

# 生产车间

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## 运行方式的多样性 Mounting Variations

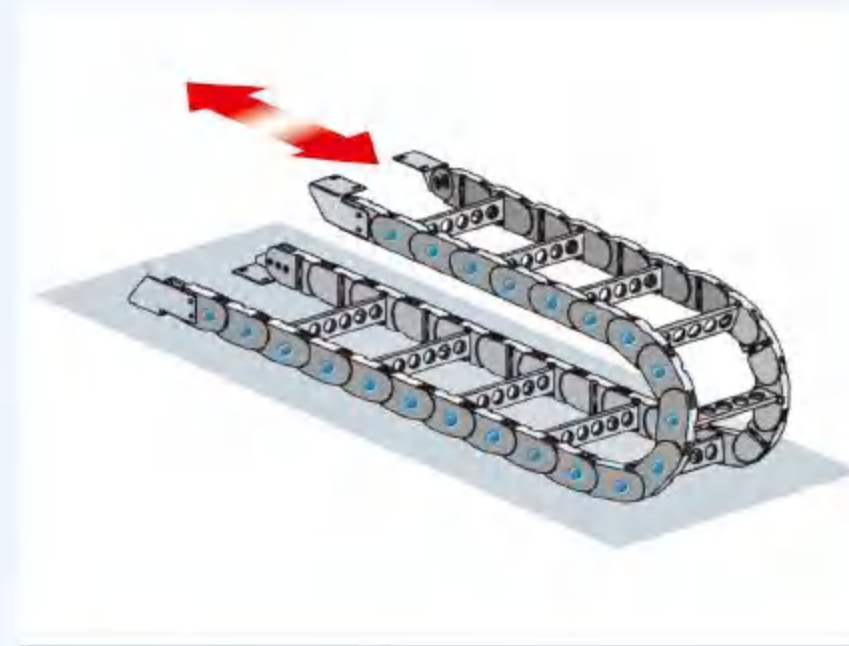
### 水平方向的拖链

东方拖链，多种型号及规格满足了许多不同的运行联结方式的要求，在这页列出了不同种类的联接方式，想要获得个别工程的需要，请与我们的技术部门联系，他们可以解决任何的专门技术问题和根据您特殊要求为您设计制造适合的产品。

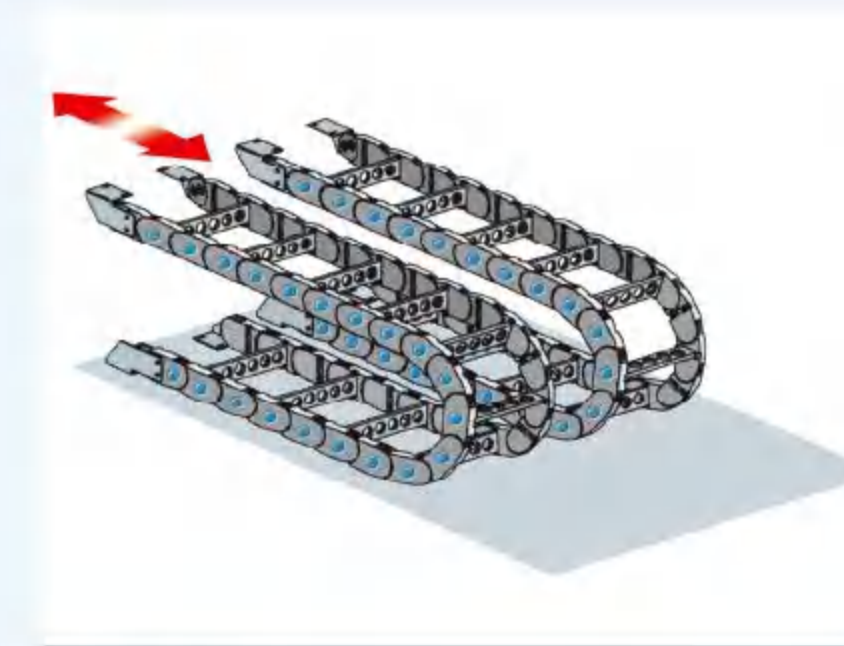
### Chains Placed Horizontally

Dongfang chains, thanks to a large range of models and versions, satisfy many requirements in variety and combination of motions. On this page the various combinations of mounting are listed.

For further information about realising a personalised project please contact our technical department. They are at your disposal to resolve any specific problems you may have and can design according to your particular request.



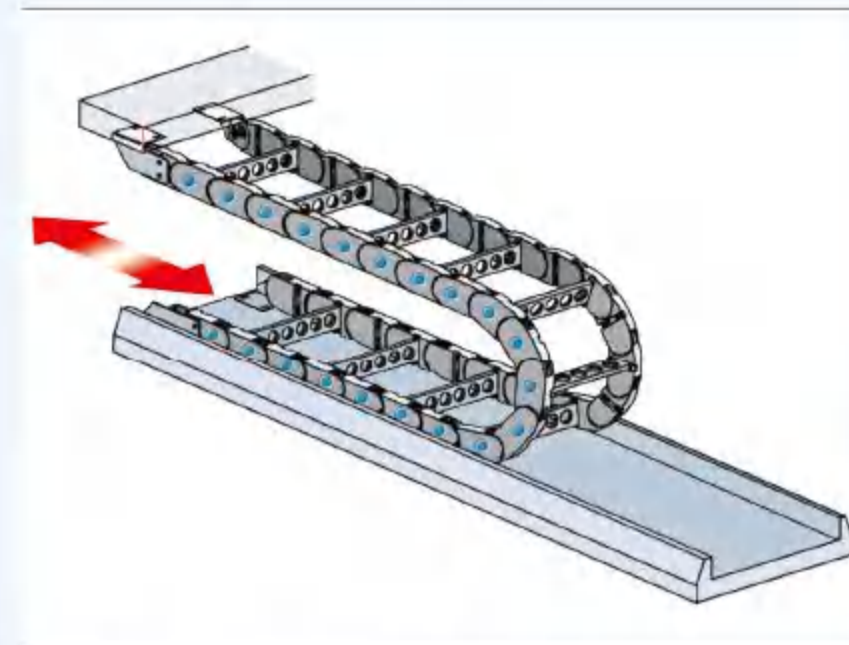
移动端在上方水平运动  
Horizontal with mobile point above.



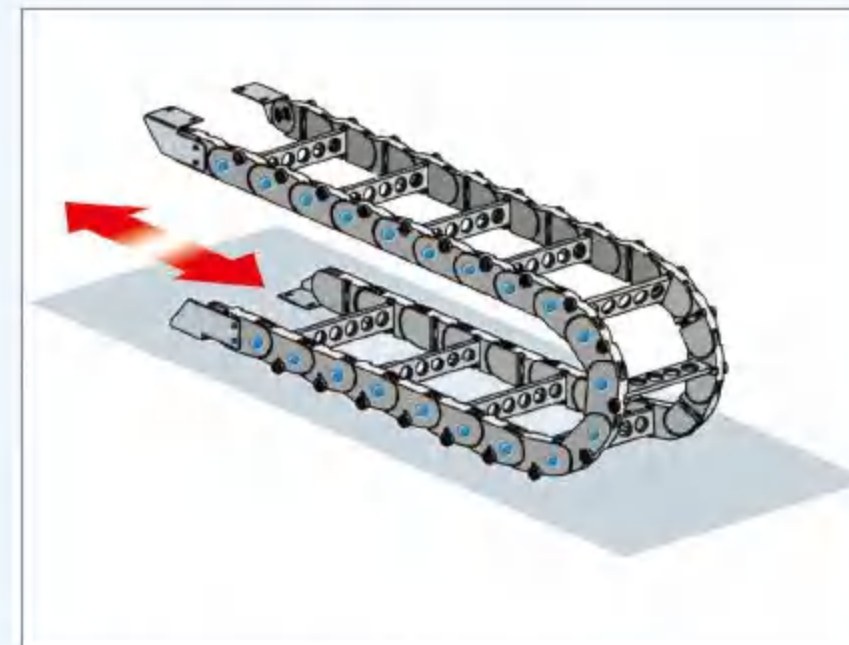
拖链平行运动  
Chains positioned in parallel.



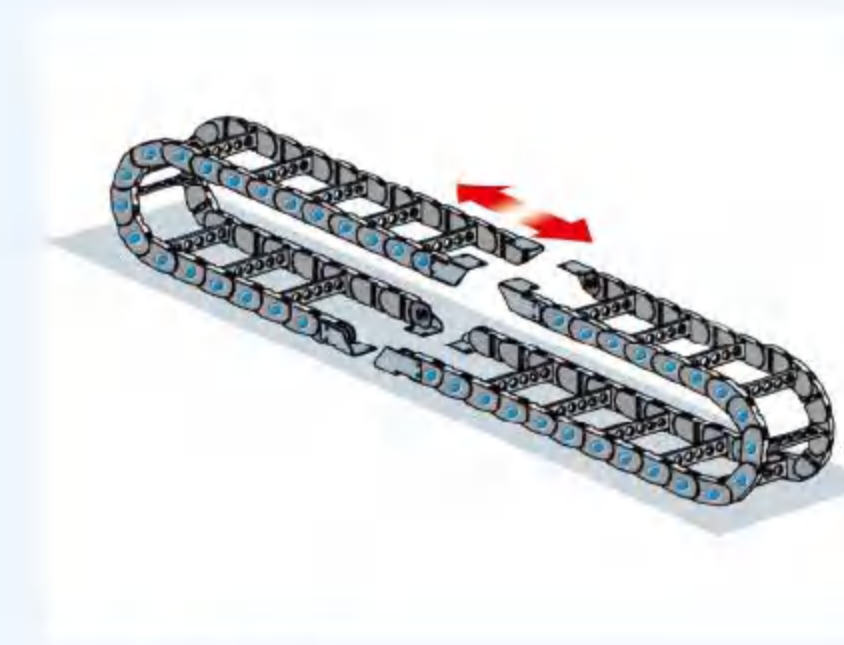
拖链长距离水平运动  
Long horizontal-1 chain



移动端在下方的水平运动（对于汽车）  
Horizontal with mobile point below(to the car).



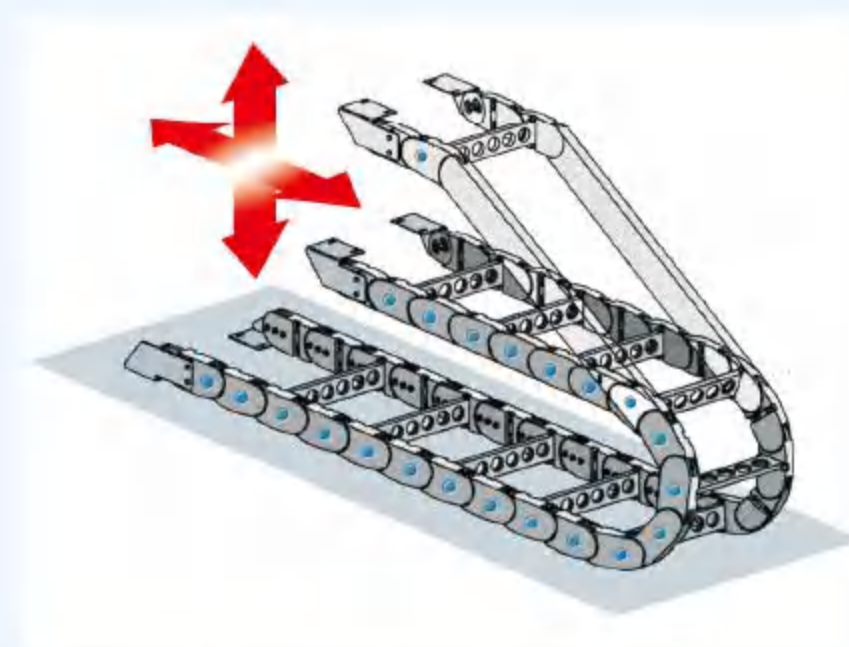
移动端在下方的水平运动  
Horizontal with mobile point below.



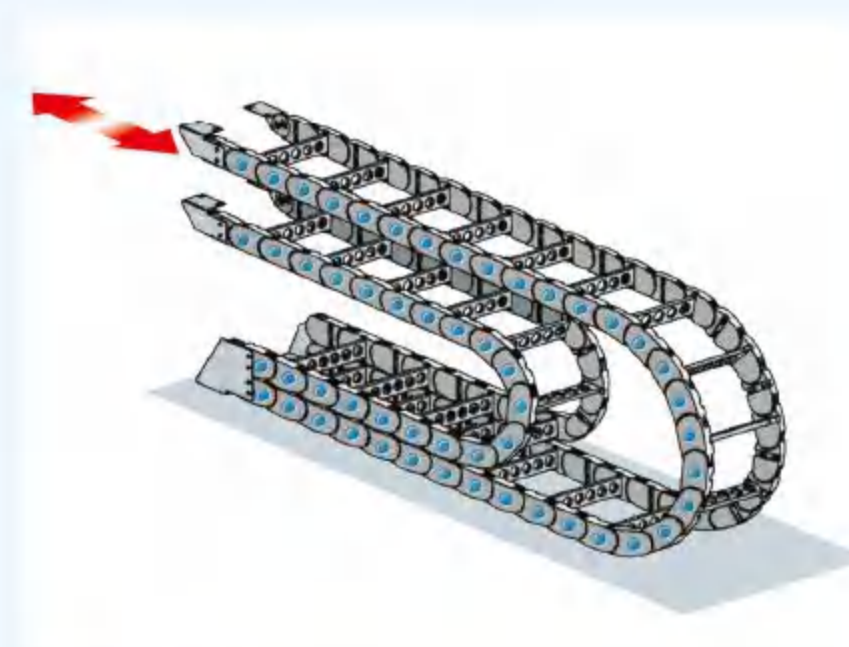
拖链往复循环运动  
chain making a ring configuration.



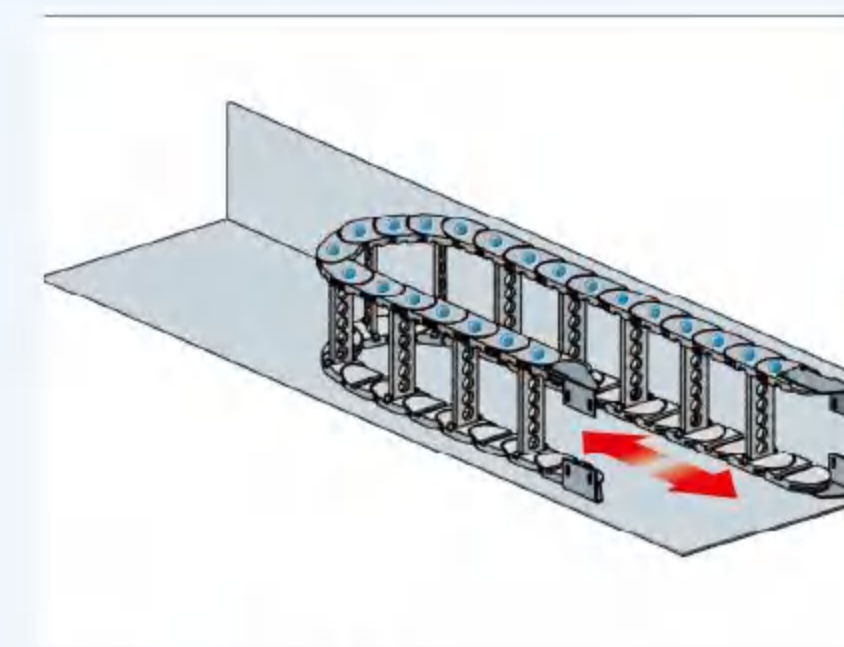
拖链长距离水平运动  
Long horizontal-2 chain



水平和垂直的组合运动  
Combination of both vertical and horizontal movement.



叠加运动的拖链  
Superimposed chains.



拖链水平运动，并弯向一侧  
Horizontal with chain mounted on its side

## 运行方式的多样性 Mounting Variations



重叠实用的尼龙拖链应用在  
石材机器上  
Model Krius  
chains in nylon  
superimposed on a machine  
which works with marble.

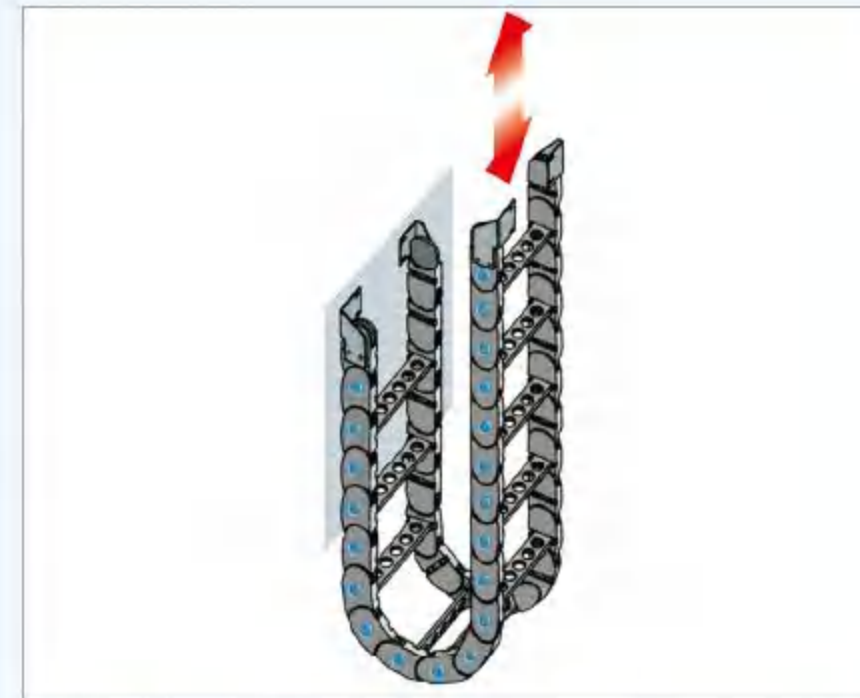
## 运行方式的多样性 Mounting Variations

### 垂直方向的拖链

东方拖链可以提供关于垂直运动的答案，由于他们特殊的设计，被应用在较长的行程，关于循环往复运动的问题，也被东方系列拖链解决了。还可以应用在逆时针运动的工程方面。

### Chains Placed Vertically

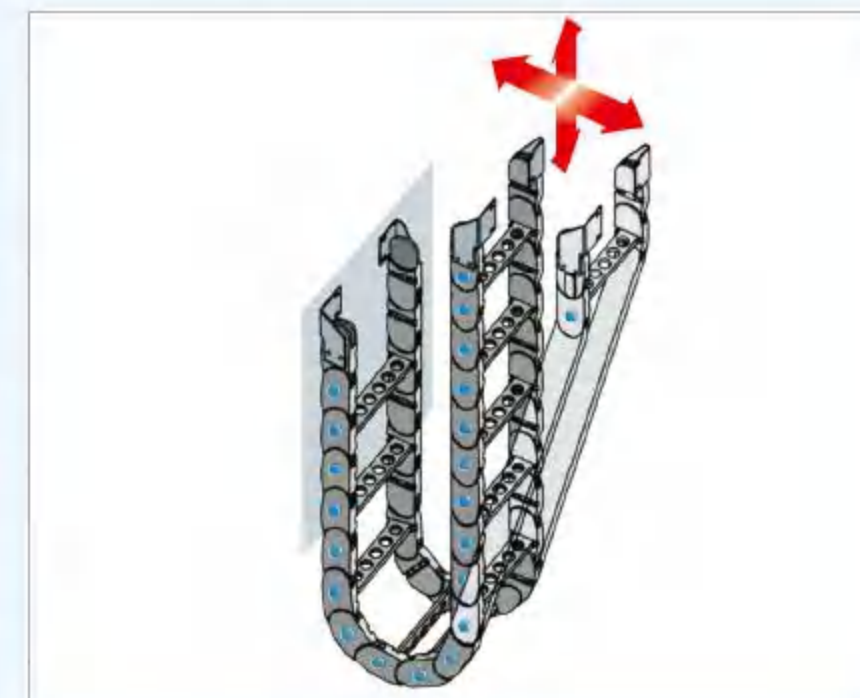
Dongfang chains also provide answers to problems concerning vertical motion. Due to their particular design Dongfang cable chains can also be used in applications with extremely long travel distances.



下方是曲线的垂直运动  
Vertical with curve below



东方拖链用于机床上做下方是曲线的垂直运动  
Dongfang vertical with curve below nylon chain on machine tool.



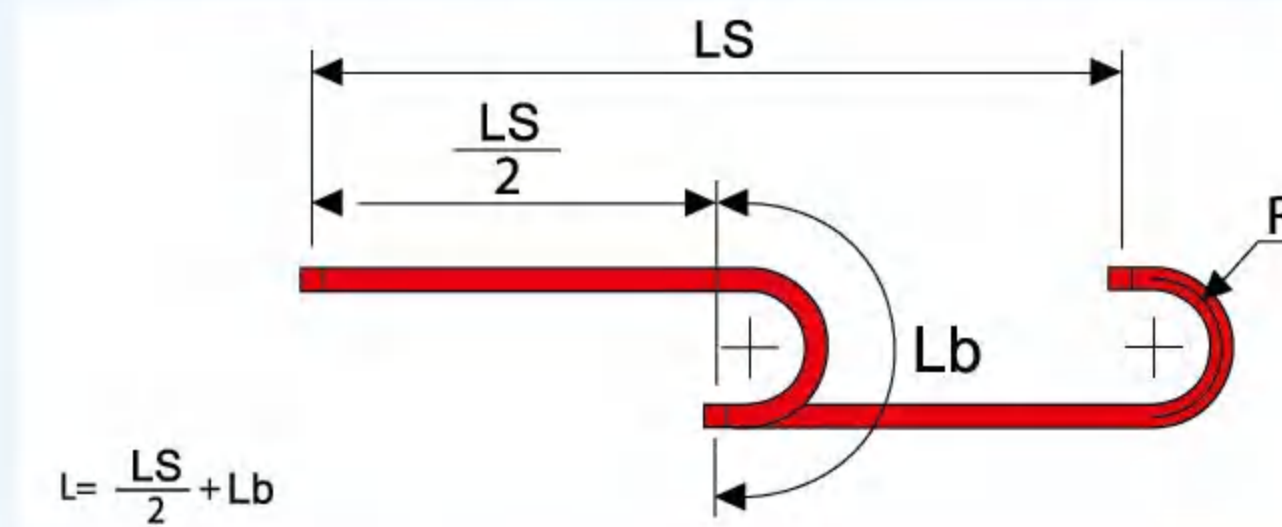
水平和垂直方向的组合运动  
Combination of both vertical and horizontal movement



上方是曲线的垂直运动  
Vertical with curve above

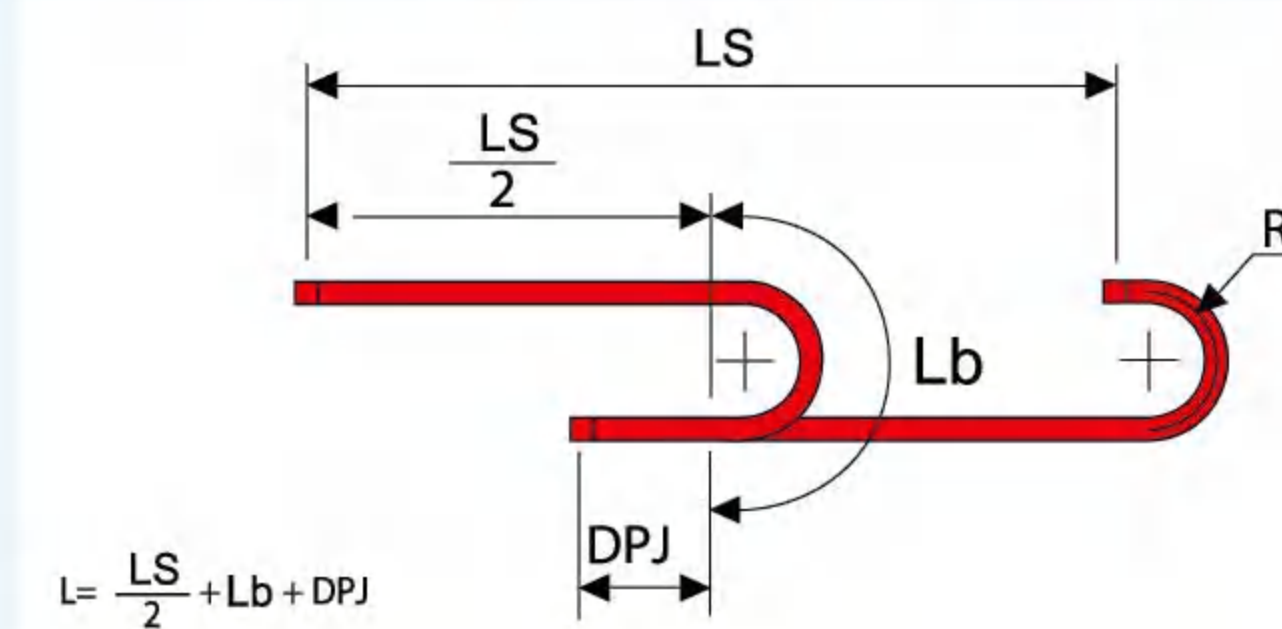
## 拖链长度的确定 Determining the Chain length

固定点运行中间位置时 Fixed point at the centre of total travel



The chain length (**L**) is calculated by summarising the half stroke  $\frac{LS}{2}$  to the nominal value (**Lb**) of the bending radius. The value is then rounded up the multiply of the chain pitch for nylon cable chains and to an odd multiply for steel chains. 拖链长度的计算取决于  $\frac{LS}{2}$  中心点到弯曲半径的距离，这个值(**Lb**)会随着拖链节距的变化而变化，适用于尼龙拖链和钢铝拖链。

固定点偏离运行中间时 Fixed point not positioned at the centre of total travel



The chain length (**L**) is calculated by summarising the half stroke  $\frac{LS}{2}$  to the nominal value (**Lb**) of the bending radius and the distance (**DPJ**) from fixed point to centre of total stroke.

The value is then rounded up the multiply of the chain pitch for nylon cable chains and to an odd multiply for steel chains. 拖链长度的计算取决于  $\frac{LS}{2}$  中心点到弯曲半径的距离，**DPJ**表示固定端偏离中心点的距离，这个值(**Lb**)会随着拖链节距的变化而变化，适用于尼龙拖链和钢制拖链。

备注(Where):

**L** = 拖链长度 length of chain

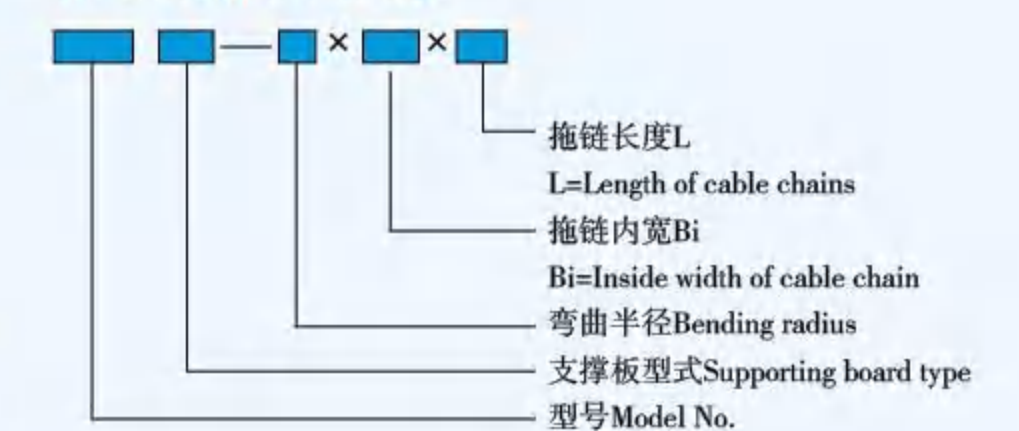
$\frac{LS}{2}$  = 1/2的行程 Half travel distance

**Lb** = 曲线的长度  $(\pi \times R) + (2 \times P)$   
Length of curve  $(\pi \times R) + (2 \times P)$

**DPJ** = 固定端偏离行程中心的距离  
Distance from fixed point to centre of total stroke

**T** = 节距 Pitch

订货标记(order mark):



## 更深入的介绍 Going Further

### 导向槽的滑动

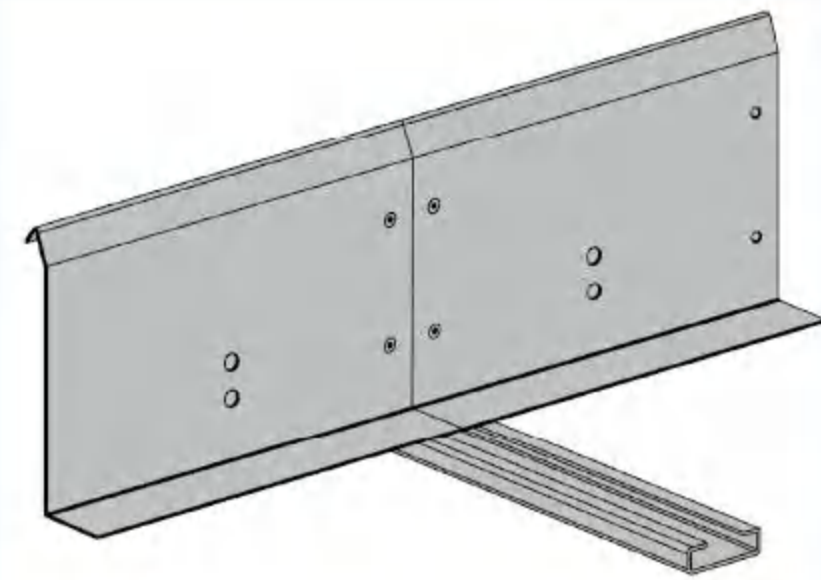
拖链的导向槽为了使拖链长距离使用达到最好效果，按装导向槽说明：

### Guide Channels for Sliding

For good results when using cable chain in an application with a long travelling distance it is necessary to respect the following instructions when installing the guide channel for sliding:

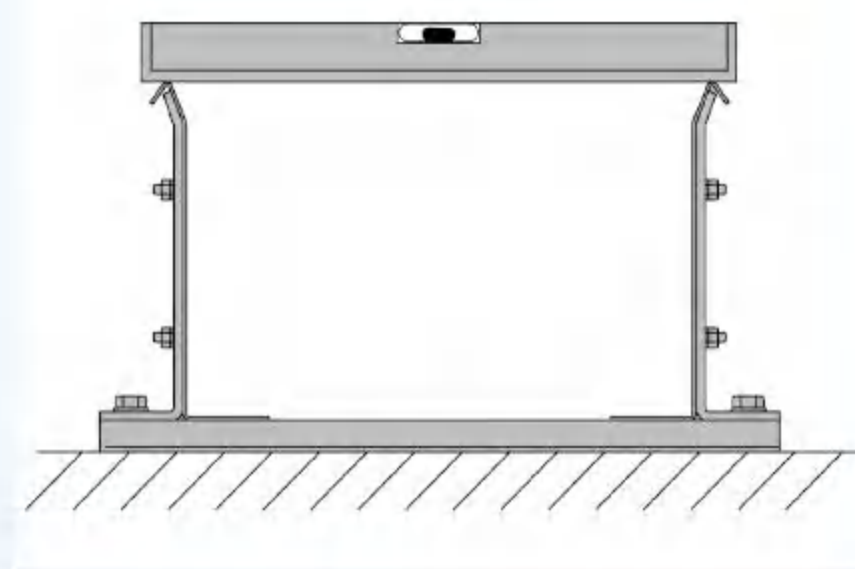


用于滑行系列拖链的导向槽  
Guide channel for chains  
of the Sliding series.



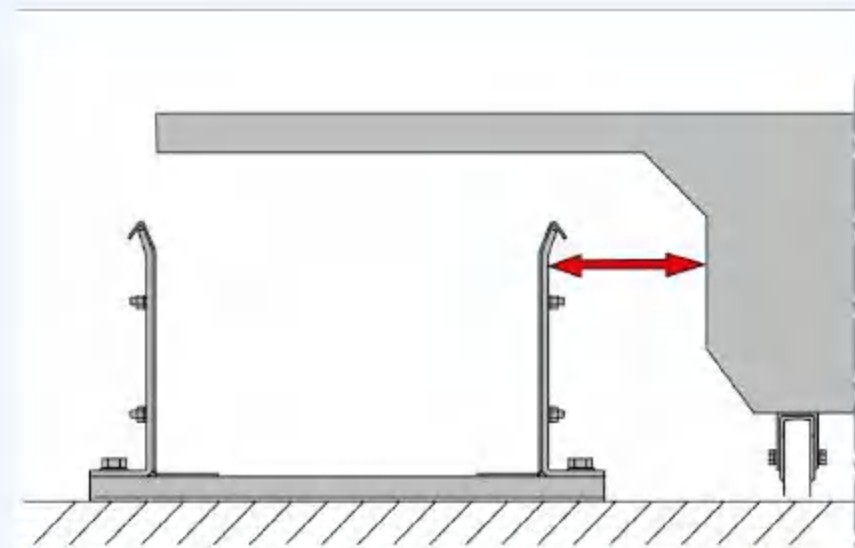
检查每一面是否正确排列，把较重导线缆放在靠近导向槽的边缘两侧。

Verify that the sides are aligned properly to avoid any internal edges in the guide channel which could disturb the cable chain route.



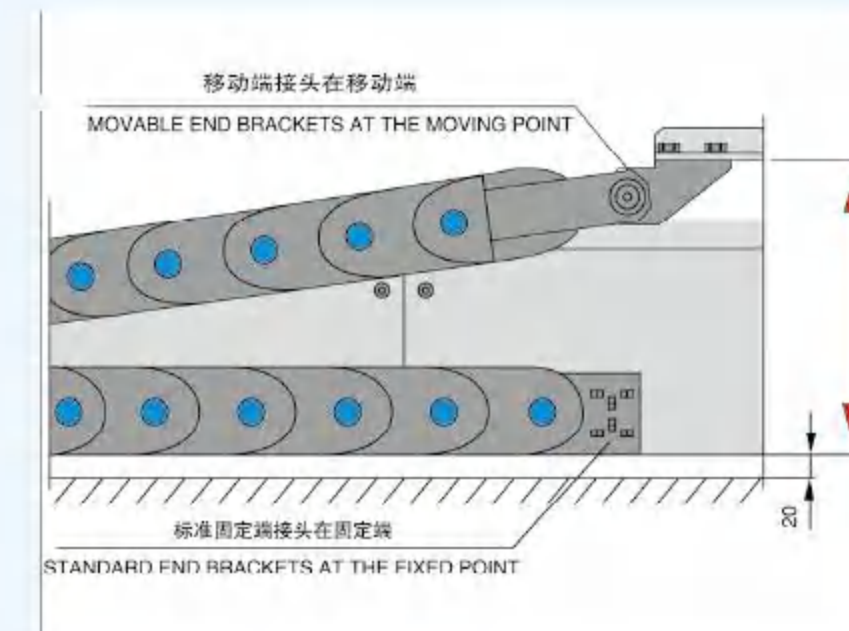
检查导向槽是否水平排放。

Verify that the plane on which the guide channel for sliding is mounted is perfectly aligned and smooth.



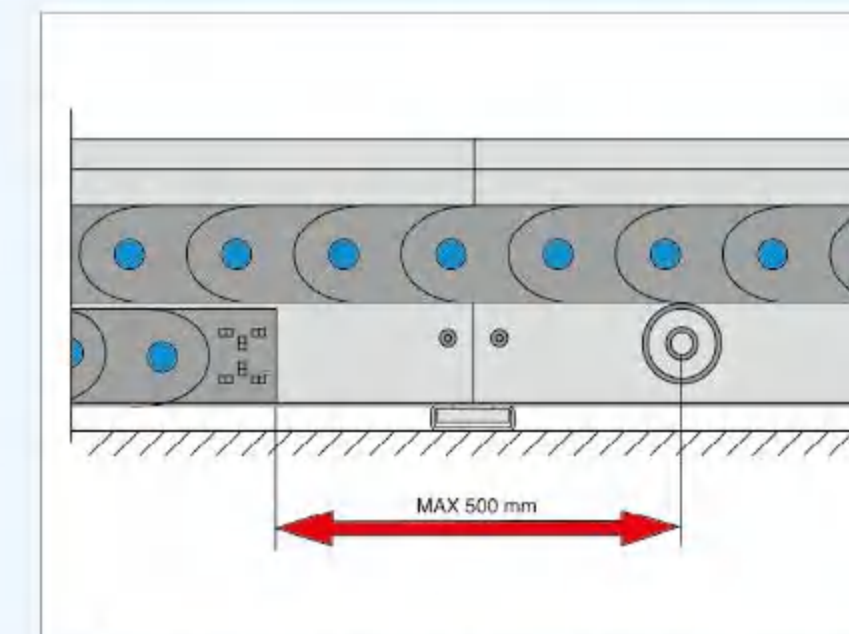
检查导向槽与牵引臂之间的距离在运行过程中是否保持了一致。

Verify that the distance between the guide channel for sliding and the towing arm is the same for the whole travelling distance.



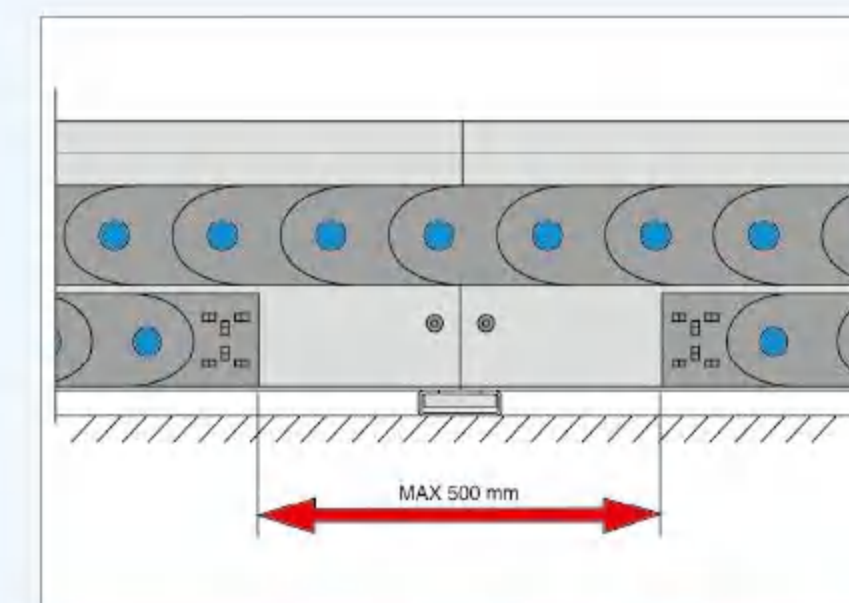
根据目录中列出的高度，装标准的固定端连接器安装在固定端，将移动端连接器安装在移动端上。

Install the cable chain with the standard end brackets at the fixed point and with the movable end brackets at the moving point respecting the height listed in the catalogue.



尽量减少固定端和支撑轮或滑行板之间的距离。

Reduce as much as possible the distance between the fixed point of the cable chain and the starting point of the rollers or sliding plane.



在拖链叠加使用的情况下，要确保两个固定端的距离不超过500mm。

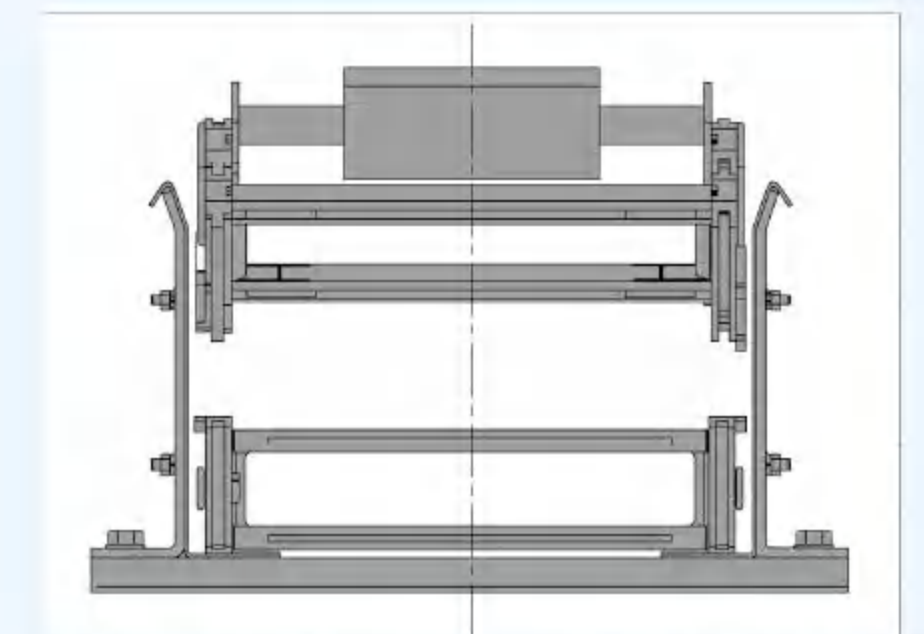
In the case of a double chain application ensure that the distance between the two fixed points does not exceed 500mm.

### 怎样在导向槽中安装拖链

为了使拖链在导向槽中安装的更加完善，应该遵循如下步骤：

### How to Install the Cable Chains in the Guide Channel

For a perfect installation of the cable chain in the guide channel you should take the following steps:



正确安装移动端在垂直距离上，可以使拖链在运动的过程中，不触碰到导向槽的内部。

Install the mobile point of the cable chain aligning it exactly to the longitudinal travel distance in such a way so that during its movement it does not touch the internal part of the guide channel.



为了适用这种动作，东方拖链研究和创造了特殊的移动端连接器，这种连接器保证了拖链和牵引手臂的协调一致。

To facilitate this operation Dongfang has developed and created a special movable end bracket which guarantees a perfect alignment between the chain and the towing arm.

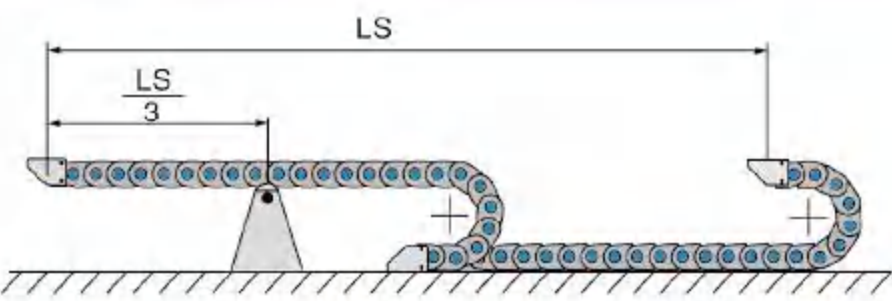
## 更深入的介绍 Going Further

### 支撑轮单位

当拖链应用在  $\frac{LS}{2}$  行程上，且承载的重量超过拖链自我的支撑能力的时候，有必要使用支撑轮。  
决定使用支撑轮的数量，注意下面的情况：

### 当使用一个支撑轮的情况

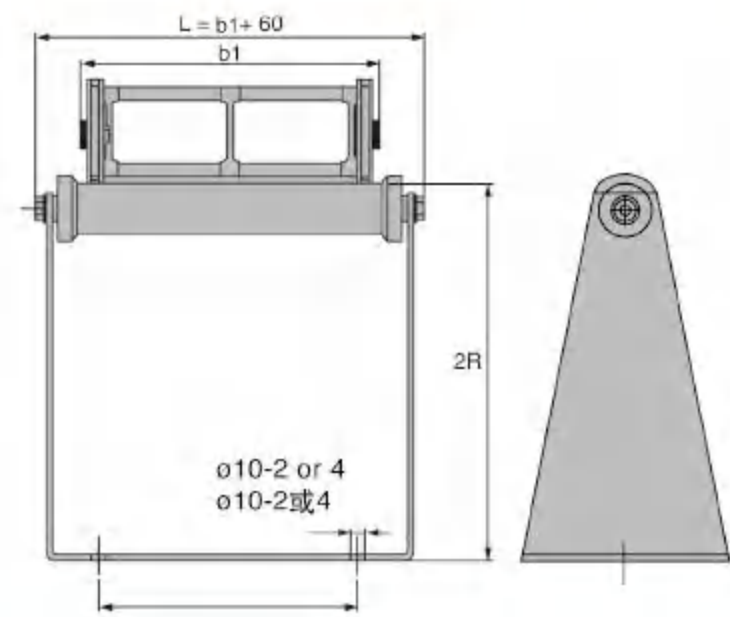
#### One Support Roller when:



表格中  $\frac{LS}{3}$  的行程上显示了拖链自我支撑的能力  
The length  $\frac{LS}{3}$  is included in the values of the diagram showing self-supporting capacity.

### 支撑轮为尼龙材质的情况

#### Support Roller for Nylon Chains



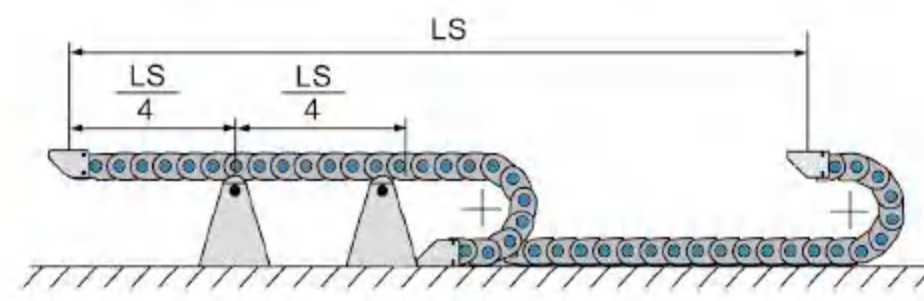
型号 Chain Type	X	Y	W
TL65	70	100	b1+22
TL95	70	100	b1+26
TL115	70	100	b1+26
TL125	80	100	b1+26
TL155	80	160	b1+30

### Support Roller Units

For applications of cable chains with  $\frac{LS}{2}$  and weights not included in the area of the diagram of self-supporting capacity it is necessary to use the appropriate support rollers.  
To decide on the number of support rollers needed, note the following:

### 当使用两个支撑轮的情况

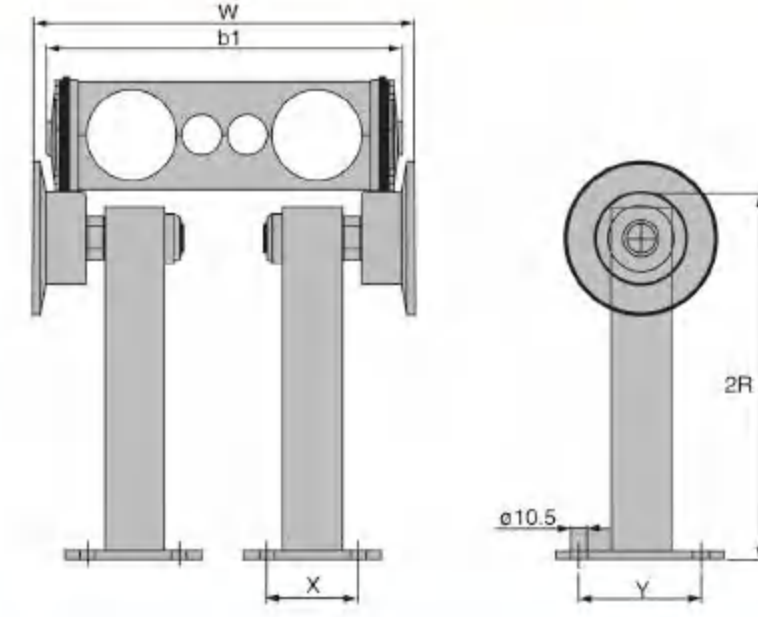
#### Two Support Rollers when:



表格中  $\frac{LS}{4}$  的行程上显示了拖链自我支撑的能力  
The length  $\frac{LS}{4}$  is included in the values of the diagram showing self-supporting capacity.

### 支撑轮为钢制的情况

#### Support Roller for Steel Chains



型号 Chain Type	X	Y	W
TL180	120	160	b1+30
TL225	150	180	b1+32
TL250	180	190	b1+32
TL320	200	200	b1+42
TL450	200	240	b1+42

## 导向槽

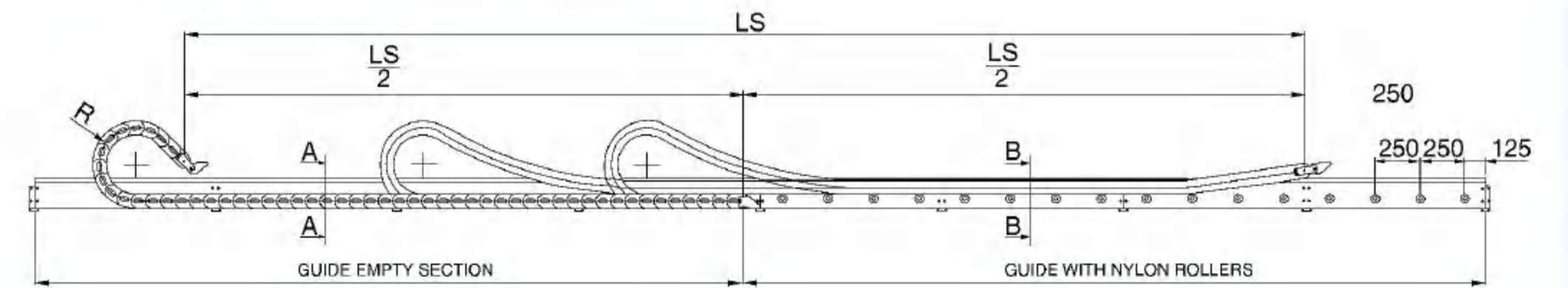
### Guide Channel

特殊的导向槽使拖链能够应用于长距离的行程上，导向槽可使用镀锌钢的材料，根据要求也可以做成不锈钢的。

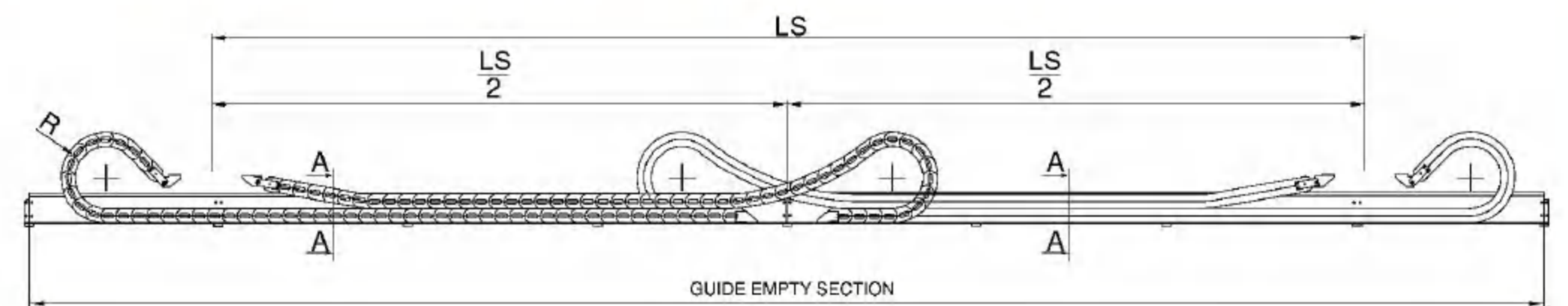
Special guide channel allows the use of the chain for long travel distance.

Available in galvanised steel and, on request, in stainless steel.

### 单一拖链的应用 Single Chain Application

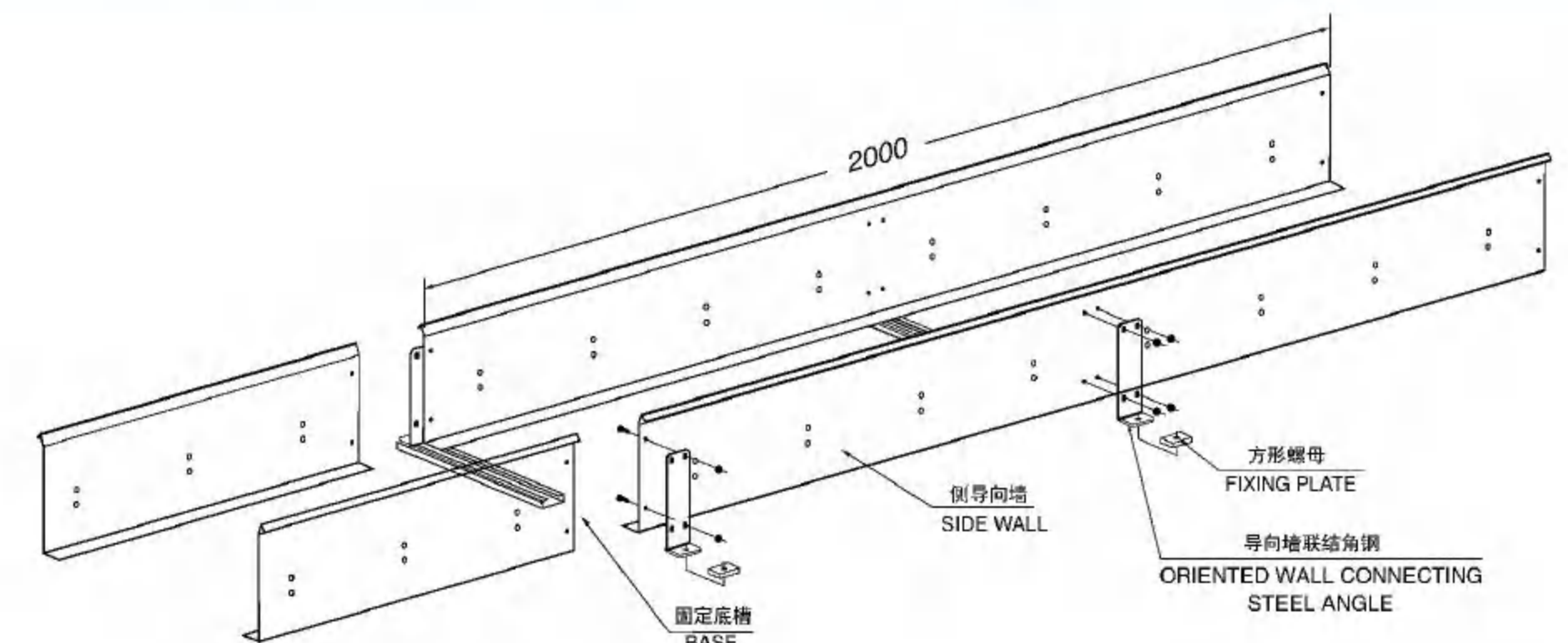


### 叠加拖链的应用 Double Chain Application



导向槽由以下部分构成：  
标准长度的侧导向墙  
导向槽联结角钢  
安装螺丝  
底槽  
滑行装置（尼龙轮/钢或塑料盘）

Channel guide is available in assembling kit composed by:  
side walls 2 m standard length  
joining and support plates  
fixing screws  
base  
sliding device (nylon wheel/steel or plastic plate)



# 拖链系统运作说明

## System operate instruction

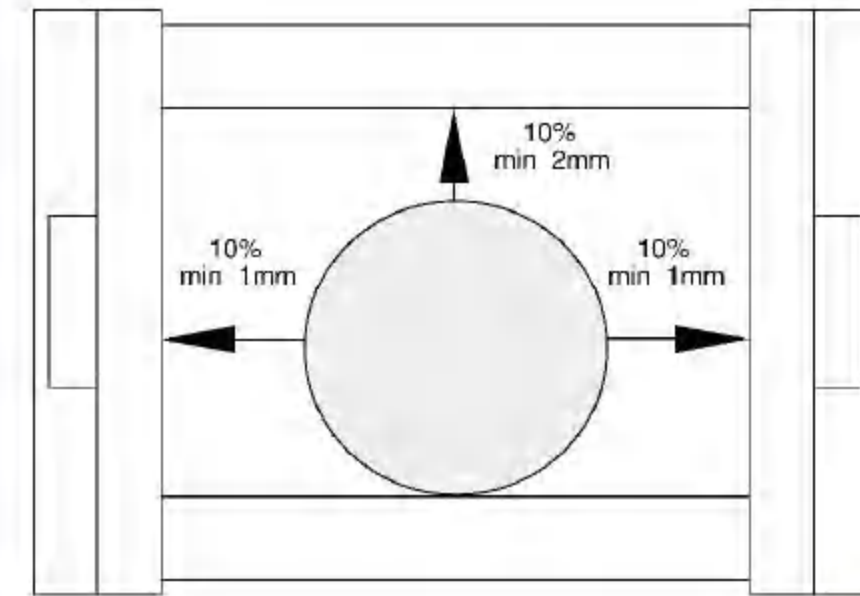
### 电缆与软管在东方拖链的位置

#### The position of cable and hose in the cable chain

##### 导线直径 Cable diameter

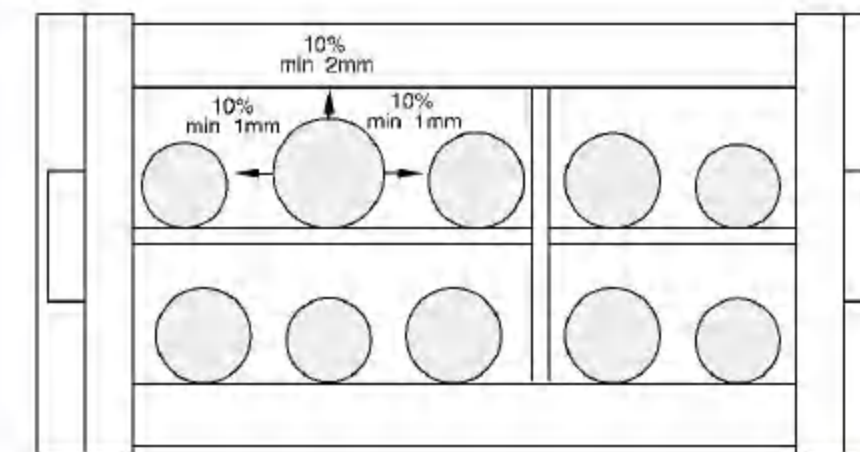
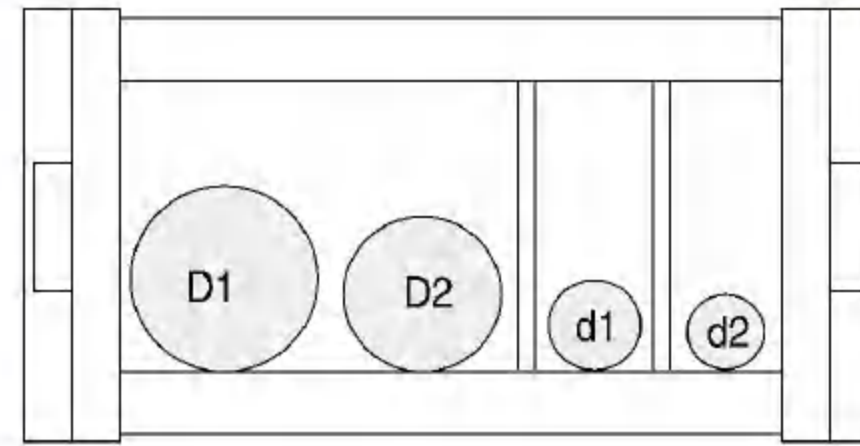
表1说明各系列拖链可以容纳的最大导线直径。为保险起见，选购的电缆拖链内径高度至少应比最大导线直径高出10%。这样可以避免导线磨损。

Diagram 1 explain that the cable chains can contain the max diameter cable. In case, the selected cable cover should more 10% than the max cable.



##### 拖链的装载 Installation principles

- 若 $D1+D2 > 1.2 \times$  链内高度，则两根导线间不必进行分隔。否则导线会相互扭绞。
- 若 $d1+d2 \leq 1.2 \times$  链内高度，则链内应装隔板或是分层减小套内高度。这样可以防止d1和d2相互“换位”。
- 若有数根粗细相等的导线时，内腔高度不得大于导线直径之1.5倍。电缆外套材质如有不同应分开铺设，因其耐磨性能不同，这样会增加不必要的额外磨损。
- If  $D1+D2 > 1.2 \times$  inner height, the two cable do not need to separate.
- If  $d1+d2 \leq 1.2 \times$  inner height, the two cables need to separate, it can avoid the two cable change position.
- If there are many cables (in the same diameter, inner height of cable chain can exceed the 1.5 times of the cable diameter.



