generally recommended to install one fiber optic cable clamp every two sections.  
It is recommended to install the fiber optic cable clamp on the 01 side of the energy chain side panel.  
If you have any special requirements, please contact our sales engineer!



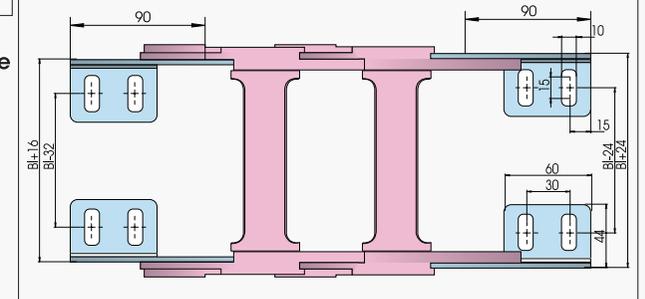
Inner Width	Full set of mounting bracket with C-channel type	Full set of mounting bracket without C-channel type	Size A	Size B
75	YF5600.075.12.C	YF5600.075.12	97	117
100	YF5600.100.12.C	YF5600.100.12	122	142
125	YF5600.125.12.C	YF5600.125.12	147	167
150	YF5600.150.12.C	YF5600.150.12	172	192
175	YF5600.175.12.C	YF5600.175.12	197	217
200	YF5600.200.12.C	YF5600.200.12	222	242
225	YF5600.225.12.C	YF5600.225.12	247	267
250	YF5600.250.12.C	YF5600.250.12	272	292
275	YF5600.275.12.C	YF5600.275.12	297	317
300	YF5600.300.12.C	YF5600.300.12	322	342
350	YF5600.350.12.C	YF5600.350.12	372	392
400	YF5600.400.12.C	YF5600.400.12	422	442
425	YF5600.425.12.C	YF5600.425.12	447	467
450	YF5600.450.12.C	YF5600.450.12	472	492
475	YF5600.475.12.C	YF5600.475.12	497	517
500	YF5600.500.12.C	YF5600.500.12	522	542



Steel Mounting Bracket (5600HD.12) Illustration

**Mounting Bracket Size**

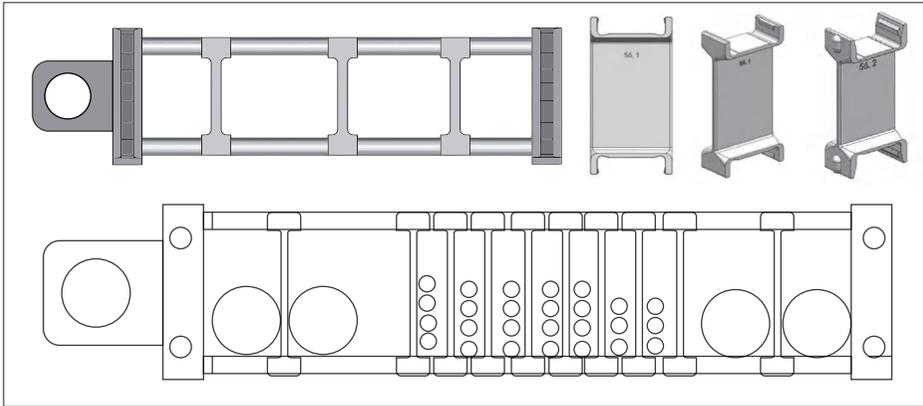
YF5600 075 12 C





**Separator**

Separator plate YF56.1  
Locking type separator Type YF56.2



**Cable Clamp**

**Cable Clamp Black**

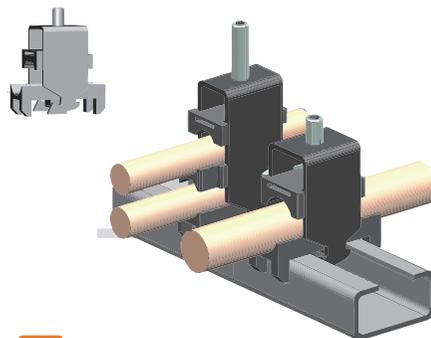
Specification Type	Outer diameter range (mm)	Outer width (mm)	Outer height (mm)
ZFX12.1	6-12	16	48
ZFX14.1	12-14	18	50
ZFX16.1	14-16	20	52
ZFX18.1	16-18	22	54
ZFX20.1	18-20	24	56
ZFX22.1	20-22	26	58
ZFX26.1	22-26	30	67
ZFX30.1	26-30	34	71
ZFX34.1	30-34	38	75
ZFX38.1	34-38	42	79
ZFX42.1	38-42	46	83

**Three-layer cable clamp Black**

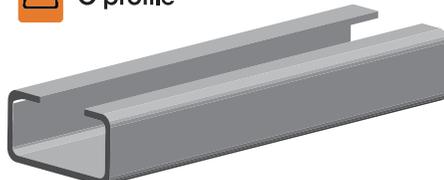
Specification Type	Outer diameter range (mm)	Outer width (mm)	Outer height (mm)
ZFX12.3	6-12	16	86
ZFX14.3	12-14	18	92
ZFX16.3	14-16	20	98
ZFX18.3	16-18	22	104
ZFX20.3	18-20	24	110
ZFX22.3	20-22	26	116

**Double-layer Cable Clamp Black**

Specification Type	Outer diameter range (mm)	Outer width (mm)	Outer height (mm)
ZFX12.2	6-12	16	69
ZFX14.2	12-14	18	71
ZFX16.2	14-16	20	75
ZFX18.2	16-18	22	79
ZFX20.2	18-20	24	83
ZFX22.2	20-22	26	87
ZFX26.2	22-26	30	105
ZFX30.2	26-30	34	113
ZFX34.2	30-34	38	121



**C-profile**



\*Stainless steel cable clamps require the st suffix. For example, ZFX12.1 stands for black color cable clamps and ZFX12.1st stands for silver color stainless steel cable clamps.



# YFM5680 Series

**Cost-effective**  
**Preventing the splashing of debris**  
**and oil-rotting liquids**  
**56mm internal height series of fully**  
**enclosed energy chain products**



**Advantages of YFM5680 series energy chain**

- High strength
- Simple structure and easy installation
- Good straightness and torsion resistance
- Excellent sealing

## Cost-effective 5600 Series

### Advantages of energy chains with crossbar

- Metal gasket mounting bracket prevents cold cracks.
- Double locking of the cover plate, higher strength
- Smooth inner cavity avoids abrasion of cables and oil pipes.
- Anti-torsion structure of side plate improves the overall stability and strength of the energy chain.
- Reasonable pre-stressing, excellent unsupported capacity.
- Good straightness when the energy chain is long, suitable for medium and long Travel length sliding.
- Excellent performance of anti-debris, oil, acid and alkali corrosion, ketone and ether corrosion.

### Typical applications

- Machine tools ● Logistics equipment
- Engineering machinery ● Foam equipment
- Line processing equipment ● Outdoor and indoor cranes
- Automobile production lines ● Gantry robots
- Ground rail equipment



Please use our ESD material for high explosion-proof requirement, and consult our engineers for details.



ROSH Complied with ROHS IEC62321-7-2 environmental requirements



CE Complied with EN61386-1:2008+A1:2019 certification requirements

Metal gasket mounting bracket prevents cold cracks

Double locking of cover plate Higher strength

Reasonable pre-stress setting Good overhead performance

Smooth inner cavity avoids abrasion of cables and oil pipes

Anti-torsion structure of side plate improves the overall stability and strength of the energy chain

Good straightness when the energy chain is long suitable for medium and long Travel length sliding

## YFM5680 Series

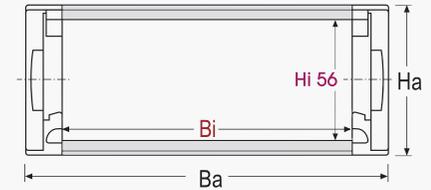
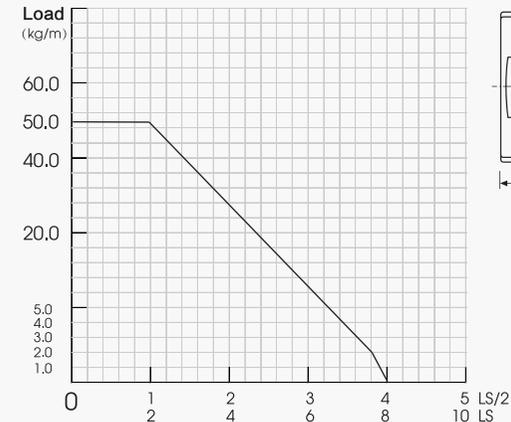
cover plate up and down can be opened energy chain



Type	Bi [mm]	Ba [mm]	Ha [mm]	Bending radius R [mm]	Pitch P [mm]	Weight [Kg/m]
YFM5680, 100.R.BK	100	135.2	83	150 175 200 250 300 350 400 500	91	≈ 4.6
YFM5680, 125.R.BK	125	160.2	83	150 175 200 250 300 350 400 500	91	≈ 4.9
YFM5680, 150.R.BK	150	185.2	83	150 175 200 250 300 350 400 500	91	≈ 5.3
YFM5680, 175.R.BK	175	210.2	83	150 175 200 250 300 350 400 500	91	≈ 5.6
YFM5680, 200.R.BK	200	235.2	83	150 175 200 250 300 350 400 500	91	≈ 5.9
YFM5680, 250.R.BK	250	285.2	83	150 175 200 250 300 350 400 500	91	≈ 6.7
YFM5680, 300.R.BK	300	335.2	83	150 175 200 250 300 350 400 500	91	≈ 7.3
YFM5680, 350.R.BK	350	385.2	83	150 175 200 250 300 350 400 500	91	≈ 8.1



### Unsupported - load



Bi=Inner width Ba=Outer width  
Hi=Inner height Ha=Outer height  
LS=Length of Travel length  
Inner height: 56mm  
Pitch P: 91mm  
Number of links: 11links /meter



Speed for Unsupported applications

max.10(m/s)

Gliding Speed

max.5(m/s)



Unsupported acceleration

max.100(m/s<sup>2</sup>)

Gliding acceleration

max.25(m/s<sup>2</sup>)



Material allowable temperature

-40 C ~ +130 C



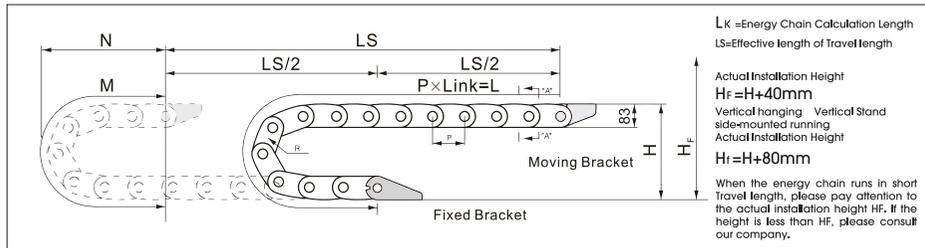
Product Type

YFM5680 100 200 BK

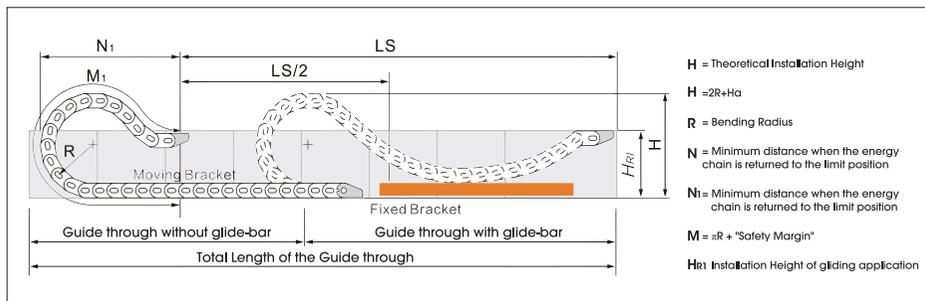




**Short Travel length-Unsupported application**  $L_k = LS/2 + M$



**Long Travel length - gliding Application**  $L_k = LS/2 + M_i$



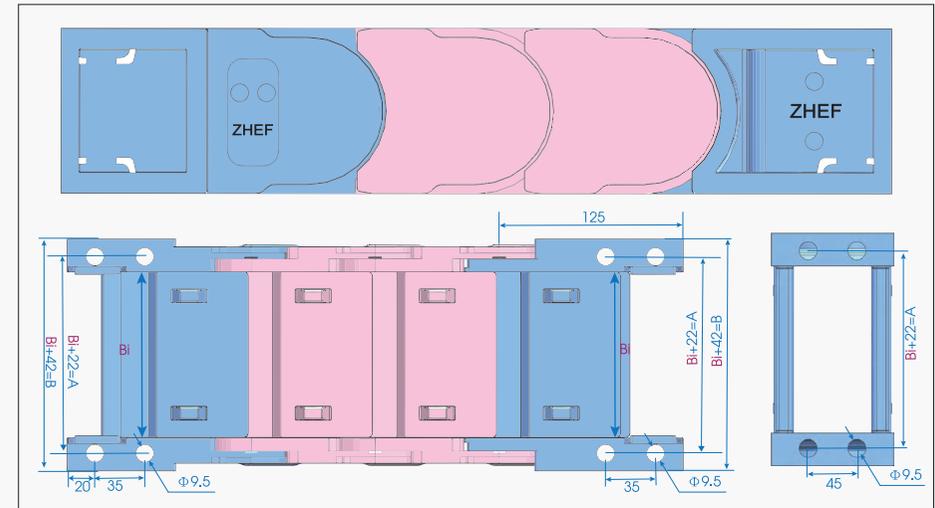
R	Hr1	H	N	M	N1	M1
[mm]						
150	268	384	284	755	480	819
175	268	434	309	826	600	1092
200	268	484	334	900	730	1274
250	268	584	384	1050	980	1638
300	268	684	434	1225	1180	2002
350	268	784	484	1340	1440	2366
400	268	884	534	1450	1530	2588
500	268	1084	634	1775	1850	3280

**Ordering Example | Entire Energy Chain**

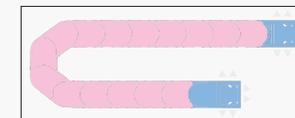
YFM5680.100.200.BK	* 20 links	+ YF5600.100.12	+ YF56.1	Quantity
Energy Chain Type	Number of Links	Mounting Bracket Type	Separator	

01end

02end



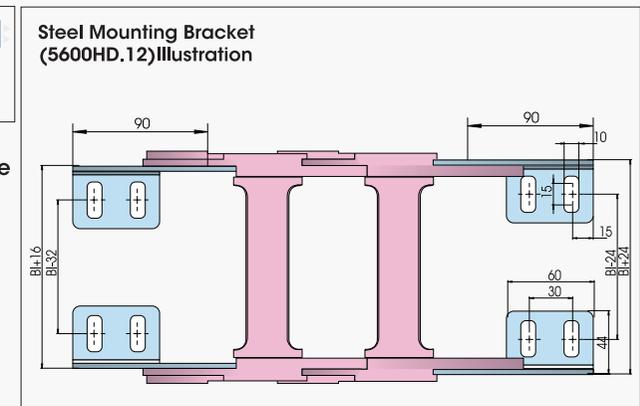
Inner Width	Full set of mounting bracket with C-channel type	Full set of mounting bracket without C-channel type	Size A	Size B
100	YF5680.100.12.C	YF5680.100.12	122	142
125	YF5680.125.12.C	YF5680.125.12	147	167
150	YF5680.150.12.C	YF5680.150.12	172	192
175	YF5680.175.12.C	YF5680.175.12	197	217
200	YF5680.200.12.C	YF5680.200.12	222	242
250	YF5680.250.12.C	YF5680.250.12	272	292
275	YF5680.275.12.C	YF5680.275.12	297	317
300	YF5680.300.12.C	YF5680.300.12	322	342
350	YF5680.350.12.C	YF5680.350.12	372	392



Steel Mounting Bracket (5600HD.12) Illustration

**Mounting Bracket Size**

YF5680 100 12 C







### For high loads

- For indoor and outdoor applications, resistant to radiation and aging.
- For horizontal unsupported and medium-length Travel length skidding.
- Applicable to machine tools, logistics equipment, construction machinery, foaming equipment, assembly line processing equipment, indoor and outdoor cranes, automobile production lines, gantry robots and ground rail equipment.



YFM5680.200.250.BK is used in the field of automated assembly line processing equipment.



# YFMG5680 Series

**Cost-effective**  
**Preventing the splashing of debris**  
**and oil-rotting liquids**  
**56mm Inner height**  
**Expanded fiber optic cable clamp**  
**series energy chain products**



**Advantages of YFMG5680 series energy chain**

- High strength of energy chain
- Simple structure and easy installation
- Good straightness and torsion resistance
- Excellent sealing
- Can achieve external bending operation of fiber optic cables



## 5680 Series

### Fully expanded fiber optic cable clamp Advantages of energy chain products

- Metal gasket mounting bracket prevents cold cracks
- Double locking of cover plate for extra strength
- Smooth inner cavity avoids abrasion of cables and oil pipes.
- Anti-torsion structure of side plate improves the overall stability and strength of the energy chain.
- Reasonable pre-stressing, excellent unsupported capacity.
- Can achieve external bending operation of fiber optic cables
- Excellent performance of anti-debris, oil, acid and alkali corrosion, ketone and ether corrosion.

#### Typical applications

- Laser cutting machine
- Non-standard automation

Please use our ESD material for high explosion-proof requirement, and consult our engineers for details.

ROSH Complied with ROHS IEC62321-7-2 environmental requirements

CE Complied with EN61386-1:2008+A1:2019 certification requirements

Metal gasket mounting bracket prevents cold cracks

Double locking of cover plate for extra strength

Reasonable pre-stress for good unsupported condition

Smooth inner cavity avoids abrasion of cables and oil pipes

Anti-torsion structure of the side plate improves the overall stability and strength of the energy chain

Can achieve external bending operation of fiber optic cables

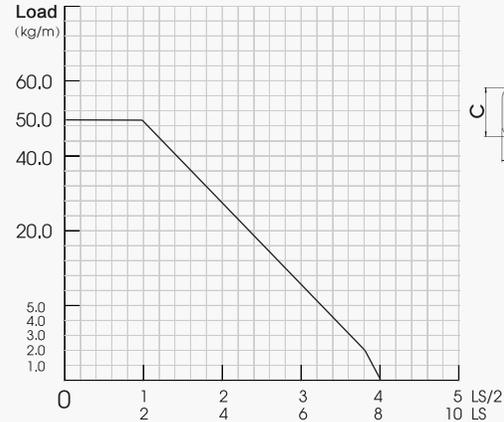
## YFMG5680 Series

cover plate up and down can be opened energy chain

Type	Bi [mm]	Ba [mm]	Ha [mm]	Bending radius R [mm]	Pitch P [mm]	Weight [Kg/m]
YFMG5680.100.R.BK	100	135.2	83	150 175 200 250 300 350 400 500	91	≈ 4.6
YFMG5680.125.R.BK	125	160.2	83	150 175 200 250 300 350 400 500	91	≈ 4.9
YFMG5680.150.R.BK	150	185.2	83	150 175 200 250 300 350 400 500	91	≈ 5.3
YFMG5680.175.R.BK	175	210.2	83	150 175 200 250 300 350 400 500	91	≈ 5.6
YFMG5680.200.R.BK	200	235.2	83	150 175 200 250 300 350 400 500	91	≈ 5.9
YFMG5680.250.R.BK	250	285.2	83	150 175 200 250 300 350 400 500	91	≈ 6.7
YFMG5680.300.R.BK	300	335.2	83	150 175 200 250 300 350 400 500	91	≈ 7.3
YFMG5680.350.R.BK	350	385.2	83	150 175 200 250 300 350 400 500	91	≈ 8.1



#### Unsupported - load



Bi=Inner width Ba=Outer width  
Hi=Inner height Ha=Outer height  
LS=Length of Travel length  
Inner height: 56mm  
Pitch P: 91mm  
Number of links: 11links /meter



Speed for Unsupported applications

max.10(m/s)



Unsupported acceleration

max.100(m/s<sup>2</sup>)



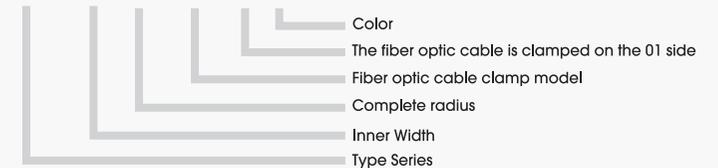
Material allowable temperature

-40 C ~ +130 C



#### Product Type

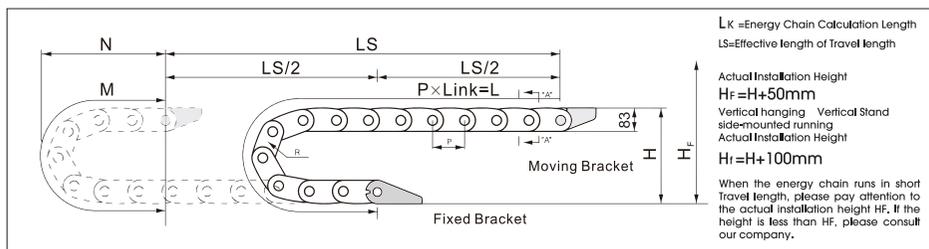
YFMG5680 100 150 ZFD17 01 BK



3D/CAD files, service life calculation, configuration, and more information are available at [www.zhefchain.com](http://www.zhefchain.com)



**Short Travel length-Unsupported application**  $L_k = LS/2 + M$



Specification and model	Suitable hose model	Suitable outer diameter of hose(mm)
ZFD10	AD10	10
ZFD13	AD13	13
ZFD16	AD15.8	15.8
ZFD19	AD18.5	18.5
ZFD21	AD21.2	21.2
ZFD25	AD25	25
ZFD29	AD28.5	28.5
ZFD35	AD34.5	34.5

R	H	N	M
[mm]	[mm]	[mm]	[mm]
150	384	284	755
175	434	309	826
200	484	334	900
250	584	384	1050
300	684	434	1225
350	784	484	1340
400	884	534	1450
500	1084	634	1775

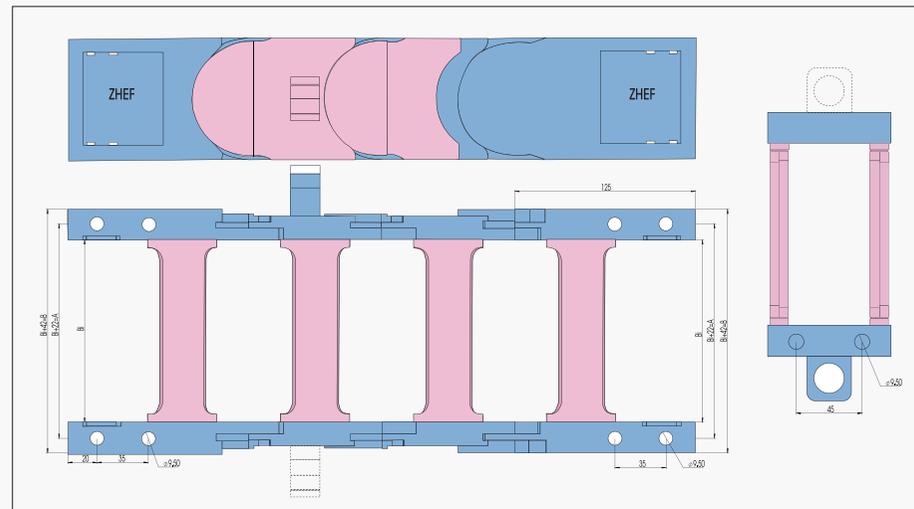
**Ordering Example | Entire Energy Chain**

YFMG5680.100.150.ZFD17.01.BK	* 20 links	+ YF5600.100.12	+ YF56.1	Quantity
Energy Chain Type	Number of Links	Mounting Bracket Type	Separator	

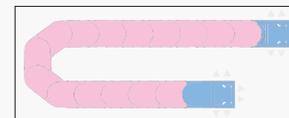
\*It is generally recommended to install one fiber optic cable clamp every two sections.  
 It is recommended to install the fiber optic cable clamp on the 01 side of the energy chain side panel.  
 If you have any special requirements, please contact our sales engineer!

■ 02end

■ 01end



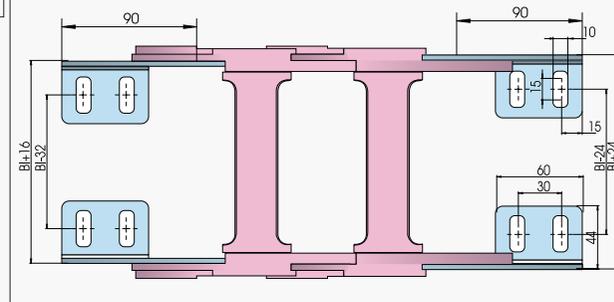
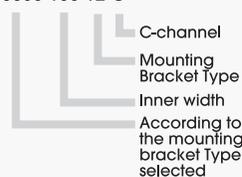
Inner Width	Full set of mounting bracket with C-channel type	Full set of mounting bracket without C-channel type	Size A	Size B
100	YF5680.100.12.C	YF5680.100.12	122	142
125	YF5680.125.12.C	YF5680.125.12	147	167
150	YF5680.150.12.C	YF5680.150.12	172	192
175	YF5680.175.12.C	YF5680.175.12	197	217
200	YF5680.200.12.C	YF5680.200.12	222	242
250	YF5680.250.12.C	YF5680.250.12	272	292
275	YF5680.275.12.C	YF5680.275.12	297	317
300	YF5680.300.12.C	YF5680.300.12	322	342
350	YF5680.350.12.C	YF5680.350.12	372	392



Steel Mounting Bracket (5600HD.12) Illustration

**Mounting Bracket Size**

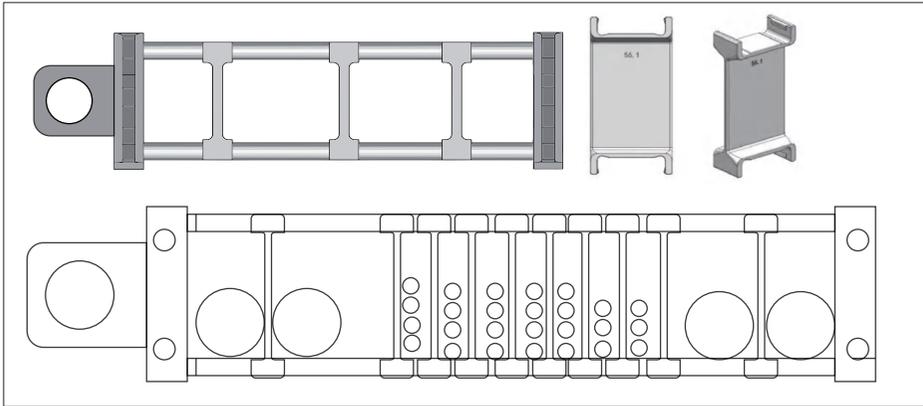
YF5680 100 12 C





**Separator**

Separator plate YF56.1



**Cable Clamp**

**Cable Clamp Black**

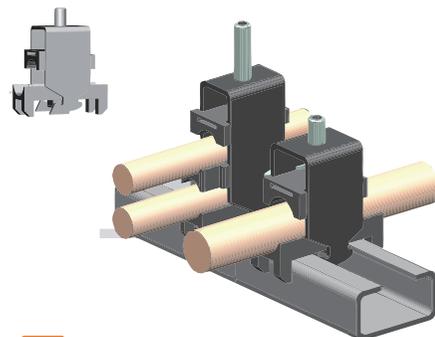
Specification Type	Outer diameter range (mm)	Outer width (mm)	Outer height (mm)
ZFX12.1	6-12	16	48
ZFX14.1	12-14	18	50
ZFX16.1	14-16	20	52
ZFX18.1	16-18	22	54
ZFX20.1	18-20	24	56
ZFX22.1	20-22	26	58
ZFX26.1	22-26	30	67
ZFX30.1	26-30	34	71
ZFX34.1	30-34	38	75
ZFX38.1	34-38	42	79
ZFX42.1	38-42	46	83

**Three-layer cable clamp Black**

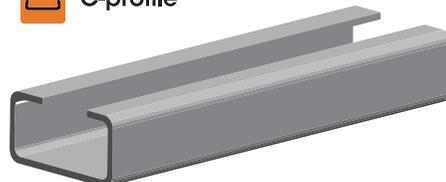
Specification Type	Outer diameter range (mm)	Outer width (mm)	Outer height (mm)
ZFX12.3	6-12	16	86
ZFX14.3	12-14	18	92
ZFX16.3	14-16	20	98
ZFX18.3	16-18	22	104
ZFX20.3	18-20	24	110
ZFX22.3	20-22	26	116

**Double-layer Cable Clamp Black**

Specification Type	Outer diameter range (mm)	Outer width (mm)	Outer height (mm)
ZFX12.2	6-12	16	69
ZFX14.2	12-14	18	71
ZFX16.2	14-16	20	75
ZFX18.2	16-18	22	79
ZFX20.2	18-20	24	83
ZFX22.2	20-22	26	87
ZFX26.2	22-26	30	105
ZFX30.2	26-30	34	113
ZFX34.2	30-34	38	121



**C-profile**



\*Stainless steel cable clamps require the st suffix. For example, ZFX12.1 stands for black color cable clamps and ZFX12.1st stands for silver color stainless steel cable clamps.



