

# AL SERIES

## ALUMINUM LIGHT CRANE SYSTEM



Clescrane retains the rights to change on product design and specs. at any time.  
When purchase and delivery, subject to our actual products.

**CLESCRANE**

**Address:** Room 902, Building 6, No. 26 Dongqing Street, Zhengzhou, Henan, P.R.China.

**Tel:** 0086-371-5532 8269 Ext.1002

**Email:** [inquiry@clescrane.com](mailto:inquiry@clescrane.com)

**Website:** [www.clescrane.com](http://www.clescrane.com)

[WWW.CLESCRANE.COM](http://WWW.CLESCRANE.COM)

# CLESCRANE

## crane systems

# ABOUT US

With the target of "technology-driven, quality seize the market", Clescrane was established as a systems engineering company in the field of material handling in the year of 2012. Our services cover a wide range of industries, which includes manufacturing industry, processing industry, energy regeneration and so on.

We have been working with the international well-known electrical companies in order to look for cooperation of intelligence hoisting machinery equipment. At the same time, our technical engineers are constantly providing customized designs to meet our customers' needs. Our equipment supervision team ensures the best quality of equipment for our customers. Our professional technical service team will provide zero-distance service to our customers. Clescrane is just on your side to help enhance your business and get sustainable development.

Technology is Clescrane survival principle, quality is the basic foundation of Clescrane survival. Depending on our own technology strength and supervision team, Clescrane has the professional sub-contractor who can provide us the good quality crane parts and control the whole cost in a competitive level. Clescrane intends to create an innovative lifting equipment export service companies and provide customers with the best solution and high-quality manufacturing products. With spirit of "customer first" business philosophy, Clescrane strategic objectives are not for the short-term interests instead of sacrificing the future. Clescrane people will wholeheartedly provide dedicated service for worldwide customers. When you choose Clescrane, you also increase security and efficiency for your business development at the same time.



# AL Series Aluminum Light Crane System

AL series aluminum light crane system can provide proper solve solution for almost all customer needs, which can make you design almost all suspension single girder crane /suspension double girder crane or monorail system.



# AL Series

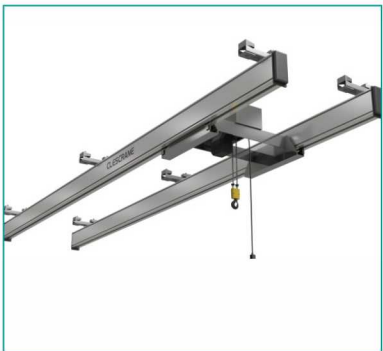
## Aluminum Light Crane System

01



AL-ASM Monorail

02



AL-ADM Double-Rail

03



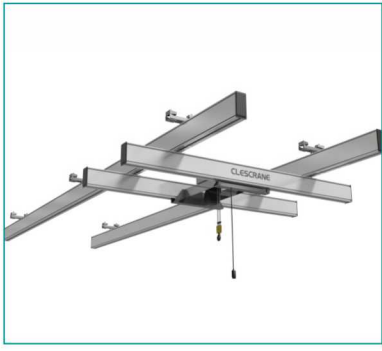
AL-ASX Single Girder  
Suspension Crane

04



AL-ASL Single Girder  
Elevated Crane

05



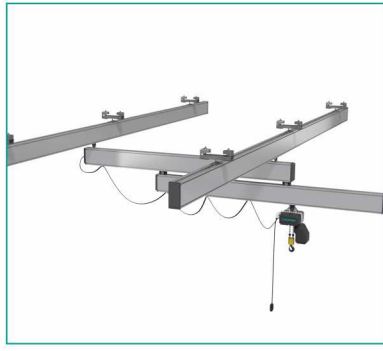
AL-ADX Double Girder  
Suspension Crane

06



AL-ADL Double Girder  
Elevated Crane

07



AL-ASE Overhung and  
Extending Cranes

PS:  
According to the different industry situation, use the corresponding rail type, which can match different servo control products. They can satisfy all kinds of work piece transplanting, assembling, conveying, stacking, tightening, etc. process. In this case, they can satisfy different customer's requirements.



# Product Features

## Materials

High strength anodized aluminum alloy track 6063-T6 alloy aluminum, with surface anodizing treatment.

## Light self-weight

The self-weight of the rail is quite light, the minimum weight of the rail product is 2.7kg/m.

## Lifting capacity

The maximum capacity of the rail is 2000kg.

## Small resistance

Low resistance at start-up.

# Advantages

Simple, safety, reliable, and high efficiency aluminum light crane system.

## The advantages of the aluminum light crane system

1. Light self-weight, strong carrying capacity, satisfy the new standards of ergonomics.
2. The rail system travelling is smooth, the sliding coefficient as low as 0.3%.
3. Rated capacity, flexible type satisfy the different capacity requirements.
4. Multiple protection to make the system much safer, the safety factor of hoisting structure is more than 5 times.
5. The whole system is equipped with secondary protection device.
6. Optional: air source conveying unit (spring windpipe, engineering towing chain), flat cable, sliding contact line, pneumatic electric walking unit.

## The advantages of aluminum profiles

1. Ergonomic design.
2. Anti-Corrosion.
3. Accurate.
4. Economical.
5. Reduce weight of supporting structure.
6. Light rails means users can easy handle and effortlessly handle heavy and cumbersome loads.
7. Better workstation ergonomics and increased productivity.
8. Accuracy is ensured though high quality manufacture and smooth movements.

# Components

### End cap

The slots are connected with bolts, installation and disassembly is easier.

### Rail

Easy to remove and lengthen, saving maintenance time and cost.