##### 一般规定

- 拖链空间最多可用到80%，不过这只是一个总值，我们还应当向您提出东方拖链的详细资料。
- 直径差别很大的导线应分开铺设，分隔时可用分隔板。
- 导线无论如何不能交叉叠放。带有不同绝缘外套的导线应均匀地分开铺设。
- 导线的铺设和固定应当，使之在纵向上随时能够自由运动，在半径上对拖链不产生拉力。
- 在高速或高频率运动时，要尽量使导线在水平上相互分开，勿使之相互交叉叠置。几乎所有的型号均可配有东方拖链内部分隔片，它们是解决这个问题的方法。
- 导线的固定端和活动端均应以此张力装置加以固定。
- 一般情况下可以说：拖链运动越快，运动频率越高，则导线在拖链内的精确分布越重要。由于品种繁多，因而我们愿意为您的特种用途提供咨询。

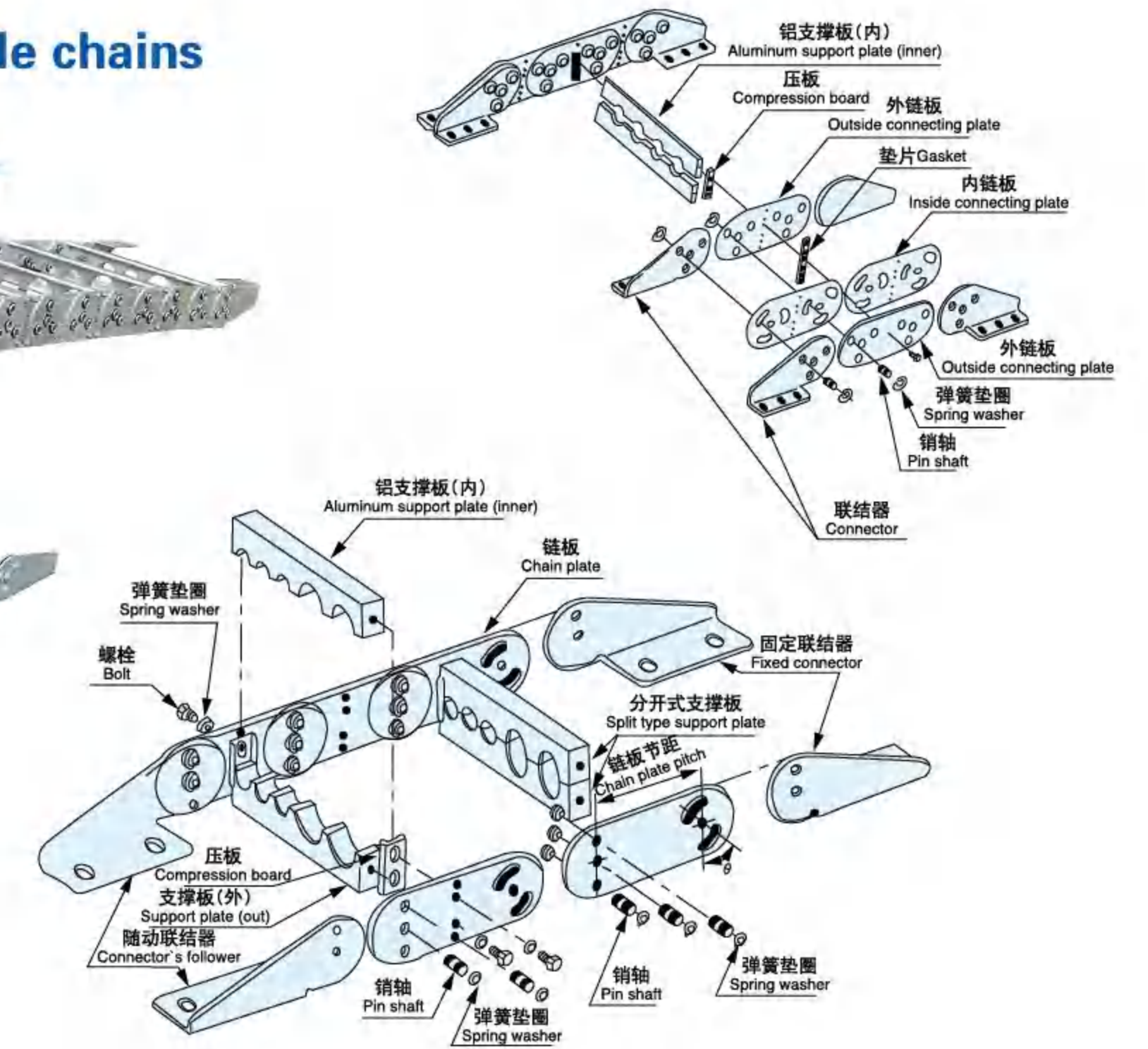
The cable should be laid properly. So that the internally laid cables and oil pipes can move freely and there will not be any stress on the drag chains in the direction of radius. For those cables that are quite different in diameter, they should be laid separately and the weight should be balanced evenly. They can also be separate from one another buy using spacers if necessary. When operating in high speed or high frequency, the horizontally laid cables should be in a parted way and should not be overlapped. If too many cables, gas pipes and oil pipes laid together, it is recommended that spacers be used.

## TL型钢制拖链

### TL series steel cable chains

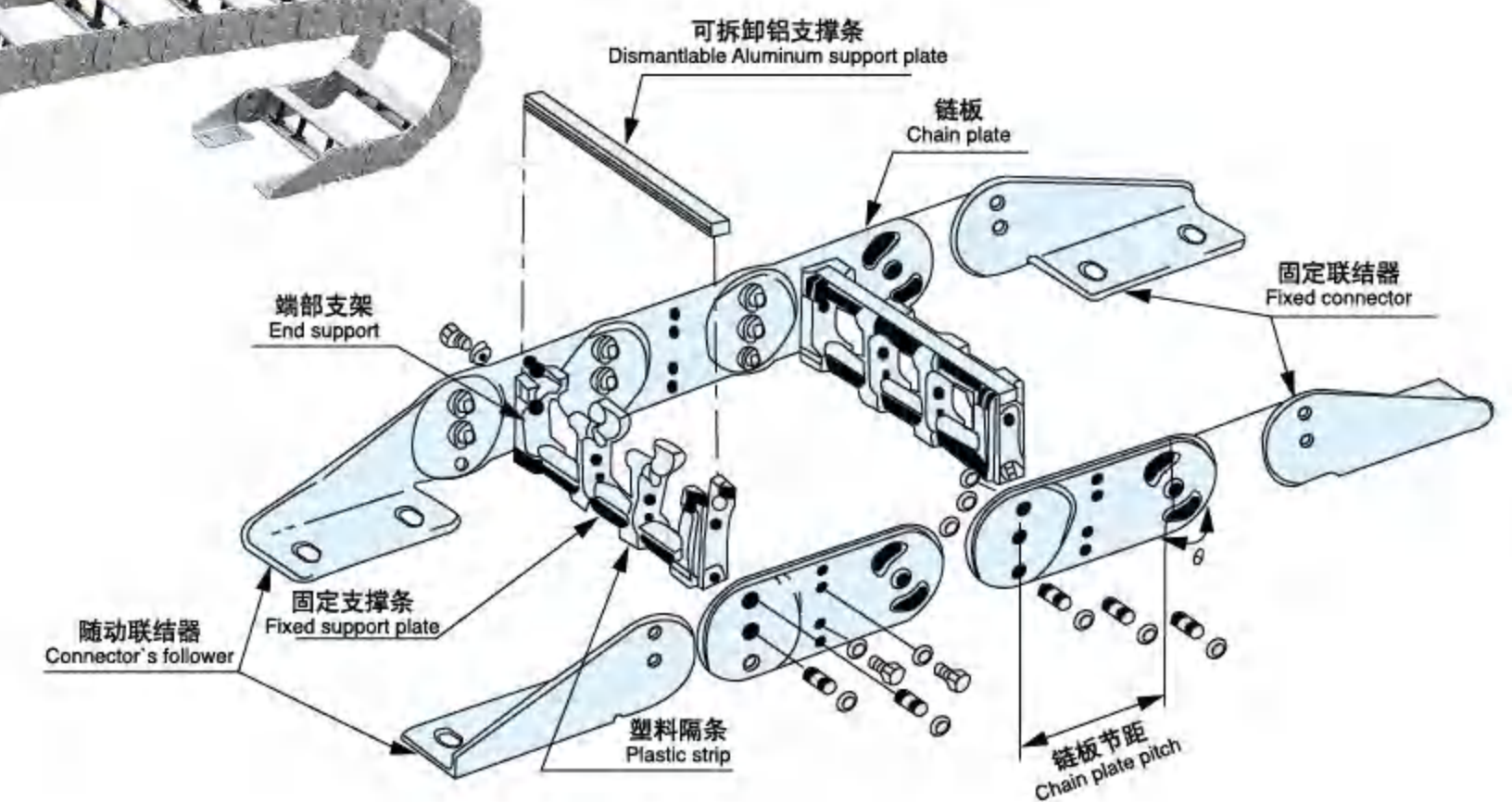
#### TL II型钢制拖链

##### TL II series steel cable drag chains



#### TL III型钢制拖链

##### TL III series steel cable drag chains



## TL型钢制拖链

### TL series steel cable chains

#### TL钢制拖链

TL系列拖链的主体是由链板（优质钢板镀铬或不锈钢）支撑板（挤拉铝合金）轴销（合金钢）等部件组成，使电缆或橡胶管与拖链之间不产生相对运动，不产生扭曲变形，链板经镀铬处理外形效果新颖，结构合理，灵巧强度高，钢性好不变形，安装方便，使用可靠，易拆装，尤其是本产品采用了高强度耐磨材料，合金钢为轴销，提高了产品的耐磨强度，弯曲更灵活，阻力更小，降低了噪音，从而可保证长时间使用不变形，不下垂。

钢制拖链外观精美，增强机床设备的整体艺术美观效果，增强我国机床、机械设备、自动化设备在国际市场的竞争能力。

- 1.拖链可适应最大移动速度40米/分。
- 2.拖链在最大移动速度时，噪声声压级不大于68分贝。
- 3.拖链安全使用寿命不小于100万次(往复)。



支撑板I型整体式、II型上下分开式  
Supporting board I Integral Type、II separate Type



支撑板III型框架式  
Supporting board III, Frame type

#### TL series steel cable drag chains

TL series cable drag chains are mainly consisting of chain plate (top quality stainless steel with chromium plated), supporting board (extruded aluminium alloy) and pinshaft (alloy), etc. There is no relative motions between the cables/rubber hoses and the drag chains, giving no deforming or twists. The chromium plated chain board has very nice-looking appearance and has very rational construction and flexible and high strength. It is reliable and easy to operate, install, dismantal or assemble. It is worthwhile mentioning that the anti-wearing performance has been improved greatly due to wear resistant material and alloy pinshaft are used. The product is flexible to bending and has low resistance, giving low noises. It can be used for a very long period of time without any deformation or hanging down.

The product is nice-looking,which makes the machine tool unit nicer looking as a whole and makes the machine tools and machineries more competitive in the international market.

- 1.The drag chain can adapt to max. moving speed of 40m/sec.
- 2.When at the max moving speed, the sound pressure of noises shall not be greater than 68 db.
- 3.The service life of the drag chain shall not be less than 1 million times (reciprocating).

## TL型钢制拖链

### TL series steel cable chains

#### TL型拖链主要参数

型号Type	TL65	TL95	TL115	TL125	TL155	TL180	TL225	TL250	TL320	TL450	
参项Reference											
节距 Pitch	t	65	95	115	125	155	180	225	250	320	450
弯曲半径 Bending radius	R	75/90/115 125/145/185	115/145/200 250/300/350	150/200/250 300/350/400	200/250/300 350/470/500	250/300/350 400/450/500	250/300/350 450/490/600	350/450/600 750/850	350/450/600 750/900/1050	700/900 1100/1300 1500/1800	1000/1250 1500/1800 2400
拖链最小宽度 Minimum width of drag chain	B min	50	60	70	80	90	100	160	190	300	400
拖链高度 Height of drag chain	L	44	70	85	100	120	144	200	220	300	450
拖链长度		由用户按需要自定									
支撑板最大孔径 Max. hole diameter of support plate	D1	32	50	63	75	97	110	146	170	240	370
允许不用支撑板长度 Non-support range		5	9	10	10	10	10	12	14	18	20
形式 Type		I, II, III	I, II, III	II, III	I, II, III	II, III	II, III	II, III	II, III	II, III	II, III

- 1.拖链按照国际标准生产制造。
- 2.当用户需要非标准的弯曲半径或结构与标准有异的拖链时，可与本公司另行协议制造。
- 3.当拖链超过允许的最大宽度Bmax时，可采用由三条链带平行组成的复合拖链来完成，见下面图示。

#### 拖链的选用

- 1.支撑板内腔孔径 $D1=d+0.1d$ （取整数）。其中d=电线、电缆、液、气软管的外径。
- 2.根据支撑板内腔最大孔径Dmax来确定链板高度hg和拖链型号TLXX。
- 3.根据拖链功能要求来确定支撑板型式的拖链的弯曲半径：  
(1)当拖链需承载较大管、缆负荷时，应选用高强度支撑板I型(整块式)。  
(2)当管缆的管接头尺寸大于支撑板内腔孔径或须经常拆装、维修等时，可选用支撑II型。属分开式类型支撑板。  
(3)安装管缆的规格品种较多时，可选用支撑板III型(框架式)。
- 4.根据安装管缆的数量来决定支撑板宽度B1，从而可得拖链宽度B。

#### 带三条链板的拖链

因为支撑板最大长度为600mm~650mm，在较宽拖链上可以装置一个或多个拖链链板。另外的原因是，可提高较窄的拖链的稳定性，此外也可通过第三条链板将套管与电缆隔开。



1. Cable chain are according to international standard to manufacture.
2. When non-standard bend radius or non-standard drag chains are required, we can make them according to the user's requirements.
3. When the max. width Bmax is exceeded, compound type drag chains that consist of 3 chain crawlers can be used. See figure below.

#### Selection of Drag Chains

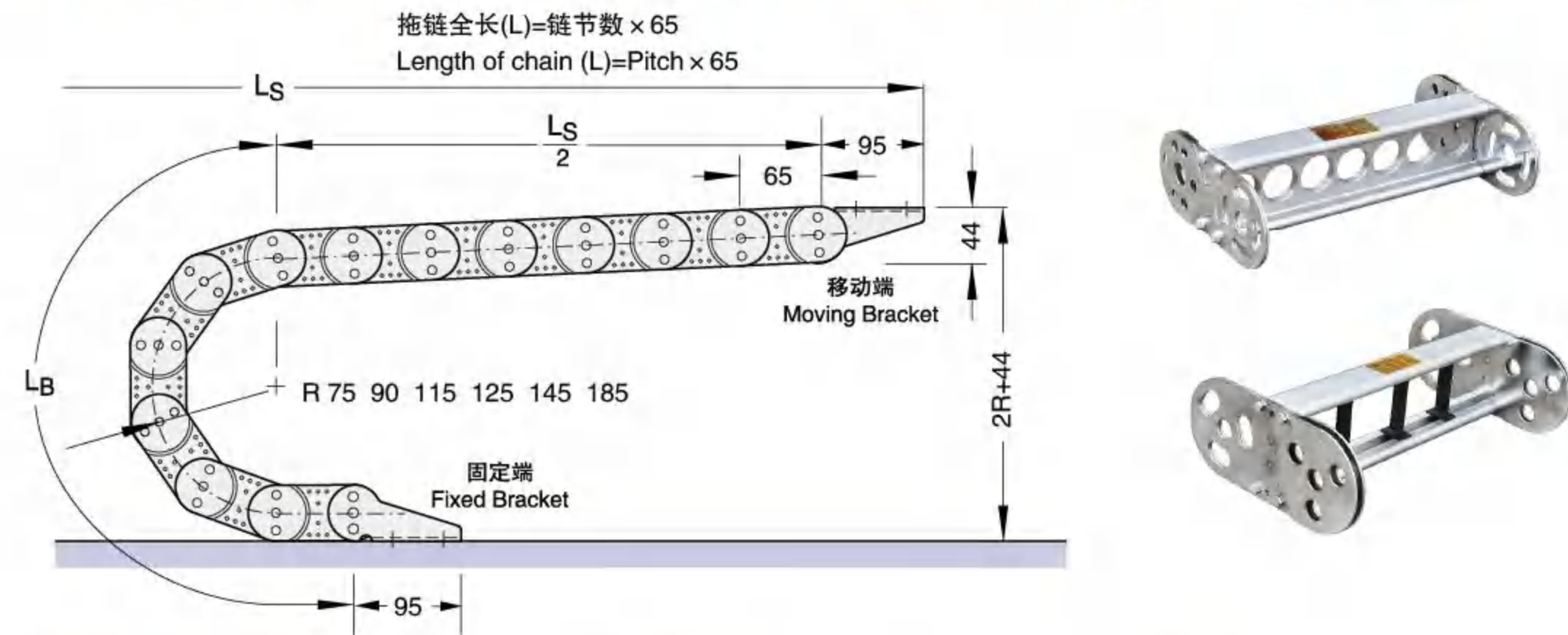
1. The hole diameter of the inner cavity of supporting board  $D1 = d + 0.1d$  (take round number). thereinto,  $d$ =outside diameter of cables, wires, liquid/gas hoses.
2. The height of the supporting board and the model number TLXX of drag chains depends on the the max. hole diameter of the inner cavity of the supporting.
3. The bend radius depends on the functions of the drag chains.  
(1). When there is a large load from larger calibre or cables on the drag chains, high strength model I supporting board (integral) should be used.  
(2). When the size of the connectors are greater than that of the hole diameter of the inner cavity of supporting board or frequent assembly or dismantal operations are required,type III supporting board (frame type) can be used.
4. The width of supporting board B, can be decided according to the quantity of the cables installed so that the width of the drag chain B can be arrived.

#### Drag chains with 3 chain board

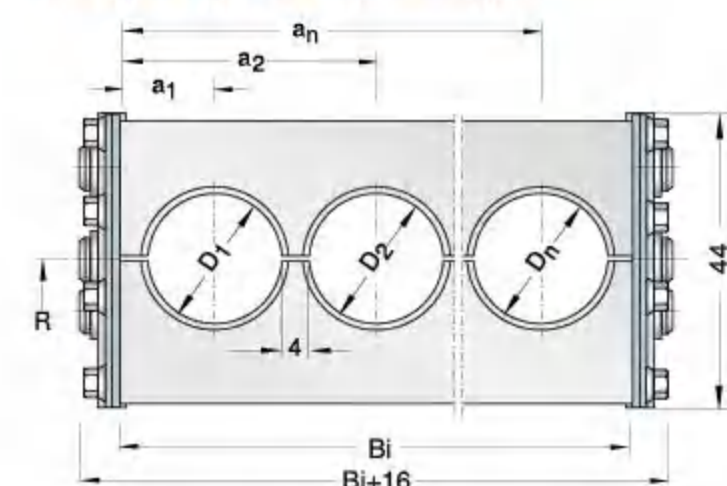
One or more drag chain boards can be installed on a wider drag chain, because the max. length of the supporting board is 600mm~650mm. This arrangement can also improve the stability of the narrower chains. In this way, the conduit and the cables can be separated from one another by a third chain board.

## TL65型钢制拖链安装尺寸图

### TL65 series steel cable chain installation dimension drawing

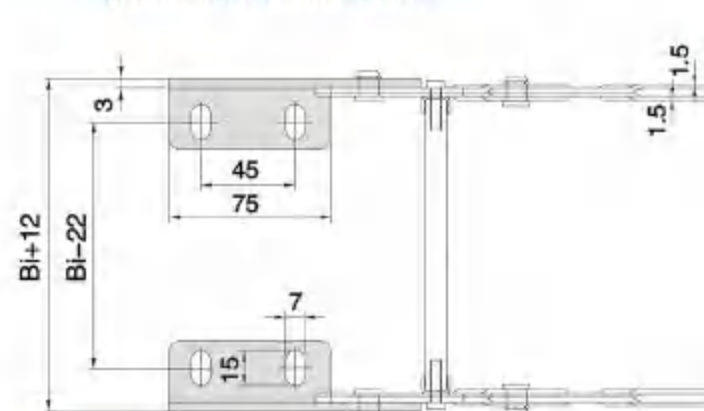


I型整体式、II型上下分开式  
I Integral type, II Separate type



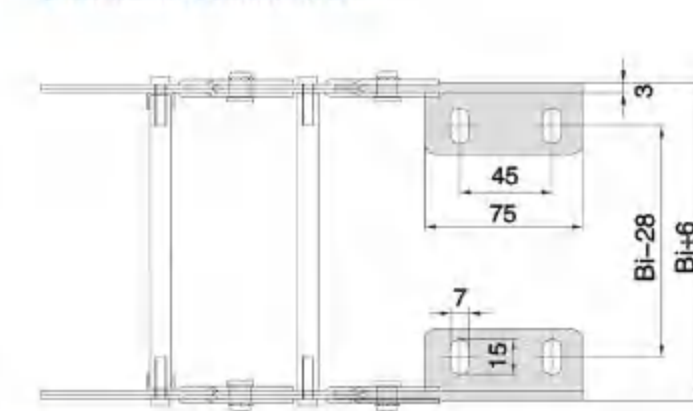
拖链支撑板I型整体式、II型上下分开式开孔  
Supporting board I Integral type, II Separate type

标准联结  
Standard connection



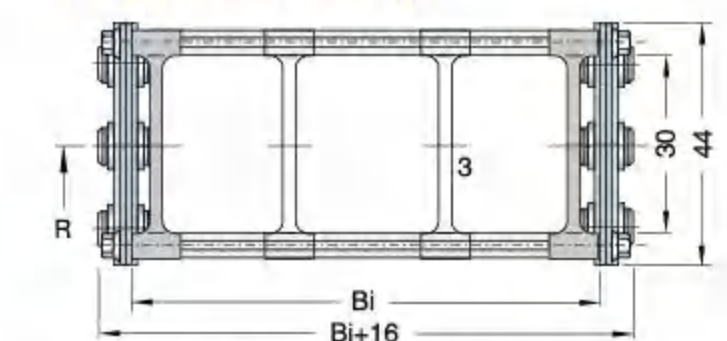
联结方式A  
Manner of connection A

标准联结  
Standard connection

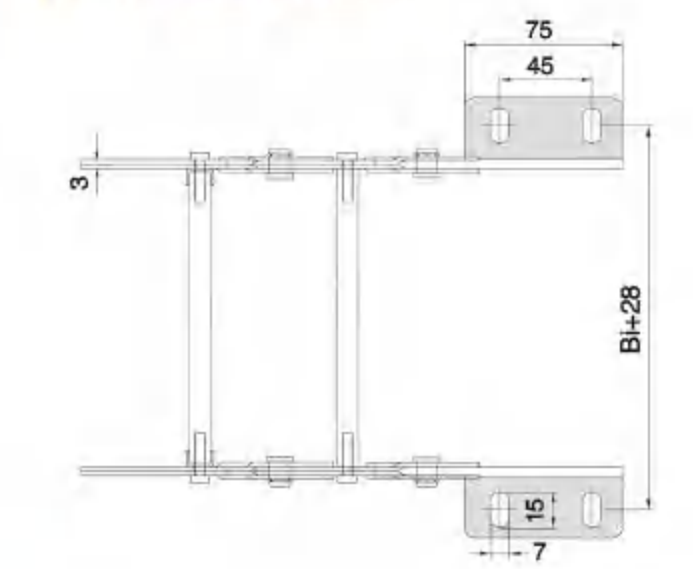
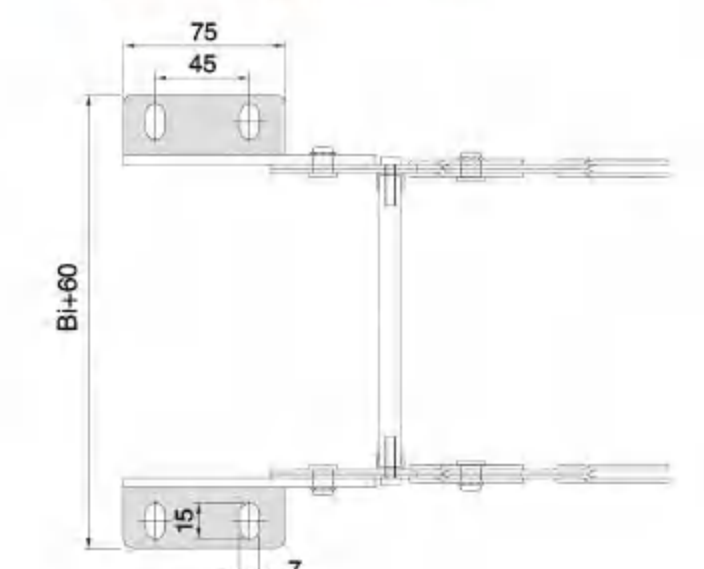


联结方式B  
Manner of connection B

III型框架式/III Frame type



拖链支撑板III型可放隔离片  
Supporting board III, Frame type



#### 订货举例

拖链型号TL65, 支撑板III型, 弯曲半径R=115, 支撑板宽度Bi=200, 拖链长度L=6500

拖链TL65III-115×200×6500

I型-支撑板整体型(根据用户要求开孔)

II型-支撑板上下分开型(根据用户要求开孔)

III型-上下是铝板内有隔离片(根据用户要求放隔条)

#### Example for an order

Drag chain model number TL65, supporting board III type, bend radius R=115, supporting board width Bi=200 length L=6500

Drag chain TL65III-115×200×6500

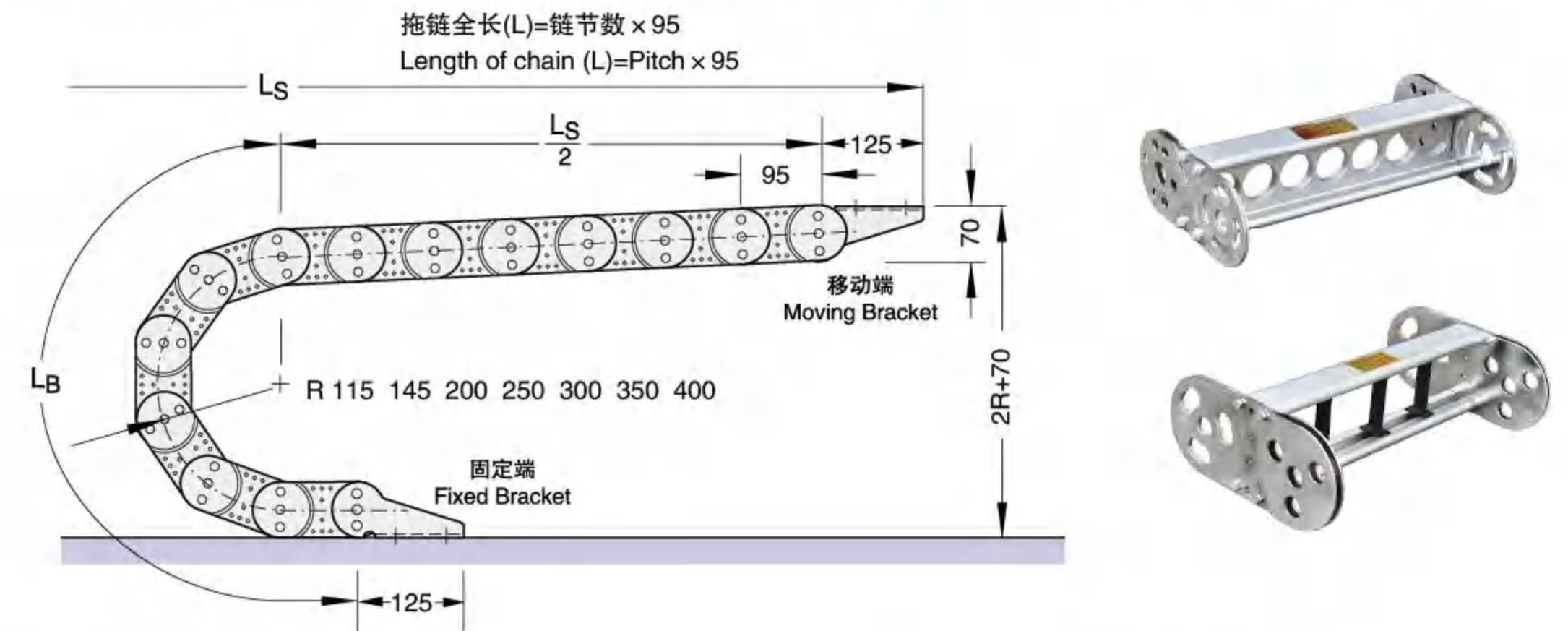
I-type Integral type of support board

II-type Separate type of support board

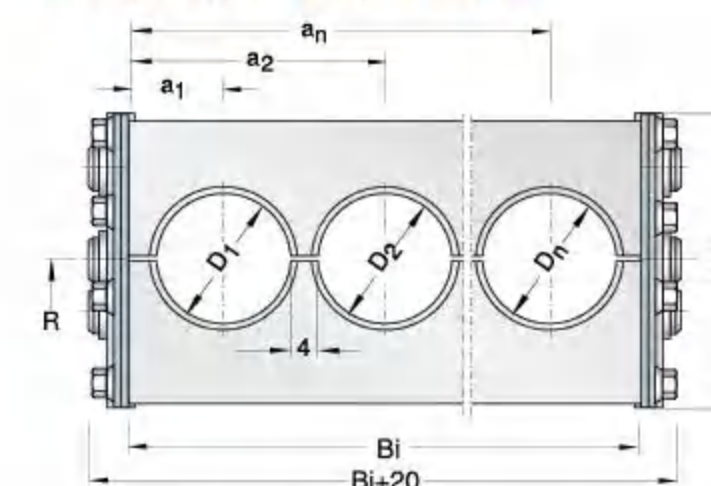
III-type The upper one and the lower one are made of aluminium with spacer inside (we can follow the requirement of customer to manufacture)

## TL95型钢制拖链安装尺寸图

### TL95 series steel cable chain installation dimension drawing

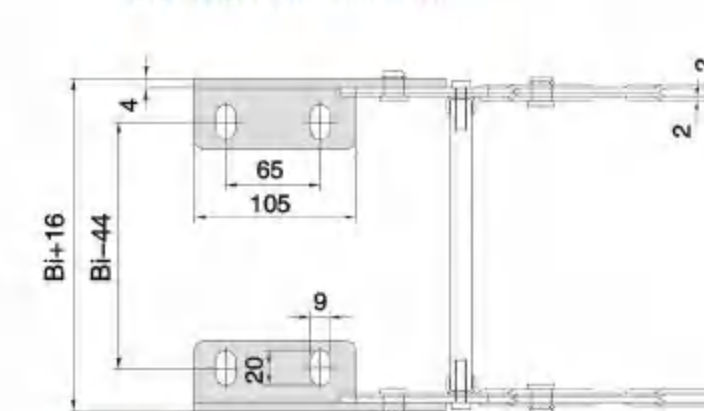


I型整体式、II型上下分开式  
I Integral type, II Separate type



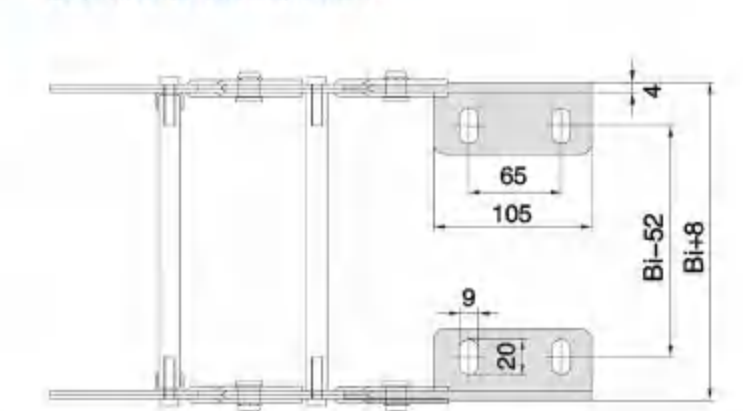
拖链支撑板I型整体式、II型上下分开式开孔  
Supporting board I Integral type, II Separate type

标准联结  
Standard connection



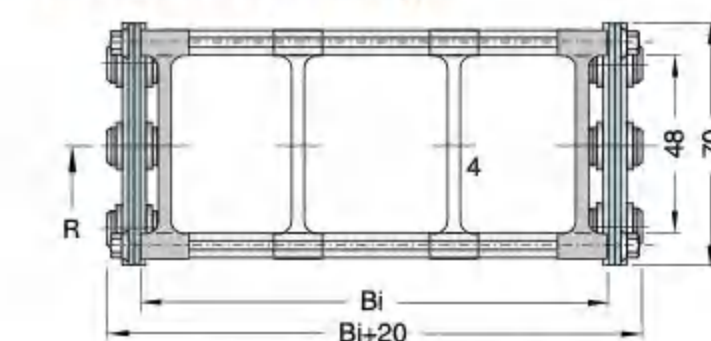
联结方式A  
Manner of connection A

标准联结  
Standard connection

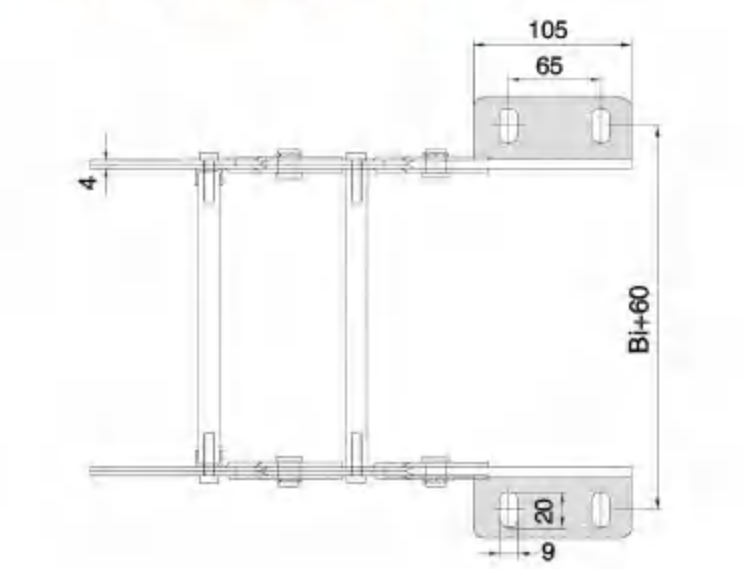
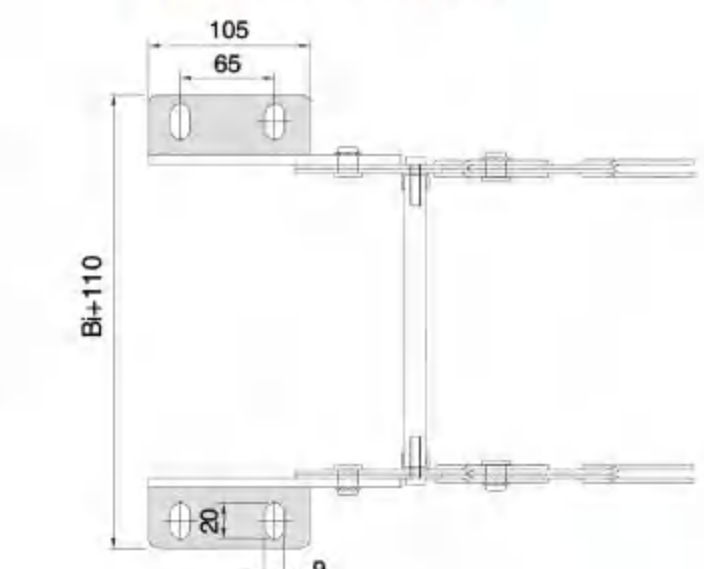


联结方式B  
Manner of connection B

III型框架式/III Frame type



拖链支撑板III型可放隔离片  
Supporting board III, Frame type



#### 订货举例

拖链型号TL95, 支撑板III型, 弯曲半径R=250, 支撑板宽度Bi=300, 拖链长度L=7500

拖链TL95III-250×300×7500

I型-支撑板整体型(根据用户要求开孔)

II型-支撑板上下分开型(根据用户要求开孔)

III型-上下是铝板内有隔离片(根据用户要求放隔条)

#### Example for an order

Drag chain model number TL95, supporting board III type, bend radius R=250, supporting board width Bi=300 length L=7500

Drag chain TL95III-250×300×7500

I-type Integral type of support board

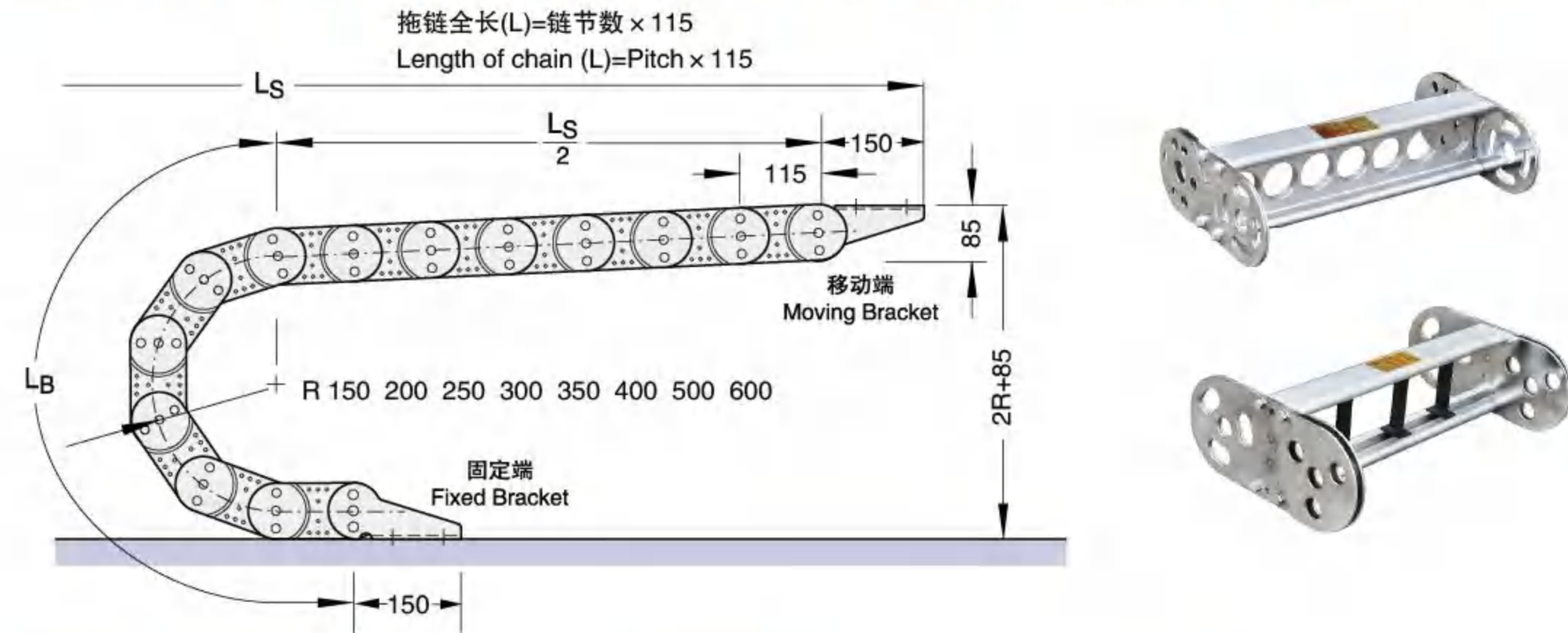
II-type Separate type of support board

III-type The upper one and the lower one are made of aluminium with spacer inside (we can follow the requirement of customer to manufacture)

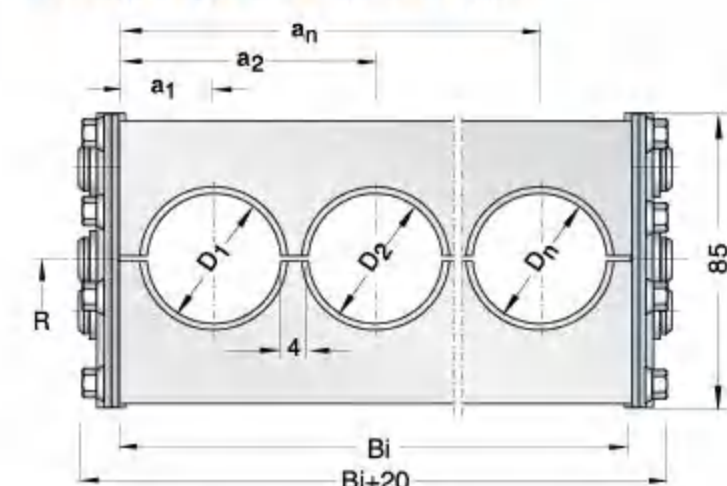


## TL115型钢制拖链安装尺寸图

### TL115 series steel cable chain installation dimension drawing

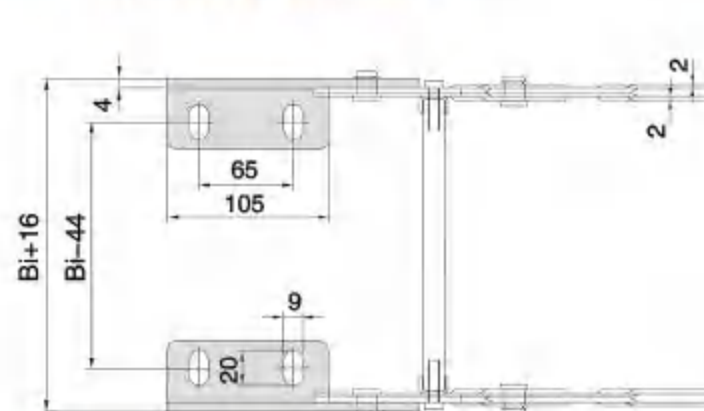


I型整体式、II型上下分开式  
I Integral type, II Separate type



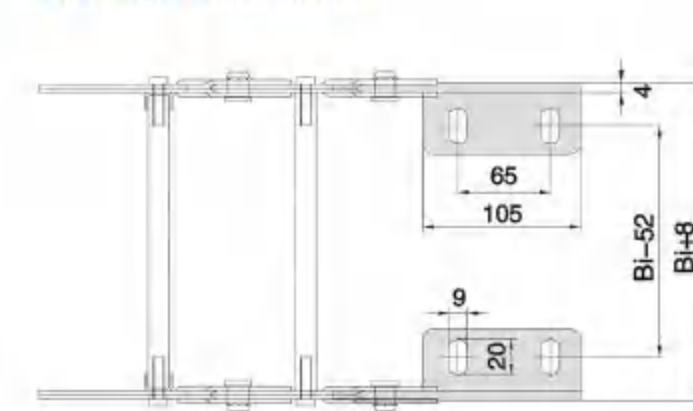
拖链支撑板I型整体式、II型上下分开式开孔  
Supporting board I Integral type, II Separate type

标准联结  
Standard connection



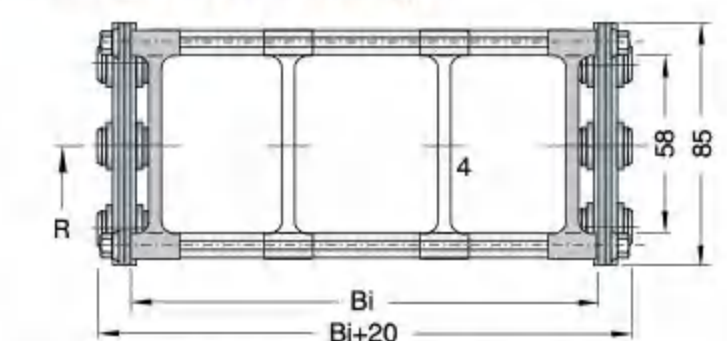
联结方式A  
Manner of connection A

标准联结  
Standard connection

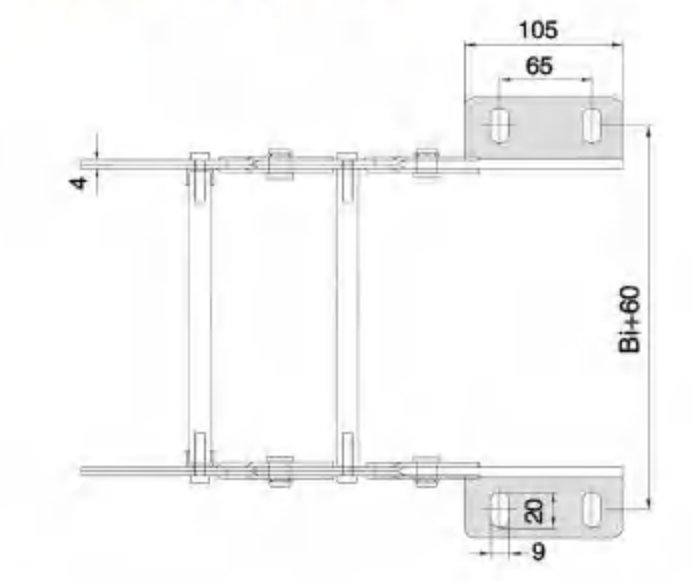
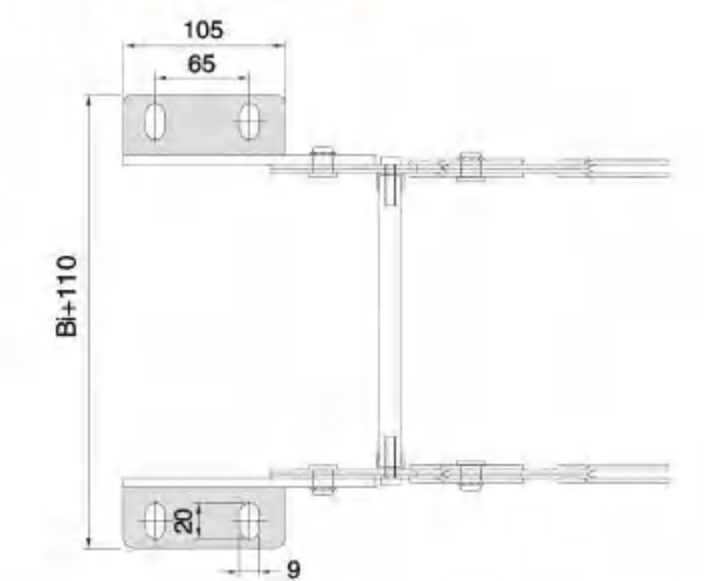


联结方式B  
Manner of connection B

III型框架式/III Frame type



拖链支撑板III型可放隔离片  
Supporting board III, Frame type



#### 订货举例

拖链型号TL115, 支撑板III型, 弯曲半径R=250, 支撑板宽度Bi=300, 拖链长度L=7500

拖链TL115III-250×300×7500

I型-支撑板整体型(根据用户要求开孔)

II型-支撑板上下分开型(根据用户要求开孔)

III型-上下是铝板内有隔离片(根据用户要求放隔条)

#### Example for an order

Drag chain model number TL115, supporting board III type, bend radius R=250, supporting board width Bi=300 length L=7500

Drag chain TL115III-250×300×7500

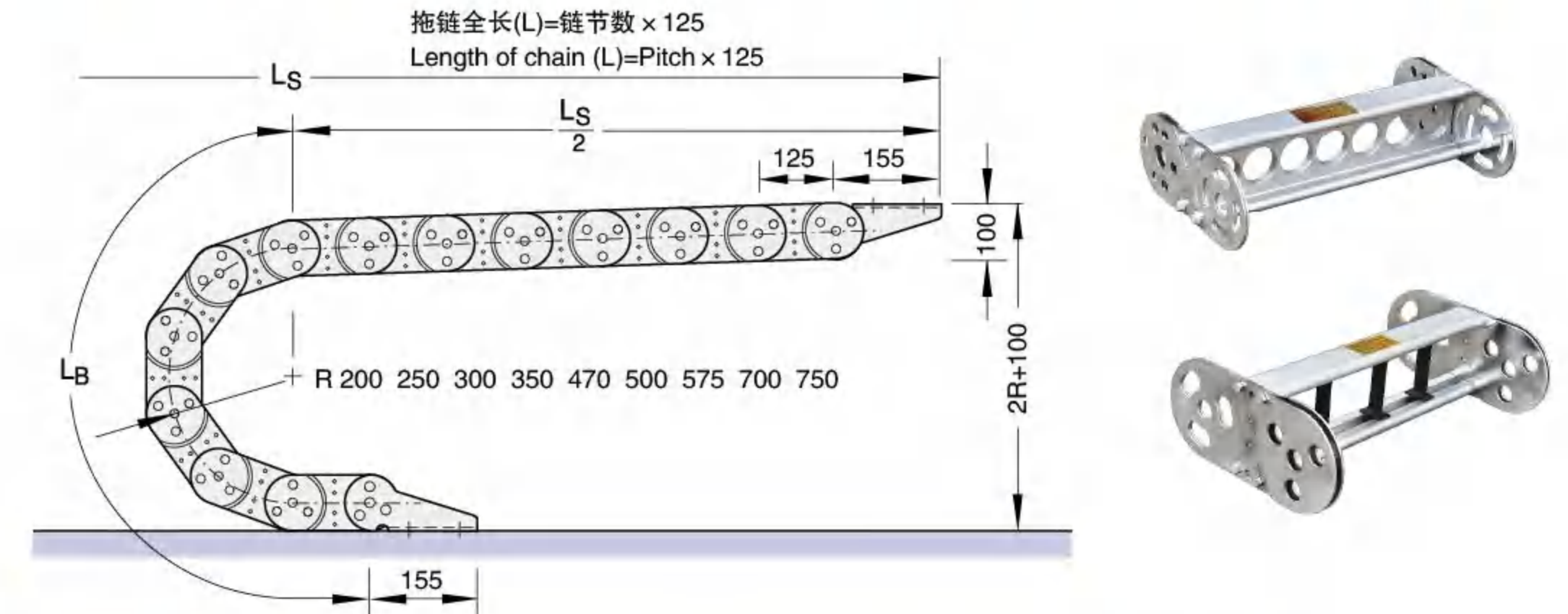
I-type Integral type of support board

II-type Separate type of support board

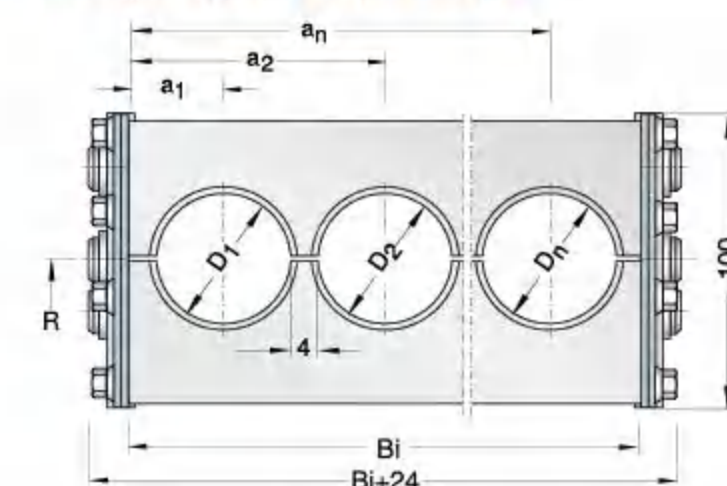
III-type The upper one and the lower one are made of aluminium with spacer inside (we can follow the requirement of customer to manufacture)

## TL125型钢制拖链安装尺寸图

### TL125 series steel cable chain installation dimension drawing

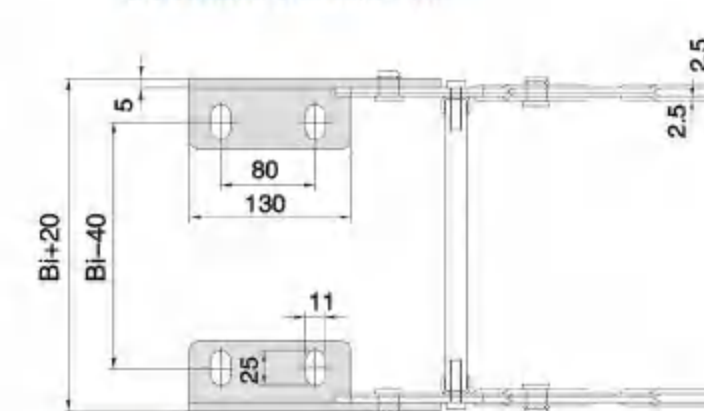


I型整体式、II型上下分开式  
I Integral type, II Separate type



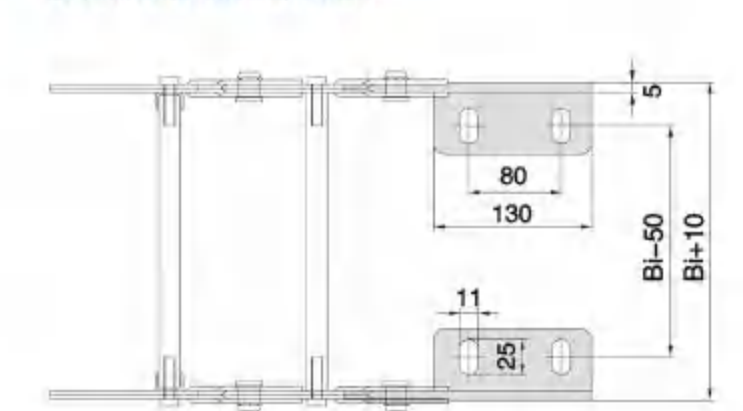
拖链支撑板I型整体式、II型上下分开式开孔  
Supporting board I Integral type, II Separate type

标准联结  
Standard connection



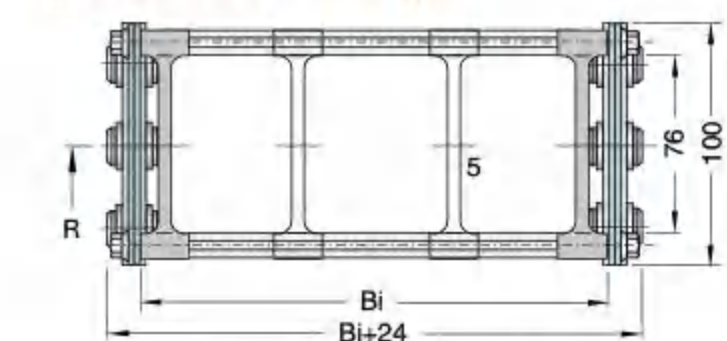
联结方式A  
Manner of connection A

标准联结  
Standard connection

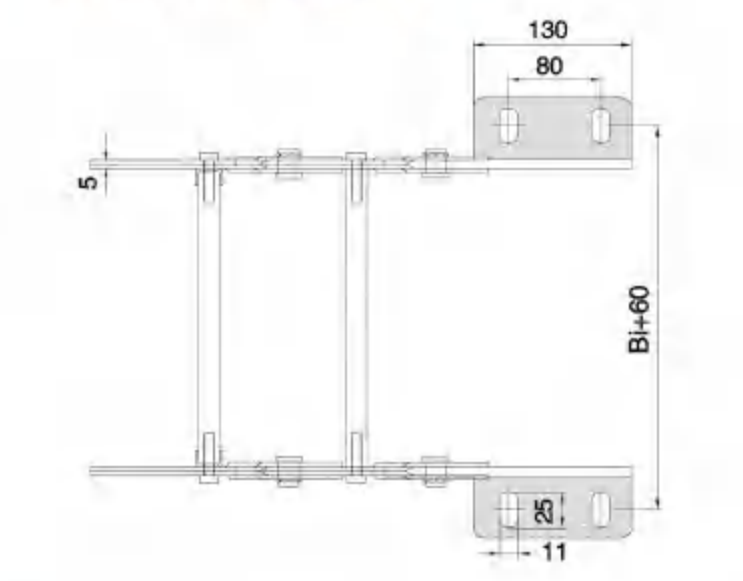
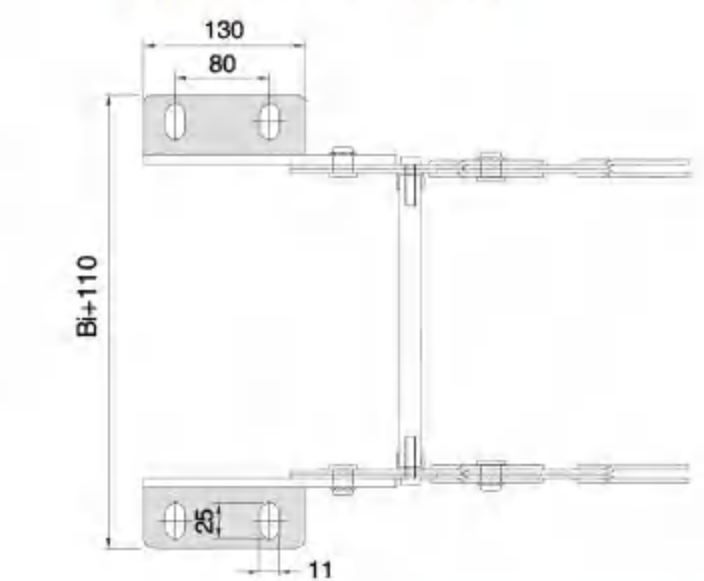


联结方式B  
Manner of connection B

III型框架式/III Frame type



拖链支撑板III型可放隔离片  
Supporting board III, Frame type



#### 订货举例

拖链型号TL125, 支撑板III型, 弯曲半径R=250, 支撑板宽度Bi=300, 拖链长度L=7800

拖链TL125III-250×300×7800

I型-支撑板整体型(根据用户要求开孔)

II型-支撑板上下分开型(根据用户要求开孔)

III型-上下是铝板内有隔离片(根据用户要求放隔条)

#### Example for an order

Drag chain model number TL125, supporting board III type, bend radius R=250, supporting board width Bi=300 length L=7800

Drag chain TL125III-250×300×7800

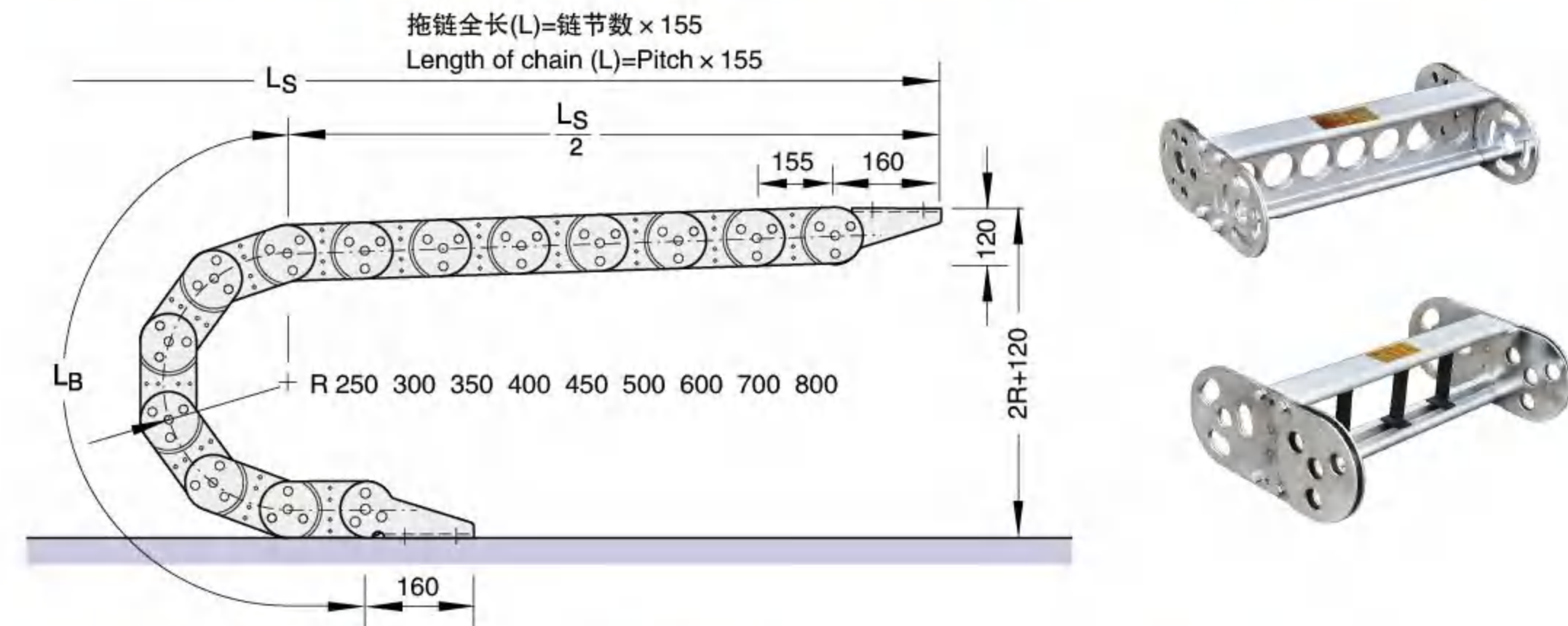
I-type Integral type of support board

II-type Separate type of support board

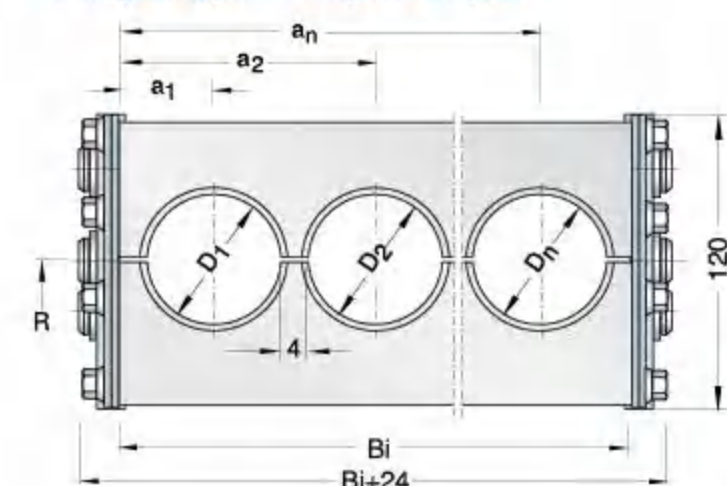
III-type The upper one and the lower one are made of aluminium with spacer inside (we can follow the requirement of customer to manufacture)

