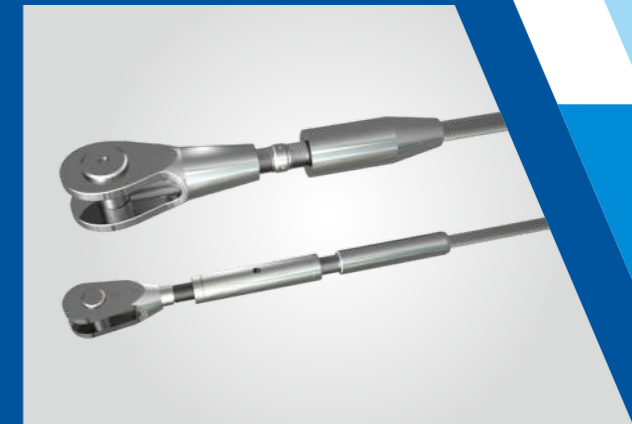


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\* Print Jan, 2023.

KINLONG

**KIN LONG**  
*For Better Living*

## Point-Supported Glass Curtain Wall Typical Product Catalogue



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## Surface Finish



Mirror



Satin



Sandblasting



Electroplating

## Material & Standard

### I . Material

1. The casting stainless steel products,

- Common Material: CF8,CF8M(ASTM A743/A743M)
- Optional Material: CD3MN(ASTM A890/A890M)
- Non-standard Material: Other requested casting stainless steel material which are similar to CF8,CF8M

2. The stainless steel products(sheet/tube/bar etc.):

- Common Material: 304,316(ASTM A276/A276M, ASTM A666, ASTM A269/A269M)
- Optional Material: 2205(ASTM A276/A276M, ASTM A666, ASTM A269/A269M)
- Non-standard Material: Other requested material which are similar to 304,316

3. Material Description:

Point-fixed glass curtain wall fittings, exposed as a bare outside products, are mainly made of the stainless steel with bright appearance and good corrosion resistance.KIN LONG is a supplier of high-end glass curtain wall fittings. Most of the products are made of high-end stainless steel.

The typical material are austenitic stainless steel 316,CF8M and duplex stainless steel 2205,CD3MN.

316 and 2205 are the stainless steel grades based on American standard which be applicable for profiles (sheet,tube,bar). Especially the material 316 is high-end and commonly used all over the world. It has excellent mechanical properties and corrosion resistance capacity to meet the demands of most projects. It is mostly common used material for point-fixed products currently, but it is not recommended to use in the worse environment area such as swimming pools, seaside. In these cases,high duplex stainless steel 2205 can be selected.

Material stainless steel 2205 has the advantages compared with stainless steel 316 as following:

- 1) Yield strength is 2 times higher than common austenitic stainless steel. Having enough ductility and toughness to forming to. With the same bearing force, the accessories shape will smaller and more exquisite when take the duplex stainless steel .
- 2) Compared with the austenitic stainless steel, it has bigger yield strength, higher material utilization ratio, making for saving the material.
- 3) Compared with the austenitic stainless steel, which has the similar alloy content, its surface homogeneous corrosion, pitting corrosion and intergranular corrosion are super excellence and can apply to wicked surroundings.
- 4) Having the superior anti-stress corrosion cracking (SCC) ability, generally, it won't lead to stress corrosion cracking (the using temperature is lower than its critical temperature) when being in the chloride ion environment (seaside, natatorium).
- 5) Material 2205 coefficient of linear expansion is close to carbon steel and reinforced concrete. When taking as prestressing force rod, the thermal stress will not effect too much beyond action of thermal difference.
- 6) No needs preheating before welding. No need heating treatment after welding. It can weld with carbon steel.

Most of the point-fixed glass fittings select the precision casting process because of the diversity appearance. Due to the different manufacturing process between casting milling and rolling,KIN LONG selects the CF8M and CD3MN to produce spider with casting process , while the material 316 and 2205 can not be so prefect to present corrosion performance to use for casting process .

Corrosion resistance of stainless steel is mainly formed by surface passivation film and promoting the electrode potential from the iron-chromium alloy, therefore the production process of the stainless steel should include the heat treatment to make the alloy composition uniform. Any kind of scratch and damage on the surface should be avoided. To keep the corrosion resistance of stainless steel,please note the following :

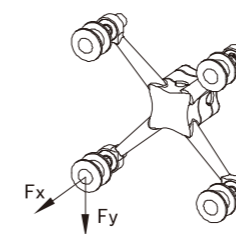
- Heat treatment should be carried out after casting according to requirements
- Stainless steel grades should be selected reasonably according to the environment
- Selecting the smooth surface treatment
- Taking product protection during the installation
- The design and application of the product should be avoided fouling and water accumulation.
- Regularly cleaning to avoid the dirty

### II . Product Executive Standard

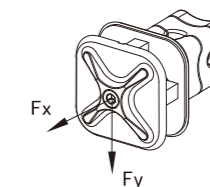
| Products Series               | Executive Standard  |
|-------------------------------|---|
| Spider, Routil                | Point-fixed Device for Construction Curtain Wall JG/T138-2010     |
| Clamp                         | Point-fixed Device for Construction Curtain Wall GB/T 37266-2018  |
| Strut Bar                     | Stainless Steel Strut Bar DB44/T 1053-2012                        |
| Stainless Steel Tension Cable | Stainless Steel Tension Cable YB/T 4294-2012                      |
| Stainless Steel Strand        | Stainless Steel Wire Strand GB/T 25821-2010                       |
| Stainless Steel Swaged Anchor | Swaged Fitting of Steel Strand for Curtain JG/T 201-2007          |
| Stainless Steel Tension Rod   | Steel Tension Rod Memberfor Building JG/T 389-2012                |
| Suspension Clamp              | The Suspending Clamp for Suspended Glass Curtain Wall JG 139-2017 |

## Common Calculation Formula

### I . Calculation of radial and axial load for model selection



$$\begin{matrix} n_x=4 \\ n_y=2 \end{matrix}$$



$$\begin{matrix} n_x=1 \\ n_y=1 \end{matrix}$$

1.The Weight of The Glass Panel

$$G_k = T \times B \times H \times \rho$$

$G_k$ —The weight of the glass panel(N);

$T$ —The valid thickness of the glass(mm);

$B$ — The width of the glass(m);

$H$ —The height of the glass(m);

$\rho$ — The gravity density of the glass(Default: 25.6);

2.Radial Force

$$F_y = 1.2 G_k / n_y$$

$F_y$ —The radial force for a single point(N);

$G_k$ —The weight of the glass panel(N);

$n_y$ —y Number of force bearing point in y direction, see attached drawing for details;

3.Axial Force

$$F_x = q \times B \times H / n_x$$

$F_x$ —The axial force for a single point(N);

$q$ —Even distributed design value of the load on the glass panel,mainly supposed to be the wind load (N/m<sup>2</sup>) ;

$B$ —The width of the glass(m);

$H$ —The height of the glass(m);

$n_x$ — x Number of force bearing point in x direction, see attached drawing for details;

### II . Calculation for tightening torque of squeezing cable bolt (Deduced by *Mechanical Design Handbook*)

$$T = 1.3 f d / n$$

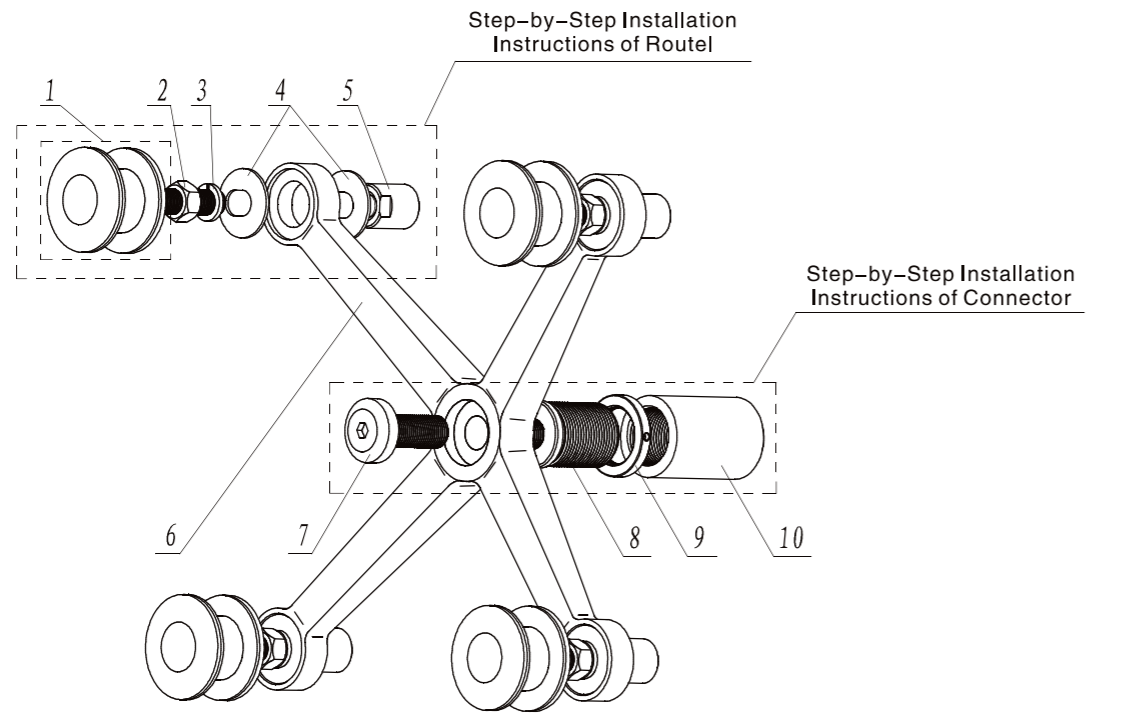
In formula  $T$ —Tightening torque of single bolt(N • mm)

$f$ —The friction force that accessory load at the project node(N)

$d$ —Nominal diameter of squeezing cable bolt(mm)

$n$ —Number of squeezing cable bolt

## Spider Fitting Installation



- |                            |                     |                |                             |                              |
|----------------------------|---------------------|----------------|-----------------------------|------------------------------|
| 1、The front part of Routel | 3、 Spring washer    | 5、 Bespoke nut | 7、 Bolt                     | 9、 Locking ring              |
| 2、 hexagon nut             | 4、 eccentric washer | 6、 Spider      | 8、 Internal Threaded sleeve | 10、 External threaded sleeve |

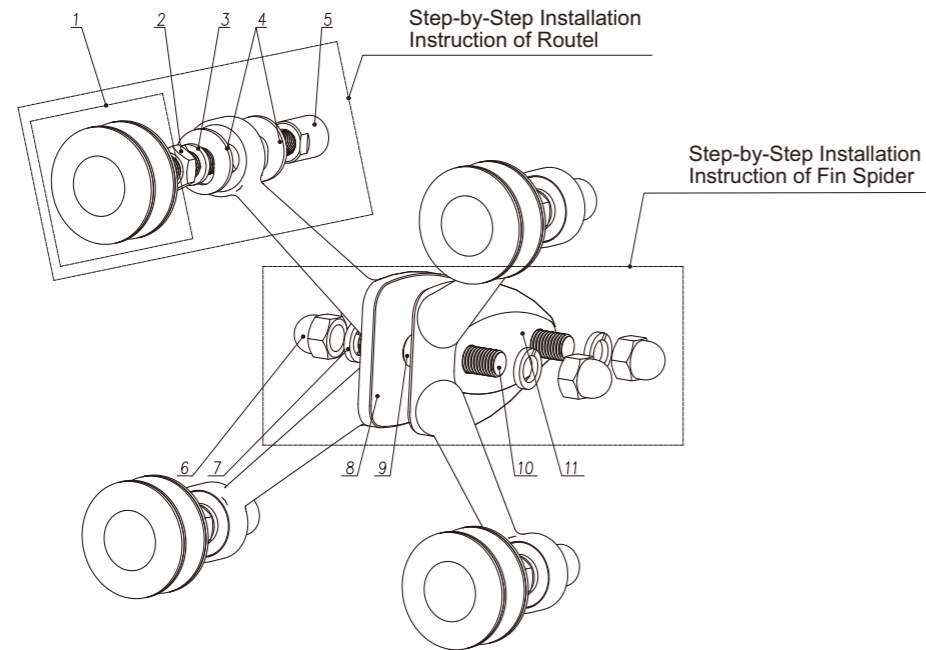
### Installation steps:

1. Welding the external threaded sleeve on the steel structure after talking off the internal threaded sleeve
2. Adjusting internal threaded sleeve to appropriate position. then tighten up locking ring.
3. Putting Bolt through the center hole of spider.
4. Adjusting installation position of spider, then compressing spider tightly with bolt.
5. Dismantling parts like screw nut and eccentric washer, ect, marking the front part of routel fixed on the glass.
6. Pre-adjusting hexagon nut, spring washer, eccentric washer to the required position for installation.
7. Eccentric washer to be placed on the spider and adjusted according to the requirement of installation, slot hole should be transverse when loading and. should be vertical without loading, and the long hole faces down.
8. Putting the thread rod of routel through the hole of spider, and adjusting to appropriate position, then tightening bespoke nut.
9. Finally, sealing the surrounding between routel and glass with sealant to prevent from leaking water.

## Point-Fixed Glass Curtain Wall System (steel structure)



## Fin Spider Fitting Installation

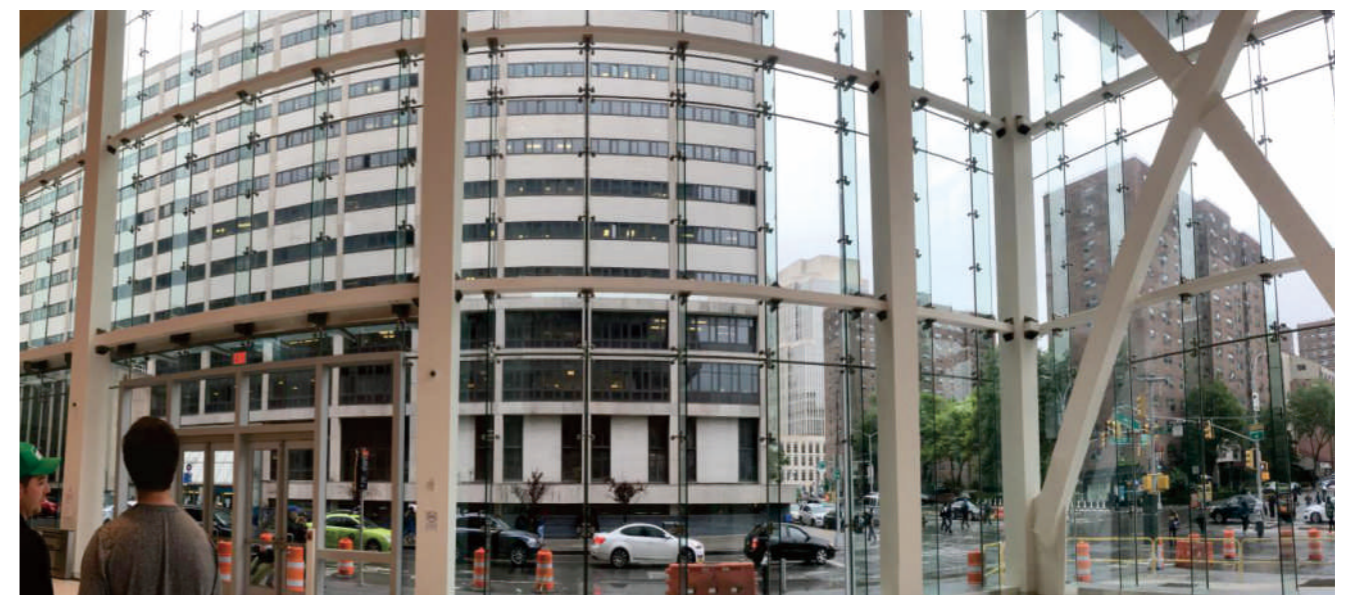
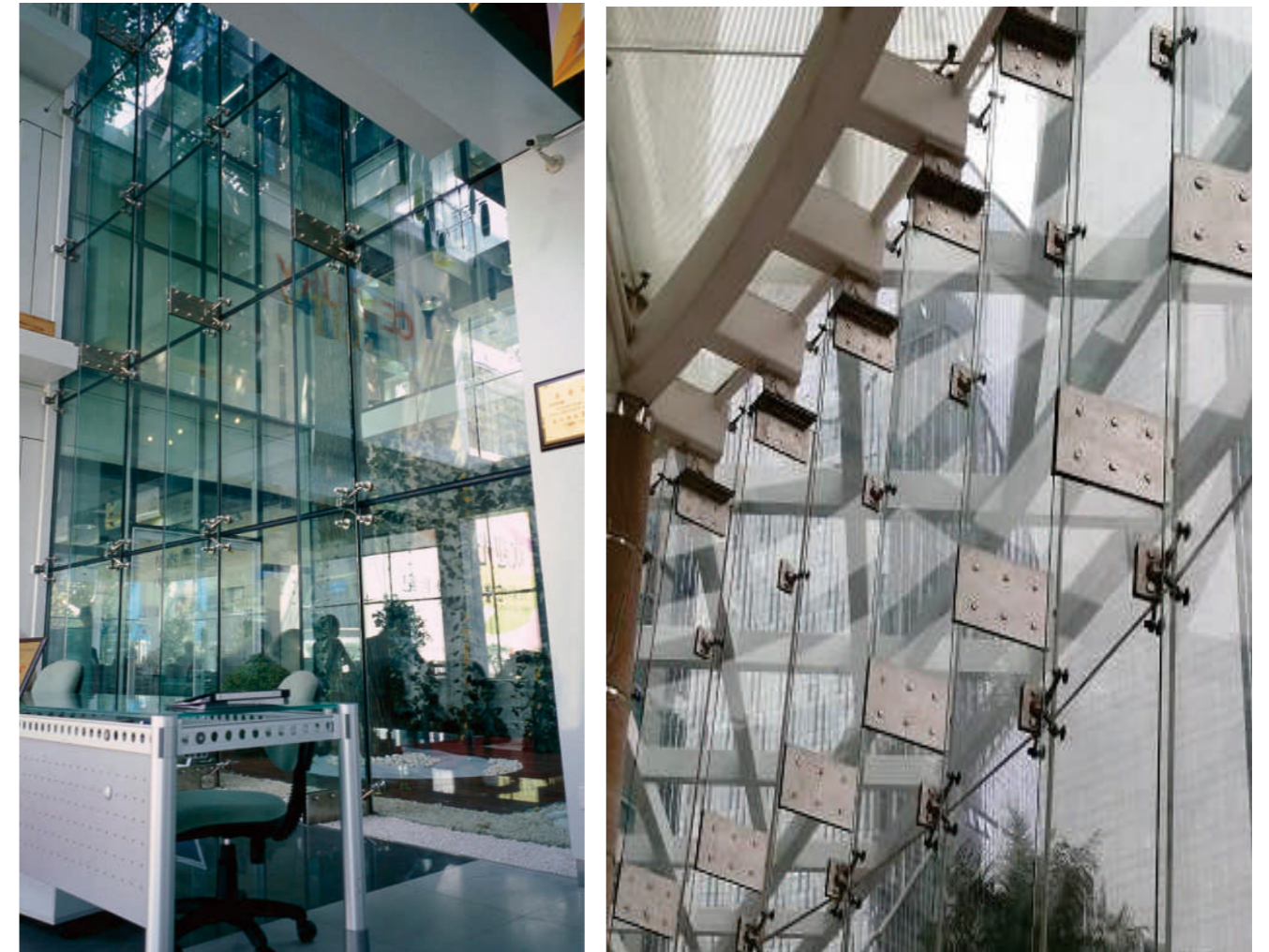


- 1、 The front part of Routel    2、 Hexagon nut    3、 Spring washer    4、 Eccentric washer    5、 Bespoke nut  
 6、 Cap nut    7、 Spring washer    8、 Rubber washer    9、 Nylon sleeve    10、 Screw    11、 Fin Spider

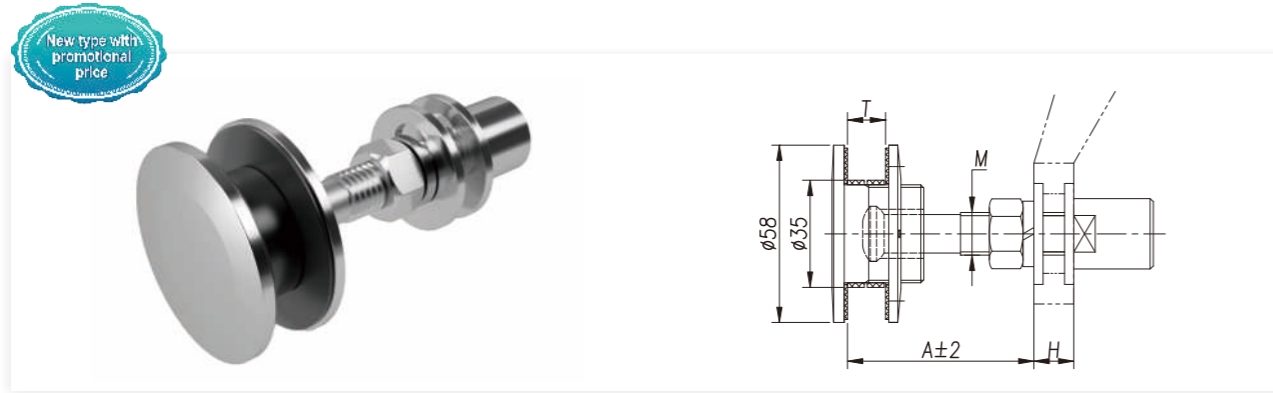
### Installation steps:

1. Take off the screw assembly 6-9.
2. Put the nylon sleeve into the fin glass hole, a set of spider and rubber washer to cover on the fin glass (or steel structure), then the screw assembly with spring washer and cap nut to be screwed through the base plate of the fin spider and fin glass (or steel structure)
3. The other rubber washer and fin spider to sleeve on the other side of the exposed screw, then install the spring washer and cap nut .
4. To install the other set of screw assembly with the same method. Use hexagon wrench to fix the screw when compress the fittings, tighten several times slowly until the nut is fixed.
5. Take off the bespoke barrel nut, eccentric washer, etc, the front part of the routel to be installed & fixed on the glass.
6. Adjust the hexagon nut, spring spider, eccentric washer to the proper position for installation.
7. Eccentric washer to be placed on the spider and adjusted according to the requirement of installation, slot hole should be transverse when loading and. should be vertical without loading, and the long hole faces down.
8. Putting the threaded rod of routel through the ear hole of the spider, adjusting to the proper position and tightening the barrel nut.
9. Finally, sealing the surrounding between the routel and the glass with sealant to prevent from leaking water.