The rail surface is oxidized by anodizing, durable and preventing corrosion and impact of surrounding environment.  
The most advanced industry design, longer service life.

### Nylon wheels

High quality nylon walking wheel with long service life, light weight and smooth operation.  
The required walking thrust is small, go through long-term test and strict test under harsh conditions.

### Classic lifting lug

The long lifting arrangements adopt hinged joint with threaded boom, which can be adjusted to millimeters and connected to all kinds of structure above.

### Classic trolley

Additional crane equipment can be added, for example, variable frequency chain hoist, or electric balance crane.

### Trolley ERGO

The reverse roller can be adjusted by eccentricity pipe joint. Hanging with rigid load and ergonomic handling equipment. E.g. manipulator crane. Even at high speeds, precise positioning can be achieved.

### Trolley

The trolley runs smoothly in the service cycle and ensures minimal rolling resistance. The anti-friction bearing lubricated for life, and the standard side guide roller can ensure its smooth walking. Light weight, exquisite design.

### Built-in trolley conductor

As option for two type rail: A18 and A22. It improves the headroom size, the design is simple and sharp, and reduces the risk of accident and collision. Safe and reliable power supply arrangement, no extra power supply parts –Also suit for two cranes on one track.

### Rail joint assembly

Simple bolt junction plates make installation easier.

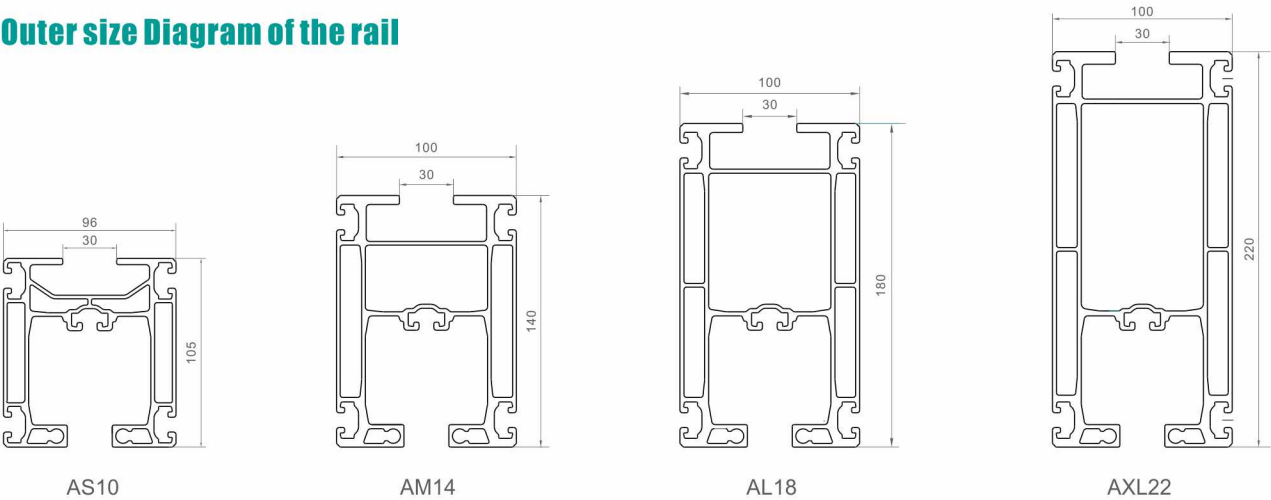


# Parameter List

## Rail technical specification

| Product code | Parameter |               |              |                   |                  |                                |                         |                         |                             |                             |                          |
|--------------|-----------|---------------|--------------|-------------------|------------------|--------------------------------|-------------------------|-------------------------|-----------------------------|-----------------------------|--------------------------|
|              | Item      | Height (H) mm | Width (W) mm | Rated capacity kg | Self weight kg/m | Materials                      | Lnertia distance ly cm4 | Lnertia distance lz cm4 | Anti-bending modulus Wy cm3 | Anti-bending modulus Wz cm3 | Standard specification m |
| 014014       | AS10      | 105           | 96           | 250               | 5.5              | High strength aluminum 6063-T6 | 235                     | 214                     | 42                          | 44                          | 6/7.5/9                  |
| 014022       | AM14      | 140           | 100          | 500               | 7.2              |                                | 605                     | 335                     | 85                          | 67                          | 6/7.5/9                  |
| 014045       | A-XXL     |               |              |                   |                  |                                | 2141                    | 511                     | 3423                        | 609                         | 6/7.5/9                  |
| 014030       | AL18      | 180           | 100          | 750               | 8.8              |                                | 1211                    | 437                     | 133                         | 86                          | 6/7.5/9                  |
| 014037       | AXL22     | 220           | 100          | 1200              | 10.2             |                                | 2200                    | 523                     | 197                         | 104                         | 6/7.5/9                  |