## TL155型钢制拖链安装尺寸图

### TL155 series steel cable chain installation dimension drawing

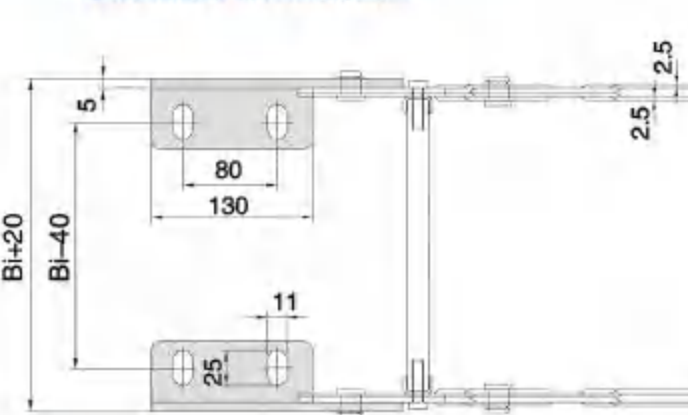


I型整体式、II型上下分开式  
I Integral type, II Separate type



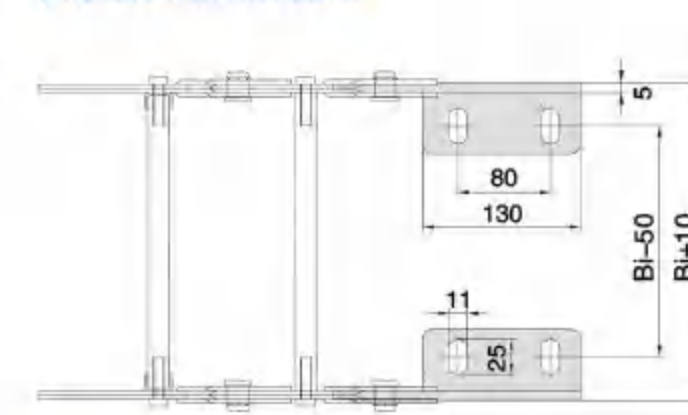
拖链支撑板I型整体式、II型上下分开式开孔  
Supporting board I Integral type, II Separate type

标准联结  
Standard connection



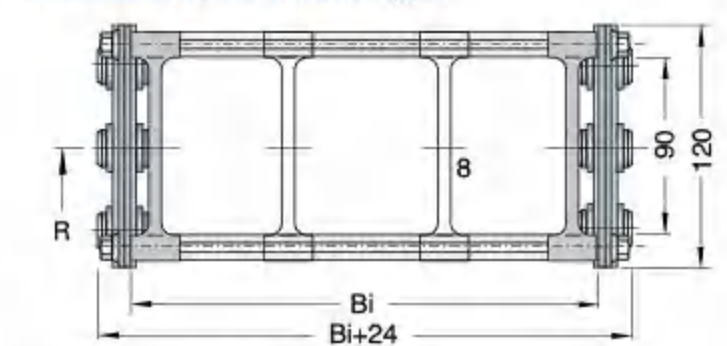
联结方式A  
Manner of connection A

标准联结  
Standard connection

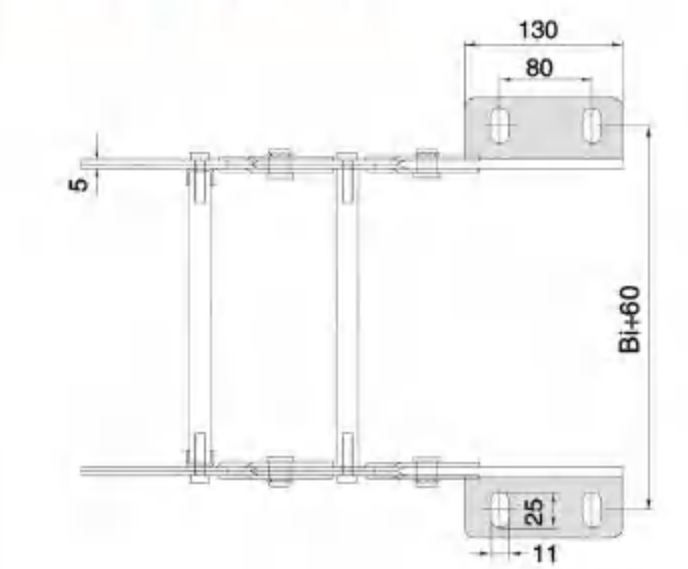
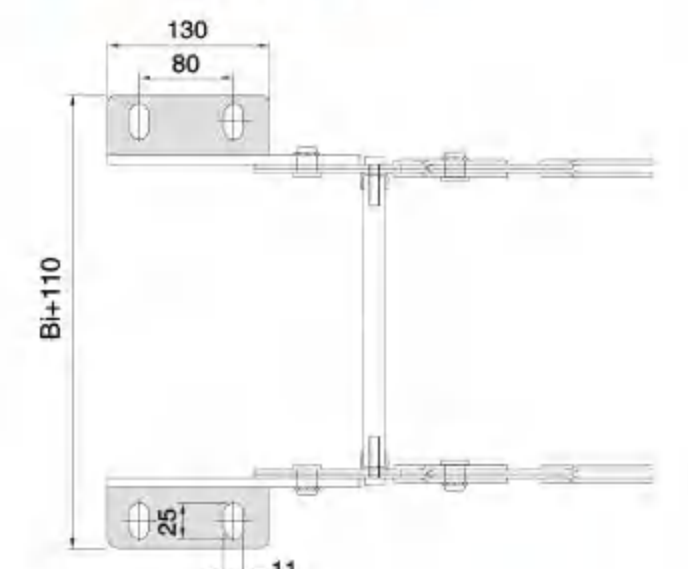


联结方式B  
Manner of connection B

III型框架式/III Frame type



拖链支撑板III型可放隔离片  
Supporting board III, Frame type



#### 订货举例

拖链型号TL155, 支撑板III型, 弯曲半径R=250, 支撑板宽度Bi=300, 拖链长度L=8800

拖链TL155III-250 × 300 × 8800

I型-支撑板整体型 (根据用户要求开孔)

II型-支撑板上下分开型 (根据用户要求开孔)

III型-上下是铝板内有隔离片 (根据用户要求放隔条)

#### Example for an order

Drag chain model number TL155, supporting board III type, bend radius R=250, supporting board width Bi=300 length L=8800

Drag chain TL155III-250 × 300 × 8800

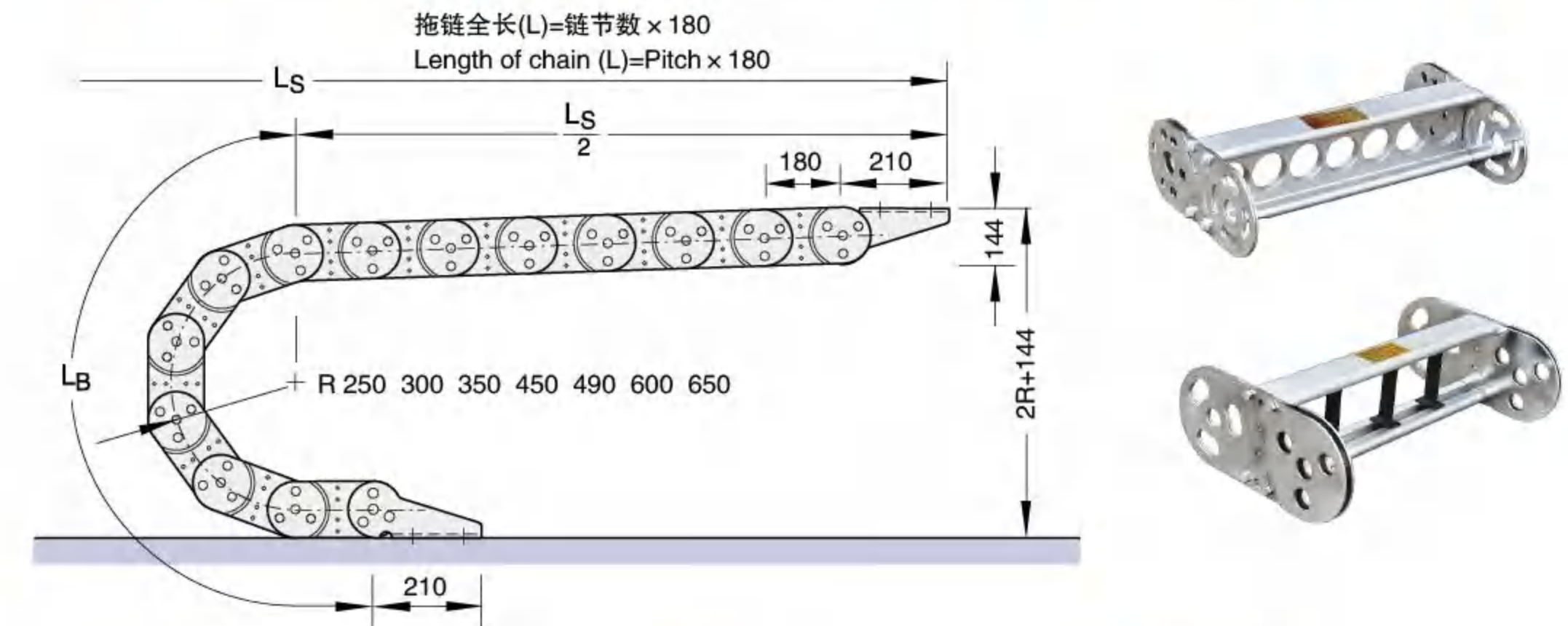
I-type Integral type of support board

II-type Separate type of support board

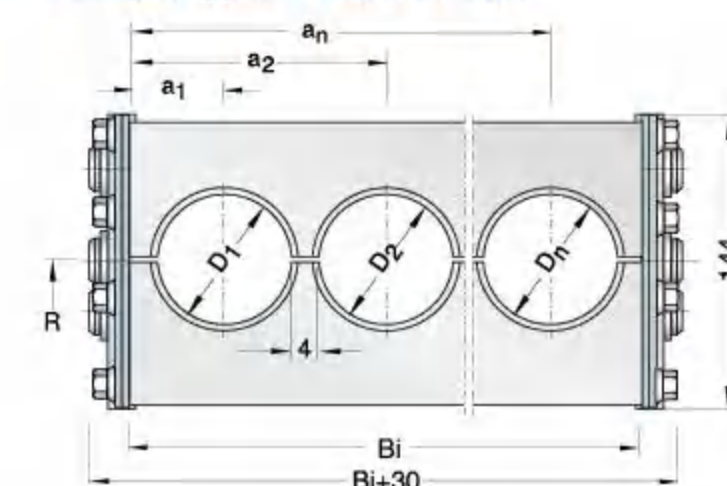
III-type The upper one and the lower one are made of aluminium with spacer inside (we can follow the requirement of customer to manufacture)

## TL180型钢制拖链安装尺寸图

### TL180 series steel cable chain installation dimension drawing

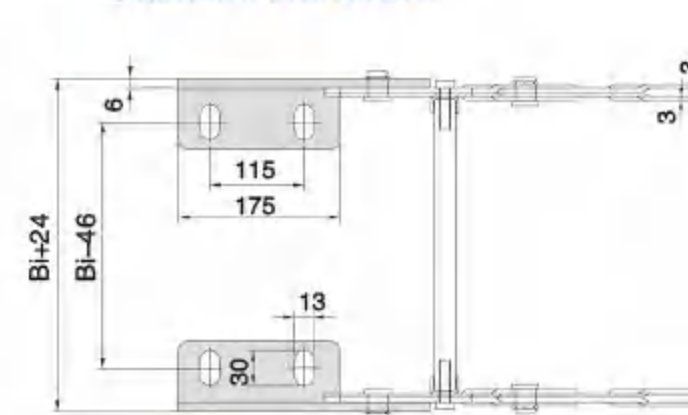


I型整体式、II型上下分开式  
I Integral type, II Separate type



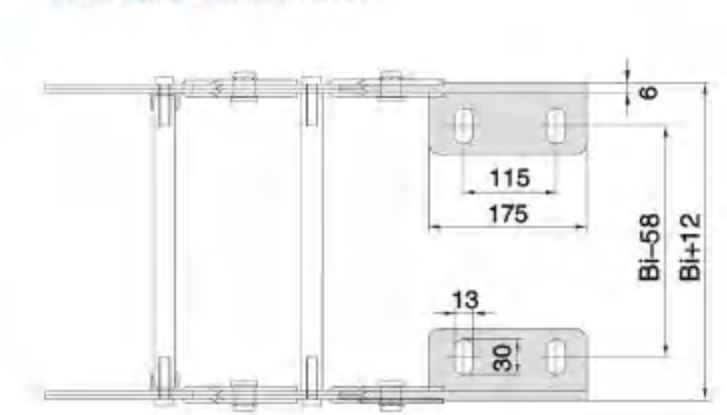
拖链支撑板I型整体式、II型上下分开式开孔  
Supporting board I Integral type, II Separate type

标准联结  
Standard connection



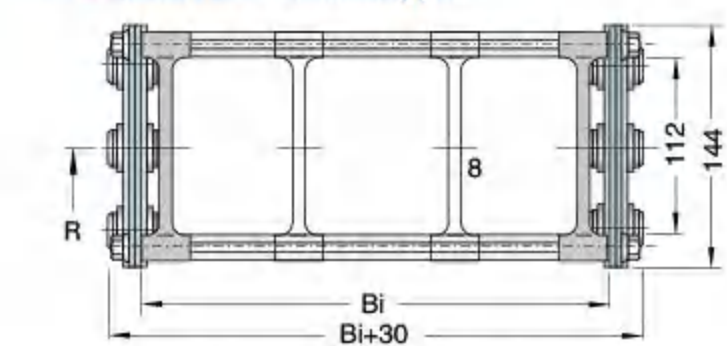
联结方式A  
Manner of connection A

标准联结  
Standard connection

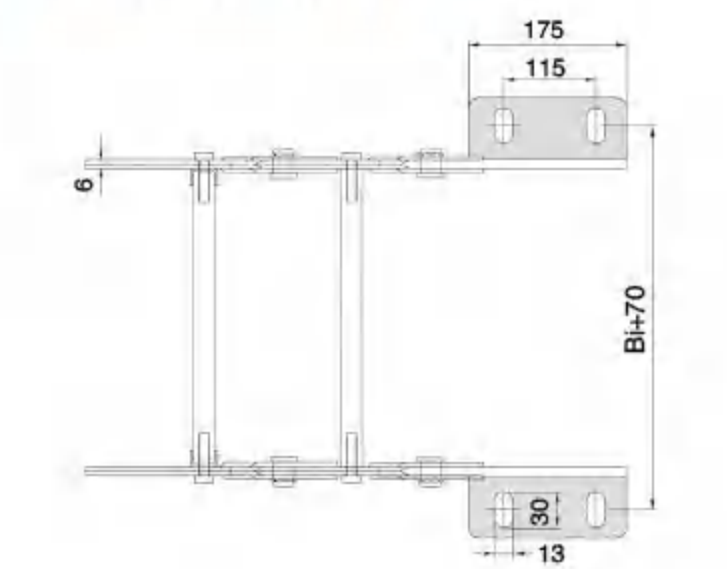
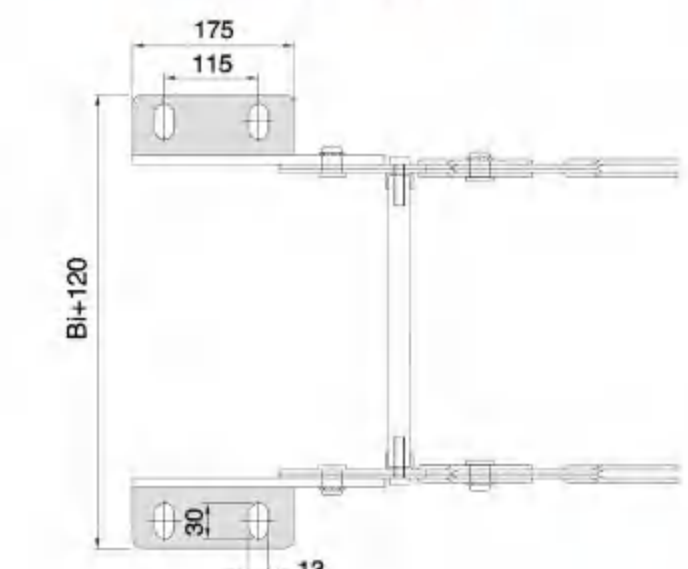


联结方式B  
Manner of connection B

III型框架式/III Frame type



拖链支撑板III型可放隔离片  
Supporting board III, Frame type



#### 订货举例

拖链型号TL180, 支撑板III型, 弯曲半径R=250, 支撑板宽度Bi=300, 拖链长度L=9800

拖链TL180III-250 × 300 × 9800

I型-支撑板整体型 (根据用户要求开孔)

II型-支撑板上下分开型 (根据用户要求开孔)

III型-上下是铝板内有隔离片 (根据用户要求放隔条)

#### Example for an order

Drag chain model number TL180, supporting board III type, bend radius R=250, supporting board width Bi=300 length L=9800

Drag chain TL180III-250 × 300 × 9800

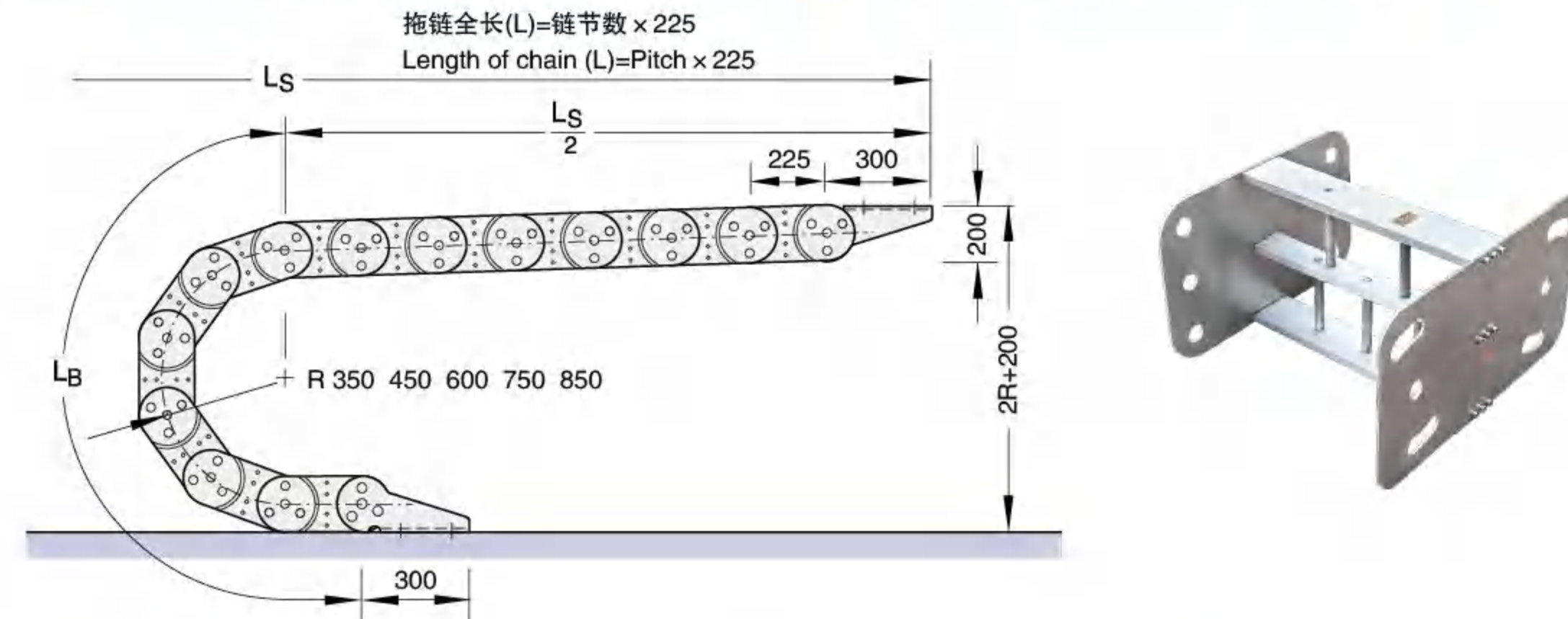
I-type Integral type of support board

II-type Separate type of support board

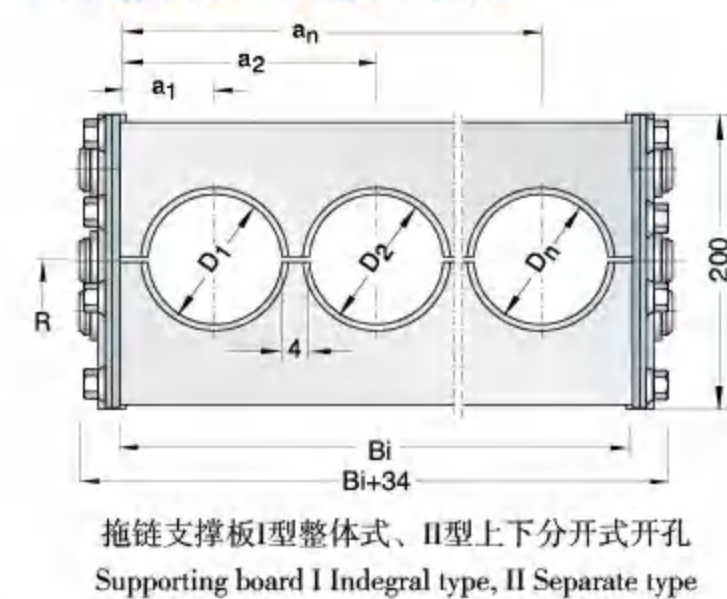
III-type The upper one and the lower one are made of aluminium with spacer inside (we can follow the requirement of customer to manufacture)

## TL225型钢制拖链安装尺寸图

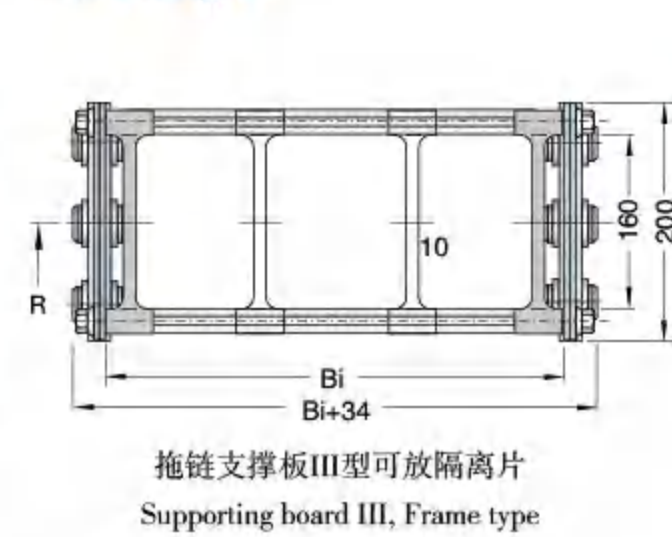
### TL225 series steel cable chain installation dimension drawing



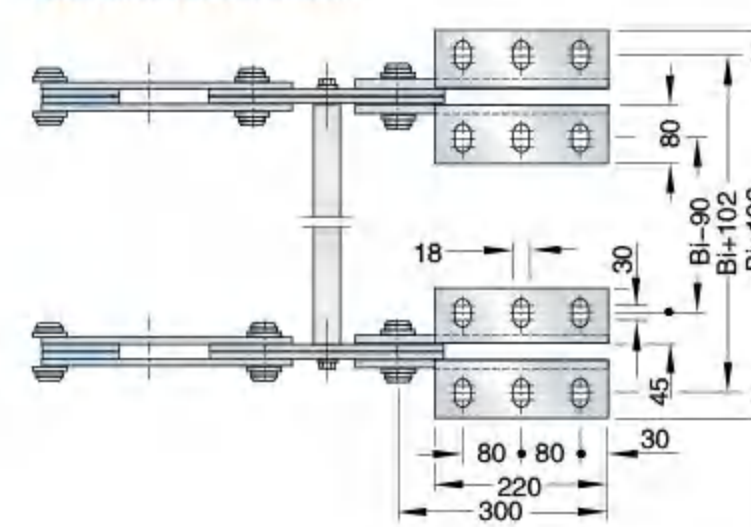
I型整体式、II型上下分开式  
I Integral type, II Separate type



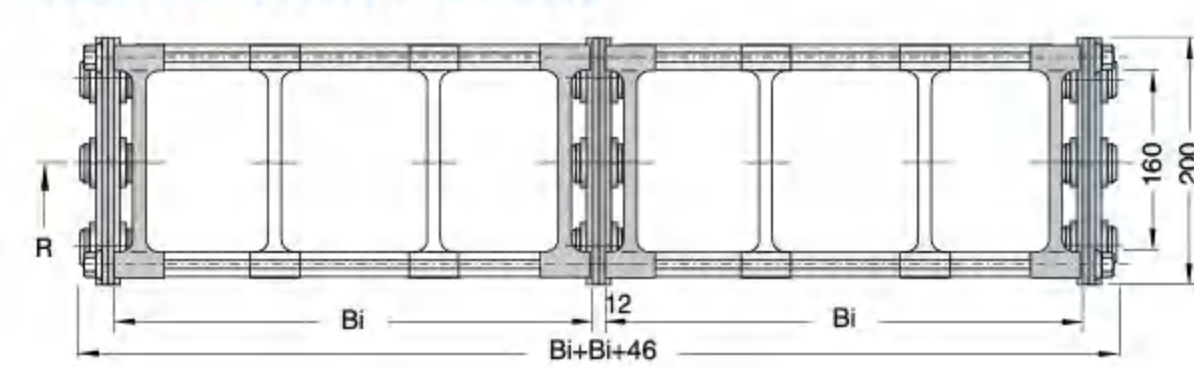
III型框架式  
III Frame type



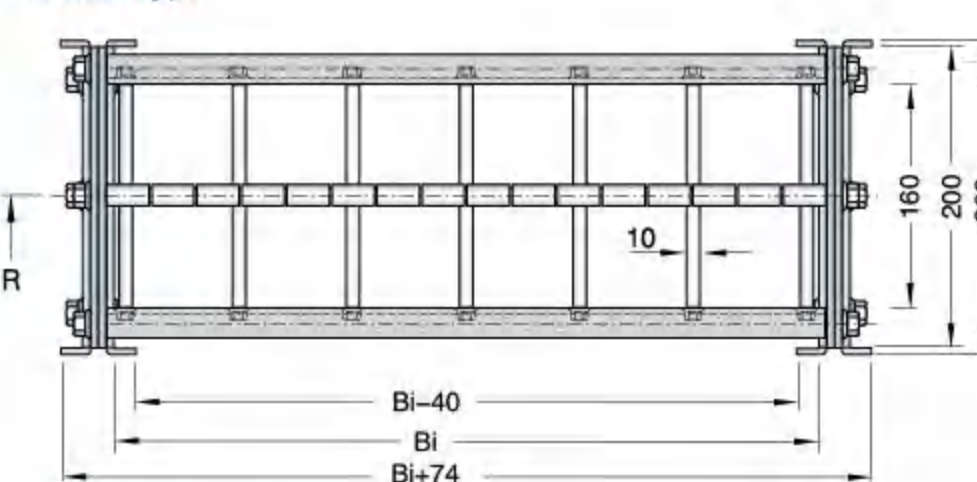
标准联结  
Standard connection



带三条链板的拖链  
Cable chains with 3 chain board



双层框架式  
Frame type



#### 订货举例

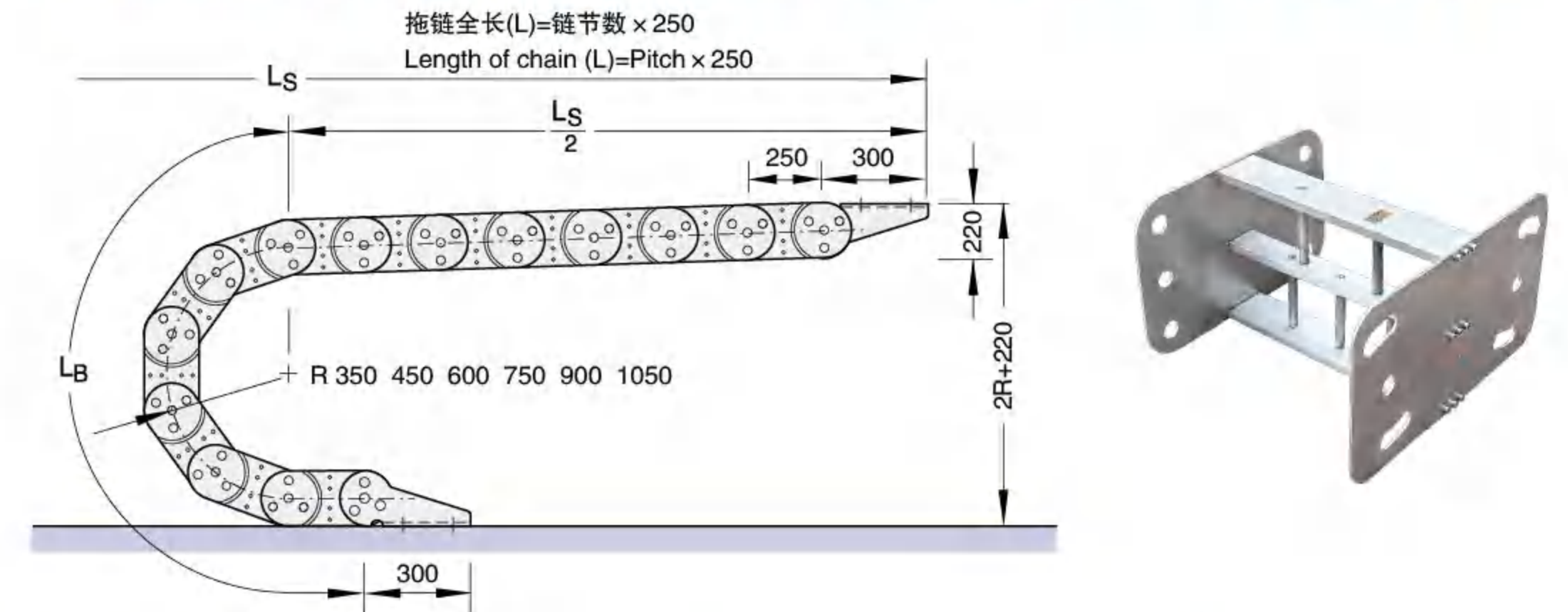
拖链型号TL225, 支撑板III型, 弯曲半径R=600, 支撑板宽度Bi=400, 拖链长度L=12000  
拖链TL225III-600×400×12000  
I型-支撑板整体型(根据用户要求开孔)  
II型-支撑板上下分开型(根据用户要求开孔)  
III型-上下是铝板内有隔离片(根据用户要求放隔条)

#### Example for an order

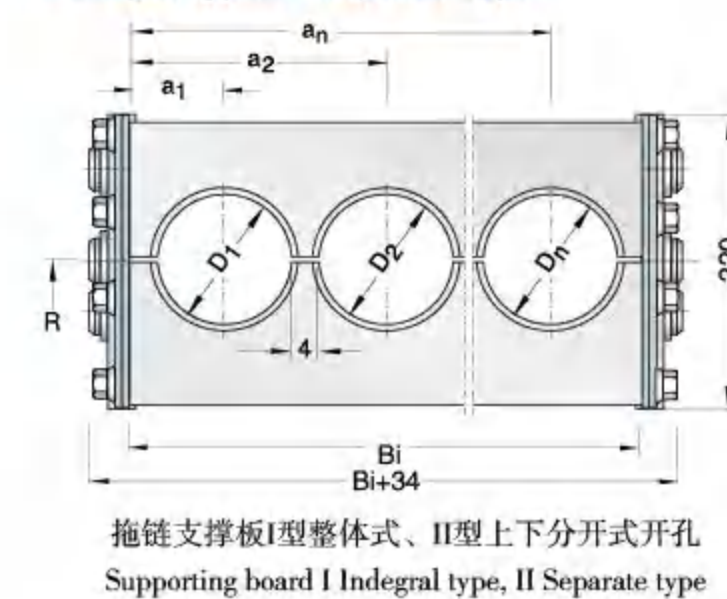
Drag chain model number TL225, supporting board III type, bend radius R=600, supporting board width Bi=400 length L=12000  
Drag chain TL225III-600×400×12000  
I-type Integral type of support board  
II-type Separate type of support board  
III-type The upper one and the lower one are made of aluminium with spacer inside (we can follow the requirement of customer to manufacture)

## TL250型钢制拖链安装尺寸图

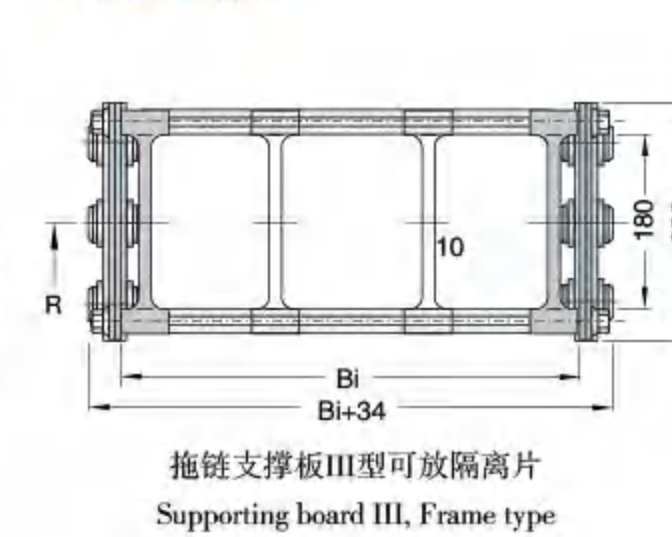
### TL250 series steel cable chain installation dimension drawing



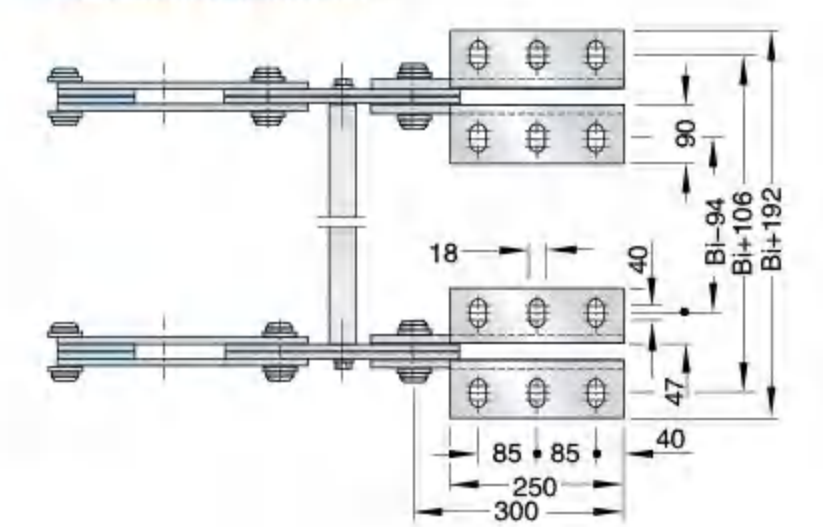
I型整体式、II型上下分开式  
I Integral type, II Separate type



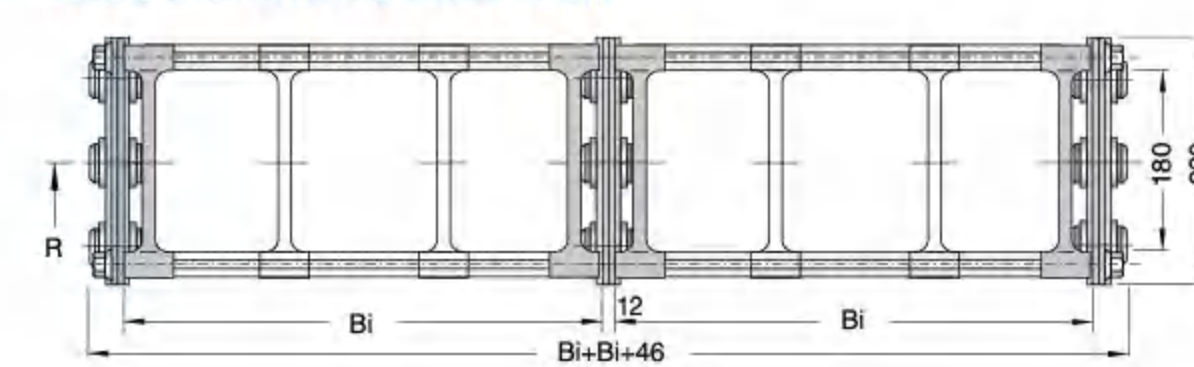
III型框架式  
III Frame type



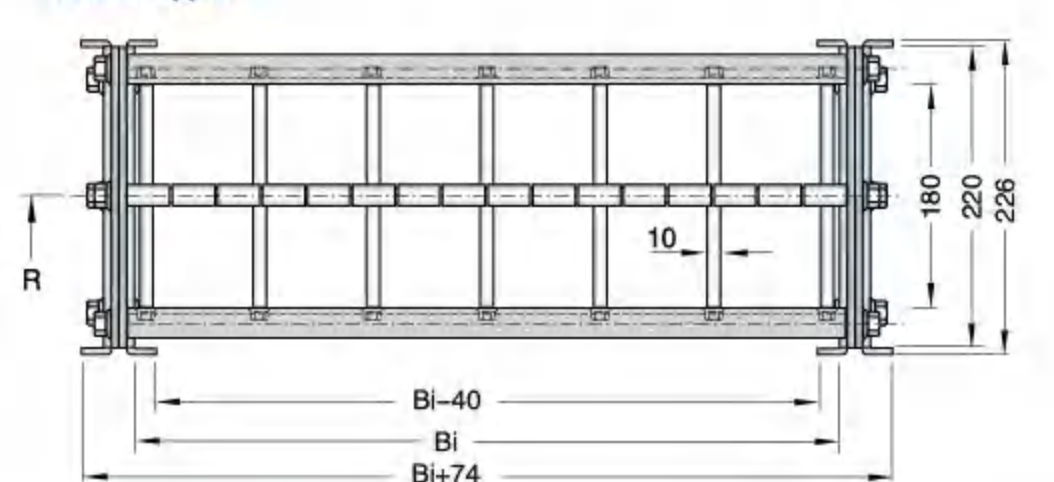
标准联结  
Standard connection



带三条链板的拖链  
Cable chains with 3 chain board



双层框架式  
Frame type



#### 订货举例

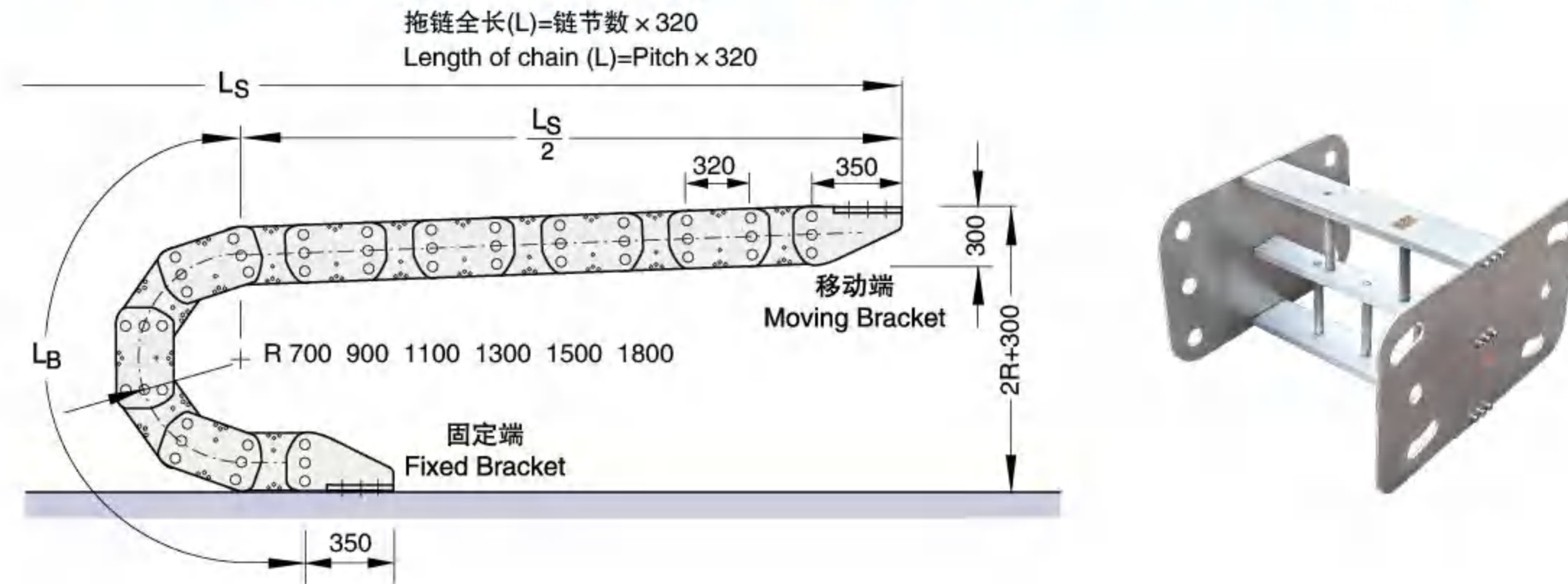
拖链型号TL250, 支撑板III型, 弯曲半径R=600, 支撑板宽度Bi=400, 拖链长度L=12000  
拖链TL250III-600×400×12000  
I型-支撑板整体型(根据用户要求开孔)  
II型-支撑板上下分开型(根据用户要求开孔)  
III型-上下是铝板内有隔离片(根据用户要求放隔条)

#### Example for an order

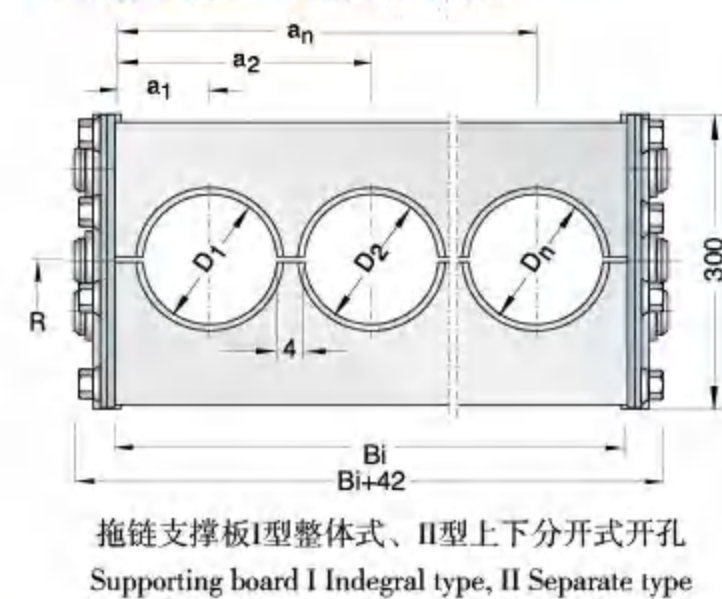
Drag chain model number TL250, supporting board III type, bend radius R=600, supporting board width Bi=400 length L=12000  
Drag chain TL250III-600×400×12000  
I-type Integral type of support board  
II-type Separate type of support board  
III-type The upper one and the lower one are made of aluminium with spacer inside (we can follow the requirement of customer to manufacture)

## TL320型钢制拖链安装尺寸图

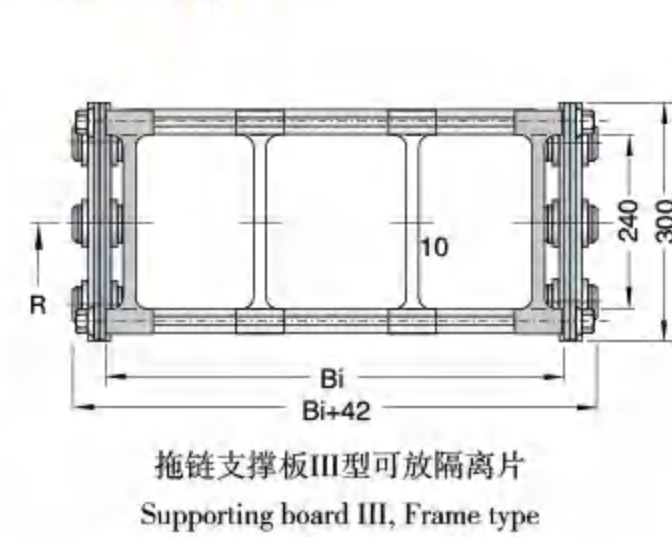
### TL320 series steel cable chain installation dimension drawing



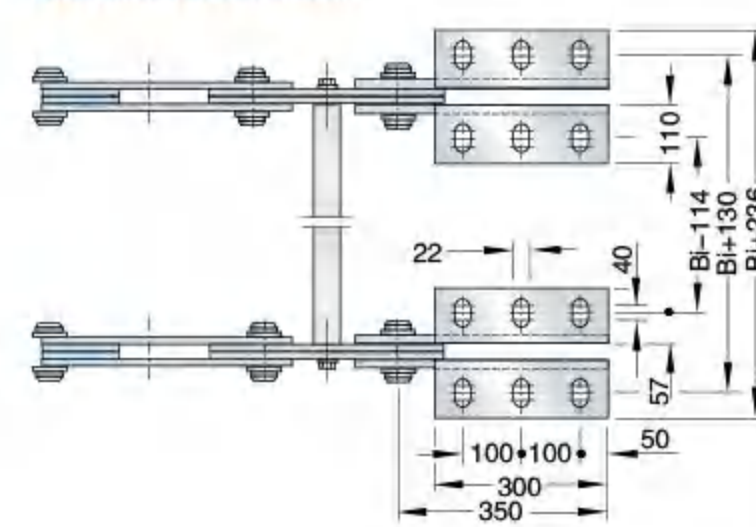
#### I型整体式、II型上下分开式 I Integral type, II Separate type



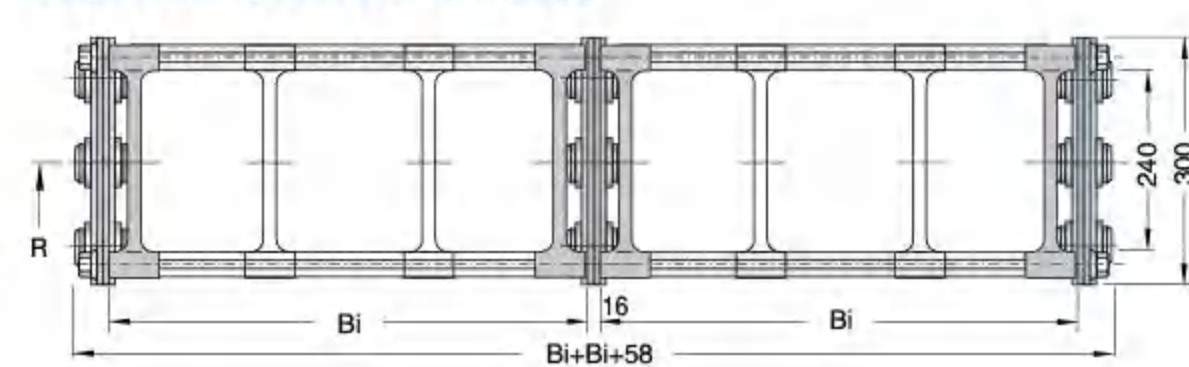
#### III型框架式 III Frame type



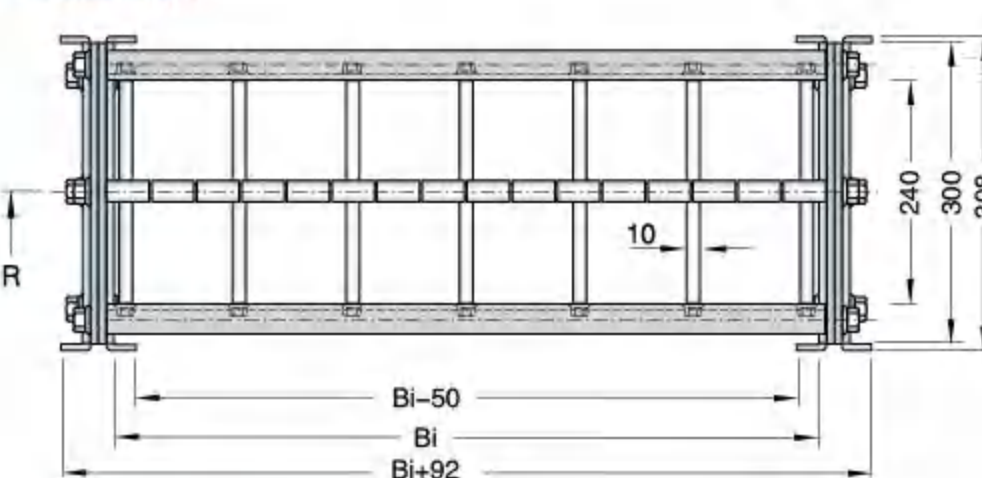
#### 标准联结 Standard connection



#### 带三条链板的拖链 Cable chains with 3 chain board



#### 双层框架式 Frame type



#### 订货举例

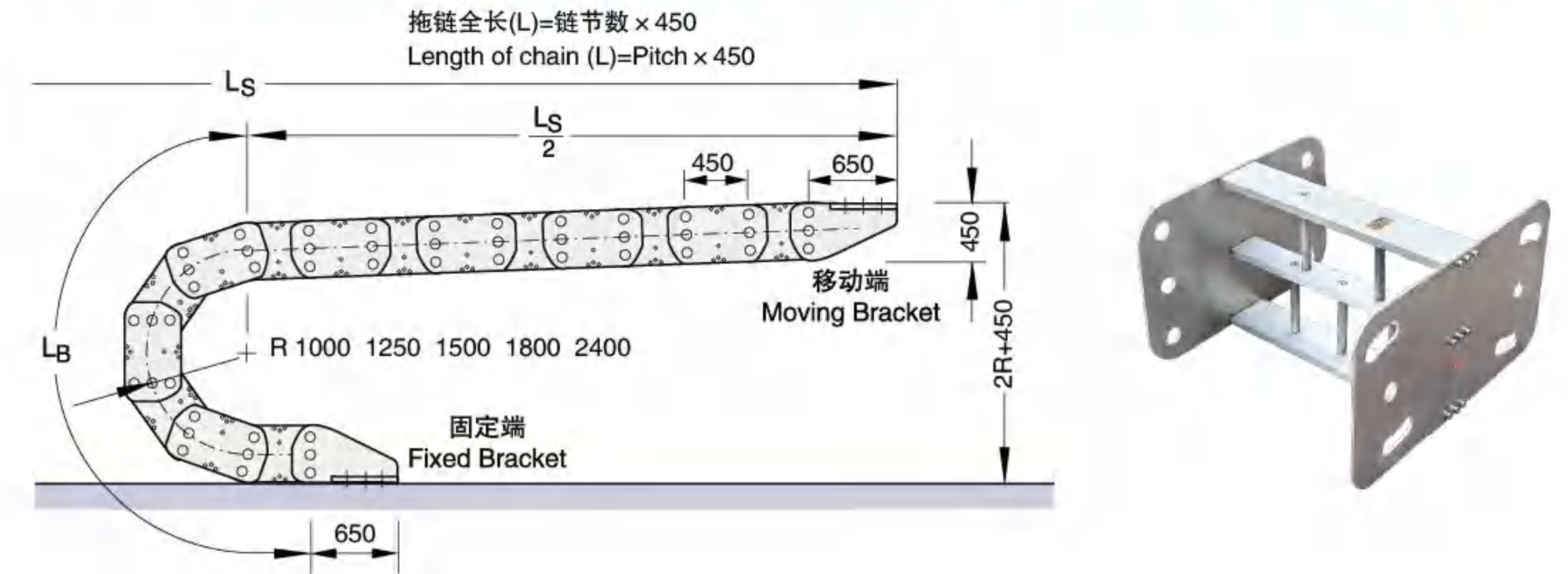
拖链型号TL320, 支撑板III型, 弯曲半径R=900, 支撑板宽度Bi=1000, 拖链长度L=15000  
拖链TL320III-900 × 1000 × 15000  
I型-支撑板整体型 (根据用户要求开孔)  
II型-支撑板上下分开型 (根据用户要求开孔)  
III型-上下是铝板内有隔离片 (根据用户要求放隔条)

#### Example for an order

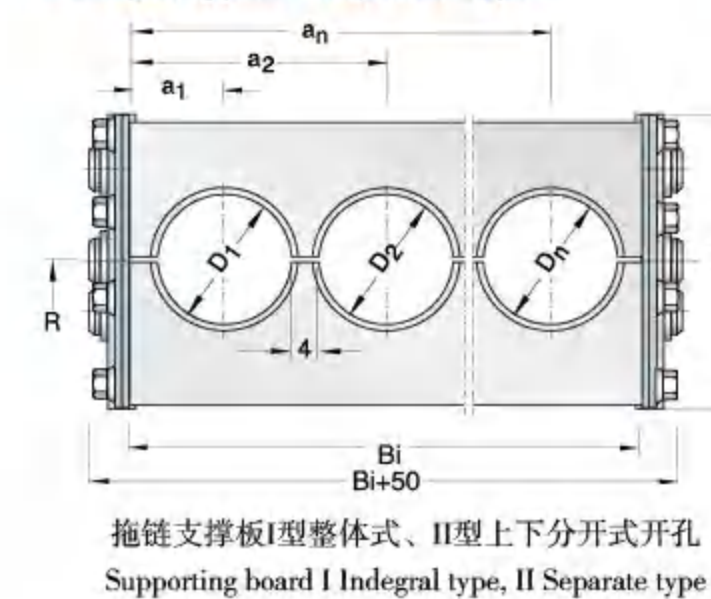
Drag chain model number TL320, supporting board III type, bend radius R=900, supporting board width Bi=1000 length L=15000  
Drag chain TL320III-900 × 1000 × 15000  
I-type Integral type of support board  
II-type Separate type of support board  
III-type The upper one and the lower one are made of aluminium with spacer inside (we can follow the requirement of customer to manufacture)

## TL450型钢制拖链安装尺寸图

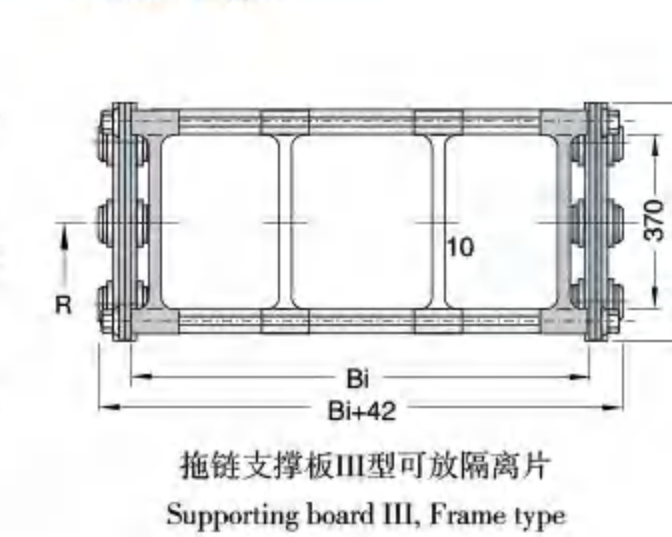
### TL450 series steel cable chain installation dimension drawing



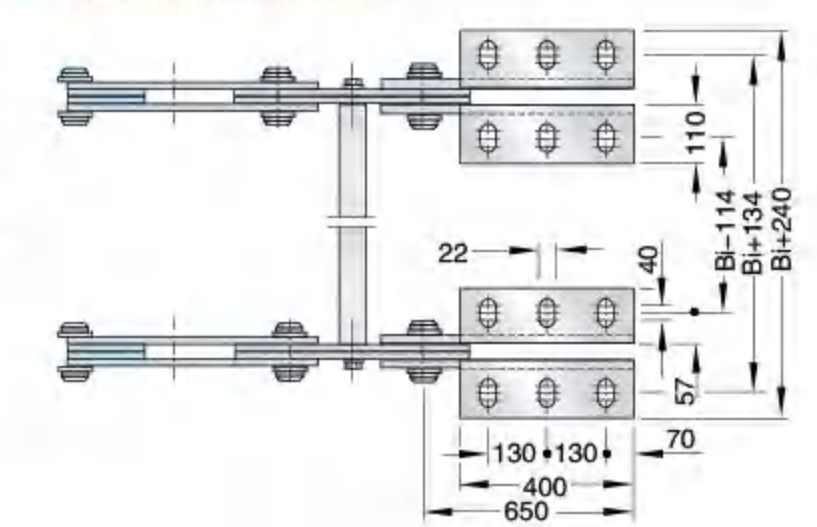
#### I型整体式、II型上下分开式 I Integral type, II Separate type



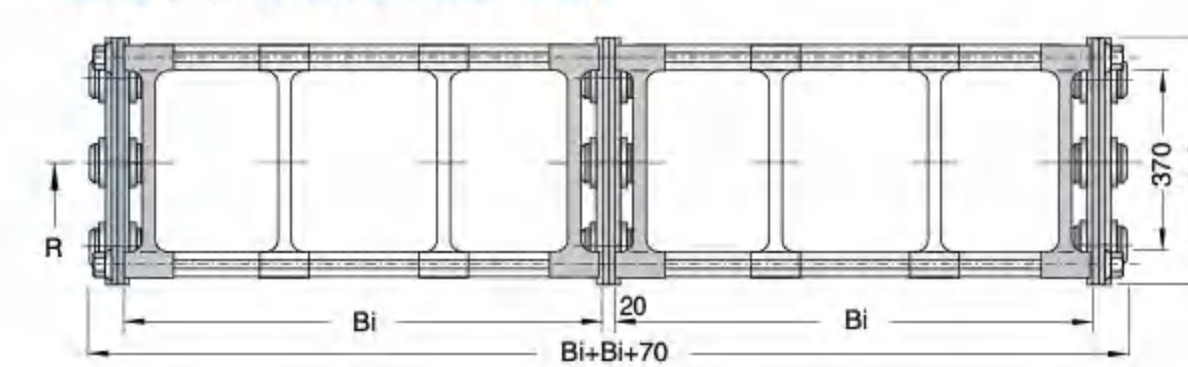
#### III型框架式 III Frame type



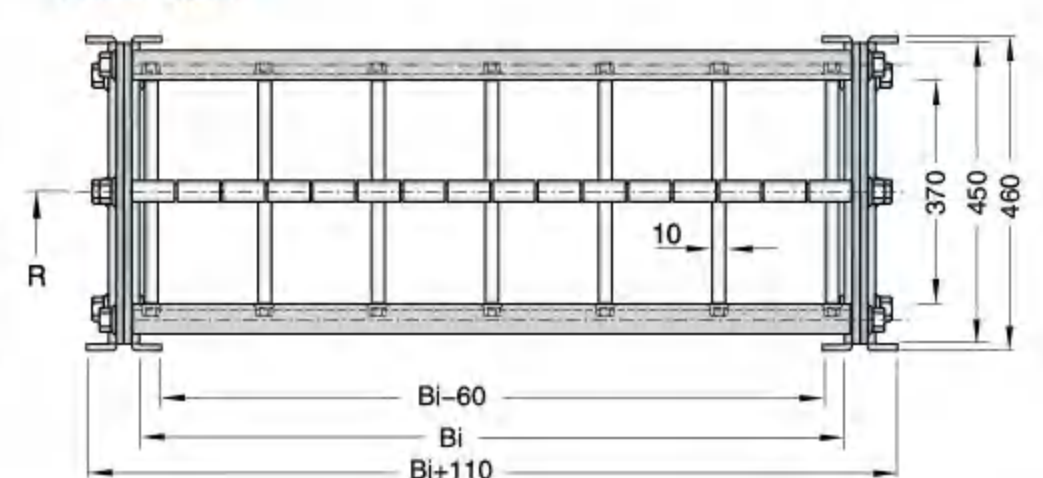
#### 标准联结 Standard connection



#### 带三条链板的拖链 Cable chains with 3 chain board



#### 双层框架式 Frame type



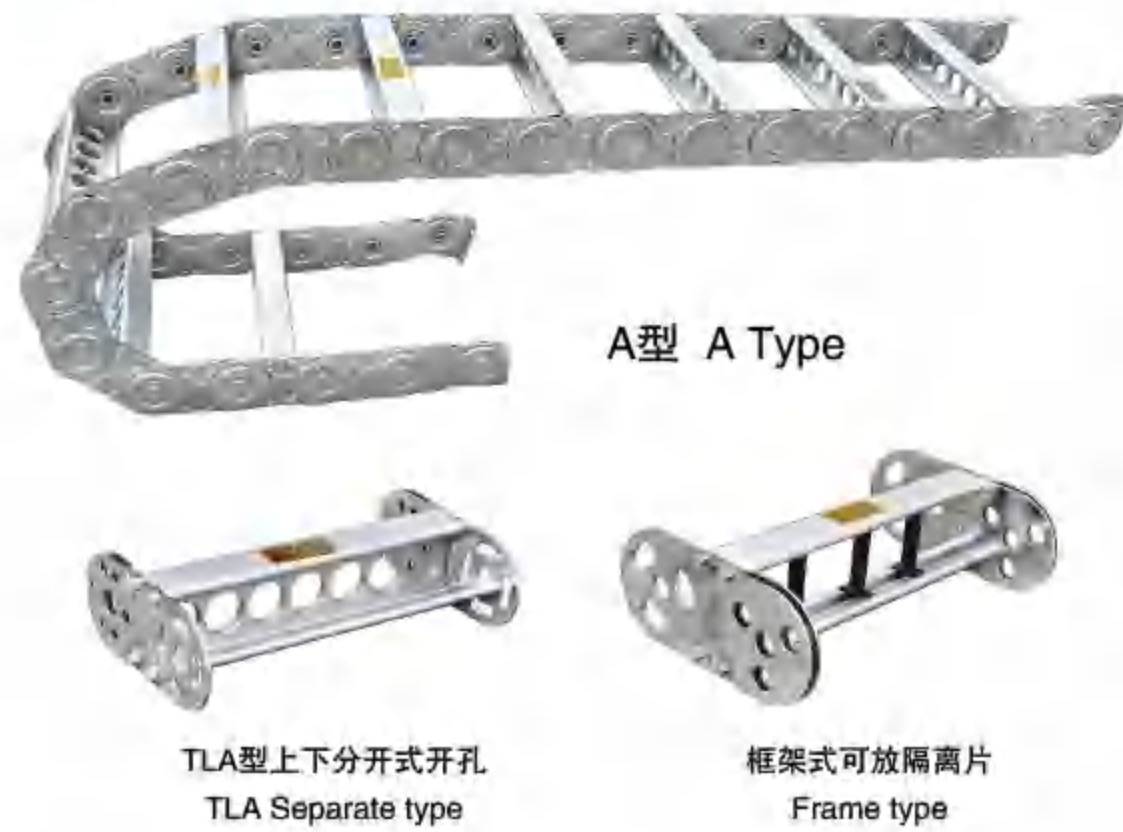
#### 订货举例

拖链型号TL450, 支撑板III型, 弯曲半径R=1500, 支撑板宽度Bi=1800, 拖链长度L=18000  
拖链TL450III-1500 × 1800 × 18000  
I型-支撑板整体型 (根据用户要求开孔)  
II型-支撑板上下分开型 (根据用户要求开孔)  
III型-上下是铝板内有隔离片 (根据用户要求放隔条)

#### Example for an order

Drag chain model number TL450, supporting board III type, bend radius R=1500, supporting board width Bi=1800 length L=18000  
Drag chain TL450III-1500 × 1800 × 18000  
I-type Integral type of support board  
II-type Separate type of support board  
III-type The upper one and the lower one are made of aluminium with spacer inside (we can follow the requirement of customer to manufacture)

## TLA型钢制拖链系列 TLA series steel cable chains



TLA型钢制拖链可承载数量多，重量大的电缆及油管，自由悬挂（允许不用支承轮）长度大，支撑板可依顾客需要制作，适用于工作母机，移动机械等。其弯曲半径为75-600mm，链板高度为50-150mm，可任意选用。

TLA型钢制拖链其使用行程最大为32米。适用于所有传动方式。可随意加长和缩短。此外，可通过改变销轴获得改变弯曲半径。

拖链的支撑板宽度为50mm至600mm，孔与孔之间的间隔量为5mm。

链板的高度，也就是支撑板的高度，是由电缆最大直径决定的，机床最大限度运转时，如拖链的宽度超过300mm，拖链的长度超过4m时出于稳定性原因，应考虑选择加大一号规格的拖链。

弯曲半径要根据电缆的最大直径选择并应达到电缆直径的10倍。弯曲半径可根据所给表格选择50-600mm，行程小的可相应选择较小的半径。

拖链的长= 1/2行程+4个弯曲半径，这只适用于当固定联结是在行程的中点时。

拖链的固定可根据机床的位置情况选择。固定角钢可放在外周或内周在拖链内或外部，一般情况联结部分在拖链内，而向外周。

The TLA drag chains are suitable for installing a large quantity and heavy duty of cables and oil pipes which allow suspending installation ( supporting is not allowed) and is lengthy. The supporting plate can be made according to the user's requirements. It is suitable for machine tools and moving machines. Their bend radius ranges from 50-600mm and the chain's height is from 35 to 150mm. Users can make a free selection of them.