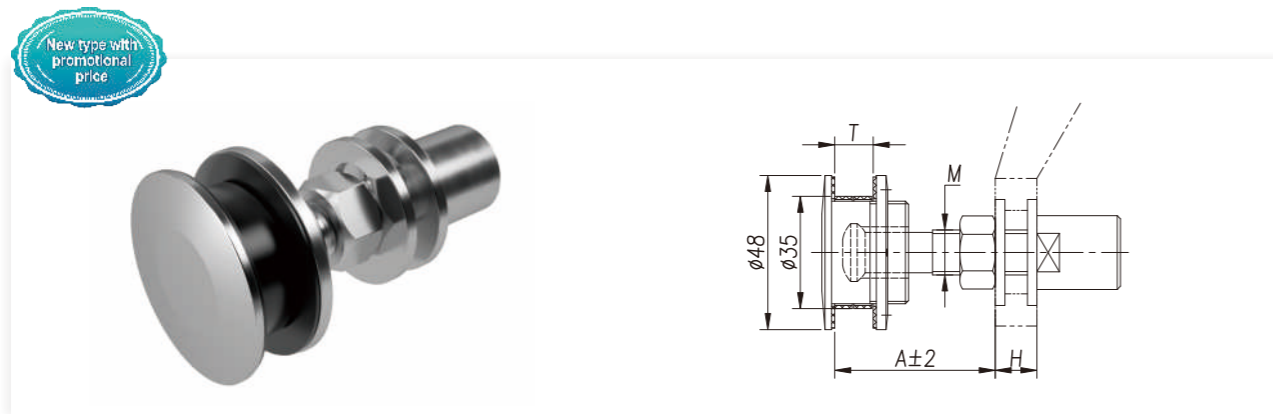
## Point-Fixed Glass Curtain Wall System (Fin structure)



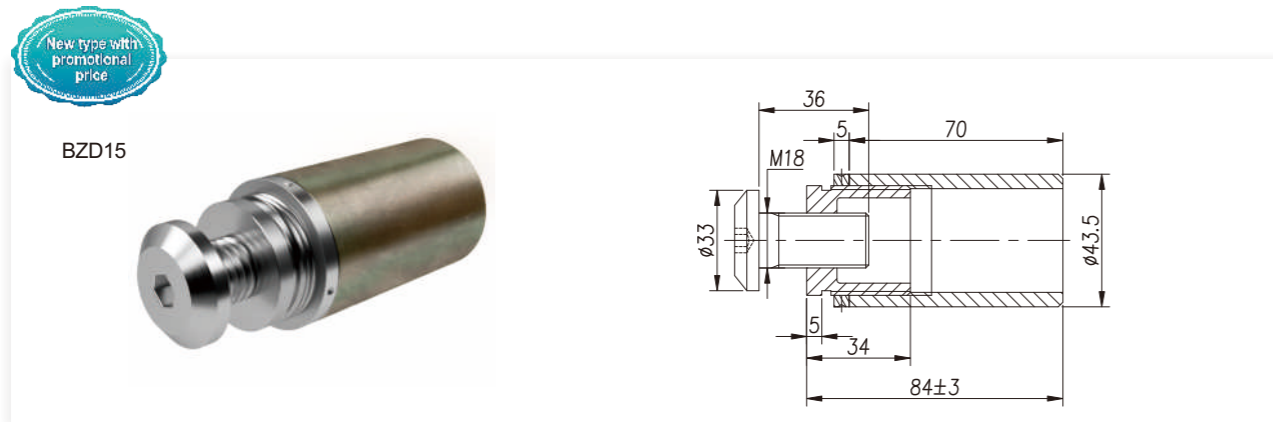
## Integrated Flat Cap Routel



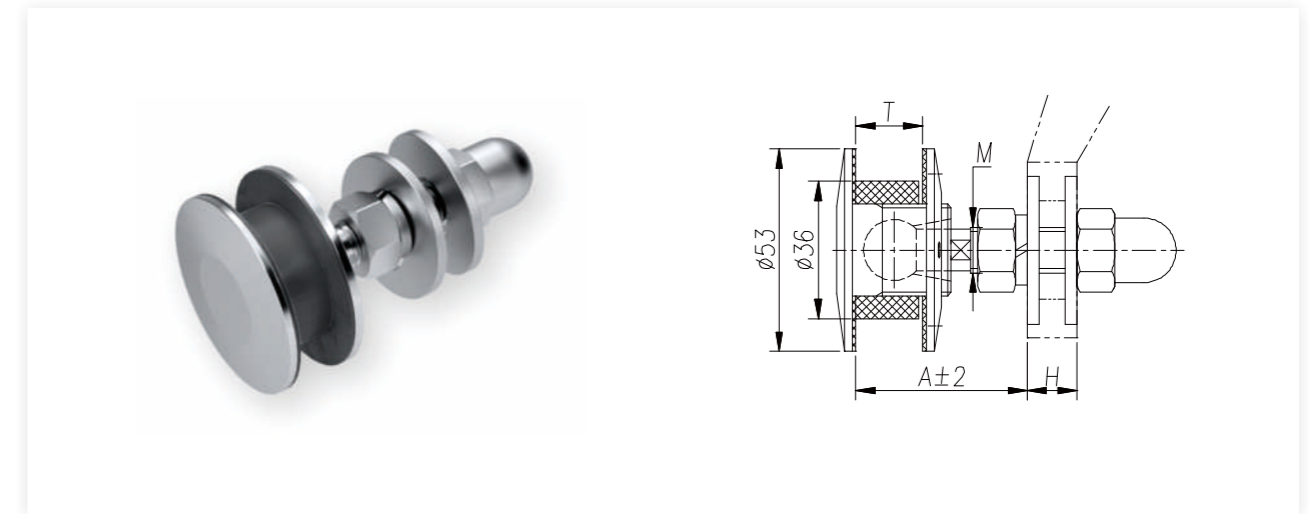
| Size Model | A  | M   | T    | H | The Available Rotation Angle | The Recommended Value of Load Capacity (N) | Main material: Ordinary304 |     |
|------------|----|-----|------|---|------------------------------|--|----------------------------|-----|
|            |    |     |      |   |                              |  | Fx≤                        | Fy≤ |
| BTFD11     | 61 | M14 | 8-18 | — | ±5°                          | 4500                                       | 2000                       |     |



| Size Model | A  | M   | T     | H | The Available Rotation Angle | The Recommended Value of Load Capacity (N) | Main material: Ordinary304 |     |
|------------|----|-----|-------|---|------------------------------|--|----------------------------|-----|
|            |    |     |       |   |                              |  | Fx≤                        | Fy≤ |
| ATFD11     | 50 | M14 | 12-16 | — | ±5°                          | 4500                                       | 2000                       |     |

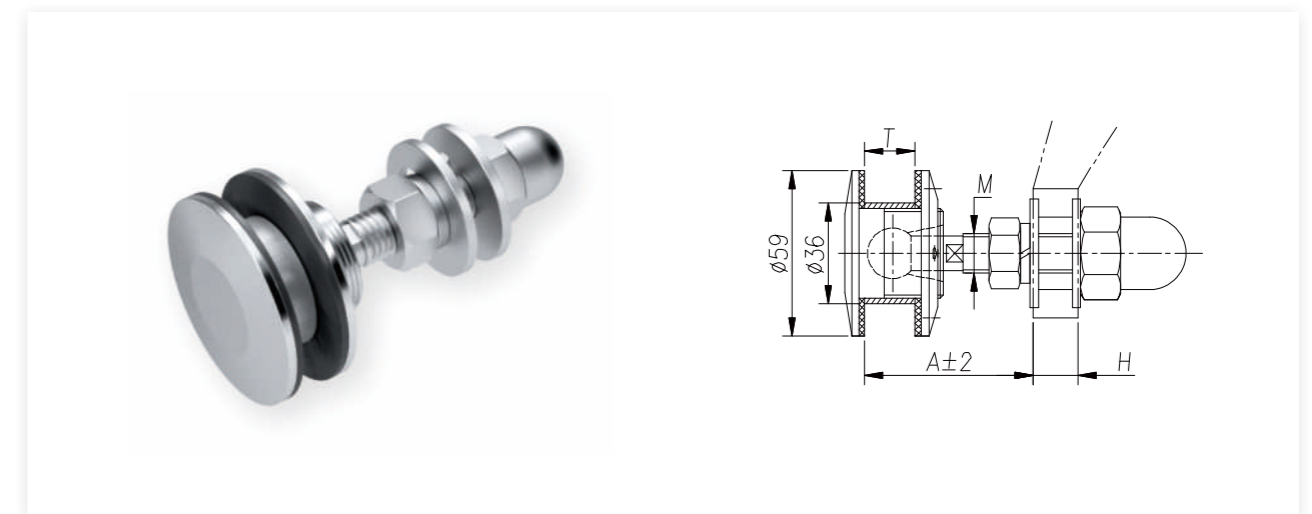


Note:1、Material: Ordinary 304+Q235  
 2、The surface treatment of the base is for anti-corrosion during storage and transportation, extra anti-corrosion surface treatment is needed after installation.



Note: The ball head bolt is not removable since the base seat and the ball head bolt is integrated.

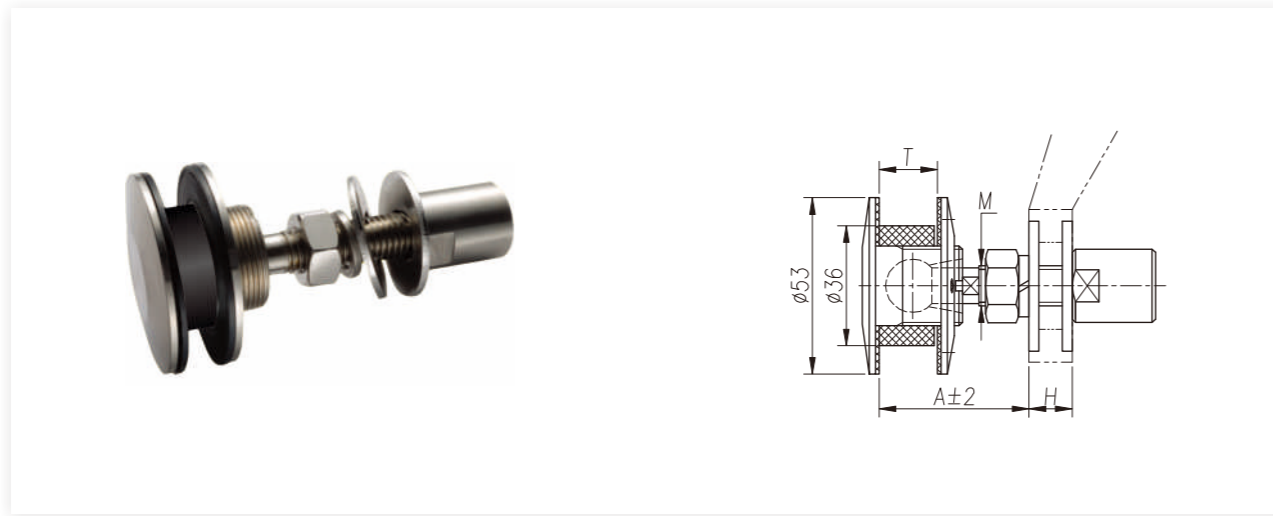
| Size Model | A  | M   | T     | H | The Available Rotation Angle | The Recommended Value of Load Capacity (N) | Main material: 316、304 |     |
|------------|----|-----|-------|---|------------------------------|--|------------------------|-----|
|            |    |     |       |   |                              |  | Fx≤                    | Fy≤ |
| ATF11X     | 45 | M12 | 8-18  | — | ±5°                          | 3000                                       | 1500                   |     |
| ATF12X     | 53 | M12 | 18-26 | — | ±5°                          |  |                        |     |



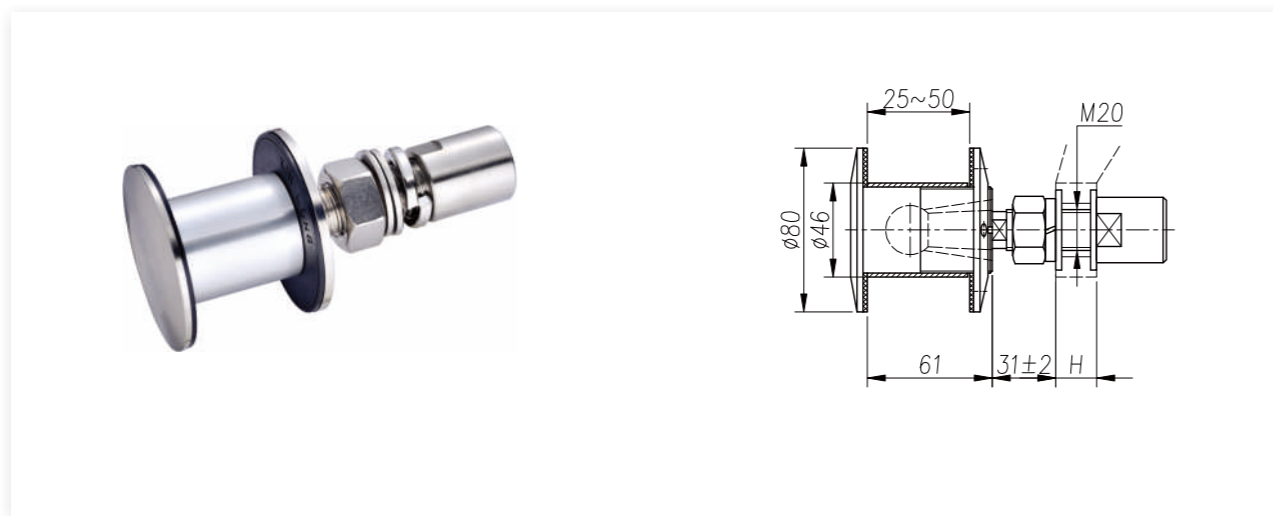
Note: The ball head bolt is not removable since the base seat and the ball head bolt is integrated.

| Size Model | A  | M   | T     | H | The Available Rotation Angle | The Recommended Value of Load Capacity (N) | Main material: 316、304 |     |
|------------|----|-----|-------|---|------------------------------|--|------------------------|-----|
|            |    |     |       |   |                              |  | Fx≤                    | Fy≤ |
| TF11X      | 60 | M14 | 8-18  | — | ±5°                          | 4500                                       | 2000                   |     |
| TF12X      | 65 | M14 | 18-26 | — | ±5°                          |  |                        |     |

## Flat Cap Routel (Customization)

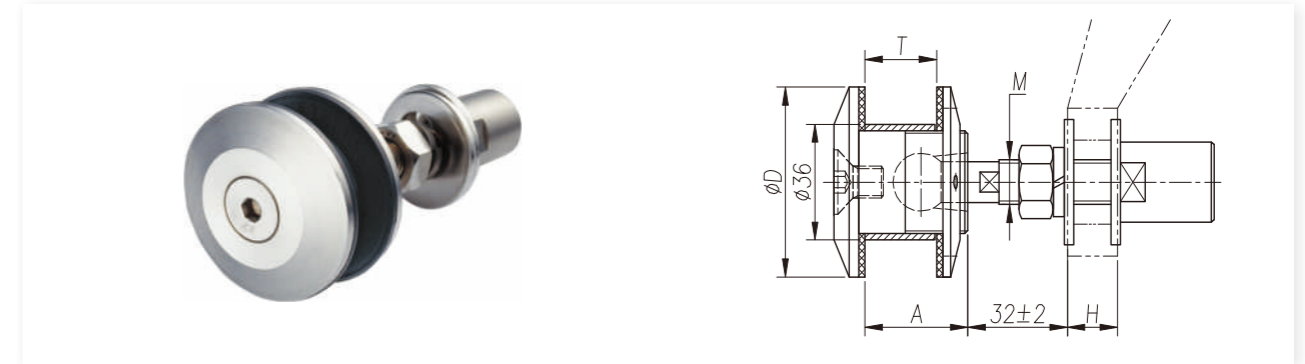


| Size Model | A  | M   | T     | H | The Available Rotation Angle | The Recommended Value of Load Capacity (N) | Main material: 316、304 |     |
|------------|----|-----|-------|---|------------------------------|--|------------------------|-----|
|            |    |     |       |   |                              |  | Fx≤                    | Fy≤ |
| ATF13      | 69 | M14 | 26-40 | — | ±5°                          | 3500                                       | 2000                   |     |
| ATF14      | 78 | M16 | 40-46 | — | ±5°                          | 4000                                       | 2500                   |     |



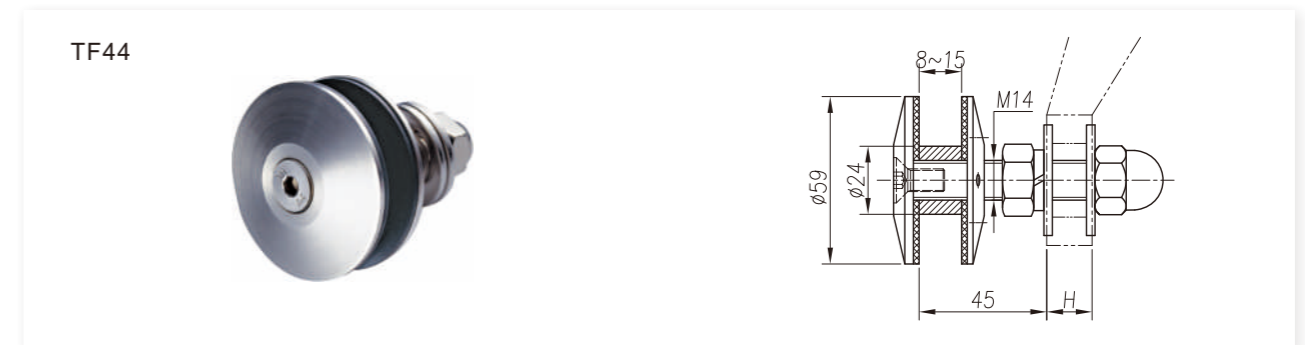
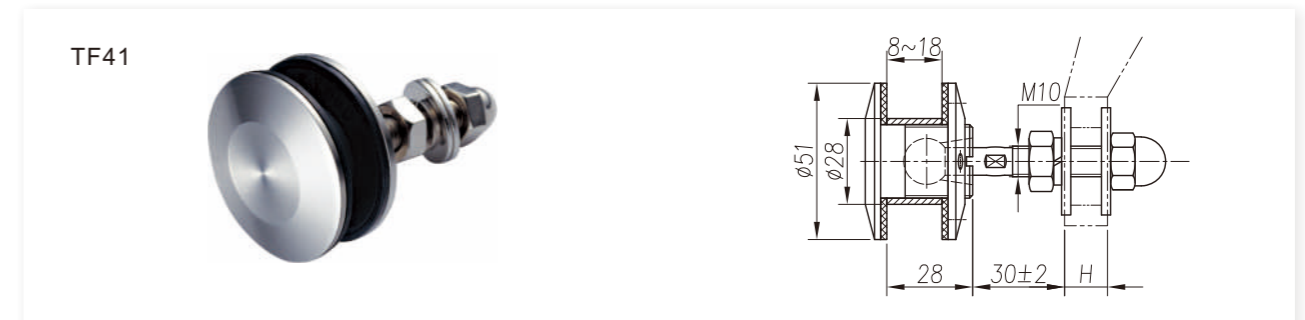
Note: Customization means that the product does not have inventory and needs to be produced and supplied according to the order requirements.

| The Recommended Value of Load Capacity (N) | Model | Main material: 316、304 |      | The Available Rotation Angle |
|--|-------|------------------------|------|------------------------------|
|  |       | Fx≤                    | Fy≤  |                              |
| 7000                                       | TF25  | 3500                   | 2000 | ±5°                          |



Note: 1、Fastening glue is suggested to used when installing the countersunk socket head cap screw of exterior installation routel.  
2、Customization means that the product does not have inventory and needs to be produced and supplied according to the order requirements.