## Outer size Diagram of the rail

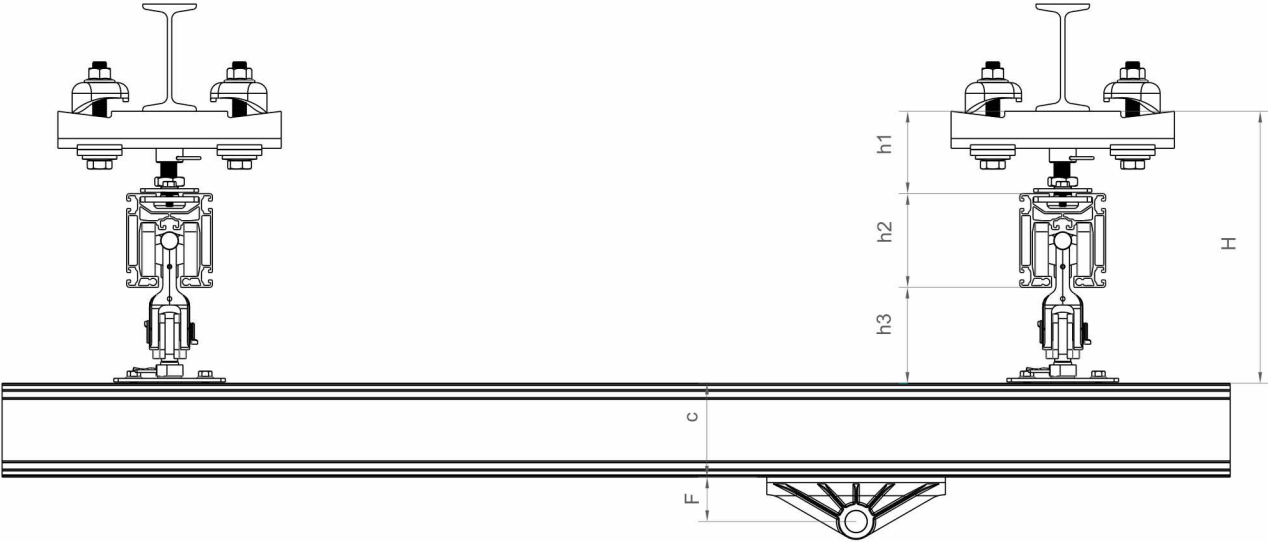


## Profile rail hanging pieces spacing

| Product code |       | Aluminum rail specification             | Loading capacity |      |      |      |      |      |      |  |
|--------------|-------|---|------------------|------|------|------|------|------|------|--|
|              |       |   | 80               | 125  | 250  | 500  | 750  | 1200 | 2000 |  |
| 014014       | AS10  | profile rail hanging pieces spacing (m) | 3m               | 2.7m | 2.4m |      |      |      |      |  |
| 014022       | AM14  |   | 6.1m             | 5.1m | 3.8m | 2.7m | 2.3m |      |      |  |
| 014030       | AL18  |   | 8m               | 6.9m | 5.5m | 3.9m | 3.2m | 2.2m | 1.8m |  |
| 014037       | AXL22 |   | 10m              | 9m   | 7m   | 5.2m | 4.3m | 3m   | 2.4m |  |

## Rail configuration

- Monorail system rail can connect all the working station.
- Single girder and double girder crane can be used for partial transport or complex handling systems, such as automobile production lines.
- The rigid handling equipment section can be connected to the double rail or double girder crane equipment.
- The telescopic beam device can make full use of the currently inaccessible areas, such as the assembly line.
- The aluminum rail profile can be perfectly combined with KBK rail profiles - and also can be added and installed later.



## Standard single girder suspension crane installation reference sheet

| Product code | Rail model | h1 min /h1max(mm) | h2(mm) | h3(mm) | H min(mm) | H max(mm) | F    | C   |
|--------------|------------|-------------------|--------|--------|-----------|-----------|------|-----|
| 014014       | AS10       | 92-112            | 105    | 84     | 281       | 301       | 20   | 105 |
| 014022       | AM14       | 92-112            | 140    | 84     | 316       | 336       | 19.5 | 140 |
| 014030       | AL18       | 92-112            | 180    | 84     | 356       | 376       | 19.5 | 180 |
| 014037       | AXL22      | 92-112            | 220    | 84     | 396       | 416       | 19.5 | 220 |

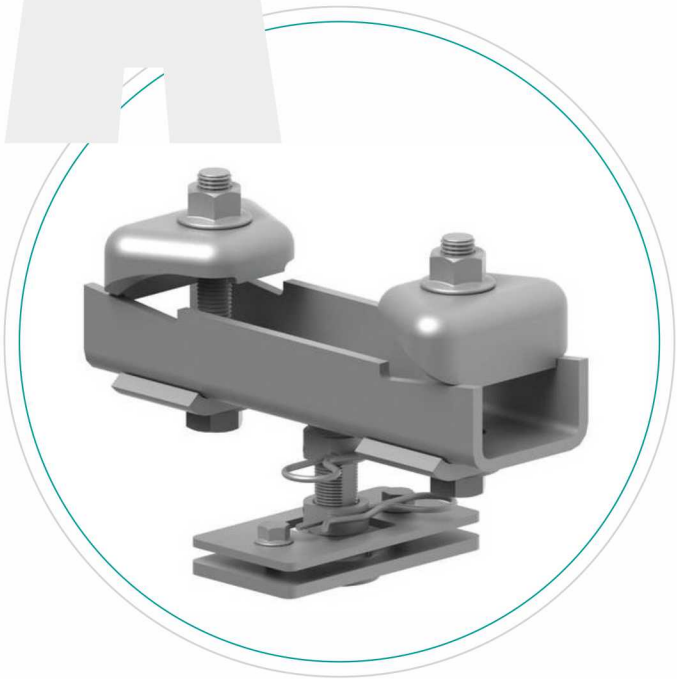


# Rail serialized components

A

### Flexible hanging pieces

The connection between the lower part and flange plates use the maintenance free ball type structure, with copper plate inner set. The structure is flexible and mainly bearing the down direction force.