The TLA type drag chains has a max. travel range of 32 meters and are suitable for all kinds of transmissions. It can freely be made longer or shorter. In addition, the bend radius can be changed by changing the pin shaft.

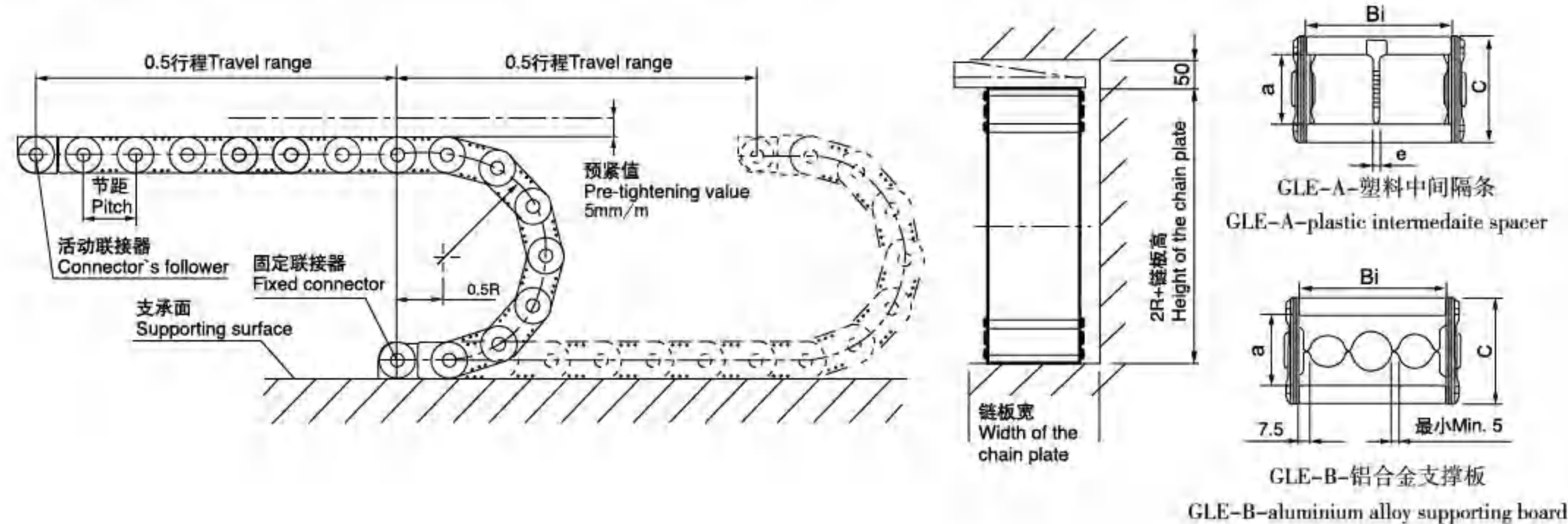
The width of the supporting board is from 150mm to 600mm. The distance between the holes is 5mm.

The height of the supporting board depends on the max. outside diameter of the cables. When the machine tool is working in the highest speed and if the max. width of the drag chain is longer than 300mm with the chain's length longer than 4m, one size larger than normal should be selected just out of consideration of safety.

The bend radius should be selected according to the max. diameter of a cable and should be 10 times of the diameter of the cable used. The bend radius can be selected as 50-600mm according to the given table. Small radius should be selected for those ones with small travel range.

Drag chain length= 1/2 travel range + 4 bend radius, this is only used for the fixed connection which is located at the middle point of the travel range.

The fixation of the drag chains can be done according to the location of the machine tools. The angle steel can be put in the outer or the inner, in other words, in the inner side of the chains or in the outer side. In common cases, it is in the inner side of the chains and face towards outside.

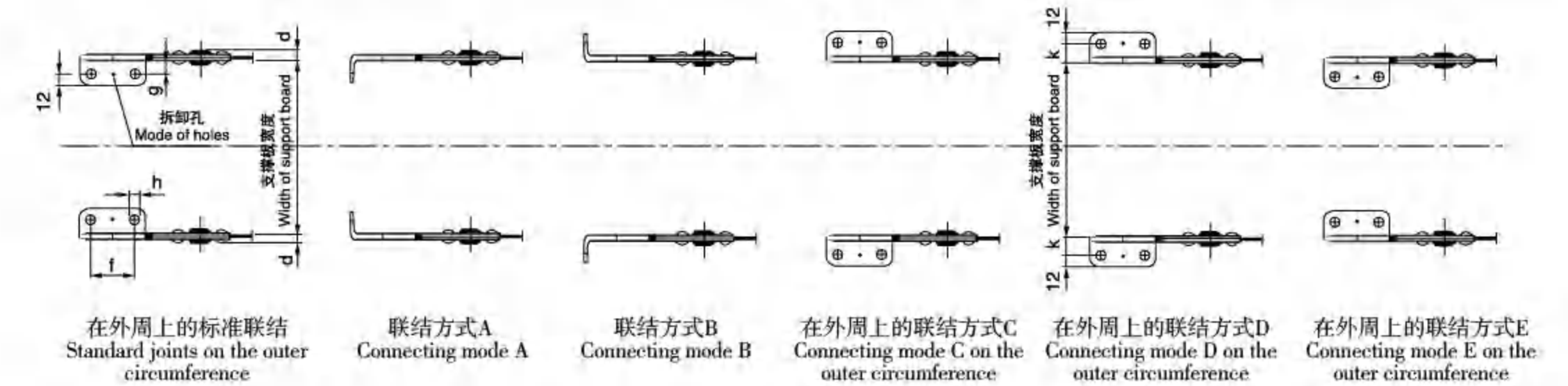


## TLA型钢制拖链系列 TLA series steel cable chains

TLA型钢制拖链主要参数及支撑尺寸

Main parameters & demensions for TLA type steel drag chains

型号 Type	弯曲半径 Bending radius (mm)	节距 Pitch	a	c	d	e	f	g	h	k	允许不用支承轮时 When non-support roller is allowed		重量 Weight (100mm)
											长度(m) Length	负载(kg/m) Load	
TLA50	50/100/150 /200	50	19	35	5.5	3	20	7.5	7	9.5	3	4	2.3
TLA75	100/150/200/ 250/300	75	31	50	8	4	30	12	9	15	3/4	30/30	4.80/5.50
TLA100	150/200/250/ 300/400	100	49	75	10	4	50	17	11	21	4/8	40/40	9.10/10.00
TLA125	200/250/300/ 400/500	125	68	100	14	4	70	22	13	28	6/12	50/50	18.10/19.30
TLA175	250/300/400/ 500/600	175	118	150	14	8	115	26	13	32	15/10	10/30	25.00



订货举例：行程11.2m,弯曲半径300mm, 3电缆直径48, 3电缆直径28, 2软管直径36

Specifications for ordering: Travel11.2m, Bending radius300mm, 3Cable diameter48, 3Cable diameter28, 2Hosesdiameter36

型号 Type	半径 Radius	支撑板宽度 Width of support board	长度 Length	固定方式 Mode of fixing	安装形式 Model of installation
TLA75 /	300 ×	350 ×	6875 /	D / E	"S"

### TLA型的多种不同支撑板

TLA铝合金型拖链与一般的拖链不同，它可通过固定的铝型材满足不同要求的需要，支撑板宽或达1200mm，在最高速度和行程速度下，拖链的内部分隔无懈可击，并保证使电缆达到最佳保护。

我们每二节链板提供一条支撑板。如每一节均需支撑板（如右图），请在订货时注明。

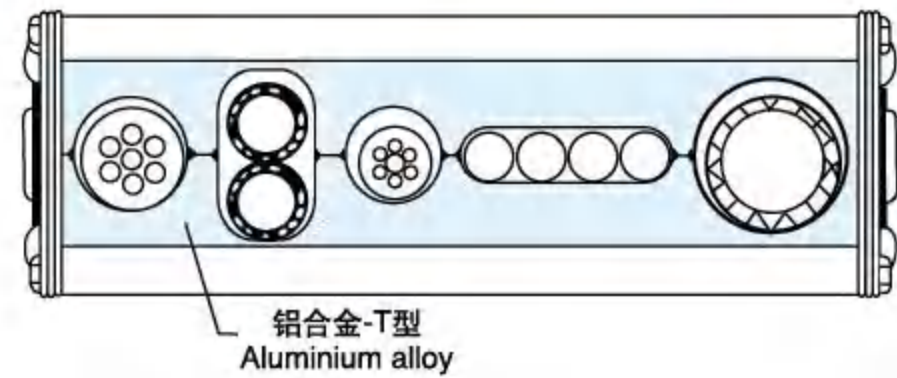


### TLA type supporting boards in various specifications

The TLA type aluminium alloy drag chains are different from the ordinary ones. They can be made by using fixed aluminium shape materials to meet the needs of the users. The width of the supporting board can be 1200mm. When operating under high operating speed and high travel speed, the drag chains can be separated from one another so as to ensure the cables being protected in a very safe conditions.

One supporting board is provided for every two chain joints. If one supporting board is needed for each chain joint, please give a clear indication of the model no.

## TLA型钢制拖链系列 TLA series steel cable chains



TLA铝合金型是解决较大钢链的唯一的解决办法。支撑板可根据使用者的要求生产。牢固的结构，使支撑板宽度可达到1200mm。

TLA型带塑料隔条，可随意移动调节位置，进行多种分隔。

如果电缆规格多，可选用此经济的装置。



### TLE型的护板采用铝合金全封闭型——“银星护板”

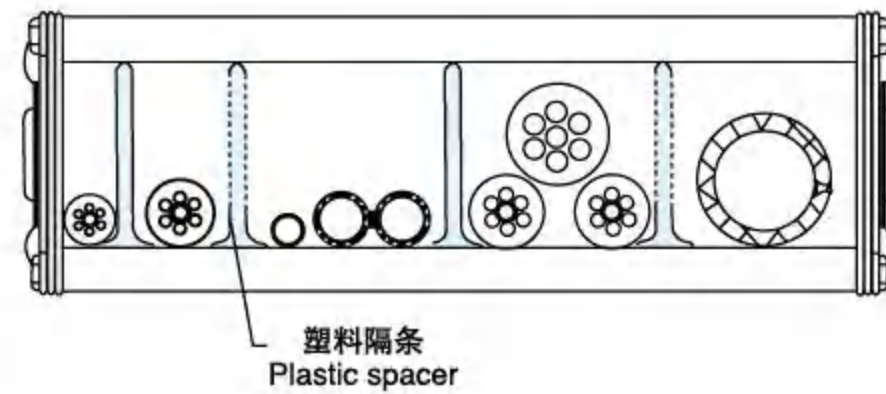
型号TLE的拖链是新开发的“银星护板”，采用铝合金制造，供用户选用。

#### 银星护板的特点：

- 外形美观。
- 护板结构装置已经接受了15年以上的考验。
- 极稳定，坚固的电缆保护，可达1000mm宽。
- 在任意一个部位都能打开拖链。
- 根据用户需要可随时加装“银星护板”。

#### 订货举例

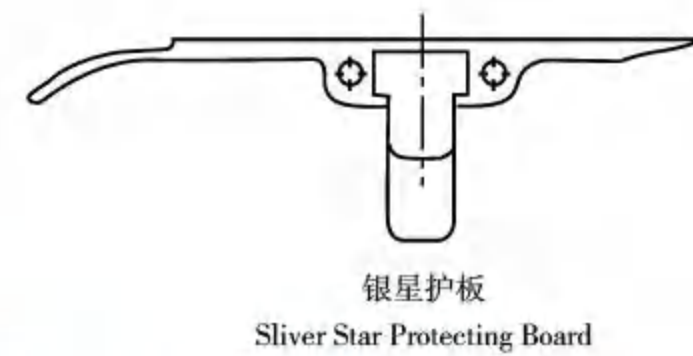
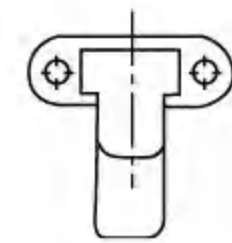
TLE100全封闭-R300 × Bi350 × L6800  
Specifications for ordering: TLE100-R300 × Bi350 × L6800



TLA aluminium alloy type is the only solution to the larger size chains. The supporting boards can be made according to the requirements of the users. Thanks to the strong construction, the width of the supporting board can be 1200mm.

TLA plastic spacing straps can moved and adjusted in position freely. See figure for details.

If cables in many different specifications, you may select this economic device.



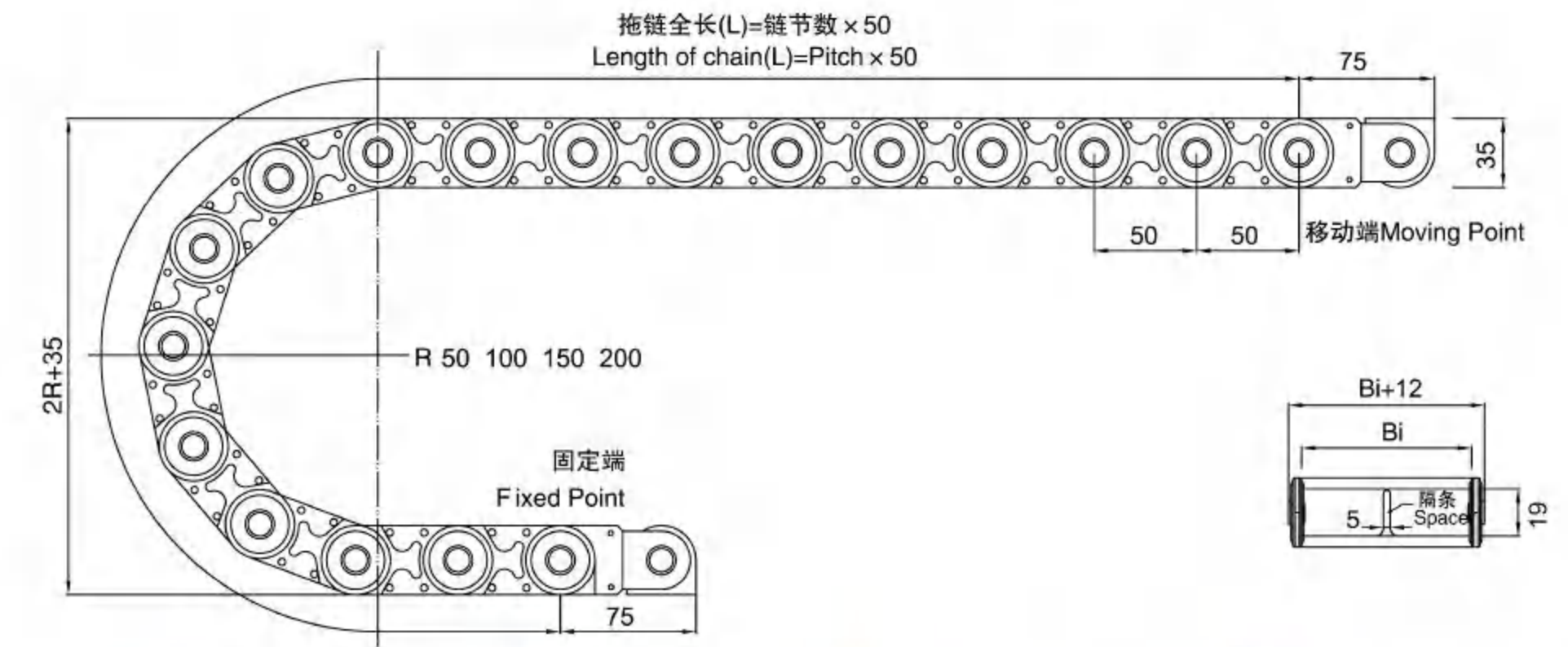
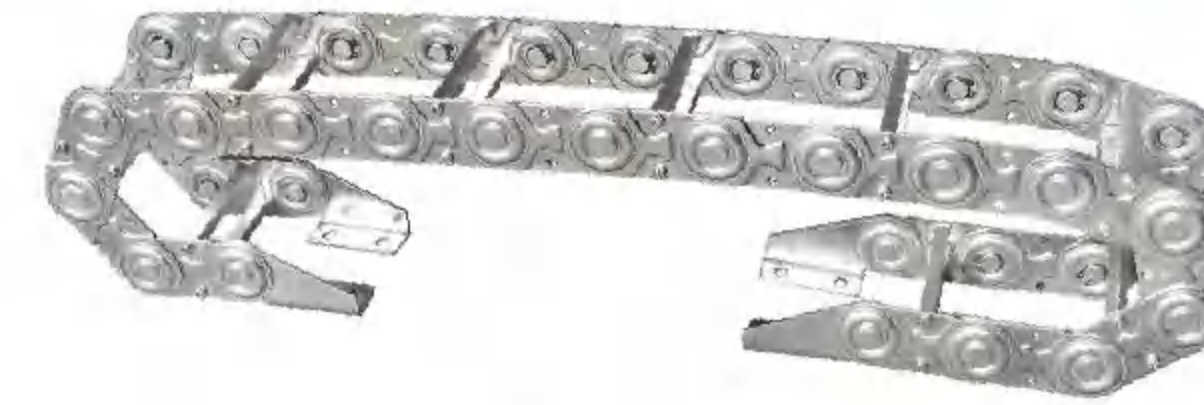
TLE type aluminium alloy protecting board is of completely enclosed type.

TLE type drag chains are newly developed “Sliver Star Protecting Board”, which are made by using aluminium alloy. Various types of it are available for selection.

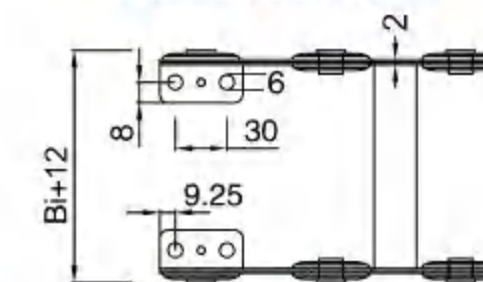
#### Features of the Sliver Star Supporting Board:

- Nice-looking appearance
- The shield structure device has passed more than 15 years experience successfully.
- It is very stable and very solid protection for cables. The width can be 1000mm.
- The drag chains can be opened up at any positions.
- The “Sliver Star Protecting Board” can be installed according to the user's request.

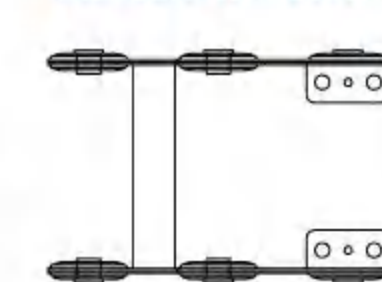
## TLA50型钢制拖链安装尺寸图 TLA50 series steel cable chain installation dimension drawing



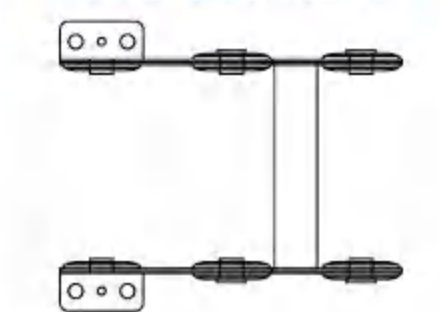
标准联结  
Standard connection



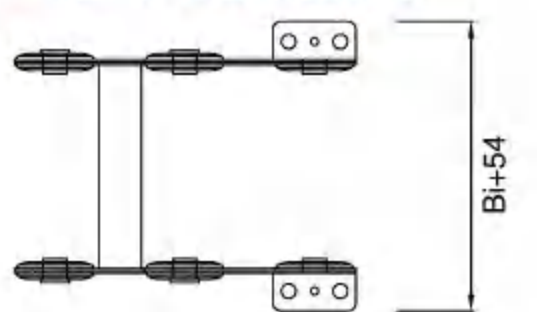
标准联结  
Standard connection



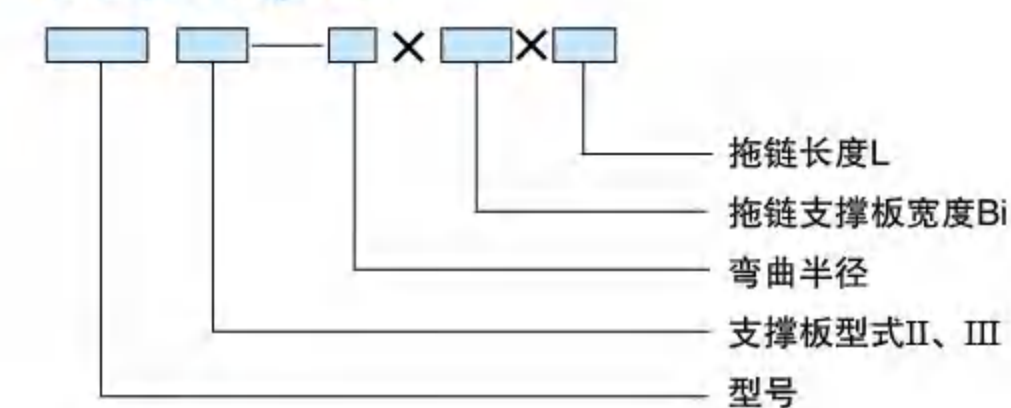
联结方式A  
Manner of connection A



联结方式B  
Manner of connection B



#### 标记意义 Legends:



#### 订货举例

拖链型号TLA50，支撑板II型，弯曲半径R=150，  
支撑板宽度Bi=200，拖链长度L=6500  
拖链TLA50II-150 × 200 × 6500  
II型-支撑板上下分开型（根据用户要求开孔）  
III型-上下是铝板内有隔离片（根据用户要求放隔条）

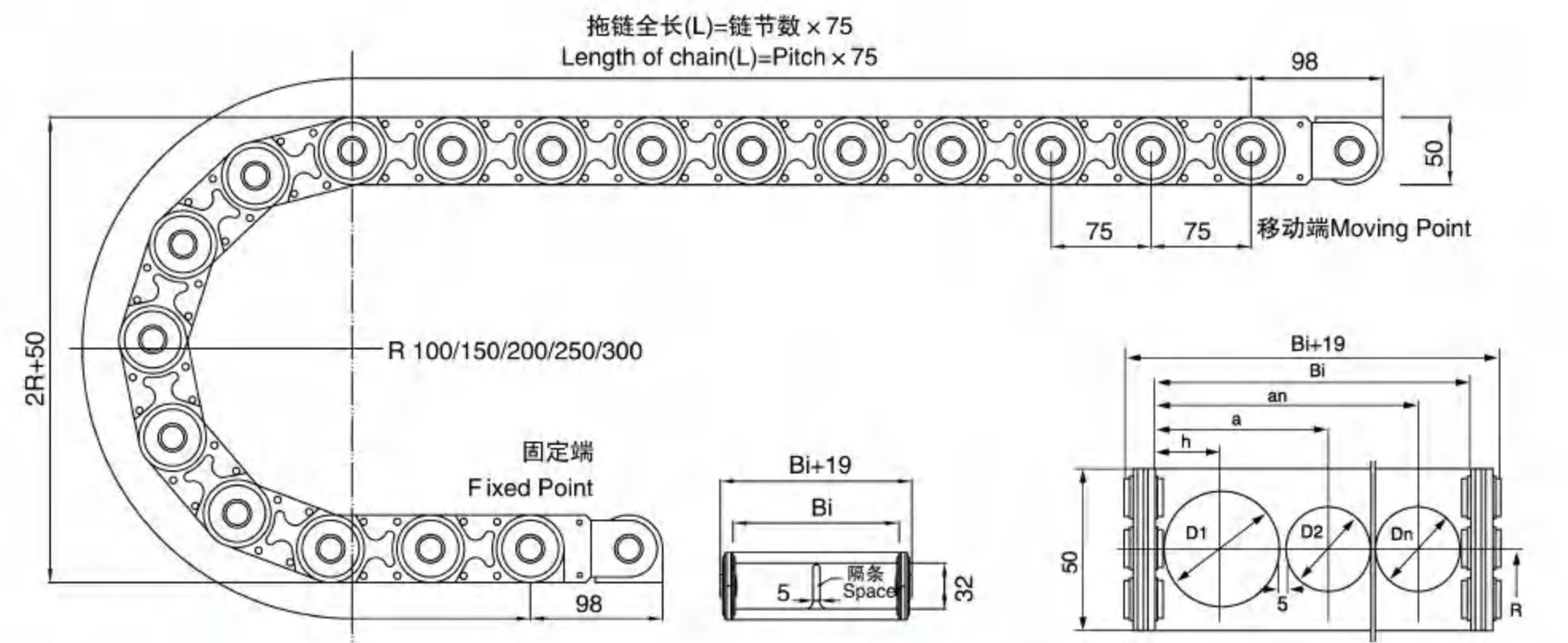
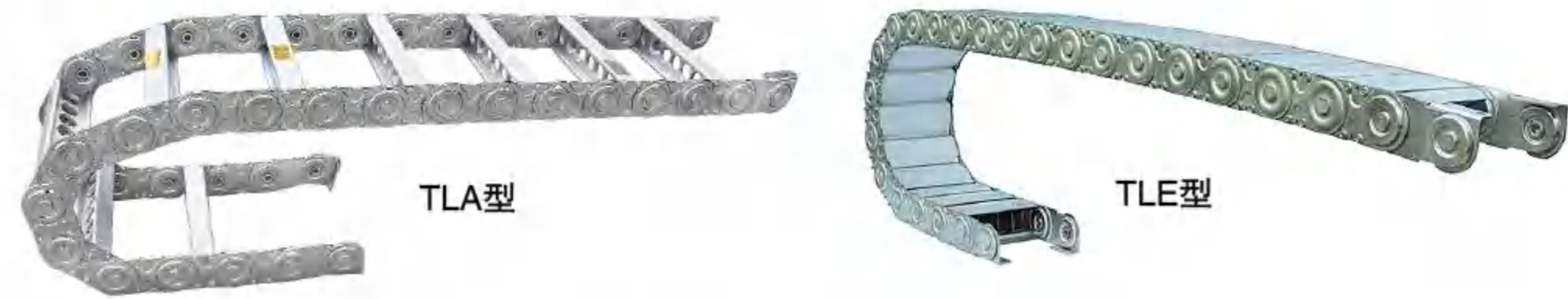
L = length of cable chains  
Bi = Width of supporting board of drag chain  
Bending radius  
Supporting Board Type II, III  
Model No.

#### Example for an order

Drag chain model number TLA50, supporting board II type, bend radius R=150, supporting board width Bi=200 length L=6500  
Drag chain TLA50II -150 × 200 × 6500  
II -type Separate type of support board  
III -type The upper one and the lower one are made of aluminium with spacer inside (we can follow the requirement of customer to manufacture)

## TLA75.TLE75型钢制拖链安装尺寸图

TLA75.TLE75 series steel cable chain installation dimension drawing

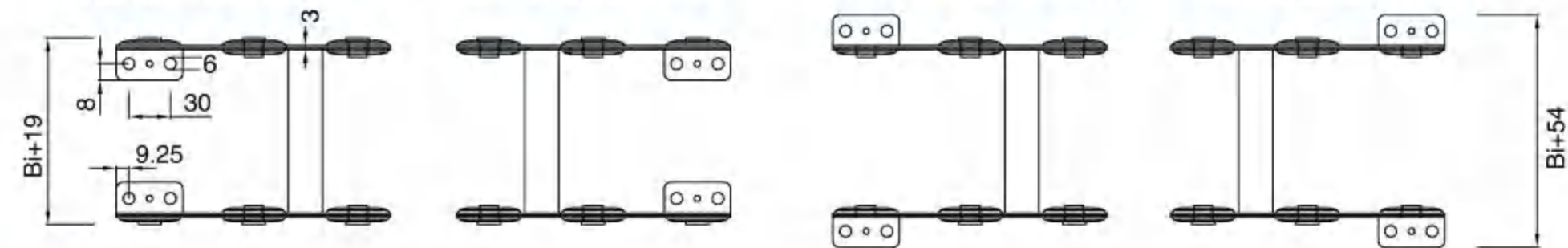


标准联结  
Standard connection

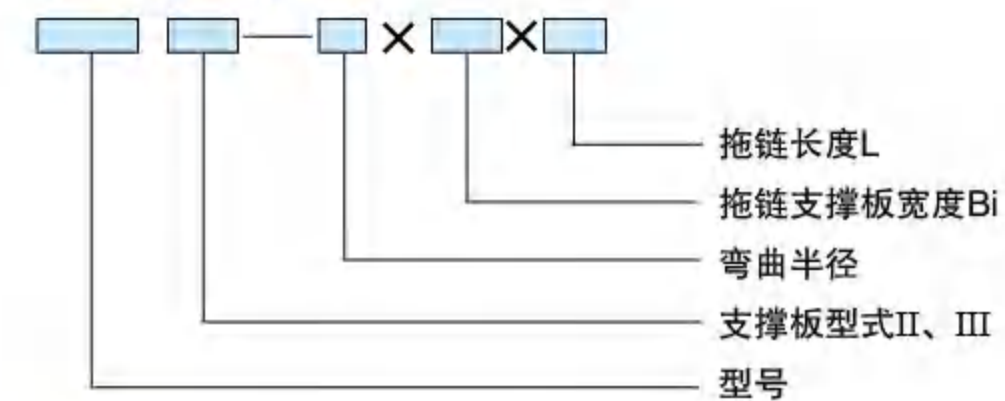
标准联结  
Standard connection

联结方式A  
Manner of connection A

联结方式B  
Manner of connection B



标记意义 Legends:



L = length of cable chains  
Bi = Width of supporting board of drag chain  
Bending radius  
Supporting Board Type II、III  
Model No.

订货举例

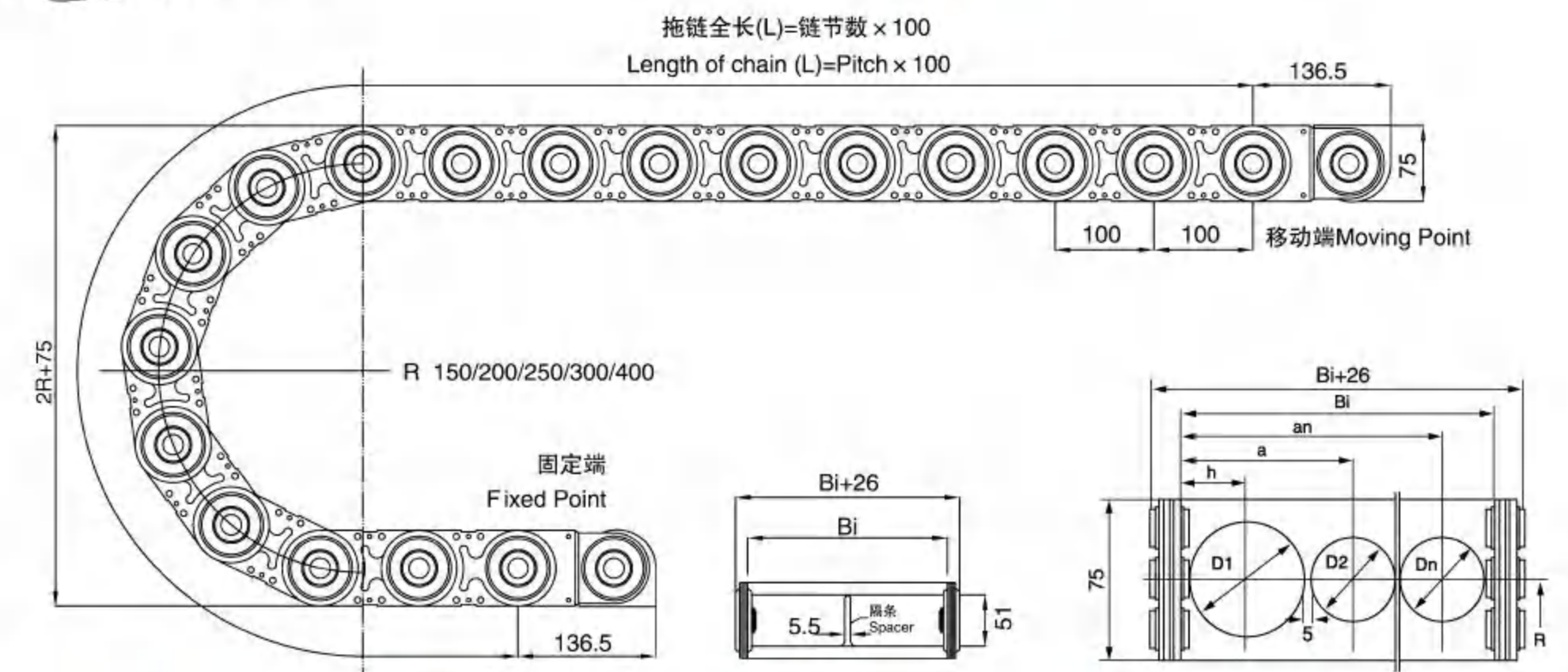
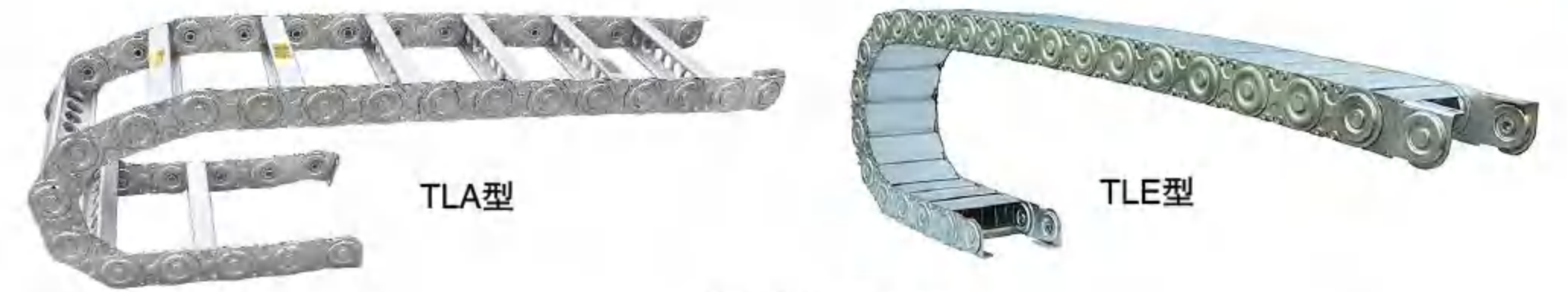
拖链型号TLA75, 支撑板II型, 弯曲半径R=150, 支撑板宽度Bi=200, 拖链长度L=6500  
拖链TLA75II-150×200×6500  
II型-支撑板上下分开型(根据用户要求开孔)  
III型-上下是铝板内有隔离片(根据用户要求放隔条)

Example for an order

Drag chain model number TLA75, supporting board II type, bend radius R=150, supporting board width Bi=200 length L=6500  
Drag chain TLA75II-150×200×6500  
II-type Separate type of support board  
III-type The upper one and the lower one are made of aluminium with spacer inside (we can follow the requirement of customer to manufacture)

## TLA100.TLE100型钢制拖链安装尺寸图

TLA100.TLE100 series steel cable chain installation dimension drawing

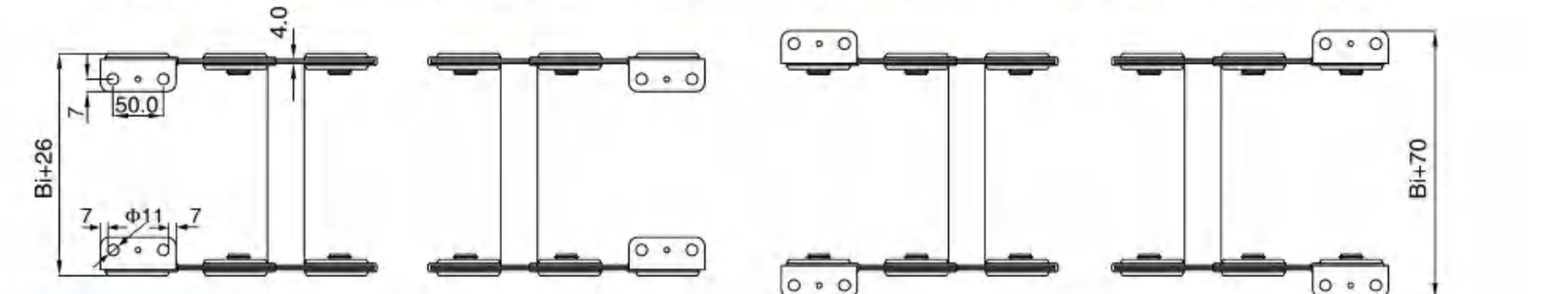


标准联结  
Standard connection

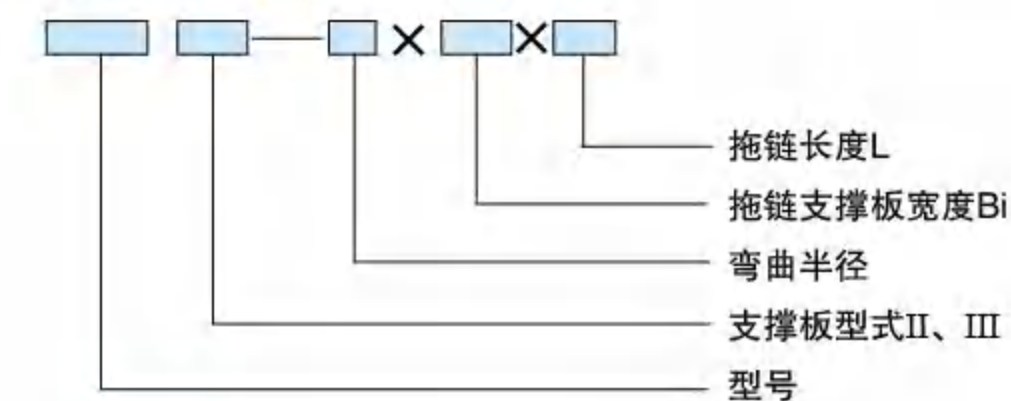
标准联结  
Standard connection

联结方式A  
Manner of connection A

联结方式B  
Manner of connection B



标记意义 Legends:



L = length of cable chains  
Bi = Width of supporting board of drag chain  
Bending radius  
Supporting Board Type II、III  
Model No.

订货举例

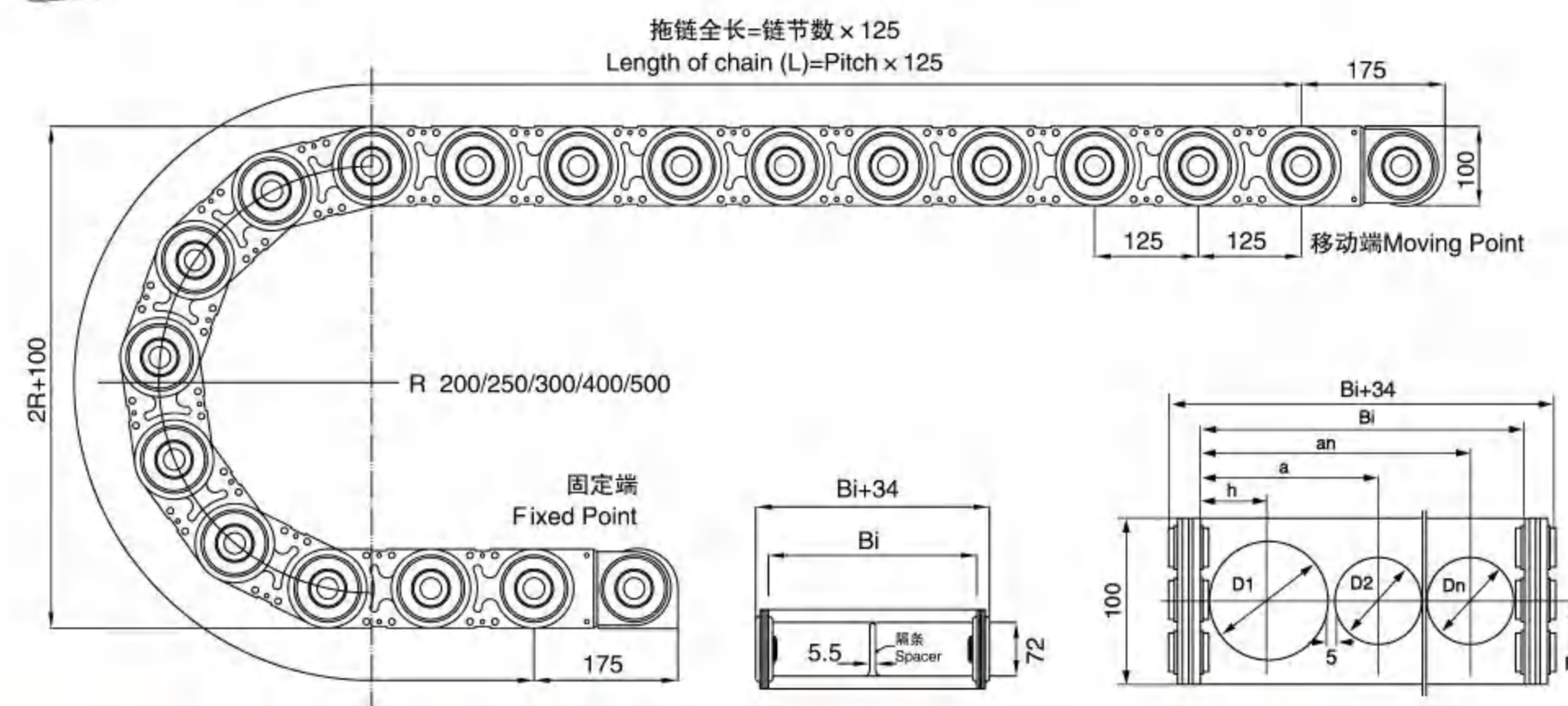
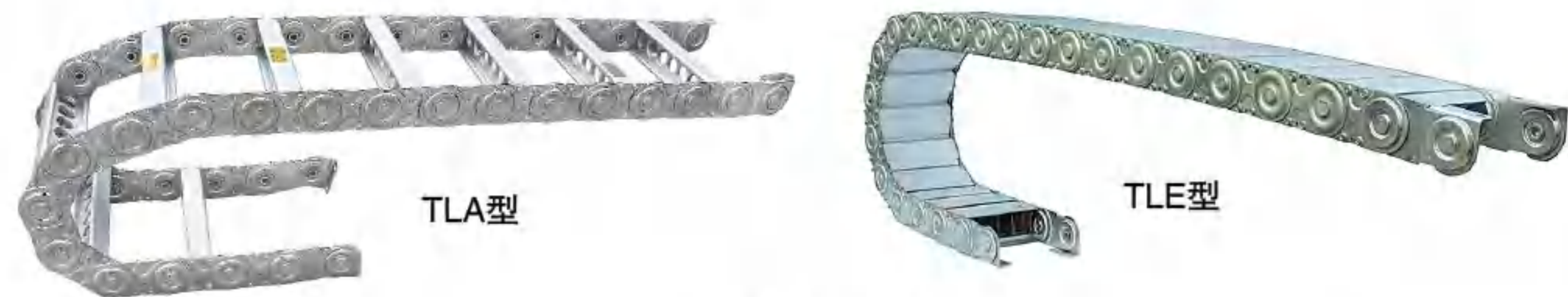
拖链型号TLA100, 支撑板III型, 弯曲半径R=150, 支撑板宽度Bi=200, 拖链长度L=7000  
拖链TLA100III-250×200×7000  
II型-支撑板上下分开型(根据用户要求开孔)  
III型-上下是铝板内有隔离片(根据用户要求放隔条)

Example for an order

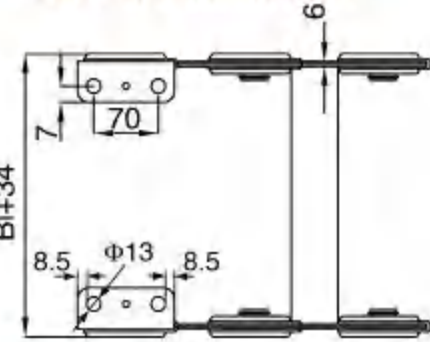
Drag chain model number TLA100, supporting board III type, bend radius R=150, supporting board width Bi=200 length L=6500  
Drag chain TLA100III-250×200×7000  
II-type Separate type of support board  
III-type The upper one and the lower one are made of aluminium with spacer inside (we can follow the requirement of customer to manufacture)

## TLA125.TLE125型钢制拖链安装尺寸图

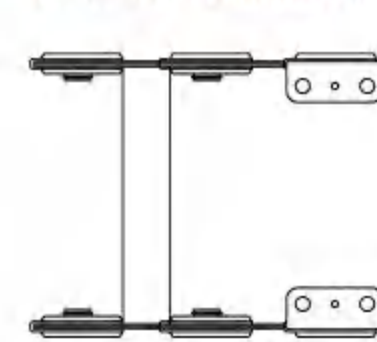
TLA125.TLE125 series steel cable chain installation dimension drawing



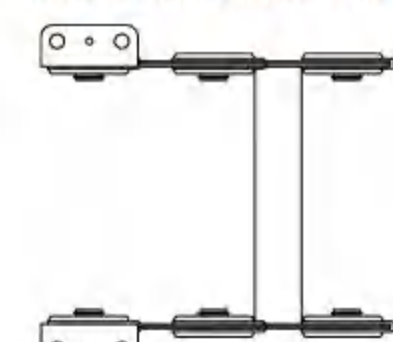
标准联结  
Standard connection



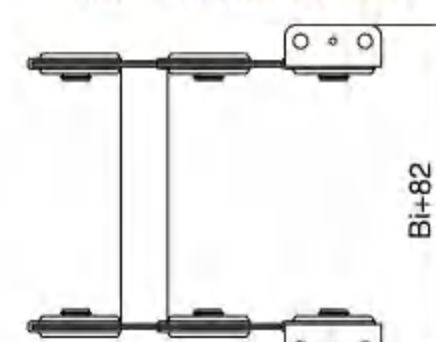
标准联结  
Standard connection



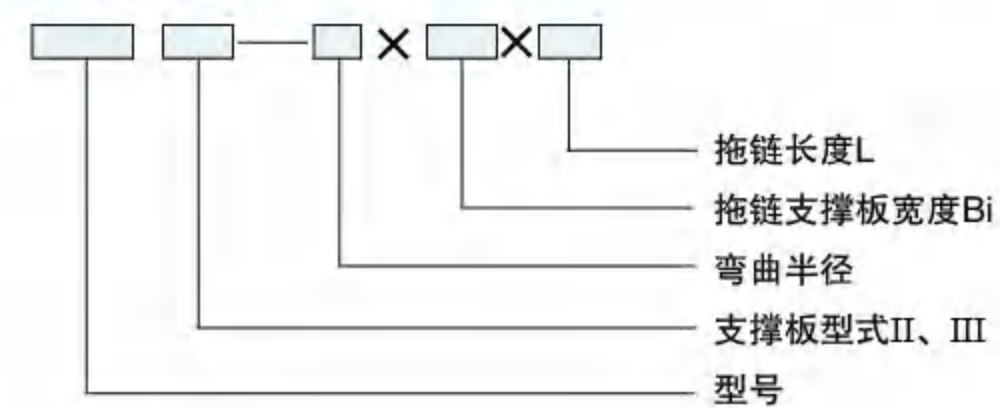
联结方式A  
Manner of connection A



联结方式B  
Manner of connection B



### 标记意义Legends:



L = length of cable chains  
Bi = Width of supporting board of drag chain  
Bending radius  
Supporting Board Type II, III  
Model No.

### 订货举例

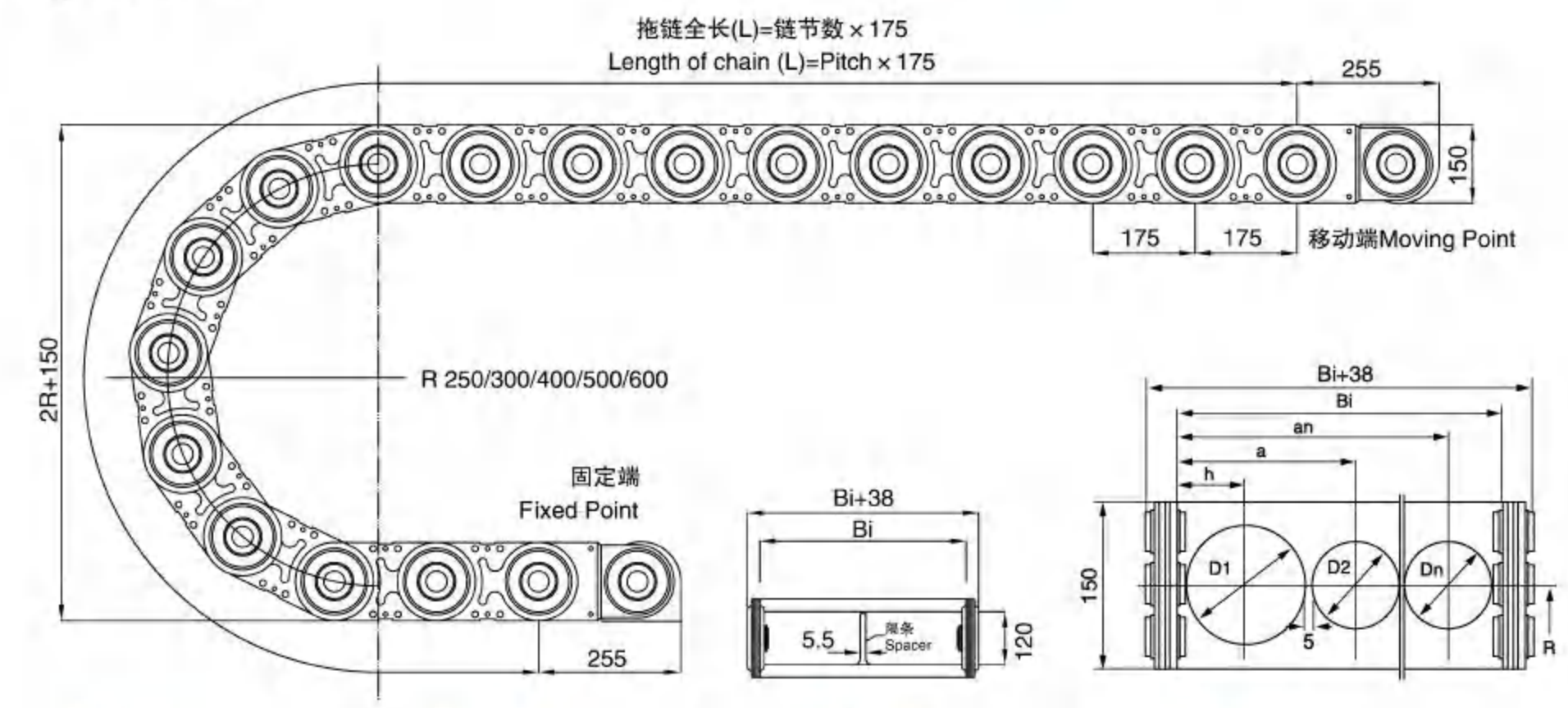
拖链型号TLA125, 支撑板III型, 弯曲半径R=300, 支撑板宽度Bi=200, 拖链长度L=7500  
拖链TLA125III-300×200×7500  
II型-支撑板上下分开型(根据用户要求开孔)  
III型-上下是铝板内有隔离片(根据用户要求放隔条)

### Example for an order

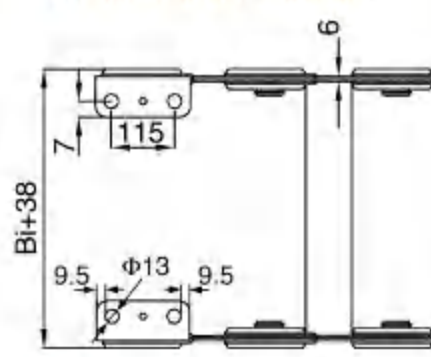
Drag chain model number TLA125, supporting board III type, bend radius R=300, supporting board width Bi=200 length L=7500  
Drag chain TLA125III-300×200×7500  
II-type Separate type of support board  
III-type The upper one and the lower one are made of aluminium with spacer inside (we can follow the requirement of customer to manufacture)

## TLA175.TLE175型钢制拖链安装尺寸图

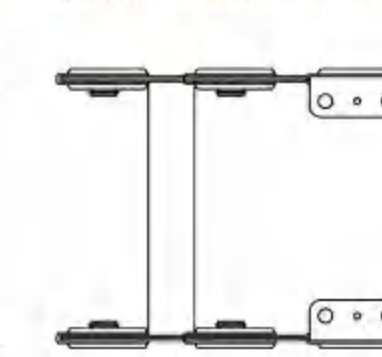
TLA175.TLE175 series steel cable chain installation dimension drawing



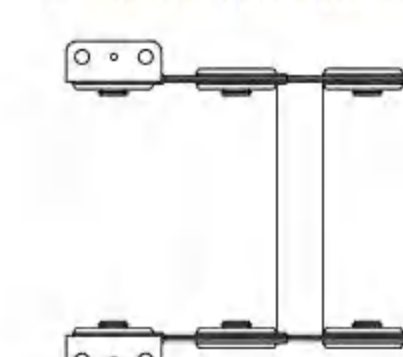
标准联结  
Standard connection



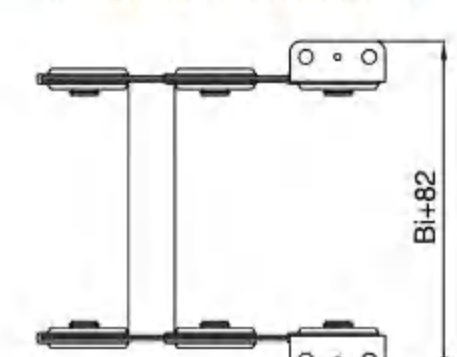
标准联结  
Standard connection



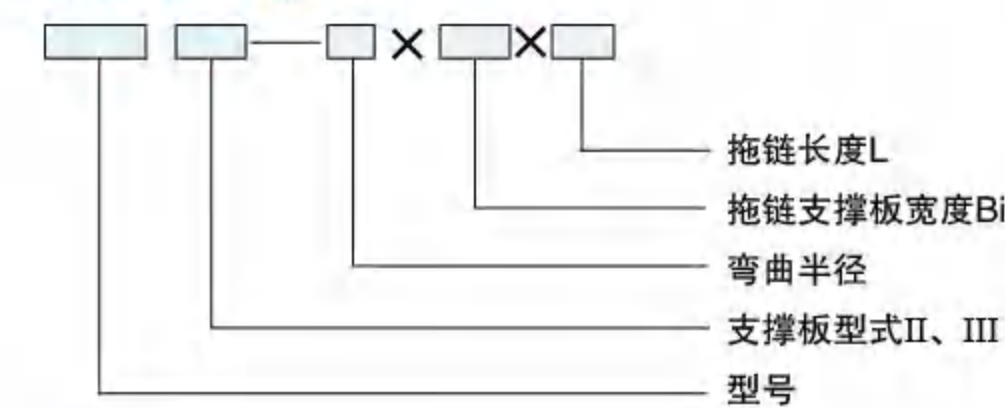
联结方式A  
Manner of connection A



联结方式B  
Manner of connection B



### 标记意义Legends:



L = length of cable chains  
Bi = Width of supporting board of drag chain  
Bending radius  
Supporting Board Type II, III  
Model No.

### 订货举例

拖链型号TLA175, 支撑板II型, 弯曲半径R=500, 支撑板宽度Bi=200, 拖链长度L=9000  
拖链TLA175III-500×200×9000  
II型-支撑板上下分开型(根据用户要求开孔)  
III型-上下是铝板内有隔离片(根据用户要求放隔条)

### Example for an order

Drag chain model number TLA175, supporting board III type, bend radius R=500, supporting board width Bi=200 length L=9000  
Drag chain TLA175III-500×200×9000  
II-type Separate type of support board  
III-type The upper one and the lower one are made of aluminium with spacer inside (we can follow the requirement of customer to manufacture)





### 结构制作与用途

套板外径镀铬处理, 和不锈钢及塑料, 内有工程塑料增强尼龙66加纤维组合而成; 套板不锈钢板抛光处理, 内有工程塑料组合而成, 结构合理, 强度高、不变形、外形精美等优点。

安装方便, 适用于各类机床机械电器、液压气动管线防护和装饰美主机整体造型。确保操作人员劳动安全, 增强我国机床, 机械设备在国际市场的竞争能力。

### 选形

注明规格与型号如下所示:

- (1) 如1#1200-A-II 或 25 x 45 x 1200 - A - II
- (2) 如4#1800-AB-III 或 52 x 102 x 1800 - AB - III

选型请注意规格, 型号, 装配形式A、B、C、D。

### Construction and Applications

It consists of an outer sleeve being chromium plated, stainless steel and plastics pieces and engineering plastic reinforced nylon fibre. The stainless steel bushing is polished. It has some engineering plastic items. It is featured by rational construction, high strength, non-deformation and has nice-looking appearance.

Easy installation. It is suitable for various of electrical of the machine tools, protection for hydraulic pneumatic pipelines and decoration of main machineries and provide the operating personnel with safe working conditions and better the competitiveness of machine tools and machineries in the international market.