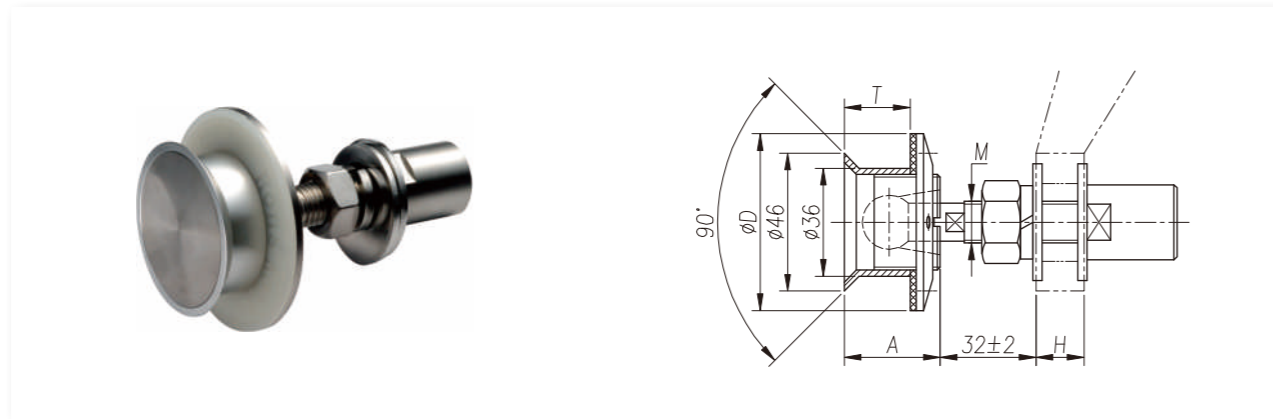
| Size Model | A  | D  | M   | T     | H | The Available Rotation Angle | The Recommended Value of Load Capacity (N) | Main material: 316、304 |     |
|------------|----|----|-----|-------|---|------------------------------|--|------------------------|-----|
|            |    |    |     |       |   |                              |  | Fx≤                    | Fy≤ |
| TF32       | 33 | 59 | M14 | 15-23 | — | ±5°                          | 4500                                       | 2000                   |     |
| TF33       | 50 | 59 | M16 | 23-40 | — | ±5°                          | 6000                                       | 2500                   |     |



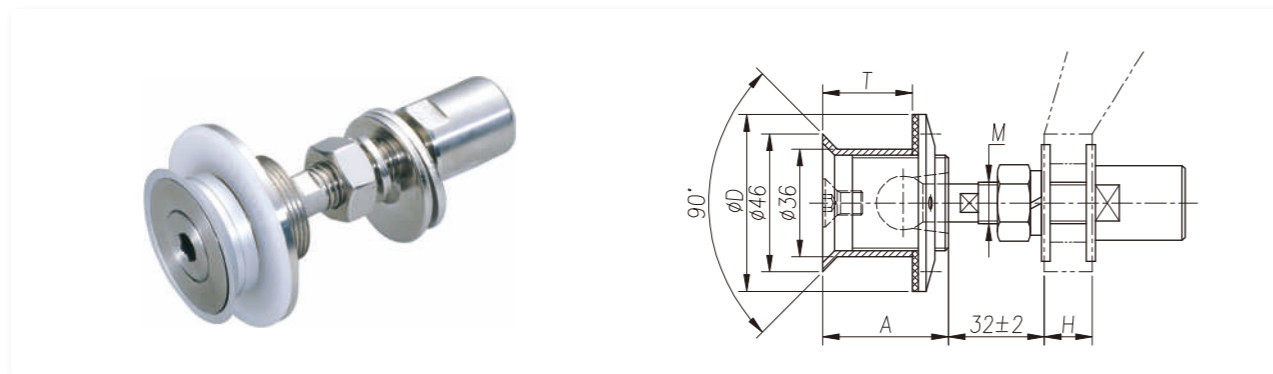
Note: 1、Fastening glue is suggested to used when installing the countersunk socket head cap screw of exterior installation routel.  
2、Customization means that the product does not have inventory and needs to be produced and supplied according to the order requirements.

| The Recommended Value of Load Capacity (N) | Model | Main material: 316、304 |      | The Available Rotation Angle |
|--|-------|------------------------|------|------------------------------|
|  |       | Fx≤                    | Fy≤  |                              |
| 2500                                       | TF41  | 1200                   | 2000 | ±5°                          |
| 4500                                       | TF44  | 2000                   | —    | —                            |

## Countersunk Routell (Customization)



| Model | Size | A  | D  | M   | T    | H | The Available Rotation Angle | The Recommended Value of Load Capacity (N) | Main material: 316、304 |     |
|-------|------|----|----|-----|------|---|------------------------------|--|------------------------|-----|
|       |      |    |    |     |      |   |                              |  | Fx≤                    | Fy≤ |
| TC11  |      | 32 | 59 | M14 | 8-22 | — | ±5°                          | 4500                                       | 2000                   |     |



Note: 1. Fastening glue is suggested to used when installing the countersunk socket head cap screw of exterior installation routell.  
2. Customization means that the product does not have inventory and needs to be produced and supplied according to the order requirements.

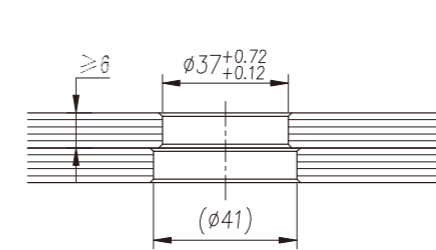
| Model | Size | A  | D  | M   | T     | H | The Available Rotation Angle | The Recommended Value of Load Capacity (N) | Main material: 316、304 |     |
|-------|------|----|----|-----|-------|---|------------------------------|--|------------------------|-----|
|       |      |    |    |     |       |   |                              |  | Fx≤                    | Fy≤ |
| TC32  |      | 42 | 59 | M14 | 15-32 | — | ±5°                          | 4500                                       | 2000                   |     |
| TC33  |      | 50 | 59 | M16 | 30-40 | — | ±5°                          | 6000                                       | 2500                   |     |

Selection description for aluminium spacer (sleeve)and eccentric washer.

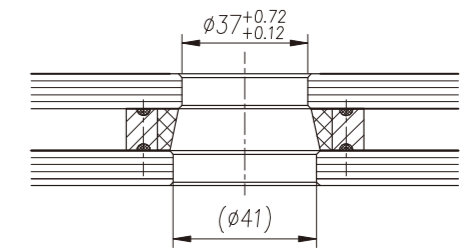
|  |                                      |
|--|--------------------------------------|
|  |                                      |
| Specification of eccentric washer  | Length L of aluminium spacer(sleeve) |
| $(d-1) \times (D+0.5)$ D=diameter of screw   | $L=T-2$ (Keep one decimal)           |
| Eg: If $T=17.52, d=40, D=14$ , then the specification of eccentric washer is $(40-1) \times (14+0.5)$ , that is $39 \times 14.5$ ; Aluminum spacer length $L=15.5$ |                                      |

## Glass Drilling and Alu. Sleeve

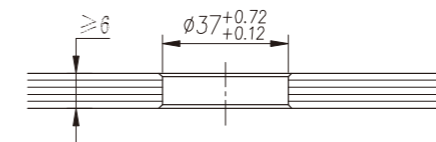
Suitable for: TF32、TF33



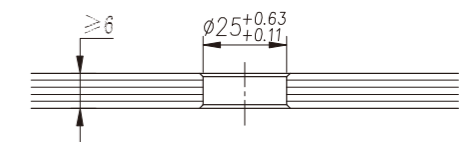
Suitable for: TF33



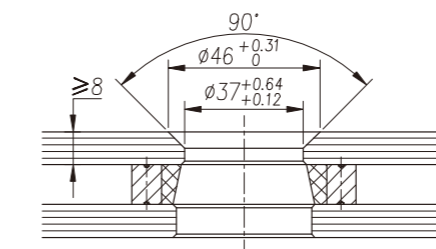
Suitable for: ATF11X、ATF12X、TF11X、TF12X、TF32



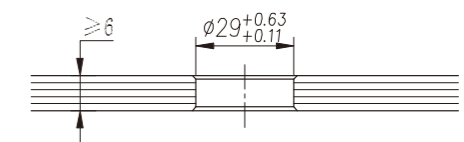
Suitable for: TF44



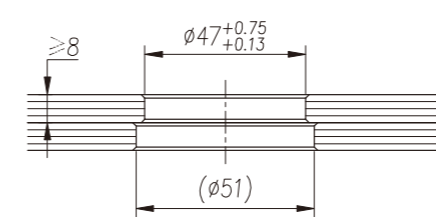
Suitable for: TC32、TC33



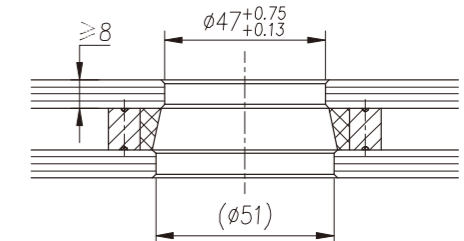
Suitable for: TF41



Suitable for: TF25



Suitable for: TF25

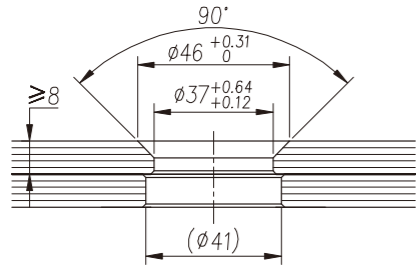


Note: 1. The above drilling dimension is only for reference;  
2. Considering the potentially manufacturing error for laminated glass, different drilling diameter of the two panels is recommended.

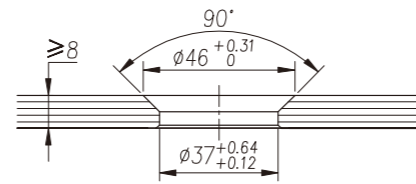


## Spliced Routel (Customization)

Suitable for: TC11、TC32、TC33

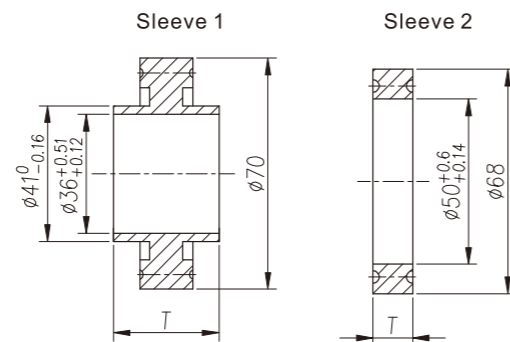


Suitable for: TC11、TC32

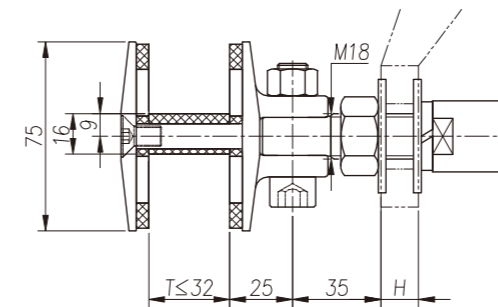


Note: 1. The above drilling dimension is only for reference;  
2. Considering the potentially manufacturing error for laminated glass, different drilling diameter of the two panels is recommended.

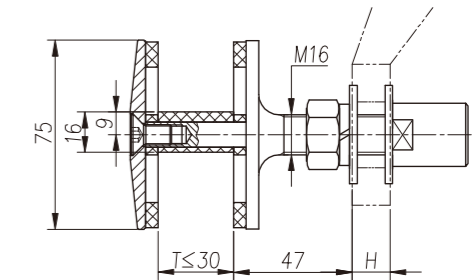
Alu, Sleeve for double glazing



TJ11

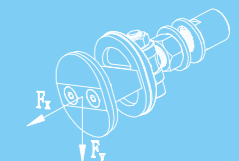


TJ15

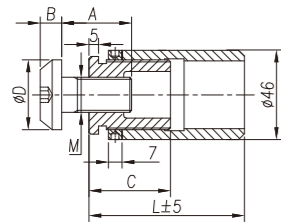


Note: 1. Fastening glue is suggested to be used when installing the countersunk socket head cap screw of exterior installation routel.  
2. Customization means that the product does not have inventory and needs to be produced and supplied according to the order requirements.

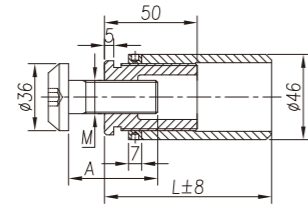
| The Recommended Value of Load Capacity (N) | Model | Main material: CF8M、CF8 |      |
|--|-------|-------------------------|------|
|  |       | Fx ≤                    | Fy ≤ |
|  | TJ11  | 6000                    | 2500 |
|  | TJ15  | 6000                    | 2000 |



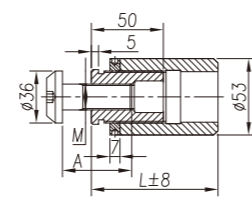
## Connector



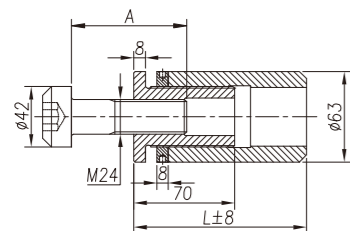
| Size Model | A  | B  | C  | M   | D  | L  |
|------------|----|----|----|-----|----|----|
| AZ15       | 36 | 11 | 42 | M18 | 36 | 90 |



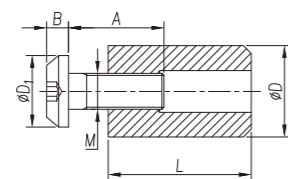
| Size Model | A  | M   | L  |
|------------|----|-----|----|
| Z15        | 48 | M18 | 90 |
| Z15L1      | 69 | M18 | 90 |
| Z16        | 54 | M20 | 90 |



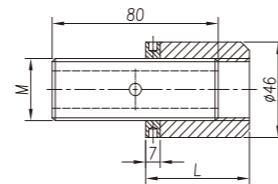
| Size Model | A  | M   | L  |
|------------|----|-----|----|
| Z15(53)    | 48 | M18 | 90 |



| Size Model | A   | L   |
|------------|-----|-----|
| Z17        | 80  | 120 |
| Z17L       | 100 | 120 |



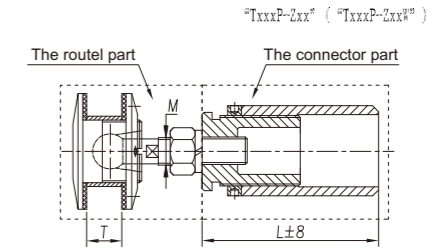
| Size Model | A  | B  | M   | D  | D1 | L  |
|------------|----|----|-----|----|----|----|
| Z35        | 48 | 11 | M18 | 46 | 36 | 72 |
| Z36        | 54 | 11 | M20 | 46 | 36 | 72 |
| Z37        | 80 | 20 | M24 | 63 | 42 | 72 |



| Size Model | M       | L  |
|------------|---------|----|
| Z38        | M30X1.5 | 50 |

Note: The surface treatment of the base is for anti-corrosion during storage and transportation, extra anti-corrosion surface treatment is needed after installation.

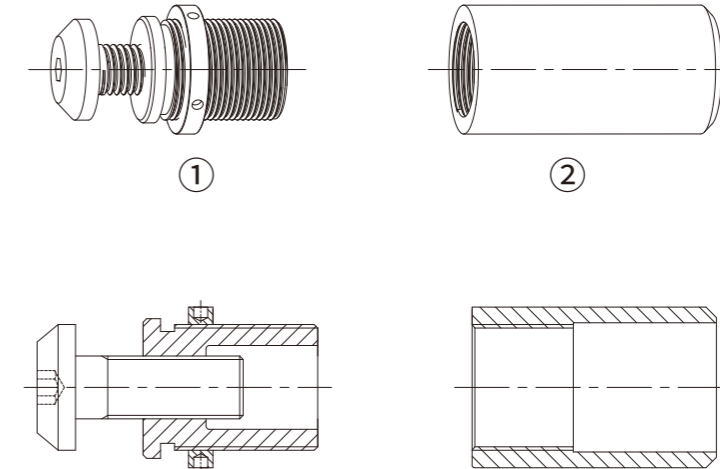
## P-Z Series



|      | The route part | T     | M   | The connector part | M   | L  | Fx ≤ (N) | Fy ≤ (N) | Model      |
|------|----------------|-------|-----|--------------------|-----|----|----------|----------|------------|
| FP-Z | TF11XP         | 8-18  | M14 | Z12                | M14 | 90 | 4500     | 2000     | TF11XP-Z12 |
|      | TF12XP         | 18-26 | M14 | Z12                | M14 | 90 | 4500     | 2000     | TF12XP-Z12 |
|      | TF32P          | 15-23 | M14 | Z12                | M14 | 90 | 4500     | 2000     | TF32P-Z12  |
|      | TF33P          | 23-40 | M16 | Z13                | M16 | 90 | 6000     | 2500     | TF33P-Z13  |