# ZF8000 Series

**Cost-effective  
80mm inner height series  
energy chain products**



**Advantages of ZF8000 series energy chain**

- High strength
- Simple structure and easy installation
- Good straightness and torsion resistance



## Cost-effective ZF8000 Series

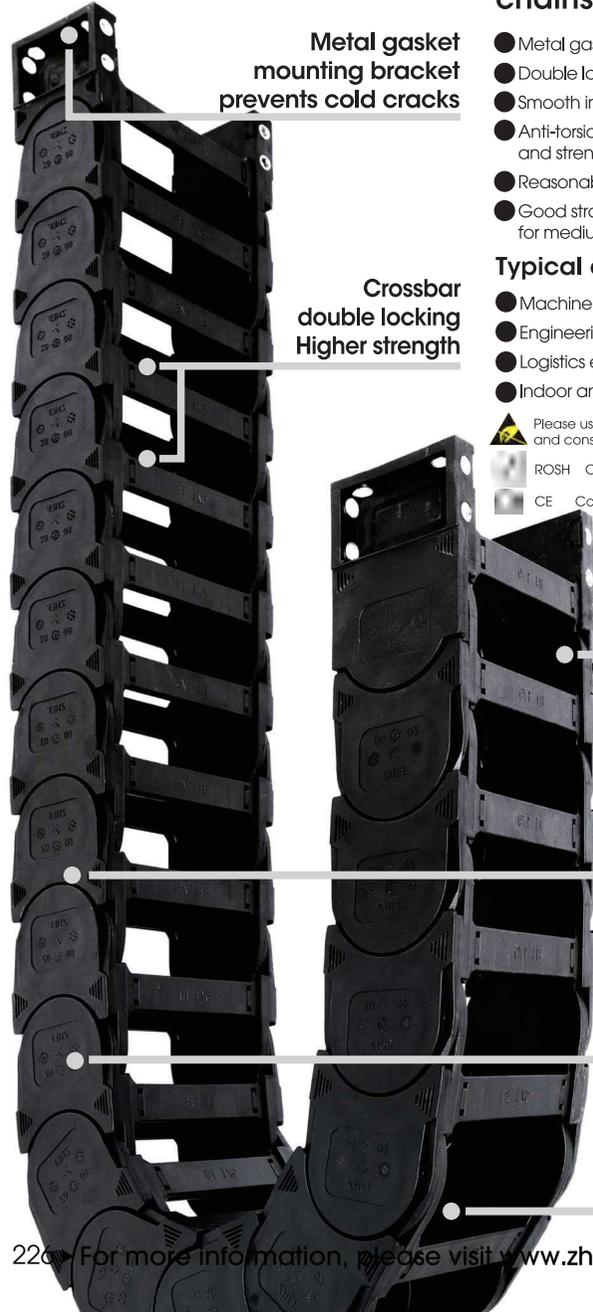
### Advantages of energy chains with crossbar

- Metal gasket mounting bracket prevents cold cracks.
- Double locking of the crossbar, higher strength
- Smooth inner cavity avoids abrasion of cables and oil pipes.
- Anti-torsion structure of side plate improves the overall stability and strength of the energy chain.
- Reasonable pre-stressing, excellent unsupported capacity.
- Good straightness when the energy chain is long, suitable for medium and long Travel length sliding.

### Typical applications

- Machine tools ● Foam Production Line Equipment
- Engineering machinery ● Port equipment
- Logistics equipment
- Indoor and outdoor cranes and other heavy-load equipment

- ⚠ Please use our ESD material for high explosion-proof requirement, and consult our engineers for details.
- ROSH Complied with ROHS IEC62321-7-2 environmental requirements
- CE Complied with EN61386-1:2008+A1:2019 certification requirements



Metal gasket mounting bracket prevents cold cracks

Crossbar double locking Higher strength

Smooth inner cavity avoids abrasion of cables and oil pipes

Anti-torsion structure of side plate improves the overall stability and strength of the energy chain

Reasonable pre-stressing excellent unsupported capacity

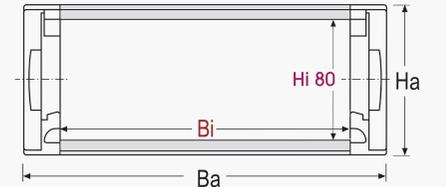
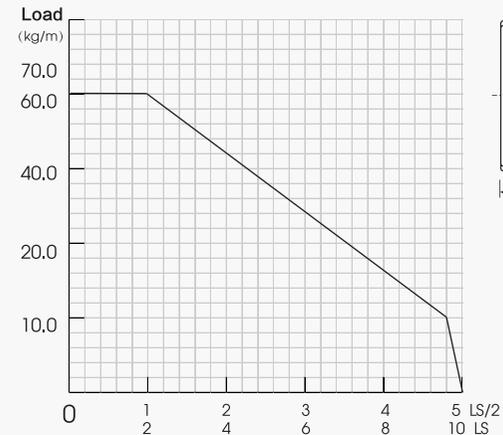
Good straightness when the energy chain is long, suitable for medium and long Travel length sliding

## ZF8000 Series

crossbar up/down openable energy chain

Type	Bi [mm]	Ba [mm]	Ha [mm]	Bending radius R [mm]	Pitch P [mm]	Weight [Kg/m]
ZF8000.075.R.BK	75	125	108	150 200 250 300 350 400 500	91	≈ 5.58
ZF8000.100.R.BK	100	150	108	150 200 250 300 350 400 500	91	≈ 5.98
ZF8000.125.R.BK	125	175	108	150 200 250 300 350 400 500	91	≈ 6.38
ZF8000.150.R.BK	150	200	108	150 200 250 300 350 400 500	91	≈ 6.59
ZF8000.175.R.BK	175	225	108	150 200 250 300 350 400 500	91	≈ 6.75
ZF8000.200.R.BK	200	250	108	150 200 250 300 350 400 500	91	≈ 6.90
ZF8000.225.R.BK	225	275	108	150 200 250 300 350 400 500	91	≈ 7.03
ZF8000.250.R.BK	250	300	108	150 200 250 300 350 400 500	91	≈ 7.20
ZF8000.275.R.BK	275	325	108	150 200 250 300 350 400 500	91	≈ 7.30
ZF8000.300.R.BK	300	350	108	150 200 250 300 350 400 500	91	≈ 7.40
ZF8000.325.R.BK	325	375	108	150 200 250 300 350 400 500	91	≈ 7.60
ZF8000.350.R.BK	350	400	108	150 200 250 300 350 400 500	91	≈ 8.10
ZF8000.375.R.BK	375	425	108	150 200 250 300 350 400 500	91	≈ 8.30
ZF8000.400.R.BK	400	450	108	150 200 250 300 350 400 500	91	≈ 8.41
ZF8000.425.R.BK	425	475	108	150 200 250 300 350 400 500	91	≈ 8.60
ZF8000.450.R.BK	450	500	108	150 200 250 300 350 400 500	91	≈ 8.90
ZF8000.475.R.BK	475	525	108	150 200 250 300 350 400 500	91	≈ 9.00
ZF8000.500.R.BK	500	550	108	150 200 250 300 350 400 500	91	≈ 9.20

### Unsupported - load



Bi=Inner width Ba=Outer width  
Hi=Inner height Ha=Outer height  
LS=Length of Travel length  
Inner height: 80mm  
Pitch P: 91mm  
Number of links: 11links /meter



Speed for Unsupported applications max.10(m/s)



Gliding Speed max.5(m/s)



Unsupported acceleration max.100(m/s<sup>2</sup>)



Gliding acceleration max.25(m/s<sup>2</sup>)

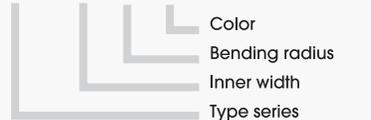


Material allowable temperature -40 C ~+130 C



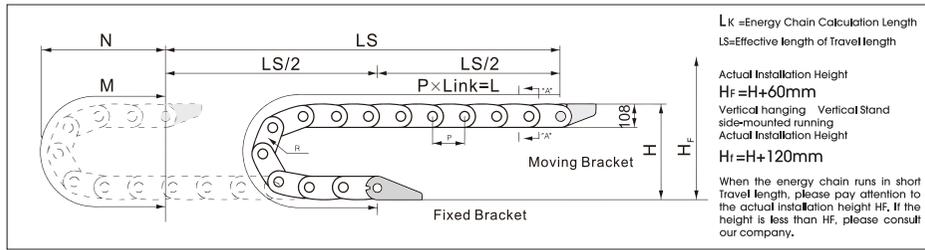
### Product Type

ZF8000 200 200 BK

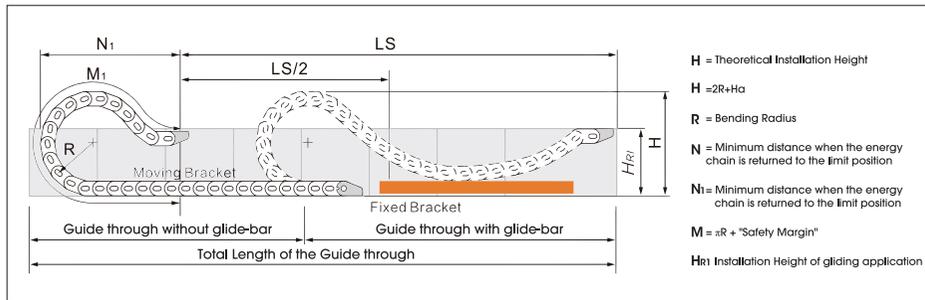




**Short Travel length-Unsupported application**  $L_k = LS/2 + M$



**Long Travel length - gliding Application**  $L_k = LS/2 + M_1$



R	Hr1	H	N	M	N1	M1
[mm]						
150	352	408	315	695	550	910
200	352	508	365	860	810	1274
250	352	608	416	1010	980	1628
300	352	708	470	1165	1210	2002
350	352	808	520	1330	1560	2450
400	352	908	570	1480	1710	2750
500	352	1108	670	1800	2200	3460

**Ordering Example | Entire Energy Chain**

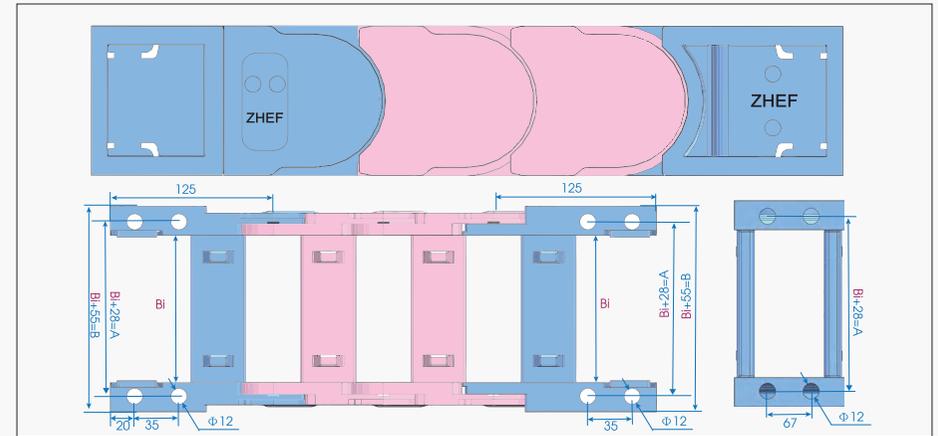
ZF8000.200.200.BK \* 20 links + ZF8000.200.12 + ZF80.1 Quantity

Energy Chain Type    Number of Links    Mounting Bracket Type    Separator

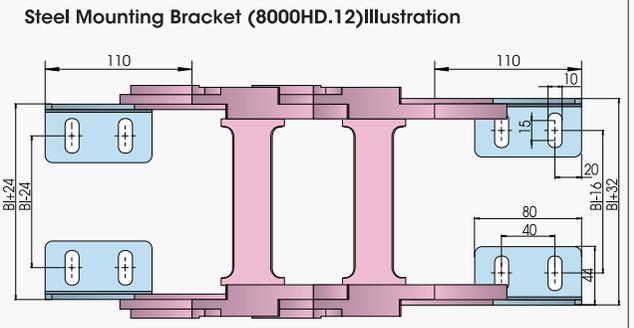
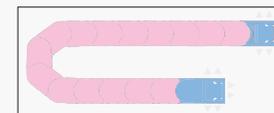


01end

02end



Inner Width	Full set of mounting bracket with C-channel type	Full set of mounting bracket without C-channel type	Size A	Size B
75	ZF8000.075.12.C	ZF8000.075.12	103	130
100	ZF8000.100.12.C	ZF8000.100.12	128	155
125	ZF8000.125.12.C	ZF8000.125.12	153	180
150	ZF8000.150.12.C	ZF8000.150.12	178	205
175	ZF8000.175.12.C	ZF8000.175.12	203	230
200	ZF8000.200.12.C	ZF8000.200.12	228	255
225	ZF8000.225.12.C	ZF8000.225.12	253	280
250	ZF8000.250.12.C	ZF8000.250.12	278	305
275	ZF8000.275.12.C	ZF8000.275.12	303	330
300	ZF8000.300.12.C	ZF8000.300.12	328	355
325	ZF8000.325.12.C	ZF8000.325.12	353	380
350	ZF8000.350.12.C	ZF8000.350.12	378	405
375	ZF8000.375.12.C	ZF8000.375.12	403	430
400	ZF8000.400.12.C	ZF8000.400.12	428	455
425	ZF8000.425.12.C	ZF8000.425.12	453	480
450	ZF8000.450.12.C	ZF8000.450.12	478	505
475	ZF8000.475.12.C	ZF8000.475.12	503	530
500	ZF8000.500.12.C	ZF8000.500.12	528	555



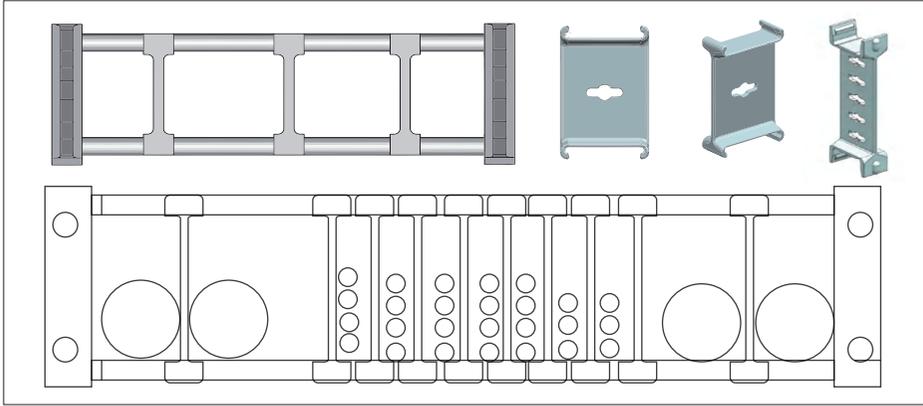
**Mounting Bracket Size**  
ZF8000 200 12 C

C-channel  
 Mounting Bracket Type  
 Inner width  
 According to the mounting bracket type selected



### Separator

Separator plate ZF80.1  
Locking type separator Type ZF80.2



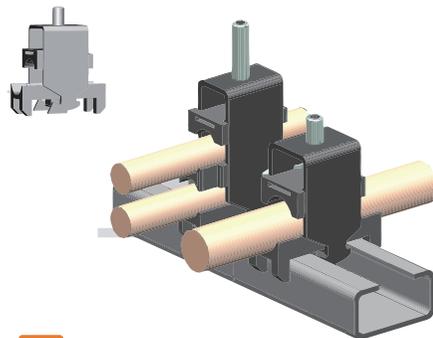
### Cable Clamp

#### Cable Clamp Black

Specification Type	Outer diameter range (mm)	Outer width (mm)	Outer height (mm)
ZFX12.1	6-12	16	48
ZFX14.1	12-14	18	50
ZFX16.1	14-16	20	52
ZFX18.1	16-18	22	54
ZFX20.1	18-20	24	56
ZFX22.1	20-22	26	58
ZFX26.1	22-26	30	67
ZFX30.1	26-30	34	71
ZFX34.1	30-34	38	75
ZFX38.1	34-38	42	79
ZFX42.1	38-42	46	83

#### Three-layer cable clamp Black

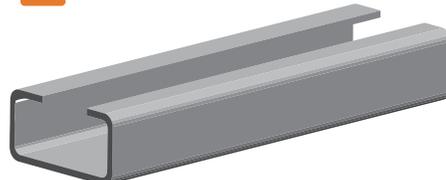
Specification Type	Outer diameter range (mm)	Outer width (mm)	Outer height (mm)
ZFX12.3	6-12	16	86
ZFX14.3	12-14	18	92
ZFX16.3	14-16	20	98
ZFX18.3	16-18	22	104
ZFX20.3	18-20	24	110
ZFX22.3	20-22	26	116



#### Double-layer Cable Clamp Black

Specification Type	Outer diameter range (mm)	Outer width (mm)	Outer height (mm)
ZFX12.2	6-12	16	69
ZFX14.2	12-14	18	71
ZFX16.2	14-16	20	75
ZFX18.2	16-18	22	79
ZFX20.2	18-20	24	83
ZFX22.2	20-22	26	87
ZFX26.2	22-26	30	105
ZFX30.2	26-30	34	113
ZFX34.2	30-34	38	121

### C-profile



\*Stainless steel cable clamps require the st suffix. For example, ZFX12.1 stands for black color cable clamps and ZFX12.1st stands for silver color stainless steel cable clamps.

230 ▶ For more information, please visit [www.zhefchain.com](http://www.zhefchain.com)



Guide through Type: ZF220.1

Wear-Resistant strip Type: ZF30/30

Please refer to P266-267 for the type of installation set

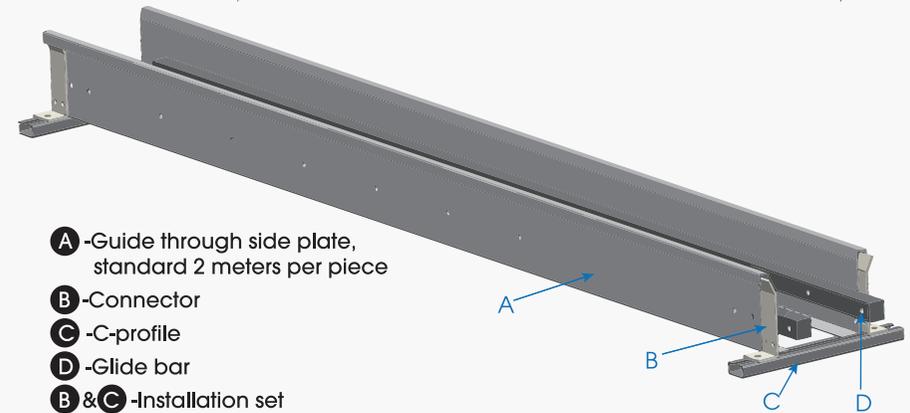
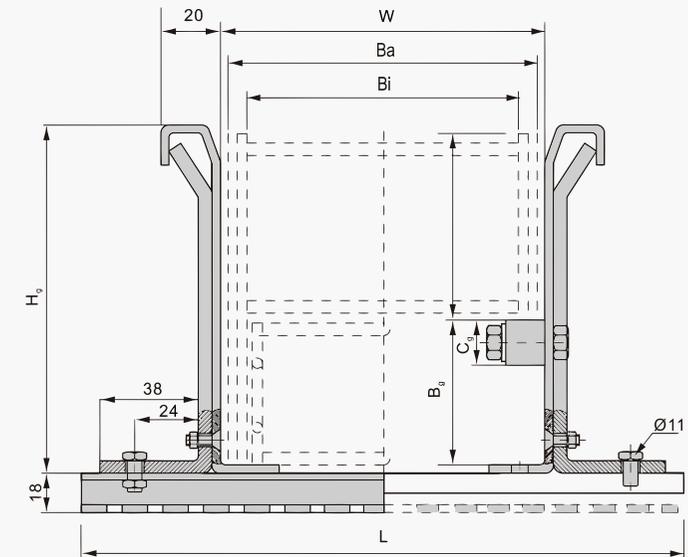
Bg	Cg	Hg	W	L
108	30	220.5	Ba+8	≅ W+125

Guide through Type: ZF300.1

Wear-Resistant strip Type: ZF30/30

Please refer to P266-267 for the type of installation set

Bg	Cg	Hg	W	L
108	30	300.5	Ba+8	≅ W+125



- Ⓐ -Guide through side plate, standard 2 meters per piece
- Ⓑ -Connector
- Ⓒ -C-profile
- Ⓓ -Glide bar
- Ⓑ & Ⓒ -Installation set

3D/CAD files, service life calculation, configuration, and more information are available at [www.zhefchain.com](http://www.zhefchain.com)



### For high loads

- For indoor and outdoor applications, resistant to radiation and aging.
- For horizontal unsupported and medium-length Travel length skidding.
- Applicable to machine tools, foam production line equipment, construction machinery, port equipment, logistics equipment, indoor and outdoor cranes and other heavy-load equipment.



ZF8000.350.350.BK for 170m long Travel length gantry cranes



# ZF8080 Series

**Cost-effective  
80mm inner height series  
energy chain products**



**Advantages of ZF8080 series energy chain**

- High strength
- Simple structure and easy installation
- Good straightness and torsion resistance
- Excellent sealing

## Cost-effective ZF8080 Series Advantages of fully enclosed energy chain

- Metal gasket mounting bracket prevents cold cracks.
- Double locking of cover plate for extra strength
- Smooth inner cavity avoids abrasion of cables and oil pipes.
- Anti-torsion structure of side plate improves the overall stability and strength of the energy chain.
- Reasonable pre-stressing, excellent unsupported capacity.
- Good straightness when the energy chain is long, suitable for medium and long Travel length sliding.
- Excellent performance of anti-debris, oil, acid and alkali corrosion, ketone and ether corrosion.

### Typical applications

- Machine tools ● Foam Production Line Equipment
- Engineering machinery ● Port equipment
- Logistics equipment ● Indoor and outdoor cranes and other heavy-load equipment

- ⚠ Please use our ESD material for high explosion-proof requirement, and consult our engineers for details.
- ROSH Complied with ROHS IEC62321-7-2 environmental requirements
- CE Complied with EN61386-1:2008+A1:2019 certification requirements

Metal gasket mounting bracket prevents cold cracks

Double locking of cover plate for extra strength

Smooth inner cavity avoids abrasion of cables and oil pipes

Anti-torsion structure of side plate improves the overall stability and strength of the energy chain

Reasonable pre-stressing excellent unsupported capacity

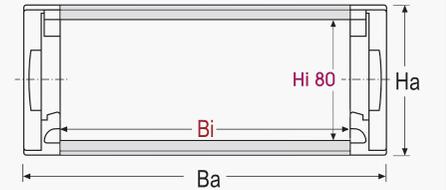
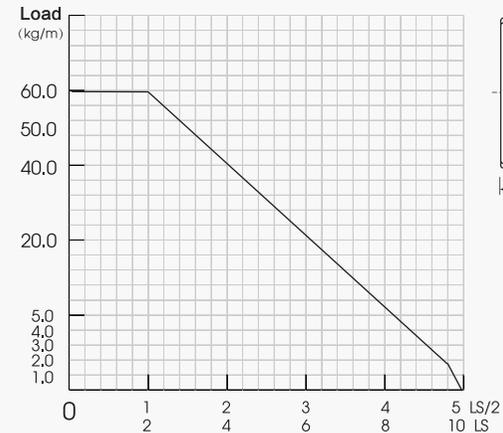
Good straightness when the energy chain is long, suitable for medium and long Travel length sliding

## ZF8080 Series

cover plate up and down can be opened energy chain

Type	Bi [mm]	Ba [mm]	Ha [mm]	Bending radius R [mm]	Pitch P [mm]	Weight [kg/m]
ZF8080.100.R.BK	100	150	108	200 250 300 350 400 500	91	≈ 6.62
ZF8080.125.R.BK	125	175	108	200 250 300 350 400 500	91	≈ 6.99
ZF8080.150.R.BK	150	200	108	200 250 300 350 400 500	91	≈ 7.42
ZF8080.175.R.BK	175	225	108	200 250 300 350 400 500	91	≈ 7.70
ZF8080.200.R.BK	200	250	108	200 250 300 350 400 500	91	≈ 7.99
ZF8080.250.R.BK	250	300	108	200 250 300 350 400 500	91	≈ 8.71
ZF8080.300.R.BK	300	350	108	200 250 300 350 400 500	91	≈ 9.37
ZF8080.350.R.BK	350	400	108	200 250 300 350 400 500	91	≈ 10.03

### Unsupported - load



Bi=Inner width Ba=Outer width  
Hi=Inner height Ha=Outer height  
LS=Length of Travel length  
Inner height: 80mm  
Pitch P: 91mm  
Number of links: 11links /meter

Speed for Unsupported applications	max.10(m/s)
Gliding Speed	max.5(m/s)
Unsupported acceleration	max.100(m/s <sup>2</sup> )
Gliding acceleration	max.25(m/s <sup>2</sup> )
Material allowable temperature	-40 C ~+130 C

### Product Type ZF8080 200 200 BK

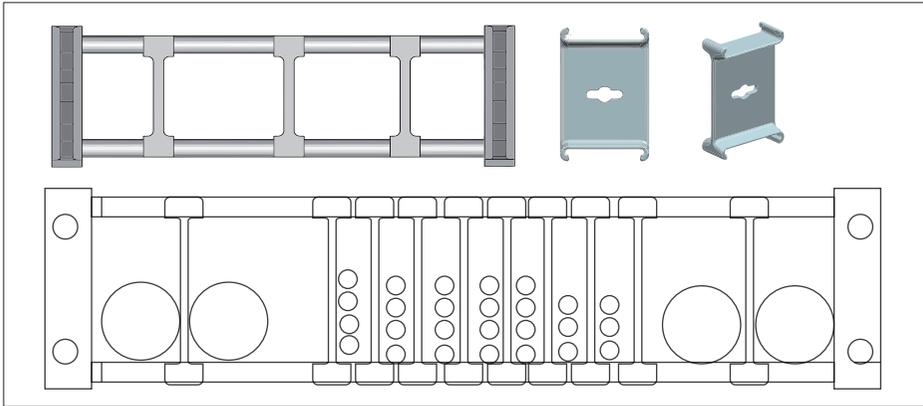






### Separator

Separator plate ZF80.1



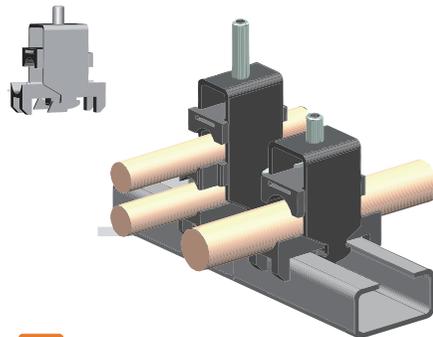
### Cable Clamp

#### Cable Clamp Black

Specification Type	Outer diameter range (mm)	Outer width (mm)	Outer height (mm)
ZFX12.1	6-12	16	48
ZFX14.1	12-14	18	50
ZFX16.1	14-16	20	52
ZFX18.1	16-18	22	54
ZFX20.1	18-20	24	56
ZFX22.1	20-22	26	58
ZFX26.1	22-26	30	67
ZFX30.1	26-30	34	71
ZFX34.1	30-34	38	75
ZFX38.1	34-38	42	79
ZFX42.1	38-42	46	83

#### Three-layer cable clamp Black

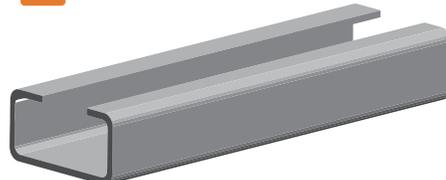
Specification Type	Outer diameter range (mm)	Outer width (mm)	Outer height (mm)
ZFX12.3	6-12	16	86
ZFX14.3	12-14	18	92
ZFX16.3	14-16	20	98
ZFX18.3	16-18	22	104
ZFX20.3	18-20	24	110
ZFX22.3	20-22	26	116



#### Double-layer Cable Clamp Black

Specification Type	Outer diameter range (mm)	Outer width (mm)	Outer height (mm)
ZFX12.2	6-12	16	69
ZFX14.2	12-14	18	71
ZFX16.2	14-16	20	75
ZFX18.2	16-18	22	79
ZFX20.2	18-20	24	83
ZFX22.2	20-22	26	87
ZFX26.2	22-26	30	105
ZFX30.2	26-30	34	113
ZFX34.2	30-34	38	121

### C-profile



\*Stainless steel cable clamps require the st suffix. For example, ZFX12.1 stands for black color cable clamps and ZFX12.1st stands for silver color stainless steel cable clamps.