### Technical Data

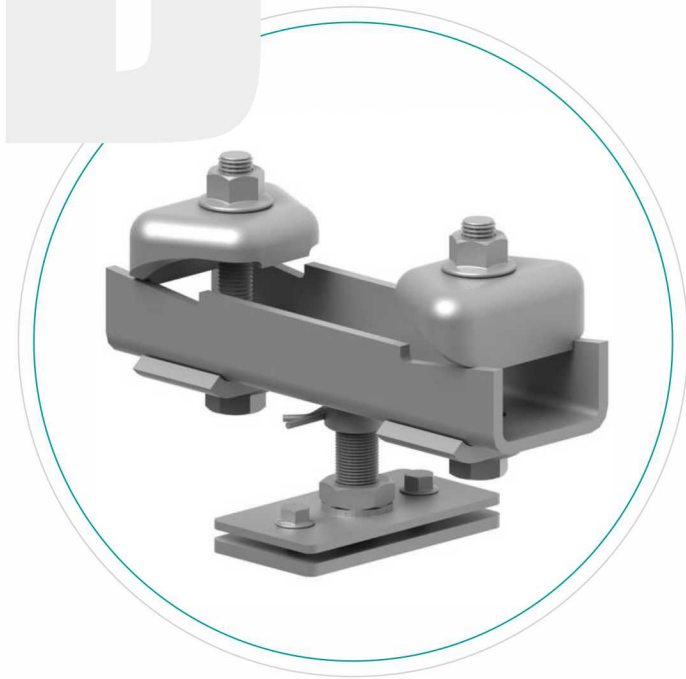
| Product code | Parameter   |             |                     |                      |                |                    |                               |
|--------------|---|-------------|---------------------|----------------------|----------------|--------------------|-------------------------------|
|              | Item  | Capacity kg | Width adjustment mm | Height adjustment mm | Self-weight kg | Maximum tilt Angle | Applicable rail specification |
| 014056       | Flexible lifting point50-150 pendular mountings50-150   | 2000        | 50-150              | 90-130               | 4              | 10°                | AS10-AXL22                    |
| 014057       | Flexible lifting point150-250 pendular mountings150-250 | 2000        | 150-250             | 90-130               | 4.5            | 10°                |                               |
| 014058       | Flexible lifting point250-310 pendular mountings250-310 | 2000        | 250-310             | 90-130               | 5              | 10°                |                               |

Note: non-standard hanging pieces need to consult our technical engineers

B

### Rigid hanging pieces

Accurate positioning of the manipulator, hoisting unit or a telescopic girder need upward force, adopt a highly adjustable rigid hanging installation. According to the height adjusting range, compensate the steel structure height difference.



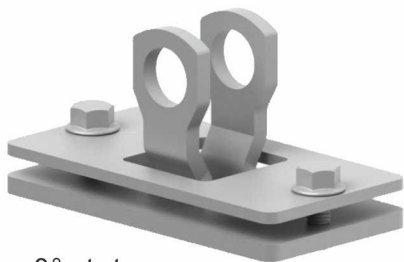
### Technical data

| Products code | Parameter   |             |                     |                      |                |                               |
|---------------|---|-------------|---------------------|----------------------|----------------|-------------------------------|
|               | Item  | Capacity kg | Width adjustment mm | Height adjustment mm | Self-weight kg | Applicable rail specification |
| 014059        | Rigid hanging point50-150 rigid mountings50-150   | 2000        | 50-150              | 20                   | 3.8            | AS10-AXL22                    |
| 014060        | Rigid hanging point150-250 rigid mountings150-250 | 2000        | 150-250             | 20                   | 4.3            |                               |
| 014061        | Rigid hanging point250-310 rigid mountings250-310 | 2000        | 250-310             | 20                   | 4.8            |                               |

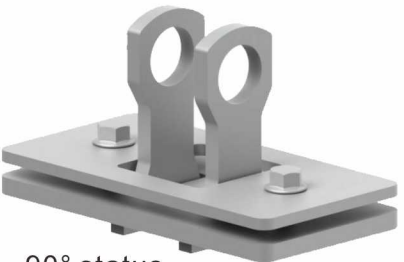
# Cross Beam Hanger

The cross beam is connected to the longitudinal rail by a cross beam hanger. Through aluminum alloy rail trolley use cooperatively, precise integration ensures that the system can be quiet, stable, and maximum load reach 600kg. Cross beam hanger divide into 0°hanger and 90°hanger, it satisfies the different arrangement of the rail.

| Product code | Name                         | Self-weigh /kg |
|--------------|------------------------------|----------------|
| 014079       | Cross beam hanger 0° status  | 0.6            |
| 014080       | Cross beam hanger 90° status | 0.6            |



0° status



90° status

## Secondary protection device

According to the rail connection characteristics, company has three standard safety devices available for purchase:

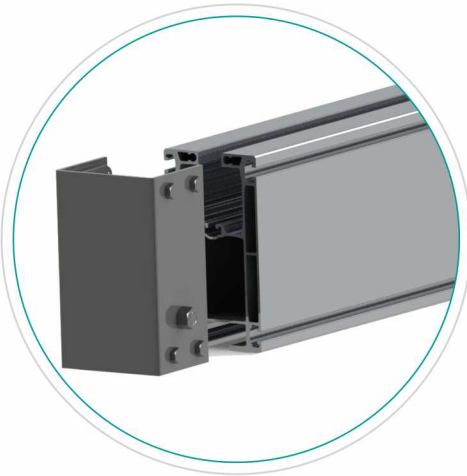
- 1.Rail protection device (The connection between longitudinal rail and overhead steel structure)
- 2.Cross beam protection device (The connection between longitudinal rail and cross beam)
- 3.Load protection device (Prevent load shedding from pulley axle)

| Product code | Name                  | Self-weigh /kg | Sketch map |  |
|--------------|-----------------------|----------------|------------|--|
| 014099       | Rail protection       | 1              |            |  |
| 014100       | Cross beam protection | 1.5            |            |  |
| 014101       | Pulley protection     | 1              |            |  |