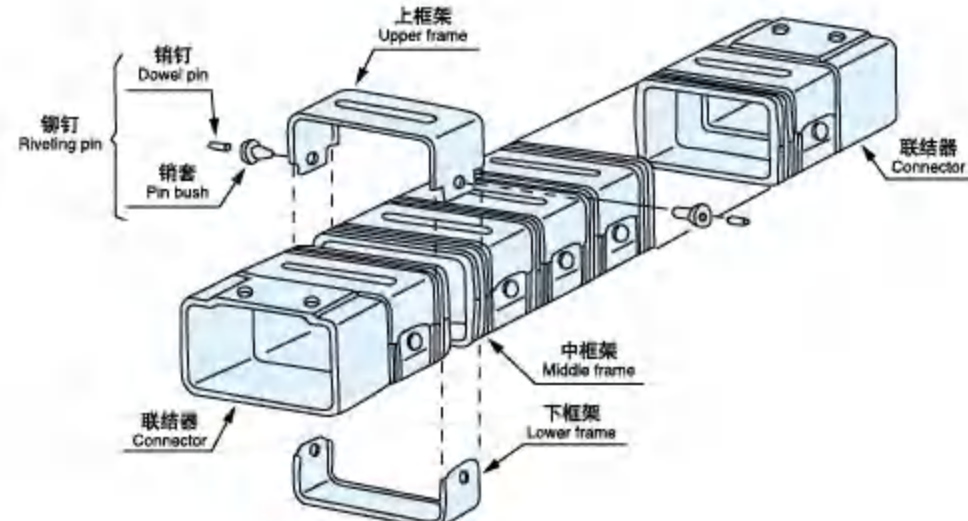
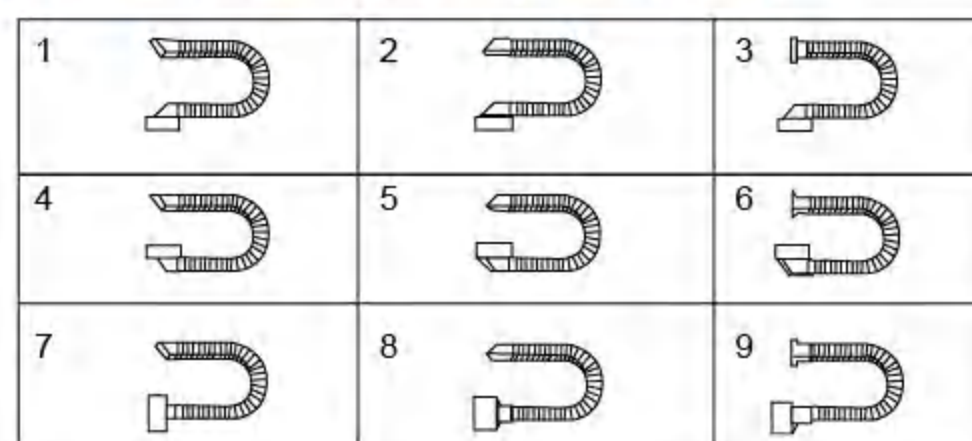
### Selections

Please give a clear indication of specifications and model numbers as shown below:

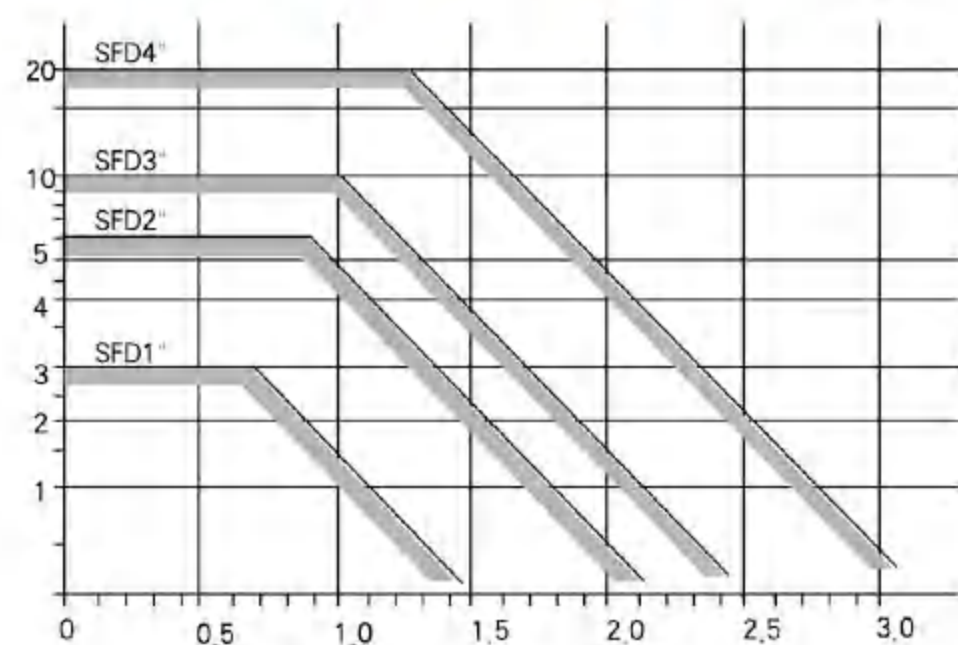
- (1) For instance, 1#1200-A-II or 25 x 45 x 1200-A-II
- (2) For instance, 3#1800-AB-III or 52 x 102 x 1800-AB-III

For your selection, please note the specifications and model numbers and assembly mode A, B, C, D.

### 装配示意图/Schematic drawing for assembly



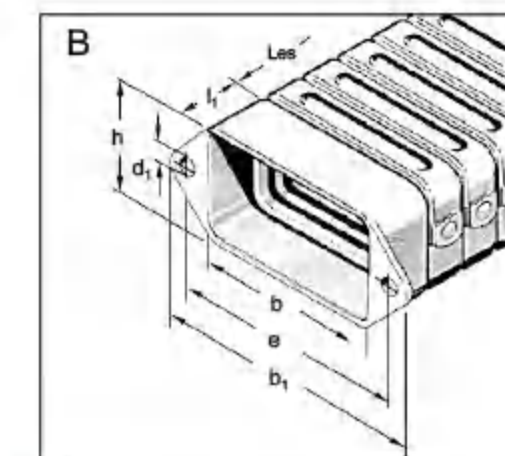
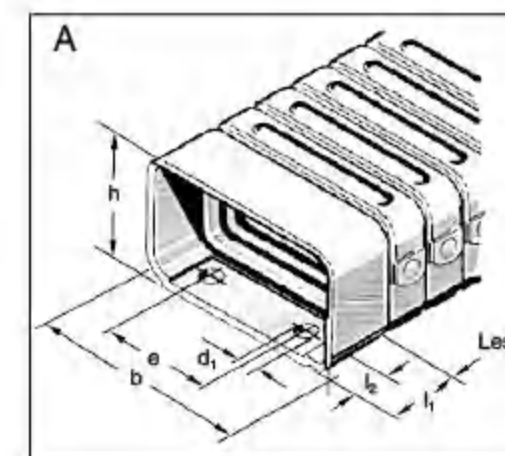
### 允许不用支承轮时的拖链长度与附加负载关系 Relationship between drag length and load when support wheel is not allowed to be used.



允许不用支承轮时拖链长度M  
Load when support roller is not allowed to be used M

### 规格参数表 Specifications

型号	Type	1#	2#	3#	4#	5#	6#	7#
规格	Spec.	25 x 45	38 x 73	45 x 90	52 x 102	60 x 120	60 x 150	72 x 162
外型	Appearance	39 x 62	53 x 91	61 x 108	70 x 122	81 x 144	81 x 184	93 x 186
弯曲半径	Bending radius	60	100	120	140	160	165	185
不支承长度M	Length for non-supporting	1.5	2	2.2	2.5	2.7	2.9	3.0
负载重量	Load weight	3	4	5	8	10	14	20

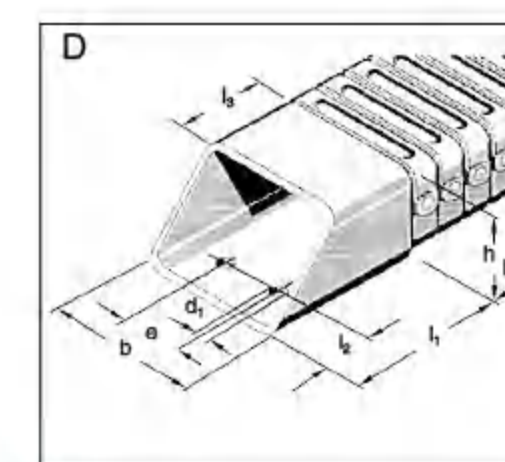
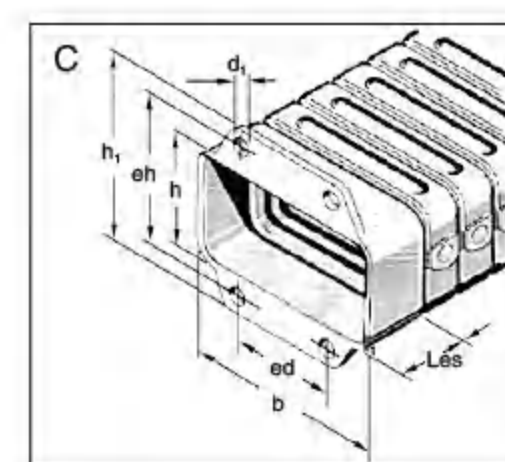


### A型接头参数表 /Connectors parameters A Type

规格 Spec.	参数 Parameters	h	b	e	d <sub>1</sub>	l <sub>1</sub>	l <sub>2</sub>
25 x 45		39	62	15	Φ6.5	30	8
38 x 73		53	91	35	Φ6.5	30	10
45 x 90		61	108	40	Φ6.5	35	10
52 x 102		70	122	45	Φ8.5	40	10
60 x 120		81	144	70	Φ8.5	40	10
60 x 150		81	184	80	Φ8.5	40	12
72 x 162		93	186	100	Φ8.5	45	12

### B型接头参数表 /Connectors parameters B Type

规格 Spec.	参数 Parameters	h	b	e	d <sub>1</sub>	l <sub>1</sub>	l <sub>2</sub>
25 x 45		39	62	75	Φ6.5	30	90
38 x 73		53	91	105	Φ8.5	35	120
45 x 90		61	108	128	Φ8.5	40	137
52 x 102		70	122	135	Φ8.5	40	160
60 x 120		81	144	170	Φ8.5	45	167
60 x 150		81	184	210	Φ8.5	45	197
72 x 162		93	186	225	Φ8.5	45	226



### C型接头参数表 /Connectors parameters C Type

规格 Spec.	参数 Parameters	h	b	e	d <sub>1</sub>	l <sub>1</sub>	eh	h <sub>1</sub>
25 x 45		39	62	20	Φ6.5	30	65	80
38 x 73		53	91	35	Φ6.5	35	70	95
45 x 90		61	108	52	Φ8.5	40	80	102
52 x 102		70	122	55	Φ8.5	40	88	115
60 x 120		81	144	68	Φ8.5	42	103	123
60 x 150		81	184	83	Φ8.5	44	105	123
72 x 162		93	186	95	Φ8.5	45	110	135

### D型接头参数表 /Connectors parameters D Type

规格 Spec.	参数 Parameters	h	b	e	d <sub>1</sub>	l <sub>1</sub>	l <sub>2</sub>
25 x 45		39	62	22	Φ6.5	60	10
38 x 73		53	91	45	Φ6.5	65	10
45 x 90		61	108	55	Φ6.5	65	12
52 x 102		70	122	70	Φ8.5	70	13
60 x 120		81	144	85	Φ8.5	70	15
60 x 150		81	184	95	Φ8.5	70	15
72 x 162		93	186	115	Φ8.5	75	15



**结构与用途**

矩形金属软管采用全金属结构。该产品符合JB/GQ058285企业联合标准，适用于各类金属切削机床及切割机床。防止高热铁屑对您供电、水、汽线路的损伤，保护劳动安全。

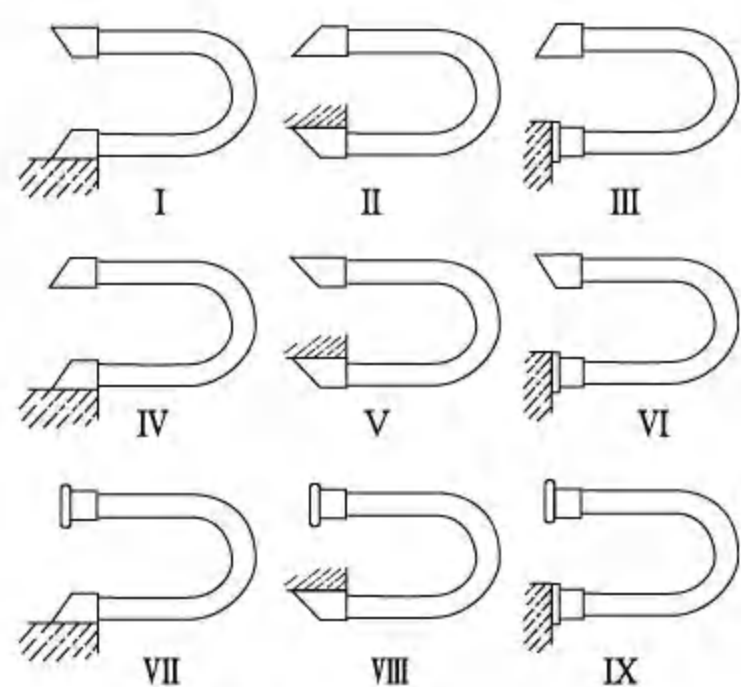
**选形**

1. 注明规格与型号如下所示：

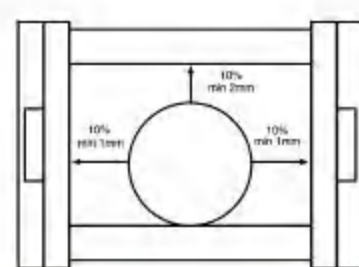
A × B × L - 装配形式；L - 软管长度，包括连接器装配，形式见软管装配形式图：I ~ IX

2. 特殊接头形式：a - c；

例：25 × 50 × 1200 - I、25 × 50 × 1200 - AB - III



软管装配形式图 Hose assembly figure



电缆与汽管在矩形软管内的位置  
Positions of cables and gas pipes within the rectangle hose

**Construction and applications**

The rectangle metallic hosed suitable for all types of metal cutting machine tools and slicing machines. Protect working personnel, electric circuits, water supplying piping systems and gas loops from damaging or injured.

The product is according to the standard JB/GQ58285.

**Model selection**

1. Give a clear indication of the specifications and model numbers as given below;

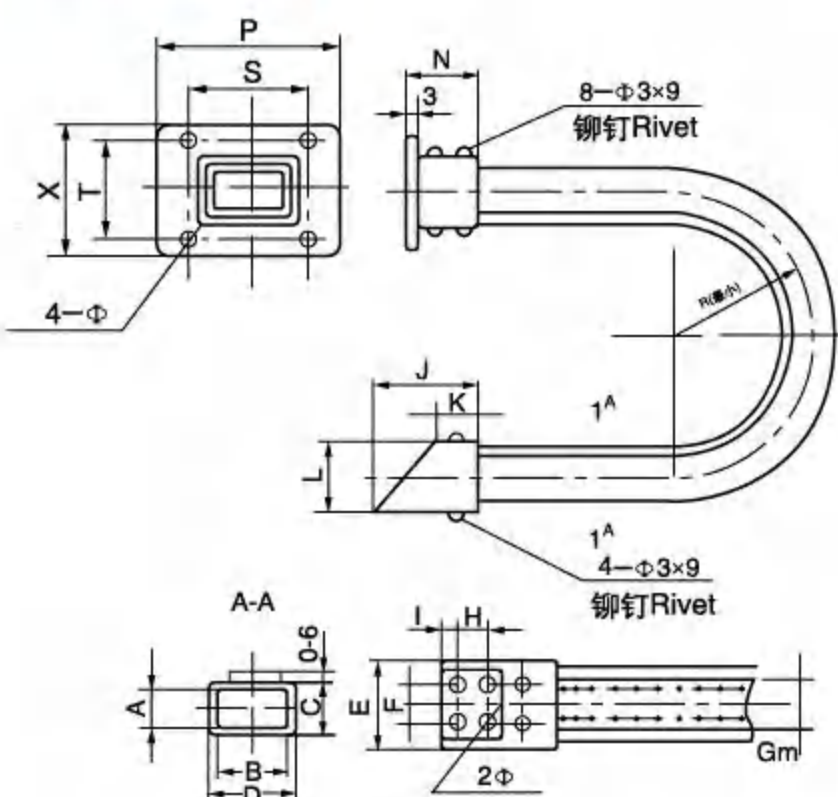
A X B X L - assembly type; L - hose length, including the assembly of the connectors, please see the hose assembly figure for specifics: I ~ IX

2. Special connector types: a - c;

Example: 25 × 50 × 1200 - I、25 × 50 × 1200 - AB - III

**软管接头尺寸图**

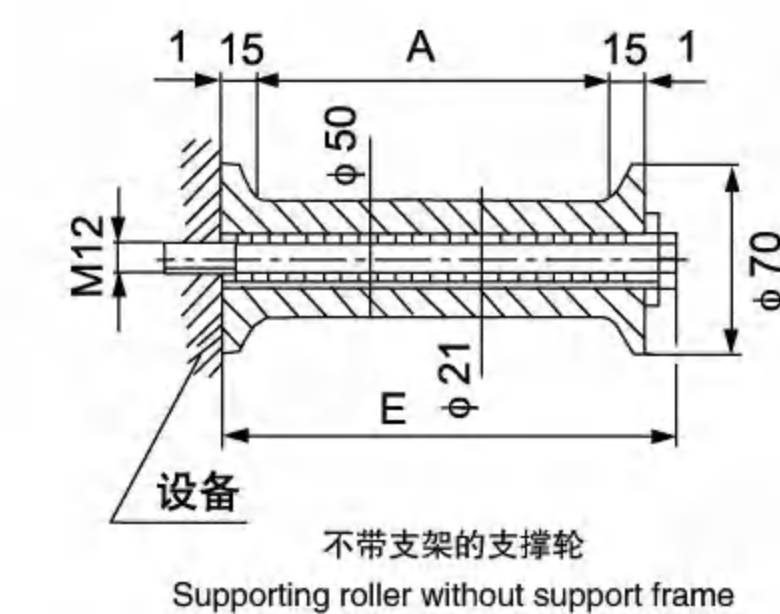
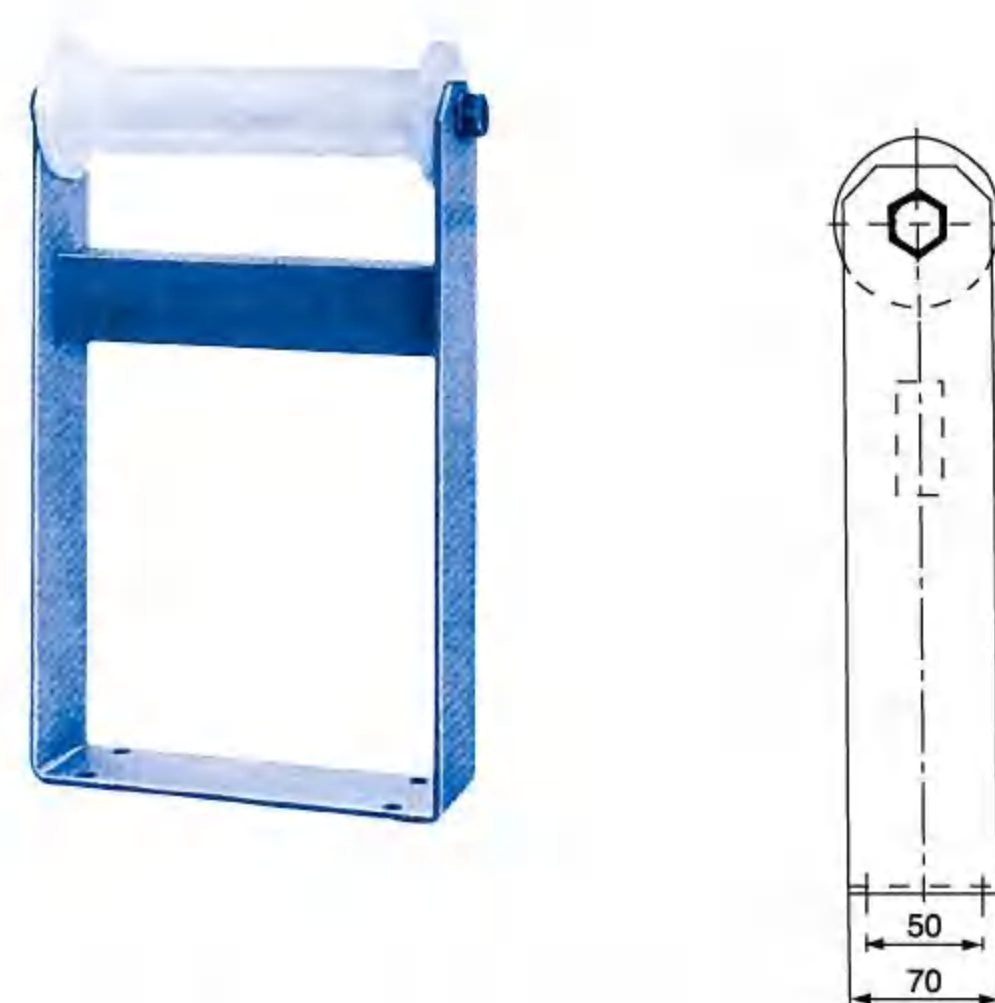
Connector dimension figure



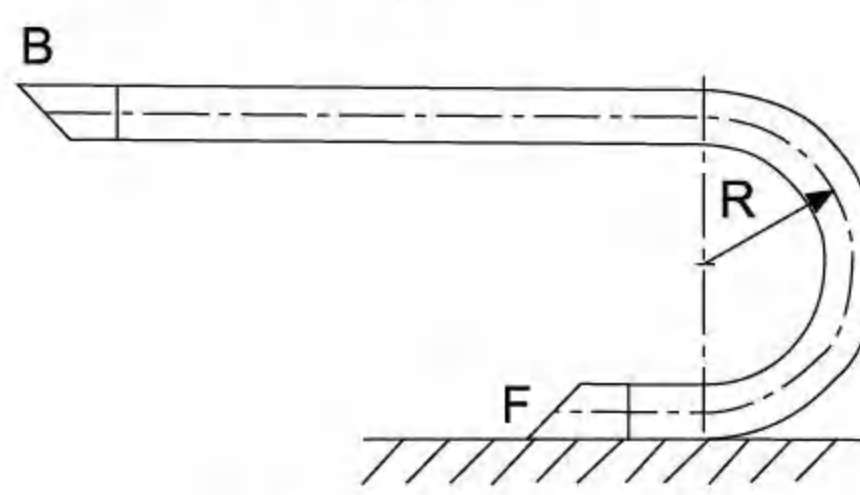
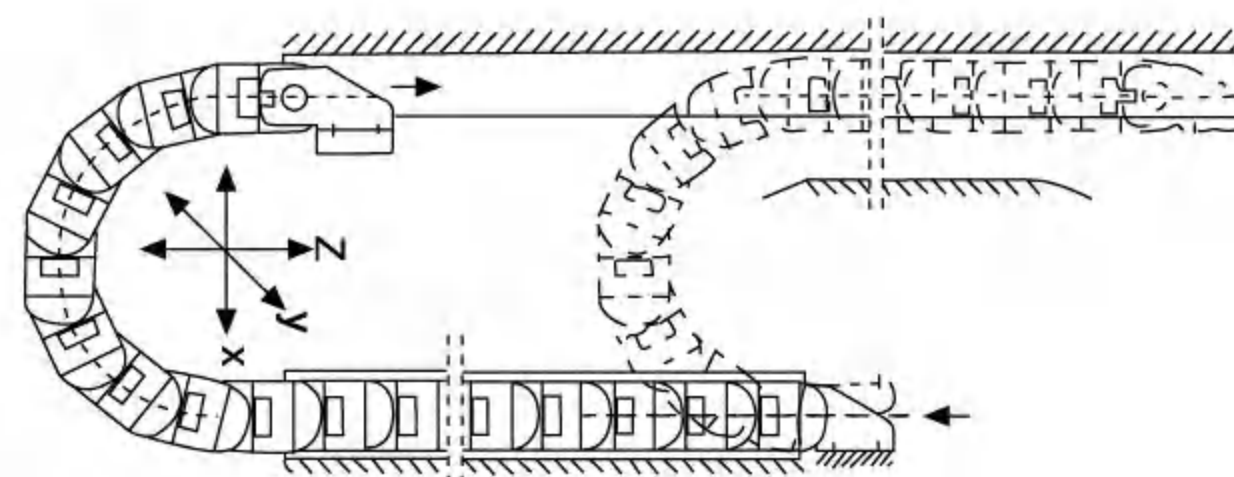
注：1. 水平放置时下方应设置具有足够长度的拖板。  
2. 水平放置时允许选用超出表中规定的长度，但建议在适当的位置上设计滚动支承点，以防软管下弯。  
Note: 1. When laid horizontally, a drag plate with enough length underneath should be provided.  
2. When laid horizontally, a length that exceeds the length as given the table is allowed to use, but a rolling backing point is recommended to add at an appropriate position so as to avoid hose bending.

**接头尺寸及规格参数表 / Connector's dimensions and specifications**

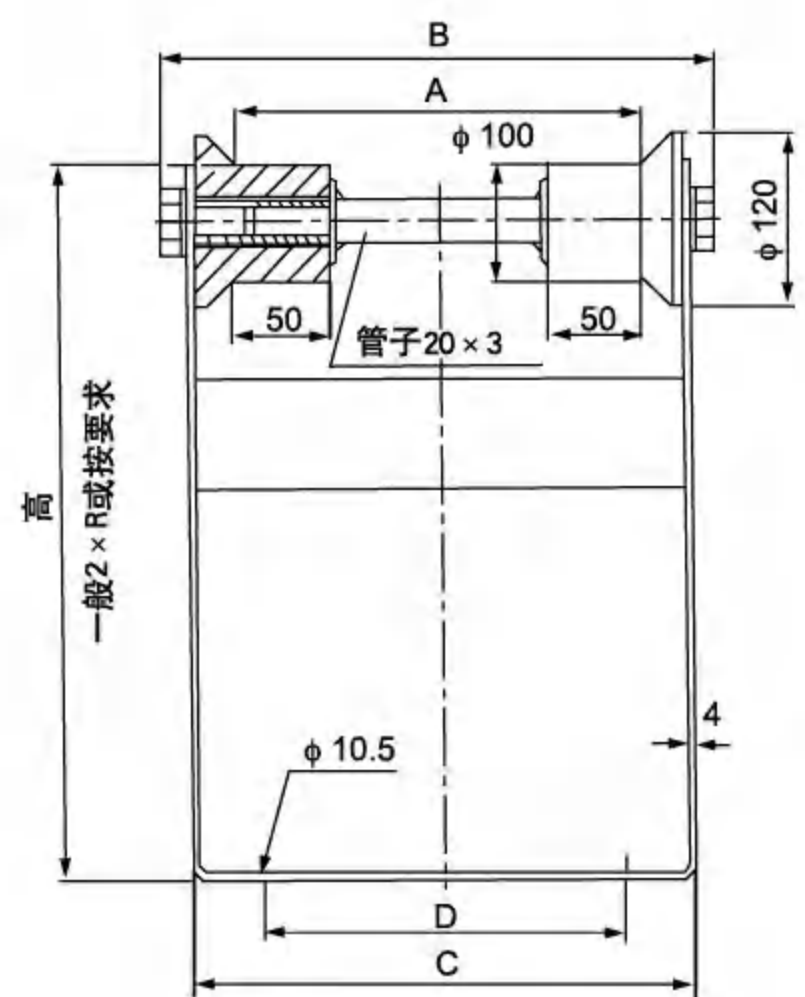
内径 Inside diameter	外径 Outside diameter	C	D	E	F	G	H	I	L	J	K	N	P	S	X	T	F	R	轴向拉力(kg) Axially pulling force	重量(kg/m) Weight
22 × 32	27.5 × 36.7	20	35	38	18	25	22	10	23	45	20	40	75	60	55	38	5.5	60	35	1.3
25 × 50	31.5 × 54.5	30	55	58	30	35	25	10	33	60	25	50	90	75	60	45	5.5	90	40	1.75
35 × 60	40.1 × 64.4	40	65	69	40	45	25	10	44	70	30	50	100	80	70	52	5.5	100	50	2.1
38 × 73	43.7 × 77.8	43	78	82	50	55	35	10	47	75	35	50	105	85	82	62	6.5	110	60	2.36
40 × 80	45.4 × 84.7	45	85	89	50	65	50	15	49	90	40	55	120	100	90	68	8.5	120	70	2.5
52 × 102	57.5 × 107.8	57	107	113	65	80	50	15	63	105	45	60	140	120	100	80	8.5	140	75	2.85
60 × 120	67.5 × 127.7	68	128	131	90	90	80	20	71	135	45	70	170	146	110	84	9	180	80	3.15
60 × 130	65.1 × 134.4	68	138	141	95	100	90	20	71	140	50	75	180	150	120	90	9	180	80	3.25
72 × 162	78.4 × 168.2	86	180	184	120	120	100	20	82	150	60	80	210	180	130	100	9	210	80	4.5



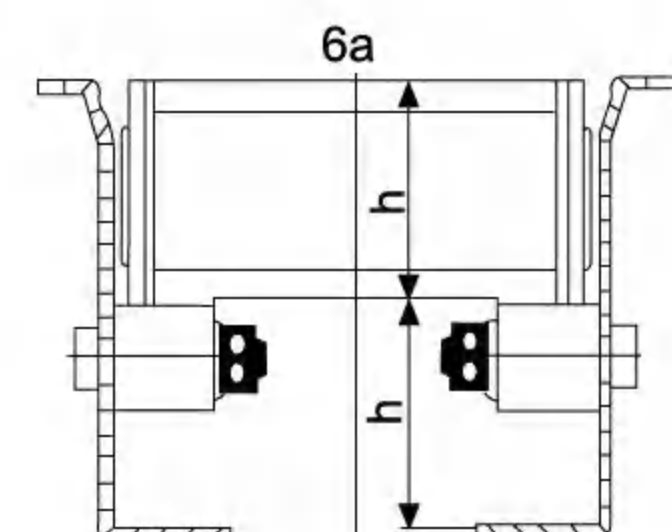
不带支架的支撑轮  
Supporting roller without support frame



普通（订货时不必说明）  
Ordinary type (no description for placing order is required)

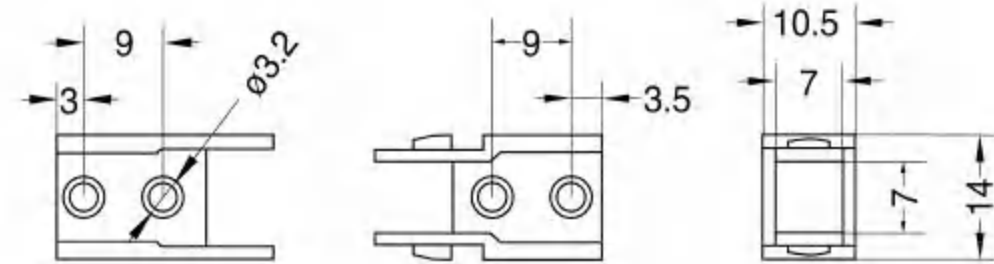
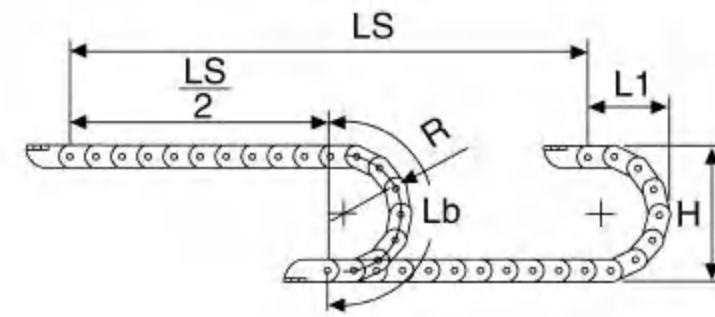


带支架的支撑轮  
Supporting roller with support frame



"r" 支承滚轮  
Supporting roller pulley

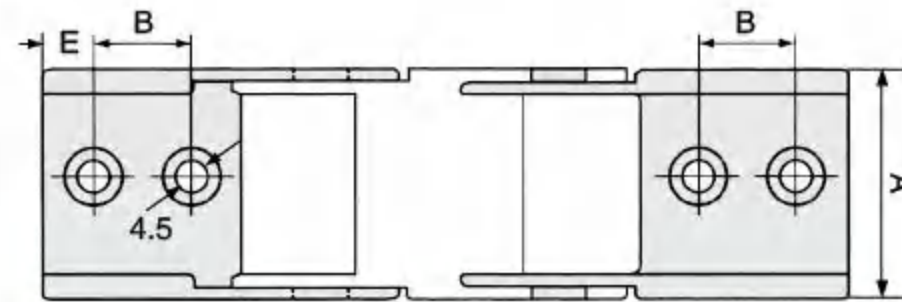
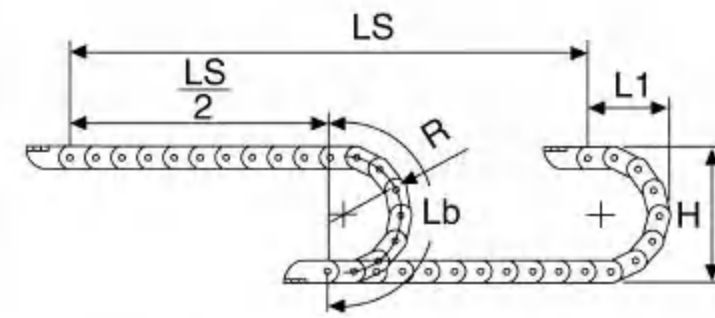
## TLP07整体拖链/TLP07 integrated cable chain



L = 拖链长度 Length of chain  
 $\frac{LS}{2}$  = 1/2行程 Half travel distance  
 Lb = 曲线长度 Length of the curve  
 $L = \frac{LS}{2} + Lb$   
 安装高度HP=H+10mm  
 Installation height HP = H+10mm

型号 type	内径(高×宽) Inside diameter	外径(高×宽) Outside diameter	弯曲斗径(R) Bending radius	节距(T) Pitch	备注 Remark
TLP7×7	7×7	10×12.5	15 28	16.7	整体式 Integrated type

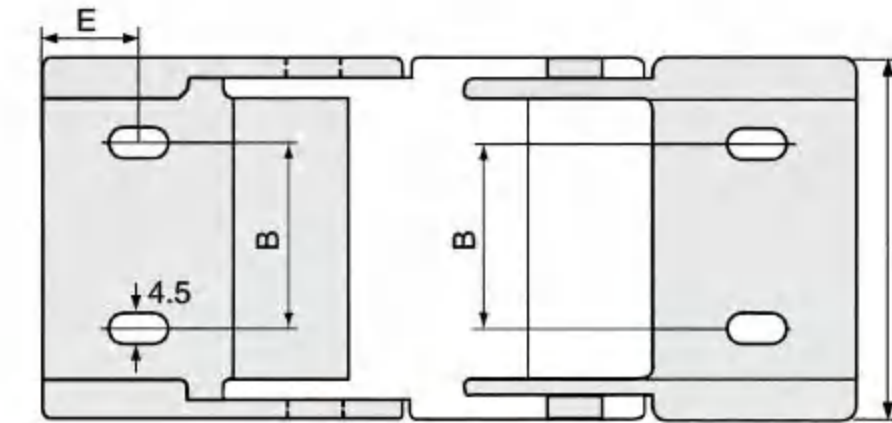
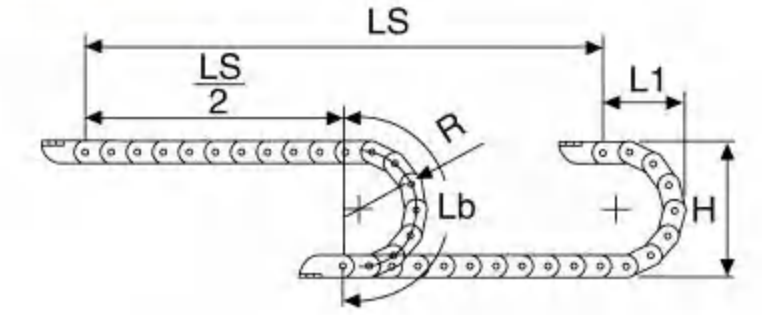
## TLP10整体拖链/TLP10 integrated cable chain



L = 拖链长度 Length of chain  
 $\frac{LS}{2}$  = 1/2行程 Half travel distance  
 Lb = 曲线长度 Length of the curve  
 $L = \frac{LS}{2} + Lb$   
 安装高度HP=H+10mm  
 Installation height HP = H+10mm

型号 type	内径(高×宽) Inside diameter	外径(高×宽) Outside diameter	弯曲斗径(R) Bending radius	节距(T) Pitch	接头参数 Connectors parameters			备注 Remark
					A	B	E	
TLP10×10	10×10	15×18	28 38 50	20	18	9	5.5	整体式 Integrated type
TLP10×15	10×15	15×24			24	9	5.5	
TLP10×20	10×20	15×29			29	9	5.5	

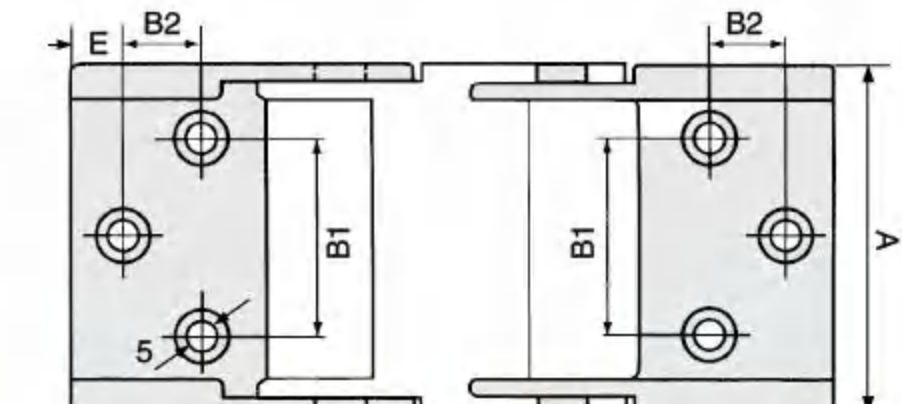
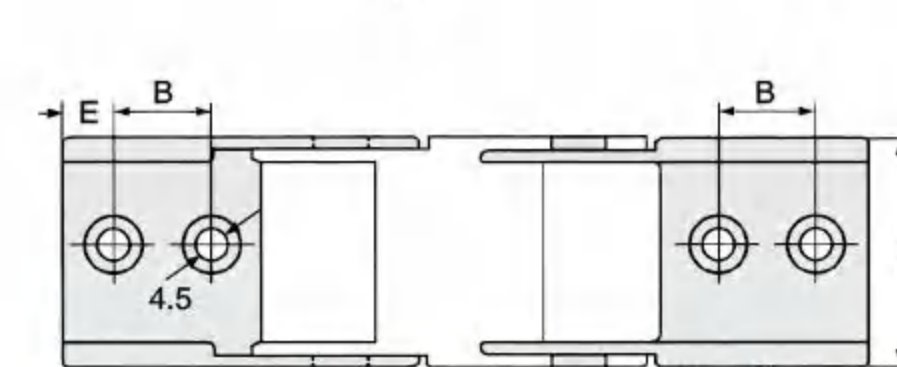
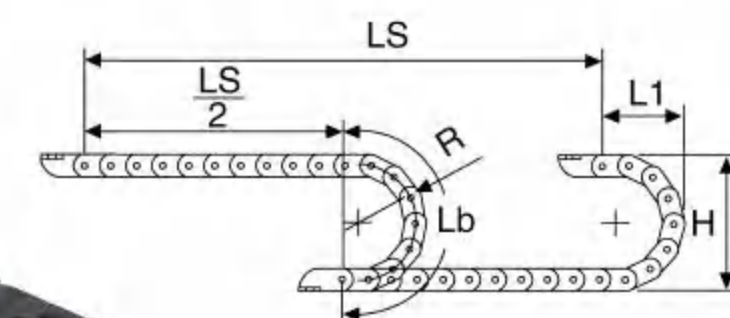
## TLP15整体拖链/TLP15 integrated cable chain



L = 拖链长度 Length of chain  
 $\frac{LS}{2}$  = 1/2行程 Half travel distance  
 Lb = 曲线长度 Length of the curve  
 $L = \frac{LS}{2} + Lb$   
 安装高度HP=H+10mm  
 Installation height HP = H+10mm

型号 type	内径(高×宽) Inside diameter	外径(高×宽) Outside diameter	弯曲斗径(R) Bending radius	节距(T) Pitch	接头参数 Connectors parameters			备注 Remark
					A	B	E	
TLP15×20	15×20	20×29	28 38 48	20	29	8	7	整体式 Integrated type
TLP15×30	15×30	20×39			39	15	7	
TLP15×40	15×40	20×49			49	27	7	
TLP15×50	15×50	20×59			59	37	7	

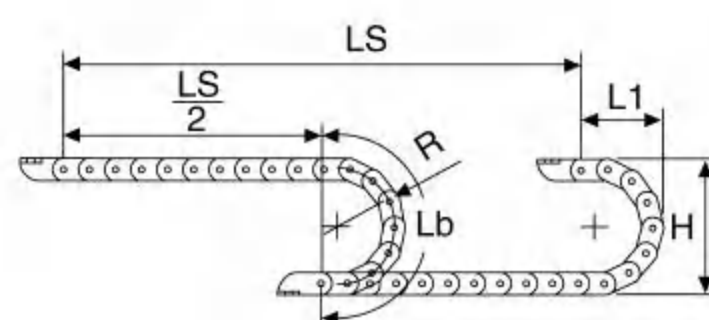
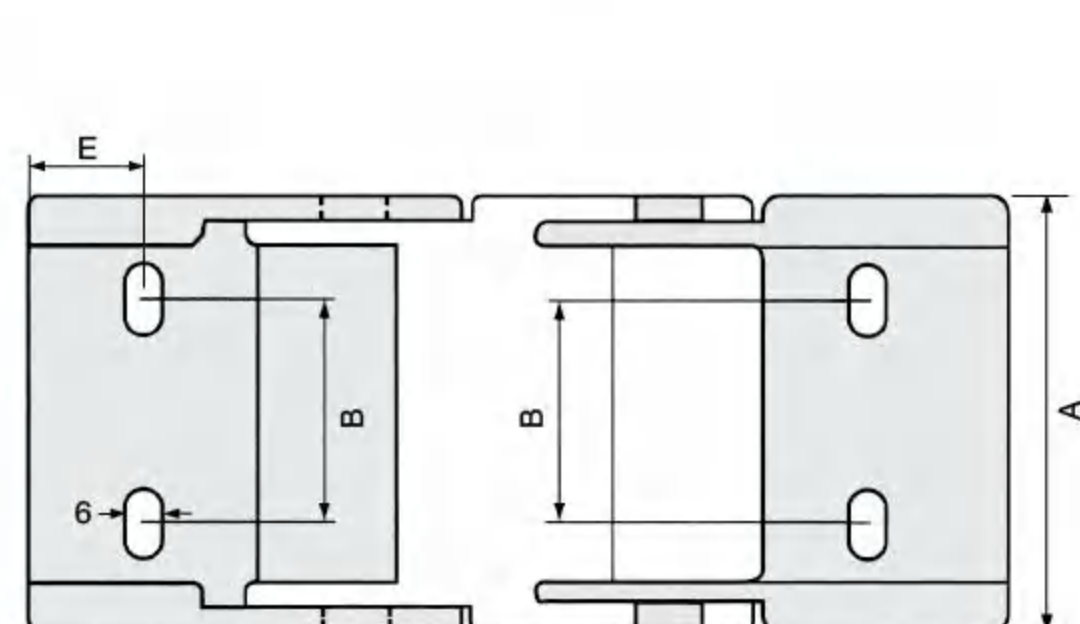
## TLP18半封闭式拖链/TLP18 Semi-closed cable chain



L = 拖链长度 Length of chain  
 $\frac{LS}{2}$  = 1/2行程 Half travel distance  
 Lb = 曲线长度 Length of the curve  
 $L = \frac{LS}{2} + Lb$   
 安装高度HP=H+10mm  
 Installation height HP = H+10mm

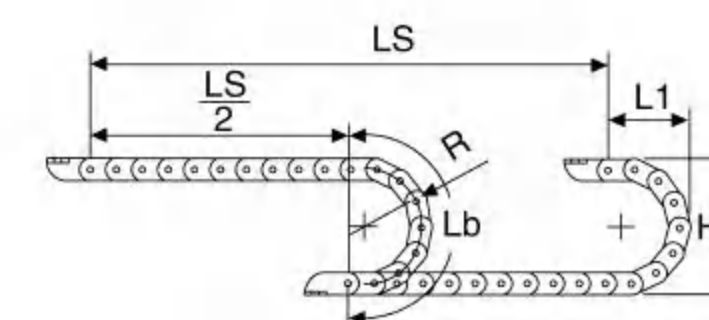
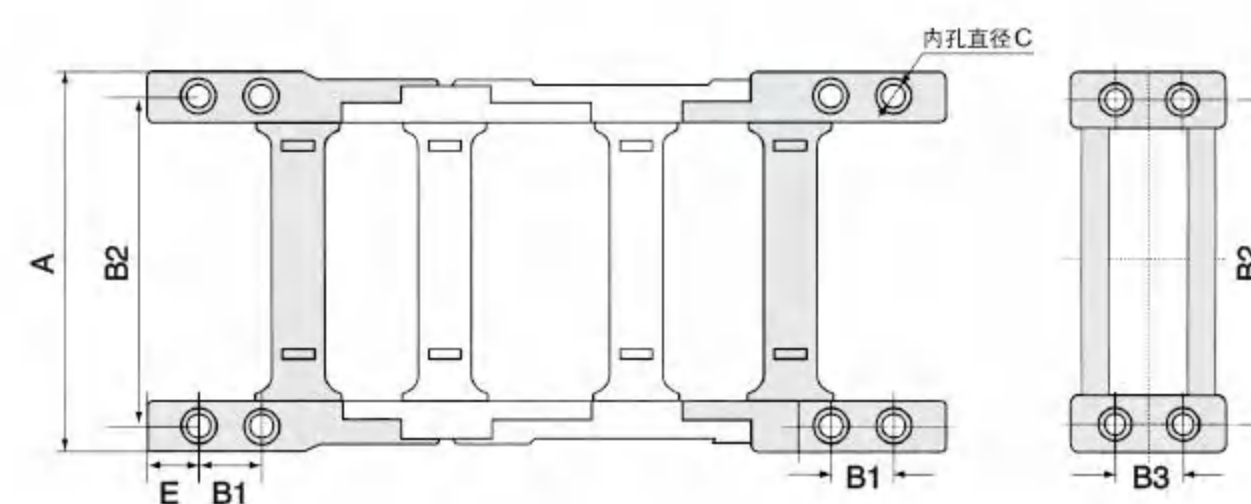
型号 type	内径(高×宽) Inside diameter	外径(高×宽) Outside diameter	弯曲斗径(R) Bending radius	节距(T) Pitch	接头参数 Connectors parameters				备注 Remark
					A	B1	B2	E	
TLP18×18	18×18	24×28	28 38 48 75	30.5	28		10	7.5	半封闭 内侧打开
TLP18×25	18×25	24×35			35	18/13.5	8	7.5	
TLP18×37	18×37	24×47			47	30/25.5	8.5	7.5	

**TLP25桥式拖链/TLP25 bridge type cable chain**  
**TLK25全封闭拖链/TLK25 totally enclosed type cable chain**



L = 拖链长度 Length of chain  
 $\frac{LS}{2}$  = 1/2行程 Half travel distance  
 Lb = 曲线长度 Length of the curve  
 $L = \frac{LS}{2} + Lb$   
 安装高度HP=H+10mm  
 Installation height HP = H+10mm

**TLP35桥式拖链/TLP35 bridge type cable chain**  
**TLK35全封闭拖链/TLK35 totally enclosed type cable chain**

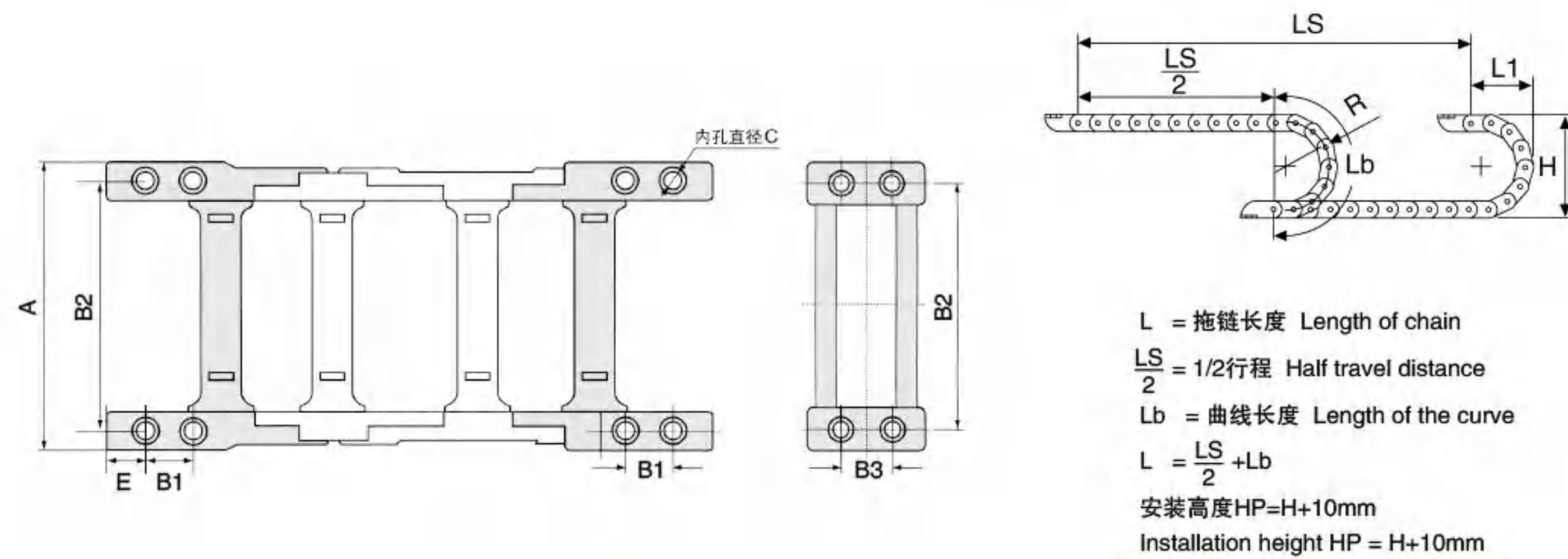


L = 拖链长度 Length of chain  
 $\frac{LS}{2}$  = 1/2行程 Half travel distance  
 Lb = 曲线长度 Length of the curve  
 $L = \frac{LS}{2} + Lb$   
 安装高度HP=H+10mm  
 Installation height HP = H+10mm

型号 type	内径(高×宽) Inside diameter	外径(高×宽) Outside diameter	弯曲半径(R) Bending radius	节距(T) Pitch	接头参数 Connectors parameters			备注 Remark
					A	B	E	
TLP25×25	25×25	35×41	55 75 100 125 150	46	41		11.5	桥式 全封闭式 上下盖可开 Bridge type, Totally enclosed, Top and bottom lids can be opened
TLP25×38	25×38	35×54			54	20	11.5	
TLP25×57	25×57	35×73			73	43	11.5	
TLP25×77	25×77	35×93			77	65	11.5	
TLP25×103	25×103	35×119			103	91	11.5	

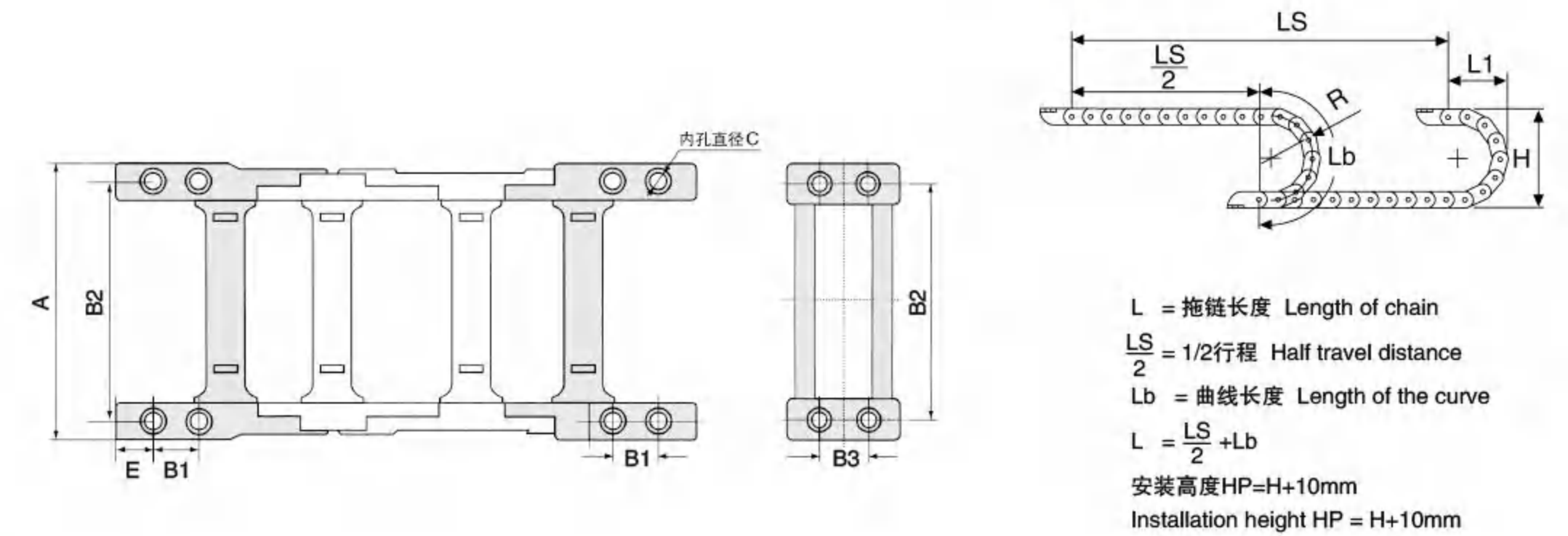
型号 type	内径(高×宽) Inside diameter	外径(高×宽) Outside diameter	弯曲半径(R) Bending radius	节距(T) Pitch	接头参数 Connectors parameters						备注 Remark
					A	B1	B2	B3	C	E	
TLP35×50	35×50	55×74	75 100 125 150 200 250 300	67	78	24	63	26	8	15	桥式 全封闭式 上下盖可开 Bridge type, Totally enclosed, Top and bottom lids can be opened
TLP35×75	35×75	55×99			103	24	88	26	8	15	
TLP35×100	35×100	55×124			128	24	113	26	8	15	
TLP35×125	35×125	55×149			153	24	138	26	8	15	
TLP35×150	35×150	55×174			178	24	163	26	8	15	
TLP35×175	35×175	55×198			203	24	187	26	8	15	
TLP35×200	35×200	55×224			228	24	213	26	8	15	
TLP35×250	35×250	55×274			278	24	263	26	8	15	

**TLP45桥式拖链/TLP45 bridge type cable chain**  
**TLK45全封闭拖链/TLK45 totally enclosed type cable chain**



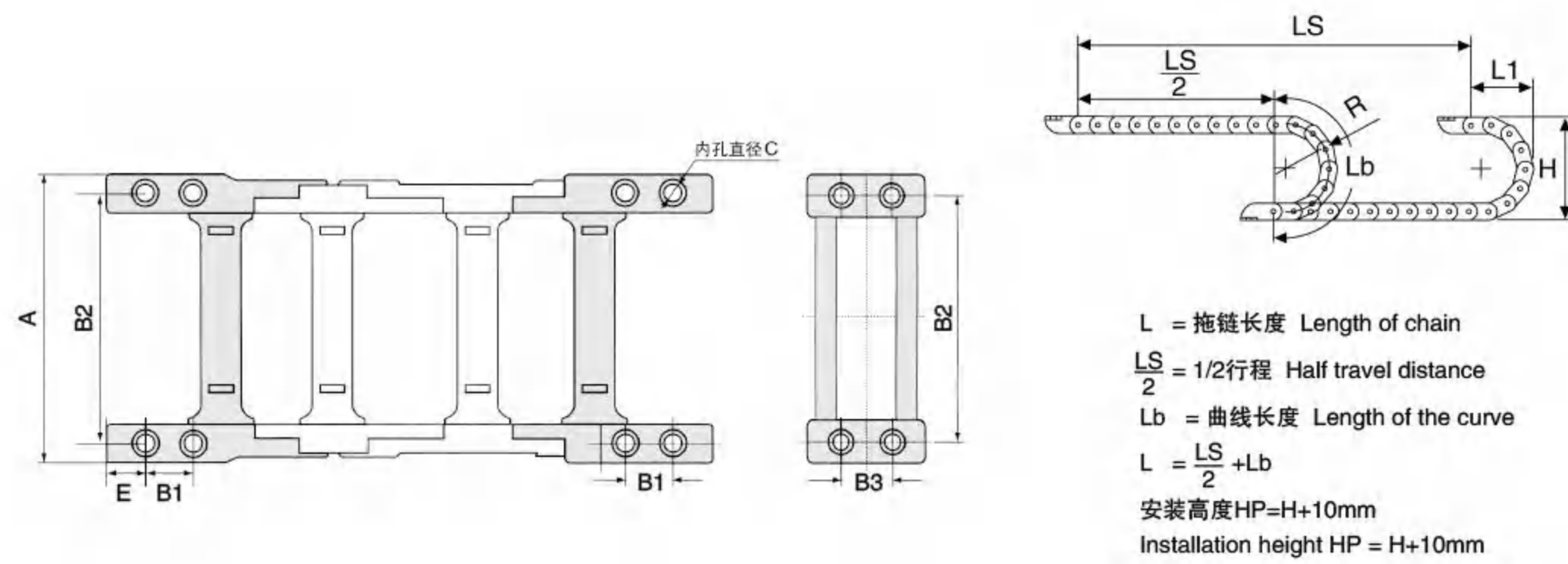
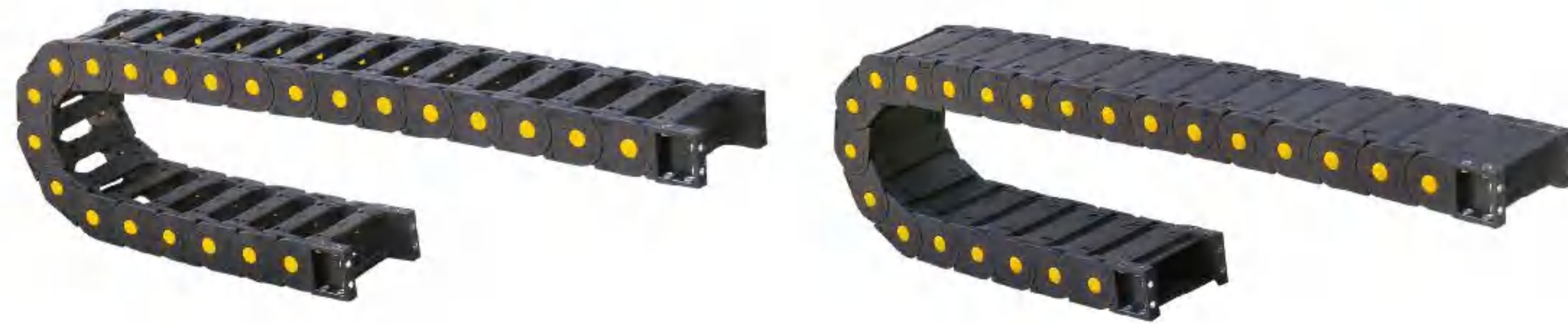
型号 type	内径(高×宽) Inside diameter	外径(高×宽) Outside diameter	弯曲斗径(R) Bending radius	节距(T) Pitch	接头参数 Connectors parameters						备注 Remark
					A	B1	B2	B3	C	E	
TLP45×50	45×50	65×78	75 100 125 150 200 250 300	67	84	23.5	65	25.5	8	17	桥式 全封闭式 上下盖可开 Bridge type, Totally enclosed, Top and bottom lids can be opened
TLP45×75	45×75	65×103			109	23.5	90	25.5	8	17	
TLP45×100	45×100	65×128			134	23.5	115	25.5	8	17	
TLP45×125	45×125	65×153			159	23.5	140	25.5	8	17	
TLP45×150	45×150	65×178			184	23.5	165	25.5	8	17	
TLP45×175	45×175	65×203			209	23.5	190	25.5	8	17	
TLP45×200	45×200	65×228			234	23.5	215	25.5	8	17	
TLP45×250	45×250	65×278			284	23.5	265	25.5	8	17	

**TLP56桥式拖链/TLP56 bridge type cable chain**  
**TLK56全封闭拖链/TLK56 totally enclosed type cable chain**

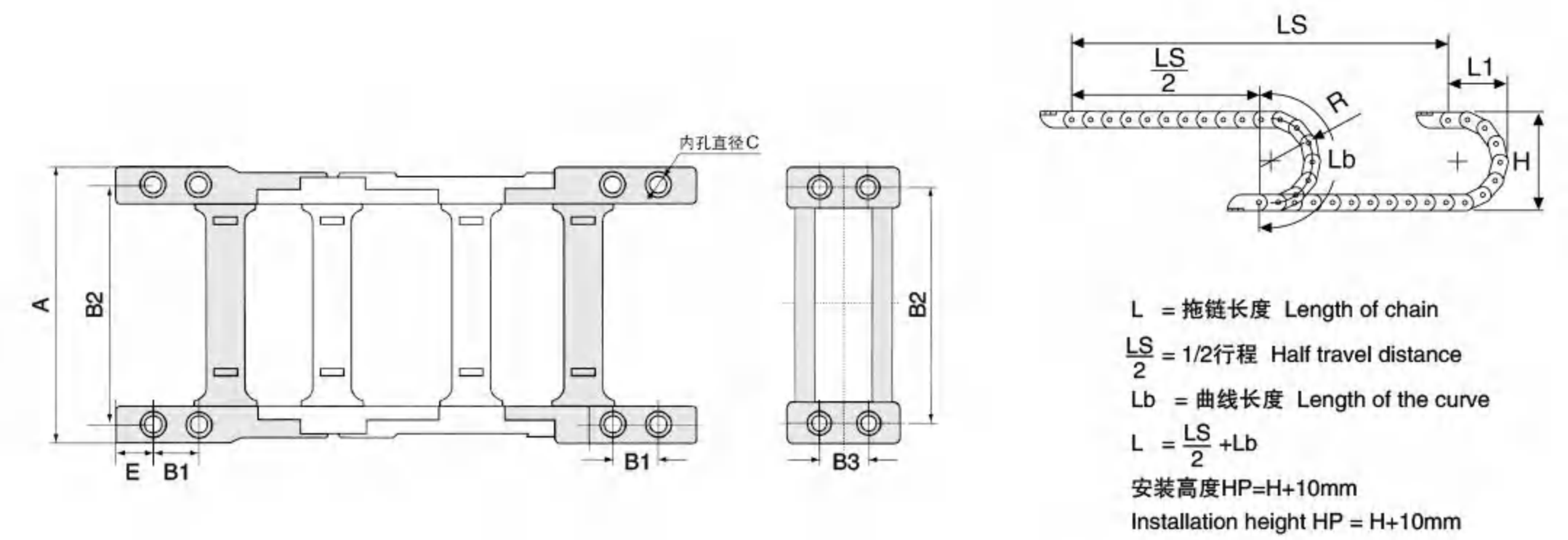


型号 type	内径(高×宽) Inside diameter	外径(高×宽) Outside diameter	弯曲斗径(R) Bending radius	节距(T) Pitch	接头参数 Connectors parameters						备注 Remark
					A	B1	B2	B3	C	E	
TLP56×50	56×50	75×80	100 150 200 300 350	77	83	30	69	29.5	8	17	桥式 全封闭式 上下盖可开 Bridge type, Totally enclosed, Top and bottom lids can be opened
TLP56×75	56×75	75×105			108	30	94	29.5	8	17	
TLP56×100	56×100	75×130			133	30	119	29.5	8	17	
TLP56×125	56×125	75×155			158	30	144	29.5	8	17	
TLP56×150	56×150	75×180			183	30	169	29.5	8	17	
TLP56×175	56×175	75×205			208	30	194	29.5	8	17	
TLP56×200	56×200	75×230			233	30	219	29.5	8	17	
TLP56×250	56×250	75×280			283	30	269	29.5	8	17	
TLP56×300	56×300	75×330			333	30	219	29.5	8	17	