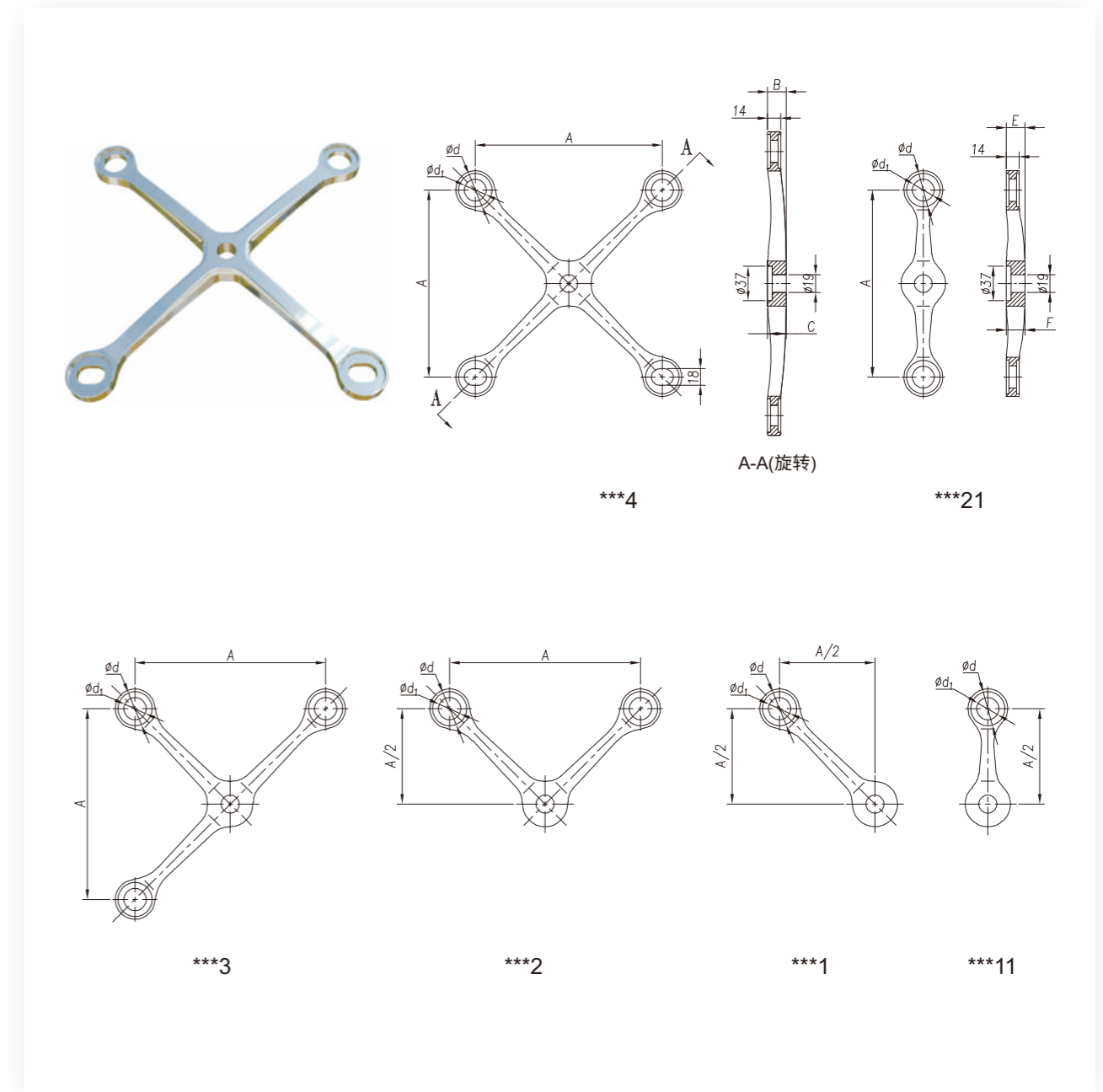
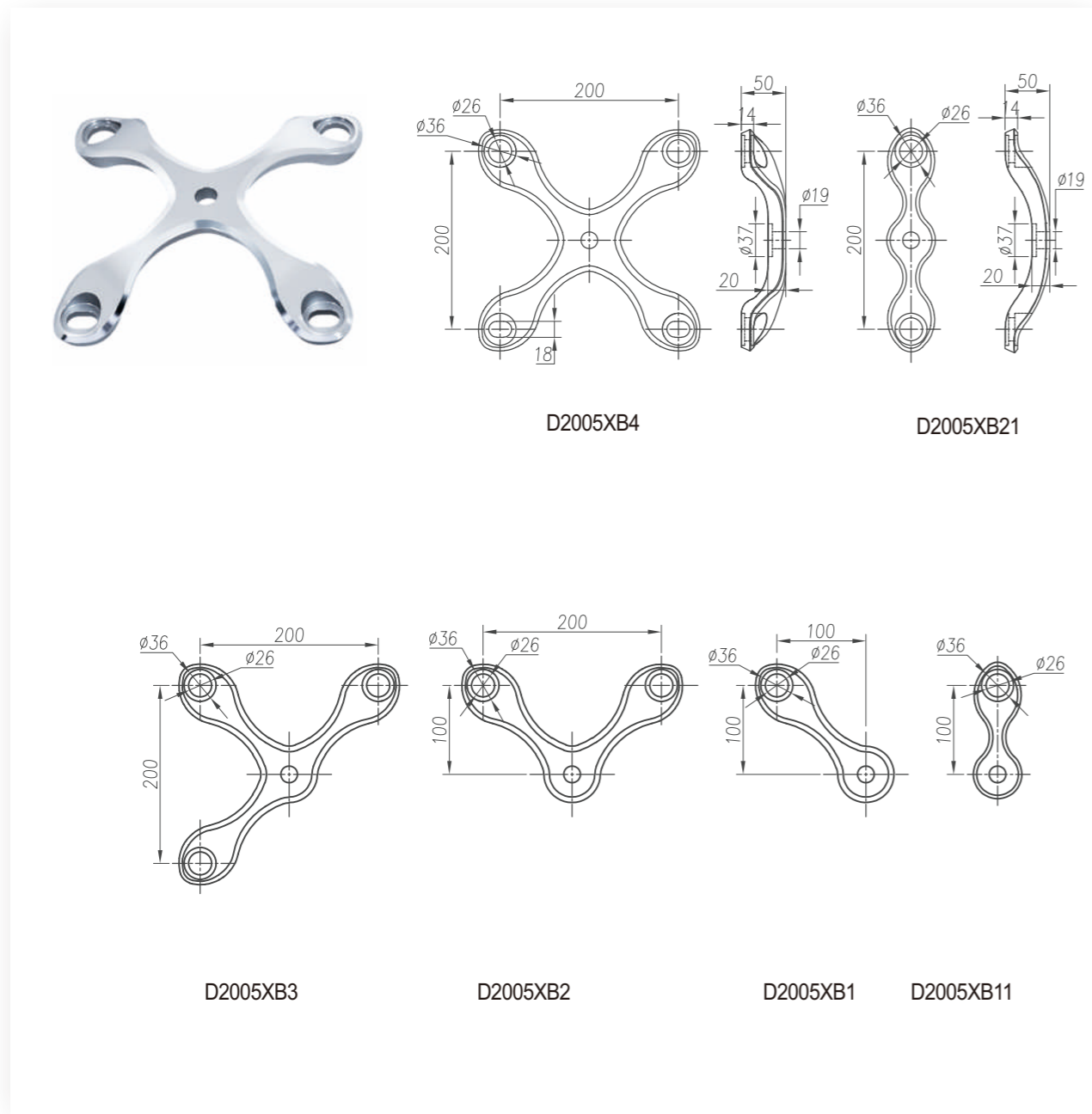
Note: 1. The standard length of connector is L=90mm.  
2. The surface treatment of basement is for anti-corrosion during storage and transportation, another anti-corrosion surface treatment is must after installation.

## Connector assembly



Note: The connector without the outer screw sleeve can be ordered directly according to the standard code, and it is sufficient to note "excluding outer screw sleeve" (② is the outer screw sleeve)

## Spider (Customization)

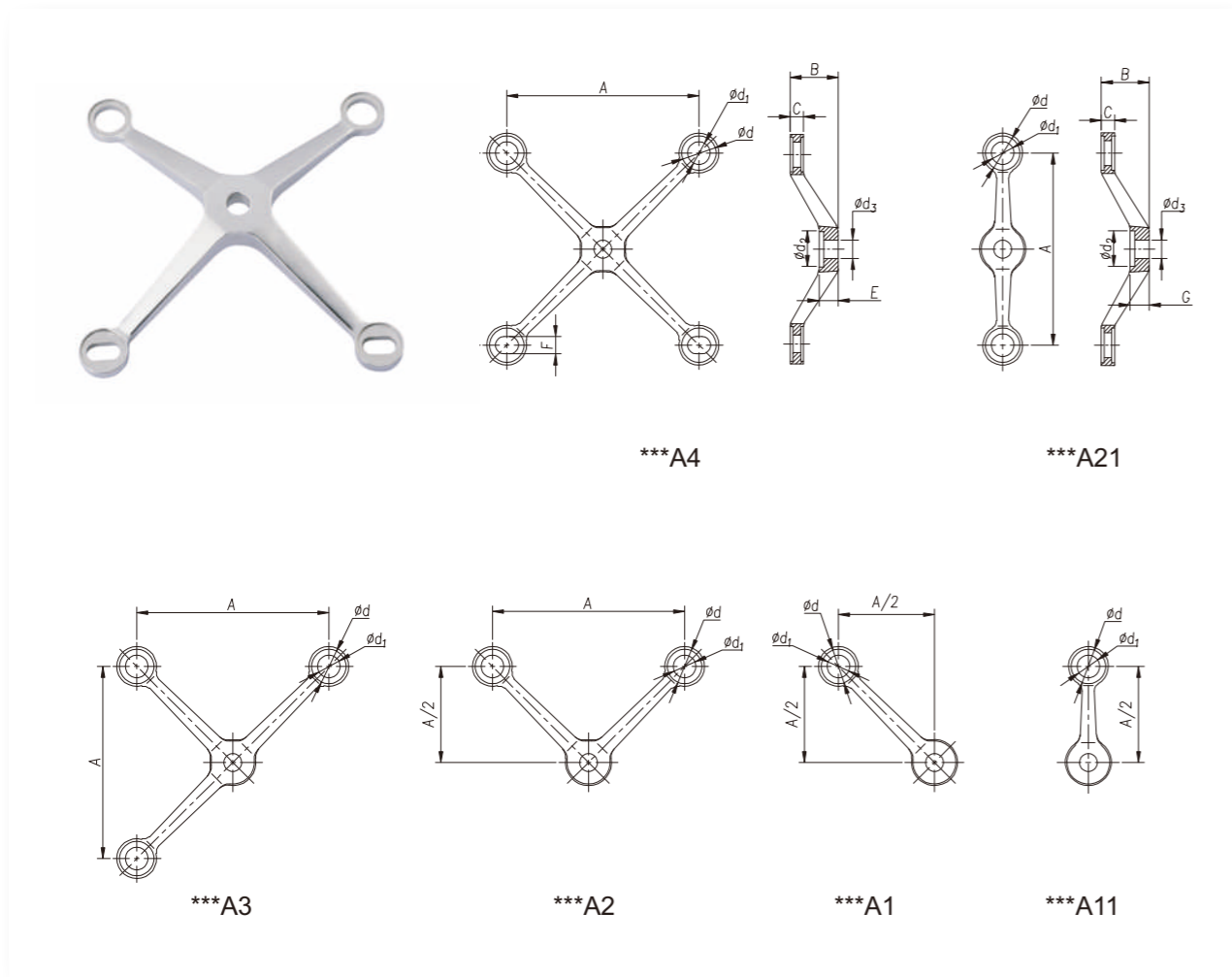


Note: 1、 Customization means that the product does not have inventory and needs to be produced and supplied according to the order requirements.

Note: 1、 Spider model is consisted of Series number + Arm Code, like GZ250XFD4, GZ250XFD21 and so on.  
2、 Customization means that the product does not have inventory and needs to be produced and supplied according to the order requirements.

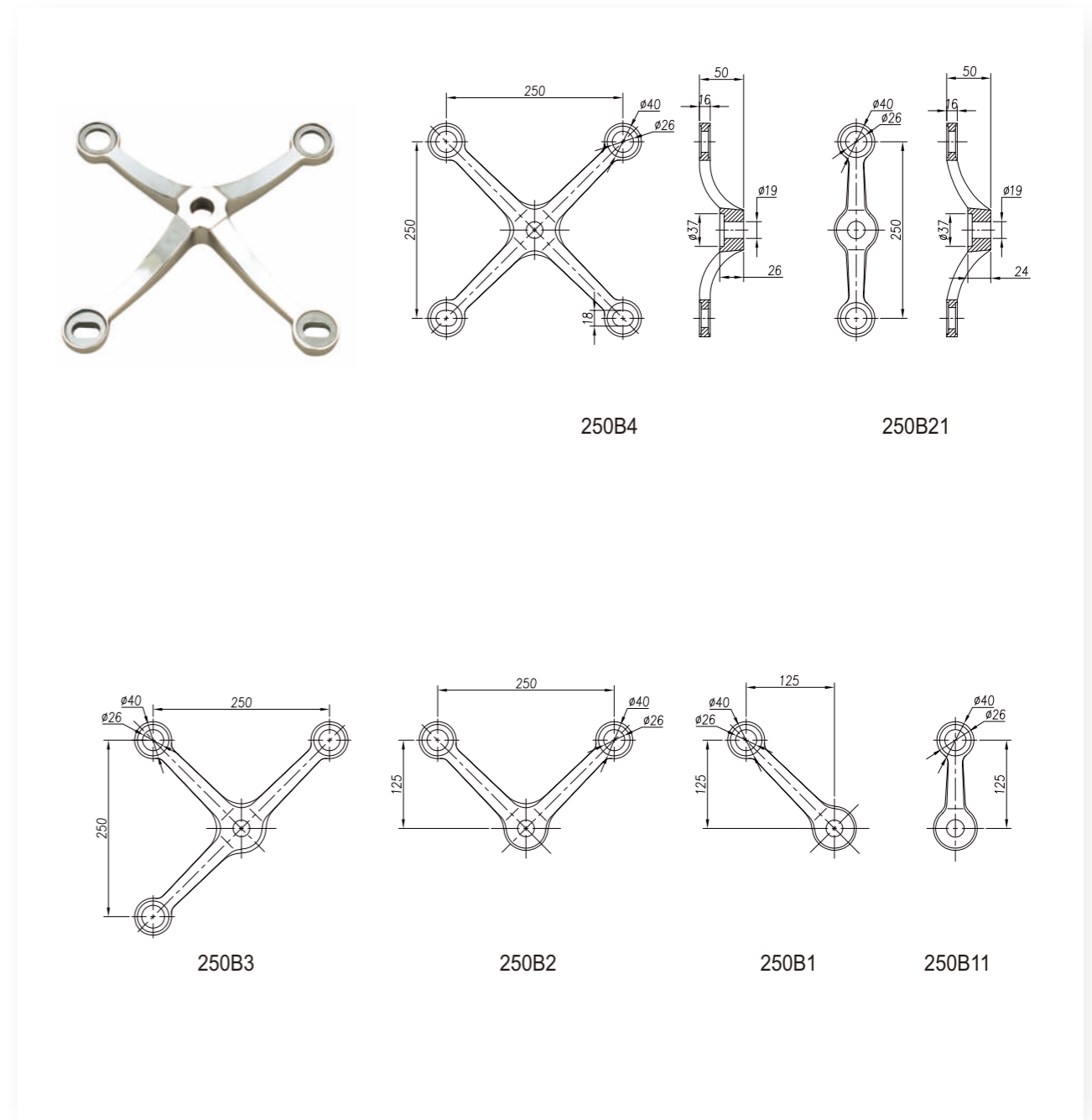
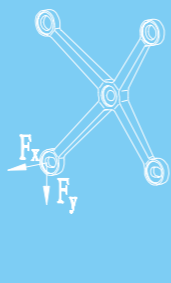
| The Recommended Value of Load Capacity(N) | Model          | Material: CF8M、CF8 |      | Material: CD3MN |     |  |
|---|----------------|--------------------|------|-----------------|-----|--|
|   |                | Fx≤                | Fy≤  | Fx≤             | Fy≤ |  |
|   | D2005XB Series | 3000               | 1500 | —               | —   |  |

| Model           | Size | A   | B  | C  | d  | d <sub>1</sub> | E  | F  | The Recommended Value of Load Capacity(N) | Material: CF8M、CF8 |      | Material: CD3MN |     |  |
|-----------------|------|-----|----|----|----|----------------|----|----|---|--------------------|------|-----------------|-----|--|
|                 |      |     |    |    |    |                |    |    |   | Fx≤                | Fy≤  | Fx≤             | Fy≤ |  |
| GZ200XFB Series |      | 200 | 20 | 20 | 36 | 24             | 20 | 20 | 2000                                      | 1000               | 2600 | 1300            |     |  |
| GZ250XFD Series |      | 250 | 24 | 24 | 40 | 26             | 24 | 24 | 2500                                      | 1500               | 3300 | 2000            |     |  |



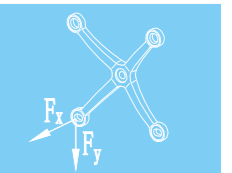
- Note: 1. Spider model is consisted of Series number + Arm Code, like A160A4, A160A21 and so on.  
 2. Customization means that the product does not have inventory and needs to be produced and supplied according to the order requirements.  
 3. A250A series and 250A series are non-customized.

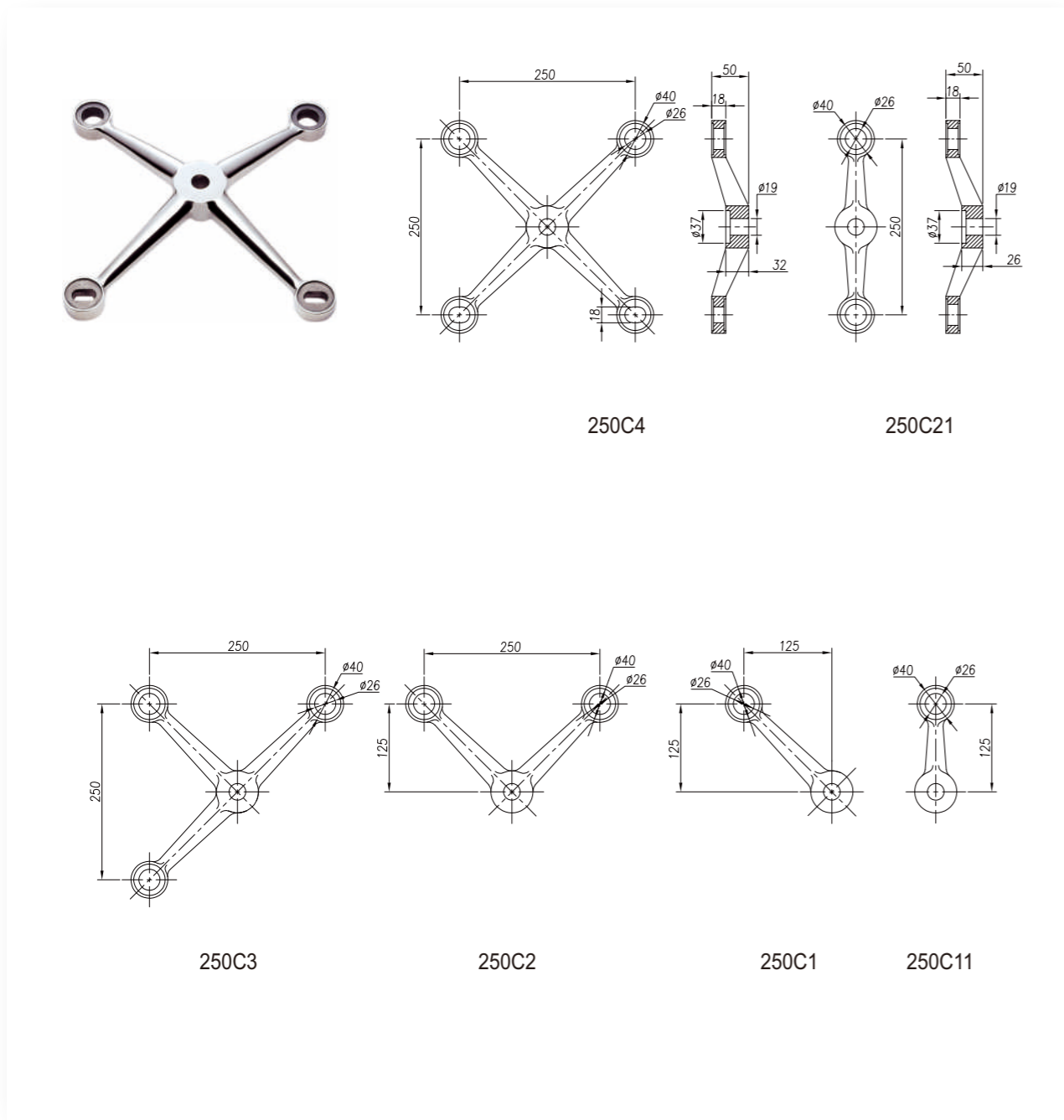
| Size<br>Model | A   | B  | C  | d  | d <sub>1</sub> | d <sub>2</sub> | d <sub>3</sub> | E  | F    | G  | Material: CF8M、CF8 |                  | Material: CD3MN  |                  |
|---------------|-----|----|----|----|----------------|----------------|----------------|----|------|----|--------------------|------------------|------------------|------------------|
|               |     |    |    |    |                |                |                |    |      |    | F <sub>x</sub> ≤   | F <sub>y</sub> ≤ | F <sub>x</sub> ≤ | F <sub>y</sub> ≤ |
| A160A Series  | 160 | 40 | 10 | 26 | 16             | 19             | 13             | 16 | 12.5 | 16 | 1500               | 800              | —                | —                |
| A200A Series  | 200 | 40 | 12 | 36 | 24             | 37             | 19             | 20 | 18   | 18 | 2000               | 800              | —                | —                |
| 200A Series   | 200 | 50 | 14 | 36 | 24             | 37             | 19             | 20 | 18   | 20 | 2000               | 1000             | 2600             | 1300             |
| A220A Series  | 220 | 50 | 12 | 36 | 26             | 37             | 19             | 21 | 18   | 19 | 2000               | 1000             | —                | —                |
| 220A Series   | 220 | 50 | 12 | 36 | 26             | 37             | 19             | 23 | 18   | 20 | 2000               | 1200             | 2600             | 1600             |
| A250A Series  | 250 | 50 | 12 | 40 | 26             | 37             | 19             | 22 | 18   | 20 | 2000               | 1200             | —                | —                |
| 250A Series   | 250 | 50 | 14 | 40 | 26             | 37             | 19             | 25 | 18   | 22 | 2500               | 1500             | 3300             | 2000             |
| C250A Series  | 250 | 50 | 17 | 40 | 26             | 37             | 19             | 27 | 18   | 27 | 4000               | 2500             | —                | —                |
| A300A Series  | 300 | 50 | 16 | 40 | 26             | 37             | 21             | 28 | 18   | 28 | 2500               | 1500             | —                | —                |
| 300A Series   | 300 | 50 | 18 | 40 | 26             | 37             | 21             | 32 | 18   | 26 | 3000               | 2000             | 3900             | 2600             |



Note: Customization means that the product does not have inventory and needs to be produced and supplied according to the order requirements.