# Rail end cap

End cap adopt metal or plastic strucure, to prevent the end cover falling off and prevent dust from entering the rail interior.

| Product code | Name       | Size      | Self-weigh(Metal)<br>kg/m |
|--------------|------------|-----------|---------------------------|
| 014069       | AS10cover  | 105*96*3  | 0.5                       |
| 014070       | AM14cover  | 140*100*3 | 0.65                      |
| 014071       | AL18cover  | 180*100*3 | 0.85                      |
| 014072       | AXL22cover | 220*100*3 | 1.03                      |



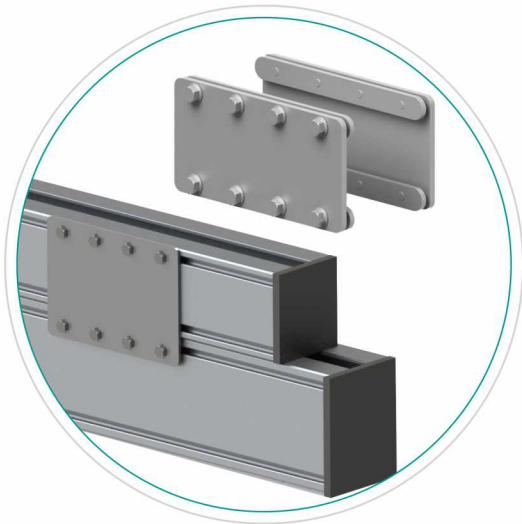
# The main beam strengthens the connection components

| Products code | Name                               | Self-weight<br>kg/m |
|---------------|------------------------------------|---------------------|
| 014075        | AS10/Rail strengthening component  | 2.15                |
| 014076        | AM14/Rail strengthening component  | 2.6                 |
| 014077        | AL18/Rail strengthening component  | 3.1                 |
| 014078        | AXL22/Rail strengthening component | 3.65                |

# Rail connector component

Rail connector component is divided into: four species, fixed in a groove on the side of the track, so the length of the rail is going to be infinitely longer. The structure is light, easy to install and perfect to realize the seamless connection of the track.

| Products code | Name                           | Self-weight<br>kg/m |
|---------------|--------------------------------|---------------------|
| 014075        | AS10/Rail connector component  | 2.15                |
| 014076        | AM14/Rail connector component  | 2.6                 |
| 014077        | AL18/Rail connector component  | 3.1                 |
| 014078        | AXL22/Rail connector component | 3.65                |





# Rail Serialized Components

A

### Rail/Hoist pulley

- Material**  
Aluminum alloy die-casting formation, each self-weight of 1.25kg, maximum load of 600kg.
- Low noise**  
High strength wear - resistant nylon wheel, running light and smooth.
- Reverse gear device**  
The unique anti-roller device can be carried in both directions with good anti-eccentricity capability, ensuring the precise positioning of the lifting device. The operation process is more stable, the operation is more efficient, and the safety factor is extremely high.
- Buffer device**  
The two ends of the trolley are equipped with rubber anti-collision head to extend the life of the track and trolley.



Rail pulley



Hoist pulley

### Technical parameters of rail/Hoist pulley

| Products code | Name                        | Maximum loading kg | Self-weigh kg | Main Material  |
|---------------|-----------------------------|--------------------|---------------|----------------|
| 014064        | Aluminum alloy track pulley | 600                | 1.25          | Aluminum alloy |
| 014062        | Aluminum alloy pulley       | 600                | 1.6           | Aluminum alloy |

B

### Series connection pulley

It can safely lift the load of 1200kg by connecting two aluminum alloy pulleys.



### Technical parameters of rail/Hoist pulley

| Products code | Name                        | Maximum loading kg | Self-weigh kg | Main Material  |
|---------------|-----------------------------|--------------------|---------------|----------------|
| 014065        | Aluminum alloy track pulley | 1200               | 3.5           | Aluminum alloy |
| 014066        | Aluminum alloy hoist pulley | 1200               | 4.2           | Aluminum alloy |

# Double Girder Trolley Mobile rack

Double girder trolley track is used to hang the chain hoist with two longitudinal rails or two cross beams.  
Double girder trolley itself is connected with the relevant rail by hanging the pulley.

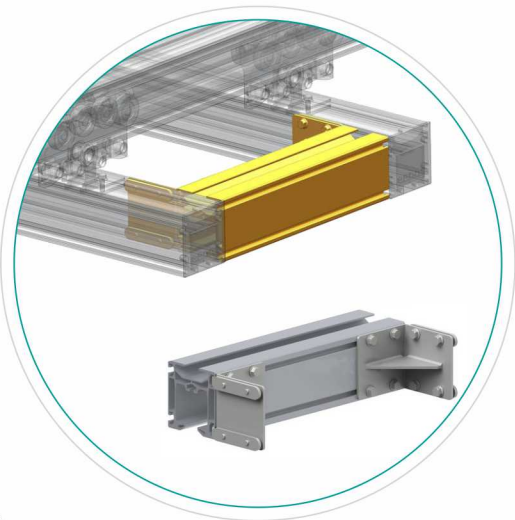
| Products code | Name                       | Gauge mm | Self weigh kg |
|---------------|----------------------------|----------|---------------|
| 014068        | Double girder trolley rack | 500-1500 | 36.8          |



# Double Girder Spacer

| Products code | Name                       | Gauge mm | Self-weight kg/m |
|---------------|----------------------------|----------|------------------|
| 014086        | double girder spacer AS10  | 300-2000 | 5.6              |
| 014087        | double girder spacer AM14  | 300-2000 | 7.4              |
| 014088        | double girder spacer AL18  | 300-2000 | 9                |
| 014089        | double girder spacer AXL22 | 300-2000 | 10.04            |

If you select double girder cushion block, please inform the length of cushion block.