Guide through Type: ZF220.1

Wear-Resistant strip Type: ZF30/30

Please refer to P266-267 for the type of installation set

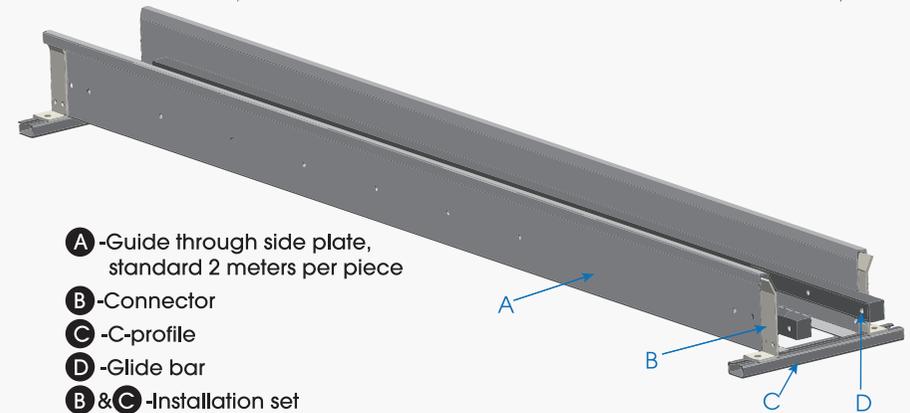
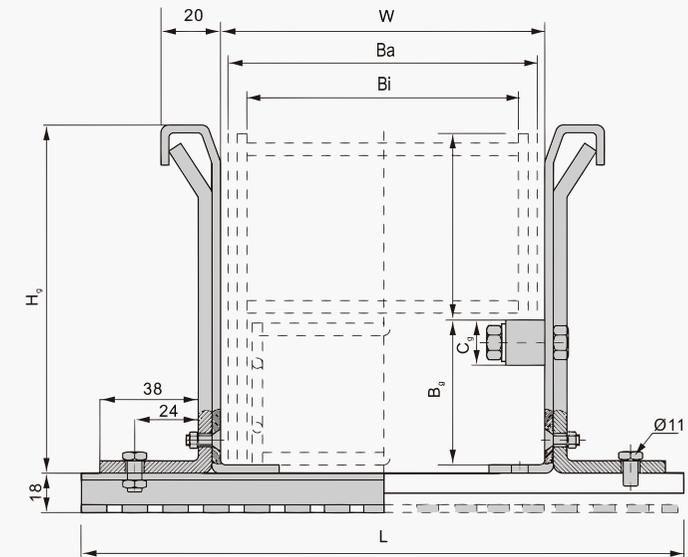
Bg	Cg	Hg	W	L
108	30	220.5	Ba+8	≅ W+125

Guide through Type: ZF300.1

Wear-Resistant strip Type: ZF30/30

Please refer to P266-267 for the type of installation set

Bg	Cg	Hg	W	L
108	30	300.5	Ba+8	≅ W+125



- Ⓐ -Guide through side plate, standard 2 meters per piece
- Ⓑ -Connector
- Ⓒ -C-profile
- Ⓓ -Glide bar
- Ⓑ & Ⓒ -Installation set



### For high loads

- For indoor and outdoor applications, resistant to radiation and aging.
- For horizontal unsupported and medium-length Travel length skidding.
- Applicable to machine tools, foam production line equipment, construction machinery, port equipment, logistics equipment, indoor and outdoor cranes and other heavy-load equipment.



ZF8080.250.300.BK is used in a company's large floor boring, X-axis heavy-duty long-travel length glide



# ZF8000

## Three side panel

High performance  
80mm inner height series  
energy chain products



Advantages of ZF8000 Three side panel series energy chain

- Very high strength energy chain
- Suitable for super heavy load conditions
- Good straightness and torsion resistance

# ZF8000 three side panel series

## | Introduction | Advantages

### High performance

### 8000 Three side panel series Advantages of energy chains with crossbar

- Metal gasket mounting bracket prevents cold cracks.
- Double locking of the crossbar, higher strength
- Smooth inner cavity avoids abrasion of cables and oil pipes.
- Three side plate anti-torsion structure, greatly improving the stability and strength of the energy chain.
- Reasonable pre-stressing, excellent unsupported capacity.
- Good straightness when the energy chain is long, suitable for long travel and heavy load sliding.

#### Typical applications

- Machine tools ● Foam Production Line Equipment
- Engineering machinery ● Port equipment
- Logistics equipment
- Indoor and outdoor cranes and other heavy-load equipment

- ⚠ Please use our ESD material for high explosion-proof requirement, and consult our engineers for details.
- ♻ ROHS Complied with ROHS IEC62321-7-2 environmental requirements
- CE Complied with EN61386-1:2008+A1:2019 certification requirements

Metal gasket mounting bracket prevents cold cracks

Double locking of the crossbar, higher strength

Smooth inner cavity avoids abrasion of cables and oil pipes

Three side plate anti-torsion structure, greatly improving the stability and strength of the energy chain.

Reasonable pre-stressing excellent unsupported capacity

Good straightness when the energy chain is long, suitable for medium and long Travel length sliding

# ZF8000 three side panel series

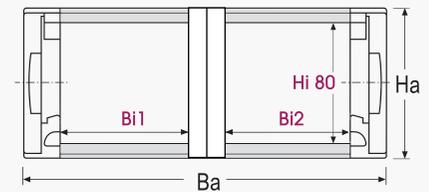
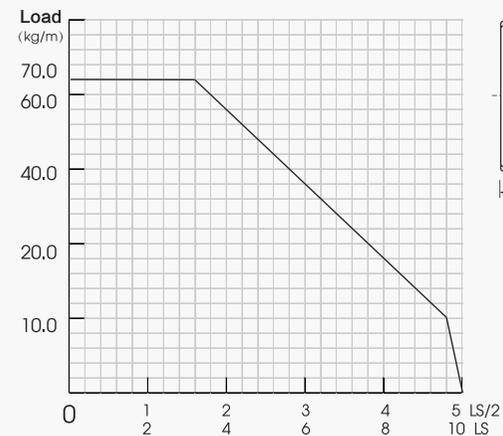
crossbar up and down can be opened energy chain



Type	Bi1 [mm]	Bi2 [mm]	Ba [mm]	Ha [mm]	Bending radius R [mm]	Pitch P [mm]	Weight [Kg/m]
ZF8000. 150/150.R.BK	150	150	375	108	150 200 250 300 350 400 500	91	≈10.90
ZF8000. 200/200.R.BK	200	200	475	108	150 200 250 300 350 400 500	91	≈11.63
ZF8000. 225/225.R.BK	225	225	525	108	150 200 250 300 350 400 500	91	≈11.95
ZF8000. 250/250.R.BK	250	250	575	108	150 200 250 300 350 400 500	91	≈12.38
ZF8000. 300/300.R.BK	300	300	675	108	150 200 250 300 350 400 500	91	≈13.10

For more splicing combinations of inner width, please contact our sales engineers for specific communication!

### Unsupported - load



Bi=Inner width Ba=Outer width  
Hi=Inner height Ha=Outer height  
LS=Length of Travel length  
Inner height: 80mm  
Pitch P: 91mm  
Number of links: 11links /meter

Speed for Unsupported applications	max.10(m/s)
Gliding Speed	max.5(m/s)
Unsupported acceleration	max.100(m/s <sup>2</sup> )
Gliding acceleration	max.25(m/s <sup>2</sup> )
Material allowable temperature	-40 C ~+130 C

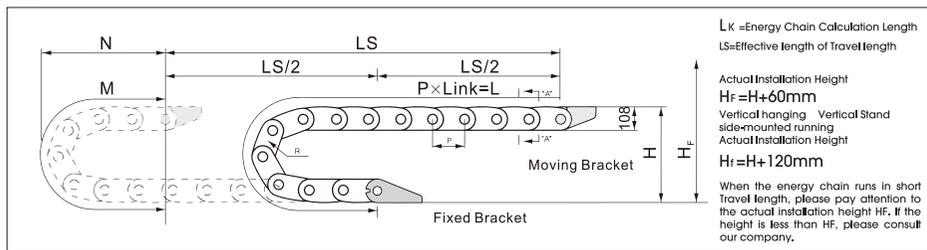
### Product Type

ZF8000 225/225 300 BK

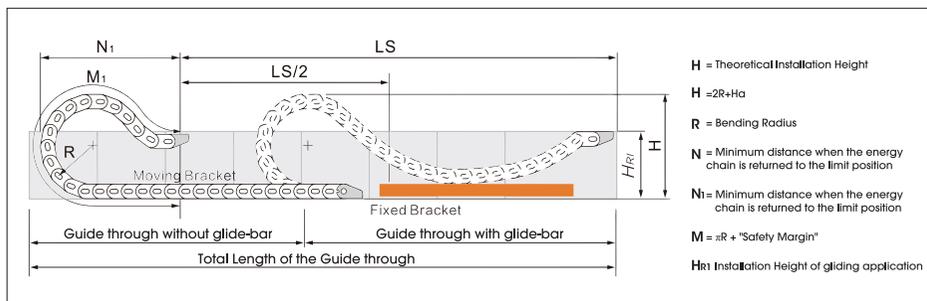




**Short Travel length-Unsupported application**  $L_k = LS/2 + M$



**Long Travel length - gliding Application**  $L_k = LS/2 + M_i$



R [mm]	H <sub>r1</sub> [mm]	H [mm]	N [mm]	M [mm]	N <sub>1</sub> [mm]	M <sub>1</sub> [mm]
150	352	408	315	695	550	910
200	352	508	365	860	810	1274
250	352	608	416	1010	980	1628
300	352	708	470	1165	1210	2002
350	352	808	520	1330	1560	2450
400	352	908	570	1480	1710	2750
500	352	1108	670	1800	2200	3460

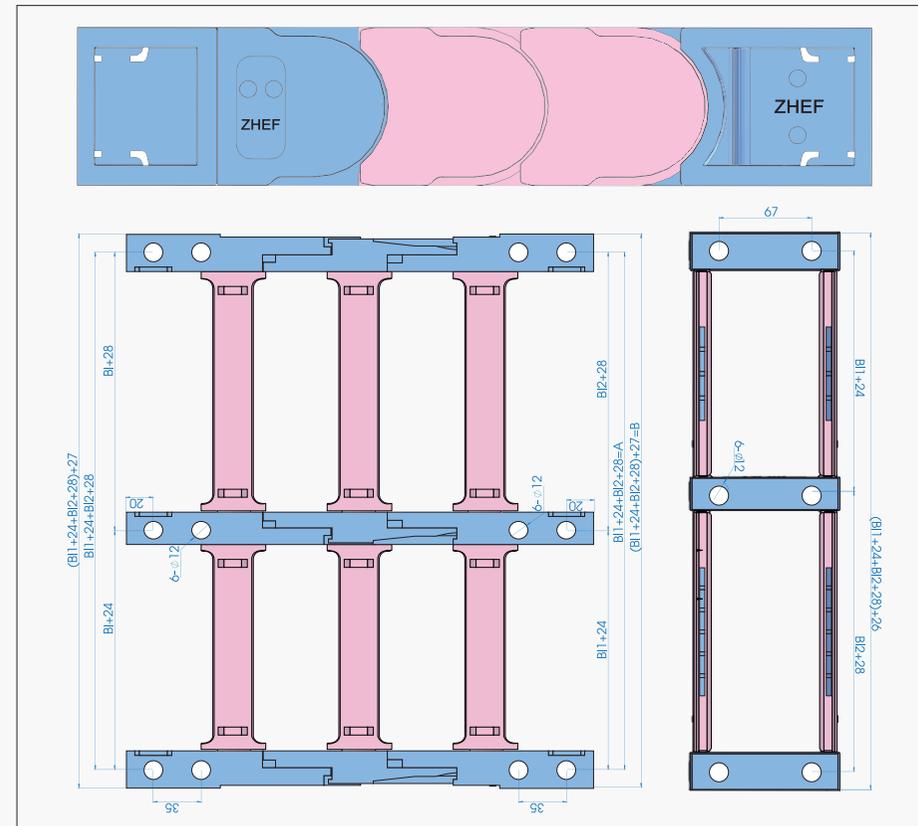
**Ordering Example | Entire Energy Chain**

ZF8000.225/225.300.BK \* 20 links + ZF8000.225/225.12 + ZF80.1 Quantity

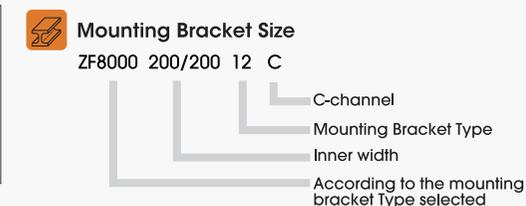
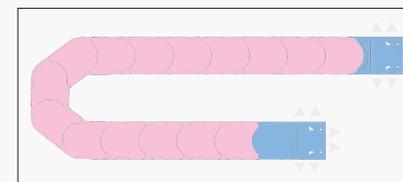
Energy Chain Type      Number of Links      Mounting Bracket Type      Separator



■ 01end      ■ 02end



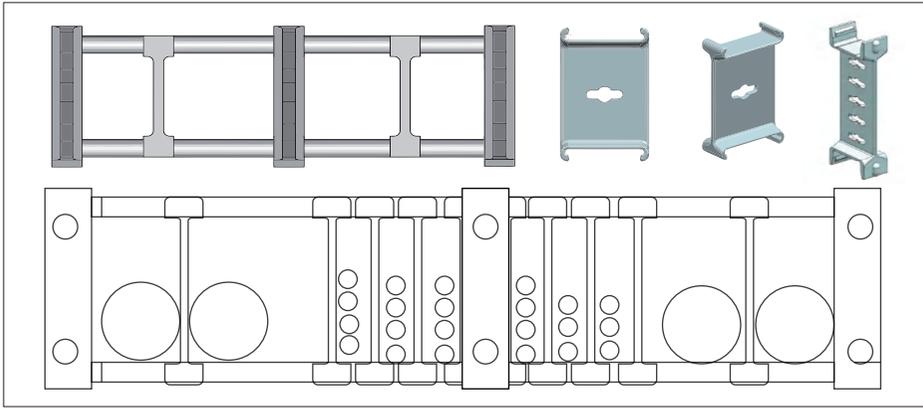
Inner Width	Full set of mounting bracket without C-channel type	Size A	Size B
150/150	ZF8000.150/150.12	352	379
200/200	ZF8000.200/200.12	452	479
225/225	ZF8000.225/225.12	502	529
250/250	ZF8000.250/250.12	552	579
300/300	ZF8000.300/300.12	652	679





**Separator**

Separator plate ZF80.1  
Locking type separator Type ZF80.2



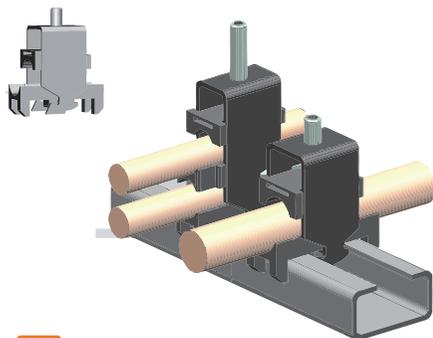
**Cable Clamp**

**Cable Clamp Black**

Specification Type	Outer diameter range (mm)	Outer width (mm)	Outer height (mm)
ZFX12.1	6-12	16	48
ZFX14.1	12-14	18	50
ZFX16.1	14-16	20	52
ZFX18.1	16-18	22	54
ZFX20.1	18-20	24	56
ZFX22.1	20-22	26	58
ZFX26.1	22-26	30	67
ZFX30.1	26-30	34	71
ZFX34.1	30-34	38	75
ZFX38.1	34-38	42	79
ZFX42.1	38-42	46	83

**Three-layer cable clamp Black**

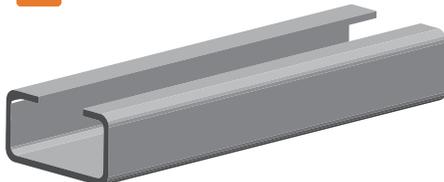
Specification Type	Outer diameter range (mm)	Outer width (mm)	Outer height (mm)
ZFX12.3	6-12	16	86
ZFX14.3	12-14	18	92
ZFX16.3	14-16	20	98
ZFX18.3	16-18	22	104
ZFX20.3	18-20	24	110
ZFX22.3	20-22	26	116



**Double-layer Cable Clamp Black**

Specification Type	Outer diameter range (mm)	Outer width (mm)	Outer height (mm)
ZFX12.2	6-12	16	69
ZFX14.2	12-14	18	71
ZFX16.2	14-16	20	75
ZFX18.2	16-18	22	79
ZFX20.2	18-20	24	83
ZFX22.2	20-22	26	87
ZFX26.2	22-26	30	105
ZFX30.2	26-30	34	113
ZFX34.2	30-34	38	121

**C-profile**



\*Stainless steel cable clamps require the st suffix. For example, ZFX12.1 stands for black color cable clamps and ZFX12.1st stands for silver color stainless steel cable clamps.

250 ▶ For more information, please visit [www.zhefchain.com](http://www.zhefchain.com)

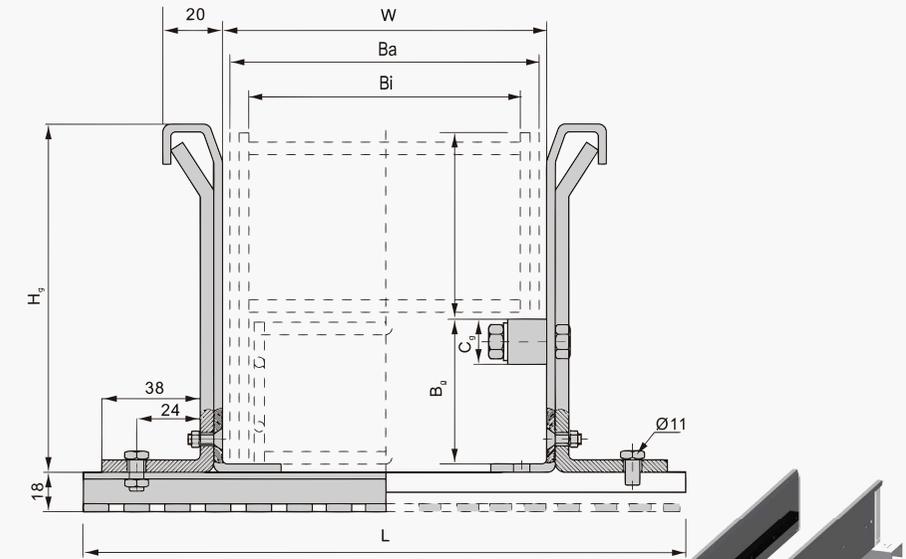


Guide through Type: ZF220.1  
Wear-Resistant strip Type: ZF30/30  
Please refer to P266-267 for the type of installation set

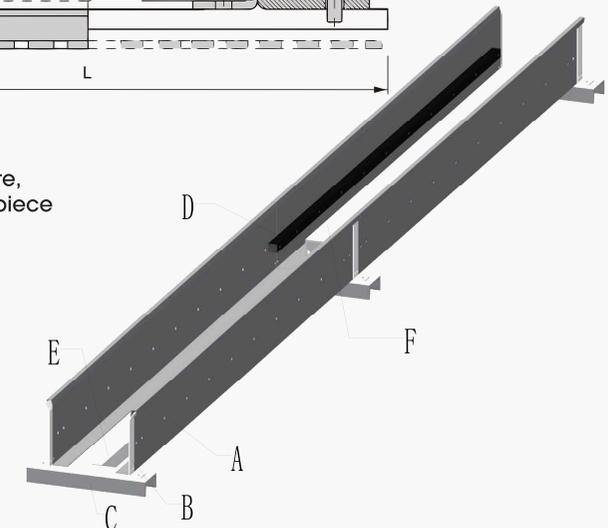
Bg	Cg	Hg	W	L
108	30	220.5	Ba+8	≧ W+125

Guide through Type: ZF300.1  
Wear-Resistant strip Type: ZF30/30  
Please refer to P266-267 for the type of installation set

Bg	Cg	Hg	W	L
108	30	300.5	Ba+8	≧ W+125



- A** -Guide through side plate, standard 2 meters per piece
- B** -Connector
- C** -C-profile
- D** -Glide bar
- B & C** -Installation set
- E & F** -Center side panel support



3D/CAD files, service life calculation, configuration, and more information are available at [www.zhefchain.com](http://www.zhefchain.com)

## ZF8000 Triple Side-parts series | Typical Applications



### For high loads

- For indoor and outdoor applications, resistant to radiation and aging.
- For horizontal unsupported and long Travel length skidding.
- Applicable to machine tools, foam production line equipment, construction machinery, port equipment, logistics equipment, indoor and outdoor cranes and other heavy-load equipment.



ZF8000.200/200.300.BK and guide groove accessories, used for long-distance heavy-duty sliding occasions in non-ferrous metallurgy.

Three-side plate ZF8000.200/200.300.BK and guide groove accessories, used for metallurgical hot-rolling crane with ultra-heavy load and long-distance sliding.



# ZF8080

## Three side panel

High performance  
80mm inner height series  
energy chain products



Advantages of ZF8080 Three side  
panel series energy chain

- Very high strength energy chain
- Suitable for super heavy load conditions
- Good straightness and torsion resistance

# ZF8080 three side panel series

## | Introduction | Advantages

### High performance 8080 Three side panel series Advantages of energy chains with crossbar

- Metal gasket mounting bracket prevents cold cracks.
- Double locking of cover plate for extra strength
- Smooth inner cavity avoids abrasion of cables and oil pipes.
- Three side plate anti-torsion structure, greatly improving the stability and strength of the energy chain.
- Reasonable pre-stressing, excellent unsupported capacity.
- Good straightness when the energy chain is long, suitable for long travel and heavy load sliding.

#### Typical applications

- Machine tools
- Foam Production Line Equipment
- Engineering machinery
- Port equipment
- Logistics equipment
- Indoor and outdoor cranes and other heavy-load equipment



Please use our ESD material for high explosion-proof requirement, and consult our engineers for details.



ROSH Complied with ROHS IEC62321-7-2 environmental requirements



CE Complied with EN61386-1:2008+A1:2019 certification requirements

Metal gasket mounting bracket prevents cold cracks

Double locking of cover plate for extra strength

Smooth inner cavity avoids abrasion of cables and oil pipes

Three side plate anti-torsion structure, greatly improving the stability and strength of the energy chain.

Reasonable pre-stressing excellent unsupported capacity

Good straightness when the energy chain is long, suitable for medium and long Travel length sliding

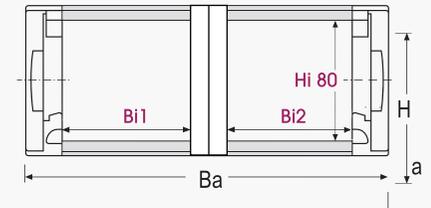
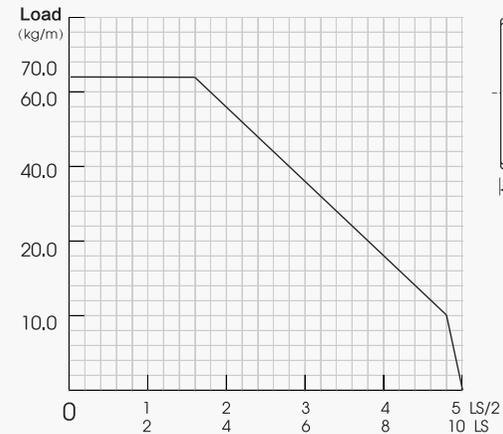
# ZF8080 three side panel series

cover plate up and down can be opened energy chain

Type	Bi1 [mm]	Bi2 [mm]	Ba [mm]	Ha [mm]	Bending radius R [mm]	Pitch P [mm]	Weight [Kg/m]
ZF8080. 150/150.R.BK	150	150	375	108	200 250 300 350 400 500	91	≈12.82
ZF8080. 200/200.R.BK	200	200	475	108	200 250 300 350 400 500	91	≈14.62
ZF8080. 250/250.R.BK	250	250	575	108	200 250 300 350 400 500	91	≈15.70

For more splicing combinations of inner width, please contact our sales engineers for specific communication!

### Unsupported - load



Bi=Inner width Ba=Outer width  
Hi=Inner height Ha=Outer height  
LS=Length of Travel length  
Inner height: 80mm  
Pitch P: 91mm  
Number of links: 11links /meter



Speed for Unsupported applications max.10(m/s)

Gliding Speed max.5(m/s)



Unsupported acceleration max.100(m/s<sup>2</sup>)

Gliding acceleration max.25(m/s<sup>2</sup>)



Material allowable temperature -40 C ~+130 C

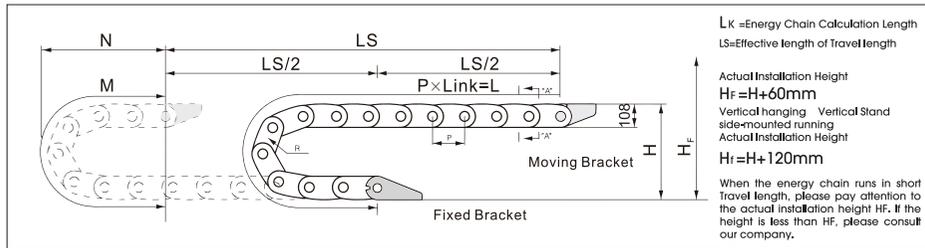


Product Type  
ZF8080 250/250 300 BK

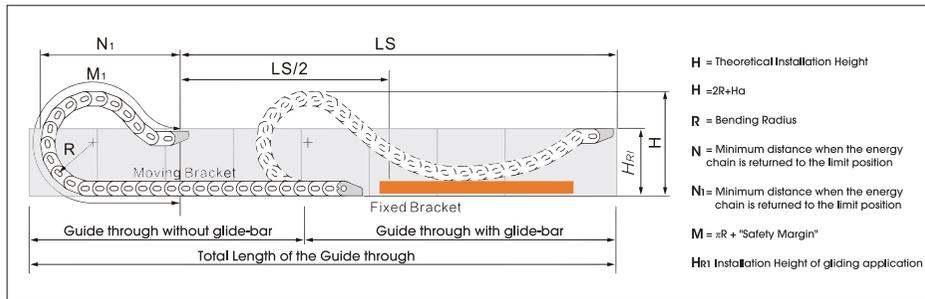




**Short Travel length-Unsupported application**  $L_k = LS/2 + M$



**Long Travel length - gliding Application**  $L_k = LS/2 + M_i$



R	Hr1	H	N	M	N1	M1
[mm]						
200	352	508	365	860	810	1274
250	352	608	416	1010	980	1628
300	352	708	470	1165	1210	2002
350	352	808	520	1330	1560	2450
400	352	908	570	1480	1710	2750
500	352	1108	670	1800	2200	3460

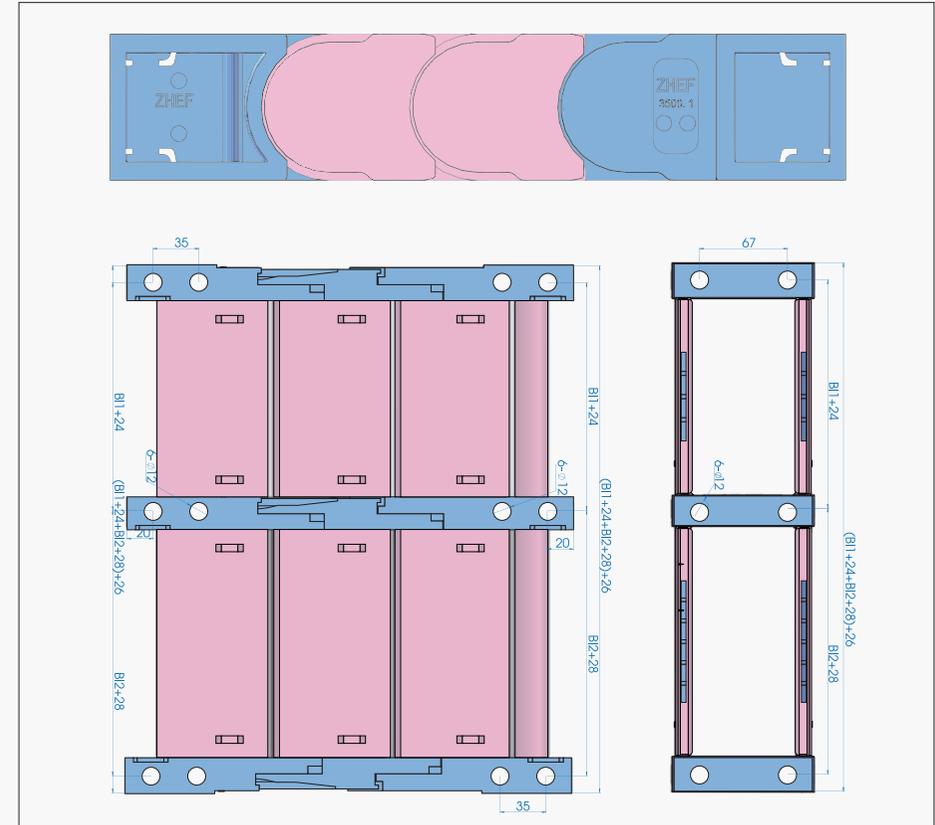
**Ordering Example | Entire Energy Chain**

ZF8080.225/225.300.BK \* 20 links + ZF8080.225/225.12 + ZF80.1 Quantity

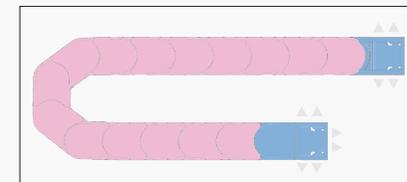
Energy Chain Type      Number of Links      Mounting Bracket Type      Separator



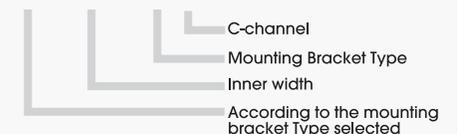
02end      01end



Inner Width	Full set of mounting bracket without C-channel type	Size A	Size B
150/150	ZF8080.150/150.12	352	379
200/200	ZF8080.200/200.12	452	479
250/250	ZF8080.250/250.12	552	579



**Mounting Bracket Size**  
ZF8080 200/200 12 C



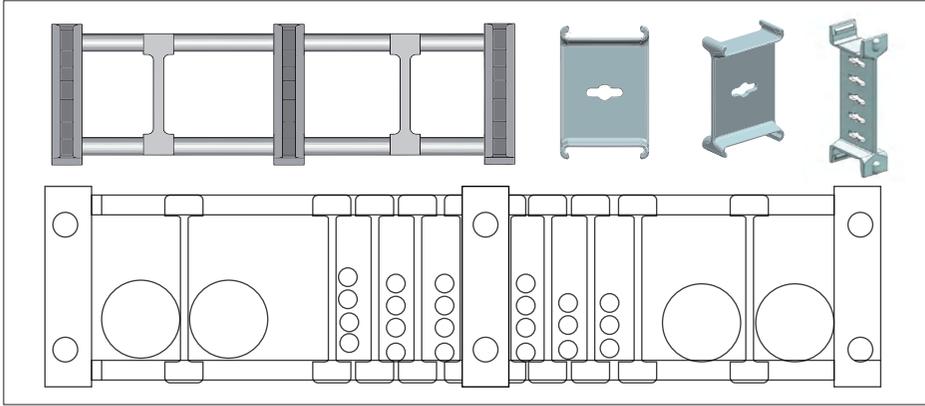
# ZF8080 three side panel series

## | Accessories



### Separator

Separator plate ZF80.1  
Locking type separator Type ZF80.2



### Cable Clamp

#### Cable Clamp Black

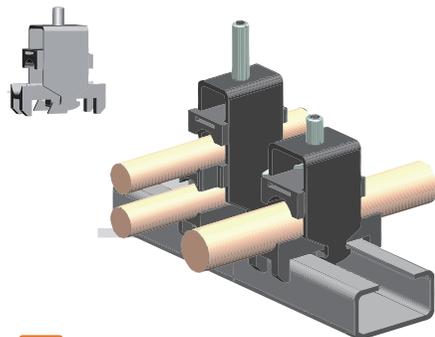
Specification Type	Outer diameter range (mm)	Outer width (mm)	Outer height (mm)
ZFX12.1	6-12	16	48
ZFX14.1	12-14	18	50
ZFX16.1	14-16	20	52
ZFX18.1	16-18	22	54
ZFX20.1	18-20	24	56
ZFX22.1	20-22	26	58
ZFX26.1	22-26	30	67
ZFX30.1	26-30	34	71
ZFX34.1	30-34	38	75
ZFX38.1	34-38	42	79
ZFX42.1	38-42	46	83

#### Three-layer cable clamp Black

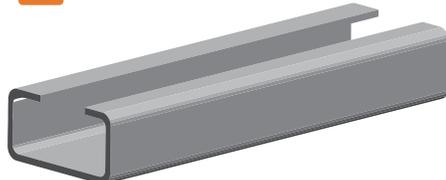
Specification Type	Outer diameter range (mm)	Outer width (mm)	Outer height (mm)
ZFX12.3	6-12	16	86
ZFX14.3	12-14	18	92
ZFX16.3	14-16	20	98
ZFX18.3	16-18	22	104
ZFX20.3	18-20	24	110
ZFX22.3	20-22	26	116

#### Double-layer Cable Clamp Black

Specification Type	Outer diameter range (mm)	Outer width (mm)	Outer height (mm)
ZFX12.2	6-12	16	69
ZFX14.2	12-14	18	71
ZFX16.2	14-16	20	75
ZFX18.2	16-18	22	79
ZFX20.2	18-20	24	83
ZFX22.2	20-22	26	87
ZFX26.2	22-26	30	105
ZFX30.2	26-30	34	113
ZFX34.2	30-34	38	121



### C-profile



\*Stainless steel cable clamps require the st suffix. For example, ZFX12.1 stands for black color cable clamps and ZFX12.1st stands for silver color stainless steel cable clamps.