**TLP65桥式拖链/TLP65 bridge type cable chain**  
**TLK65全封闭拖链/TLK65 totally enclosed type cable chain**

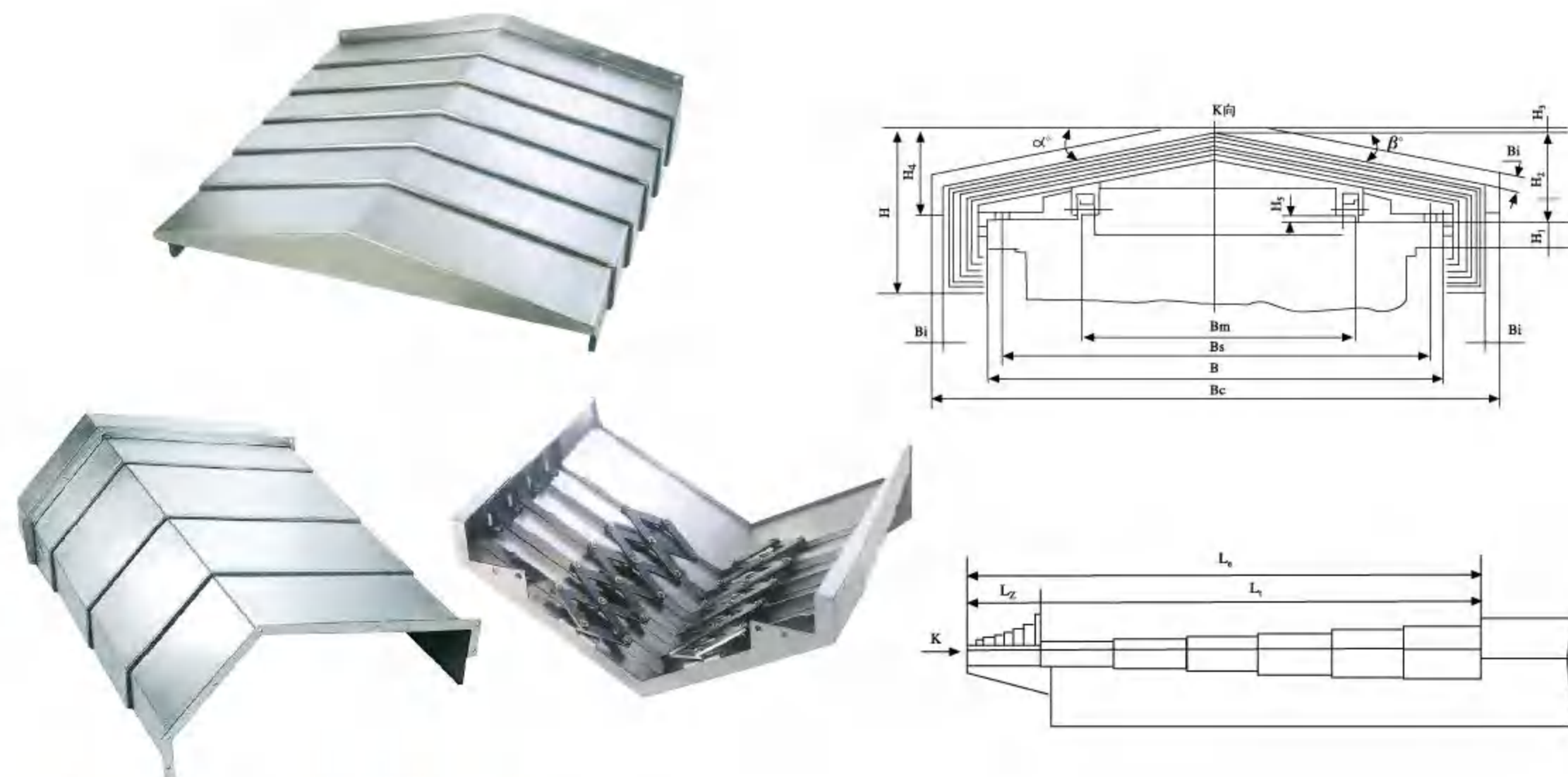


**TLP80桥式拖链/TLP80 bridge type cable chain**  
**TLK80全封闭拖链/TLK80 totally enclosed type cable chain**



型号 type	内径(高×宽) Inside diameter	外径(高×宽) Outside diameter	弯曲半径(R) Bending radius	节距(T) Pitch	接头参数 Connectors parameters						备注 Remark
					A	B1	B2	B3	C	E	
TLP65 × 50	65 × 50	85 × 82	125 150 200 250 300	77	91	34	72	44	9	20	桥式 全封闭式 上下盖可开 Bridge type, Totally enclosed, Top and bottom lids can be opened
TLP65 × 75	65 × 75	85 × 107			116	34	97	44	9	20	
TLP65 × 100	65 × 100	85 × 132			141	34	122	44	9	20	
TLP65 × 125	65 × 125	85 × 157			166	34	147	44	9	20	
TLP65 × 150	65 × 150	85 × 182			191	34	172	44	9	20	
TLP65 × 175	65 × 175	85 × 207			216	34	297	44	9	20	
TLP65 × 200	65 × 200	85 × 232			241	34	222	44	9	20	
TLP65 × 250	65 × 250	85 × 282			291	34	272	44	9	20	

型号 type	内径(高×宽) Inside diameter	外径(高×宽) Outside diameter	弯曲半径(R) Bending radius	节距(T) Pitch	接头参数 Connectors parameters						备注 Remark
					A	B1	B2	B3	C	E	
TLP80 × 75	80 × 75	106 × 120	150 200 250 300 400	100	119	35	94	65	9	20	桥式 全封闭式 上下盖可开 Bridge type, Totally enclosed, Top and bottom lids can be opened
TLP80 × 100	80 × 100	106 × 145			144	35	125	65	9	20	
TLP80 × 125	80 × 125	106 × 170			169	35	150	65	9	20	
TLP80 × 150	80 × 150	106 × 195			194	35	175	65	9	20	
TLP80 × 200	80 × 200	106 × 245			244	35	225	65	9	20	
TLP80 × 250	80 × 250	106 × 295			294	35	275	65	9	20	
TLP80 × 300	80 × 300	106 × 345			344	35	325	65	9	20	
TLP80 × 350	80 × 350	106 × 395			394	35	375	65	9	20	



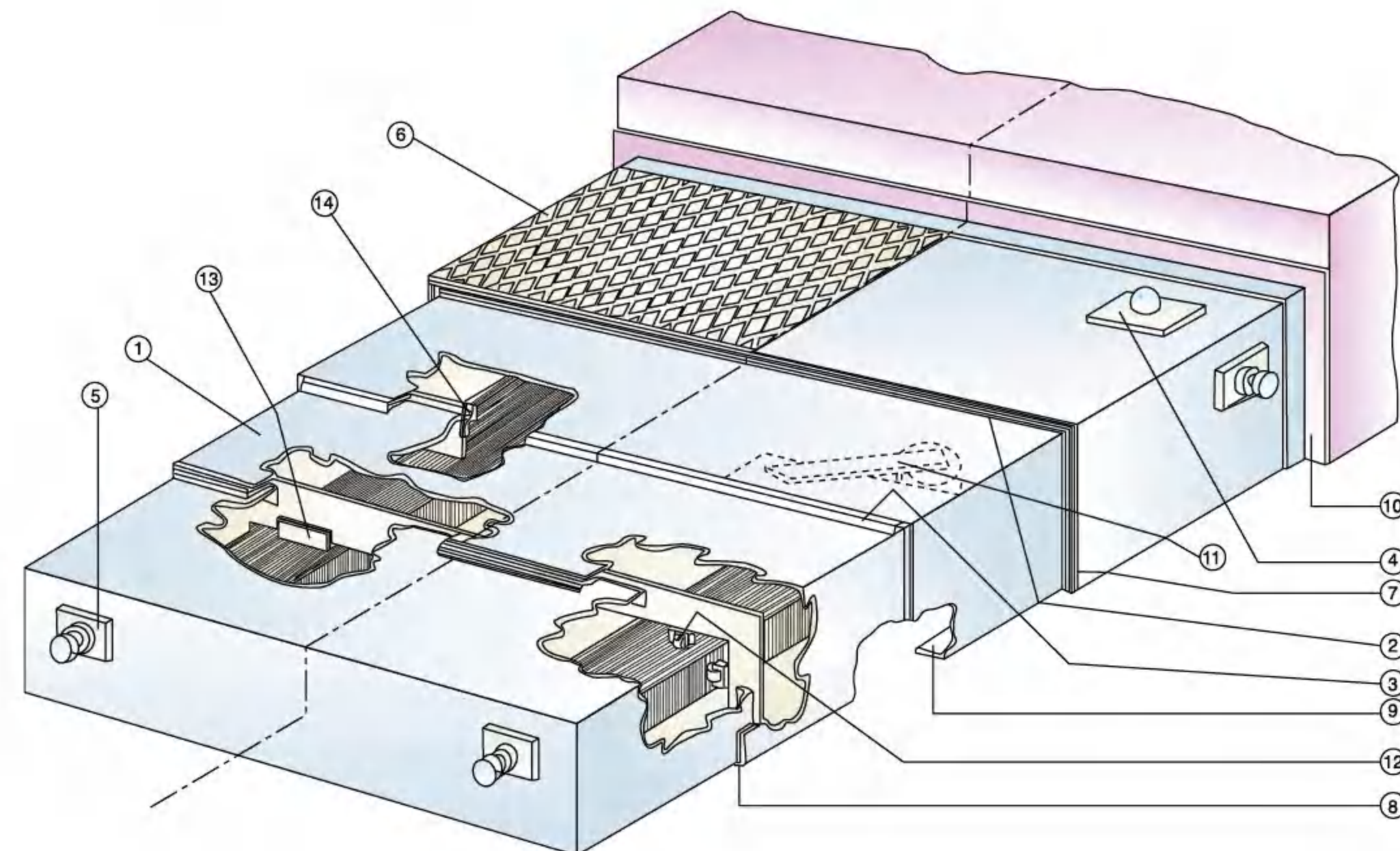
钢板机床导轨防护罩设计参数

Design data for steel plate of machine tools guide shield

代号 Code	名称 Description	数据 Data mm	备注 Remarks	代号 Code	名称 Description	数据 Data mm	备注 Remarks
Le	拉伸后长度 Length after drawing			BS	滚轮支承宽度 Contact supporting width		
Lz	压缩后长度 Length after compression			BM	滑块支承宽度 Slider supporting width		
Lt	行程 Travel range			a°、b°	弓型倾角 Bow-shaped dip		
B	导轨宽度 Width of guide			n	预计节数 Estimated number of folds		
Bc	防护罩总宽 Shield width			d	钢板厚度 Thickness of steel plate		用户预选 Pre-selected by users
H	防护罩总高 Total height of the shield				安装孔 Assembling hole		用户自定 By user
H1	导轨侧面高度 Side height of guide			钢板材料 Steel Plate mat'l	1Gr13	2Cr13	用户自定 By user
H2	导轨上护罩高度 Upper part height of shield			支撑形式 Supporting manner	滚轮 Pulley	滑块 Sliding piece	用户自定 By user
H3	安装位置高度 Installation position width			配套机床型号 Compound machine's type			
H4	安装板高度 Height of assembling plate			委托单位 Entrusting party			
H5	滚轮高度 Height of contact roller			联系人 Contact person		电话 Tel	

注：1. 用户订货时只要填明上数据、选定材料，我公司代为设计、制造。  
 2. 如用户对护罩型式有特殊要求，我公司可与用户协商设计，满足要求。  
 3. 每种防护罩填写一张。如样本不够，可复印填写。  
 Note: 1. The endusers select data and materials mentioned above and our company will take care of the fabrication and design work.  
 2. If endusers have special requirement for shield type, please contact with us, satisfy requirement.  
 3. One form for one type of shield.

**特点:** 该产品有钢板和不锈钢板制成的防护罩，质优寿命长，能防冷却液和乳液；防铁屑，能防工具的偶然事故。  
**速度:** 一般类型护罩速度为12米/分、如用户需要，可制成特殊内部结构，最高速度为80米/分。  
**外型:** 该产品外型美观，可为给机床生产厂带来可观的经济效率。  
**Features:** This product has a long life time and is coolant-resistance, and prevent iron debris from getting into inside and also eliminate accidents.  
**Speed:** For ordinary type of shield: 12m/minute. if necessary, max. speed can be 80m/minute.  
**Appearance:** It has a very nice-looking appearance, which can bring good economic benefit.



- |             |  |               |   |
|-------------|--|---------------|---|
| 1. 钢板不锈钢板   | 1. S.S. plate                          | 8. 边上的黄铜凹字形钢材 | 8. Concave shaped copper material         |
| 2. 胶条       | 2. Glue strip                          | 9. 周围的外套      | 9. Weir of the periphery                  |
| 3. 保护胶条特制盖板 | 3. Special cover plate for glue strip  | 10. 边缘系结构     | 10. Construction                          |
| 4. 检查窗      | 4. Inspection hole                     | 11. 高速光滑的铰链装置 | 11. High speed smooth hinge equipment     |
| 5. 上升的拉手    | 5. Pull for lifting                    | 12. 滚轮        | 12. Gyro wheel                            |
| 6. 防滑踏板     | 6. Anti-skidding treadle               | 13. 自润滑磨擦块    | 13. Friction piece with lubricant coating |
| 7. 侧面密封复合胶条 | 7. Lateral sealing compound glue strip | 14. 回收装置      | 14. Recovery equipment                    |

## 标准产品

钢板、不锈钢板伸缩式防护罩是一种制造工艺相对复杂的防护产品。他们除需要各种各样的高质量的材料和组件外，还需要先进的制造设备及技术娴熟的制造工人，更需要连续不断的积累经验和相对应的改进。

## Standard products

Steel, stainless steel telescopic shield is a relatively complex manufacturing process protection products. In addition they need a wide variety of high quality materials and components, but also the need for advanced manufacturing equipment and highly skilled manufacturing workers, but also continuous to accumulation experience and corresponding improvement.

根据速度，密封和尺寸等情况，可以由工程师们决定把特殊的耐摩擦黄铜导轨或者聚氨酯橡胶擦拭器镶嵌在钢制伸缩防护罩的两侧。  
Special anti-friction brass guides or wipers with polyurethane rubber are inserted on the sides of the Telescopic Steel Covers, at the discretion of the engineer based on speed, seal and dimensions.

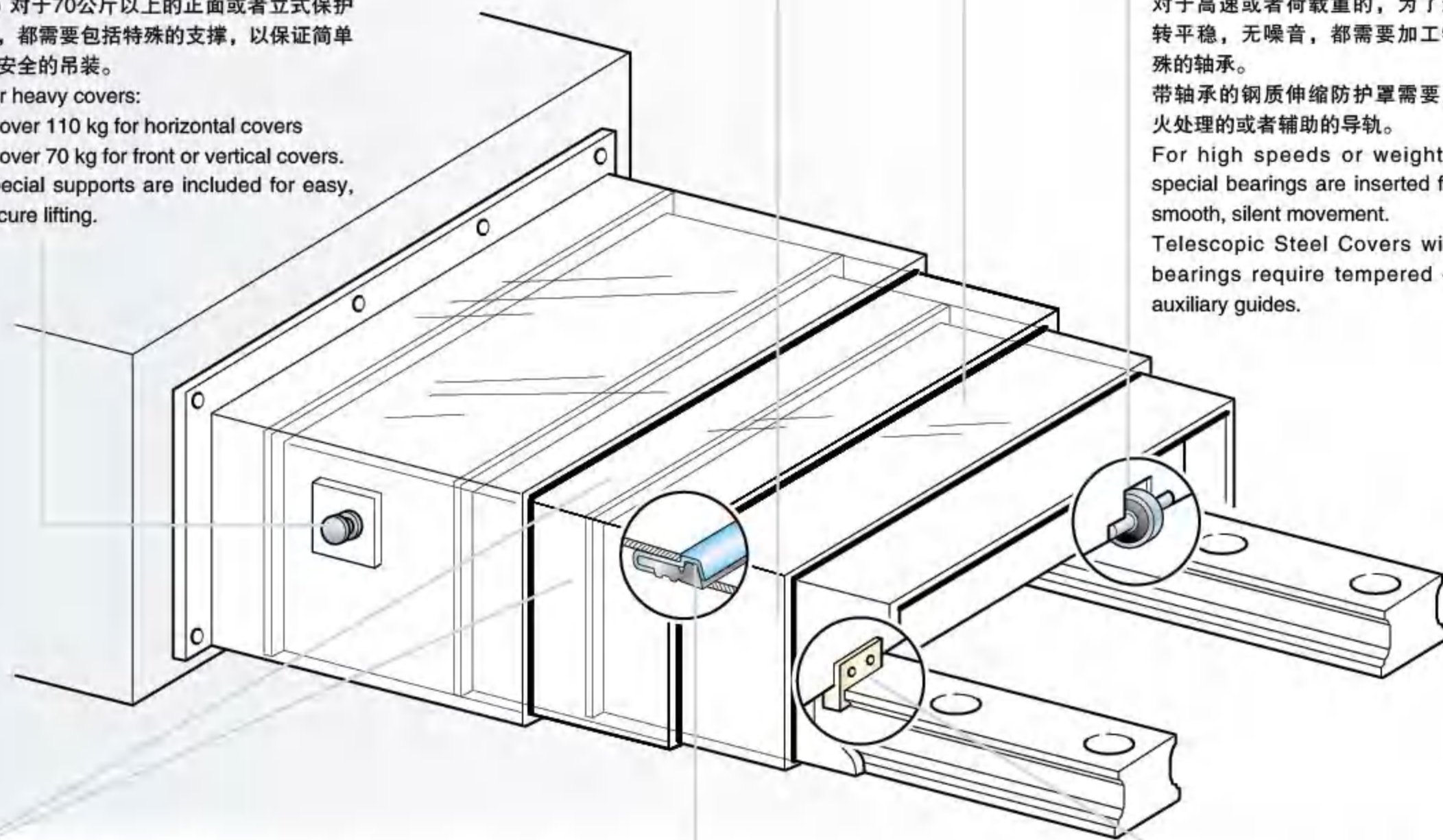
就平整度，抗腐蚀和耐磨损而言，所采用的钢材具有极高的品质和质量。厚度的范围是从1.5mm至3mm。钢制伸缩防护罩也可以用不锈钢制成。  
The steel used is extremely high quality in terms of flatness, corrosion resistance and wear resistance. Thickness ranges from 1.5 to 3 mm. Telescopic Steel Covers may also be made of stainless steel.

对于重型或大型防护罩：

- (1) 对于110公斤以上的卧式防护罩，
  - (2) 对于70公斤以上的正面或者立式防护罩，
- 都需要包括特殊的支撑，以保证简单而安全的吊装。

For heavy covers:

- a) over 110 kg for horizontal covers
  - b) over 70 kg for front or vertical covers.
- Special supports are included for easy, secure lifting.



对于高速或者荷载重的，为了运转平稳，无噪音，都需要加工特殊的轴承。带轴承的钢制伸缩防护罩需要回火处理的或者辅助的导轨。  
For high speeds or weights, special bearings are inserted for smooth, silent movement. Telescopic Steel Covers with bearings require tempered or auxiliary guides.

在高速的情况下，震动吸收装置被镶嵌在这些位置上。在一运动期间它们可以有效的减小两个箱体之间的冲击。这些震动吸收装置可以使得工作转速比以往更高，同时还能够减小噪声和磨损。这一创和高精度的工作方法是震动吸收装置可以用于转速更快的车床。

For high speeds, shock absorbers are inserted in these positions. They are very effective in reducing impact between boxes during movement.

These shock absorbers allow working speeds considerably higher than those previously possible, while simultaneously reducing noise levels and wear.

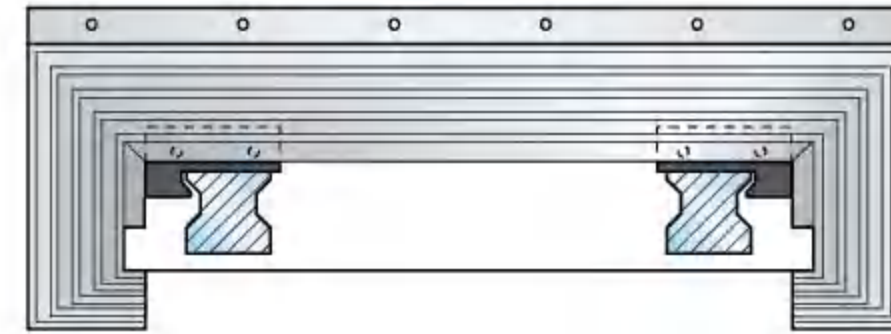
This innovation, together with precision production methods, make it possible to accommodate even the fastest machine tools.

擦拭器可以保持表面清洁，并可以防止碎屑进入到昂贵的轨道中去。它们必须是抗热抗冷的，所以它们必须是用聚氨酯材料制成的。它们可以带有或者不带有不锈钢制作的防碎屑保护器。

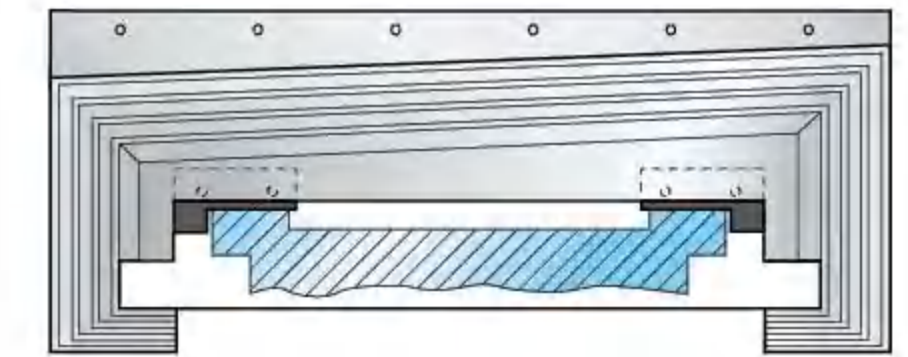
Wipers keep the surface clean and prevent chips and shavings from getting onto expensive rails. They must be heat and coolant resistant, and thus are made of polyurethane, with or without a protective stainless steel chip guard.

结构紧凑的低速钢制伸缩防护罩带有特殊的防摩擦黄铜导轨或者非金属导轨。  
Compact, low-speed Telescopic Steel Covers are equipped with special anti-friction brass or non-metallic guides.

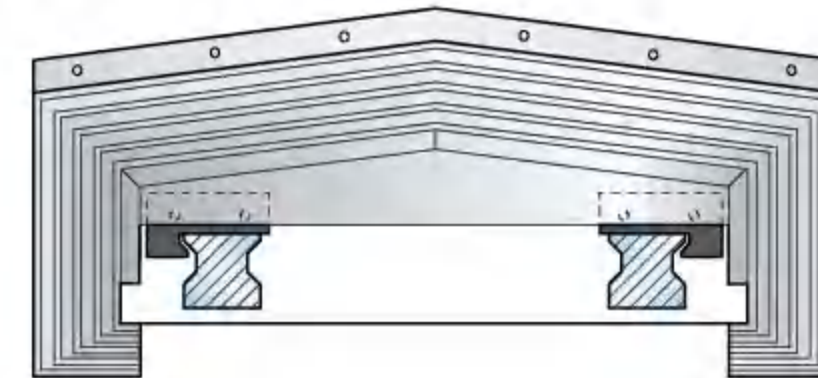
结构 Shape 1



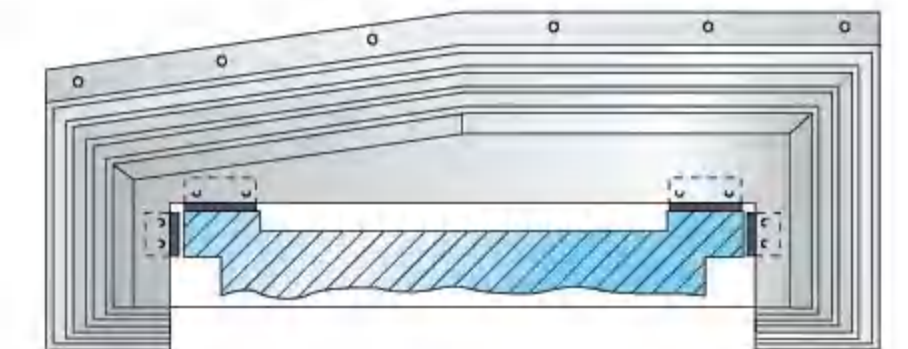
结构 Shape 2



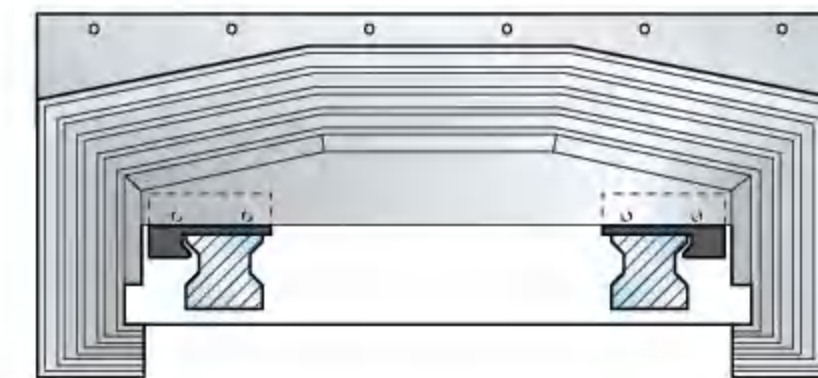
结构 Shape 3



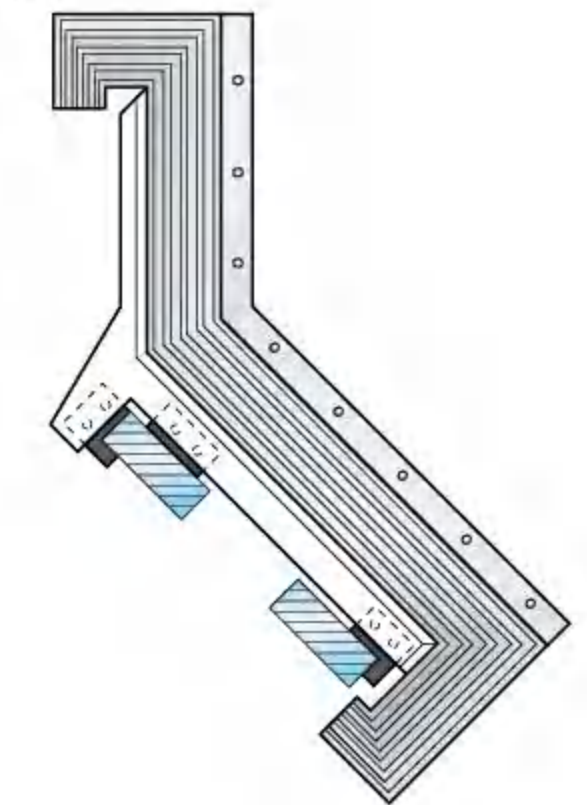
结构 Shape 4



结构 Shape 5

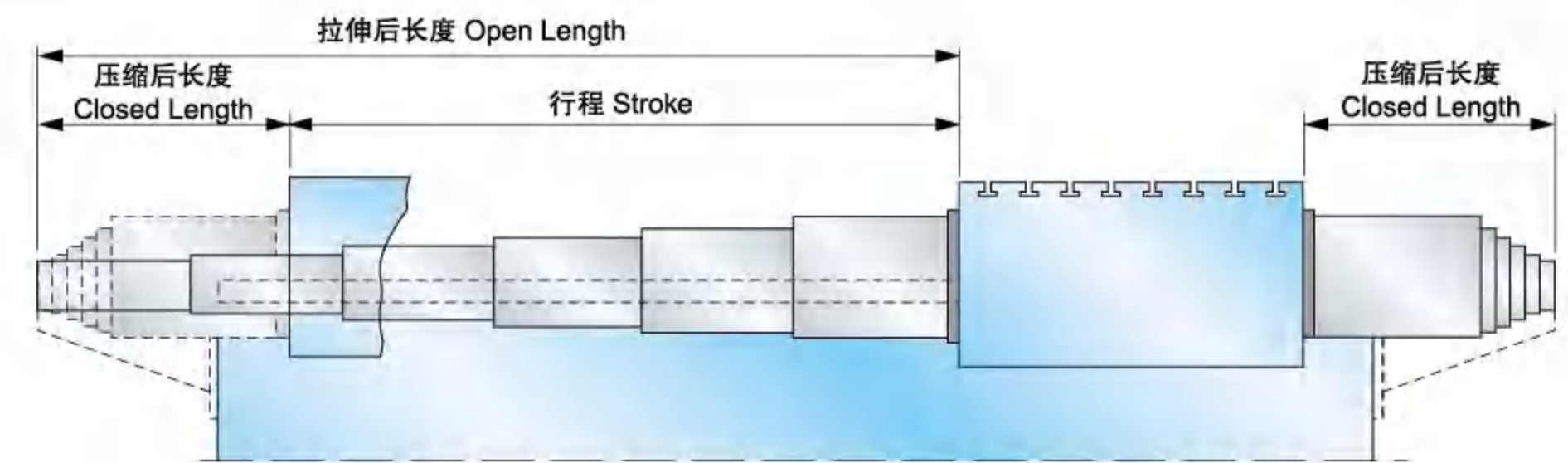


结构 Shape 6

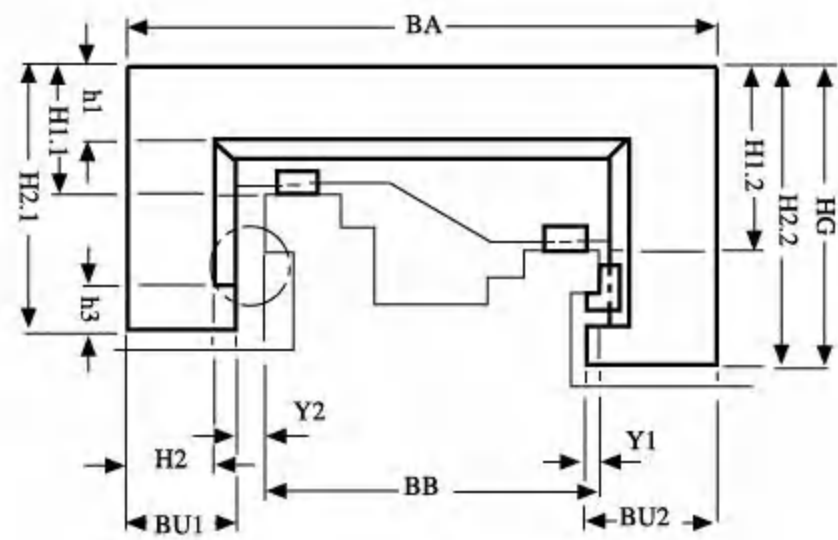
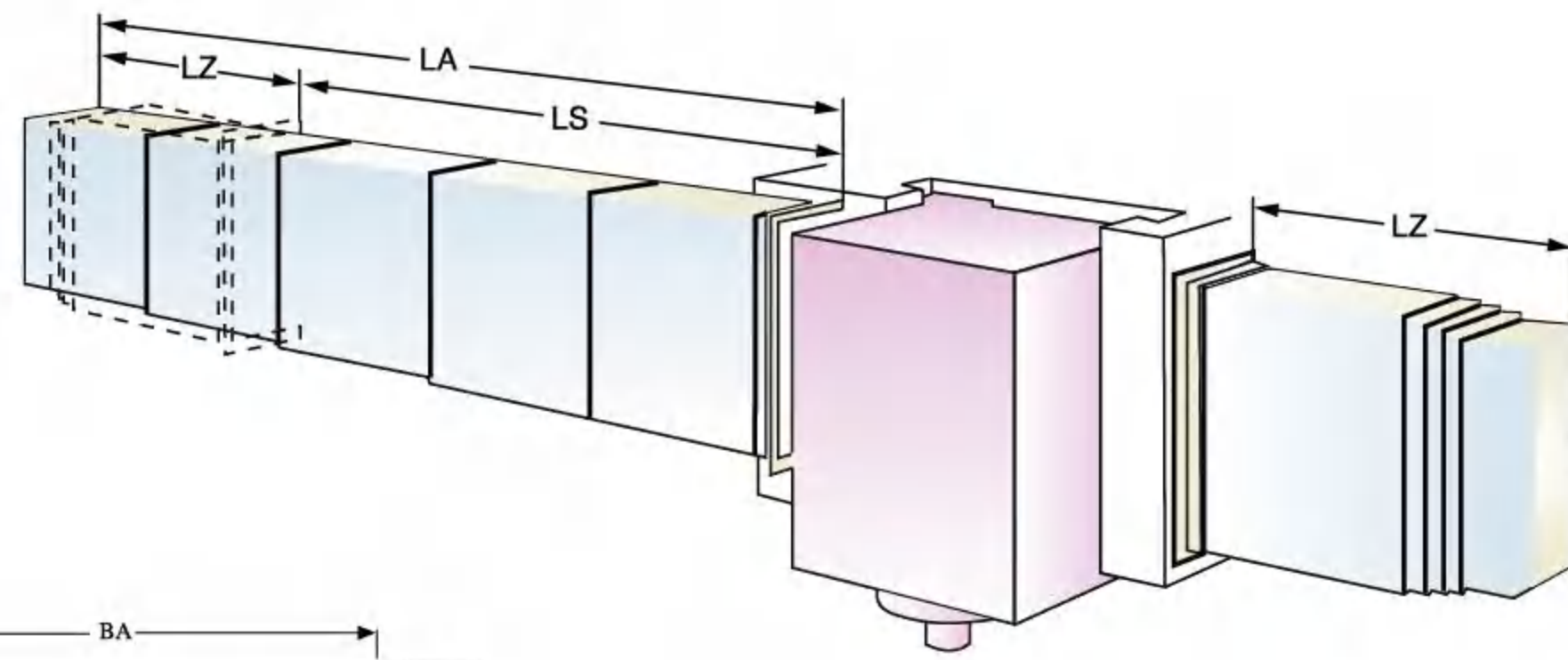


注：上面给出的结构示意图仅仅是钢板不锈钢伸缩防护罩中的几种。

NOTE: Only a few standard configurations of Telescopic Steel Covers are shown above.

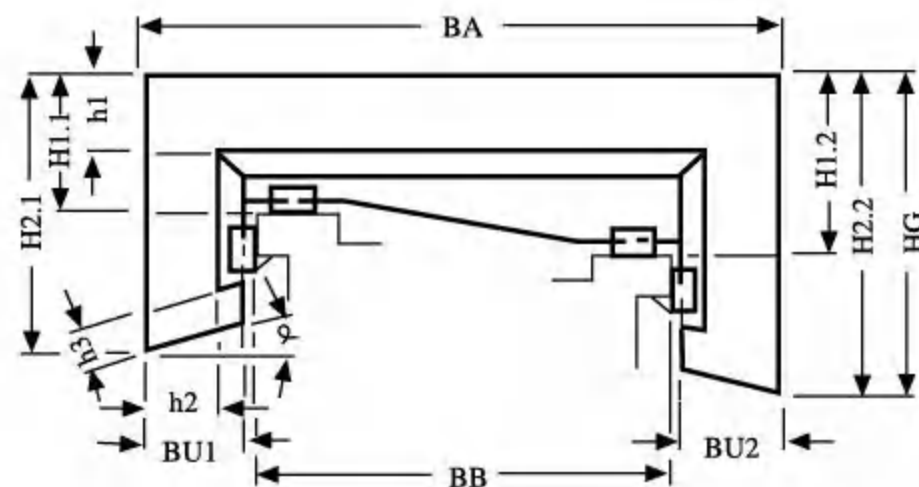






伸缩盖的外形根据机器的整体尺寸、工作条件、关系到数据和冷冻液及独特的外表，它和整个机器的图像相和谐。  
The appearance of the expansion cover is dependent on the overall dimensions of the machine, working conditions and the cooling liquid. It should be in take with the whole machine unit.

精选的形状，假如 $Y1 < Y2$ 前面的装备，假如 $Y1 \geq Y2$ 后面的装备，依靠重心的位置它将是必更新设备或者修理上轮边缘。  
If  $Y1 < Y2$  equipment before  $Y2$  and if  $Y1 \geq Y2$  the equipment back of  $Y2$ , it should be change to the latest machine or repair the wheel edge in upper position.



精心选择的形状

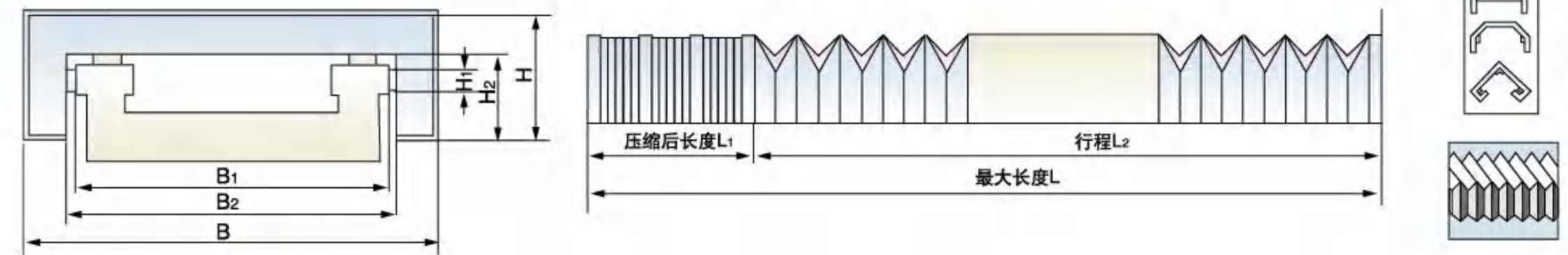
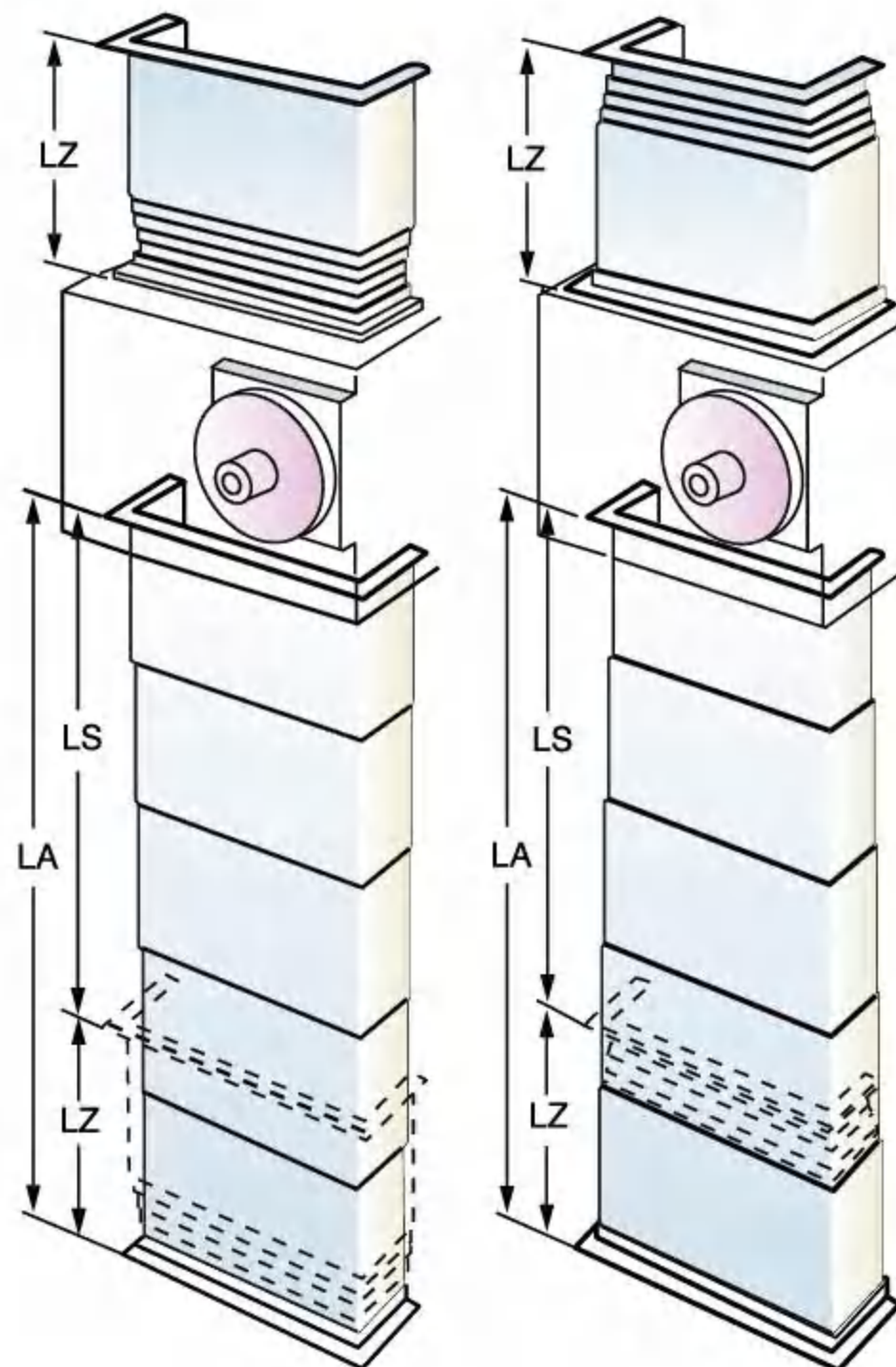
★ 显示出的形状

★ 标准形状

Shapes:

★ Shapes shown

★ Standard shapes



### 柔性风琴式导轨防护罩设计参数

#### Design parameters for flexible accordion guide shield

代号 Code	名称 Description	数据 Data	备注 Remarks	护罩结构材料 Shield construction materials	
L	拉伸后长度 Length after stretch			面料 plus material	尼龙革或三防布 Nylon cloth or protective cloth
L <sub>1</sub>	压缩后长度 Length after compression			支撑 Support	PVC片材 (每格一片) Pvcsheet
L <sub>2</sub>	行程长度 Travel length			连接板 Connecting plate	树脂板、铁板 Resin plate, iron plate
B	防护罩总宽 Total width of the shield			滑轮 Pulley	铜或尼龙轴承 Copper or nylon bearing
B <sub>1</sub>	导轨宽度 Guide width				
B <sub>2</sub>	护罩内部宽度 Interior width of the shield			配套机床型号 Machine tool model number	
H	护罩总高度 Total height of the shield			订货单位 By purchase order	
H <sub>1</sub>	导轨高度 Guide height of the guide			联系人 Contact person	
H <sub>2</sub>	护罩内部高度 Interior width of the shield			联系电话 Contact tel	

注：1. 用户订货时只要填明以上数据、选定材料，我公司代为设计制造。

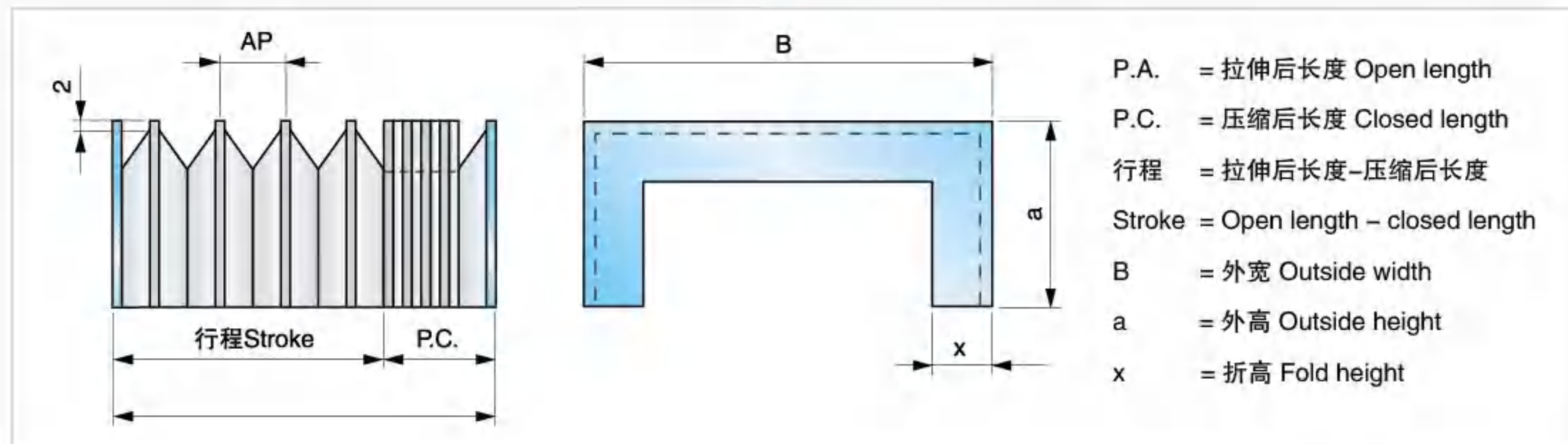
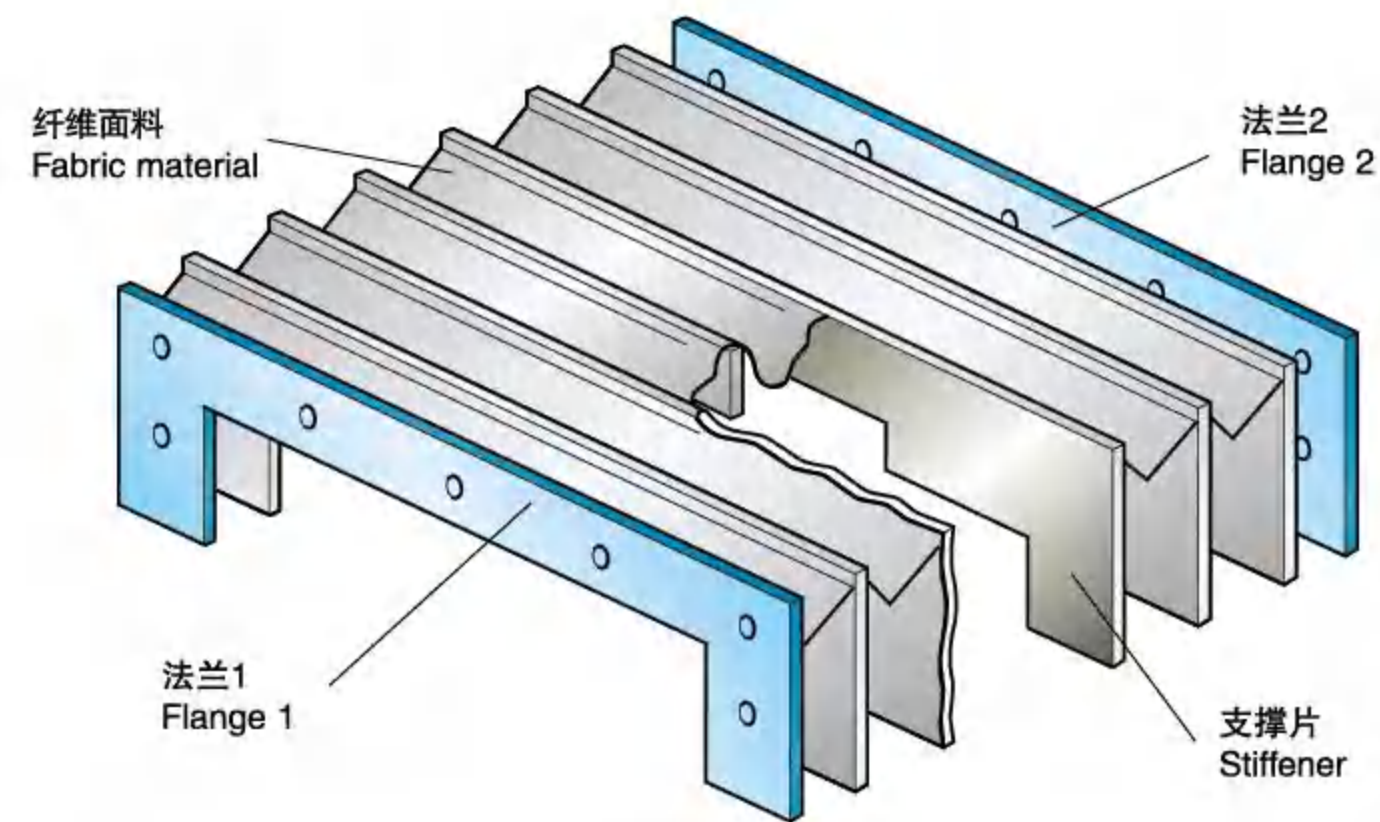
2. 如用户对护罩型式有特殊要求，我公司可与用户协商设计，满足要求。

3. 每种防护罩填写一张。如样本不够，可复印填写。

Note: 1. The enduser select the materials and data mentioned above when place an order and we will make the design and fabrication.

2. If endusers have special requirements, please let us know and we can achieve for them.

3. Please fill in a form per type of shield.



### 计算压缩长度公式 Formula for calculating the CLOSED LENGTH

- AP = 一个折的拉伸 Opening of 1 fold =  $X \cdot 2 - 8$
- SM = 面料厚度 Fabric thickness
- SS = 支撑片厚度 Stiffener thickness
- SF = 法兰厚度 Flange thickness
- NP = 折数 number of folds =  $\frac{P.A.}{AP} + 2$
- P.C. =  $(SM \cdot 8 + SS) \cdot NP + (SF \cdot 2)$

#### 举例 Example:

数据 Data: 折高 Fold height=15mm  
 拉伸后长度 Open length=1000mm  
 一个折的拉伸 Opening of 1 fold =  $15 \times 2 - 8 = 22$   
 折层数量 Number of folds =  $\frac{1000}{22} + 2 = 48$   
 压缩后长度 Closed length =  $(0.25 \times 8 + 1) \times 48 + (2 \times 2) = 148$ mm  
 压缩后长度 Closed length =  $3 \times 48 + 4 = 148$ mm

#### 压缩后长度 Closed length = 148mm

- \* 使用代码“TEMAT015”的纤维面料
- \*\* 支撑片厚度为1mm
- \*\*\* 法兰厚度为2mm
- \* We hypothesize that the fabric material with code "TEMAT015"
- \*\* We hypothesize that the stiffener is 1mm thick
- \*\*\* We hypothesize that the flange is 2mm thick

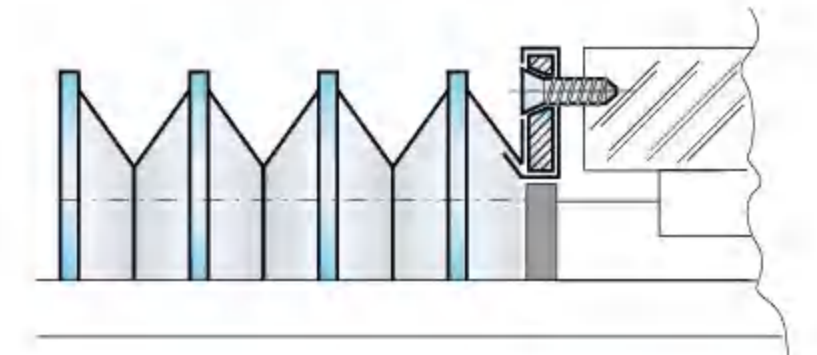
这个数据表仅显示了我公司加工制作的一种高频焊接护罩类型，如需其他类型可与我公司工程技术人员联系。  
 This data sheet shows only one type of thermic-welded cover that we manufacture. Contact our engineering department for other types.

#### 型式A:

- 用钢、铝、PVC板制造成与机床相对应的联结端板（机床攻丝）
- 形状和孔按用户图纸制造

#### Type A:

- use Steel, aluminum, PVC plate manufacturing to with machine corresponding connecting end plate (machine body tapping)
- shape and holes can follow per customer's drawing to manufacture

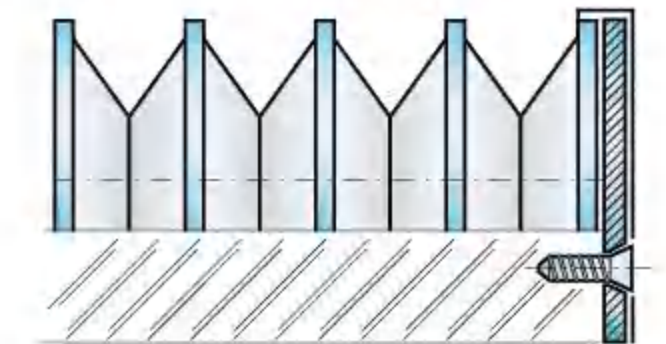


#### 型式B:

- 用钢、铝、PVC板制造成与机床相对应的联结端板（法兰攻丝）
- 形状和孔按用户图纸制造

#### Type B:

- use Steel, aluminum, PVC plate manufacturing to with machine corresponding connecting end plate (flange tapping)
- shape and holes can follow per customer's drawing to manufacture

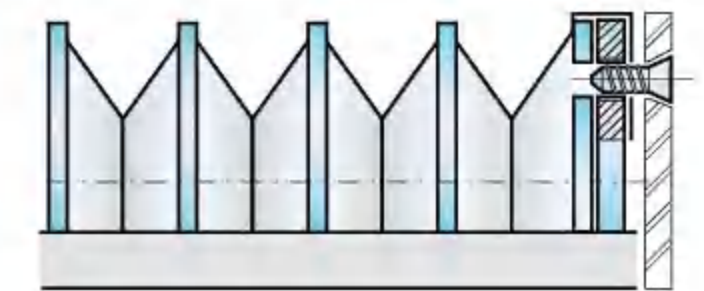


#### 型式C:

- 用钢、铝、PVC板制造成与机床相对应的联结端板（法兰攻丝）
- 形状和孔按用户图纸制造

#### Type C:

- use Steel, aluminum, PVC plate manufacturing to with machine corresponding connecting end plate (flange tapping)
- shape and holes can follow per customer's drawing to manufacture

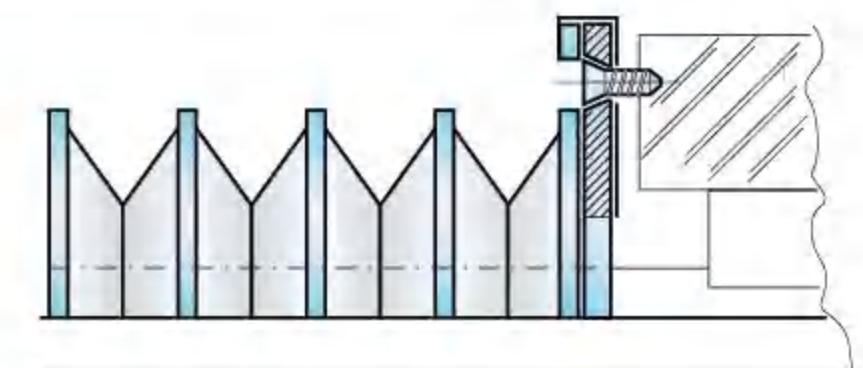


#### 型式D:

- 用钢、铝、PVC板制造成与机床相对应的联结端板（机床攻丝）
- 形状和孔按用户图纸制造

#### Type D:

- use Steel, aluminum, PVC plate manufacturing to with machine corresponding connecting end plate (machine body tapping)
- shape and holes can follow per customer's drawing to manufacture

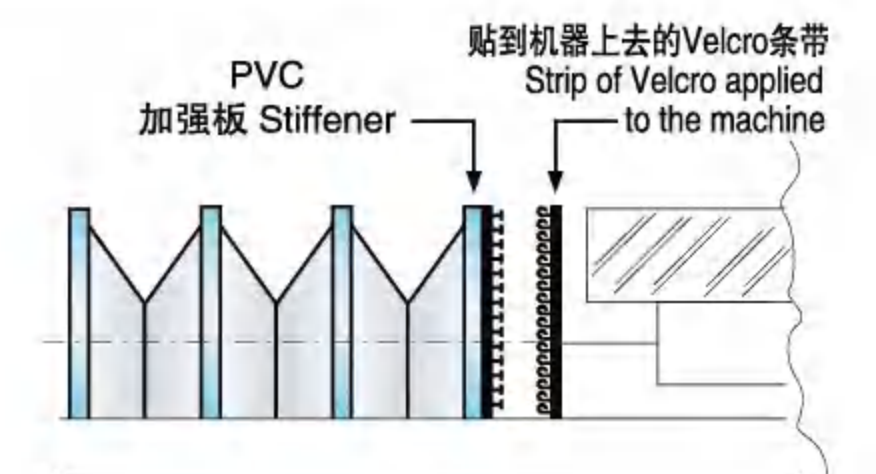


#### 型式E:

- 采用尼龙粘扣快速连接的办法解决，用一个PVC支撑作为法兰。
- 把尼龙粘扣条带贴到加强板上。
- 这种方法有如下优点：
- 贴得快，去掉保护罩也快。
- 花钱少
- 建议干燥的工作环境采用此法。

#### Type E:

- Solution with rapid nylon thread gluing connection. A PVC support acts as a flange, with nylon thread gluing strips applied to the stiffener and directly applied to the machine.
- This solution offers two main advantages:
- Rapid application and removal of the cover
- Low cost
- \* Recommended for dry work environments

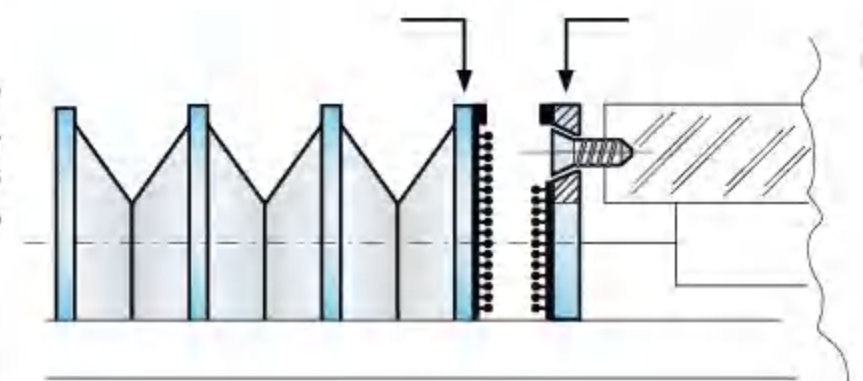


#### 型式F:

- 用强力压的办法快速连接，用一个支撑当作法兰，采用强力压的办法连接上去。
- 法兰是用薄钢板、铝或PVC制成，形状和孔按用户的图纸制造。这样做有如下的优点：
- 压上去的快，卸除保护罩也快。
- 泡沫垫片条可以提供连接周围的密封。
- 建议在湿的工作环境中使用此法。

#### Type F:

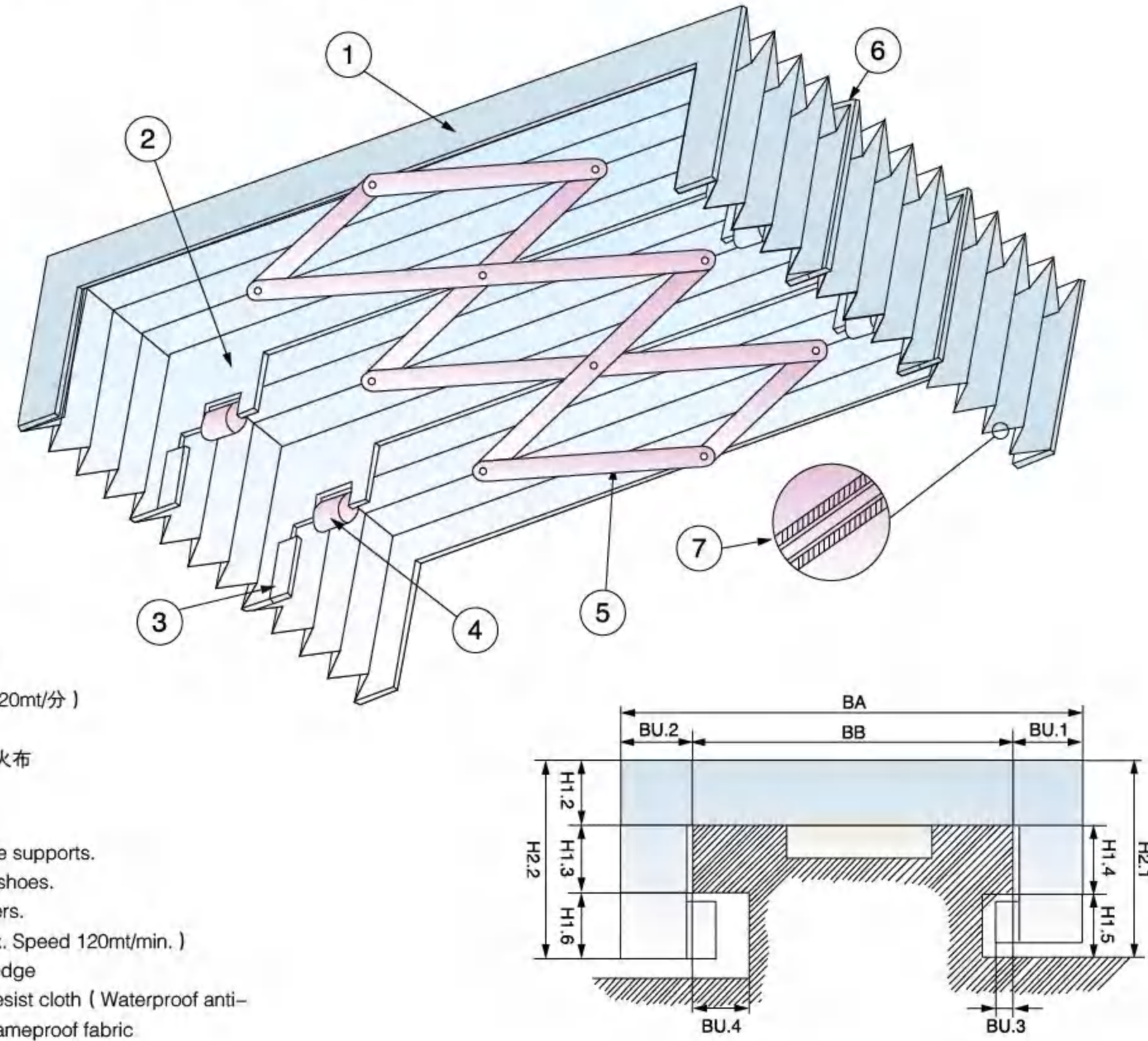
- Solution with STRONG HOLD rapid connection. A PVC support and flange act as a flange, to which the STRONG HOLD rapid connection is applied. The flange is made of sheet steel, aluminum or PVC, shape and holes can follow per customer drawings. This solution offers two main advantages:
- Rapid application and removal of the cover
- Foam gasket strip provides a tight seal to connect around the connection
- \* Recommended for wet work environments



\* 上述是热焊接保护罩标准的紧固的方法。如果用户要求其他的型式，我们也可以提供。  
 The above are standard fastening methods for Thermic-Welded Covers. Other types available upon request.