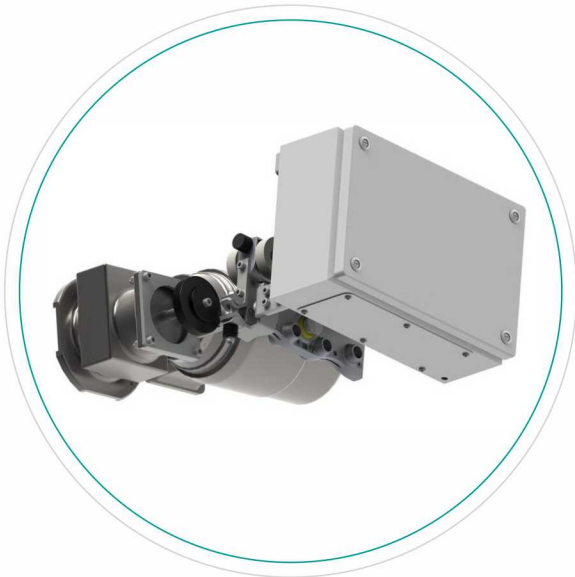


# Electric Trolley

The electric drive trolley realizes the electric walking of the crane according to the actual lifting weight requirement. It adopts electric walking device, which is designed by the integrated design of motor, gearbox and friction wheel. Starting and braking, deceleration and acceleration are soft, balance and smooth.


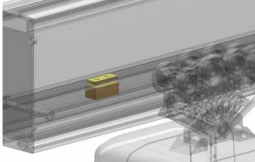
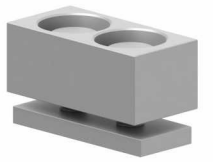
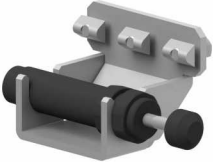
When the lifting weight is greater than 500kg and the span of the main beam is more than 6m, we recommend use ABF. It can greatly improve the transportation efficiency, the transportation operation is safer and more reliable. The optimized design makes the walking device ABF directly installed in the double beam crane trolley frame, saving space does not affect the range of the hook walking, so as to not lose the effective plane service scope of the crane.

|                          |                     |
|--------------------------|---------------------|
| Products code            | 014124              |
| Name                     | Motor drive trolley |
| Travelling speed m / min | 20/5                |
| Power supply             | 3 phase 380V50Hz    |



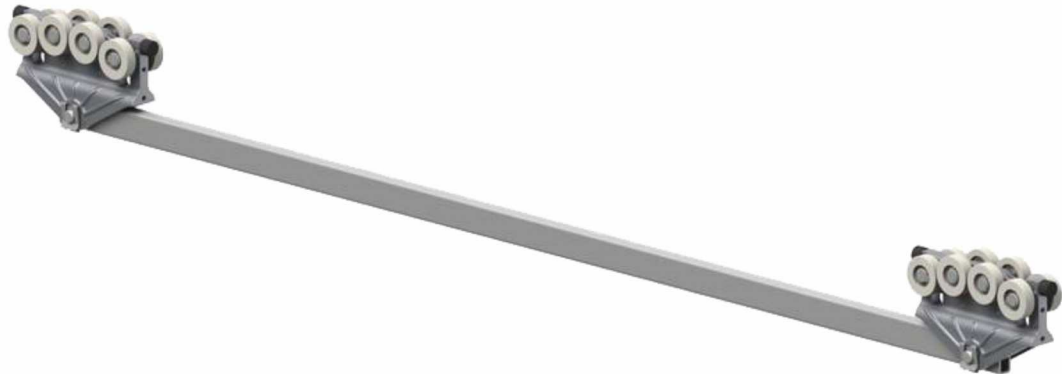


# END STOP

| Product code | Item                                | Self-weight<br>kg/m | Sketch map   |   |
|--------------|-------------------------------------|---------------------|--|---|
| 014082       | Secondary safety latch<br>A105-A220 | 0.1                 |  |  |
| 014183       | Adjustable backstop                 | 0.19                |  |  |
| 014184       | End stop buffer                     |                     |  |  |

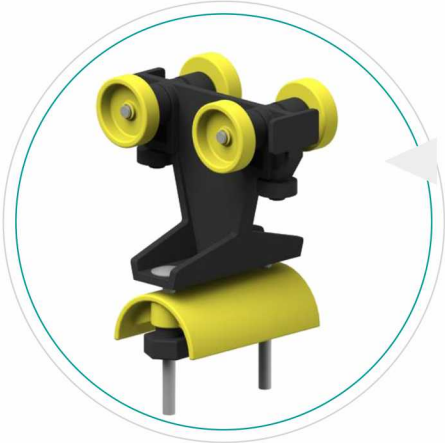
# Middle moving stop

Like the upper beam in the rail system, our standard is the choice you needed. We provided the middle stop length at 300-2000mm.If necessary, the non-standard size can also be provided.




| Product code | Item                          | Adjustable length |
|--------------|-------------------------------|-------------------|
| 014102       | Adjustable middle stop length | 300-2000mm        |