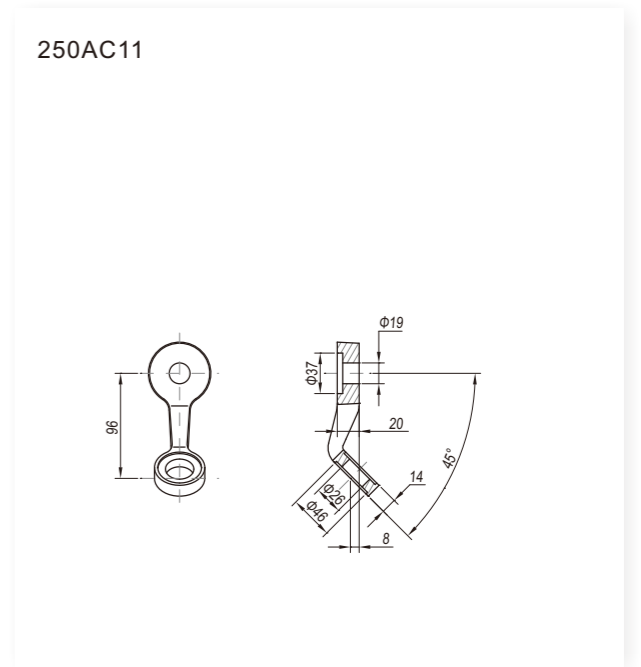
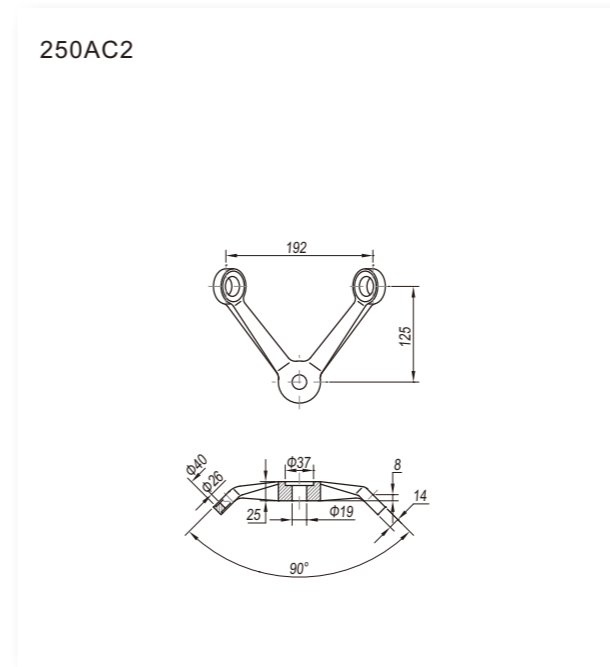
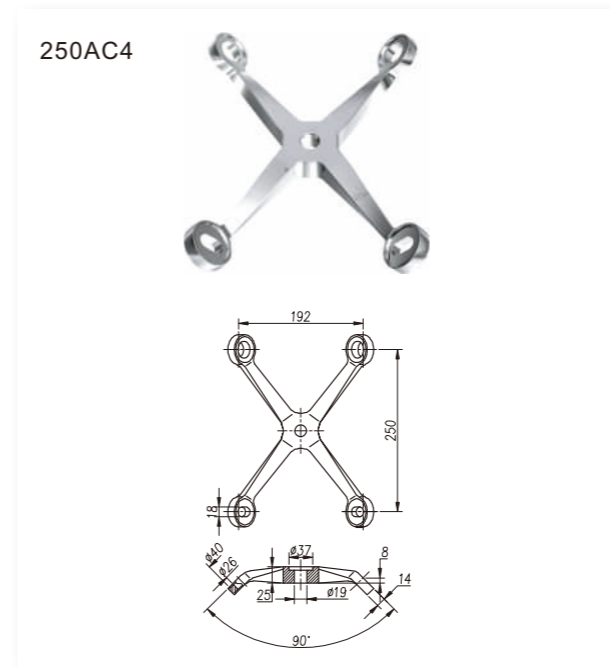
| The Recommended Value of Load Capacity(N) | Model       | Material: CF8M、CF8 |                  | Material: CD3MN  |                  |
|---|-------------|--------------------|------------------|------------------|------------------|
|   |             | F <sub>x</sub> ≤   | F <sub>y</sub> ≤ | F <sub>x</sub> ≤ | F <sub>y</sub> ≤ |
|   | 250B Series | 2500               | 1500             | 3300             | 2000             |





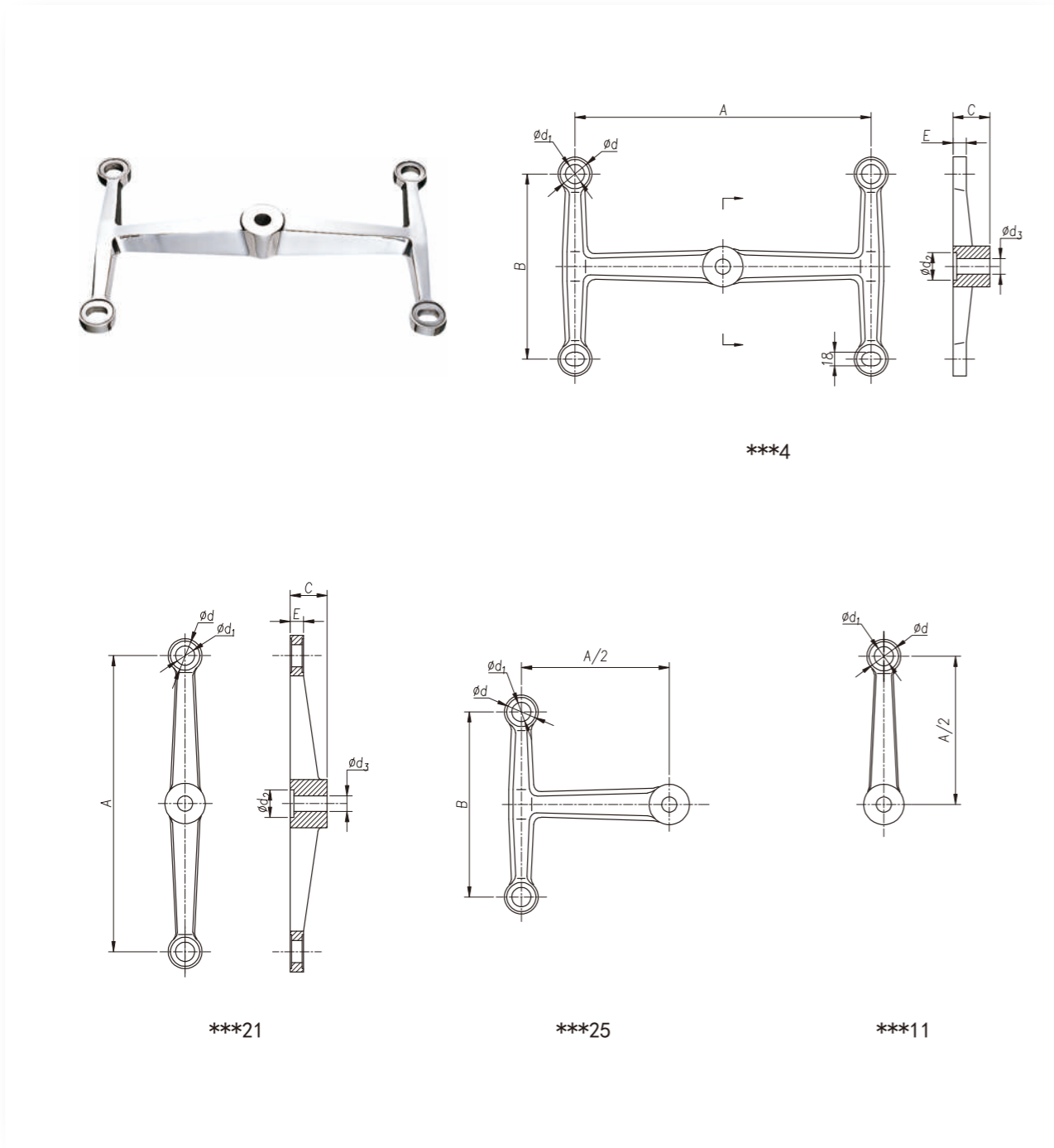
Note: Customization means that the product does not have inventory and needs to be produced and supplied according to the order requirements.

| The Recommended Value of Load Capacity(N) | Model       | Material: CF8M、CF8 |            | Material: CD3MN |            |  |
|---|-------------|--------------------|------------|-----------------|------------|--|
|   |             | $F_x \leq$         | $F_y \leq$ | $F_x \leq$      | $F_y \leq$ |  |
|   | 250C Series | 2500               | 1500       | 3300            | 2000       |  |



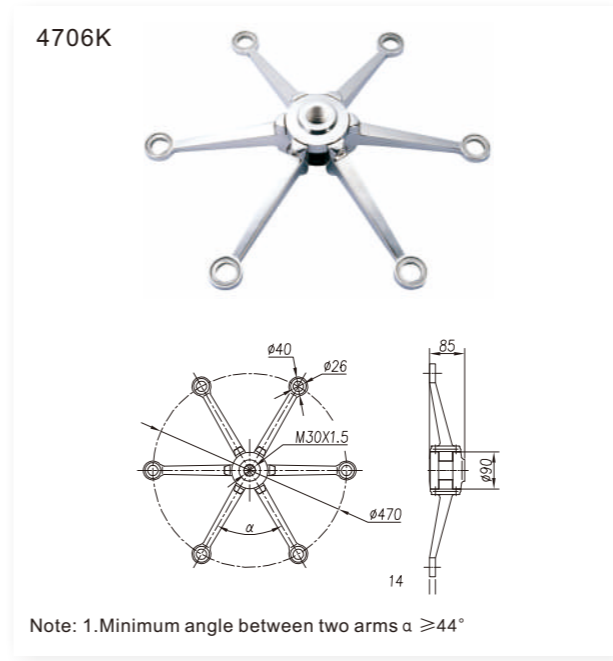
Note: Customization means that the product does not have inventory and needs to be produced and supplied according to the order requirements.

| The Recommended Value of Load Capacity(N) | Model        | Material: CF8M、CF8 |            | Material: CD3MN |            |  |
|---|--------------|--------------------|------------|-----------------|------------|--|
|   |              | $F_x \leq$         | $F_y \leq$ | $F_x \leq$      | $F_y \leq$ |  |
|   | 250AC Series | 2500               | 1500       | 3300            | 2000       |  |

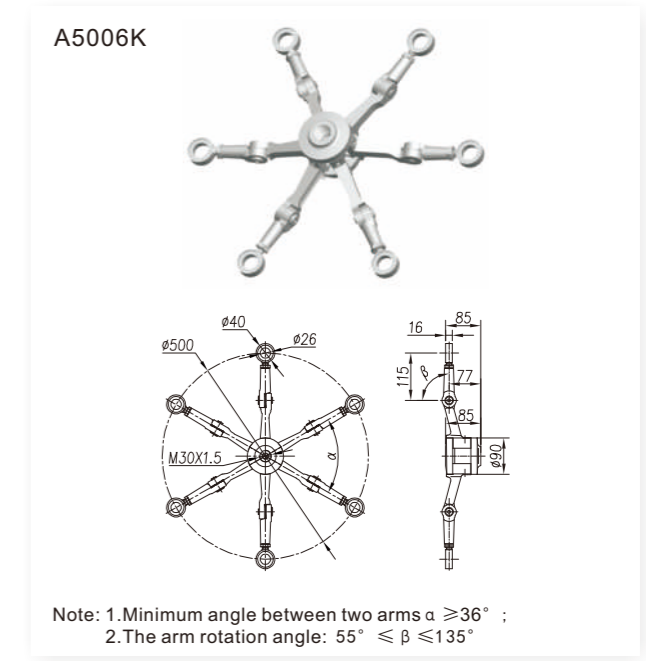


Note: 1. Spider model is consisted of Series number + Arm Code, like 3060HA4, 3060HA21 and so on.  
 2. Customization means that the product does not have inventory and needs to be produced and supplied according to the order requirements.

| Size Model      | A   | B   | C  | d  | d <sub>1</sub> | d <sub>2</sub> | d <sub>3</sub> | E  | The Recommended Value of Load Capacity(N) | Material: CF8M、CF8 |                  | Material: CD3MN  |                  |
|-----------------|-----|-----|----|----|----------------|----------------|----------------|----|---|--------------------|------------------|------------------|------------------|
|                 |     |     |    |    |                |                |                |    |   | F <sub>x</sub> ≤   | F <sub>y</sub> ≤ | F <sub>x</sub> ≤ | F <sub>y</sub> ≤ |
| G3060HTC Series | 600 | 300 | 40 | 40 | 26             | 37             | 19             | 15 | Customized according to the project       |                    |                  |                  |                  |
| 3060HA Series   | 600 | 300 | 60 | 46 | 30             | 45             | 25             | 18 |   | 6500               | 2500             | 8000             | 3200             |



Note: 1. Minimum angle between two arms  $\alpha \geq 44^\circ$



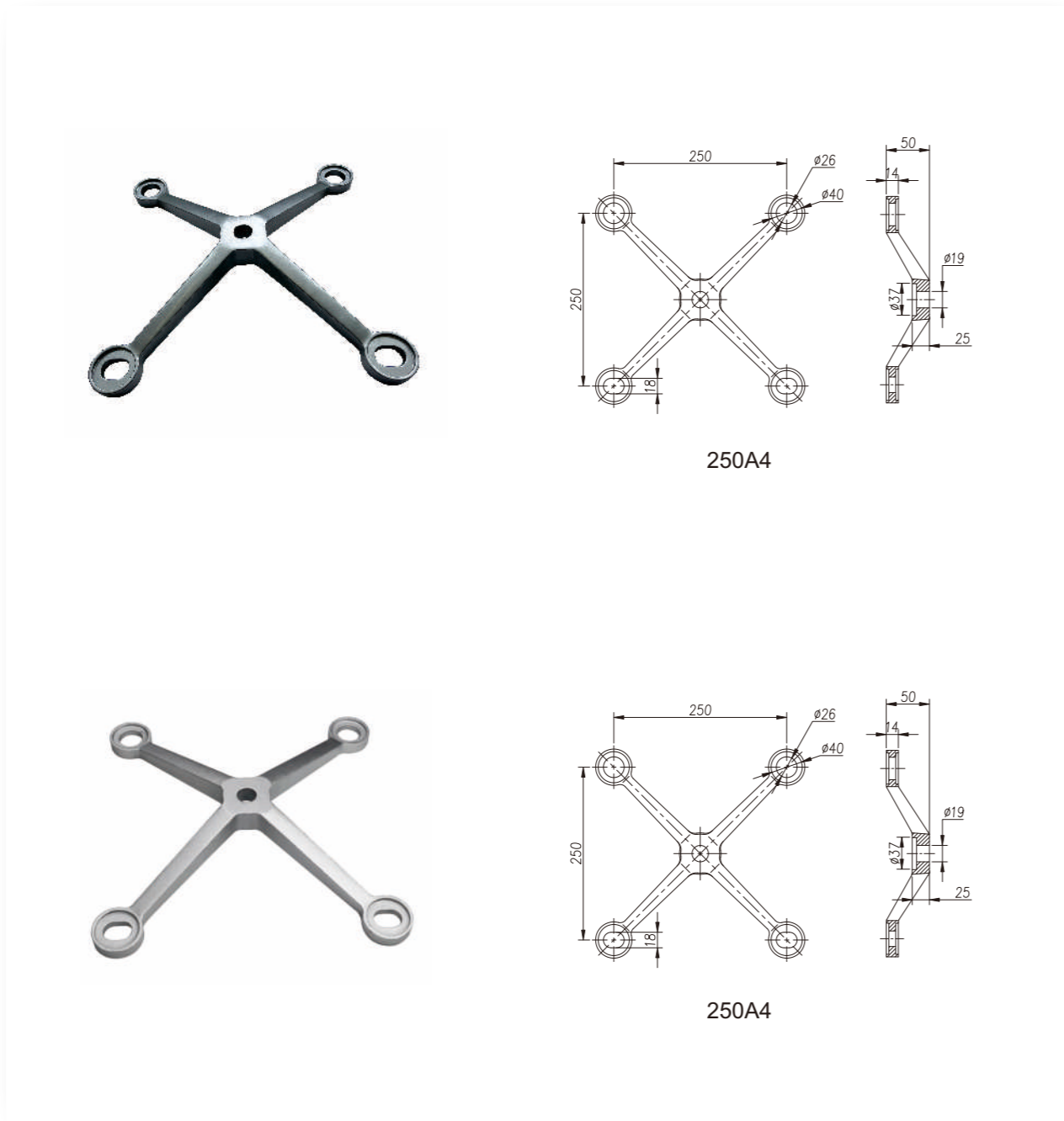
Note: 1. Minimum angle between two arms  $\alpha \geq 36^\circ$  ;  
 2. The arm rotation angle:  $55^\circ \leq \beta \leq 135^\circ$

| The Recommended Value of Load Capacity(N) | Model  | Material: CF8M、CF8 |                  | Material: CD3MN  |                  |
|---|--------|--------------------|------------------|------------------|------------------|
|   |        | F <sub>x</sub> ≤   | F <sub>y</sub> ≤ | F <sub>x</sub> ≤ | F <sub>y</sub> ≤ |
|   | 4706K  | 4000               | 2000             | —                | —                |
|   | A5006K | 1500               | 1000             | —                | —                |

Note: Customization means that the product does not have inventory and needs to be produced and supplied according to the order requirements.



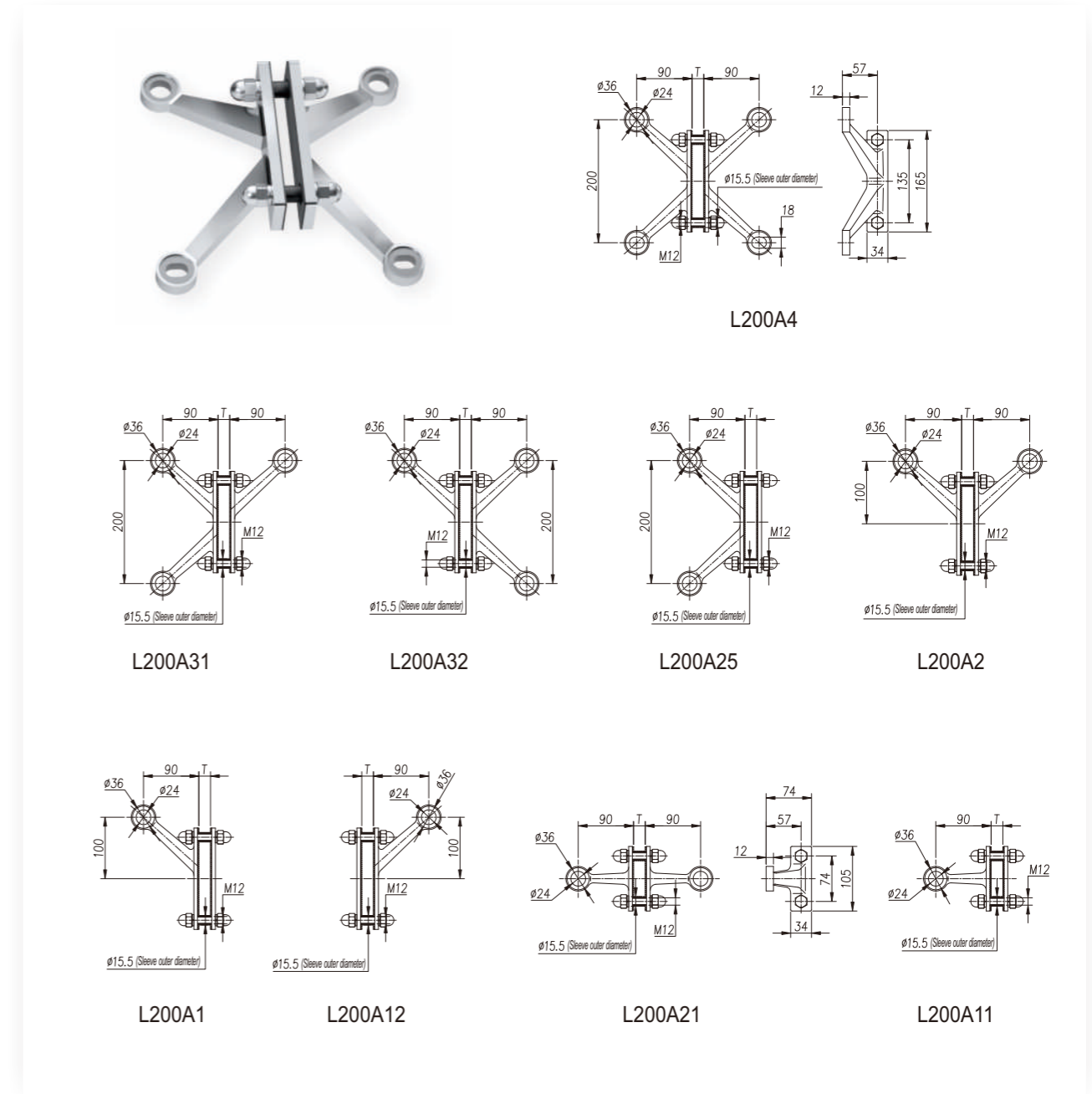
## Carbon steel spider (Customization)



- Note: 1、 Customization means that the product does not have inventory and needs to be produced and supplied according to the order requirements.  
 2、 The surface treatment adopts the composite zinc paint process, and the coating color is subject to the actual object.