标准护罩使用在机床高立柱和大型机床长导轨上，结构合理，行走均匀，坚固耐用。

The standard shield has been used for the high column of the machine tools and for the long guide of heavy-duty machine tools, which is designed in rational construction, for uniform traveling and durable.



1. 边缘的侧连接板
2. 连接板中间支撑架
3. 铜或尼绒滑片
4. 尼龙滚轮或铜质滚轮
5. 铰链结构 (最高速度120m/分)
6. 金属加固包边
7. 尼龙革, 三防布或防火布

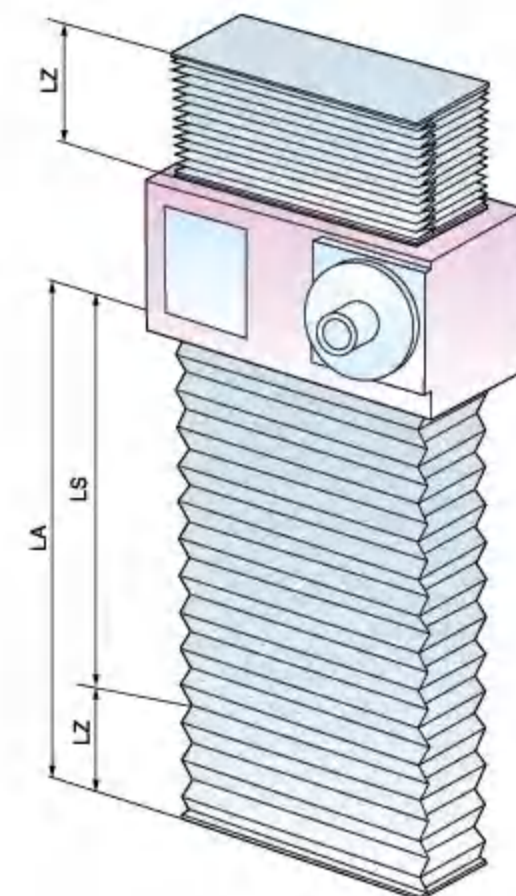
1. Fastening flanges.
2. P01 Steel intermediate supports.
3. Brass or nylon guide shoes.
4. Nylon supporting rollers.
5. Hinge structure ( max. Speed 120m/min. )
6. Metal reinforcement edge
7. Nylon leather, three resist cloth ( Waterproof anti-corrosion anti-oil ) flameproof fabric.

在设计阶段为了估算保护罩的体积;可参考下面的有关参数:

- ★ 标准折面的高度: 15mm、20mm、30mm、35mm、40mm、45mm、50mm;
- ★ 机械设备的导轨面和护罩之间的距离最小为5mm、最大为10mm;
- ★ 护罩折面张开时的尺寸等于这个折面高度的壹倍;
- ★ 被压缩折面厚度等于4mm;

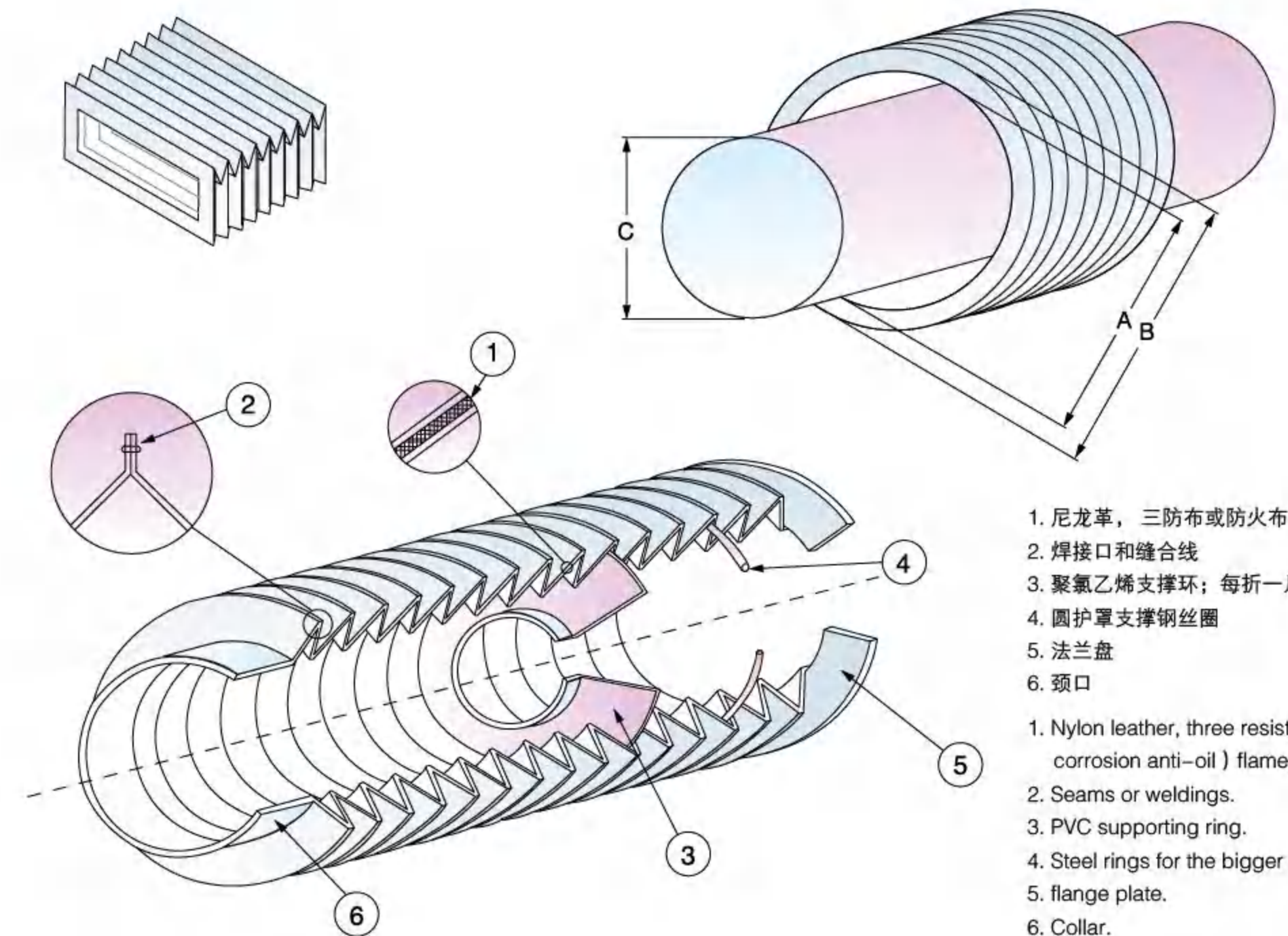
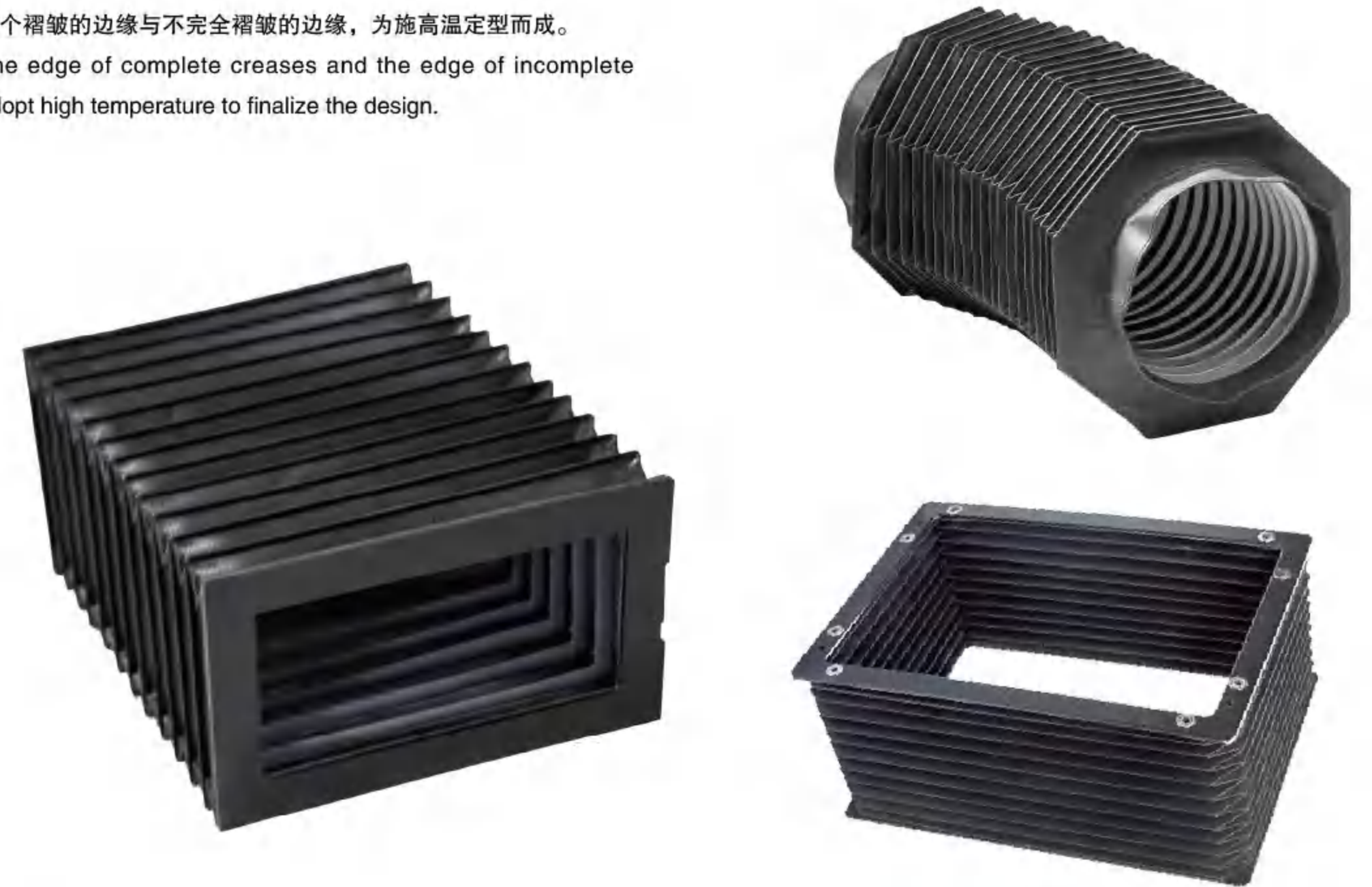
To calculate the dimensions of the welded bellow at the design stage, it is useful to pay mind some data:

- ★ The standard folds have the following heights:15mm, 20mm, 30mm, 35mm, 40mm, 45mm, 50mm.
- ★ The distance between the slides and the bellow must be from a minimum of 5mm. to a maximum of 10mm.
- ★ The extension of one fold is equivalent to twice of the fold's height minus 10mm.
- ★ The thickness of a compressed folds is on average 4mm.



整个褶皱的边缘与不完全褶皱的边缘,为施高温定型而成。

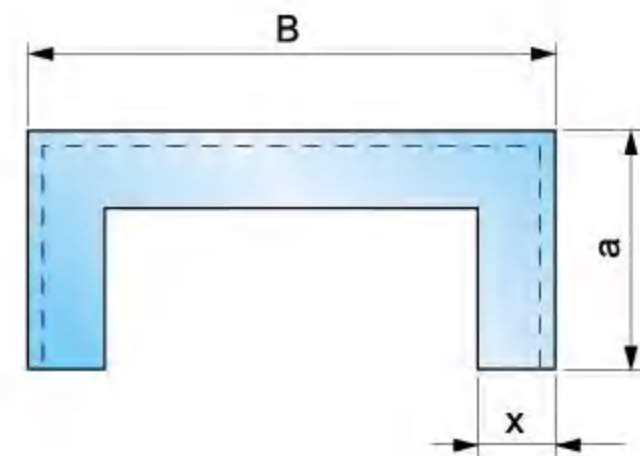
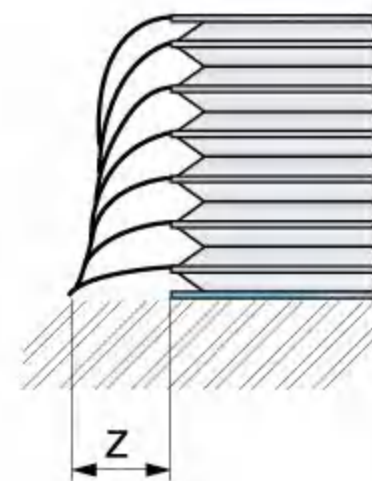
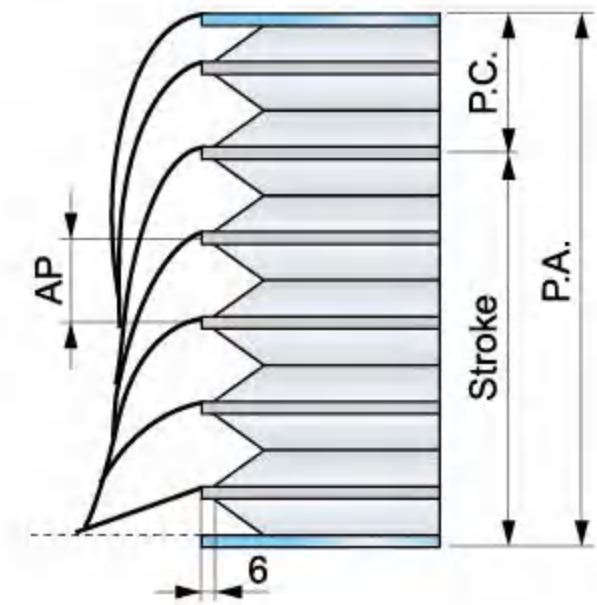
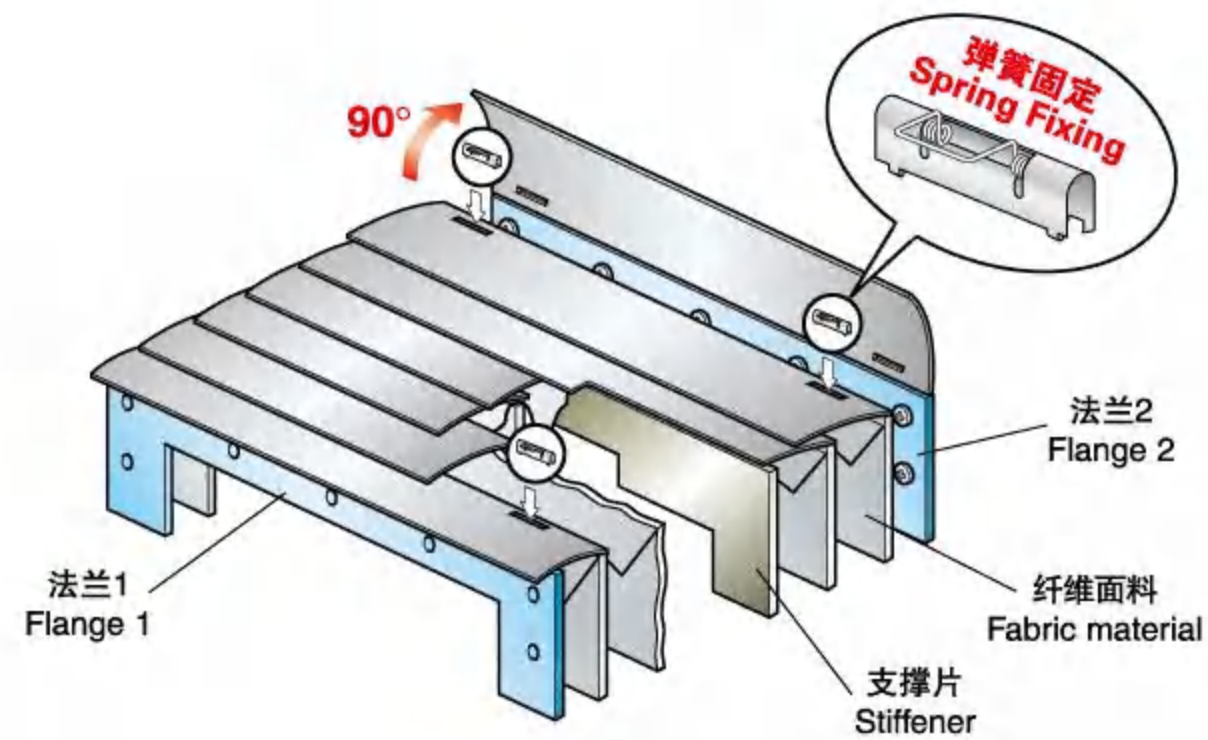
The edge of complete creases and the edge of incomplete adopt high temperature to finalize the design.



1. 尼龙革, 三防布或防火布
2. 焊接口和缝合线
3. 聚氯乙烯支撑环; 每折一片
4. 圆护罩支撑钢丝圈
5. 法兰盘
6. 颈口

1. Nylon leather, three resist cloth ( Waterproof anti-corrosion anti-oil ) flameproof fabric.
2. Seams or weldings.
3. PVC supporting ring.
4. Steel rings for the bigger bellows.
5. flange plate.
6. Collar.

此种结构仅限于垂直方向运动  
Vertical working position only



P.A. = 拉伸后长度 Open length  
P.C. = 压缩后长度 Closed length  
行程 = 拉伸后长度-压缩后长度  
Stroke = Open length - closed length

B = 外宽 Outside width  
a = 外高 Outside height  
x = 折高 Fold height

x(mm)	15	20	25	30	35	40	45
Z(mm)	40	50	60	70	80	90	100

### 计算压缩长度公式 Formula for calculating the CLOSED LENGTH

AP = 一个折的拉伸 Opening of 1 fold =  $X \cdot 2 - 16$   
SM = 面料厚度 Fabric thickness  
SS = 支撑片厚度 Stiffener thickness  
SF = 法兰厚度 Flange thickness  
NP = 折数 number of folds =  $\frac{P.A.}{AP} + 2$   
P.C. =  $(SM \cdot 8 + SS) \cdot NP + (SF \cdot 2)$

#### 举例 Example:

数据 Data: 折高 Fold height=30mm  
拉伸后长度 Open length=1000mm  
一个折的拉伸 Opening of 1 fold =  $(30 \times 2) - 16 = 44$   
折层数量 Number of folds =  $\frac{1000}{44} + 2 = 25$   
压缩后长度 Closed length =  $(0.25 \times 8 + 1) \times 48 + (2 \times 2)$   
压缩后长度 Closed length =  $3 \times 25 + 4 = 79$ mm

压缩后长度 Closed length = 79mm

\* 使用代码 "TEMAT015" 的纤维面料  
\*\* 支撑片厚度为1mm  
\*\*\* 法兰厚度为2mm  
\* We hypothesize that the fabric material with code "TEMAT015"  
\*\* We hypothesize that the stiffener is 1mm thick  
\*\*\* We hypothesize that the flange is 2mm thick

这个数据表仅显示了我公司加工制作的一种高频焊接护罩类型，如需其他类型可与我公司工程技术人员联系。  
This data sheet shows only one type of thermic-welded cover that we manufacture Contact our engineering department for other types.

### 有盔甲的护罩

盔甲式不锈钢机床立护罩的每个折层能经受强烈的振动而不变形，同时应用在风箱上，以900℃高温而仍保持原有的状态，他们之间彼此支持，起着阻碍小碎片渗透的作用。

### Armoured shield

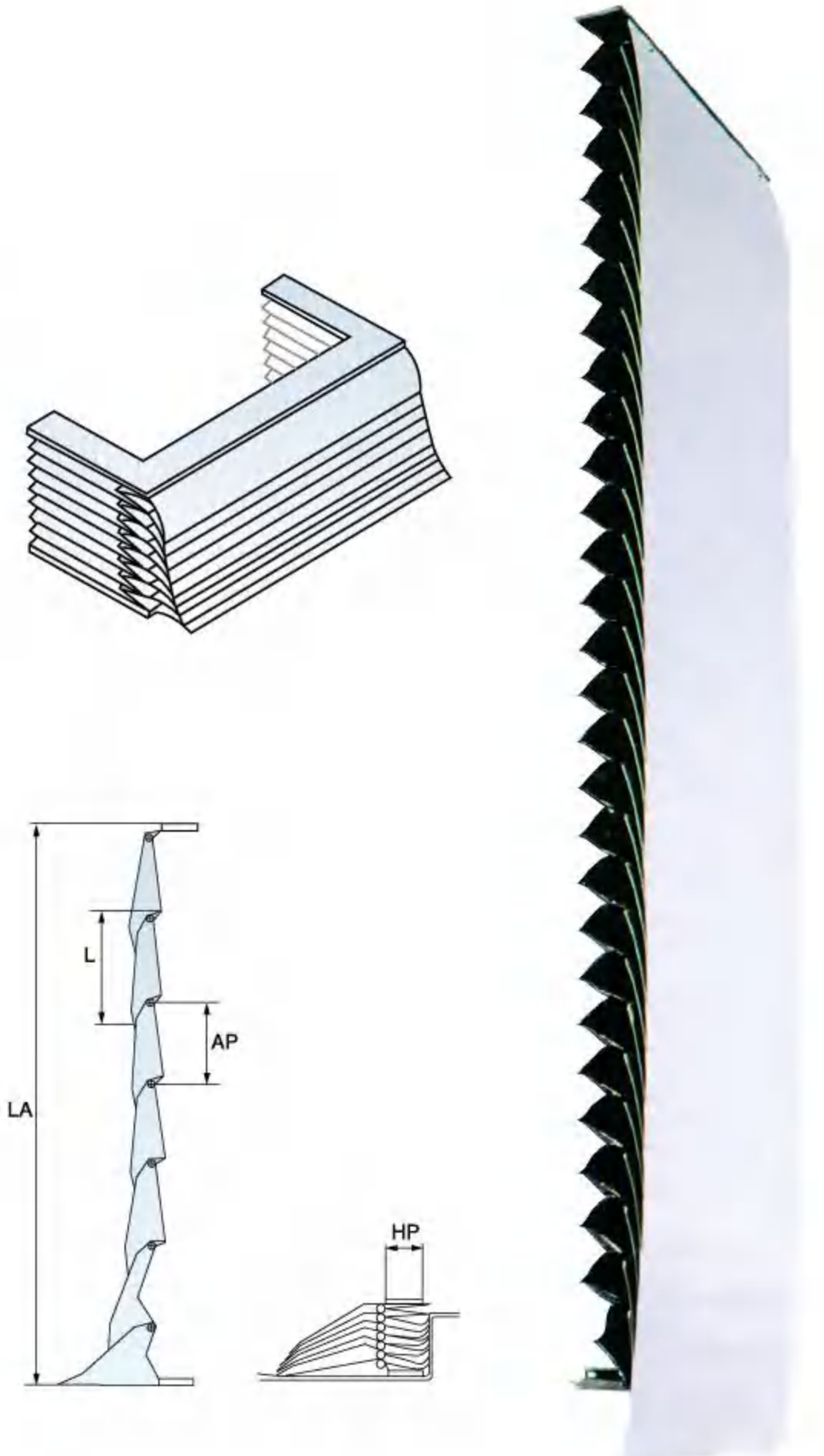
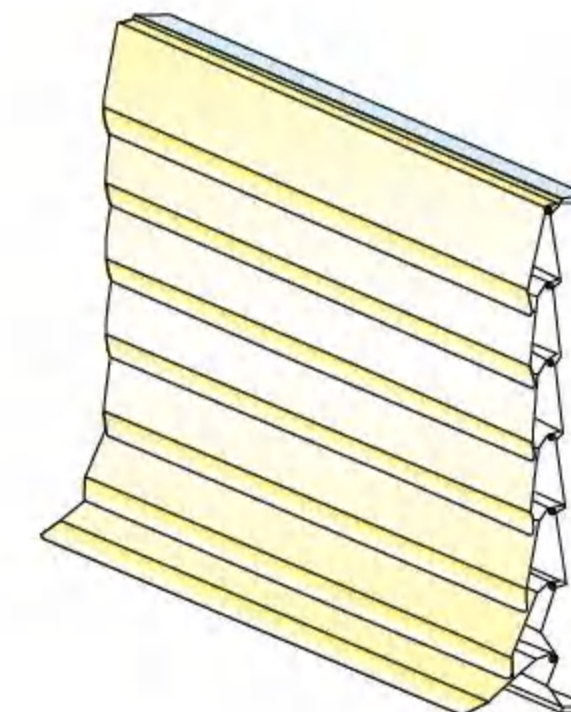
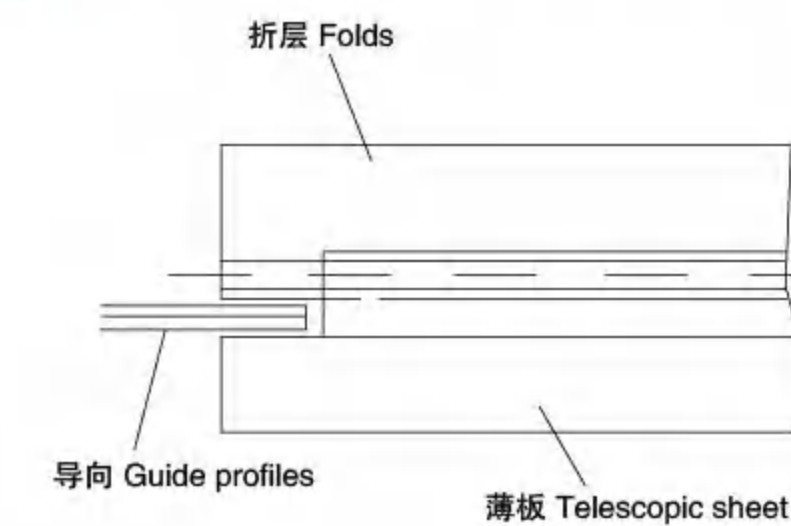
Each fold of the armoured shield can withstand strong shocks without any deformation. at the save time, It can withstand 900° high tempera when used for bellows. They support each other and prevent debris from dropping inside.

### 特点

- ★ 安装在护罩上的盔甲片
- ★ 小的空间必要条件
- ★ 可靠的保护层低御大量的灰尘，砂末，铁屑耐高温
- ★ 伸缩片是铝合金和不锈钢板制成
- ★ 没有粘合关系

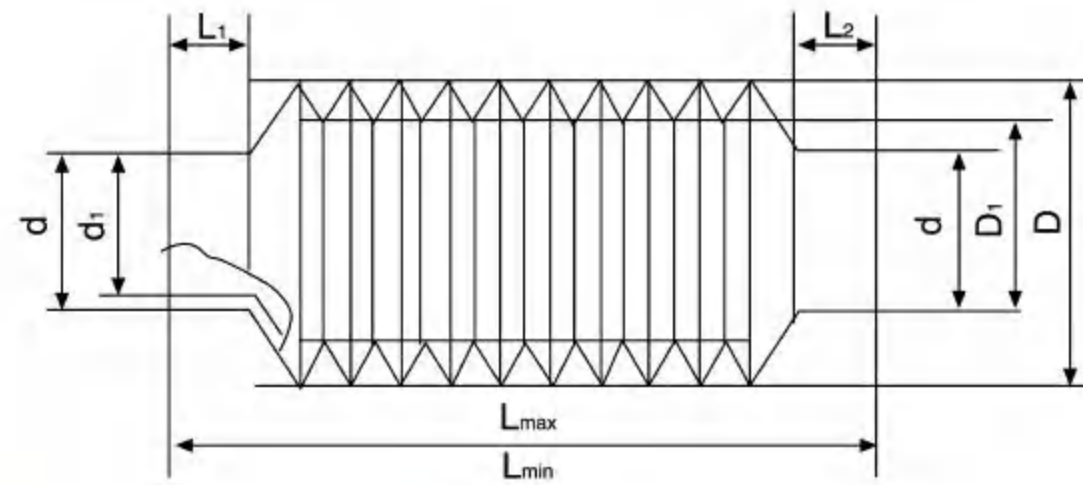
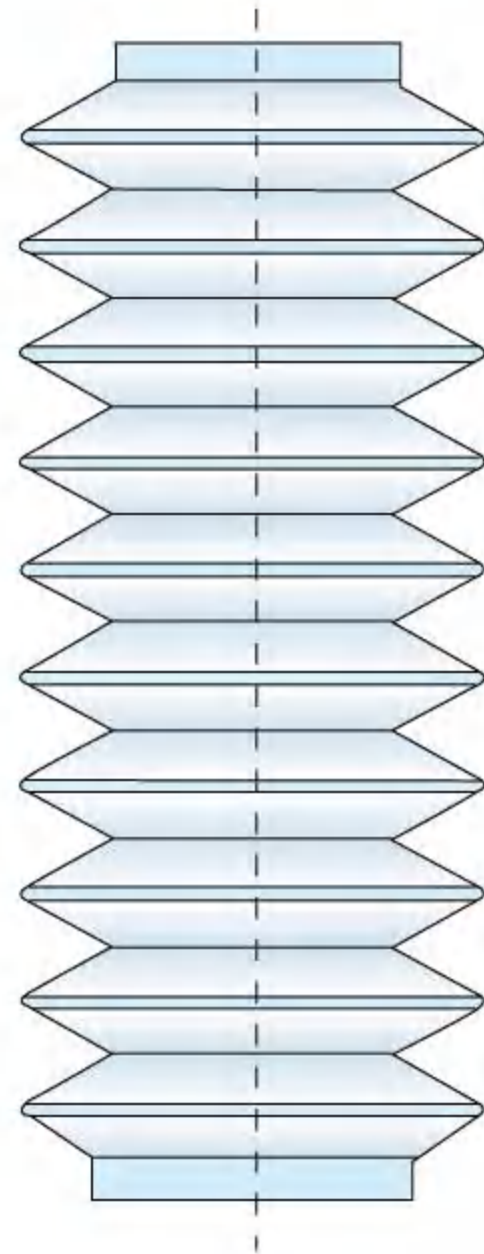
### Features

- ★ Hinged mounted telescopic sheets.
- ★ Small space requirement.
- ★ Reliable protection layer can withstand large quantities of swarfs.
- ★ Individual telescopic sheets are easy to replace.
- ★ No glued connections.



- ★ 该产品的外部为尼龙革材料做成，没有通气孔。
- ★ 可防尘、防水、防油、防乳剂和化学药品，
- ★ 外部面料是尼龙革，内有坚硬的PVC板材和钢丝圈支撑、在高温110℃、低温-40℃之间正常工作。
- ★ 如需直径和长度，由用户指定。本产品使用范围为120m/分。

- ★ The external of this product is made of Nylon material without any air pores.
- ★ It is anti-dust, anti-water, anti-oil/emulsion and anti-chemicals.
- ★ The nylon leather is used for the exterior and PVC plate and steel supporting ring for the interior. It can work properly within a temperature range of 110℃ and -40℃.
- ★ Diameter and length can be decided by end users. This product is to be used in a range of 120m/minute.



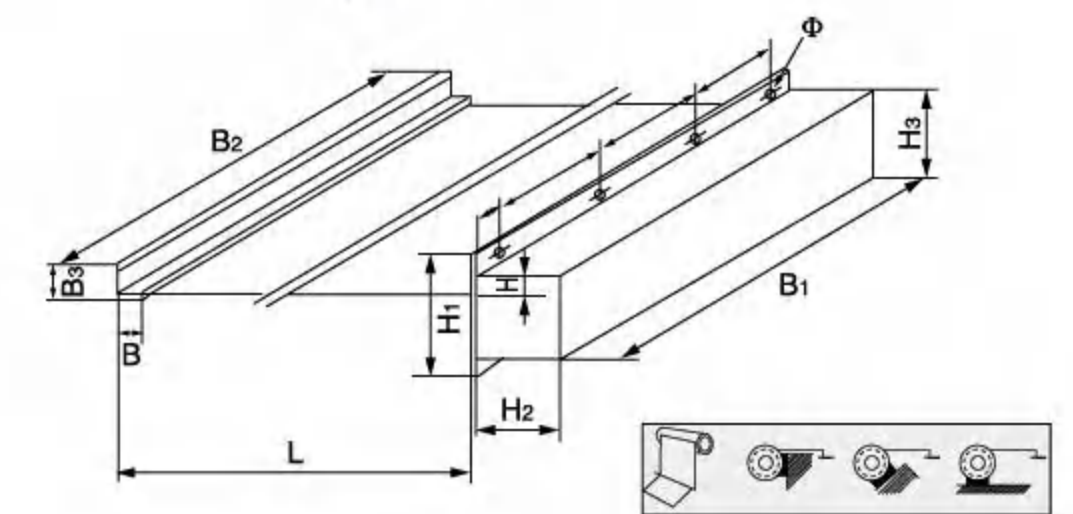
代号 Code	名称 Description	数据 Data	备注 Remarks
Lmax	拉伸后长度 Length after drawing		
Lmin	收缩后长度 Length after compression		
L1	下部连接长度 Underside for connecting length		
L2	上部连接长度 Upper connecting length		
D	外圈直径 Outside diameter		
D1	内圈直径 Inside diameter		
d	连接处外径 O.D of the connecting point		
d1	连接处内径 I.D of the connecting point		

### PVC布防护帘

外壳用不锈钢材料制成的自动伸缩式防护帘，是由外壳、弹簧轴、和纤维布等组成。外壳是用不锈钢或冷轧板制成，并经表面防腐处理，内部结构是经过热处理钢带组装而成，此产品的结构严谨，合理、无噪音，适合空间小、行程大、且运动快的机床设备使用。

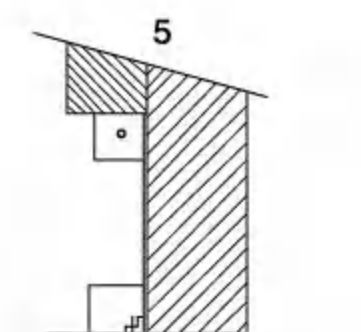
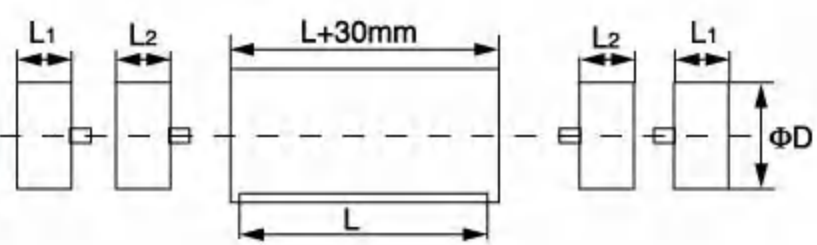
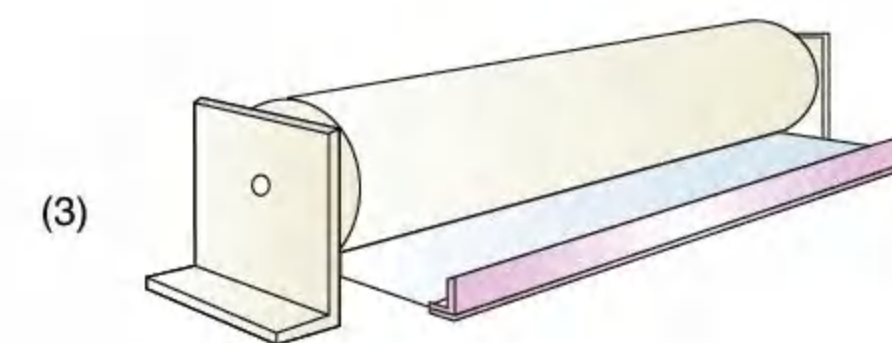
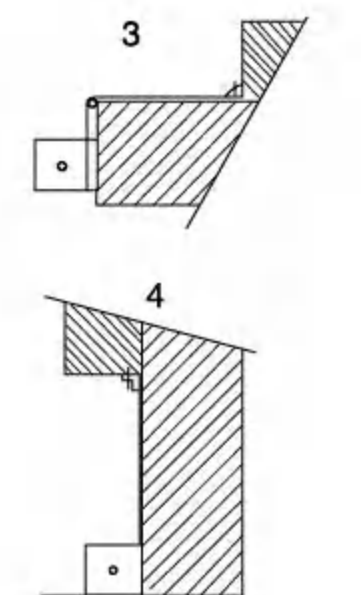
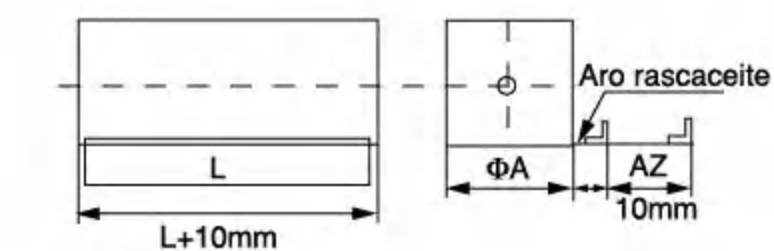
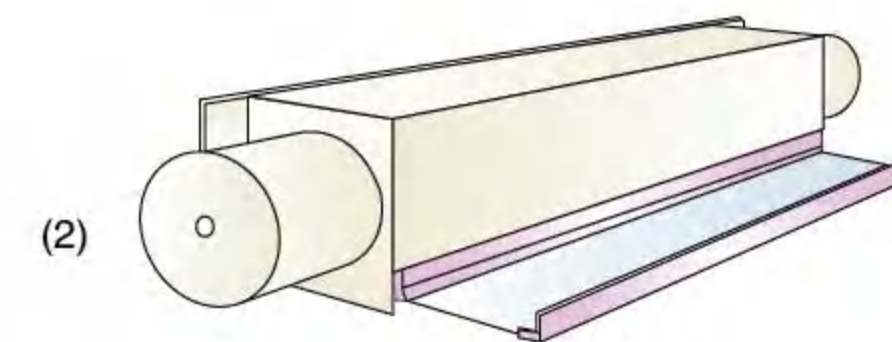
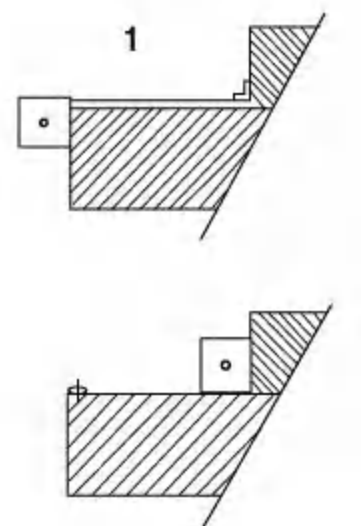
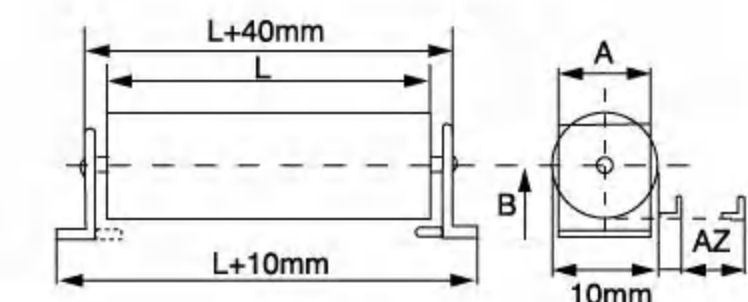
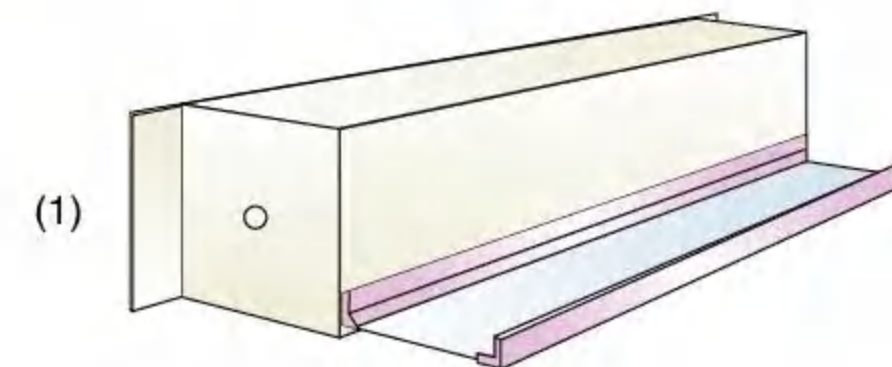
### PVC cloth protecting curtain

The automatic pull-out and take up shield with the stainless steel shell is consists of shell, spring shaft and fabric cloth. The shell is made of stainless steel or cold rolled steel plate, which the surface is anticorrosion treatment. The internal parts are made of heat treatment steel band, This product is compact design and noise free, long travel range and especially suitable for fast operation machine tools.



### 供设计使用

It is for design purposes





### 螺旋钢带保护套—滚珠丝杠之保护神

**性能:** 螺旋钢带保护套是我公司自行研发的一种新颖的机床功能部件，用于数控机床、加工中心等各类精密机床、液压、各个轴系、杠类及滚珠丝杠的防护。它不但具有防尘、防切屑、防冷却液等功能，而且能维护机床正常精度，延长机床使用寿命，增加美观。

**结构特点:** 螺旋钢带保护套采用优质弹簧钢带经热处理制造而成，对滚珠丝杠、轴、杆类零件实行保护。保护套通过安装在被保护件二端的对中法兰，与被保护件实行无接触联接。该保护套与对中法兰之间联接安全是依靠它本身的预压缩弹力而实现的，因此在工作中运行稳定、伸缩自如、噪音极低，其表面呈黑色光泽，与机床上大部分法兰件协调。

**订货须知:** 螺旋钢带保护套系根据滚珠丝杠、轴、杆类零件的直径，移动距离等参数而定制配套，所以订货时按下列方法进行：

1. 用户单位按我厂提供的标准规格选用。
2. 用户单位提供保护套D、Lmax、Lmin(特殊要求D<sub>2</sub>)(代号见图)，由我厂设计制造。

**说明:** 1. 对中法兰系用户自制，我厂可提供草图。  
2. 除特殊情况尺寸有限制外，D<sub>2</sub>不作要求。

### Spiral steel tape shield for screw

**Performance:** The spiral steel tape shield is a functional part for machine tools which is developed by our factory and used for digital-controlled machine tools and processing centers, hydraulic, shaft and various screws. It not only have the function of dustproof, resist swarf and coolant proof, but also maintains the accuracy of the machine tools so as so lengthen life time of the machine.

**Construction Features:** This type of shield is made by using fine quality steel strips with heat treatment and implement of protection for screw, shafts and associated parts, The shield, mounted on a alignment flanges on both ends, has no contact with the parts to be protected This shield is conneted to the alignment flanges according to compression force that can be estimated beforehand. So this shield is working stably, freely pull out and take up and has very low level noise. The surface color is black, which is identical with most of the flanges on the machine.

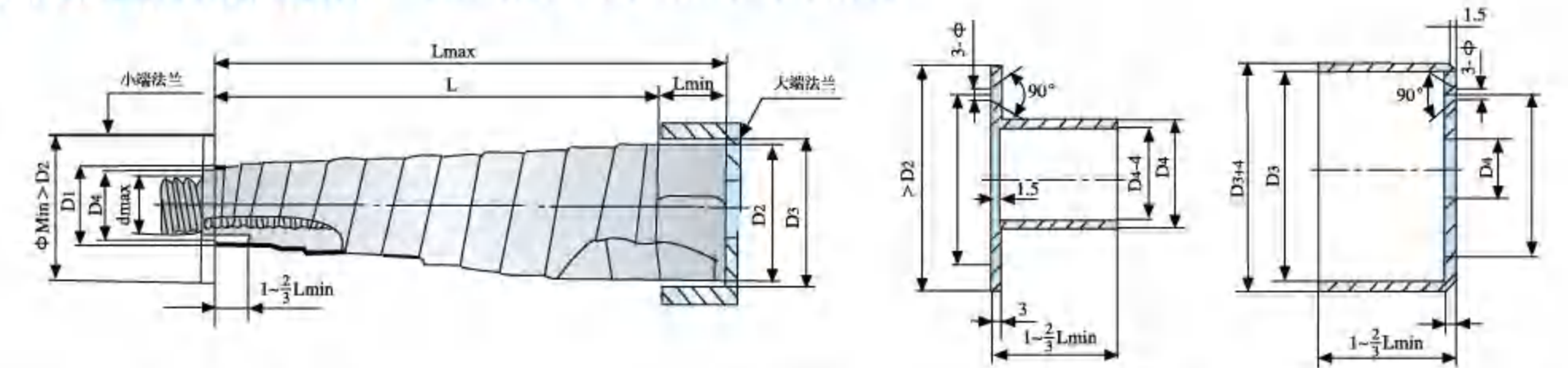
**Place of Drder:** Due to the structure that the spiral steel tape shield can be made according specific specifictions of the diameter of screw, shaft and rod and travel range, please do the following process when placing an order:

1. Pleace use the specifications or standards issued by our company.
2. The endusers will put forward the D, Lmax, Lmin(speical D<sub>2</sub>) (see drawing for code details). our company will talle care of the fabrication.

**Note:** 1. The alignment flanges shall be made by the endusers and the sketch shall be provided by our company.  
2. Except for special cases, D<sub>2</sub> shall not be taken in to consideration.

LGB规格 Specifications	Lmax mm	Lmix mm	D1 mm	D2mm 参考尺寸 Ref.spec	LGB规格 Specifications	Lmax mm	Lmix mm	D1 mm	D2mm 参考尺寸 Ref.spec
20-250-30	250	30	20	40	70-400-80	400	80	70	95
30-250-45	250	45	30	41	70-750-100	750	100	70	94
30-450-50	450	50	30	50	70-1400-120	1400	120	70	104
30-600-50	660	50	30	56	70-1800-120	1800	120	70	120
40-300-45	300	45	40	54	75-400-80	400	80	75	89
40-550-50	550	50	40	67	75-600-100	600	100	75	95
40-800-80	800	80	40	65	75-900-120	900	120	75	97
40-950-80	950	80	40	69	75-1200-120	1200	120	75	104
45-550-50	550	50	45	73	75-1600-1100	1600	110	75	115
45-700-80	700	80	45	68	80-400-80	400	80	80	94
45-900-100	900	100	45	70	80-600-120	600	120	80	97
45-1000-100	1000	100	45	73	80-900-110	900	110	80	105
50-500-50	500	50	50	72	80-1200-120	1200	120	80	115
50-700-80	700	80	50	70	80-1400-120	1400	120	80	120
50-900-100	900	100	50	77	85-400-80	400	80	85	100
45-1200-100	1200	100	50	84	85-600-100	600	100	85	105
55-350-50	350	50	55	72	85-800-125	800	125	85	106
55-550-80	550	80	55	72	85-1000-125	1000	125	85	126
55-800-80	800	80	55	78	85-1200-125	1200	125	85	132
55-1000-120	1000	120	55	77	90-400-100	400	100	90	105
55-1400-110	1400	110	55	86	90-600-100	600	100	90	111
60-400-50	400	50	60	79	90-800-125	800	125	90	111
60-600-80	600	80	60	78	90-900-125	900	125	90	127
60-900-100	900	100	60	87	90-1200-125	1200	125	90	137
60-1200-120	1200	120	60	88	95-400-100	400	100	95	110
60-1600-120	1600	120	60	98	95-600-125	600	125	95	112
65-400-50	400	50	65	85	95-800-125	800	125	95	130
65-700-80	700	80	65	87	95-1000-125	1000	125	95	137
65-1000-100	1000	100	65	95	100-600-120	600	120	100	118
65-1400-110	1400	110	65	99	100-800-125	800	125	100	135
65-1800-110	1800	110	65	109	120-600-125	600	125	120	150

### 钢带保护套安装示意图 Installation schematic sketch



D1-保护套小端内径=dmaz+10毫米

D4-小端法兰外径=D1-1~2毫米

Lmax-最大延伸长度

D1-the inside diameter of shield's small end=dmaz+10mm

D4-the outside diameter of small flange=D1+1~2mm

Lmax-Max extension length

D2-保护套大端内径

dmaz-被保护零件的最大直径

L-最大允许行程

D2-shield's large end inside diameter

dmaz-Max, diameter of the protected parts

L-allowable max. travel range

D3-大端法兰内径=D2+6~8毫米

Lmin-最小压缩长度

D3-the inside diameter of large flange=D2+6~8mm

Lmin-Min, compression length

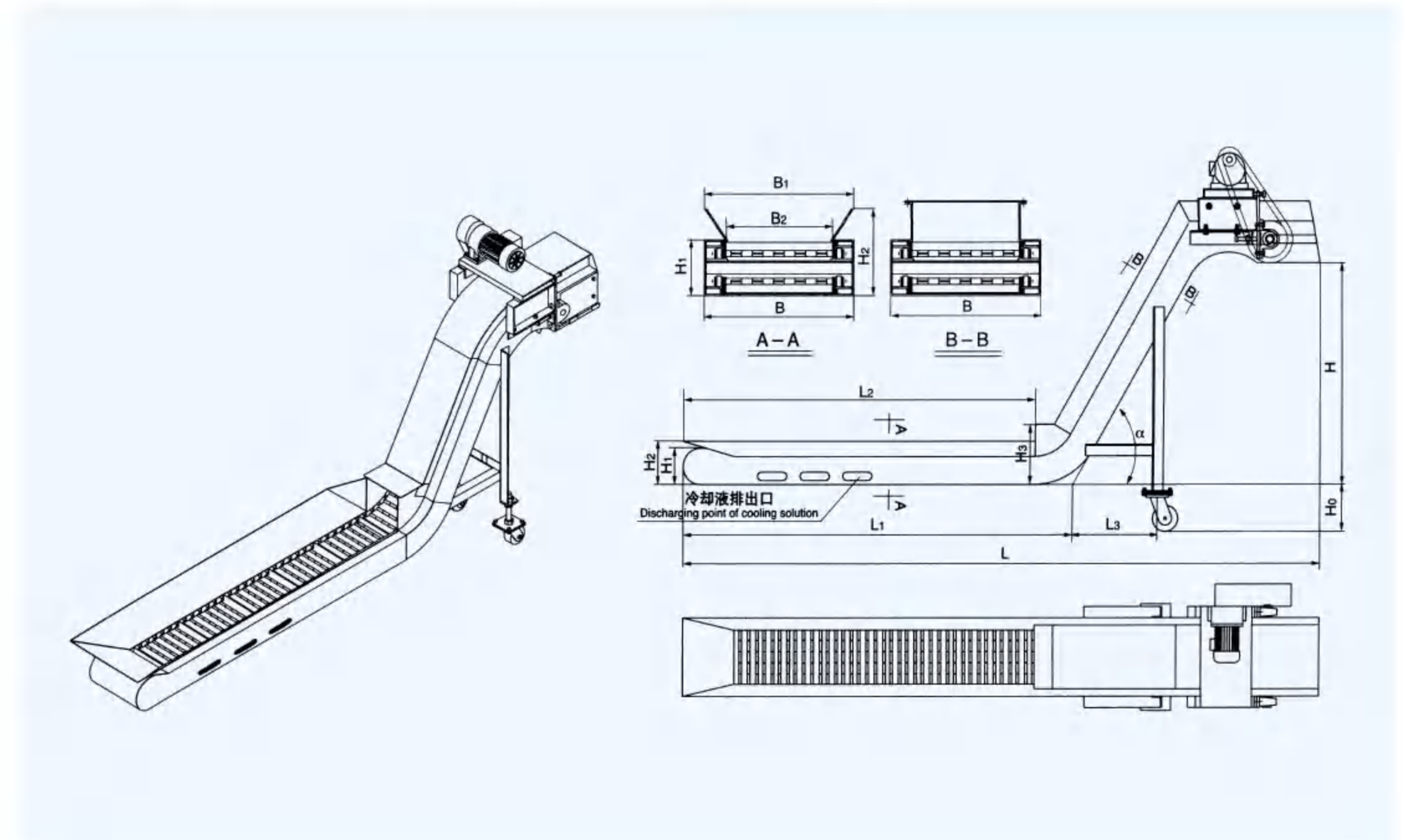
- ★ TSL型系列提升式链板排屑机，按结构尺寸分为（I II III）三种基本类型，I型外形美观，紧凑适用于小型主机，II III型结构更加牢固可靠，适用于大中型主机及生产线上的远距离输送。
- ★ TSL型系列提升式链板排屑机，切屑输送速度选择范围大，工作效率高，有效排屑宽度多样化。可提供充足的选用范围，通过变化输送速度，排屑宽度可调整机器的排屑量，并且不受切屑种类的限制。对钢件、铸铁、铜、铝及非金属等，各种切屑均可适用。
- ★ 链板采用高强度钢板或不锈钢制作，抗拉强度高。
- ★ 各部位的尺寸可根据切削机械的不同而设计。

- ★ TSL type lifting chain plate debris removal unit can be divided into three categories ( I, II and III ) according to their structural dimensions. Category I is nice looking and compact in structure, which is suitable for the small-sized machine. Category II features strong and reliable structure, which is suitable for the large-and medium-sized machines and for long-distance transmission of the production line.
- ★ TSL type lifting chain plate debris removal unit offers wide selection of transmission speed and working range and is of high working efficiency and has varible debris removal width. The amount of removed debris can be adjusted through varying the transmission speed regardless whatever materials are cut. It is suitable for the cutting operation of steel, cast iron, copper, aluminium and non-meta etc.
- ★ The chain plate is made of high strength steel plate or stainless steel plate, which are of high tensile strenth.
- ★ The dimensions of different parts can be designed according to different requirements of different cutting machines.



### TSL型提升式链板排屑机外形尺寸图

### Overall dimensions drawing of TSL lifting type chain plate debris removal unit



### 技术参数/Technical parameters

主要技术参数 Main Technical Parameters								辅助技术参数 Auxiliary Technical Parameters									
代号 Code	L1	B	B1	B2	H	$\alpha$	H0	H1	H2	H3	L	L2	L3	电机 功率 Motor Power (kW)	运行速度 (米/秒) Operating speed (m/min)	输送物 料名称 Name of materials to be transmitted	外壳 颜色 Shell Color
名称 Name	水平 长度 Horizontal length	外壳 宽度 Shell width	接屑 宽度 Width of collecting the debris	有效排 屑宽度 Effective width of debris removal	提升 高度 Lifting high	提升 角度 Lifting angle	支脚 高度 Supporting leg high	外壳 高度 Shell height	水平 高度 Horizontal height	入屑口 高度 Highly of the debris inlet	总长度 Total length	接屑长度 Debris collection length	支腿 距离 Supporting leg distance				
尺寸 Dimensions																	

水箱技术参数 Water Tank Technical Parameters				
名称 Name	水箱 长度 Length of water tank	水箱 宽度 Width of water tank	水箱 高度 Height of water tank	冷却泵 流量 flowrate of cooling pump (L/min)
尺寸 Dimensions				

注:

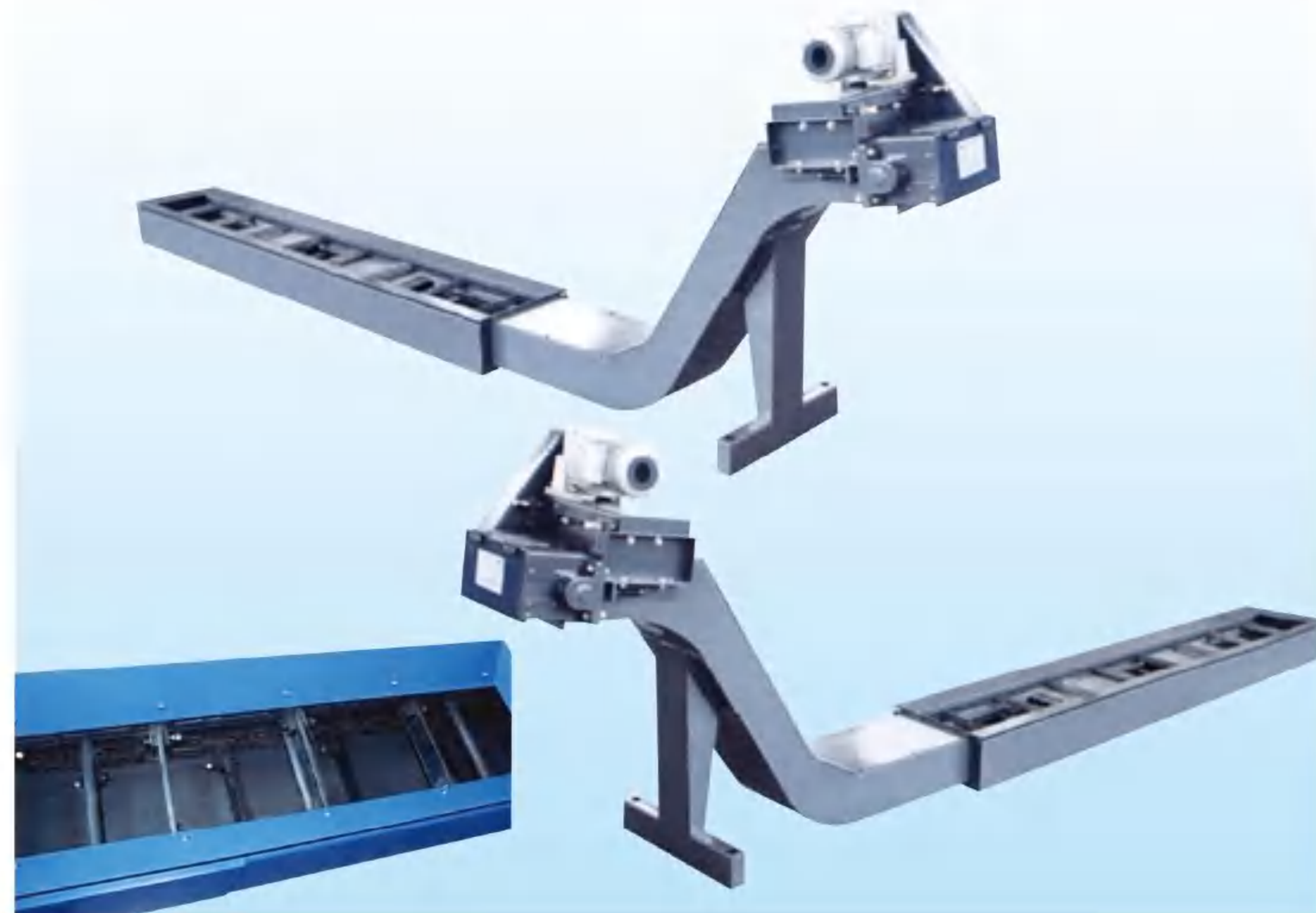
- (1) 电机功率根据有效排屑宽度B2、水平度L1、提升高度H确定。
- (2) 链板节距不同外壳最小高度H1不同；  
节距31.75mm外壳最小高度H1 100mm；  
节距38.1mm外壳最小高度H1 135mm；  
节距50.8mm外壳最小高度H1 180mm；  
节距63.5mm外壳最小高度H1 230mm；  
节距101.6mm外壳最小高度H1 260mm；
- (3) 排屑机水箱的具体外形尺寸可根据用户要求制成不同形状。
- (4) 可根据用户实际不同要求设计制造。

Note:

- (1). Motor power can be determined by the effective width of debris removal B2, levelness L1 and lifting height H.
- (2). if the pitch of the chain plate is different, the height of different cases H1 shall be different as well.  
Pitch 31.75mm Min. height of the case H1 100mm;  
Pitch 38.1 mm Min. height of the case H1 135mm;  
Pitch 50.08mm Min. height of the case H1 180mm;  
Pitch 6.3.5mm Min. height of the case H1 230mm;  
Pitch 101.6mm Min. height of the case H1 260mm;
- (3). The overall dimensions of the water tank can be made in different appearances according to the client requirement.
- (4). It can be designed and fabricated according to the client requirements.