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# ZF8080 three side panel series

## | Guide through



Guide through Type: ZF220.1

Wear-Resistant strip Type: ZF30/30

Please refer to P266-267 for the type of installation set

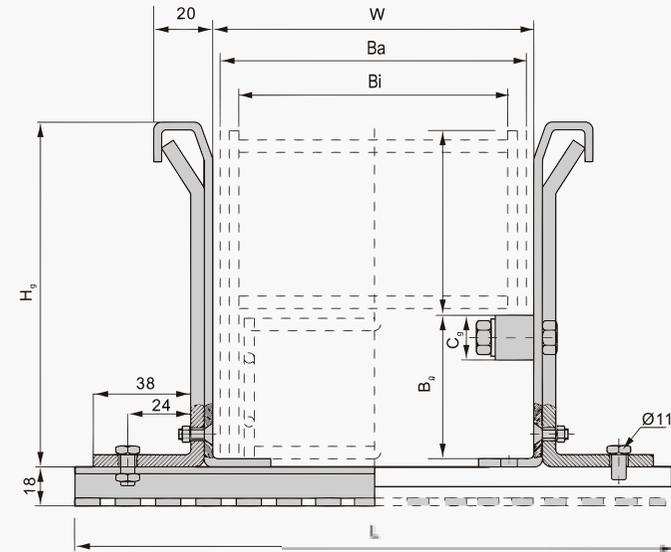
Bg	Cg	Hg	W	L
108	30	220.5	Ba+8	≧W+125

Guide through Type: ZF300.1

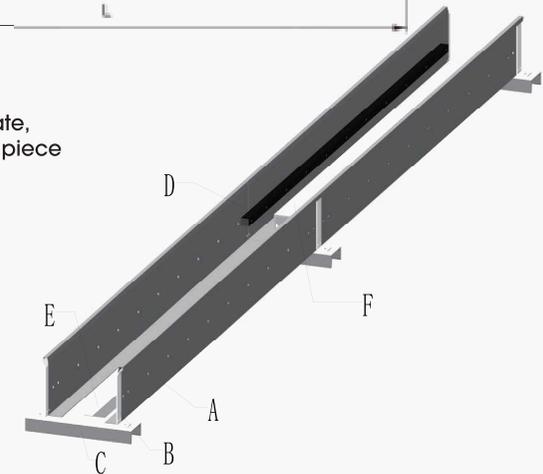
Wear-Resistant strip Type: ZF30/30

Please refer to P266-267 for the type of installation set

Bg	Cg	Hg	W	L
108	30	300.5	Ba+8	≧W+125



- Ⓐ -Guide through side plate, standard 2 meters per piece
- Ⓑ -Connector
- Ⓒ -C-profile
- Ⓓ -Glide bar
- Ⓑ & Ⓒ -Installation set
- Ⓔ & Ⓕ -Center side panel support



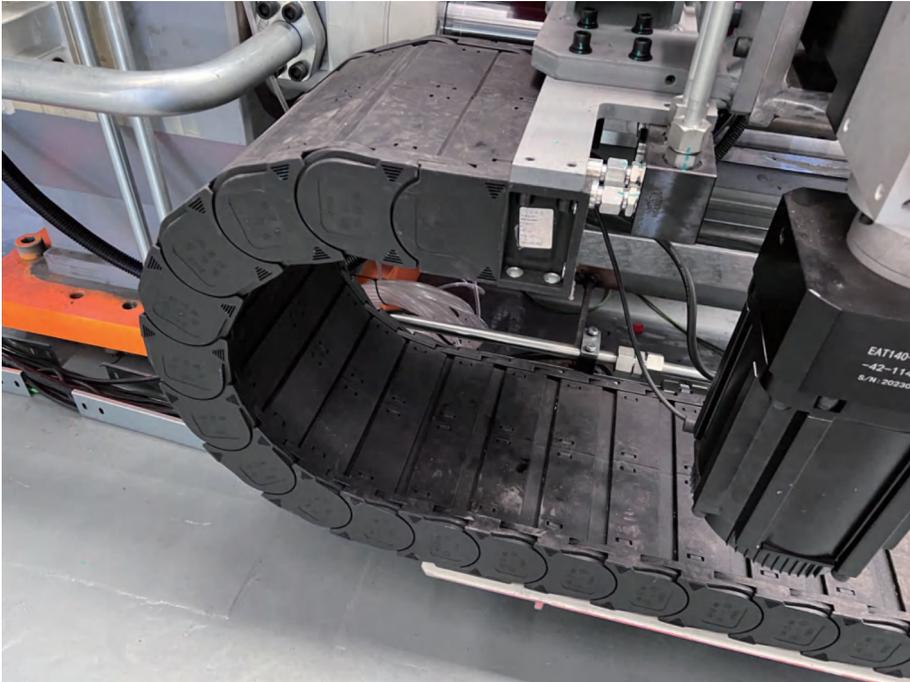
3D/CAD files, service life calculation, configuration, and more information are available at [www.zhefchain.com](http://www.zhefchain.com)

## ZF8080 three side panel series | Typical Applications



### For high loads

- For indoor and outdoor applications, resistant to radiation and aging.
- For horizontal unsupported and long Travel length skidding.
- Applicable to machine tools, foam production line equipment, construction machinery, port equipment, logistics equipment, indoor and outdoor cranes and other heavy-load equipment.



ZF8080.150/150.300.BK ,for integrated die-casting machine.

## Guide through system

Safe guidance Modular assembly



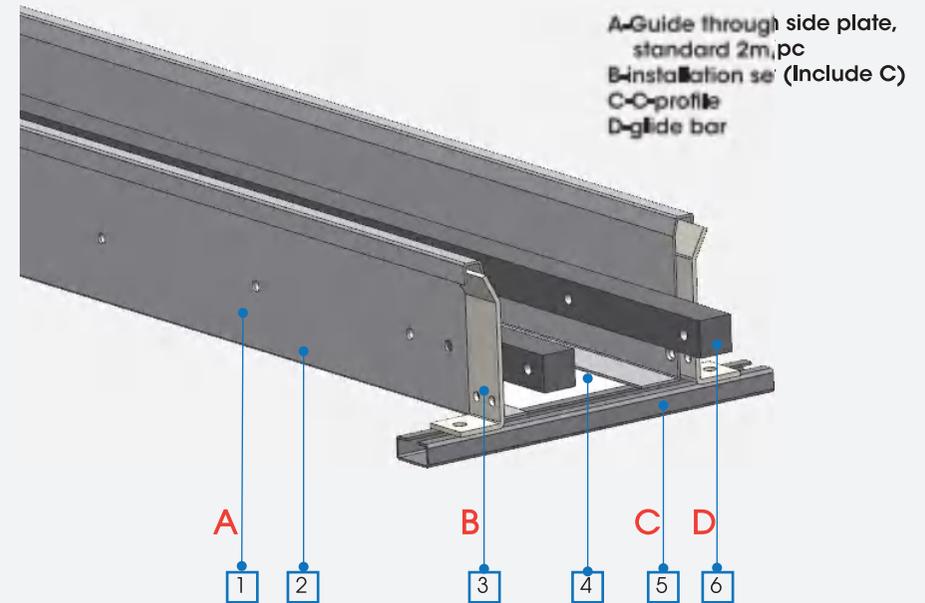
The Guide through system is an indispensable guiding device for the application of long-travel length energy chains.

For different applications, we offer a wide range of different modular Guide throughs to ensure high stability and long service life of the energy chain.



## Guide through system

Safe guidance Modular assembly



- ① Two-piece design, can be flexibly adjusted according to the width of the energy chain.
- ② Available in galvanized steel and stainless steel
- ③ The mounting kit is simple and reliable, can be installed without welding.
- ④ Open channel bottom, no dirt and dust accumulation
- ⑤ C-channel base for easy installation and adjustment
- ⑥ High wear-resistant mute slider with low noise and small friction coefficient ensures smooth running of the energy chain.

### ■ Calculation type

$n$  = half the travelling distance, calculated using the type of unification, it needs to be an integer multiple of 2

$n$  = number of Guide throughs without wear-resistant strips  
 $n$  = number of Guide throughs with wear-resistant strips  
 $n+1$  = number of kits installed

Please consult with ZHEF sales engineers for details.



## Comparison of energy chain Types with Guide through and mounting kit Types

Energy Chain Series	Inner width of energy chain [mm]	Guide channel Type (galvanized steel /stainless steel)	Mounting kit Type (galvanized steel /stainless steel)	Reinforced mounting kit Type (galvanized steel /stainless steel)
ZF2500/ZF2580	38、57、77	ZF70.1/ZF70.1st	70.T.C200/70.TS.C200	
	103	ZF70.1/ZF70.1st	70.T.C200/70.TS.C250	
ZF2500NOP	38、57、77	ZF70.1/ZF70.1st	70.T.C250/70.TS.C200	
	50	ZF130.2/ZF130.2st	130.T.C250/130.TS.C250	
E3200	75	ZF130.2/ZF130.2st	130.T.C250/130.TS.C250	
	100	ZF130.2/ZF130.2st	130.T.C250/130.TS.C250	
	125	ZF130.2/ZF130.2st	130.T.C300/130.TS.C300	
	150	ZF130.2/ZF130.2st	130.T.C300/130.TS.C300	
	175	ZF130.2/ZF130.2st	130.T.C350/130.TS.C350	
	50	ZF130.2/ZF130.2st	130.T.C250/130.TS.C250	
YFM3500/YFM3580	75	ZF130.2/ZF130.2st	130.T.C250/130.TS.C250	
	100	ZF130.2/ZF130.2st	130.T.C250/130.TS.C250	
	125	ZF130.2/ZF130.2st	130.T.C300/130.TS.C300	
	150	ZF130.2/ZF130.2st	130.T.C300/130.TS.C300	
	175	ZF130.2/ZF130.2st	130.T.C350/130.TS.C350	
	200	ZF130.2/ZF130.2st	130.T.C350/130.TS.C350	
	250	ZF130.2/ZF130.2st	130.T.C400/130.TS.C400	
	50	ZF130.1/ZF130.1st	130.T.C250/130.TS.C250	
YFM4200/YFM4280	75	ZF130.1/ZF130.1st	130.T.C250/130.TS.C250	
	100	ZF130.1/ZF130.1st	130.T.C250/130.TS.C250	
	125	ZF130.1/ZF130.1st	130.T.C300/130.TS.C300	
	150	ZF130.1/ZF130.1st	130.T.C300/130.TS.C300	
	175	ZF130.1/ZF130.1st	130.T.C350/130.TS.C350	
	200	ZF130.1/ZF130.1st	130.T.C350/130.TS.C350	
	250	ZF130.1/ZF130.1st	130.T.C400/130.TS.C400	
	75	ZF170.1/ZF170.1st	170.T.C250/170.TS.C250	
	100	ZF170.1/ZF170.1st	170.T.C300/170.TS.C300	
	YFM5600/YFM5680	125	ZF170.1/ZF170.1st	170.T.C300/170.TS.C300
150		ZF170.1/ZF170.1st	170.T.C350/170.TS.C350	
175		ZF170.1/ZF170.1st	170.T.C350/170.TS.C350	
200		ZF170.1/ZF170.1st	170.T.C400/170.TS.C400	
225		ZF170.1/ZF170.1st	170.T.C400/170.TS.C400	
250		ZF170.1/ZF170.1st	170.T.C450/170.TS.C450	
275		ZF170.1/ZF170.1st	170.T.C450/170.TS.C450	
300		ZF170.1/ZF170.1st	170.T.C500/170.TS.C500	
325		ZF170.1/ZF170.1st	170.T.C500/170.TS.C500	
350		ZF170.1/ZF170.1st	170.T.C550/170.TS.C550	
	375	ZF170.1/ZF170.1st	170.T.C550/170.TS.C550	
	400	ZF170.1/ZF170.1st	170.T.C600/170.TS.C600	
	425	ZF170.1/ZF170.1st	170.T.C600/170.TS.C600	
	450	ZF170.1/ZF170.1st	170.T.C650/170.TS.C650	
	475	ZF170.1/ZF170.1st	170.T.C650/170.TS.C650	
	500	ZF170.1/ZF170.1st	170.T.C700/170.TS.C700	

## Comparison of energy chain Types with Guide through and mounting kit Types

Energy Chain Series	Inner width of energy chain [mm]	Guide channel Type (galvanized steel /stainless steel)	Mounting kit Type (galvanized steel /stainless steel)	Reinforced mounting kit Type (galvanized steel /stainless steel)
ZF8000/ZF8080	75	ZF220.1/ZF220.1st	220.T.C250/220.TS.C250	220.RT.C250/220.RTS.C250
	100	ZF220.1/ZF220.1st	220.T.C300/220.TS.C300	220.RT.C300/220.RTS.C300
	125	ZF220.1/ZF220.1st	220.T.C300/220.TS.C300	220.RT.C300/220.RTS.C300
	150	ZF220.1/ZF220.1st	220.T.C350/220.TS.C350	220.RT.C350/220.RTS.C350
	175	ZF220.1/ZF220.1st	220.T.C350/220.TS.C350	220.RT.C350/220.RTS.C350
	200	ZF220.1/ZF220.1st	220.T.C400/220.TS.C400	220.RT.C400/220.RTS.C400
	225	ZF220.1/ZF220.1st	220.T.C400/220.TS.C400	220.RT.C400/220.RTS.C400
	250	ZF220.1/ZF220.1st	220.T.C450/220.TS.C450	220.RT.C450/220.RTS.C450
	275	ZF220.1/ZF220.1st	220.T.C450/220.TS.C450	220.RT.C450/220.RTS.C450
	300	ZF220.1/ZF220.1st	220.T.C500/220.TS.C500	220.RT.C500/220.RTS.C500
	325	ZF220.1/ZF220.1st	220.T.C500/220.TS.C500	220.RT.C500/220.RTS.C500
	350	ZF220.1/ZF220.1st	220.T.C550/220.TS.C550	220.RT.C550/220.RTS.C550
	375	ZF220.1/ZF220.1st	220.T.C550/220.TS.C550	220.RT.C550/220.RTS.C550
	400	ZF220.1/ZF220.1st	220.T.C600/220.TS.C600	220.RT.C600/220.RTS.C600
	425	ZF220.1/ZF220.1st	220.T.C600/220.TS.C600	220.RT.C600/220.RTS.C600
ZF8000/ZF8080	450	ZF220.1/ZF220.1st	220.T.C650/220.TS.C650	220.RT.C650/220.RTS.C650
	475	ZF220.1/ZF220.1st	220.T.C650/220.TS.C650	220.RT.C650/220.RTS.C650
	500	ZF220.1/ZF220.1st	220.T.C700/220.TS.C700	220.RT.C700/220.RTS.C700
	75	ZF300.1/ZF300.1st		300.RT.CG10.250/300.RTS.CG10.250
	100	ZF300.1/ZF300.1st		300.RT.CG10.300/300.RTS.CG10.300
	125	ZF300.1/ZF300.1st		300.RT.CG10.300/300.RTS.CG10.300
	150	ZF300.1/ZF300.1st		300.RT.CG10.350/300.RTS.CG10.350
	175	ZF300.1/ZF300.1st		300.RT.CG10.350/300.RTS.CG10.350
	200	ZF300.1/ZF300.1st		300.RT.CG10.400/300.RTS.CG10.400
	225	ZF300.1/ZF300.1st		300.RT.CG10.400/300.RTS.CG10.400
	250	ZF300.1/ZF300.1st		300.RT.CG10.450/300.RTS.CG10.450
	275	ZF300.1/ZF300.1st		300.RT.CG10.450/300.RTS.CG10.450
	300	ZF300.1/ZF300.1st		300.RT.CG10.500/300.RTS.CG10.500
	325	ZF300.1/ZF300.1st		300.RT.CG10.500/300.RTS.CG10.500
	350	ZF300.1/ZF300.1st		300.RT.CG10.550/300.RTS.CG10.550
375	ZF300.1/ZF300.1st		300.RT.CG10.550/300.RTS.CG10.550	
400	ZF300.1/ZF300.1st		300.RT.CG10.600/300.RTS.CG10.600	
425	ZF300.1/ZF300.1st		300.RT.CG10.600/300.RTS.CG10.600	
450	ZF300.1/ZF300.1st		300.RT.CG10.650/300.RTS.CG10.650	
475	ZF300.1/ZF300.1st		300.RT.CG10.650/300.RTS.CG10.650	
500	ZF300.1/ZF300.1st		300.RT.CG10.700/300.RTS.CG10.700	

Note: 300.1 and 300.1st guide channel, mounting kits are supplied with No.10 channel steel as standard at the bottom

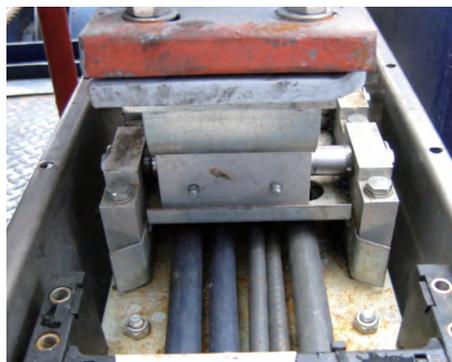
## Guide channel system applications



Stainless steel 316 for harbour machinery, reinforced Guide through (typhoon-resistant)

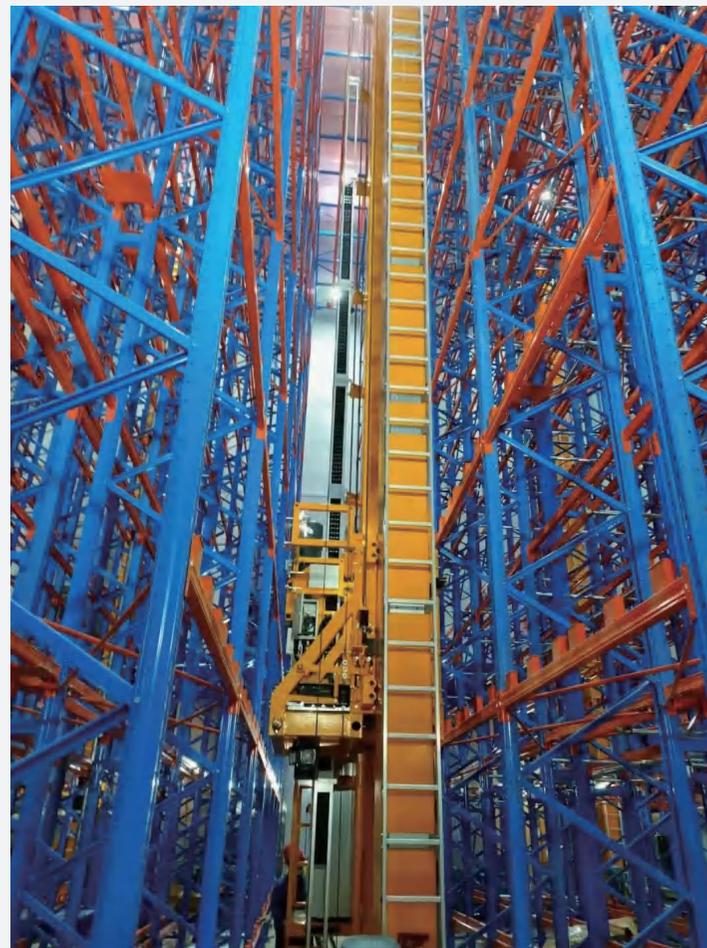


Guide through with glide-bar part: wear-resistant strip is made of high-density wear-resistant polymer material with low friction coefficient and low abrasion to the energy chain.



When the energy chain has a long Travel length, in order to prevent the trolley's offset from affecting the energy chain application, a floating head device needs to be added in order to correct the effect of the trolley's offset on the energy chain.

## Guide channel system applications



With the automated three-dimensional warehouse stacker cranes moving faster and faster, vertical lifting energy chains are applied more and more frequently in the mobile power supply of stacker cranes. The three-dimensional warehouse is getting bigger and bigger, the distance between the stacker up and down, front and back travelling is getting bigger and bigger. The energy chains need to be guided by vertical Guide throughs to prevent the chains from interfering with the surrounding shelves when the stacker is moving fast, which may cause electrical faults and affect the continuous application of the three-dimensional warehouse.

# Cable clamp | separator programme



# Cable clamp | separator programme

## Cable Clamp

### Cable Clamp Black

Specification Type	Outer diameter range (mm)	Outer width (mm)	Outer height (mm)
ZFX12.1	6-12	16	48
ZFX14.1	12-14	18	50
ZFX16.1	14-16	20	52
ZFX18.1	16-18	22	54
ZFX20.1	18-20	24	56
ZFX22.1	20-22	26	58
ZFX26.1	22-26	30	67
ZFX30.1	26-30	34	71
ZFX34.1	30-34	38	75
ZFX38.1	34-38	42	79
ZFX42.1	38-42	46	83

### Three-layer cable clamp Black

Specification Type	Outer diameter range (mm)	Outer width (mm)	Outer height (mm)
ZFX12.3	6-12	16	86
ZFX14.3	12-14	18	92
ZFX16.3	14-16	20	98
ZFX18.3	16-18	22	104
ZFX20.3	18-20	24	110
ZFX22.3	20-22	26	116

\*Stainless steel cable clamps require the st suffix. For example, ZFX12.1 stands for black color cable clamps and ZFX12.1st stands for silver color stainless steel cable clamps.

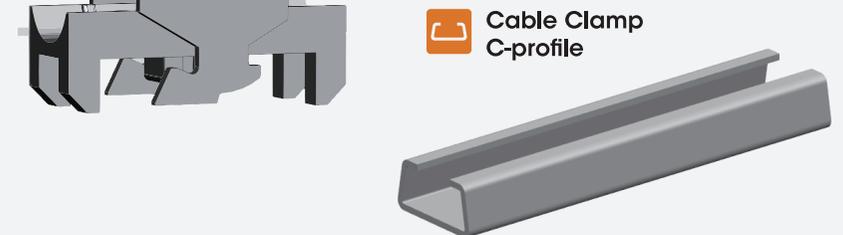
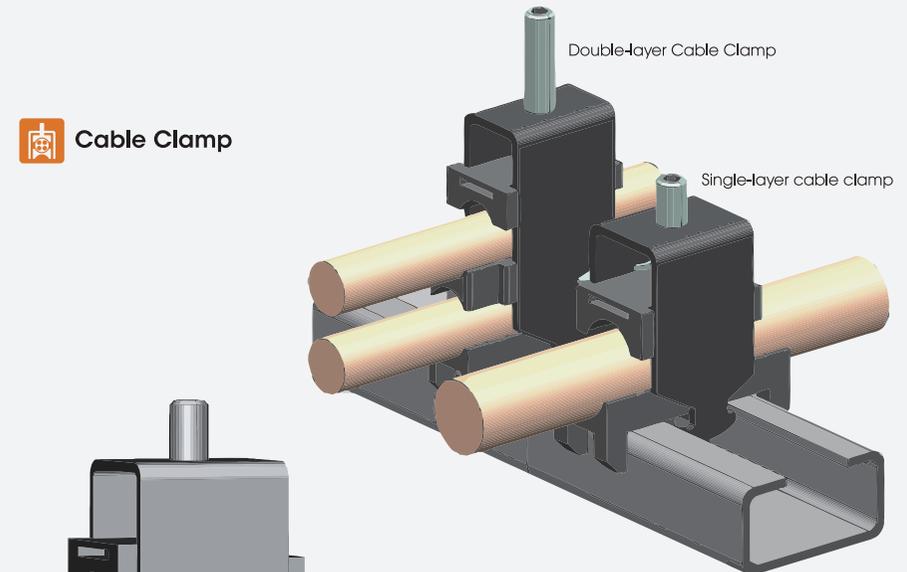
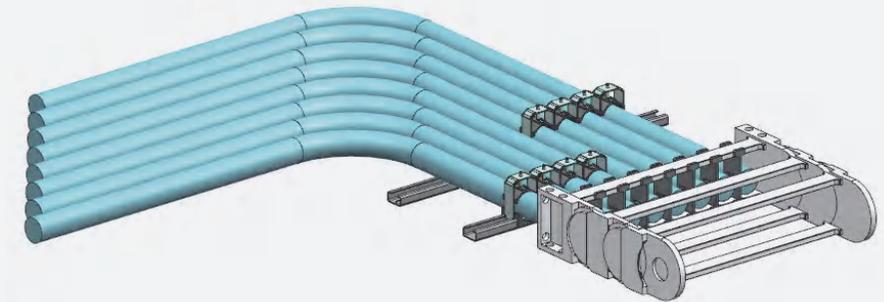
### Double-layer Cable Clamp Black

Specification Type	Outer diameter range (mm)	Outer width (mm)	Outer height (mm)
ZFX12.2	6-12	16	69
ZFX14.2	12-14	18	71
ZFX16.2	14-16	20	75
ZFX18.2	16-18	22	79
ZFX20.2	18-20	24	83
ZFX22.2	20-22	26	87
ZFX26.2	22-26	30	105
ZFX30.2	26-30	34	113
ZFX34.2	30-34	38	121

## Separator



Energy chain body	Separator	Locking Type Separator
ZF2500series	ZF25.1	
ZF2580series		
ZFG2500series	ZF25.1	
YFM3500series	YF35.1	
YFM3580series	YF35.1	
YFM4200series	YF42.1	YF42.2
YFM4280series	YF42.1	
YFM5600series	YF56.1	YF56.2
YFM5680series	YF56.1	
ZF8000series	ZF80.1	ZF80.2
ZF8080series	ZF80.1	





# Steel Chain



ZF-TL180 application on metallurgical trolley



ZF-TLP100 application on small planer type machines

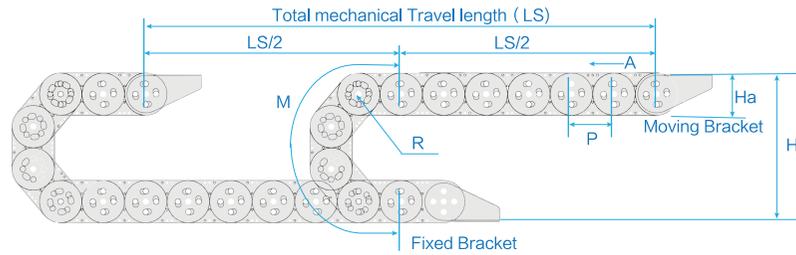
ZF-TLS180 application in deep hole drilling long shafts