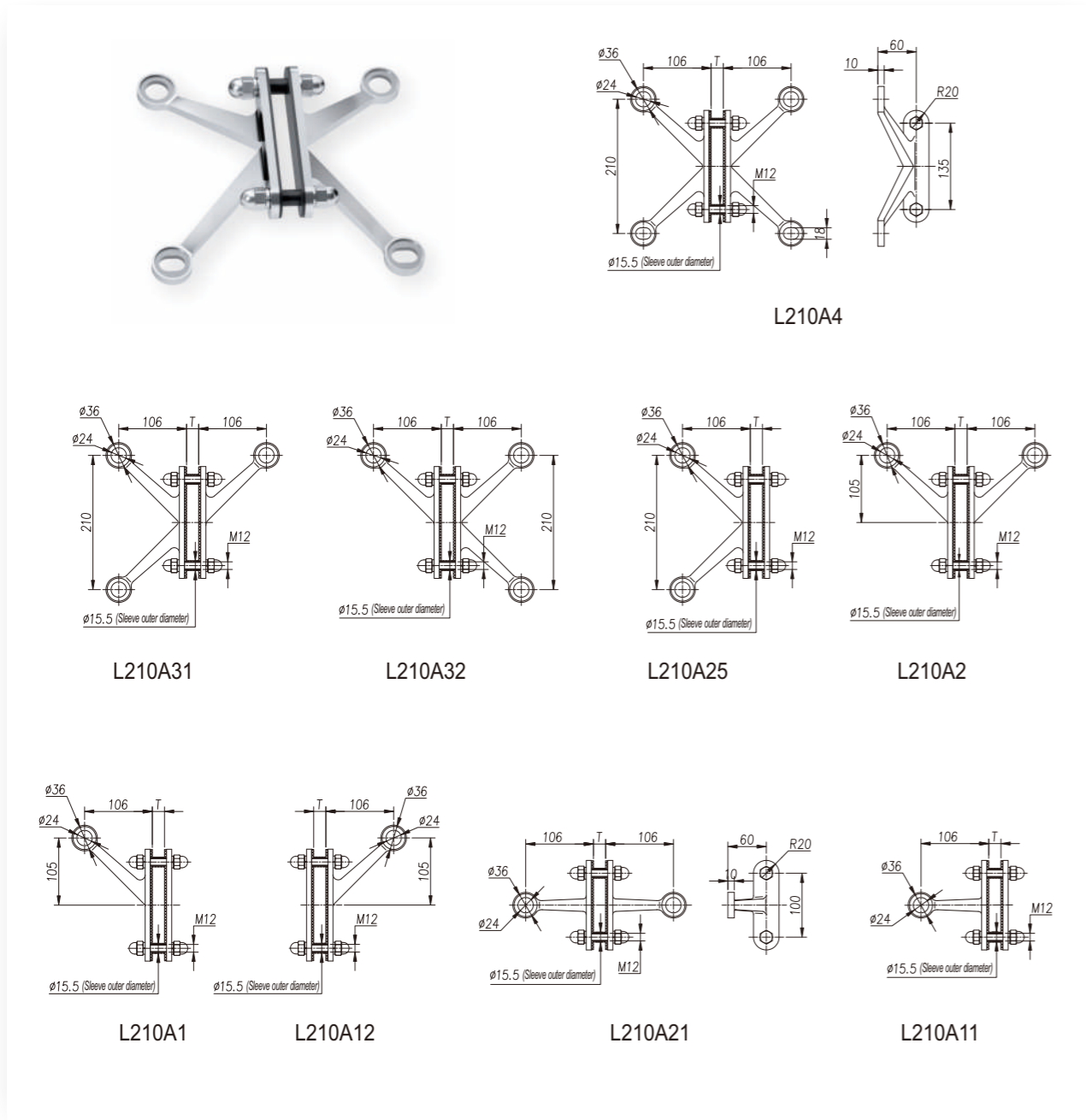
| The Recommended Value of Load Capacity(N) | Model       | Material: ZG230-450H |      |  |
|---|-------------|----------------------|------|--|
|   |             | Fx≤                  | Fy≤  |  |
|   | 250A Series | 2500                 | 1500 |  |

## Fin Spider (Customization)



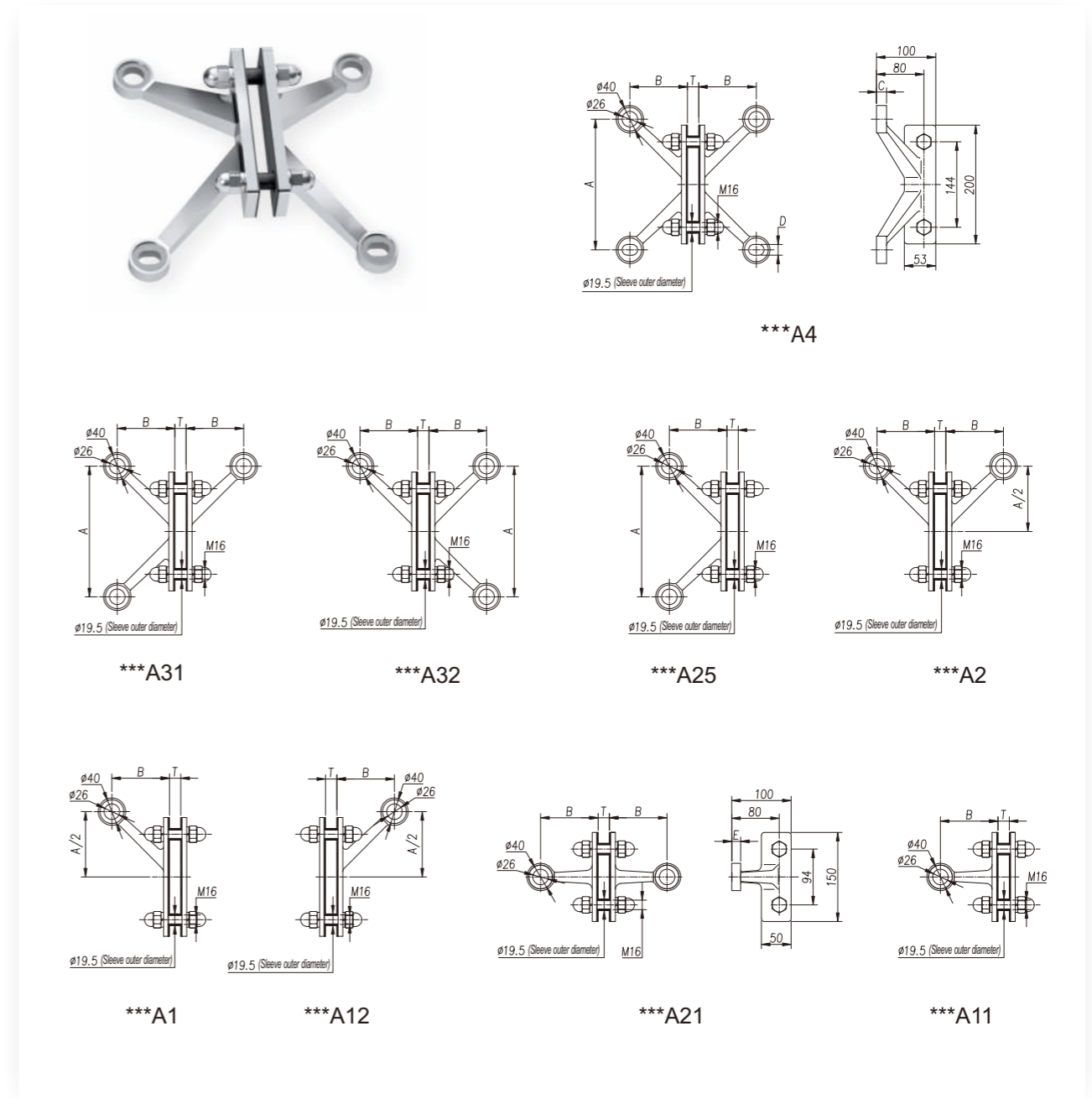
- Note: 1、 Fin glass thickness of standard code T=19mm.  
 2、 Please place the order with note of removing rubber washer or nylon sleeve while they are not needed, Please drill according to the bolt dimension.  
 3、 Customization means that the product does not have inventory and needs to be produced and supplied according to the order requirements.

| The Recommended Value of Load Capacity(N) | Model        | Material: CF8M、CF8 |      | Material: CD3MN |     |  |
|---|--------------|--------------------|------|-----------------|-----|--|
|   |              | Fx≤                | Fy≤  | Fx≤             | Fy≤ |  |
|   | L200A Series | 2000               | 1000 | —               | —   |  |



- Note: 1、 Fin glass thickness of standard code T=19mm.  
 2、 Please place the order with note of removing rubber washer or nylon sleeve while they are not needed, Please drill according to the bolt dimension.  
 3、 Customization means that the product does not have inventory and needs to be produced and supplied according to the order requirements.

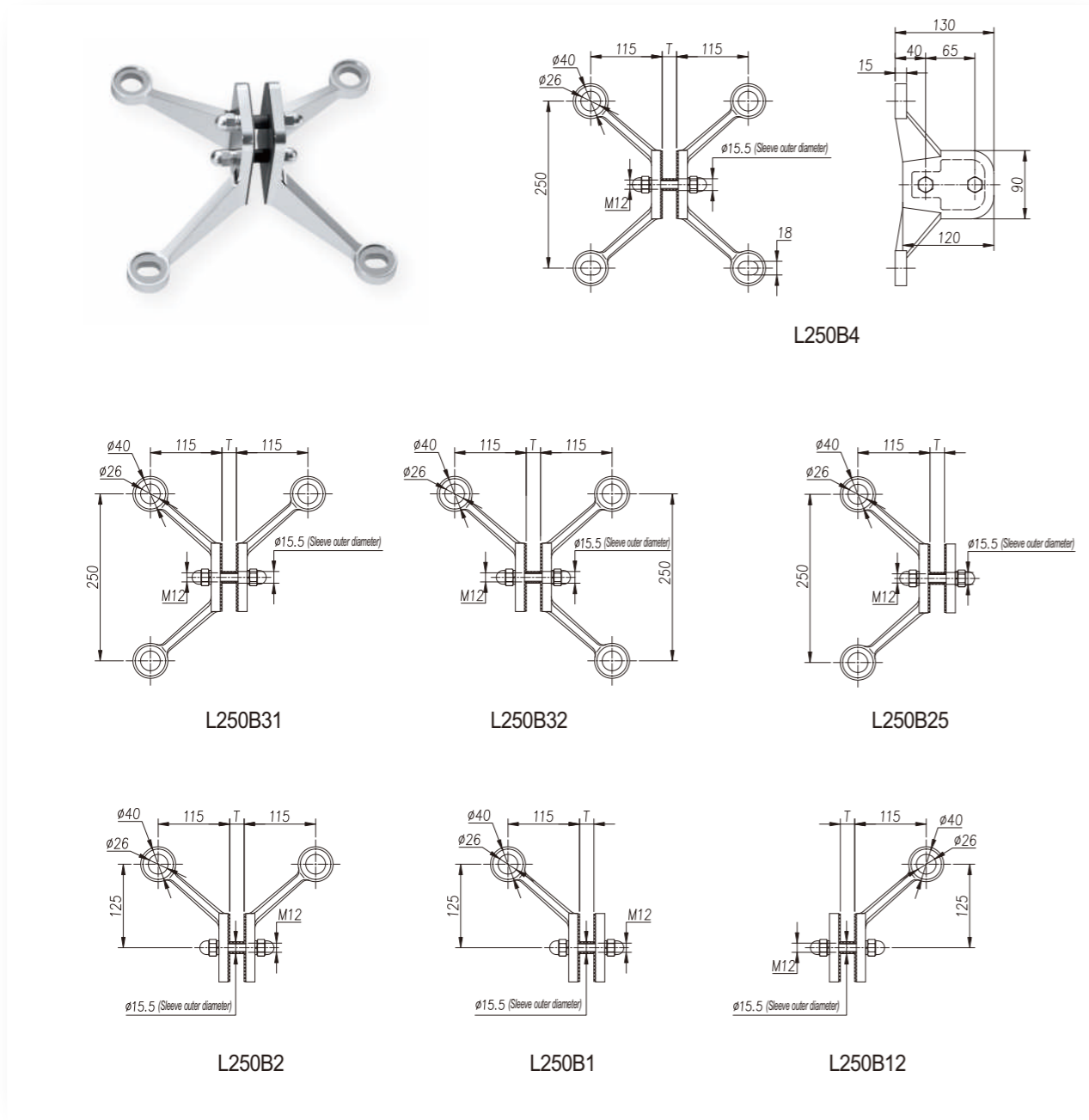
| The Recommended Value of Load Capacity(N) | Model        | Material: CF8M、CF8 |      | Material: CD3MN |      |  |
|---|--------------|--------------------|------|-----------------|------|--|
|   |              | Fx≤                | Fy≤  | Fx≤             | Fy≤  |  |
|   | L210A Series | 2000               | 1000 | 2600            | 1300 |  |



- Note: 1、 Spider model is consisted of Series number + Arm Code, like L220A4、 L220A21 and so on.  
 2、 Fin glass thickness of standard code T=19mm.  
 3、 Please place the order with note of removing rubber washer or nylon sleeve while they are not needed, Please drill according to the bolt dimension.  
 4、 Customization means that the product does not have inventory and needs to be produced and supplied according to the order requirements.

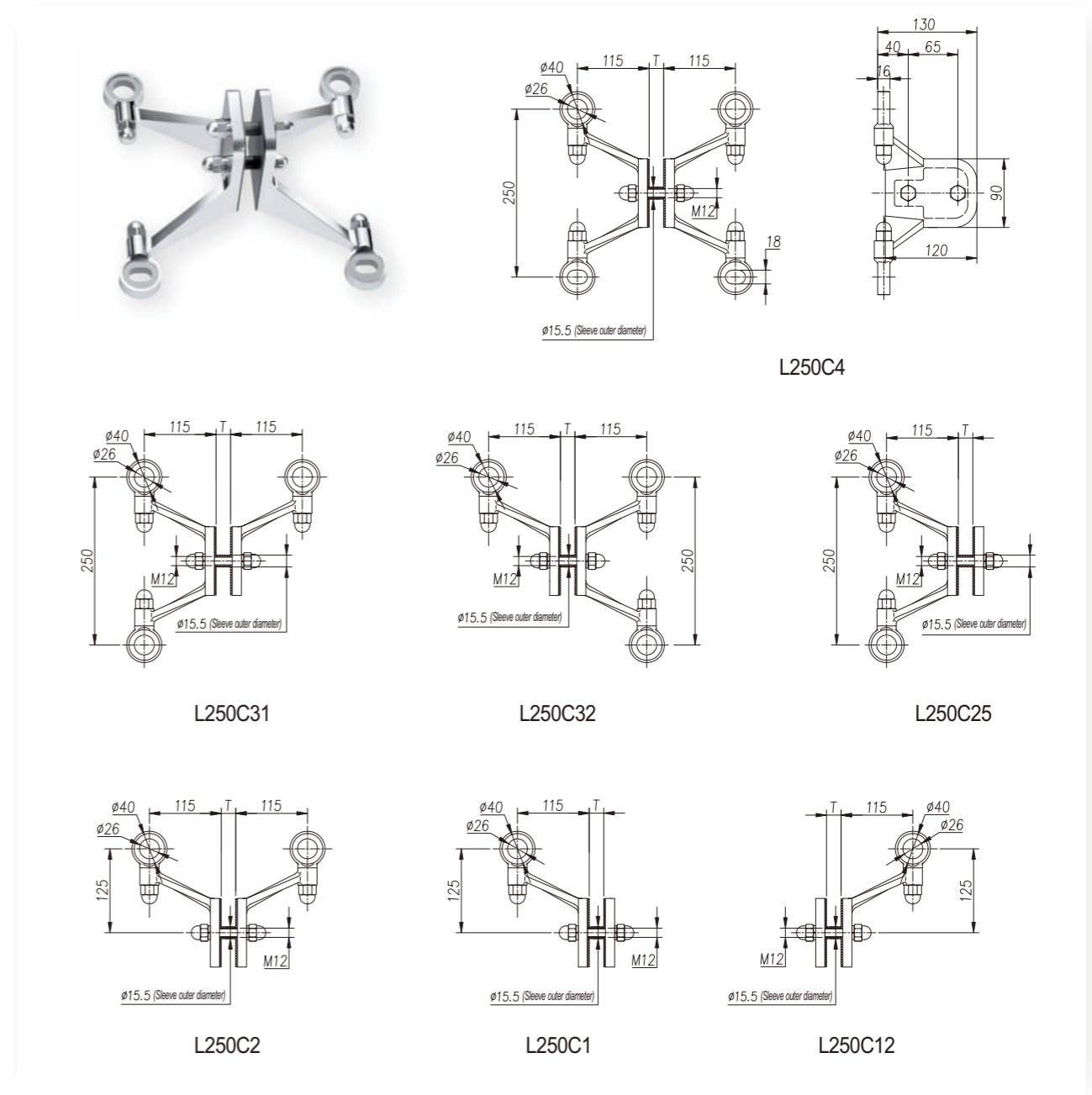
| Size<br>Model | A   | B   | C  | D  | E  | T | The Recommended Value of Load Capacity(N) | Material: CF8M、CF8 |      | Material: CD3MN |     |  |
|---------------|-----|-----|----|----|----|---|---|--------------------|------|-----------------|-----|--|
|               |     |     |    |    |    |   |   | Fx≤                | Fy≤  | Fx≤             | Fy≤ |  |
| L220A Series  | 220 | 97  | 17 | 18 | 15 | — | 2500                                      | 1500               | 3300 | 2000            |     |  |
| L250A Series  | 250 | 119 | 17 | 18 | 15 | — |   |                    |      |                 |     |  |





- Note: 1、 Fin glass thickness of standard code T=19mm.  
 2、 Please place the order with note of removing rubber washer or nylon sleeve while they are not needed, Please drill according to the bolt dimension.  
 3、 Customization means that the product does not have inventory and needs to be produced and supplied according to the order requirements.