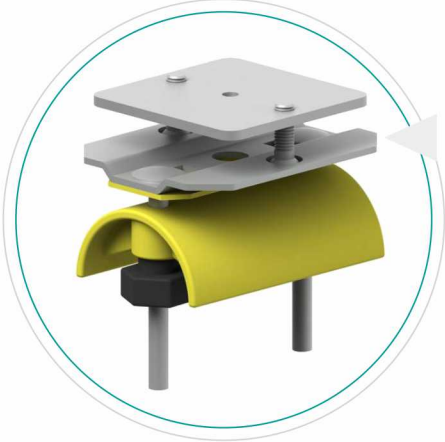
# Power Supply System




**Flat cable trolley**  
product code:014103



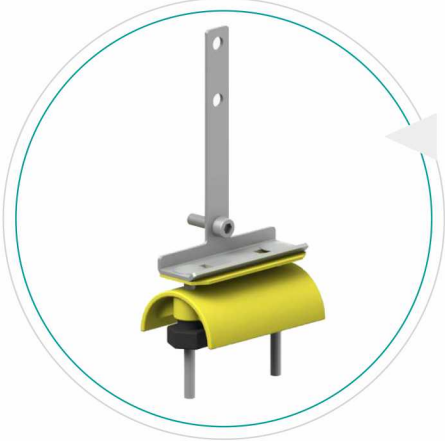
**Round cable trolley**  
( φ 26-36mm )  
product code:014106




**End of Flat cable end fixer**  
Product code:014107



**End of round cable trolley**  
( φ 26-36mm )  
product code:014110



**flat cable rod**  
Product code:014111



**round cable dialing rod**  
( φ 26-36mm )  
Product code:014114



# Sliding Line

| Product code | Name              |
|--------------|-------------------|
| 014137       | Sliding line 16A  |
| 014138       | Sliding line 25A  |
| 014139       | Connect and cover |
| 014140       | Sliding clamp     |
| 014141       | Fixed hoist clip  |
| 014142       | Cover cap         |
| 014143       | End feed          |
| 014144       | Middle feed       |
| 014145       | Collector         |



The 25A collector is suitable for the sliding line of 35A-50A  
The 40A collector is suitable for the sliding line of 65A-120A  
Tractor 56BC/53 and 56bc/55 both can be used.

Connecting cable

25A, 2.5mm<sup>2</sup>/corex4  
40A, 4.0mm<sup>2</sup>/core x3+2.5mm<sup>2</sup>/core x1  
0.8 m long, can provide longer cables

| Model     | Weight kg | Poles | Rated power | Cat. No. |
|-----------|-----------|-------|-------------|----------|
| 56JD-4/25 | 0.65      | 4     | 25A         | 563125   |
| 56JD-4/40 | 0.70      | 4     | 40A         | 563140   |



The 60A collector is suitable for the sliding line of 120A-170A  
Tractor 56BC/53 and 56bc/55 both can be used.

Connecting cable

60A, 4.0mm 2/core x6 +2. 5m m2/ co re x2  
0.8 m long, can provide longer cables

It can be used in parallel with 3 or more, but only in line segment.

| Model     | Weight kg | Poles | Rated power | Cat.-No. |
|-----------|-----------|-------|-------------|----------|
| 56JD-4/60 | 1.35      | 4     | 60A         | 563160   |



The 80A collector is suitable for the sliding line of 140A-240A.  
Only suitable for 56B/53 tractor.

Connecting cable

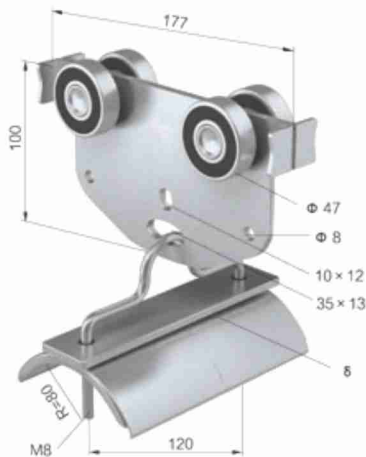
80A.(6.0mm-x2/core)x3+302  
1 m long, can provide longer cables

| Model     | Weight kg | Poles | Rated power | Cat.-No. |
|-----------|-----------|-------|-------------|----------|
| 56JD-4/25 | 0.65      | 4     | 25A         | 563125   |
| 56JD-4/40 | 0.70      | 4     | 40A         | 563140   |

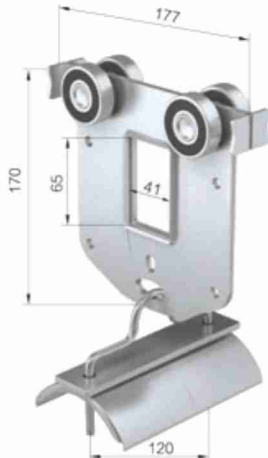
# C type Track Power Supply System



Middle Trolley ( C63 )  
C63MC



Towing Trolley ( C63 )  
C63SC



| Model            | C63MC  | C63SC          |
|------------------|--|----------------|
| Wheels           | Adopt spherical bearing, with hardened and galvanized processing.<br>Temperature range:-30℃~+125℃<br>Traveling speed:160m/min                        |                |
| Material         | Panel: galvanized steel<br>Pedestal: ganvanized steel<br>Pin: ganvanized steel<br>Rest parts: ganvanized steel<br>Temperature resistance:-30℃ ~+100℃ |                |
| Max, Cable Load  | ≤ 65KG   | ≤ 65KG         |
| Dim,of Cable(mm) | max, 120Wx40 δ   | max, 120Wx40 δ |
| Weight ( kg )    | 1.95   | 2.30           |
| Cat.-No.         | 751201   | 751101         |