Specification	Pitch [mm]	Inner height * outer height [mm]	Width range [mm]	Bending radius [mm]	Open type	Page number
ZF-TL50	50	18*35	30~400	50, 200	Open-type	274
ZF-TL65	65	25*44	50~400	60, 75, 90, 115, 150, 185	Open-type	278
ZF-TL75	75	30*50	50~400	75, 100, 125, 150, 200, 250	Open-type /enclosed-type	282
ZF-TL80	80	35*55	50~400	75, 100, 150, 200, 250	Open-type	286
ZF-TL95	95	50*70	60~400	100, 115, 145, 200, 250, 300	Open-type	290
ZF-TL100	100	50*75	60~400	150, 200, 250, 300, 350	Open-type /enclosed-type	294
ZF-TL115	115	60*86	60~400	150, 200, 250, 300, 350, 400	Open-type	298
ZF-TL125	125	70*100	80~400	150, 200, 250, 300, 350, 400	Open-type /enclosed-type	302
ZF-TL155	155	90*120	90~400	200, 250, 300, 350, 400, 450, 500	Open-type	306
ZF-TL175	175	110*150	100~700	250, 300, 350, 400, 450, 500, 550, 600	Open-type /enclosed-type	310
ZF-TL180	180	110*144	100~1200	200, 250, 300, 350, 400, 450, 500, 550	Open-type	314
ZF-TL225	225	170*200	100~1200	250, 300, 350, 400, 450, 500, 550, 600	Open-type	318
ZF-TL250	250	190*220	100~1200	250, 300, 350, 400, 450, 500, 550, 600	Open-type	322

# ZF-TL50 Series

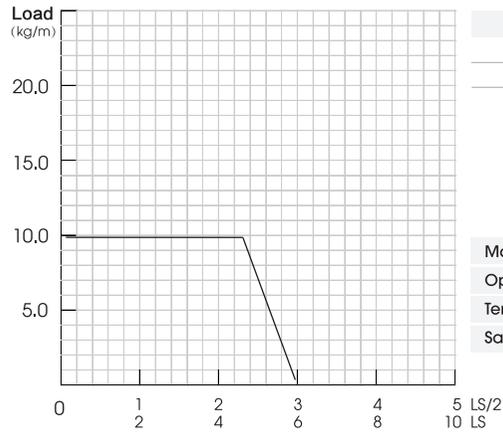
## | Installation Dimensions and Technical Parameters

Length calculation  $L=LS/2+M$



Long distance unsupported application | Sliding application

Type	Pitch P [mm]	Bending radius [mm]	Range of energy chain width [mm]	Inner height of energy chain [mm]	Outer height of energy chain [mm]	Maximum aperture of A-type structure	Allowable unsupported height (without supporting wheels) [m]	Type
ZF-TL50	50	50, 200	35 — 400	18	35	-	3	Galvanized steel open-type
ZF-TL50S	50	50, 200	35 — 400	18	35	-	3	Stainless steel open-type



- Material | stainless steel, galvanized steel
- Operating speed | 1m/sec
- Temperature range | depending on the material
- Safe installation height | H+15

### Ordering Example | Entire Energy Chain

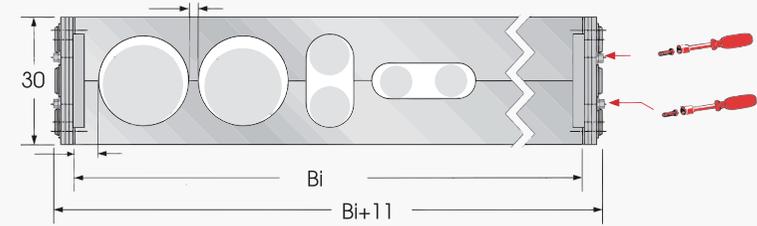
ZF-TL50 W150 R50 2800L 7pcs A4

Type	Outer width of energy chain	Bending radius	Length of energy chain	Separator	Installation type of mounting bracket
ZF-TL50	W150	R50	2800L	7pcs	A4

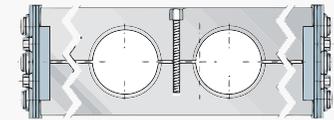
# ZF-TL50 Series

## | Installation Dimensions and Technical Parameters

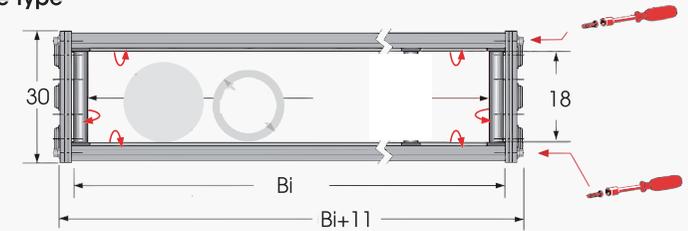
A type of internal structure of the energy chain: separable hole type for upper and lower parts



Installation type

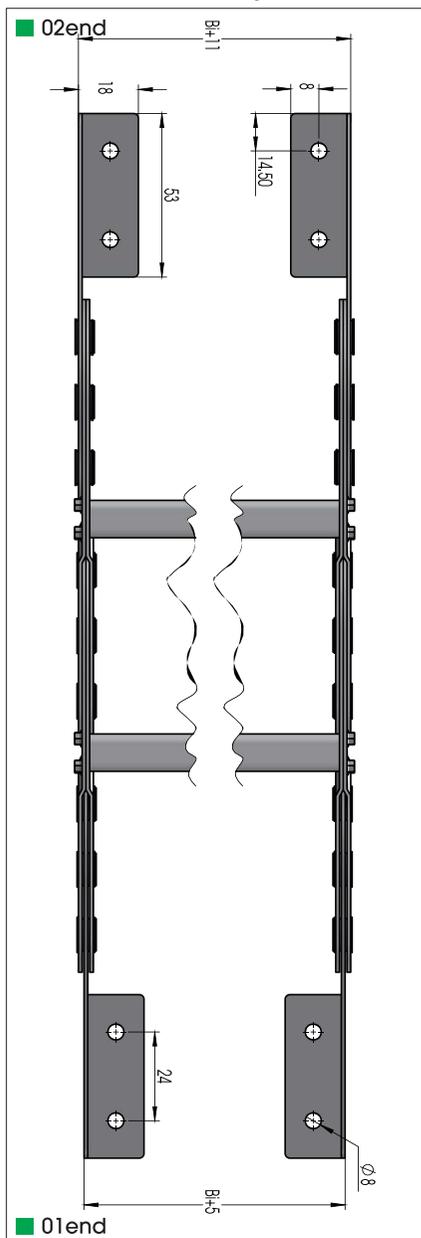


B type of internal structure of the energy chain: separator frame type

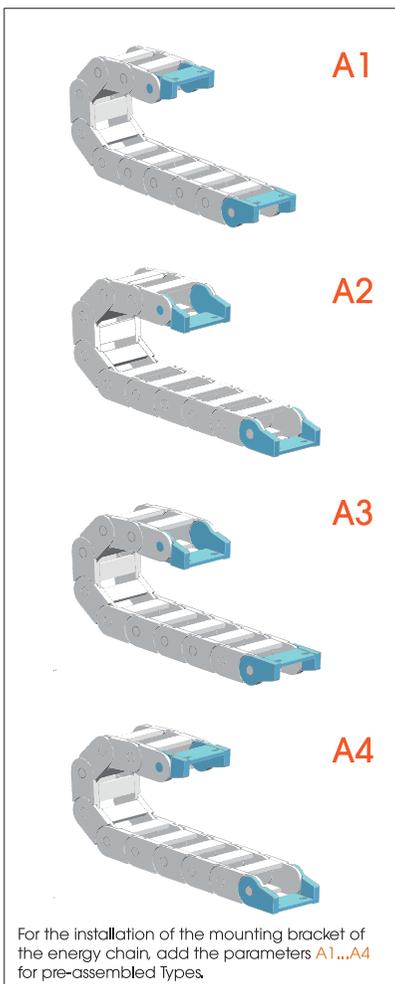


ZF-TL50 reverse bending application

Customization can be made according to customer requirements. Please consult with ZHEF sales engineers for details.

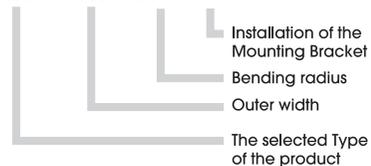


■ Mounting Bracket Installation type



Product Type

ZF-TL50 W150 R50 A4

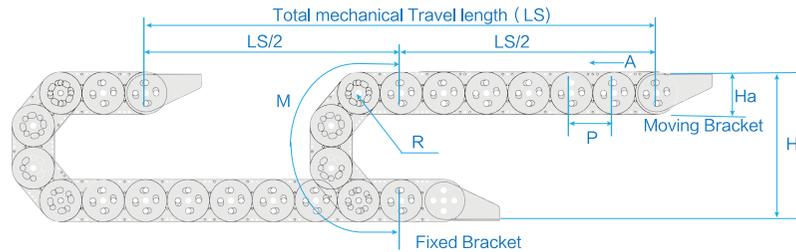


ZF-TL50 series is used for logistics handling equipment

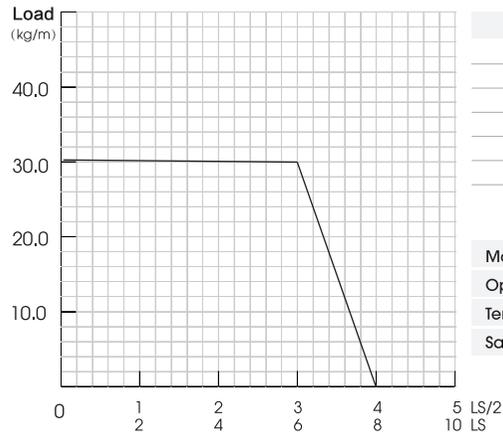
# ZF-TL65 Series

## I Installation Dimensions and Technical Parameters

Length calculation  $L=LS/2+M$



Type	Pitch P [mm]	Bending radius [mm]	Range of energy chain width [mm]	Inner height of energy chain [H]	Outer height of energy chain [HA]	Maximum aperture of A-type structure	Allowable unsupported height (without supporting wheels) [m]	Type
ZF-TL65	65	60, 75, 90, 115, 150, 185	50 — 400	25	44	25	4	Galvanized steel open-type
ZF-TLS65	65	60, 75, 90, 115, 150, 185	50 — 400	25	44	25	4	Stainless steel open-type



Material | stainless steel, galvanized steel  
 Operating speed | 1m/sec  
 Temperature range | depending on the material  
 Safe installation height | H+30

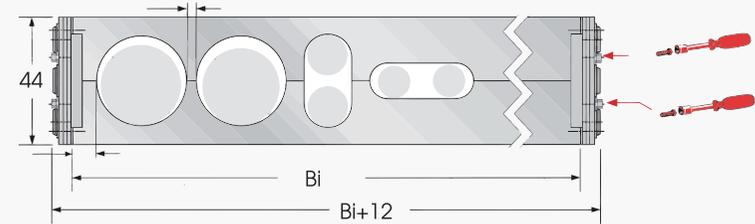
### Ordering Example | Entire Energy Chain

ZF-TL65	W150	R75	2800L	7pcs	A4
Type	Outer width of energy chain	Bending radius	Length of energy chain	Separator	Installation type of mounting bracket

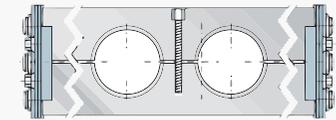
# ZF-TL65 Series

## I Installation Dimensions and Technical Parameters

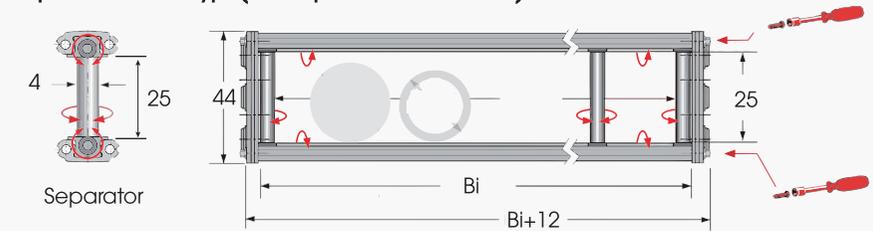
A type of internal structure of the energy chain: separable hole type for upper and lower parts



Installation type

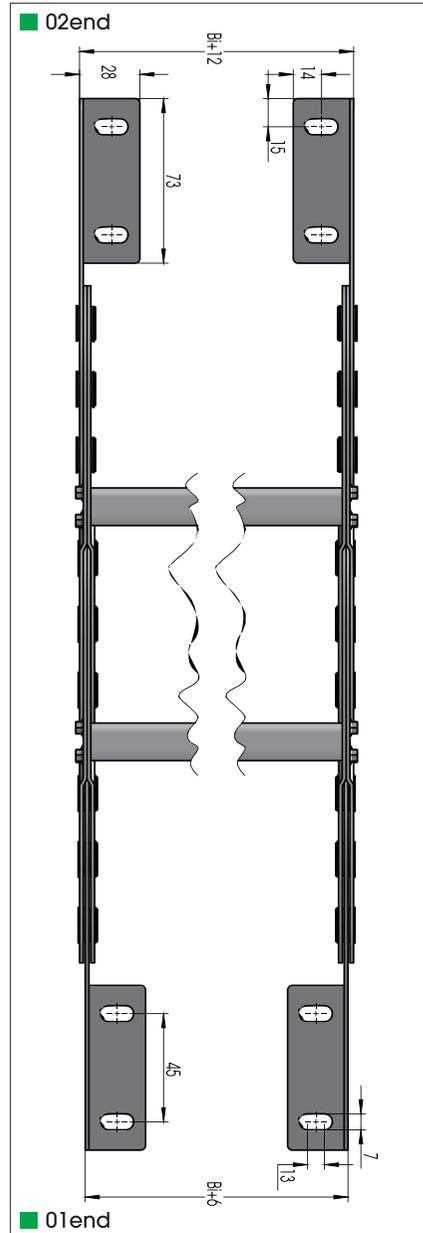


B type of internal structure of the energy chain: separator frame type (the separator is movable)

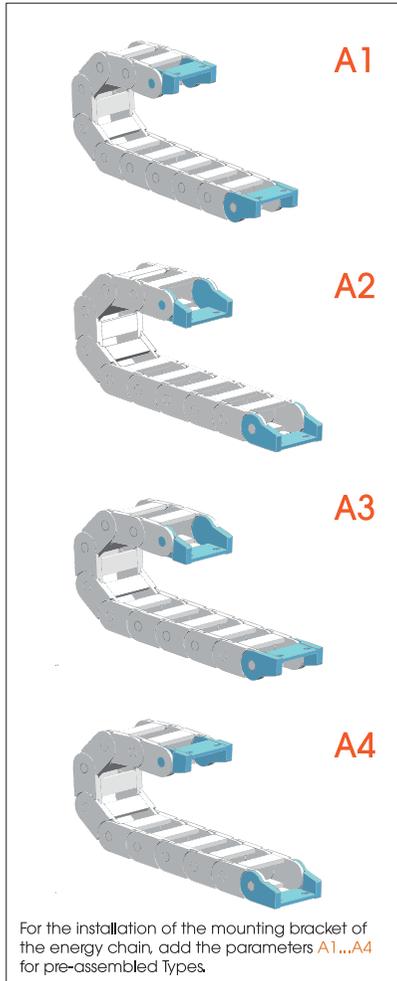


ZF-TL65 Series Steel energy chains are used on material handling equipment

Customization can be made according to customer requirements. Please consult with ZHEF sales engineers for details.

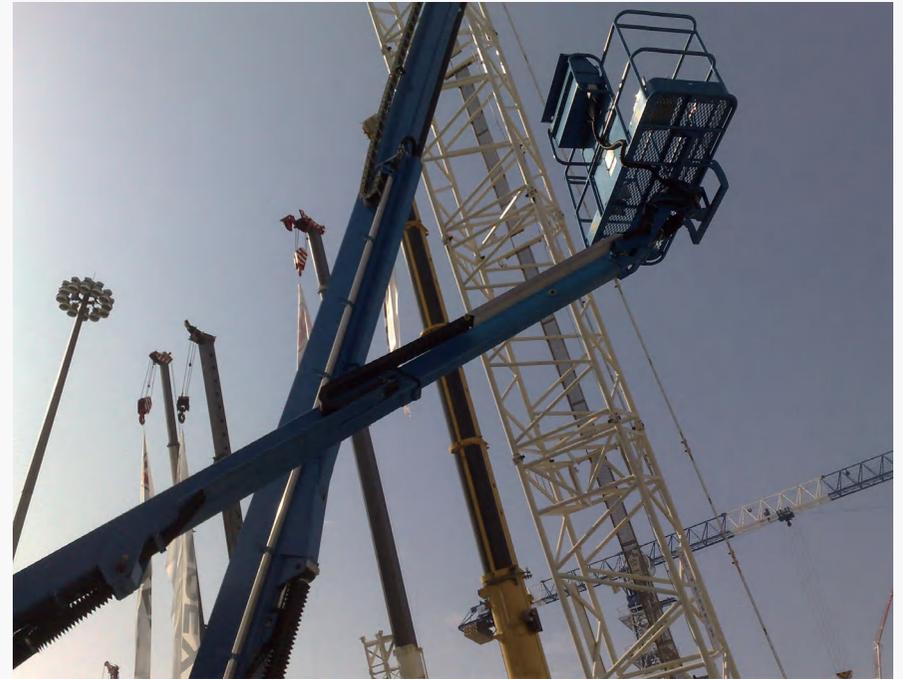
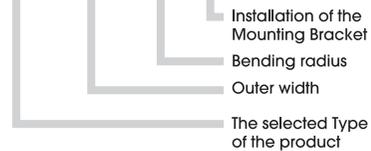


■ Mounting Bracket Installation type



Product Type

ZF-TL65 W150 R75 A4

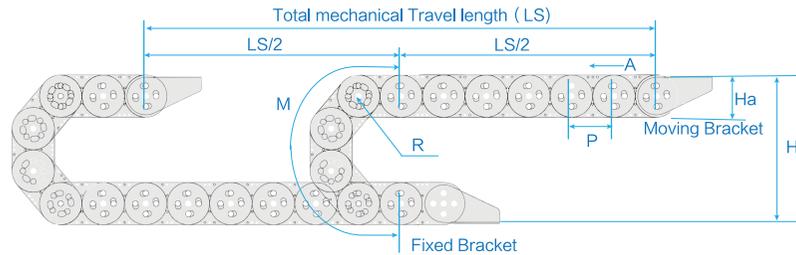


ZF-TL65 series steel energy carrier for aerial work vehicles

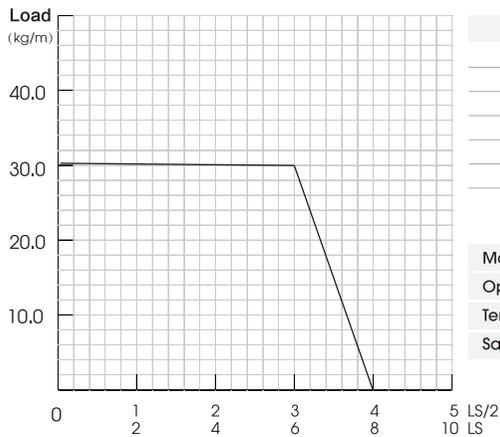
# ZF-TL75 Series

## | Installation Dimensions and Technical Parameters

Length calculation  $L=LS/2+M$



Type	Pitch P [mm]	Bending radius [mm]	Range of energy chain width [mm]	Inner height of energy chain [Hi]	Outer height of energy chain [HA]	Maximum aperture of A-type structure	Allowable unsupported height (without supporting wheels)	Type
ZF-TL75	75	75, 100, 125, 150, 200, 250	50 — 400	30	50	30	4	Galvanized steel open-type
ZF-TLP75	75	100, 125, 150, 200, 250	50 — 400	30	50	30	4	Galvanized steel fully enclosed type
ZF-TLS75	75	75, 100, 125, 150, 200, 250	50 — 400	30	50	30	4	Stainless steel open-type
ZF-TLPS75	75	100, 125, 150, 200, 250	50 — 400	30	50	30	4	Stainless steel fully enclosed type



R mm	H mm	M mm
75	200	386
100	250	464
125	300	543
150	350	621
200	450	778
250	550	935

Material | stainless steel, galvanized steel  
 Operating speed | 1m/sec  
 Temperature range | depending on the material  
 Safe installation height | H+49

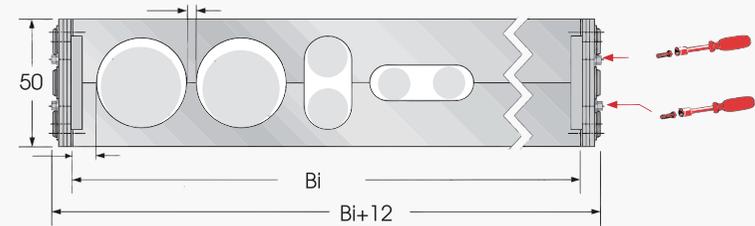
### Ordering Example | Entire Energy Chain

ZF-TL75	W150	R145	2800L	7pcs	A4
Type	Outer width of energy chain	Bending radius	Length of energy chain	Separator	Installation type of mounting bracket

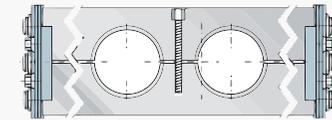
# ZF-TL75 Series

## | Installation Dimensions and Technical Parameters

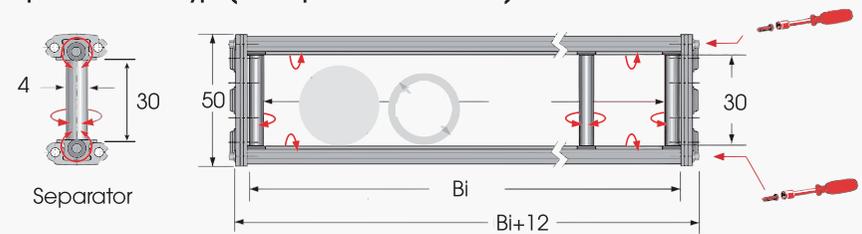
A type of internal structure of the energy chain: separable hole type for upper and lower parts



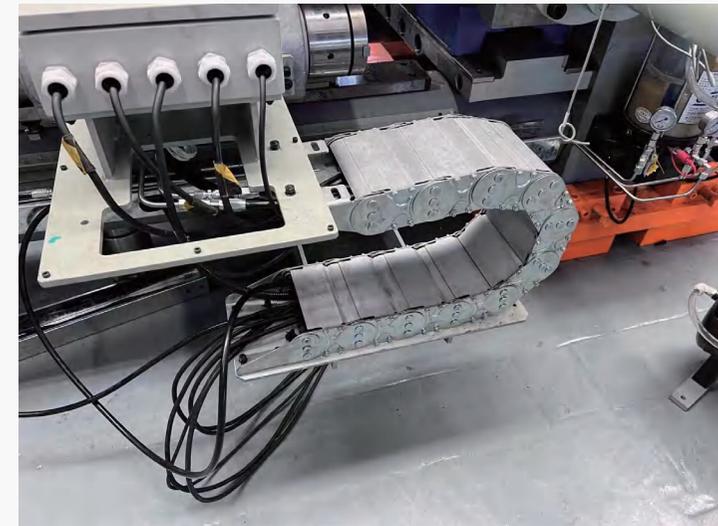
Installation type



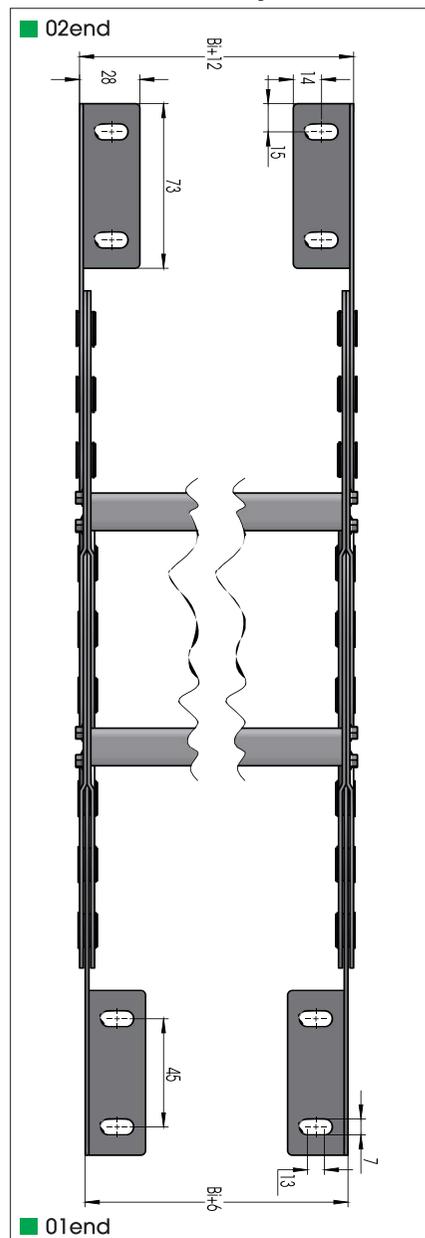
B type of internal structure of the energy chain: separator frame type (the separator is movable)



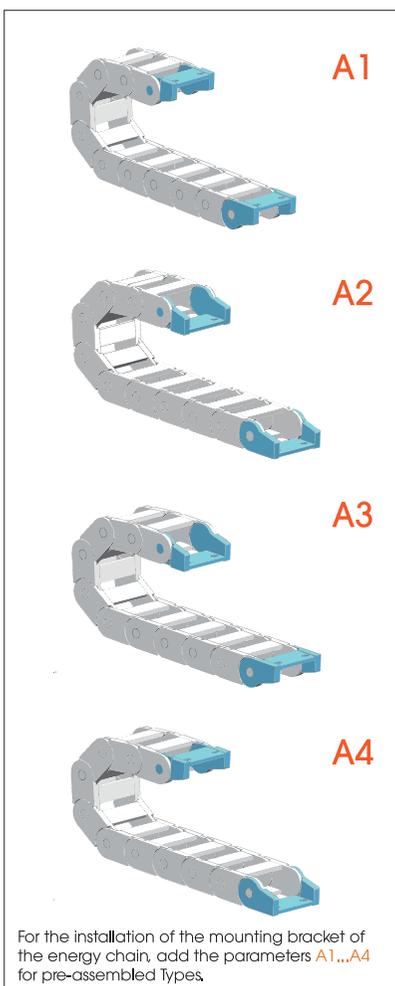
Separator



Customization can be made according to customer requirements. Please consult with ZHEF sales engineers for details.