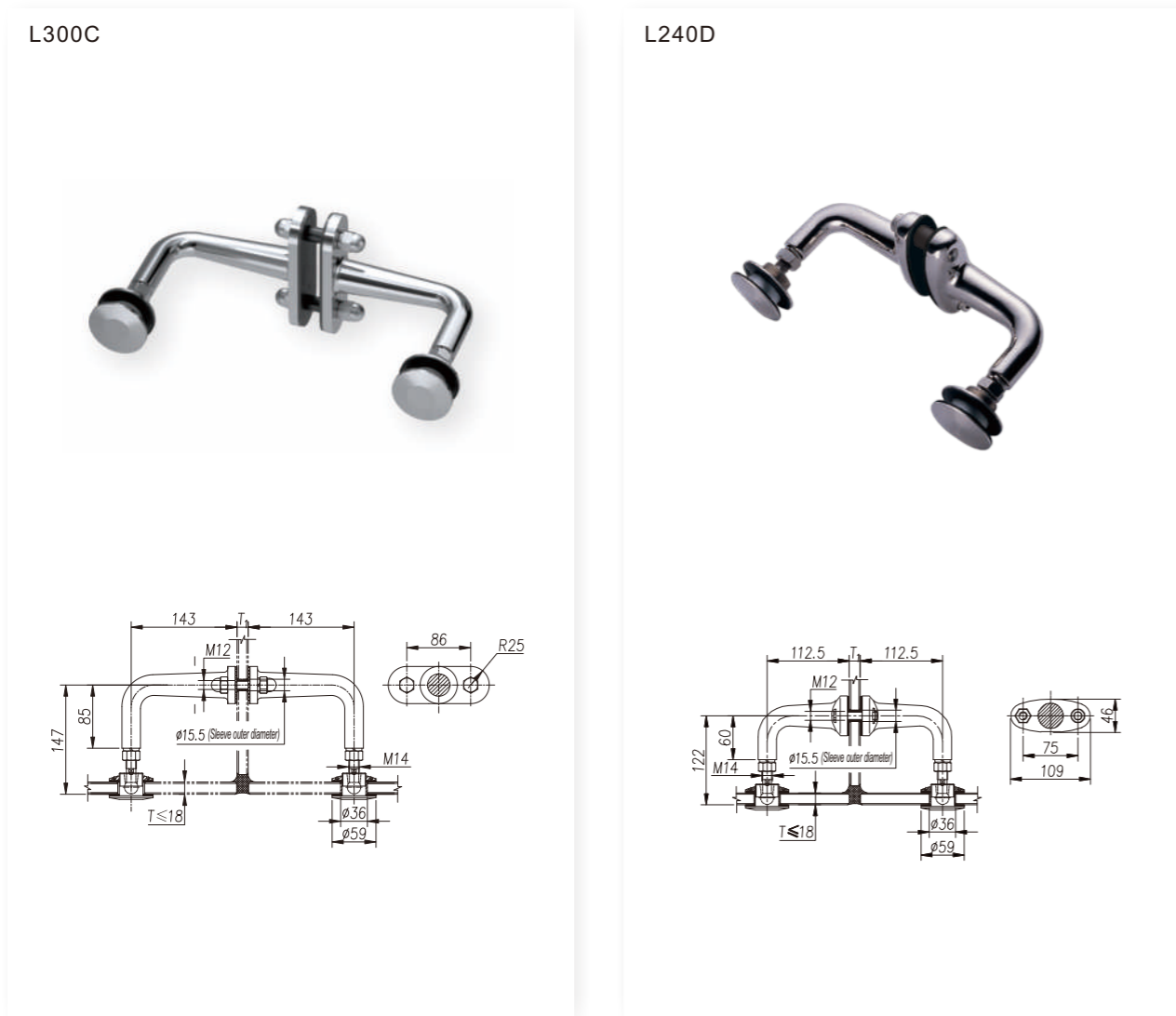
| The Recommended Value of Load Capacity(N) | Model        | Material: CF8M、CF8 |                  | Material: CD3MN  |                  |  |
|---|--------------|--------------------|------------------|------------------|------------------|--|
|   |              | F <sub>x</sub> ≤   | F <sub>y</sub> ≤ | F <sub>x</sub> ≤ | F <sub>y</sub> ≤ |  |
|   | L250B Series | 2500               | 1500             | 3300             | 2000             |  |



- Note: 1、 Fin glass thickness of standard code T=19mm.  
 2、 Please place the order with note of removing rubber washer or nylon sleeve while they are not needed, Please drill according to the bolt dimension.  
 3、 Customization means that the product does not have inventory and needs to be produced and supplied according to the order requirements.

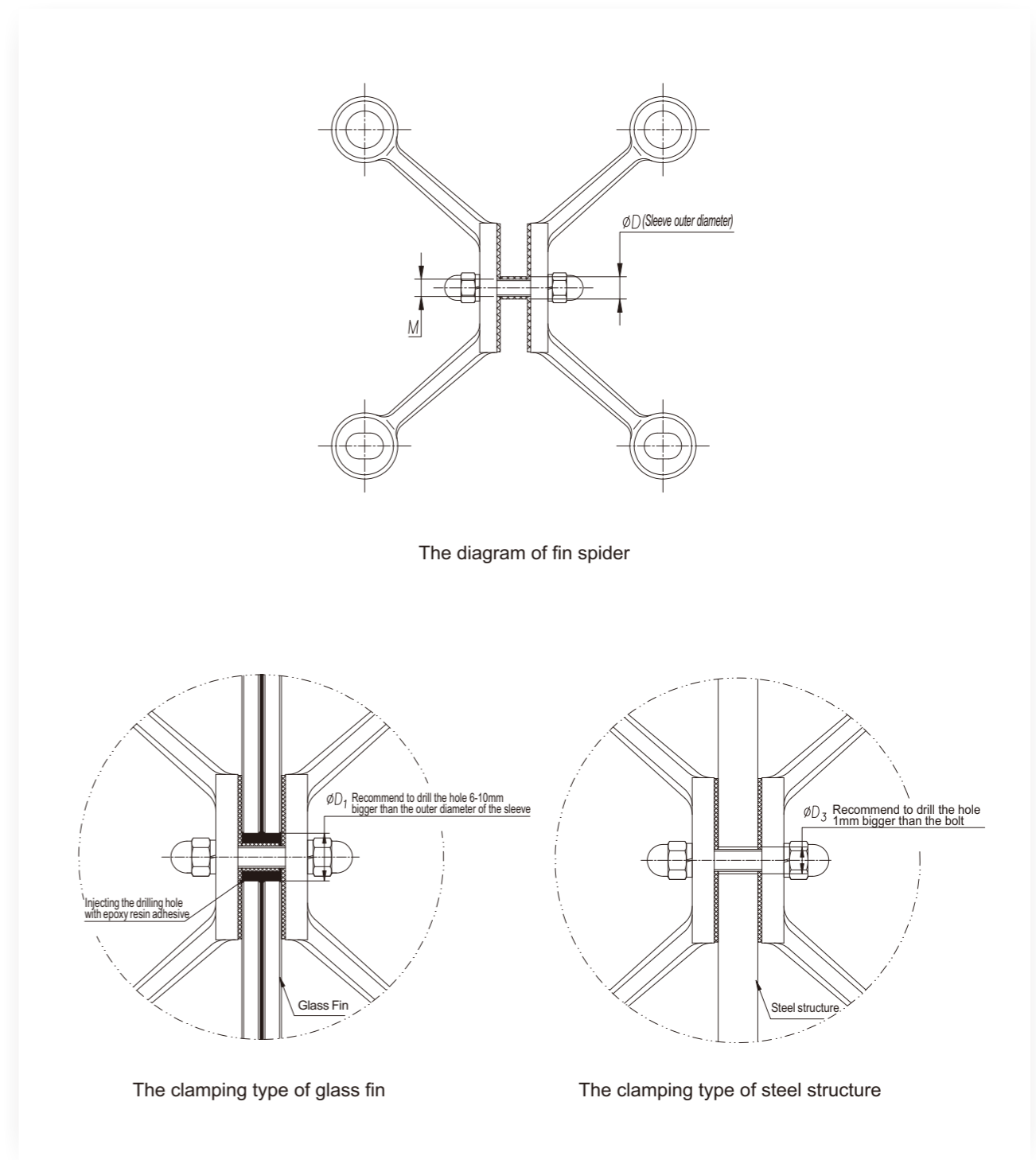
| The Recommended Value of Load Capacity(N) | Model        | Material: CF8M、CF8 |                  | Material: CD3MN  |                  |  |
|---|--------------|--------------------|------------------|------------------|------------------|--|
|   |              | F <sub>x</sub> ≤   | F <sub>y</sub> ≤ | F <sub>x</sub> ≤ | F <sub>y</sub> ≤ |  |
|   | L250C Series | 2500               | 1500             | 3300             | 2000             |  |

## Fin Glass Drilling Diagram



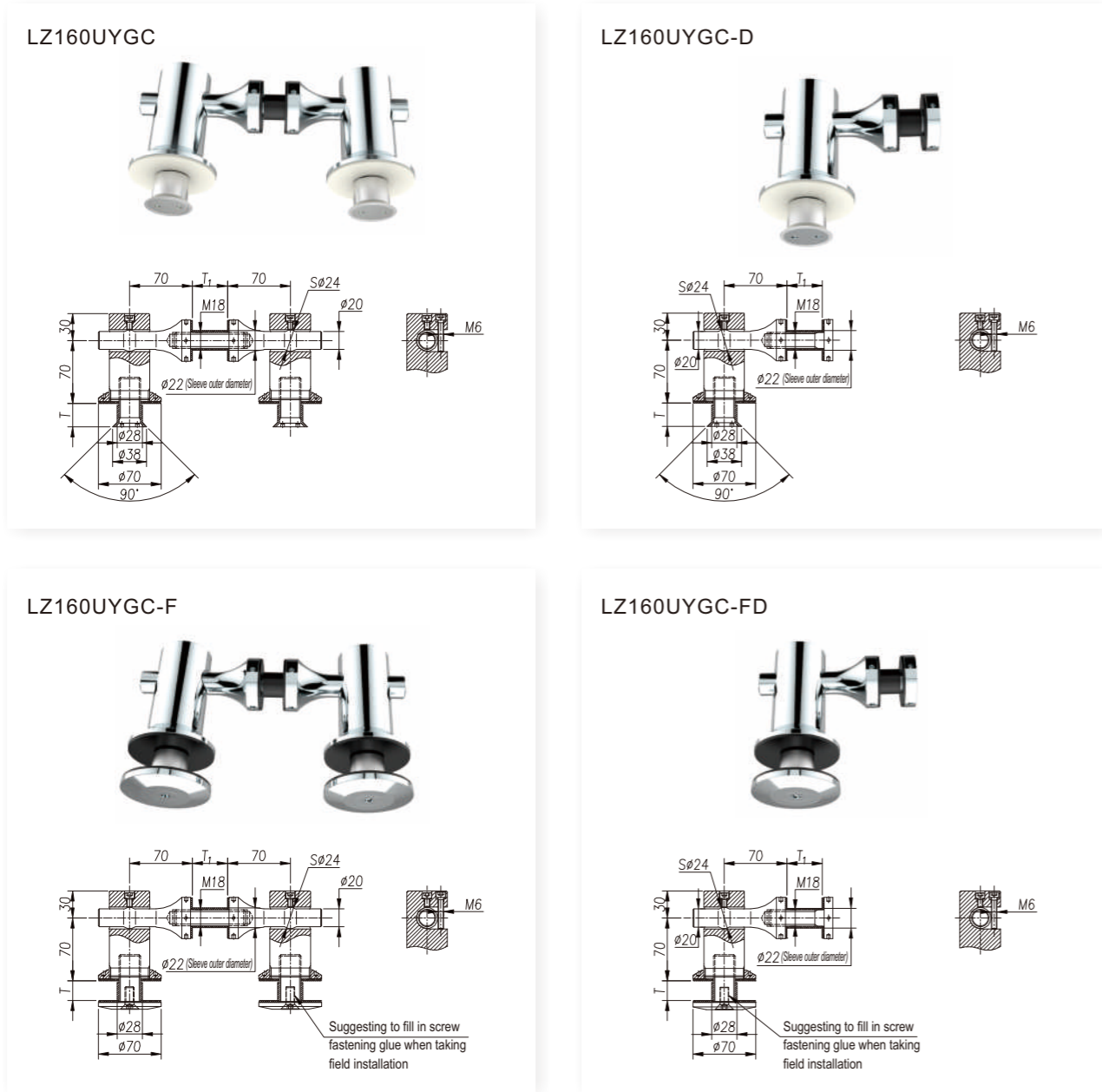
- Note: 1. Fin glass thickness of standard code  $T_1=19\text{mm}$ .  
 2. Please place the order with note of removing rubber washer or nylon sleeve while they are not needed, Please drill according to the bolt dimension.  
 3. Customization means that the product does not have inventory and needs to be produced and supplied according to the order requirements.

| The Recommended Value of Load Capacity(N) | Model | Material: CF8M、CF8 |      | Material: CD3MN |      |  |
|---|-------|--------------------|------|-----------------|------|--|
|   |       | Fx≤                | Fy≤  | Fx≤             | Fy≤  |  |
|   | L300C | 3000               | 1500 | 3900            | 2000 |  |
|   | L240D | 3500               | 1000 | 4500            | 1300 |  |



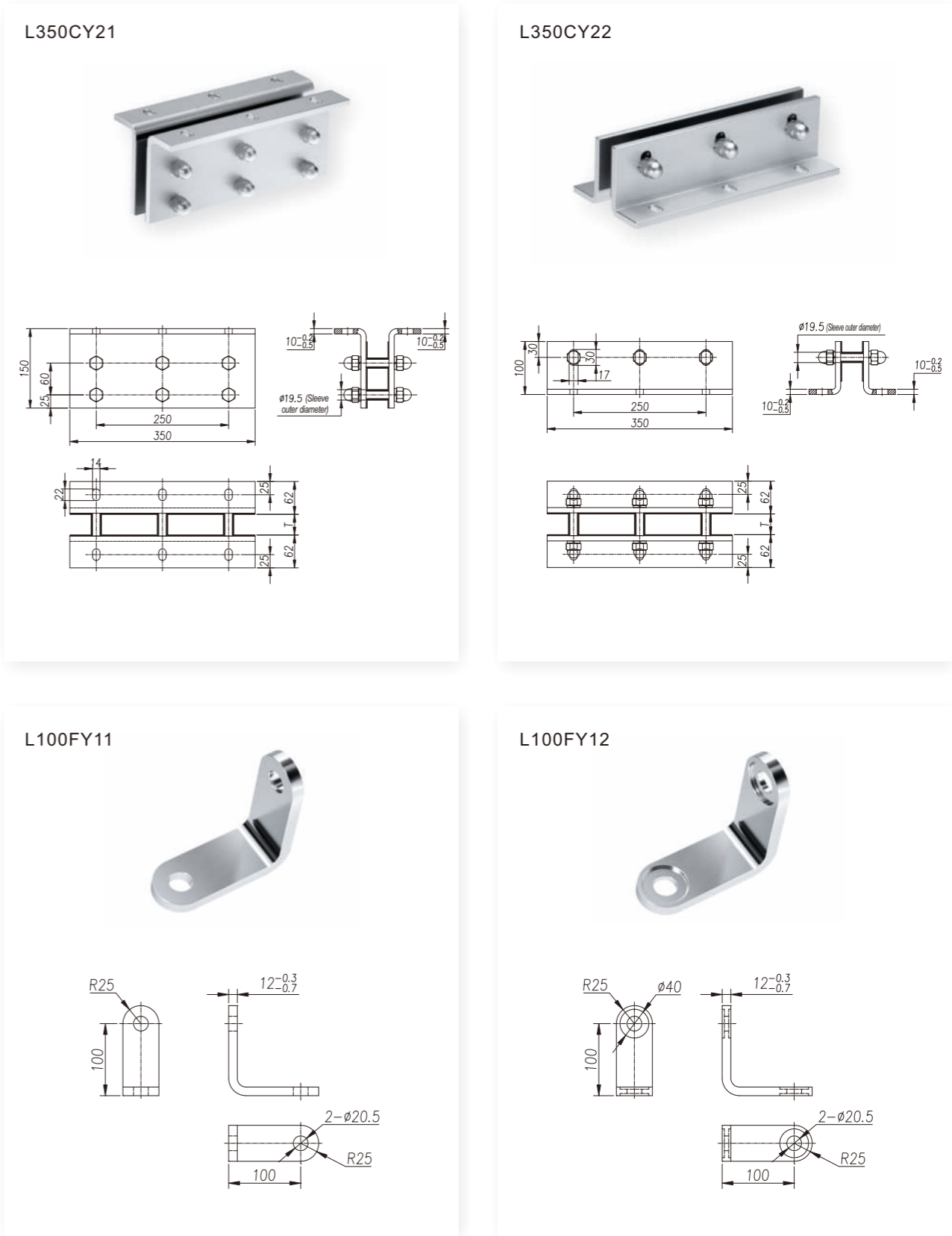
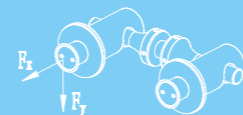
- Note:
- When installing the glass fin suspending clamp to fin glass, big drilling is available and epoxy resin adhesive must be injected into the glass hole;
  - When installing the glass fin suspending clamp to steel fin, no need nylon sleeve generally, the drilling diameter is 1mm bigger than the bolt diameter;
  - The above glass drilling is for reference only.

## Customized Product

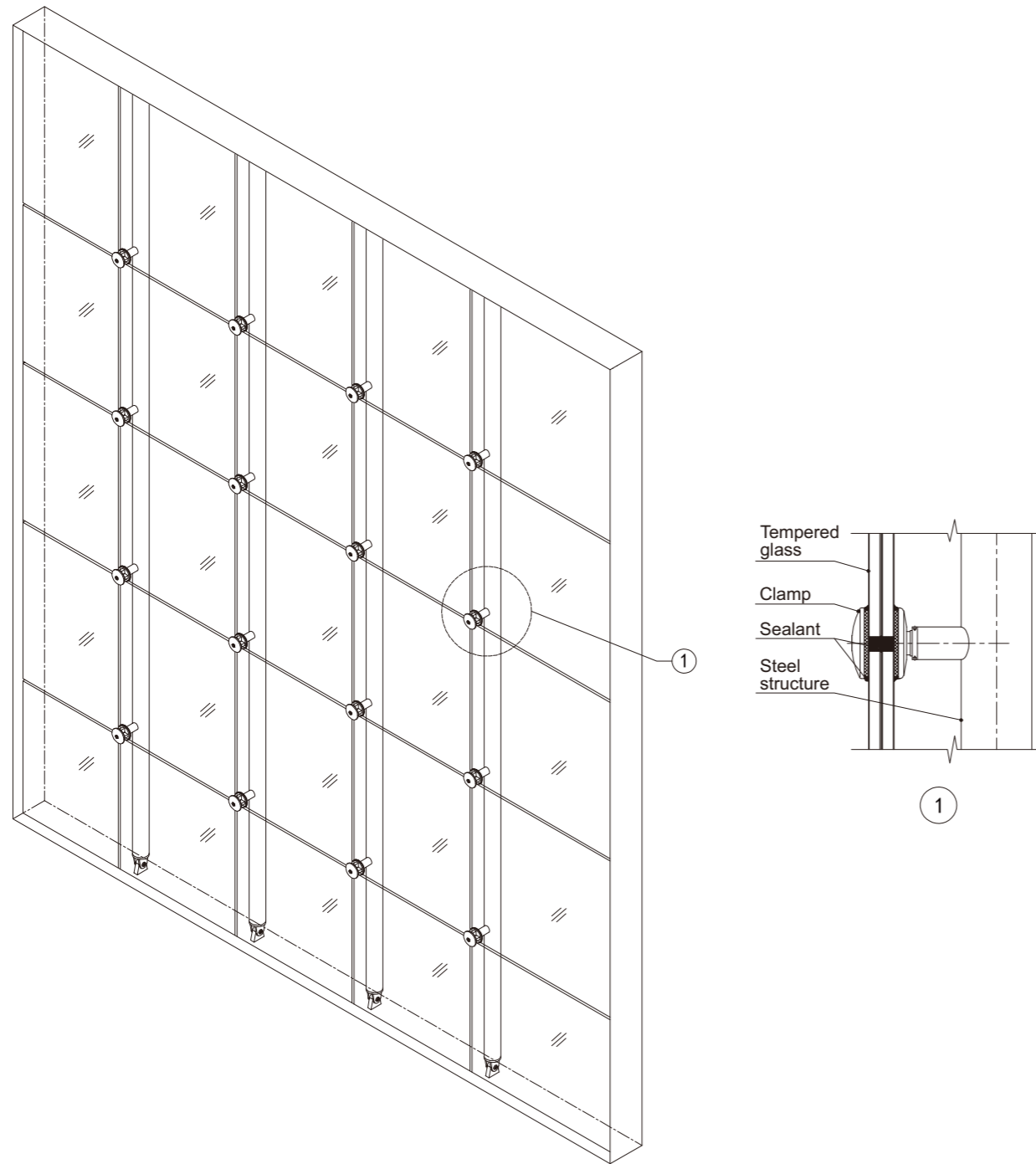


- Note: 1、 Fin glass thickness of standard code  $T_1=19\text{mm}$ .  
 2、 Facade glass thickness for standard items is:  $8\leq T\leq 26\text{mm}$ ;  
 3、 Please place the order with note of removing rubber washer or nylon sleeve while they are not needed. Please drill according to the bolt dimension.