# End Trolley (C63)

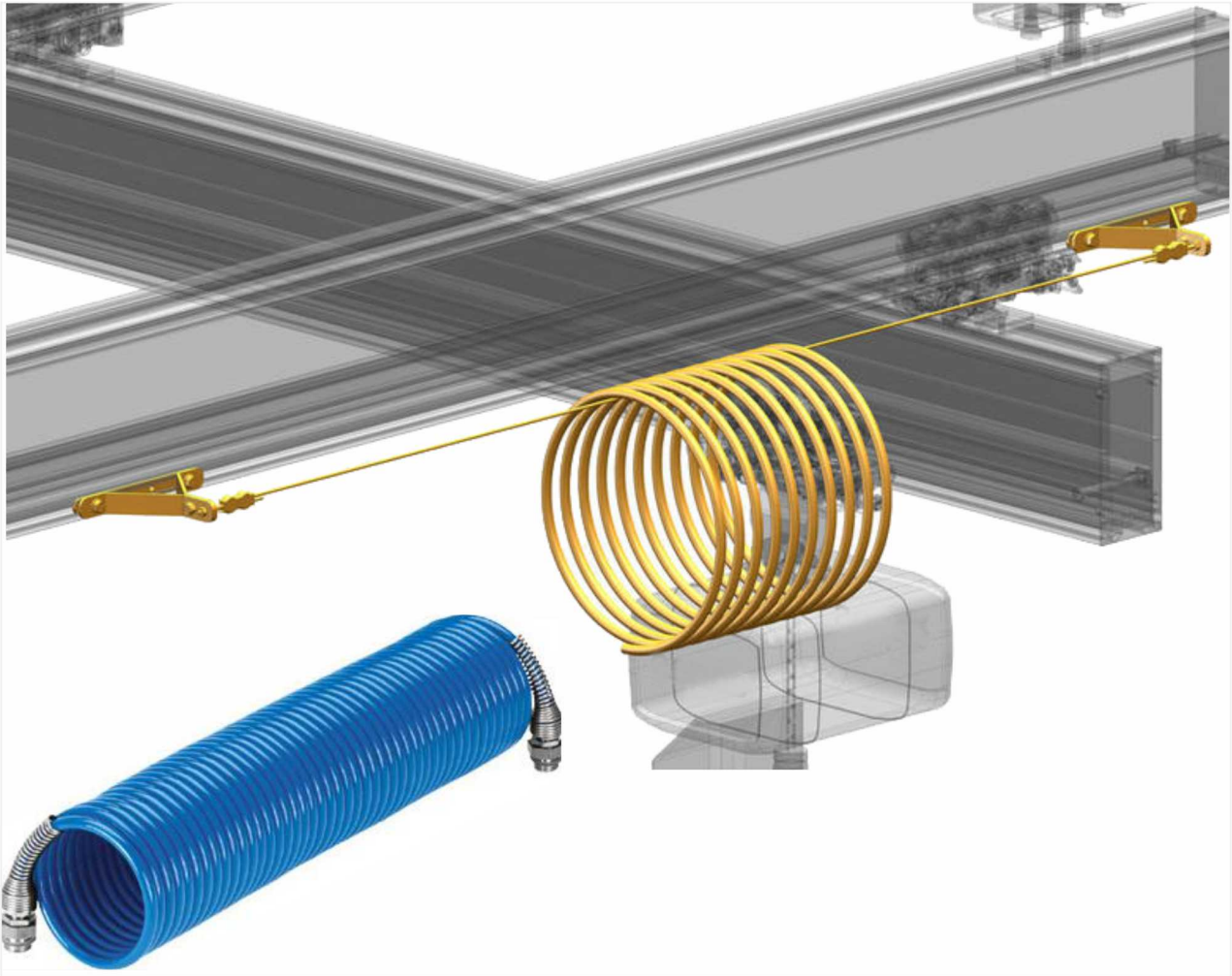


|                  |                 |
|------------------|-----------------|
| Model            | C63EC           |
| Material         | Gaivnized steel |
| Max. load        | ≤ 65KG          |
| Dim.of Cable(mm) | max, 120Wx40 δ  |
| Weight ( kg )    | 1.15            |
| Cat.-No.         | 751301          |

| Product Code | Name                        |
|--------------|-----------------------------|
| 014128       | C30-4m Rail                 |
| 014129       | C type track brackets AS10  |
| 014130       | C type track brackets AM14  |
| 014131       | C type track brackets AL18  |
| 014132       | C type track brackets AXL22 |
| 014133       | C type end cap              |
| 014134       | C type backstop             |
| 014135       | C type track cable trolley  |
| 014136       | C type track cable clamp    |
| 014137       | C type track towing trolley |

# Air Feed System

/Energy wire brackets



| Product Code | Name   |
|--------------|--|
| 014126       | Energy wire brackets                                     |
| 014127       | Wire rope diameter 4mm                                   |
| 014146       | Energy wire (please inform crosswise travel path length) |



# SERVICE

Our service solutions are specially made based on different requirements of individual clients. Meeting their standards could remove any of their worries. Including:

- Customized solutions
- Reliable, efficient and safe crane equipment
- High quality packaging
- Installation and Assembly & Test running
- Professional training
- Plenty of spare parts
- Maintenance
- Analysis and Suggestions
- Intelligent crane design software
- The experienced team of engineers

Clescra­ne's service pack is safe and costs less. Clescra­ne's service pack also applies to cranes and hoists produced by other manufacturers.