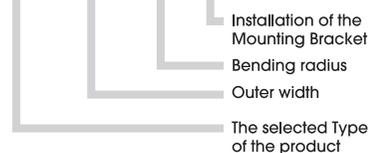


■ Mounting Bracket Installation type



**Product Type**

ZF-TL75 W150 R145 A4

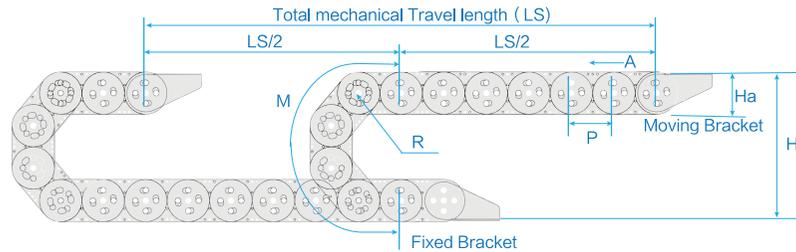


ZF-TL75 series steel energy carrier for vulcanizing machines

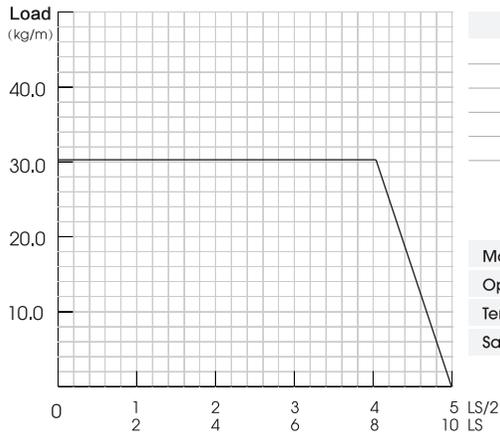
# ZF-TL80 Series

## | Installation Dimensions and Technical Parameters

Length calculation  $L=LS/2+M$



Type	Pitch P [mm]	Bending radius [mm]	Range of energy chain width [mm]	Inner height of energy chain [H]	Outer height of energy chain [HA]	Maximum aperture of A-type structure	Allowable unsupported height (without supporting wheels) [m]	Type
ZF-TL80	80	75, 100, 150, 200, 250	100 — 400	35	55	35	5	Galvanized steel open-type
ZF-TLS80	80	75, 100, 150, 200, 250	100 — 400	35	55	35	5	Stainless steel open-type



- Material | stainless steel, galvanized steel
- Operating speed | 1m/sec
- Temperature range | depending on the material
- Safe installation height | H+49

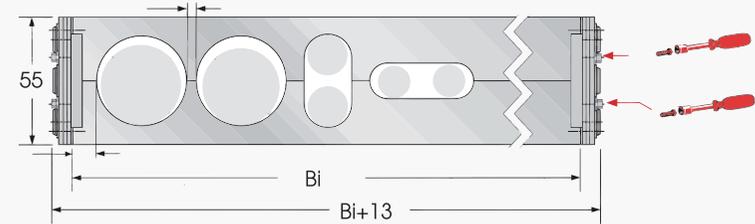
### Ordering Example | Entire Energy Chain

ZF-TL80	W150	R150	2800L	7pcs	A4
Type	Outer width of energy chain	Bending radius	Length of energy chain	Separator	Installation type of mounting bracket

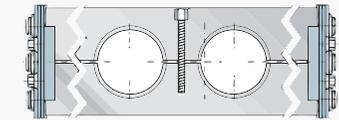
# ZF-TL80 Series

## | Installation Dimensions and Technical Parameters

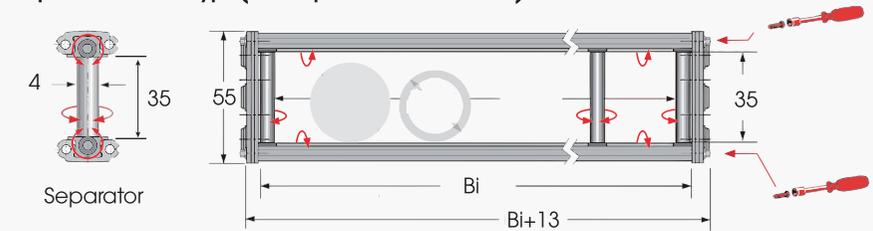
A type of internal structure of the energy chain: separable hole type for upper and lower parts



Installation type

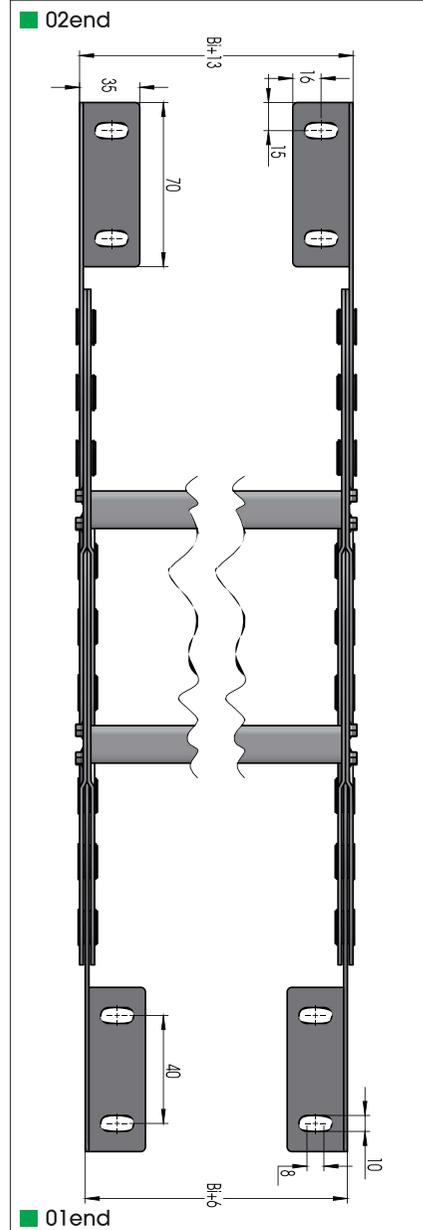


B type of internal structure of the energy chain: separator frame type (the separator is movable)

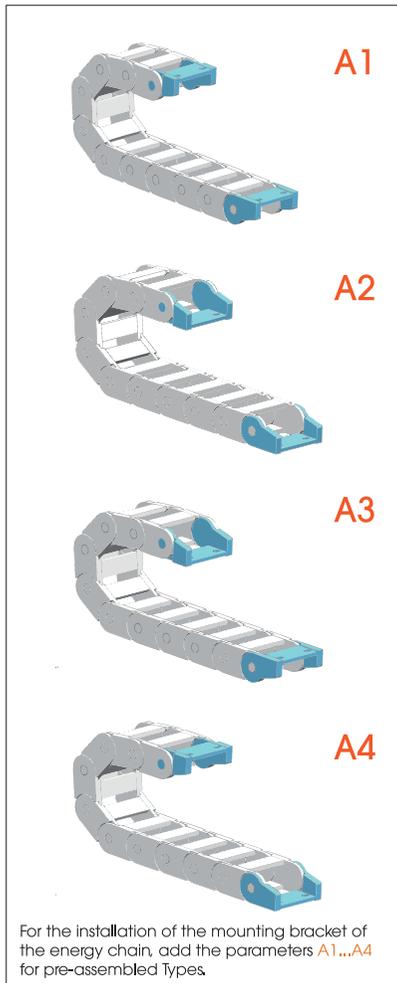


Separator

Customization can be made according to customer requirements. Please consult with ZHEF sales engineers for details.

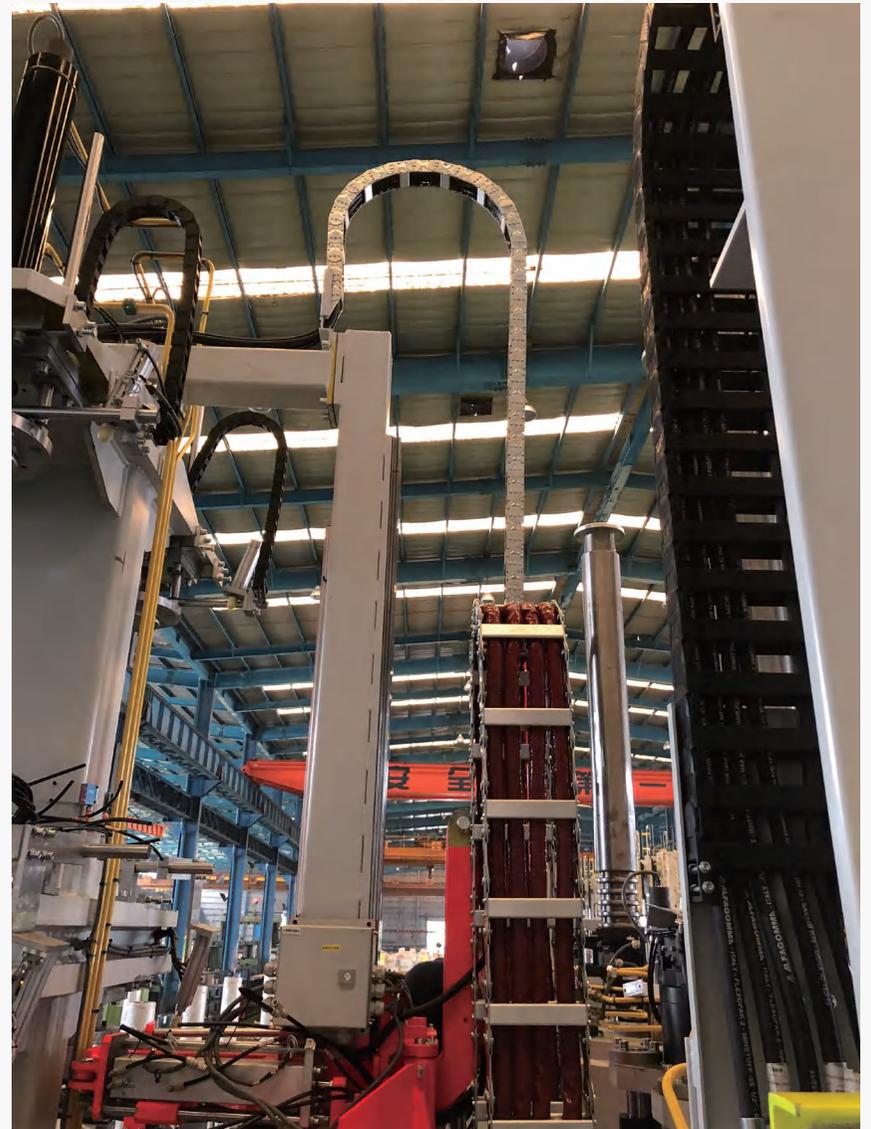
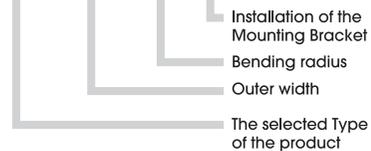


■ Mounting Bracket Installation type



Product Type

ZF-TL80 W150 R150 A4

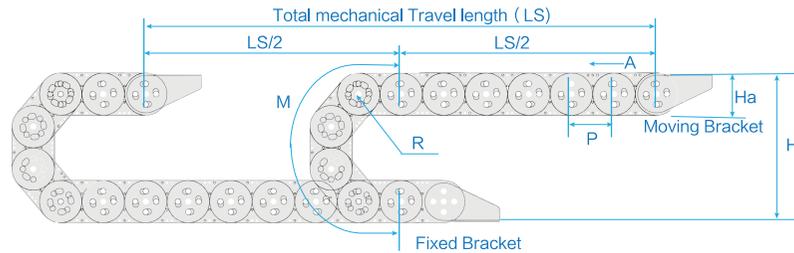


ZF-TL80 series energy carrier for tire equipments

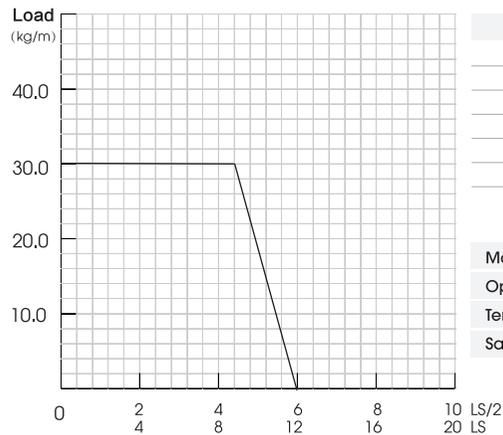
# ZF-TL95 Series

## | Installation Dimensions and Technical Parameters

Length calculation  $L=LS/2+M$



Type	Pitch P [mm]	Bending radius [mm]	Range of energy chain width [mm]	Inner height of energy chain [H]	Outer height of energy chain [HA]	Maximum aperture of A-type structure	Allowable unsupported height (without supporting wheels) [m]	Type
ZF-TL95	95	100, 115, 145, 200, 250, 300	60 — 400	50	70	50	6	Galvanized steel open-type
ZF-TLS95	95	100, 115, 145, 200, 250, 300	60 — 400	50	70	50	6	Stainless steel open-type



Material | stainless steel, galvanized steel  
 Operating speed | 1m/sec  
 Temperature range | depending on the material  
 Safe installation height | H+70

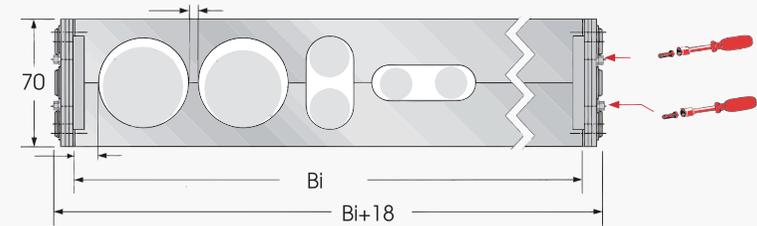
### Ordering Example | Entire Energy Chain

ZF-TL95	W150	R145	2800L	7pcs	A4
Type	Outer width of energy chain	Bending radius	Length of energy chain	Separator	Installation type of mounting bracket

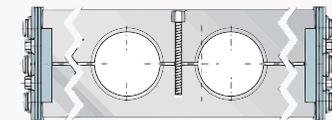
# ZF-TL95 Series

## | Installation Dimensions and Technical Parameters

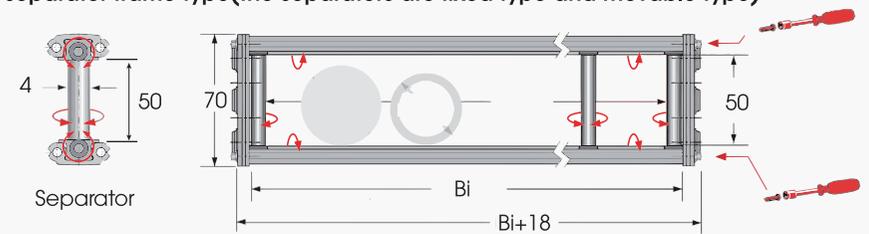
A type of internal structure of the energy chain: separable hole type for upper and lower parts



Installation type

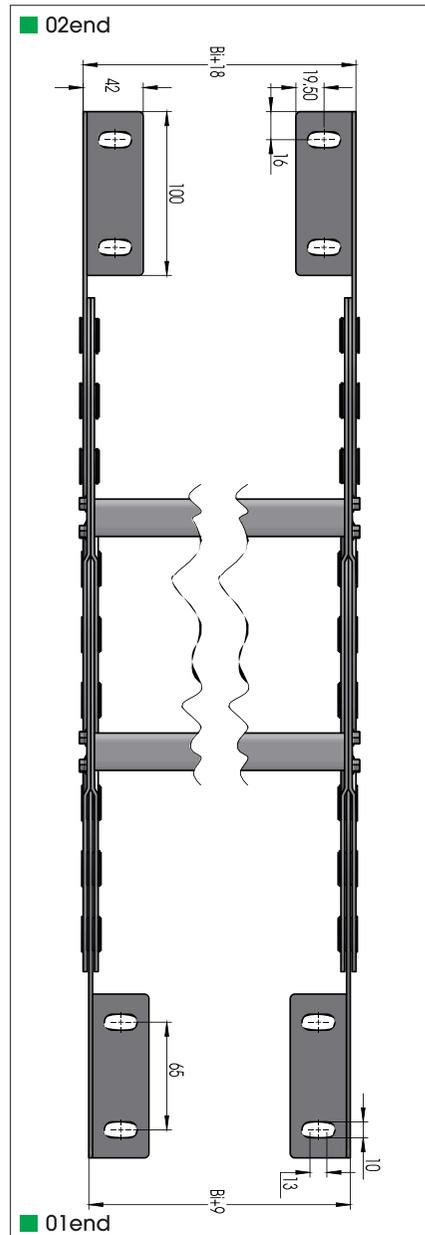


B type of internal structure of the energy chain: separator frame type (the separators are fixed type and movable type)

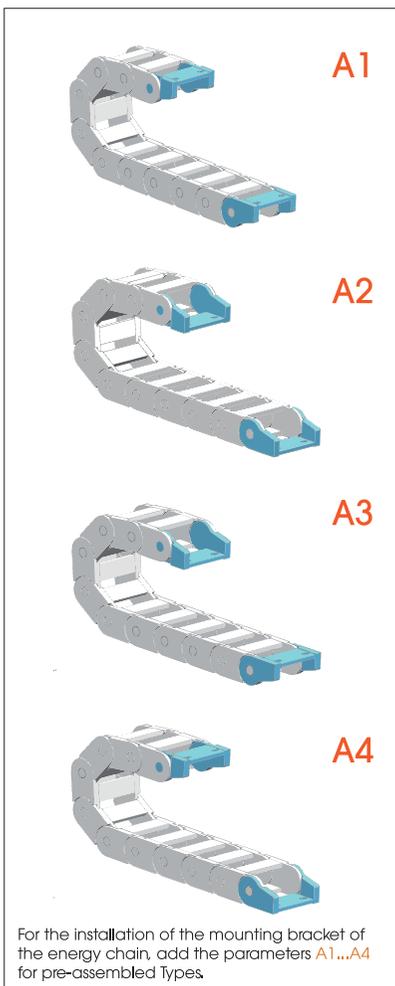


ZF-TL95 冶金厂用钢制拖链

Customization can be made according to customer requirements. Please consult with ZHEF sales engineers for details.

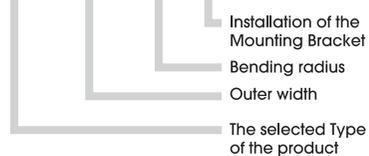


■ Mounting Bracket Installation type



Product Type

ZF-TL95 W150 R145 A4

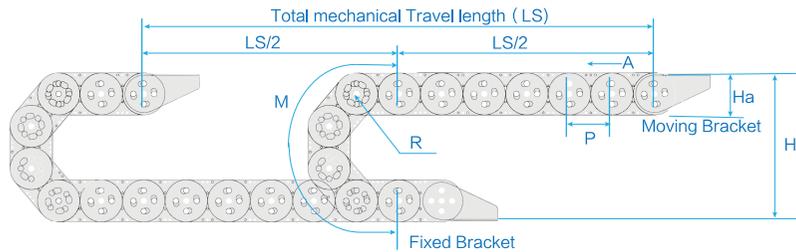


ZF-TL95 Series Steel energy chain used on tire curing presses

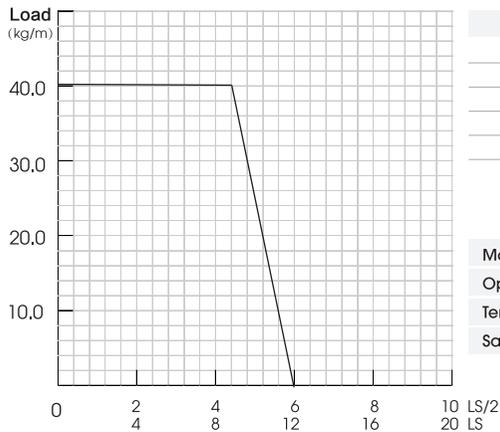
# ZF-TL100 Series

## | Installation Dimensions and Technical Parameters

Length calculation  $L=LS/2+M$



Type	Pitch P [mm]	Bending radius [mm]	Range of energy chain width [mm]	Inner height of energy chain [H]	Outer height of energy chain [HA]	Maximum aperture of A-type structure	Allowable unsupported height (without supporting wheels) [m]	Type
ZF-TL100	100	150, 200, 250, 300, 350	60 — 400	50	75	50	6	Galvanized steel open-type
ZF-TLP100	100	150, 200, 250, 300, 350	60 — 400	50	75	50	6	Galvanized steel fully enclosed type
ZF-TLS100	100	150, 200, 250, 300, 350	60 — 400	50	75	50	6	Stainless steel open-type
ZF-TLPS100	100	150, 200, 250, 300, 350	60 — 400	50	75	50	6	Stainless steel fully enclosed type



R mm	H mm	M mm
150	375	671
200	475	828
250	575	985
300	675	1142
350	775	1299

Material | stainless steel, galvanized steel  
 Operating speed | 1m/sec  
 Temperature range | depending on the material  
 Safe installation height | H+70

### Ordering Example | Entire Energy Chain

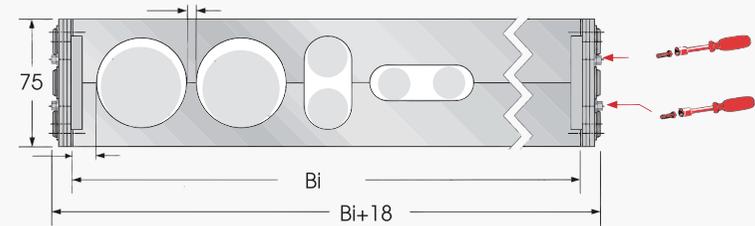
ZF-TL100 W150 R150 2800L 7pcs A4

Type	Outer width of energy chain	Bending radius	Length of energy chain	Separator	Installation type of mounting bracket
ZF-TL100	W150	R150	2800L	7pcs	A4

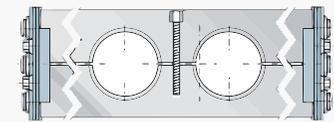
# ZF-TL100 Series

## | Installation Dimensions and Technical Parameters

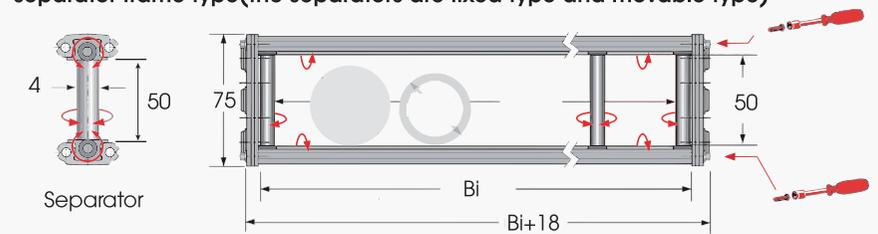
A type of internal structure of the energy chain: separable hole type for upper and lower parts



Installation type

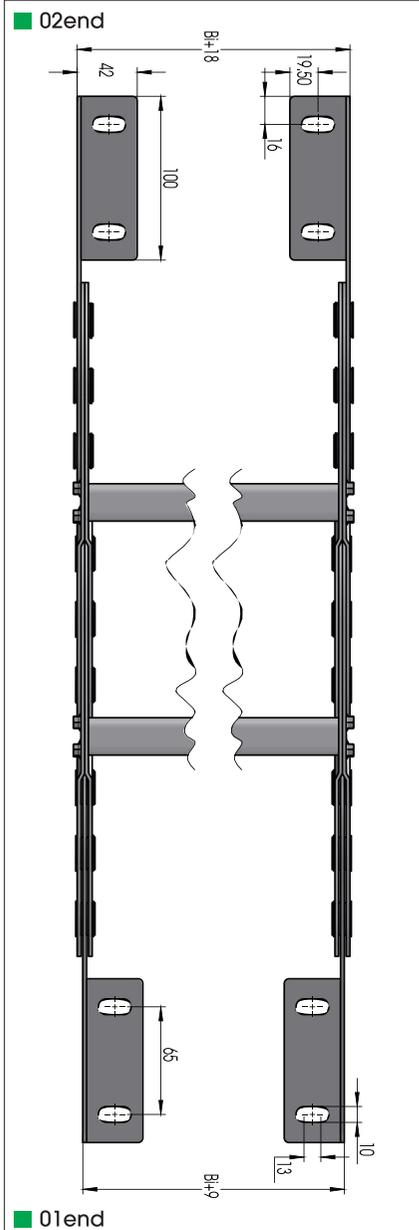


B type of internal structure of the energy chain: separator frame type (the separators are fixed type and movable type)

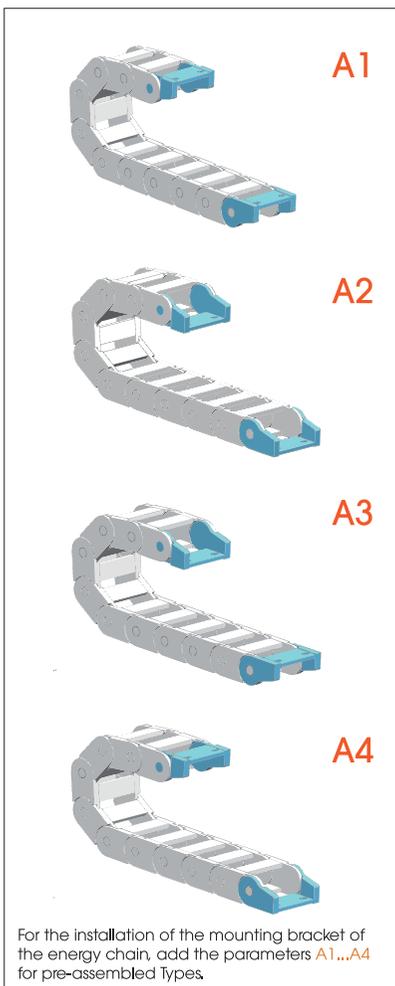


Separator

Customization can be made according to customer requirements. Please consult with ZHEF sales engineers for details.

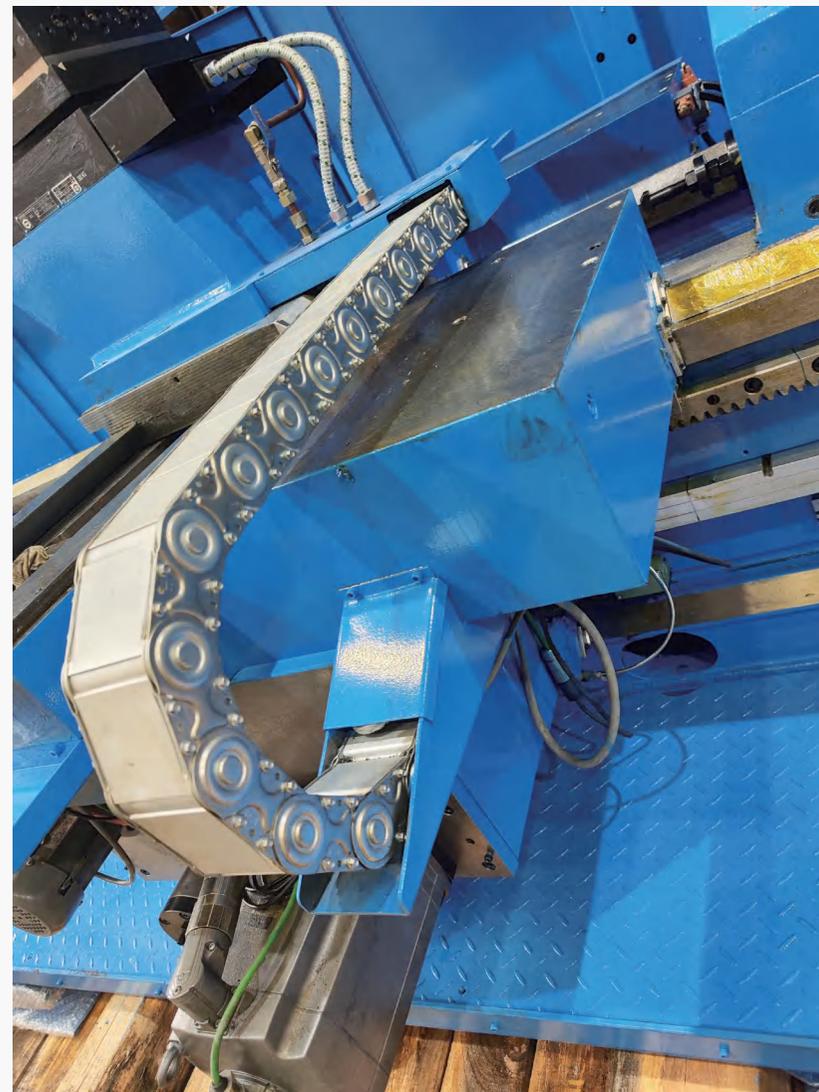
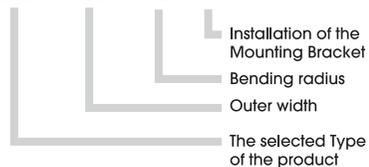


■ Mounting Bracket Installation type



**Product Type**

ZF-TL95 W150 R145 A4

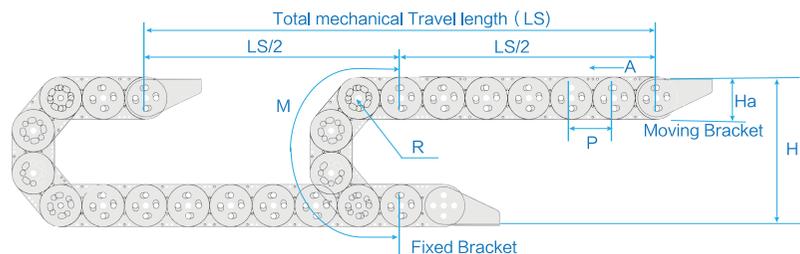


ZF-TL100 Series Application of CNC

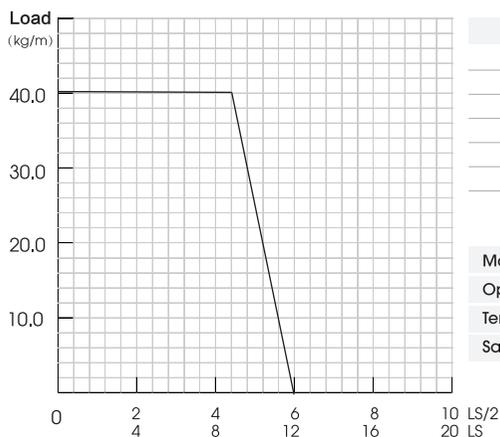
# ZF-TL115 Series

## | Installation Dimensions and Technical Parameters

Length calculation  $L=LS/2+M$



Type	Pitch P [mm]	Bending radius [mm]	Range of energy chain width [mm]	Inner height of energy chain [Hi]	Outer height of energy chain [H]	Maximum aperture of A-type structure	Allowable unsupported height (without supporting wheels) [m]	Type
ZF-TL115	115	150, 200, 250, 300, 350, 400	60 — 400	60	86	60	6	Galvanized steel open-type
ZF-TLS115	115	150, 200, 250, 300, 350, 400	60 — 400	60	86	60	6	Stainless steel fully open type



R mm	H mm	M mm
150	386	701
200	486	915
250	586	1015
300	686	1172
350	786	1329
400	886	1486

Material | stainless steel, galvanized steel  
 Operating speed | 1m/sec  
 Temperature range | depending on the material  
 Safe installation height | H+70