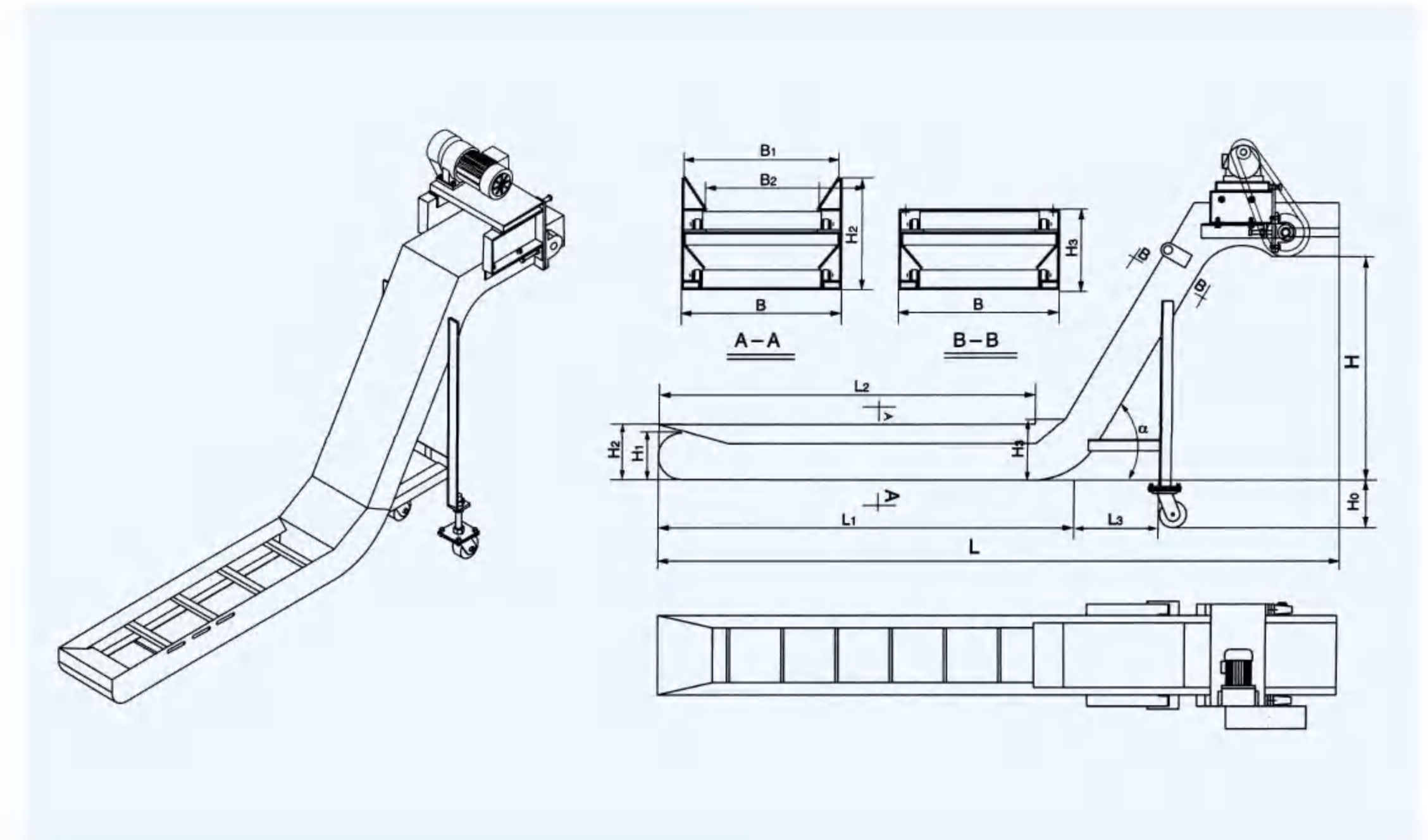
- ★ TSG型系列提升刮板式排屑机，由于特定的结构，每片刮板均是独立工作的，将切屑沿机器底面刮送，当到达落屑区域时即与切屑分离。按结构尺寸分为(I II III)三种基本型，I II型外形美观紧凑，适用于中小型主机；III型结构更加牢固可靠，适用于大中型主机及生产线上的远距离输送。
- ★ TSG型系列提升刮板式排屑机，输送速度选择范围大，工作效率高；有效排屑宽度多样化，可提供充足的选用范围；刮板的高度及分布间距可随机设计。
- ★ 刮板式排屑机主要用于断屑碎屑的输送。由于不受材质的限制，应用范围较广。

- ★ Due to specially designed structure, each of the scraping plate of TSG type lifting series scraping plate debris removal unit can work independently. Debris thus produced can be transmitted along the baseplate of the machine. Debris will leave the scraping plate when reaching the debris collecting area. TGP type lifting scraping plate debris removal units are divided into three categories ( I, II and III ) according to their structural dimensions. Category I is of nice looking and compactin stucture, which is suitable for the small-sized machine. Categories II and III are of stronger and more reliable structures, which are suitable for the large-and medium-sized machines and for long-distance transmission of the production line.
- ★ TSG type lifting scraping plate debris removal unit offers wideselection of transmission speed and working range and is of high working efficiency and has variable debris removal width. It can provide you sufficient selection for use. The height and distribution distance can be designed according to each specific machine.
- ★ Scraping plate type debris removal unit is mainly used in the transmission of fine debris or powder debris. Because of on limitation to the strutural material, it is widely used in different applications.



TSG型提升刮板式排屑机外形尺寸图

Overall dimensions drawing of TSG lifting scraping plate type debris removal unit



技术参数/Technical parameters

单位: mm

主要技术参数 Main Technical Parameters							辅助技术参数 Auxiliary Technical Parameters										
代号 Code	L1	B	B1	B2	H	$\alpha$	H0	H1	H2	H3	L	L2	L3	电机功率 Motor Power (kW)	运行速度 (米/秒) Operating seppd (m/min)	输送物料名称 Name of materials to be trnsmitted	外壳颜色 Shell Color
名称 Name	水平长度 Horizontal length	外壳宽度 Shell width	接屑宽度 Width of collecting the debris	有效排屑宽度 Effective width of debris removal	提升高度 Lifting high	提升角度 Lifting angle	支腿高度 Supporting leg high	外壳高度 Shell height	水平高度 Horizontal height	入屑口高度 Highly of the debris inlet	总长度 Total length	接屑长度 Debris collection length	支腿距离 Supporting leg distance				
尺寸 Dimensions																	

水箱技术参数 Water Tank Technical Parameters				
名称 Name	水箱长度 Length of water tank	水箱宽度 Width of water tank	水箱高度 Height of water tank	冷却泵流量 flowrate of cooling pump (L/min)
尺寸 Dimensions				

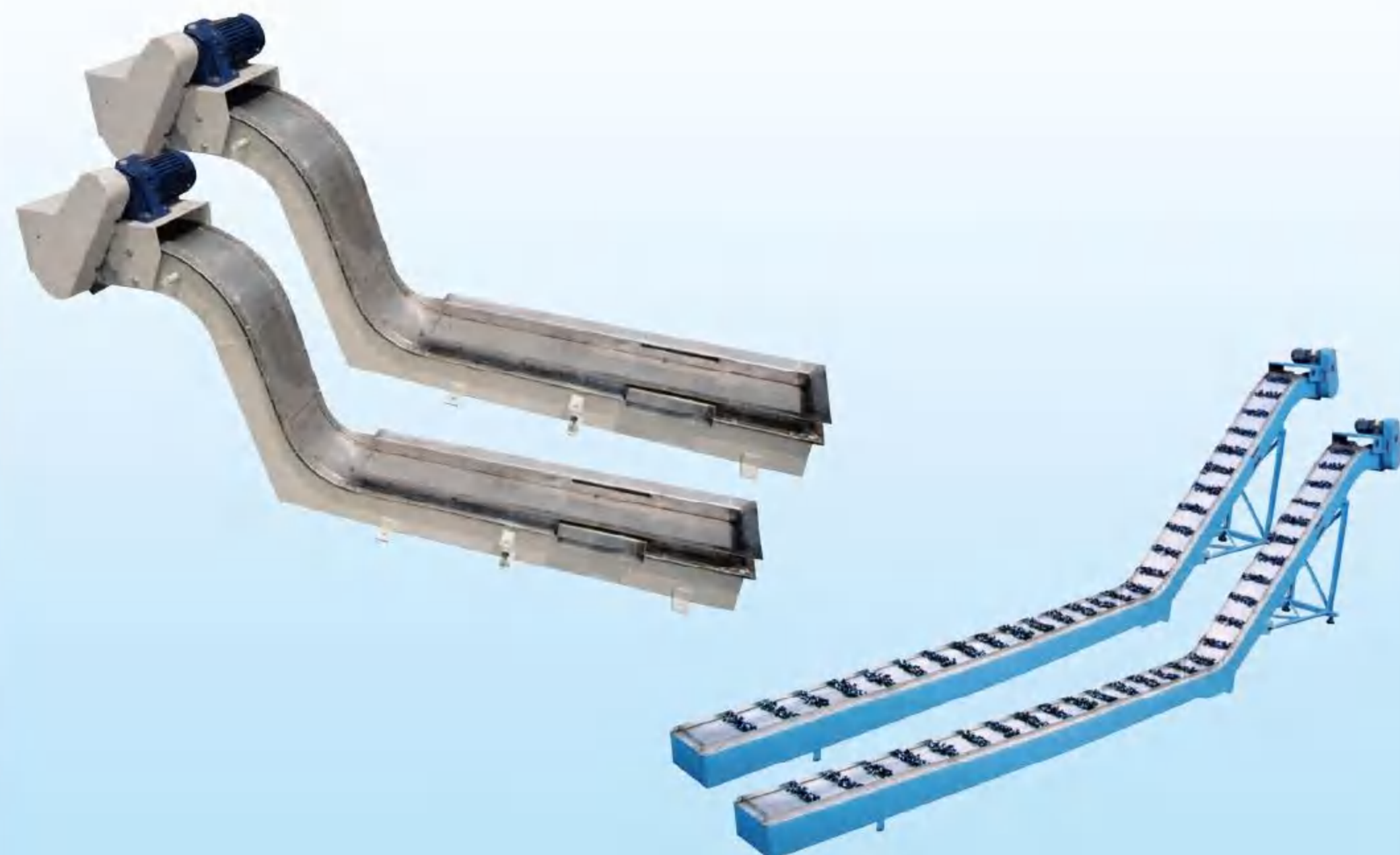
- 注:
- (1) 电机功率根据有效排屑宽度B2、水平度L1、提升高度H确定。
  - (2) 链板节距不同外壳高度H1最小高也不同；  
节距31.75mm外壳最小高度H1 100mm；  
节距38.1mm外壳最小高度H1 135mm；  
节距50.8mm外壳最小高度H1 180mm；  
节距63.5mm外壳最小高度H1 230mm  
节距101.6mm外壳最小高度H1 260mm；
  - (3) 排屑机水箱的具体外形尺寸可根据用户要求制成不同形状。
  - (4) 可根据用户实际不同要求设计制造。

- Note:
- (1). Motor power can be determined by the effective width of debris removal B2, levelness L1 and lifting height H.
  - (2). if the pitch of the chain plate is different, the height of different cases H1 shall be different as well.  
Pitch 31.75mm Min. height of the case H1 100mm;  
Pitch 38.1 mm Min. height of the case H1 135mm;  
Pitch 50.08mm Min. height of the case H1 180mm;  
Pitch 6.3.5mm Min. height of the case H1 230mm;  
Pitch 101.6mm Min. height of the case H1 260mm;
  - (3). The overall dimensions of the water tank can be made in different appearances according to the client requirement.
  - (4). It can be designed and fabricated according to the client requirements.



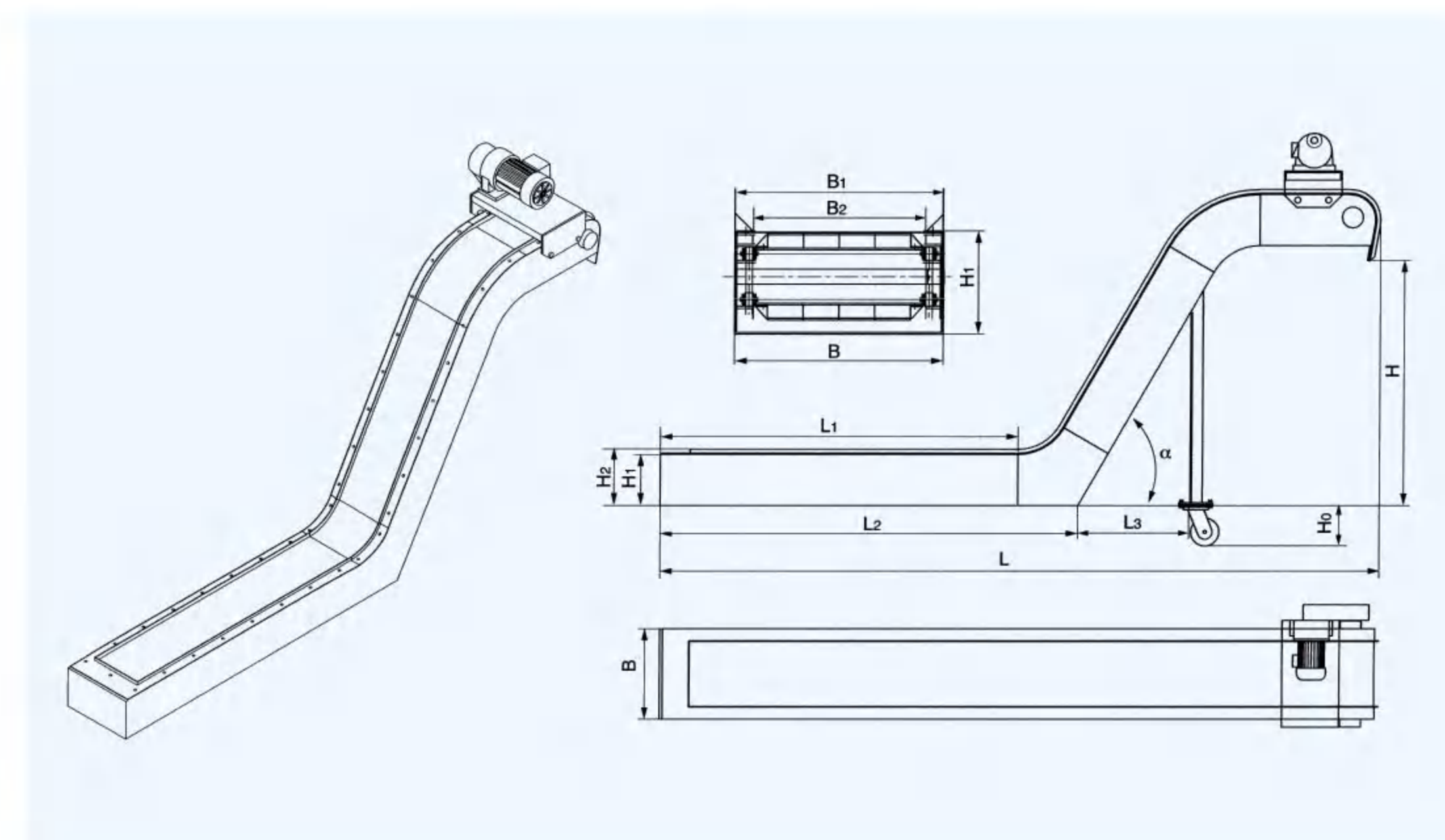
- ★ CXB型系列磁性板式排屑机结构紧凑，运转平稳，噪声低，最适宜输送的是吸磁的颗粒状，块状切屑以及长度小于150mm的断屑。该机器的主要工作元件磁场强大，使其具备良好的排屑性能，此排屑机属于定量排屑，即每组磁性材料能够吸附屑的最大量是固定的。即使工作面上堆积了更多的切屑它也是按固定的排屑量进行输送。另外，该排屑机的运动部件全部封闭在壳体内部，工作面板上有非切屑异物时，也不会导致机器卡滞、过载。
- ★ 采用自动张力结构，自动调整链条松紧度。

- ★ CXB type magnetic debris removal unit is of compact in structure, smooth operation and low noise so that it is suitable for magnetic particles, block debris and fine debris with a length less than 150mm. The main parts of this unit have strong magnetic field. This unit removes debris at a pre-set amount. That is to say, each group of the magnetic material can attract a max. Amount of debris, Debris is transmitted at a pre-set intervals even if debris is accumulated on the workdesk. All of the parts of this unit are enclosed totally in the case so that machine will not be overloaded or hurt when non-cut foreign materials appear on the working plate.
- ★ Auto-tension structure is used, which is able to adjust the degree of tightness of the chain.



### CXB型磁性板式排屑机外形尺寸图

### Overall dimensions drawing of CXB type magnetic debris removal unit



### 技术参数/Technical parameters

单位: mm

代号 Code	主要技术参数 Main Technical Parameters								辅助技术参数 Auxiliary Technical Parameters						
	L	L1	L2	B	B1	B2	$\alpha$	H	H1	H2	H0	L3	电机功率 Motor Power (kW)	外壳颜色 Shell Color	
名称 Name	总长度 Total length	接屑长度 Debris collection length	水平长度 Horizontal length	外壳宽度 Shell width	接屑宽度 Width of collecting the debris	有效排屑宽度 Effective width of debris removal	提升角度 Lifting angle	提升高度 Lifting high	外壳高度 Shell height	水平高度 Horizontal height	支脚高度 Supporting leg high	支腿距离 Supporting leg distance	排屑量可根据用户实际要求增加运行速度或增加磁性密度 Debris discharge amount can be determined according to the client requirement by way of increasing the operating speed or adding more magnets.		
尺寸 Dimensions															

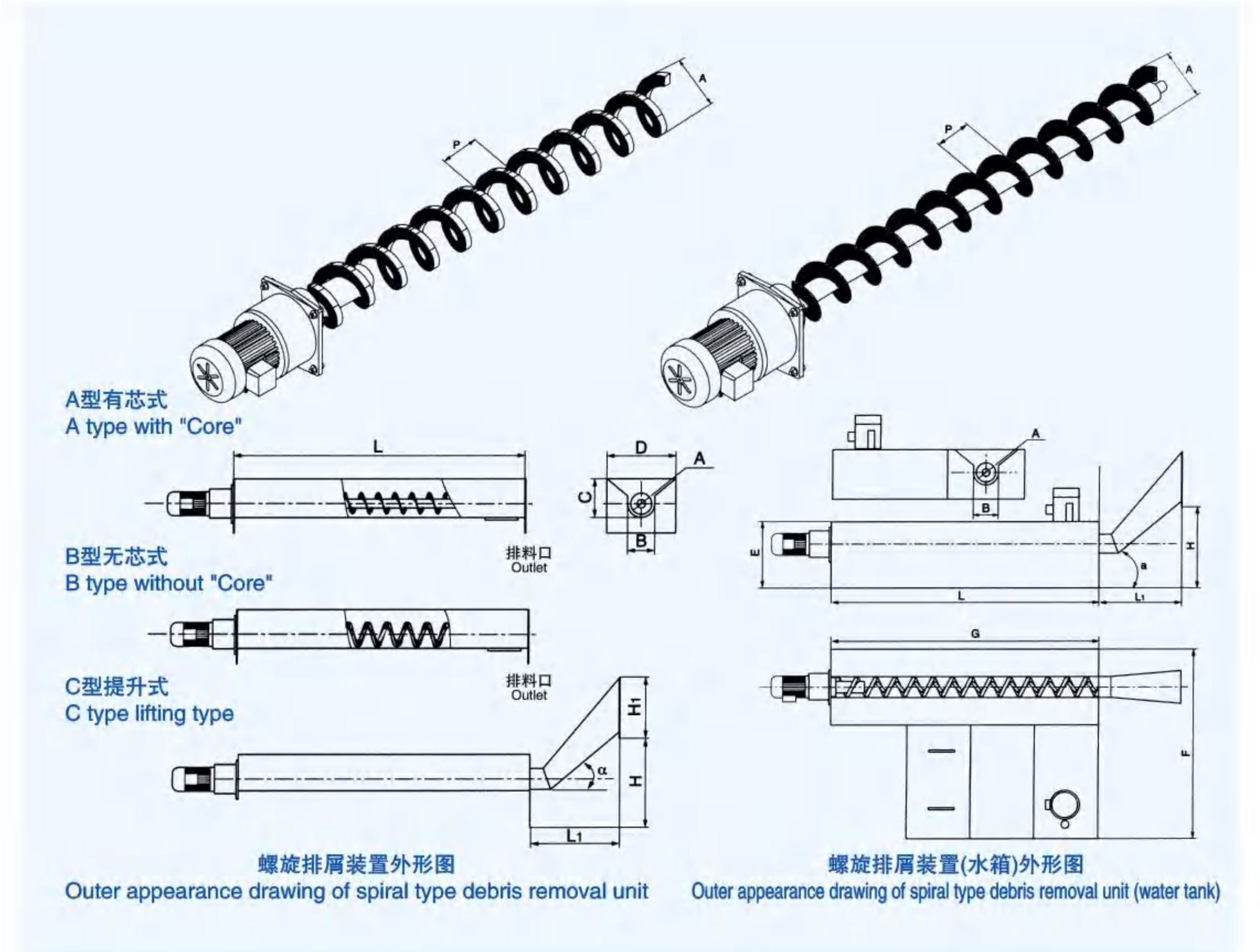
水箱技术参数 Water Tank Technical Parameters				
名称 Name	水箱长度 Length of water tank	水箱宽度 Width of water tank	水箱高度 Height of water tank	冷却泵流量 flowrate of cooling pump (L/min)
尺寸 Dimensions				

- 注:
- (1) 电机功率根据有效排屑宽度B2、水平度L1、提升高度H确定。
  - (2) 链板节距不同外壳高度H1最小高也不同；  
节距38.1mm外壳最小高度H1 170mm；  
节距50.8mm外壳最小高度H1 180mm；  
节距63.5mm外壳最小高度H1 230mm
  - (3) 排屑机水箱的具体外形尺寸可根据用户要求制成不同形状。
  - (4) 可根据用户实际不同要求设计制造。

- Note:
- (1). Motor power can be determined by the effective width of debris removal B2, levelness L1 and lifting height H.
  - (2). if the pitch of the chain plate is different, the height of different cases H1 shall be different as well.  
Pitch 38.1 mm Min. height of the case H1 170mm;  
Pitch 50.8mm Min. height of the case H1 180mm;  
Pitch 6.3.5mm Min. height of the case H1 230mm;
  - (3). The overall dimensions of the water tank can be made in different appearances according to the client requirement.
  - (4). It can be designed and fabricated according to the client requirements.

- ★ LX型螺旋式排屑机结构紧凑，占地空间小，安装使用方便，传动环节少，故障率极低，该机器适用于排屑空间狭小，其它排屑形式不易安装的位置，可与其它形式的排屑机组合使用，以达到改变方向的高度效果。对金属、非金属的断屑、块状屑及碎屑均有良好的输送功能。驱动装置位于机器的接屑端，出料口位于远离驱动电机端，配锥状导料管可以将物料提升输送，通过在壳体水平工作处开回流孔的方法，还可以完成切屑与冷却液的分离，实现一机多用。
- ★ 不适合输送卷屑，出料口位于远离驱动电机端，配锥状导料管可以将物料提升输送，通过在壳体水平工作处开回流孔的方法，还可以完成切屑与冷却液的分离，实现一机多用。
- 不适合输送卷屑，会发生缠绕现象。

- ★ LX spiral type debris removal unit is of compact structure design and needs less floorage for installation and operates conveniently, less rotating parts and less troubles, this unit is suitable for tight installation space which are not suitable for other types of debris removal units. It works very well in terms of the transmission of metal debris, non-metal debris removal units. It works very well in terms of the transmission of metal debris, non-metal debris, blocklike debris or fine debris. The drive device is installed at the debris collecting end of the machine. The discharge is away from the electric motor. Cone-shape hose is provided to lift up the debris for multiple applications. Debris can be separated from the colling liquid by way of the reflux hole on the case. This unit functions for multiple applications. It is not appropriate for conveying curly debris, otherwise twine could occur.



技术参数/Technical parameters

单位: mm

尺寸 Dimensions	主要技术参数 Main Technical Parameters					辅助技术参数 Auxiliary Technical Parameters				水箱技术参数 Water Tank Technical Parameters			电机 功率 Motor Power (kW)	排屑量 Amount of debris discharge (kg/h)		
	螺旋 直径A Screw Diameter	排屑槽 直径B Diameter of debris removal tank	水平 长度L Horizontal length	排屑槽 高度C Height of debris removal tank	螺距 P Pitch	提升 角度α Lifting angle	排屑槽 总宽D Total Width of the debris removal tank	提升 高度H Lifting height	排屑口 高度H1 Height of the debris discharge outlet	出口 长度L1 Length of the outlet	水箱 宽度F Width of water tank	水箱高度 E Height of water tank			水箱长度 G Length of water tank	
XDXP-72	ø72	ø80	≤5m	用户 自定 Byuser	60											
XDXP-80	ø80	ø100	≤10m		80											
XDXP-100	ø100	ø120			100											
XDXP-120	ø120	ø150	≤15m		120											
XDXP-150	ø150	ø180			150											
XDXP-200	ø200	ø230			200											
XDXP-X	øX	øX+40														

注: 电机功率根据螺旋片直径A, 水平长度L确定。

X表示根据用户实际需要特殊设计的参数。该排屑器各个尺寸均可根据用户需要另行设计。

Note: Motor power can be determined by diameter A of the blade and the horizontal length L.

X represents the special parameters set forth according to the client requirements, dimensions of this type debris removal unit can be determined according to the client requirements.

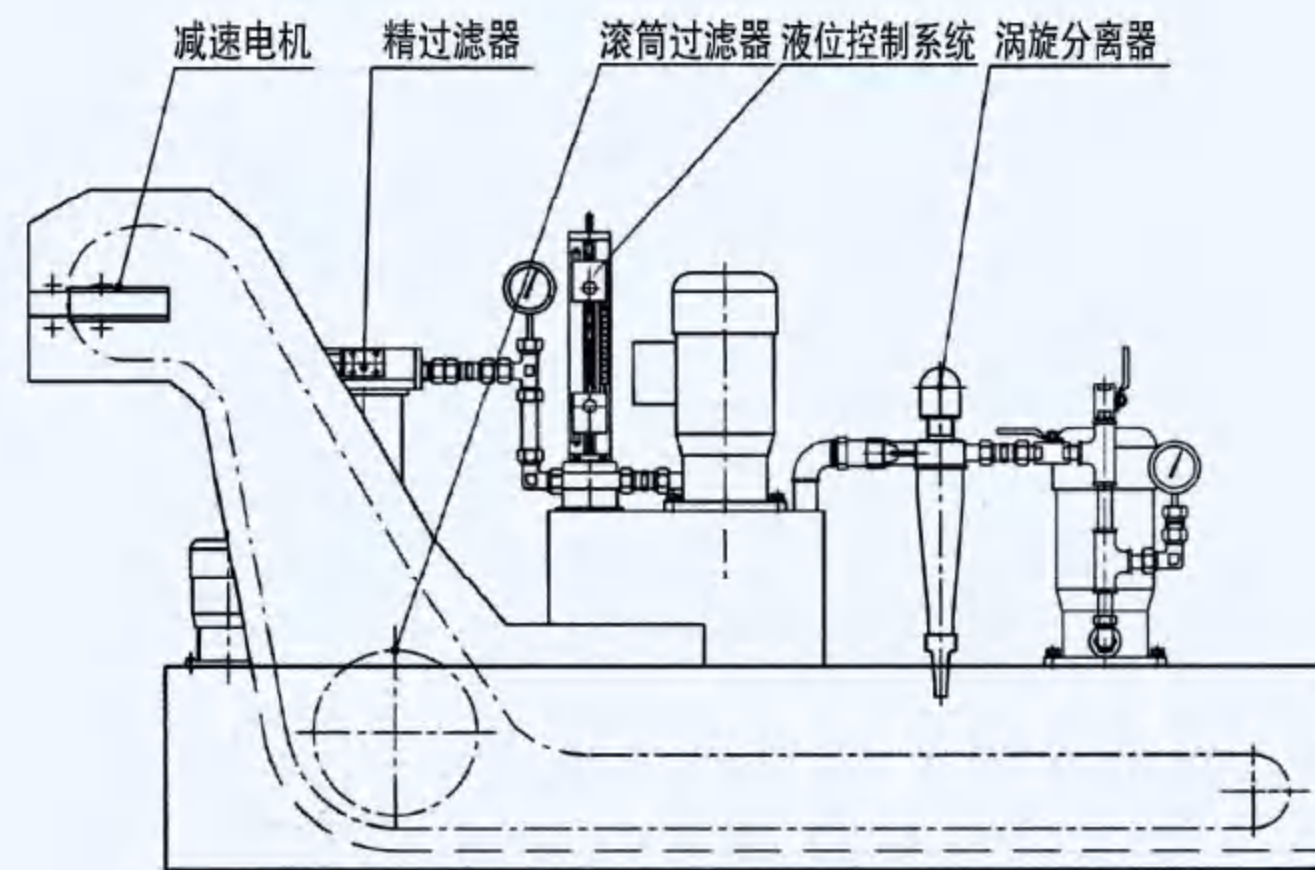
### 性能、特点与用途

此排屑过滤装置适用于对切削精度要求比较高的各类专用机床和加工中心，适用于长卷屑的输送。此装置主要由链板式排屑机、滚筒过滤器、油水分离机、液位控制系统、电控系统、水箱、精过滤器等几大模块组成。其特点是可实现滚筒自动清洗、连续过滤，过滤精度高，免维护，无耗材，能充分满足加工中心的冲屑、主轴内冷、刀具冷却的过滤需要。因专机类机床和加工中心对排屑量、切削液（油）精度、冷却泵的流量及压力都具有严格的要求，用户应在订货时，提供有关的技术参数，以便在设计时使用。



### Performance, characteristic and application

This device is widely used in series special machine tools and machining centers which require the coolant should have a high precision. It is suitable for transporting long and coiled chips. It is composed of hinged belt chip conveyor, roller filter, oil separator, level control system, electrical control system, tank and fine filtering system etc.. It can accomplish the continuous filtration of self-cleaning roller. It has high filter precision and be free of maintenance. It meets the requirements of special machine for complex processing, washing chips, cooling main spindle and tool. For special machine has strictly requirement about chips volume, coolant (oil) precision, flow rate and pressure, customers should provide us with relative technical parameters for our design.



注：可根据用户所需尺寸和要求设计与制造。

Note: We can design and manufacture products according to user's requirements and required size.



S78-10系列减震垫铁

### S78-10系列减震垫铁

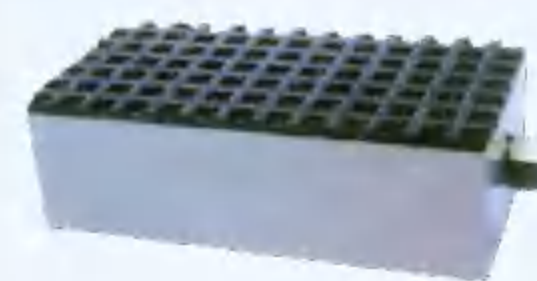
型号Model	01	02	03	04	05	06	07
外径Diameter(mm)	40	80	120	160	185	229	317
高度Height(mm)	15	25	32/37	35/41	39/45	54/60	70/100
螺纹Thread	M5	M10	M12	M16	M20	M24	M30
可调高度 Height-adjust(mm)	5	8	12	12	12	12	12
单件承载(N) Load per Mount	400 ~ 800	800 ~ 4000	4000 ~ 12000	12000 ~ 30000	20000 ~ 50000	25000 ~ 70000	50000 ~ 100000



S78-9系列减震可调垫铁

### S78-9系列减震可调垫铁

型号Model	01	02	03	04	05	06	07	08	09
外径Diameter(mm)	130	160	180	200	220	240	260	280	300
高度Height(mm)	50	50	60	60	70	70	80	80	100
螺纹Thread	12	12	16	16	18	18	20	20	24
可调高度 Height-adjust(mm)	15	15	20	20	20	25	25	25	30
单件承载(N) Load per Mount	4000 ~ 8000	6000 ~ 12000	7000 ~ 14000	8000 ~ 16000	9000 ~ 18000	10000 ~ 20000	11000 ~ 22000	12500 ~ 25000	15000 ~ 30000



S78-7系列减震垫铁

### S78-7系列减震垫铁

型号Model	01	02	03	04
尺寸(长x宽x高)(mm) Size(L x D x H)	115 x 80 x 61	150 x 75 x 61	190 x 95 x 65	250 x 115 x 90
螺纹Thread	M12	M12	M16	M20
可调高度 Height-adjust(mm)	8	8	12	14
单件承载(N) Load per Mount	5000 ~ 7500	7500 ~ 10000	1000 ~ 20000	2000 ~ 30000



S78-6系列调整垫铁

### S78-6系列调整垫铁

型号 Model	规格 Spec.	外径尺寸 (mm) Dimensions	承载重量 (N) Load per mount
1		160 x 80 x 40	5000 ~ 8000
2		200 x 100 x 55	9000 ~ 12000
3		220 x 120 x 80	12000 ~ 15000
4		240 x 120 x 80	15000 ~ 18000
5		260 x 140 x 90	21000 ~ 24000
6		300 x 160 x 100	25000 ~ 30000
7		350 x 200 x 84	31000 ~ 35000

机床垫铁选择方式：每个垫铁承载值(N) =  $\frac{\text{机床总重量(kg} \times 9.8)}{\text{紧固孔数量}}$

### 标准尼龙软管

产品材质: PA6 尼龙(Polyamide)

工作温度: -30℃~+100℃, 短时可达+140℃

产品认证: 欧洲环保SGS: SH6134468/CHEM

结构: 内部和外表均为波浪型

颜色: 黑色, 其它颜色可以订做

特性: 柔韧性好、抗扭曲, 弯曲性能好, 可以承受较重的负载; 耐酸、润滑油、冷却液等, 表面有光泽, 耐摩擦, 尼龙软管要求抗紫外线, 可订做。

承载能力: 可以承受脚踩的重压, 不断裂, 不变形, 可以迅速恢复, 并且本身无任何损伤。

应用领域: 机械制造、电气绝缘保护、照明设备、汽车制造、航空设备、地铁、火车、自动化控制等行业。



### 阻燃尼龙软管

产品材质: PA6 尼龙(Polyamide)

工作温度: -30℃~+100℃, 短时可达+140℃

产品认证: 铁道部产品质量认证

供应范围: 阻燃, 阻燃等级: FV-0

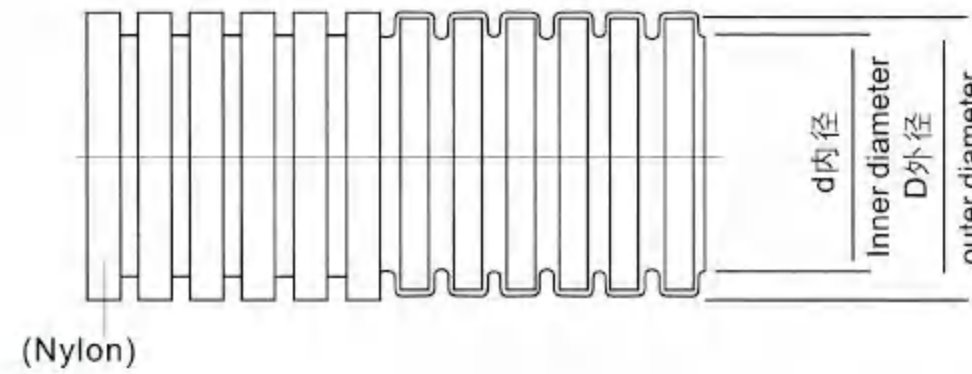
结构: 内部和外表均为波浪型

颜色: 黑色, 其它颜色可以订做(根据需要可开口)

特性: 柔韧性好、抗扭曲, 弯曲性能好, 可以承受较重的负载; 耐酸、润滑油、冷却液等, 表面有光泽, 耐摩擦。

承载能力: 可以承受脚踩的重压, 不断裂, 不变形, 可以迅速恢复, 并且本身无任何损伤。

应用领域: 机械制造、电气绝缘保护、照明设备、汽车制造、航空设备、地铁、火车、自动化控制等行业。



(Nylon)

型号 Item No.	软管规格(AD) Specifications for flexible pipe		内径×外径(mm) Inner diameter × Outer diameter	弯曲半径(mm) Curved radius	包装单位(m) Packaging Unit
PA-10.0 PA-Z-1.0	AD10.0	1/4"	6.5 × 10.0	16	100
PA-11.6 PA-Z-11.6	AD11.6		8.0 × 11.6	16	100
PA-13.0 PA-Z-13.0	AD13.0	5/16"	10.0 × 13.0	20	100
PA-15.8 PA-Z-15.8	AD15.8	3/8"	12.0 × 15.8	30	100
PA-18.5 PA-Z-18.5	AD18.5		14.3 × 18.5	40	100
PA-21.2 PA-Z-21.2	AD21.2	1/2"	17.0 × 21.2	45	100
PA-25.0 PA-Z-25.0	AD25.0		20.0 × 25.0	45	50
PA-28.5 PA-Z-28.5	AD28.5	3/4"	23.0 × 28.5	50	50
PA-34.5 PA-Z-34.5	AD34.5	1"	29.0 × 34.5	60	50
PA-42.5 PA-Z-42.5	AD42.5	1-1/4"	36.0 × 42.5	70	50
PA-54.5 PA-Z-54.5	AD54.5	2"	48.0 × 54.5	90	25
PA-74.0 PA-Z-74.0	AD74.0	2-1/2"	63.0 × 74.0	130	10
PA-88.0 PA-Z-88.0	AD88.0	3"	76.0 × 88.0	170	10
PA-108.0 PA-Z-108.0	AD108.0	4"	94.0 × 108.0	225	10

### 聚乙烯软管

产品材质: PE聚乙烯(Polyethylene)

工作温度: -30℃~+100℃, 短时可达+120℃

结构: 内部和外表均为波浪型

颜色: 黑色, 其它颜色可以订做

特性: 柔韧性好, 表面光泽, 耐化学腐蚀。

应用领域: 可用于机床机械、电力设备、食品机械、自动化仪表、电机马达、保护电线电缆不受外力磨损及绝缘。



### 阻燃聚丙烯软管

产品材质: PP聚丙烯(Polypropylene)

工作温度: -30℃~+100℃, 短时可达+110℃

结构: 内部和外表均为波浪型

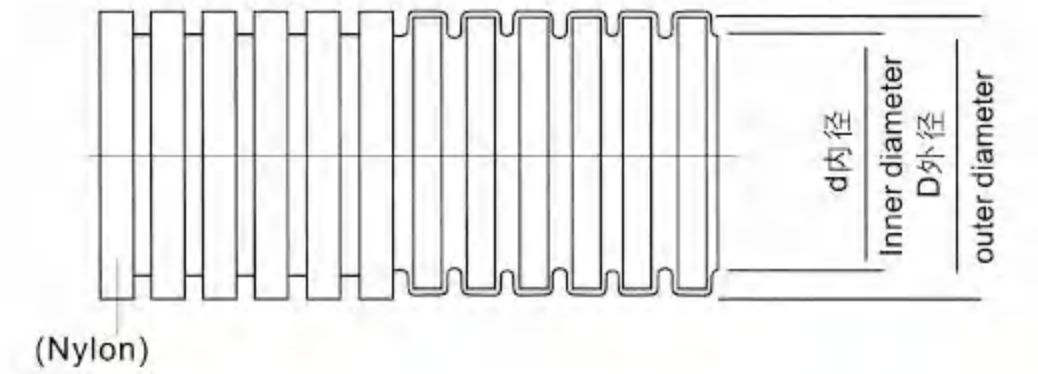
颜色: 黑色(根据需要可开口)

供应范围: 阻燃, 阻燃等级: FV-0

产品认证: 国家化学建材质量监督: GB/T14828.4-1993

特性: 柔韧性好, 表面光泽, 耐化学腐蚀。

应用领域: 主要用于汽车配线专用, 也可用于机床机械、自动化仪表、电机马达、保护电线电缆不受外力磨损及绝缘。

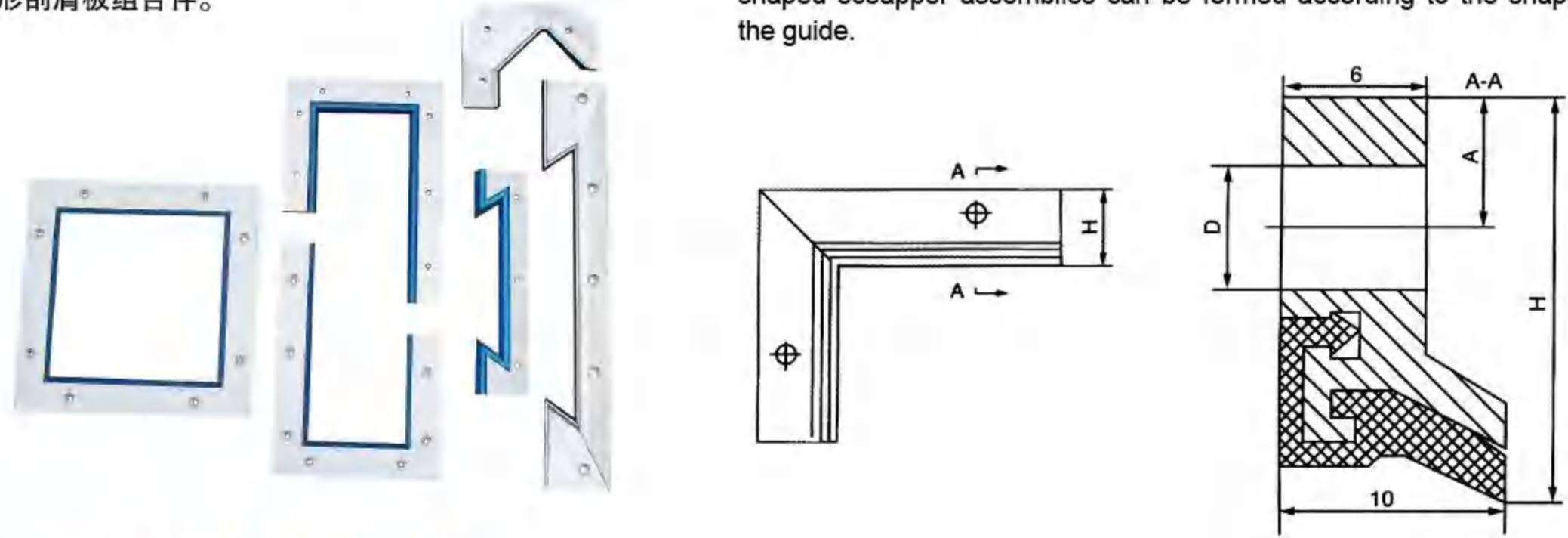


(Nylon)

型号 Item No.	软管规格(AD) Specifications for flexible pipe	内径×外径(mm) Inner diameter × Outer diameter	弯曲半径(mm) Curved radius	包装单位(m) Packaging Unit
PP-7.0	AD7.0	4.5 × 7.0	16	200
PE-10.0 PP-10.0	AD10.0	1/4"	6.5 × 10.0	100
PE-11.6 PP-11.6	AD11.6		8.0 × 11.6	100
PE-13.0 PP-13.0	AD13.0	5/16"	10.0 × 13.0	100
PE-15.8 PP-15.8	AD15.8	3/8"	12.0 × 15.8	100
PE-18.5 PP-18.5	AD18.5		14.3 × 18.5	100
PE-21.2 PP-21.2	AD21.2	1/2"	17.0 × 21.2	100
PE-25.0 PP-25.0	AD25.0		20.0 × 25.0	50
PE-28.5 PP-28.5	AD28.5	3/4"	23.0 × 28.5	50
PE-34.5 PP-34.5	AD34.5	1"	29.0 × 34.5	50
PE-42.5 PP-42.5	AD42.5	1-1/4"	36.0 × 42.5	50
PE-54.5 PP-54.5	AD54.5	2"	48.0 × 54.5	25
PE-74.0 PP-74.0	AD74.0	2-1/2"	63.0 × 74.0	10
PE-88.0 PP-88.0	AD88.0	3"	76.0 × 88.0	10
PE-108.0 PP-108.0	AD108.0	4"	94.0 × 108.0	10

标准长度为500mm-1000mm的导轨刮屑板, 采用铝合金、不锈钢板型材骨架和聚氨酯弹性体刮舌。具有外观造型美, 耐油、耐磨、耐冷却液、防老化和刮舌自动补偿等特点。可根据不同的导轨形状组成直角形、燕尾形刮屑板组合件。

The guide scraper with standard length ranging from 500mm to 1000mm are built with aluminium alloy and stainless steel plate frames and polyurethane elastic scraping piece. It has very nice-looking appearance and are featured by anti-oil, anti-wearing, anti-coolants, anti-aging and auto-compensation scraping piece. The right angle- and swallowtail-shaped sceaPPER assemblies can be formed according to the shapes of the guide.

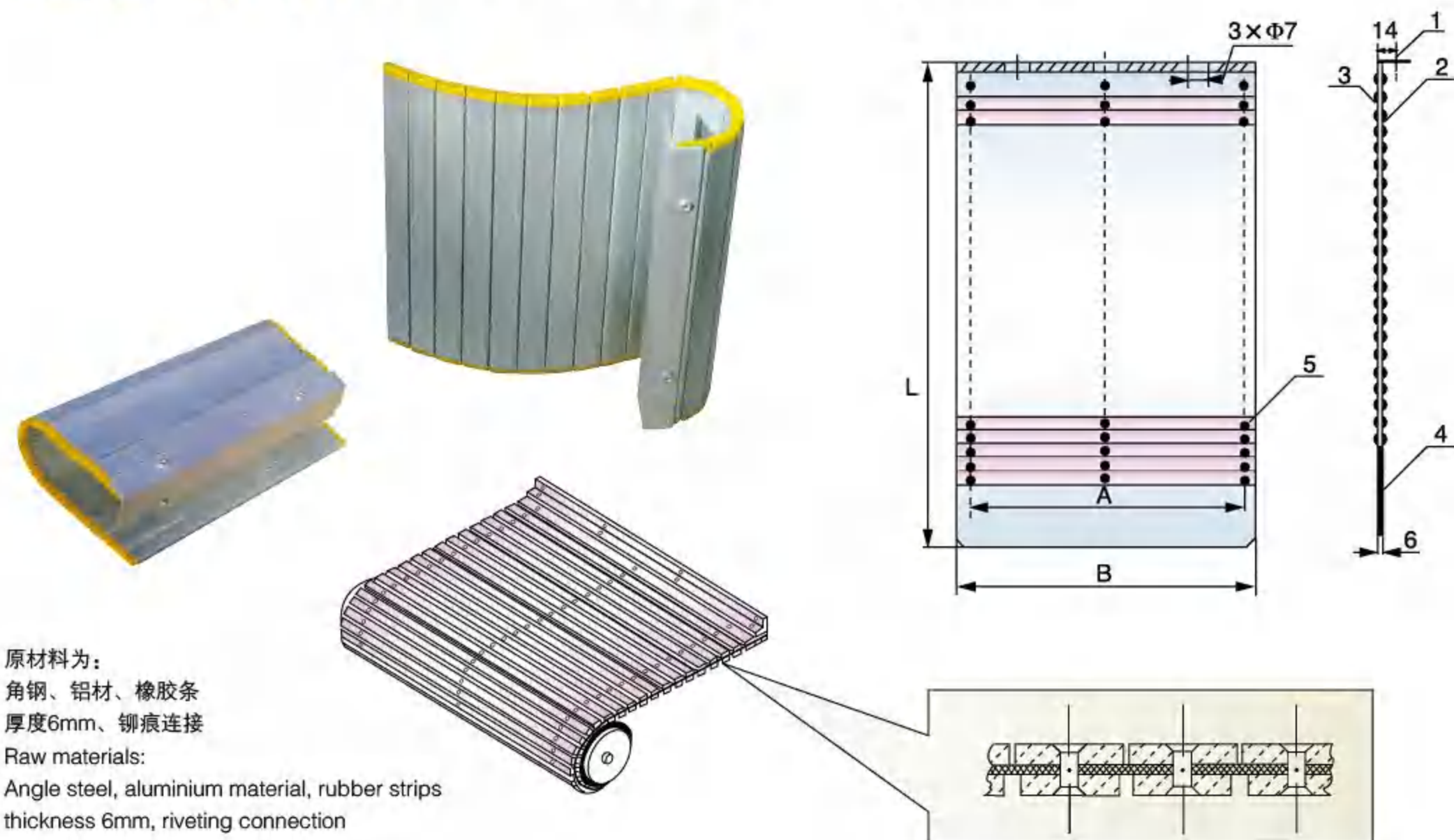


### GXB机床导轨刮屑板尺寸参数

Scrapin plate's sizes parameters of GXB machine tool guide

型号 Model 代号 Code	GXB-15	GXB-18	GXB-20	GXB-25	GXB-30	GXB-35	GXB-40	GXB-50	GXB-70
H	15	18	20	25	30	35	40	50	70
A	6	6	6	6-10	6-15	6-20	6-20	6-20	6-20
d	5-6	5-6	5-6	5-7	5-7	5-7	6-10	6-10	6-10

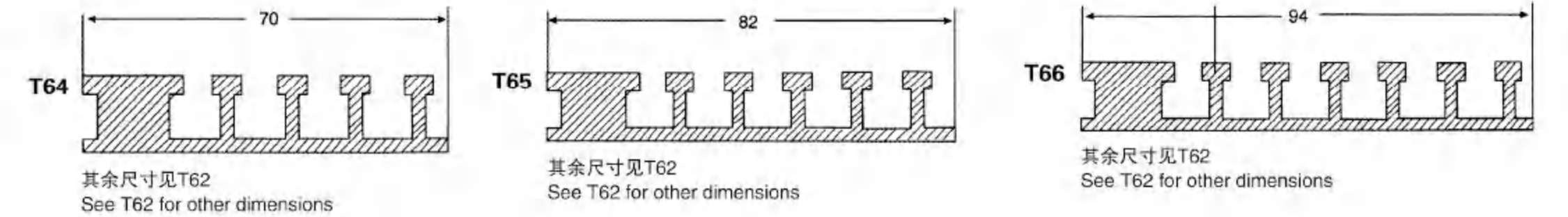
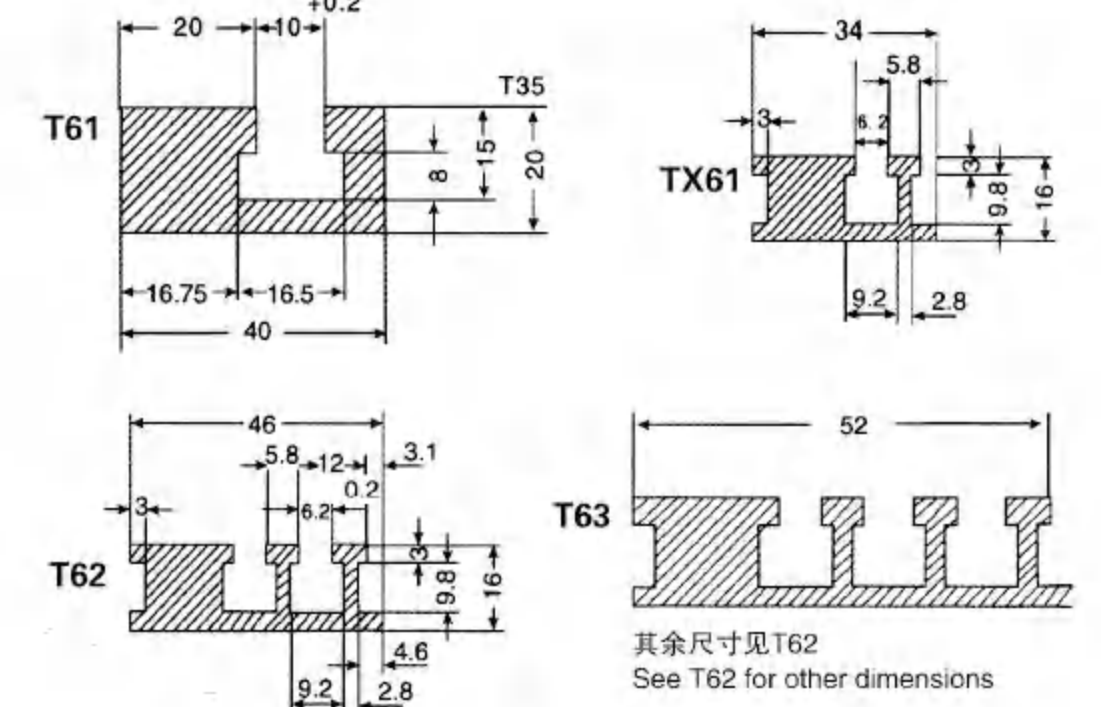
### 铝型材防护帘 / Aluminium protecting curtain



原材料为:  
角钢、铝材、橡胶条  
厚度6mm、铆痕连接  
Raw materials:  
Angle steel, aluminium material, rubber strips  
thickness 6mm, riveting connection



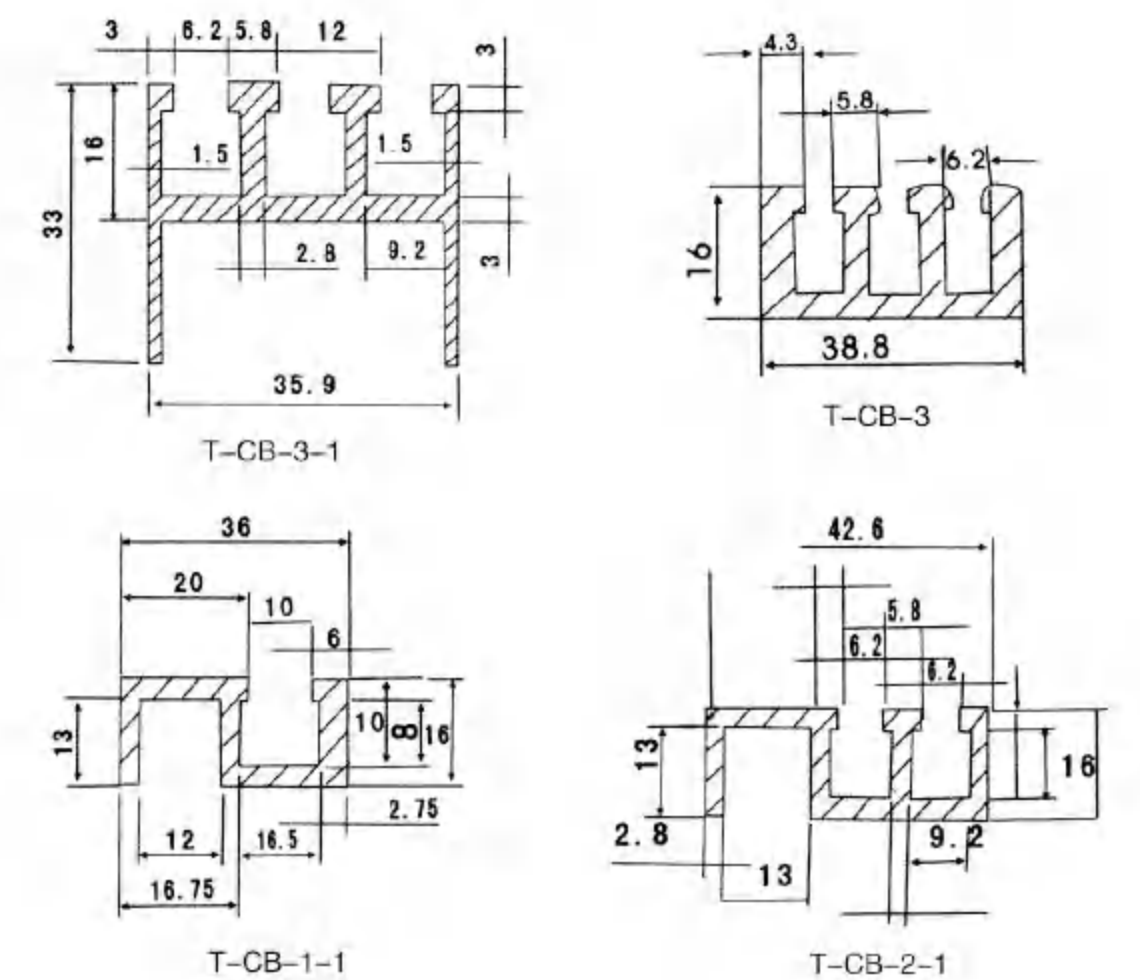
供货方式 / Delivery method: 撞块槽板 Rammer slot plate  
型长度mm / Size length (mm) (Note: slot plate length  $\leq 2.5m$ )  
Material: Ammonium alloy, silver white surface finish  
Nice appearance (This product includes 6 models)



### T型槽板撞块新型系列

该新型系列产品选用铝合金材料挤压成型, 造型美观、结构简单、安装方便、表面平整、粗糙度1.6, 硬度(HB) 70, 能紧固于组合机床、机械滑台、液压滑台等各种机床身上。不会产生移位, 性能可靠。新产品系列专用于普通数控车床CK、CJK系列X向、Z向, 背后槽放置刀架线。

The new series extruded aluminium alloy selection, beautiful shape, knot simple structure, easy installation, smooth surface roughness of 1.6, hardness (HB) 70 to firmly anchored in the combination of machine body. Will not the shift, and reliable performance. New product series dedicated to common CNC lathe CK, series X to CJK, Z direction, placed behind the tank turret line.



蚰蜒弹簧吸尘管、使用于吸尘设备、通风设备、内外有高强度塑料、中间有钢丝支撑热压成形，任意弯曲不变形等特点。

The spring dust absorbing pipe is used for the applications of dust absorbing equipment and ventilatio equipment. It is made byn extruding process with materials such as high strength plastics with steel wire bracings in the middle. It feature nondeformation or bending.



内径 $\phi$ mm	$\phi$ 32	$\phi$ 40	$\phi$ 45	$\phi$ 55	$\phi$ 60	$\phi$ 65	$\phi$ 70	$\phi$ 75	$\phi$ 80	$\phi$ 90	$\phi$ 100	$\phi$ 110
	$\phi$ 120	$\phi$ 125	$\phi$ 140	$\phi$ 150	$\phi$ 160	$\phi$ 170	$\phi$ 180	$\phi$ 200	$\phi$ 230	$\phi$ 250	$\phi$ 300	$\phi$ 350

以上各种规格均有1m、1.5m、2m、2.5m、3m、4m可用于工具磨床、木工机械、导轨磨床、化工设备作为吸尘通风等作用。  
The above mentioned specifications cover the followings:1m,1.5m,2m,2.5m,3m and 4m.They are used for milling machines,woodworks milling machine with guide and chemical equipment to be served as dust absorbing and ventilation devices.

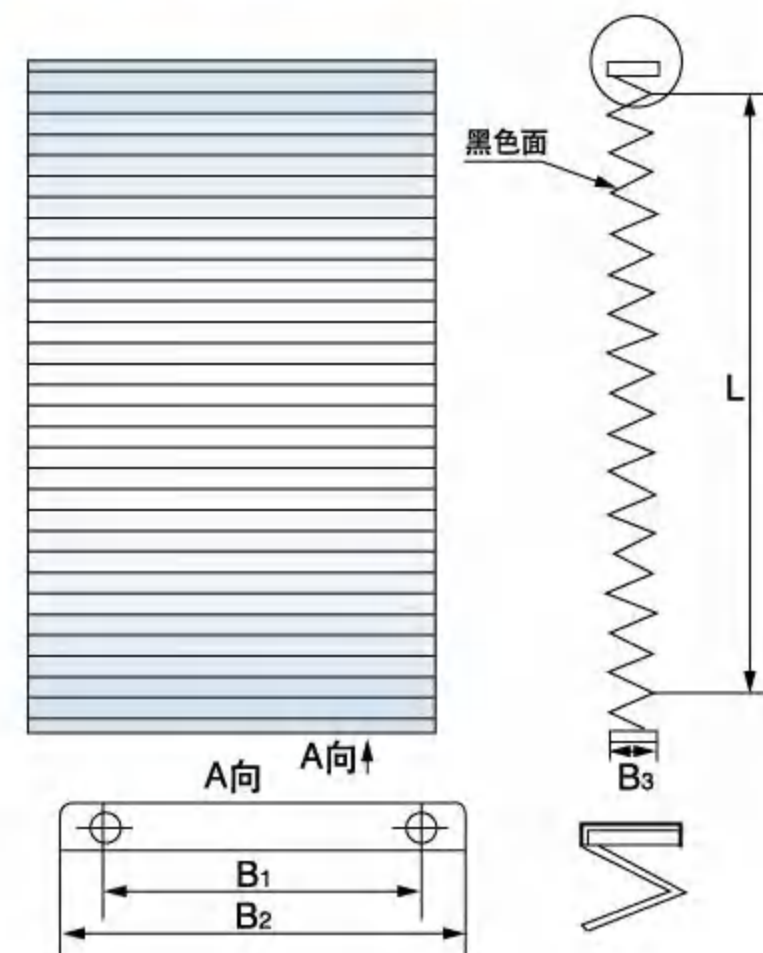
### 可调塑料冷却管 / Adjustable plastic cooling tube



	圆嘴	扁嘴	螺丝	螺母	出水孔	标准长度	可任意选用长度
	d1	d2	D1	D2	E	L	
G1/4"	3	20	12	14	6	280	
	4.5						
G3/8"	4	34	15.5	20	7.5	410	
	6.5	6.5					
G1/2"	8	8	19.5	24	12.5	410	
	12	12					

说明：G1/4"每只长度为13mm G3/8"每只长度17.5mm  
G1/2"每只长度21mm

### 风琴式防尘折布 / Accordion type dustproof folding cloth



#### 防尘折布参数/ Data for dustproof folding cloth

代号 Code	名称 Description	数据 Data	面料尼龙革 Nylon leather
B1	孔距 Holedis		连接树脂Kesin
B2	宽度 Width		
B3	折高 Height		
L	伸长 Length		



防尘折布按用户要求制作  
Dustproof folding cloth can be follow user's request