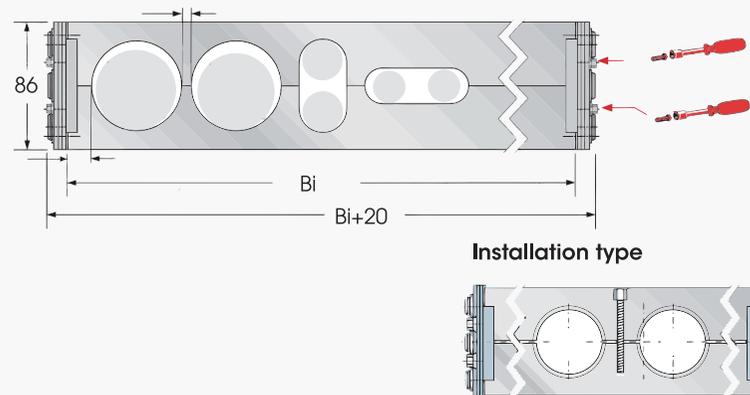
### Ordering Example | Entire Energy Chain

ZF-TL115	W150	R150	2800L	7pcs	A4
Type	Outer width of energy chain	Bending radius	Length of energy chain	Separator	Installation type of mounting bracket

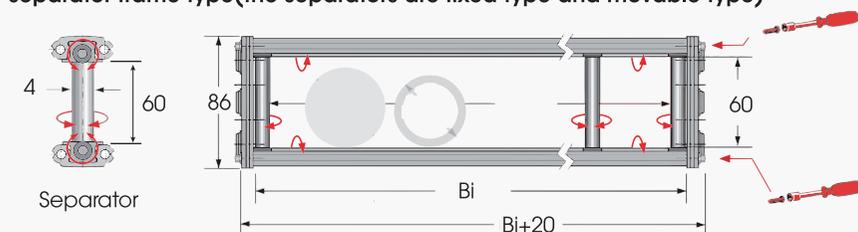
# ZF-TL115 Series

## | Installation Dimensions and Technical Parameters

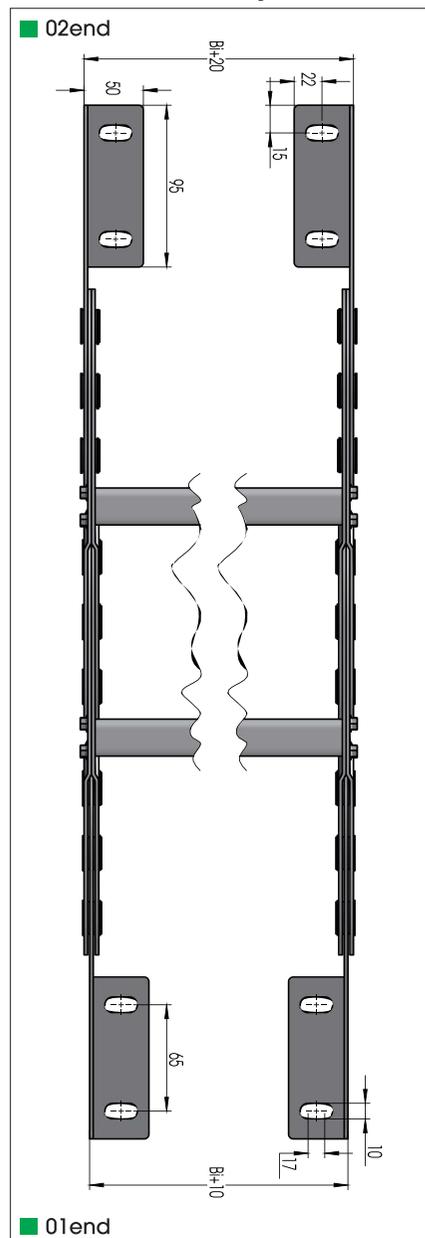
A type of internal structure of the energy chain: separable hole type for upper and lower parts



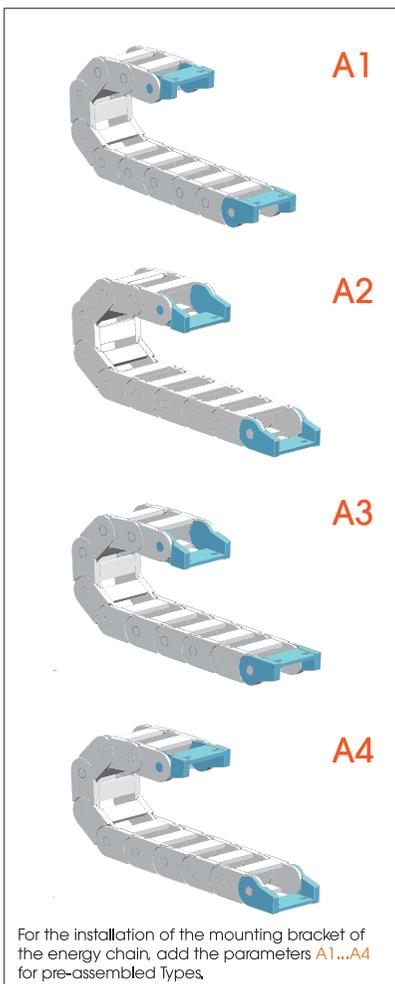
B type of internal structure of the energy chain: separator frame type (the separators are fixed type and movable type)



Customization can be made according to customer requirements. Please consult with ZHEF sales engineers for details.

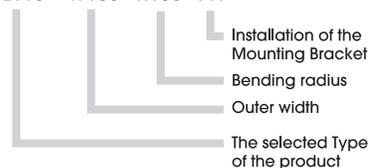


■ Mounting Bracket Installation type



**Product Type**

ZF-TL115 W150 R150 A4

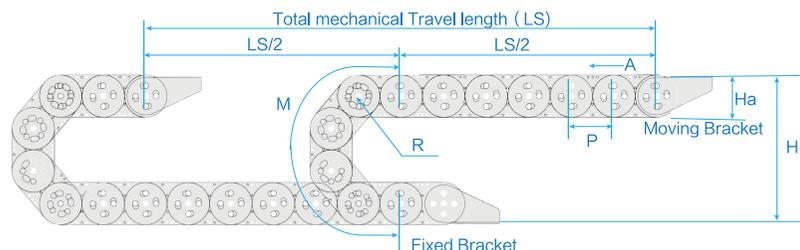


ZF-TL115 Series Application of CNC

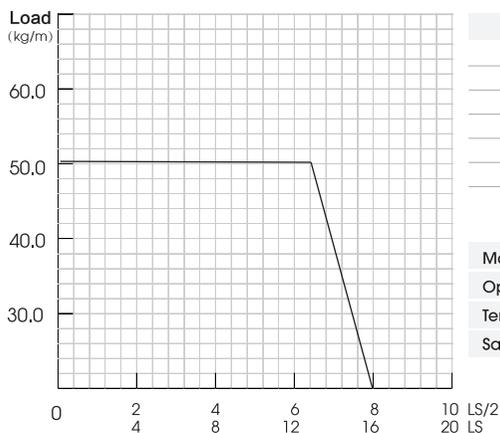
# ZF-TL125 Series

## | Installation Dimensions and Technical Parameters

Length calculation  $L=LS/2+M$



Type	Pitch P [mm]	Bending radius [mm]	Range of energy chain width [mm]	Inner height of energy chain [H <sub>i</sub> ]	Outer height of energy chain [H <sub>o</sub> ]	Maximum aperture of A-type structure	Allowable unsupported height (without supporting wheels) [m]	Type
ZF-TL125	125	150, 200, 250, 300, 350, 400	80 — 400	70	100	70	8	Galvanized steel open-type
ZF-TLP125	125	200, 250, 300, 350, 400	80 — 400	70	100	70	8	Galvanized steel fully enclosed type
ZF-TLS125	125	150, 200, 250, 300, 350, 400	80 — 400	70	100	70	8	Stainless steel open-type
ZF-TLPS125	125	200, 250, 300, 350, 400	80 — 400	70	100	70	8	Stainless steel fully enclosed type



R mm	H mm	M mm
150	400	721
200	500	828
250	600	1035
300	700	1192
350	800	1349
400	900	1506

Material | stainless steel, galvanized steel  
 Operating speed | 1m/sec  
 Temperature range | depending on the material  
 Safe installation height | H+100

### Ordering Example | Entire Energy Chain

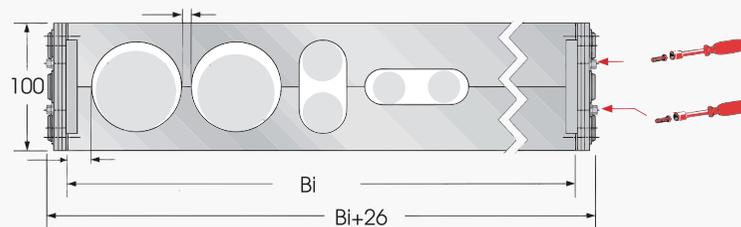
ZF-TL125 W150 R150 2800L 7pcs A4

Type	Outer width of energy chain	Bending radius	Length of energy chain	Separator	Installation type of mounting bracket
ZF-TL125	W150	R150	2800L	7pcs	A4

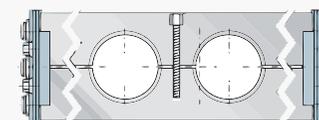
# ZF-TL125 Series

## | Installation Dimensions and Technical Parameters

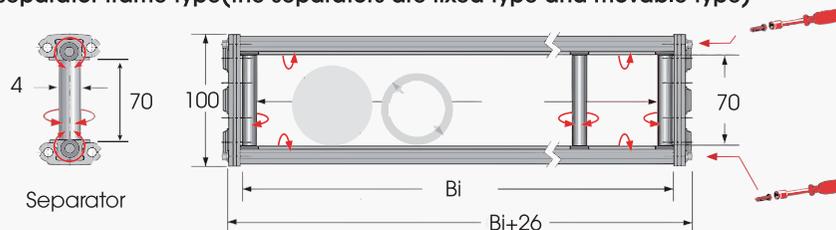
A type of internal structure of the energy chain: separable hole type for upper and lower parts



Installation type

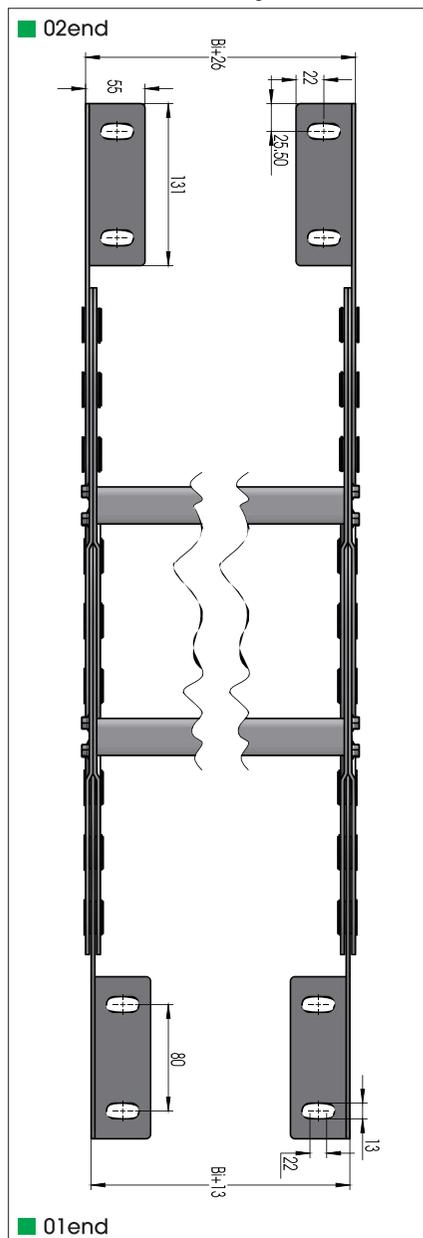


B type of internal structure of the energy chain: separator frame type (the separators are fixed type and movable type)

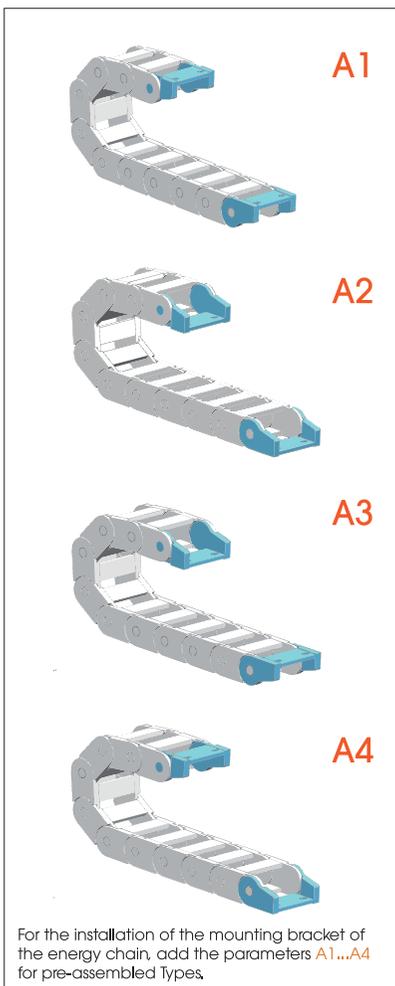


F-TL125 Series Steel energy chains for household appliance production lines

Customization can be made according to customer requirements. Please consult with ZHEF sales engineers for details.

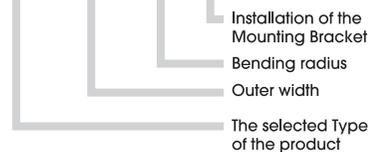


■ Mounting Bracket Installation type



Product Type

ZF-TL125 W150 R150 A4

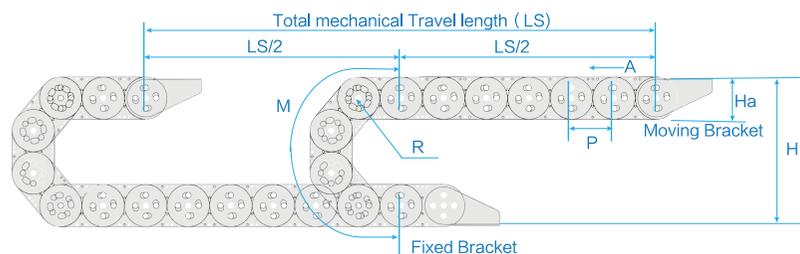


Application of ZF-TL125 in the long axis of heavy duty machine tool

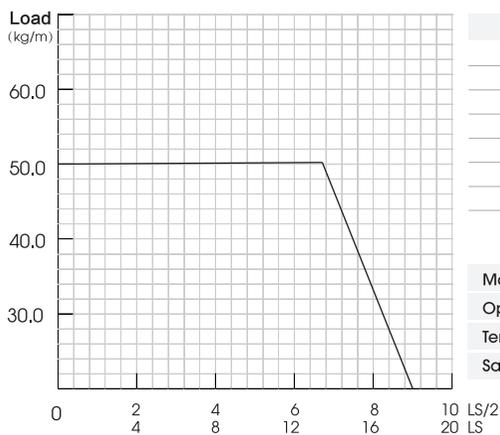
# ZF-TL155 Series

## | Installation Dimensions and Technical Parameters

Length calculation  $L=LS/2+M$



Type	Pitch P [mm]	Bending radius [mm]	Range of energy chain width [mm]	Inner height of energy chain [Hi]	Outer height of energy chain [H <sub>A</sub> ]	Maximum aperture of A-type structure	Allowable unsupported height (without supporting wheels) [m]	Type
ZF-TL155	155	200, 250, 300, 350 400, 450, 500	80 — 400	90	120	90	9	Galvanized steel open-type
ZF-TLS155	155	200, 250, 300, 350 400, 450, 500	80 — 400	90	120	90	9	Stainless steel open-type



R mm	H mm	M mm
200	520	938
250	620	1095
300	720	1250
350	820	1409
400	920	1566
450	1020	1723
500	1120	1880

Material | stainless steel, galvanized steel  
 Operating speed | 1m/sec  
 Temperature range | depending on the material  
 Safe installation height | H+100

### Ordering Example | Entire Energy Chain

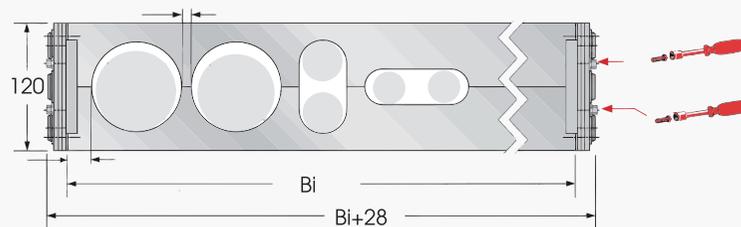
ZF-TL155 W150 R200 2800L 7pcs A4

Type	Outer width of energy chain	Bending radius	Length of energy chain	Separator	Installation type of mounting bracket
ZF-TL155	W150	R200	2800L	7pcs	A4

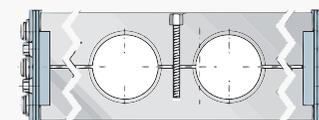
# ZF-TL155 Series

## | Installation Dimensions and Technical Parameters

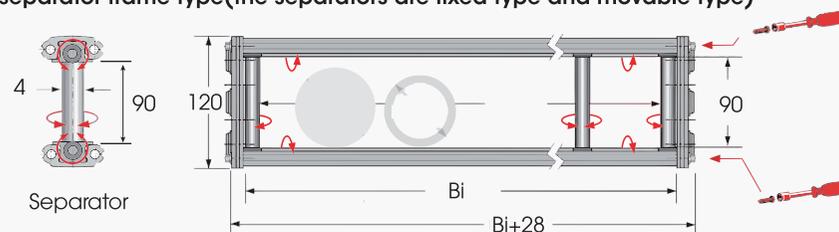
A type of internal structure of the energy chain: separable hole type for upper and lower parts



Installation type

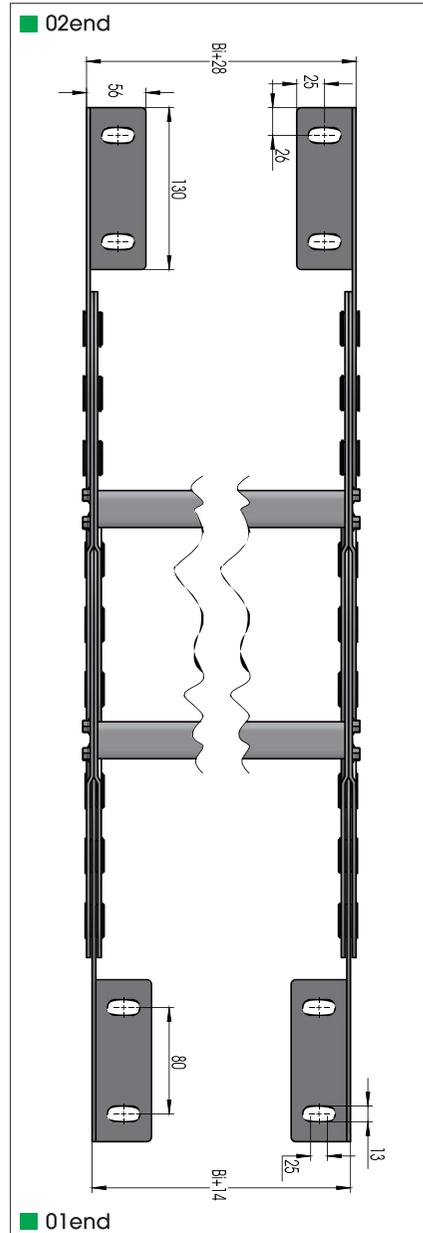


B type of internal structure of the energy chain: separator frame type (the separators are fixed type and movable type)

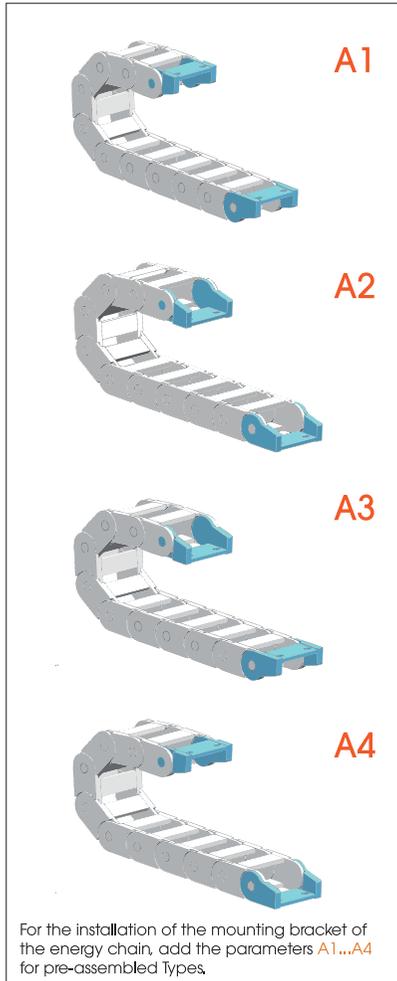


Separator

Customization can be made according to customer requirements. Please consult with ZHEF sales engineers for details.

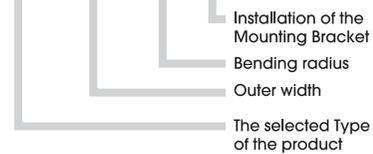


■ Mounting Bracket Installation type



Product Type

ZF-TL155 W150 R200 A4

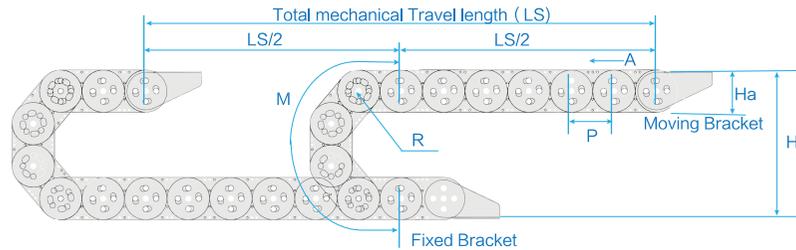


Application of ZF-TL155 in planer type machines

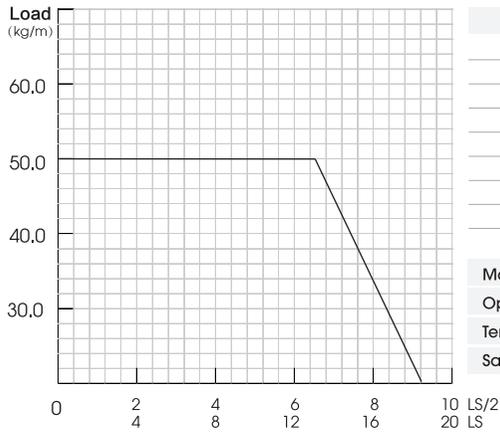
# ZF-TL175 Series

## | Installation Dimensions and Technical Parameters

Length calculation  $L=LS/2+M$



Type	Pitch P [mm]	Bending radius [mm]	Range of energy chain width [mm]	Inner height of energy chain [mm]	Outer height of energy chain [mm]	Maximum aperture of A-type structure	Allowable unsupported height (without supporting wheels) [mm]	Type
TL-175	175	250, 300, 350, 400, 450, 500, 550, 600	100 — 700	110	150	110	9	Galvanized steel open-type
TLP-175	175	250, 300, 350, 400, 450, 500, 550, 600	100 — 700	110	150	110	9	Galvanized steel fully enclosed type
TLS-175	175	250, 300, 350, 400, 450, 500, 550, 600	100 — 700	110	150	110	9	Stainless steel open-type
TLPS-175	175	250, 300, 350, 400, 450, 500, 550, 600	100 — 700	110	150	110	9	Stainless steel fully enclosed type



R mm	H mm	M mm
250	650	1135
300	750	1292
350	850	1449
400	950	1606
450	1050	1763
500	1150	1920
550	1250	2077
600	1350	2234

Material | stainless steel, galvanized steel  
 Operating speed | 1m/sec  
 Temperature range | depending on the material  
 Safe installation height | H+144

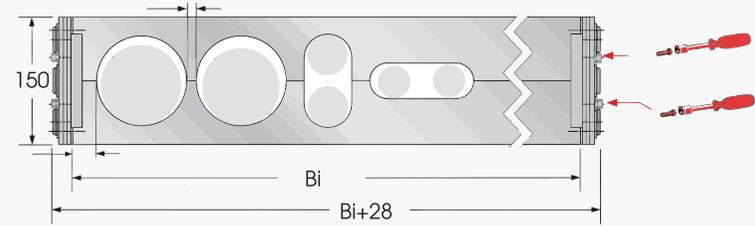
### Ordering Example | Entire Energy Chain

ZF-TL175	W150	R200	2800L	7pcs	A4
Type	Outer width of energy chain	Bending radius	Length of energy chain	Separator	Installation type of mounting bracket

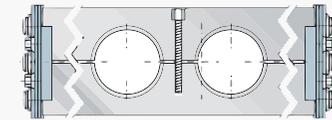
# ZF-TL175 Series

## | Installation Dimensions and Technical Parameters

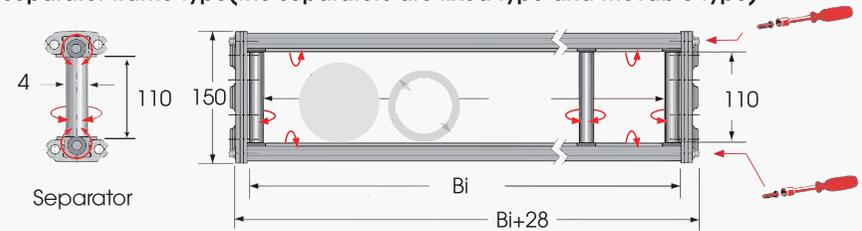
A type of internal structure of the energy chain: separable hole type for upper and lower parts



Installation type

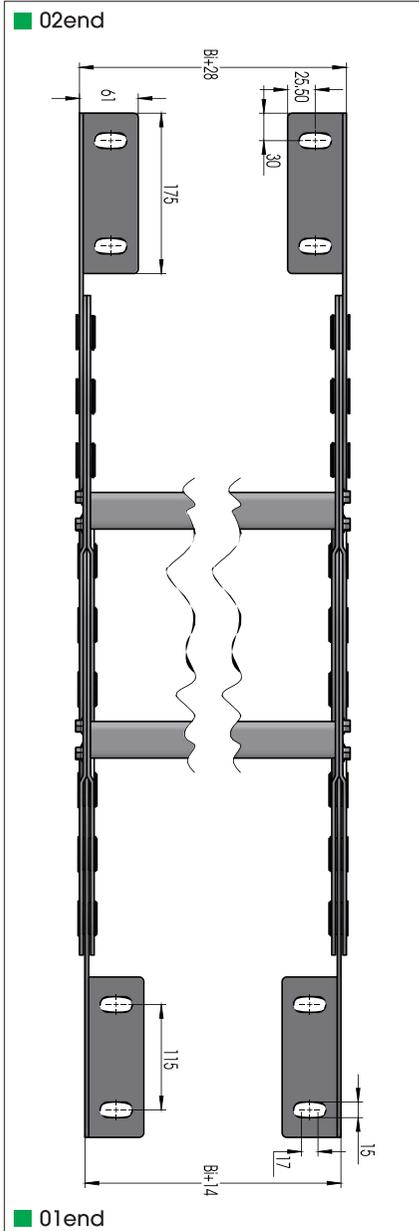


B type of internal structure of the energy chain: separator frame type (the separators are fixed type and movable type)

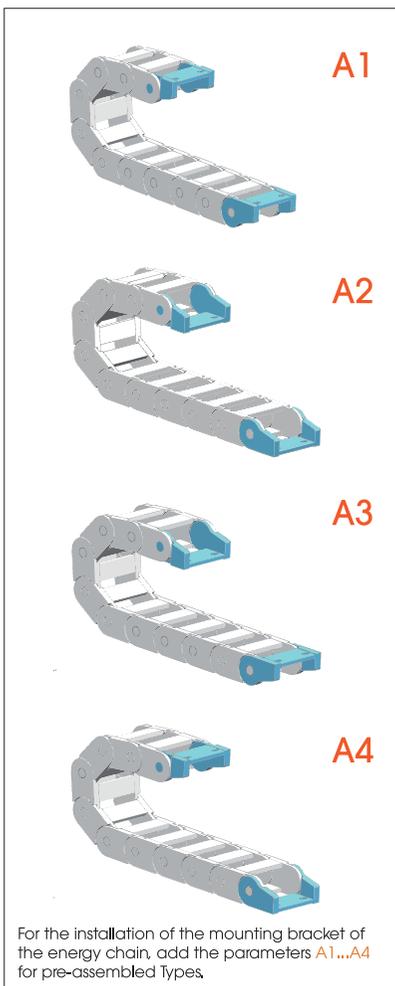


Separator

Customization can be made according to customer requirements. Please consult with ZHEF sales engineers for details.

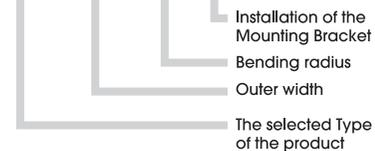


■ Mounting Bracket Installation type



Product Type

ZF-TL175 W150 R250 A4

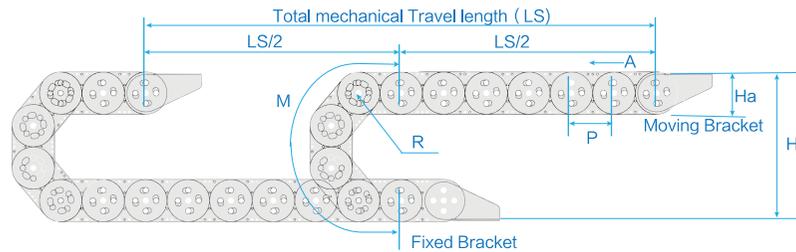


Application of ZF-TL175 in rock bolting jumbo

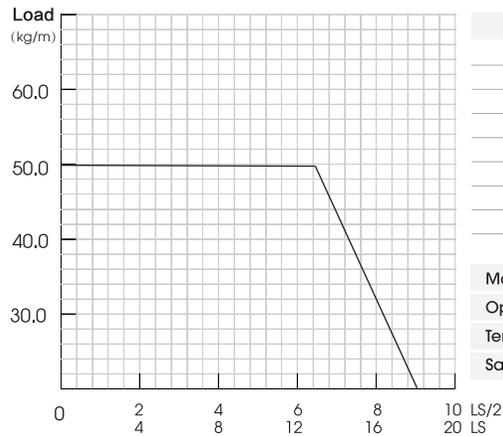
# ZF-TL180 Series

## | Installation Dimensions and Technical Parameters

Length calculation  $L=LS/2+M$



Type	Pitch P [mm]	Bending radius [mm]	Range of energy chain width [mm]	Inner height of energy chain [H]	Outer height of energy chain [H+H <sub>A</sub> ]	Maximum aperture of A-type structure	Allowable unsupported height (without supporting wheels) [m]	Type
ZF-TL180	180	200, 250, 300, 350, 400, 450, 500, 550	100 — 1200	110	144	110	9	Galvanized steel open-type
ZF-TLS180	180	200, 250, 300, 350, 400, 450, 500, 550	100 — 1200	110	144	110	9	Stainless steel open-type



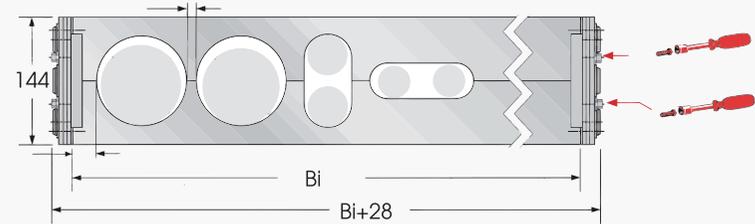
### Ordering Example | Entire Energy Chain

ZF-TL180	W150	R200	2800L	7pcs	A4
Type	Outer width of energy chain	Bending radius	Length of energy chain	Separator	Installation type of mounting bracket

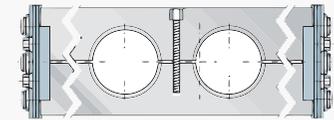
# ZF-TL180 Series

## | Installation Dimensions and Technical Parameters

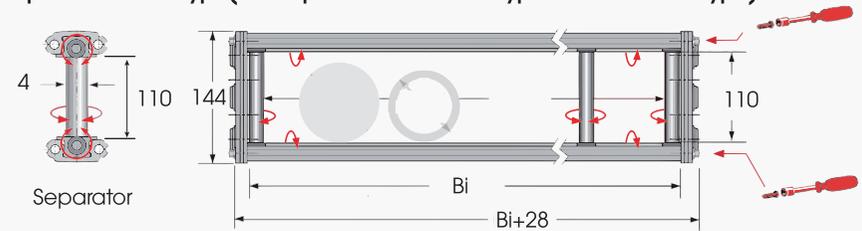
A type of internal structure of the energy chain: separable hole type for upper and lower parts



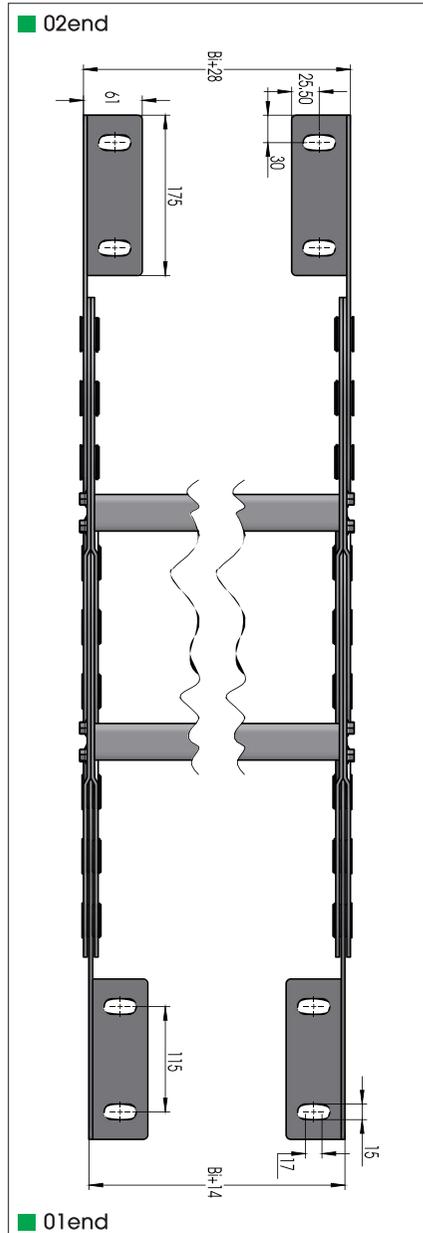
Installation type



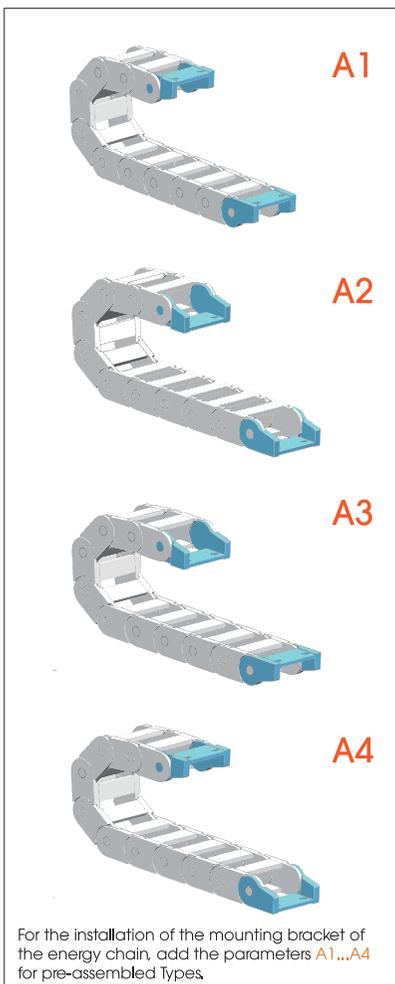
B type of internal structure of the energy chain: separator frame type (the separators are fixed type and movable type)



Customization can be made according to customer requirements. Please consult with ZHEF sales engineers for details.

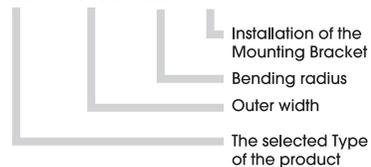


■ Mounting Bracket Installation type



Product Type

ZF-TL180 W150 R200 A4

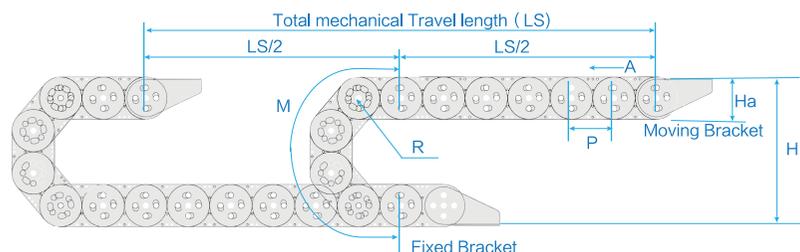


ZF-TL180 in refrigerator foaming Line

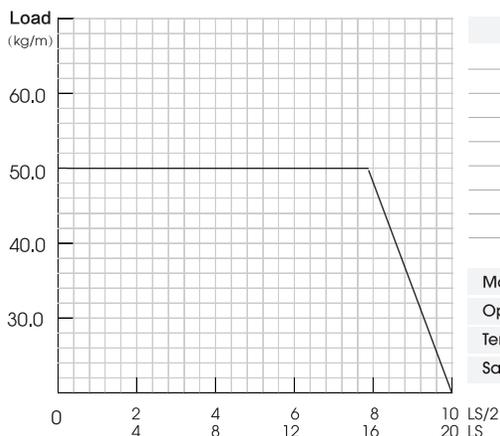
# ZF-TL225 Series

## | Installation Dimensions and Technical Parameters

Length calculation  $L=LS/2+M$



Type	Pitch P [mm]	Bending radius [mm]	Range of energy chain width [mm]	Inner height of energy chain [Hi]	Outer height of energy chain [HA]	Maximum aperture of A-type structure	Allowable unsupported height (without supporting wheels) [m]	Type
ZF-TL225	225	250, 300, 350, 400, 450, 500, 550, 600	100 — 1200	170	200	170	10	Galvanized steel open-type
ZF-TLS225	225	250, 300, 350, 400, 450, 500, 550, 600	100 — 1200	170	200	170	10	Stainless steel open-type



### Ordering Example | Entire Energy Chain

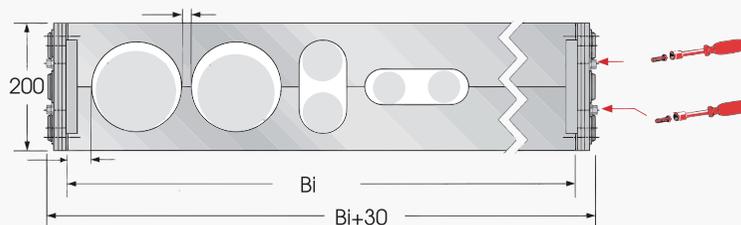
ZF-TL225 W150 R250 2800L 7pcs A4

Type	Outer width of energy chain	Bending radius	Length of energy chain	Separator	Installation type of mounting bracket
ZF-TL225	W150	R250	2800L	7pcs	A4

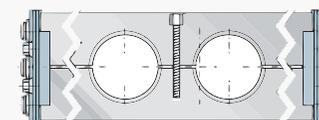
# ZF-TL225 Series

## | Installation Dimensions and Technical Parameters

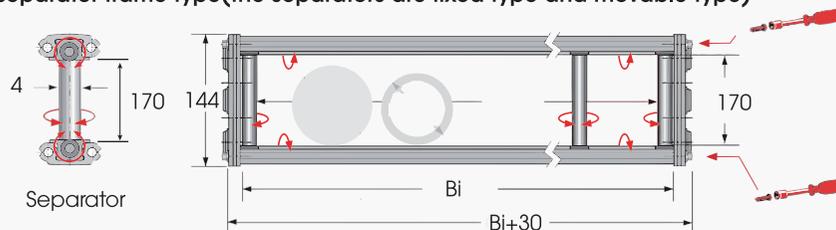
A type of internal structure of the energy chain: separable hole type for upper and lower parts



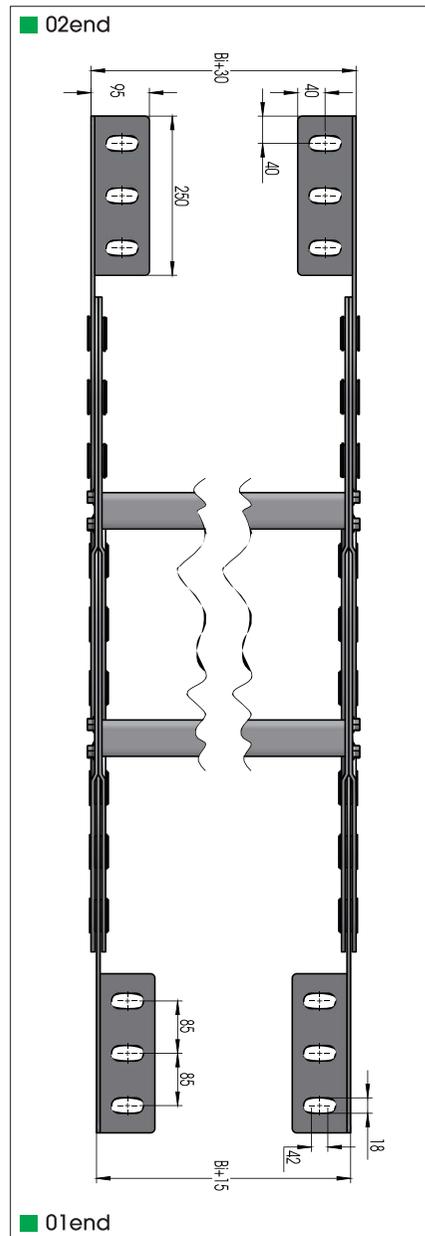
Installation type



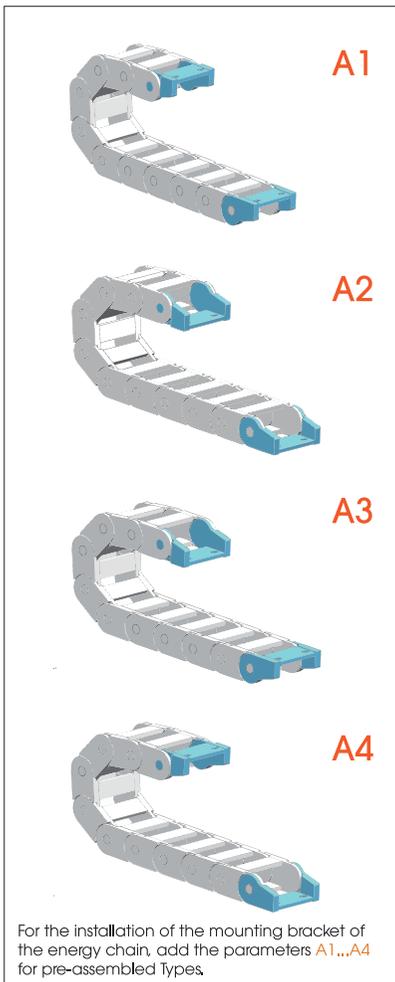
B type of internal structure of the energy chain: separator frame type (the separators are fixed type and movable type)



Customization can be made according to customer requirements. Please consult with ZHEF sales engineers for details.

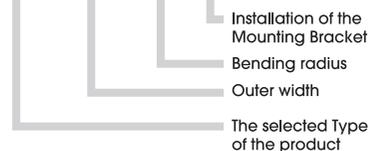


■ Mounting Bracket Installation type



**Product Type**

ZF-TL225 W150 R250 A4

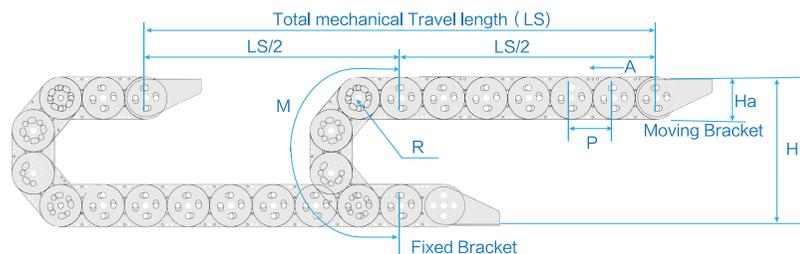


ZF-TL225 Series Steel energy chain for hydraulic press

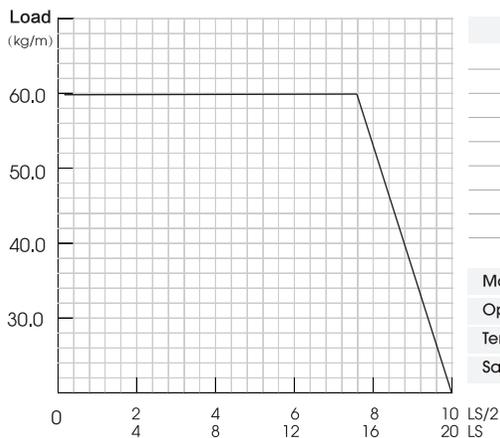
# ZF-TL250 Series

## | Installation Dimensions and Technical Parameters

Length calculation  $L=LS/2+M$



Type	Pitch P [mm]	Bending radius [mm]	Range of energy chain width [mm]	Inner height of energy chain [Hi]	Outer height of energy chain [Ha]	Maximum aperture of A-type structure	Allowable unsupported height (without supporting wheels) [m]	Type
ZF-TL250	250	250, 300, 350, 400, 450, 500, 550, 600	100 — 1200	190	220	190	10	Galvanized steel open-type
ZF-TLS250	250	250, 300, 350, 400, 450, 500, 550, 600	100 — 1200	190	220	190	10	Stainless steel open-type



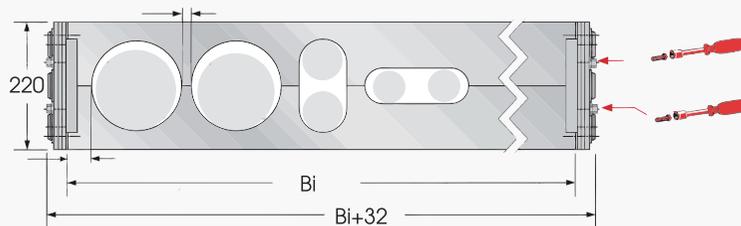
### Ordering Example | Entire Energy Chain

ZF-TL250	W150	R250	2800L	7pcs	A4
Type	Outer width of energy chain	Bending radius	Length of energy chain	Separator	Installation type of mounting bracket

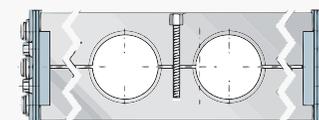
# ZF-TL250 Series

## | Installation Dimensions and Technical Parameters

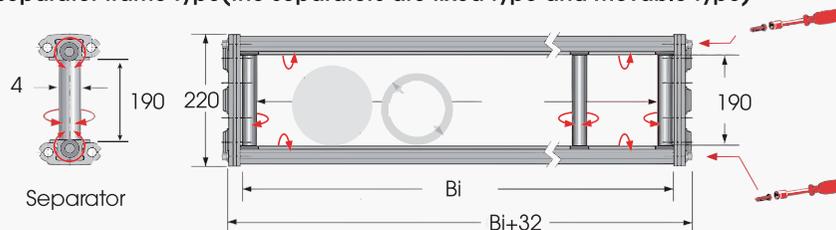
A type of internal structure of the energy chain: separable hole type for upper and lower parts



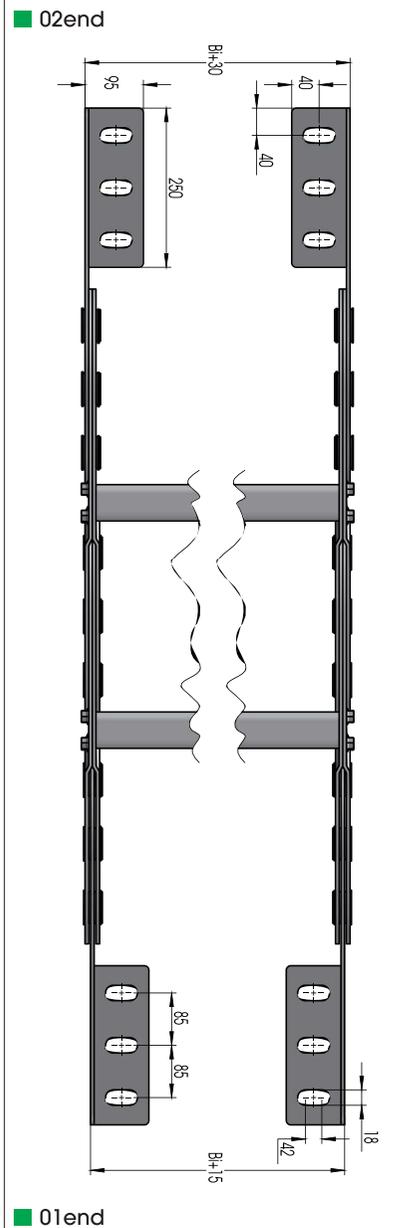
Installation type



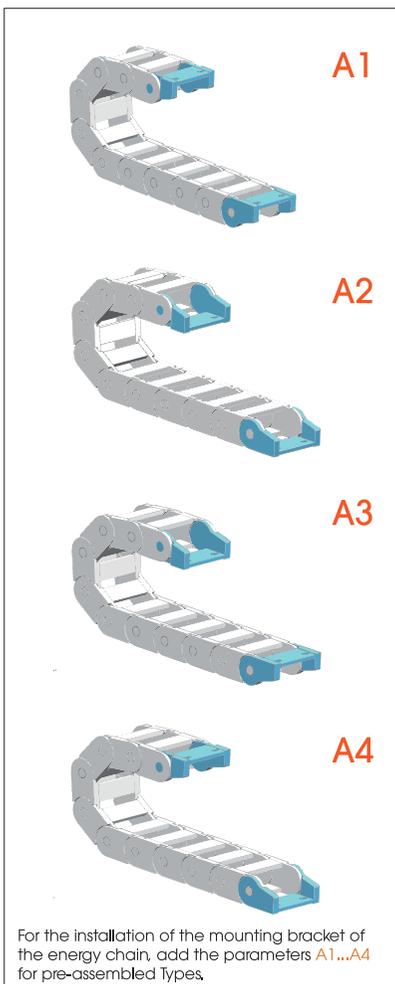
B type of internal structure of the energy chain: separator frame type (the separators are fixed type and movable type)



Customization can be made according to customer requirements. Please consult with ZHEF sales engineers for details.

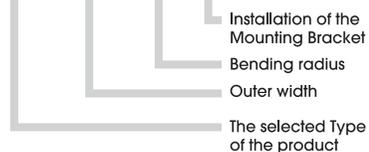


■ Mounting Bracket Installation type



Product Type

ZF-TL250 W150 R250 A4



ZF-TL250 Series Steel energy chain for roll grinding machine

# The advantages of pre-assembled cables

## 1 Good safety

Pre-assembled cable is able to do a complete test in the factory during the manufacturing process to test the cable resistance, insulation strength and insulation quality, so that quality problems can be repaired in time once they are found.

## 2 Low space requirements

Compared to conventional cabling, pre-assembled cables require less space for installation and can be laid horizontally or vertically, which provides more flexibility and freedom in cable routing within the facility. Prefabricated cables are particularly suitable for installation in industrial production environments or compact urban environments.

## ADVANTAGE

## 3 High durability

Pre-assembled cables are manufactured in the factory to ensure that the cables are tested in a timely and standardised manner, so that the quality of the cables is reliable. Meanwhile, the core and sheath of preassembled cables can be effectively protected during on-site construction, thus increasing the service life of the cables. Under different use environments, pre-assembled cables can maintain good electrical and mechanical properties.

## 4 Fast construction

Pre-assembled cables can be manufactured in the factory with ready-made prefabricated parts, and only need to be connected during on-site construction, which avoids multiple processes such as on-site stranding and debugging of traditionally laid cables, thus greatly improving the construction efficiency and completing the cabling within a short period of time.

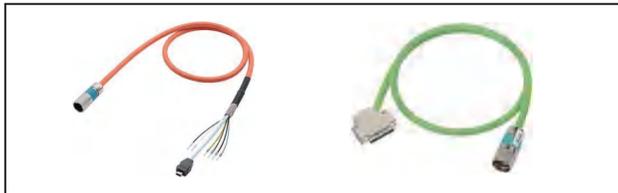
## 5 Less waste

Pre-assembled cables can greatly reduce the loss of power cables, which significantly lowers the company's overall material loss costs!

# ZHEF pre-assembly line series products

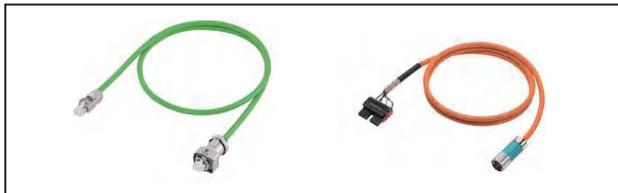
## 1 Servo drive line

ZHEF provides the market mainstream brands of servo products supporting drive cables. All pre-assembled with the integrated wiring harness have been tested by professional equipment qualified. Standing stock products with no MOQ. Cables are plug and play.



### - SIEMENS

Pre-assembled cables are customized according to Siemens standards. Depending on the different application scenarios of fixed, low-speed and fast application, ZHEF offers a full range of products covering Siemens including power, servo and signal cables.



### - HEIDENHAIN

ZHEF offers customized integrated harnesses in accordance with Heidenhain standards for energy chain application scenarios, with a wide choice of PVC/PUR/TPE sheaths to choose from, so that the right cable can be selected according to the customer's actual application requirements.



### - FANUC

ZHEF provides power, servo, brake, encoder, and signal cables in accordance with FANUC standards, and all assembled cables are quality tested before leaving the factory to ensure product quality and durability.



### - BECKHOFF

ZHEF offers customized cables for dynamic applications in the energy chain according to Beckhoff standards, ensuring that every assembled cable is tested for functionality and durability before it leaves the factory. A wide range of cable types including servo, power, signal and encoder cables are available in customized lengths.

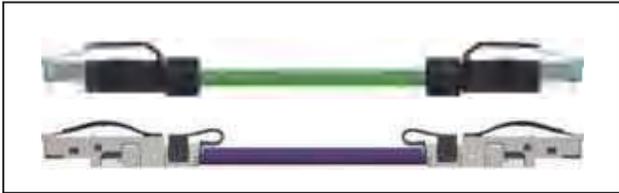


In addition, we offer drive assembly cables that meet the standards of more than a dozen major brands such as Bosch Rexroth, BaumueLLer, Rockwell, Kollmorgen, Fagor, Parker, SEW, Mitsubishi, Omron, Schneider and others.

# ZHEF pre-assembled cable series

## 2 Network bus

ZHEF offers industrial Ethernet cable harnesses in the CAT5-CAT7 category, such as PROFINET and ETHERCAT bus systems, which are the leading industrial Ethernet standards today, customized down to the centimetre, as well as more than 422 types of pre-assembled Ethernet cables, providing a one-stop shop for the selection and supply of cables for different operating environments and signal transmission requirements.

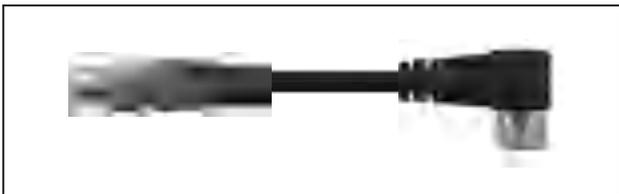


Other pre-assembled signals and buses such as PROFIBUS, CAN, CC link, Firewire, ASI, etc. are also available.



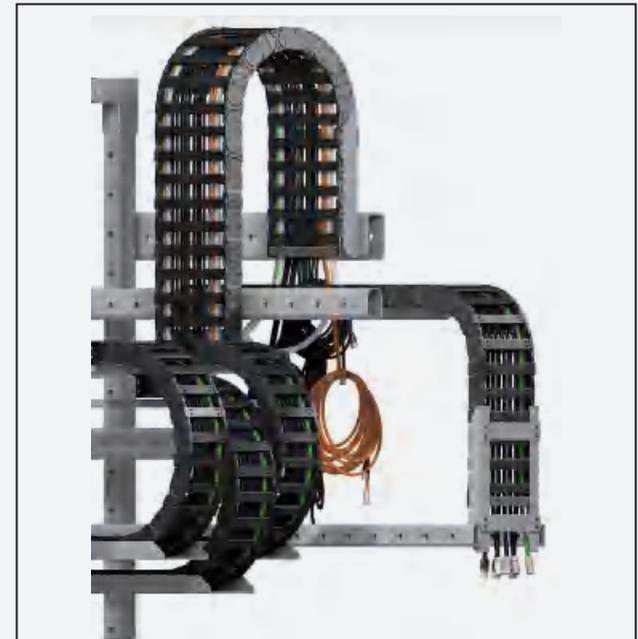
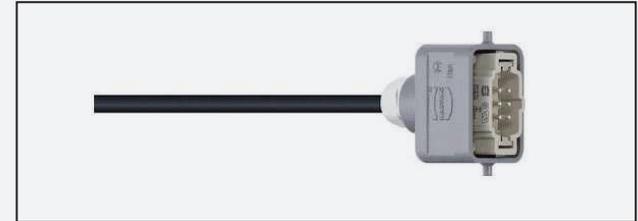
## 3 Sensor actuator cable

Sensor actuator cables are mainly used to connect control devices to various sensors. ZHEF offers sensor cables for energy chain applications, customized to meet the needs of different end-use applications.



## 4 General connector wire

ZHEF offers a plug-and-play combination of flexible cable and Harting plug-in industrial heavy-duty connector assembly harnesses for mobile energy chain applications. Each harness is rigorously tested at the factory before delivery, and integration with the ZHEF series energy chains as a one-stop supply of plug-and-play products can greatly save customers' costs and shorten assembly time.



# ZHEF offers highly convenient pre-assembled energy chain power supply systems

## Advantage

- Provide professional non-standard design reference
- Excellent cable duct stress relief
- Easy to install, which can reduce the assembly time by 70%
- Speed up the turnover to reduce the pressure of warehousing
- Reduces overall company management costs
- The only channel for easy quality traceability

## Power supply systems for pre-assembled energy chains - areas of application



## Information required from the customer for pre-assembled

- Whether the mounting bracket is linked to a C-channel or a Tiewrape plate (A1, A2, A3, A4)
- Whether the energy chain is straight through or halfway through the line
- Cable Type and specifications
- Length inside the cable energy chain (length of gas pipe, oil pipe, etc.)
- Length of cable to be left after exiting the energy chain
- Cable marking has been remarks for harness processing
- Air pipe brand Types and specifications
- Length of air pipe out of the energy chain
- Air pipe marking and union joint pay attention tos
- Oil pipe brand Type and specification
- Length of oil pipe out of the energy chain
- Oil pipe marking and union joint pay attention tos

## Pre-assembled snapshot



For specific projects, please communicate with ZHEF sales engineers. We will be able to provide you with detailed solutions according to your company's needs!