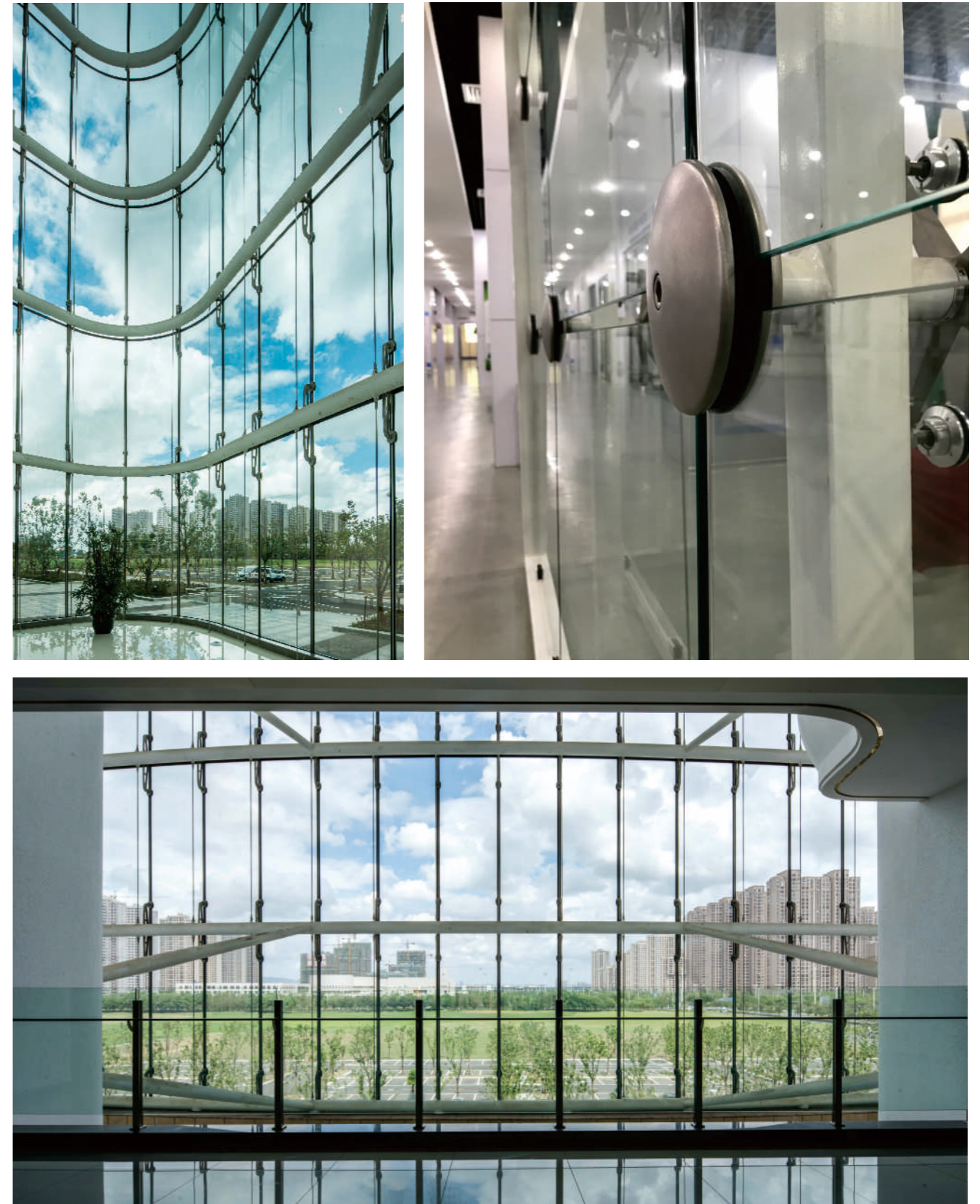
| The Recommended Value of Load Capacity(N) | Model        | Main material:316、304 |           |
|---|--------------|-----------------------|-----------|
|   |              | $F_x\leq$             | $F_y\leq$ |
|   | LZ160UYGC    | 2000                  | 1000      |
|   | LZ160UYGC-D  |                       |           |
|   | LZ160UYGC-F  |                       |           |
|   | LZ160UYGC-FD |                       |           |



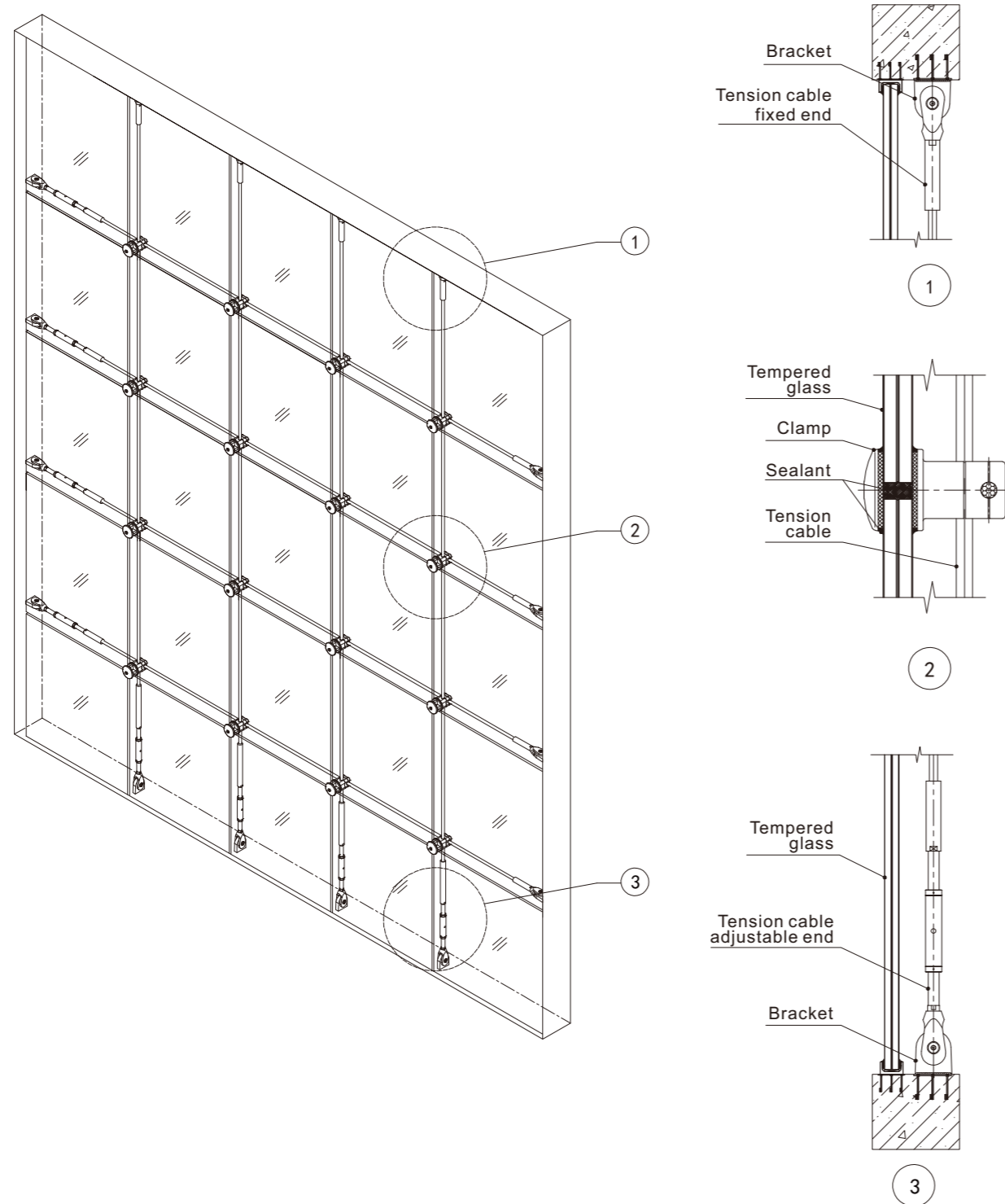
## Regular Curtain Wall System



## Regular Curtain Wall System



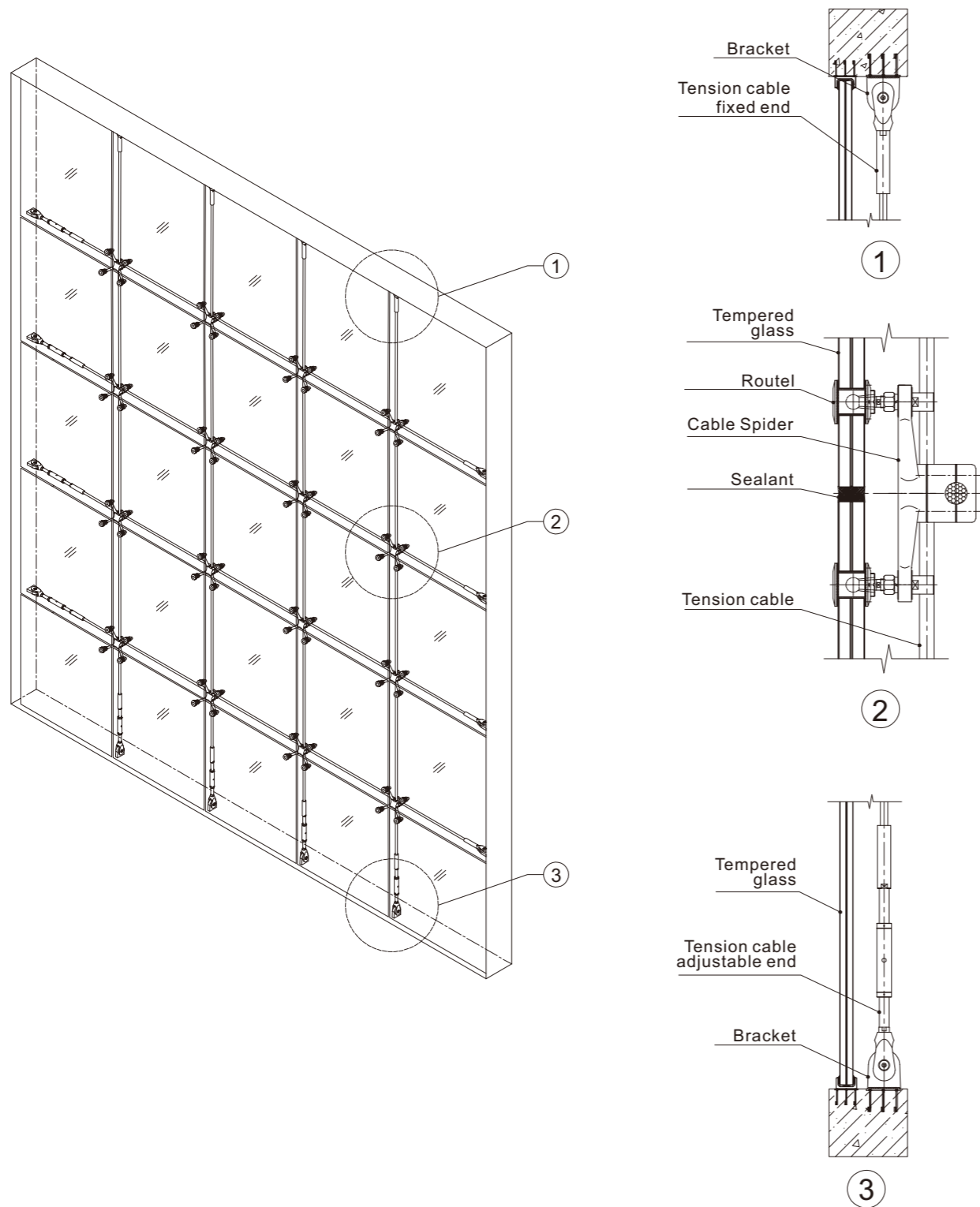
## Single-layer Cable Net Glass Curtain Wall System



## Single-layer Cable Net Glass Curtain Wall System



## Single-layer Cable Net Glass Curtain Wall System

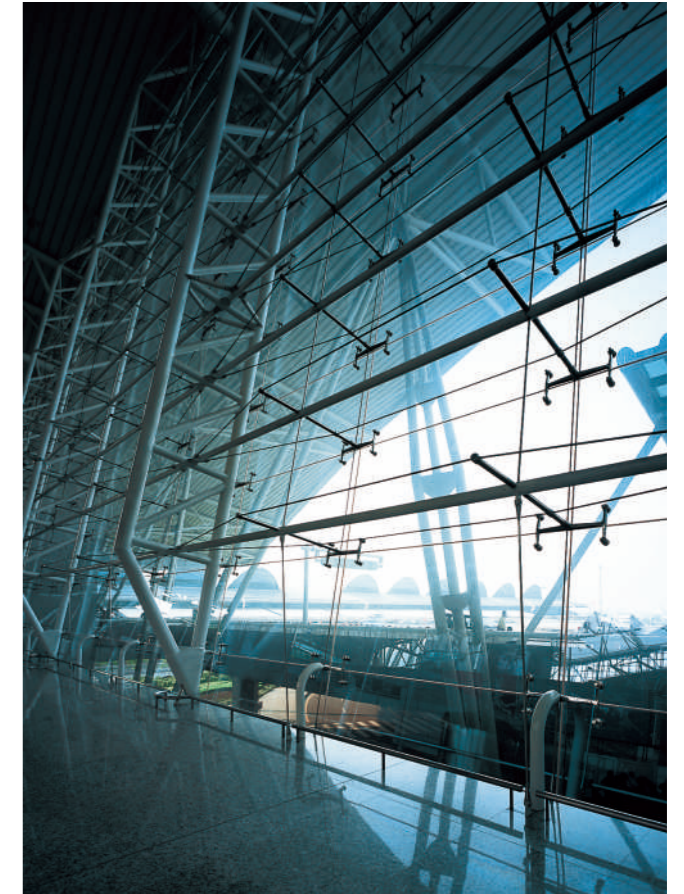
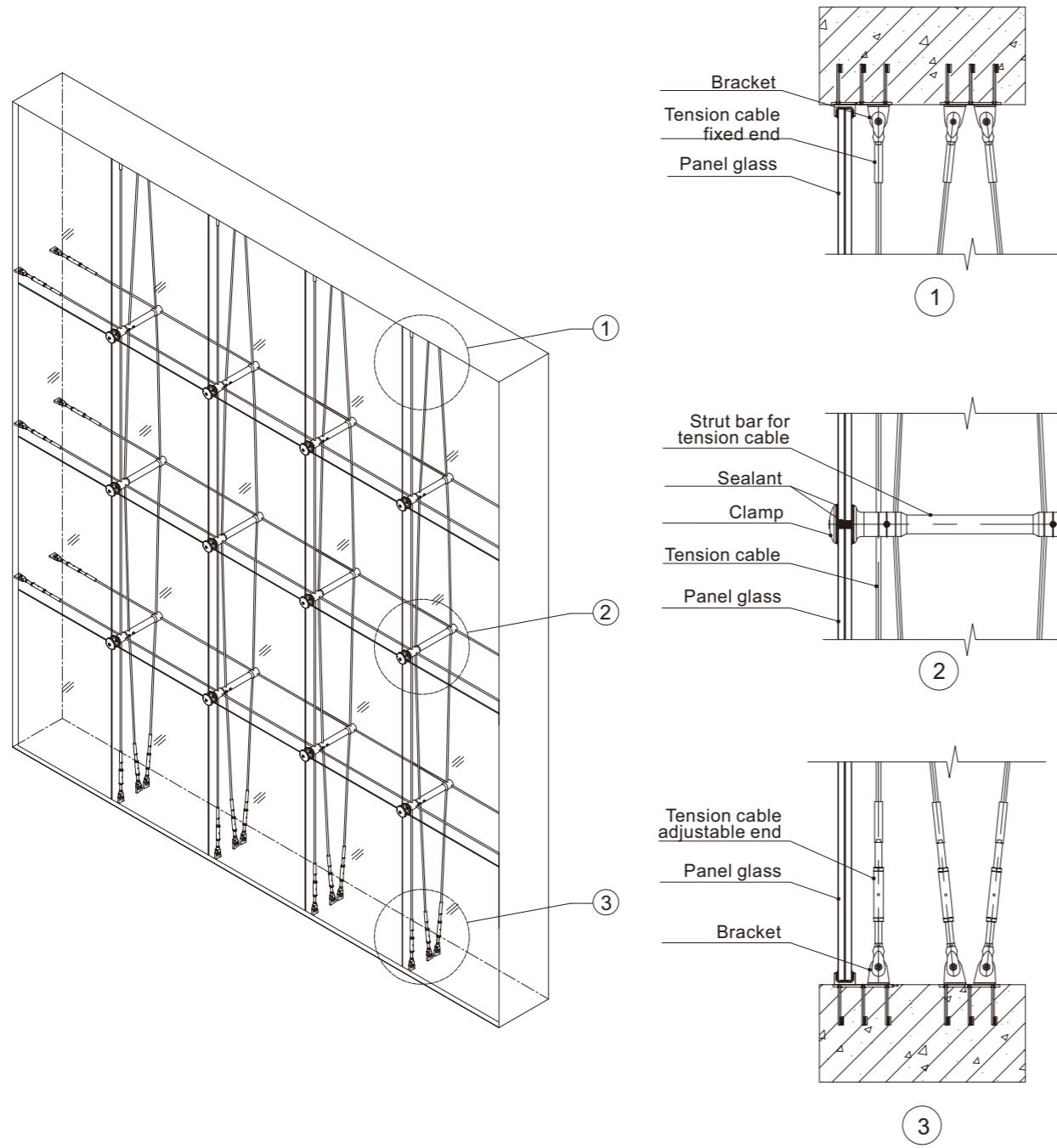


## Single-layer Cable Net Glass Curtain Wall System

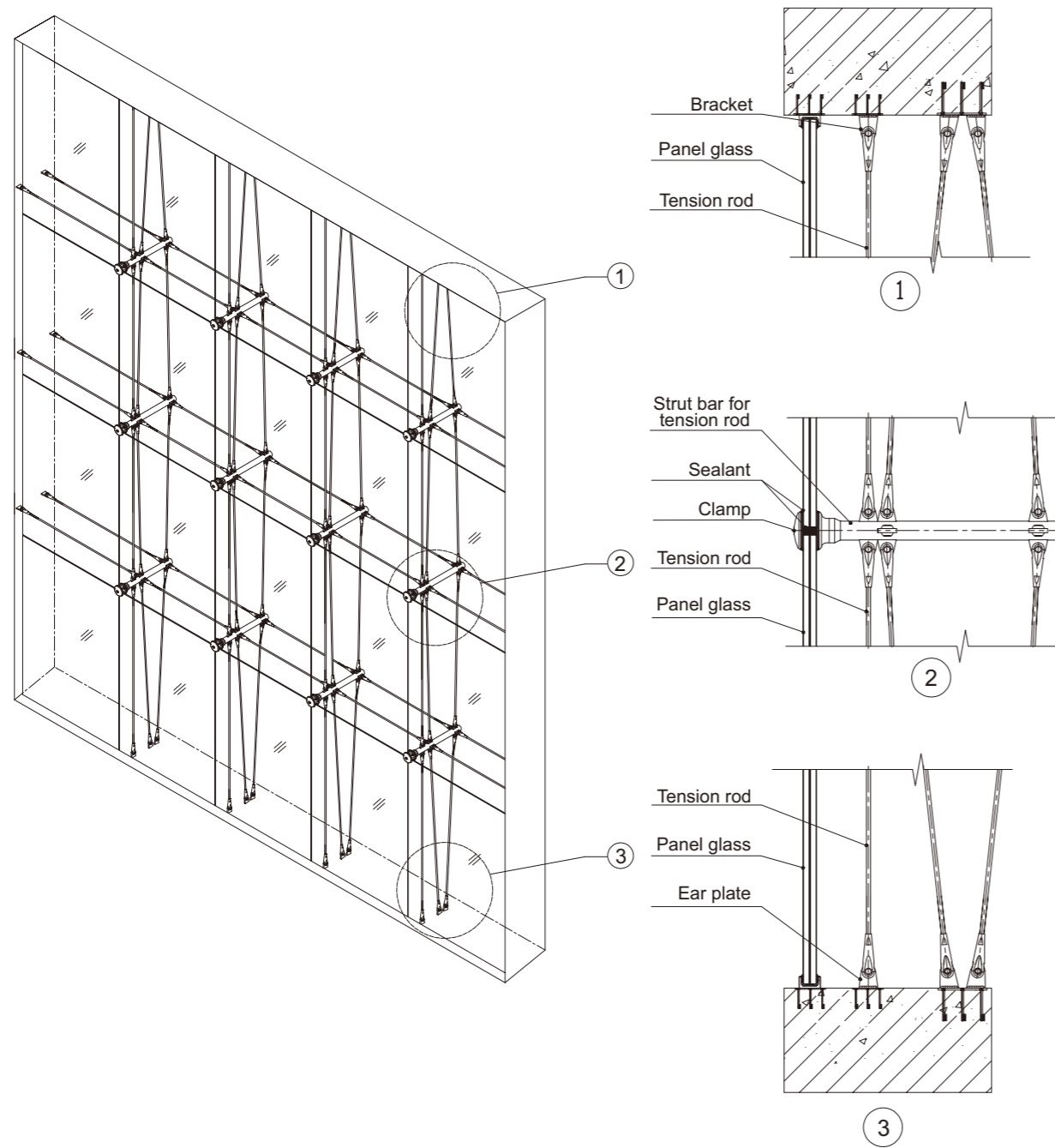


## Cable Truss Glass Curtain Wall System

## Cable Truss Glass Curtain Wall System



## Rod Truss Glass Curtain Wall System

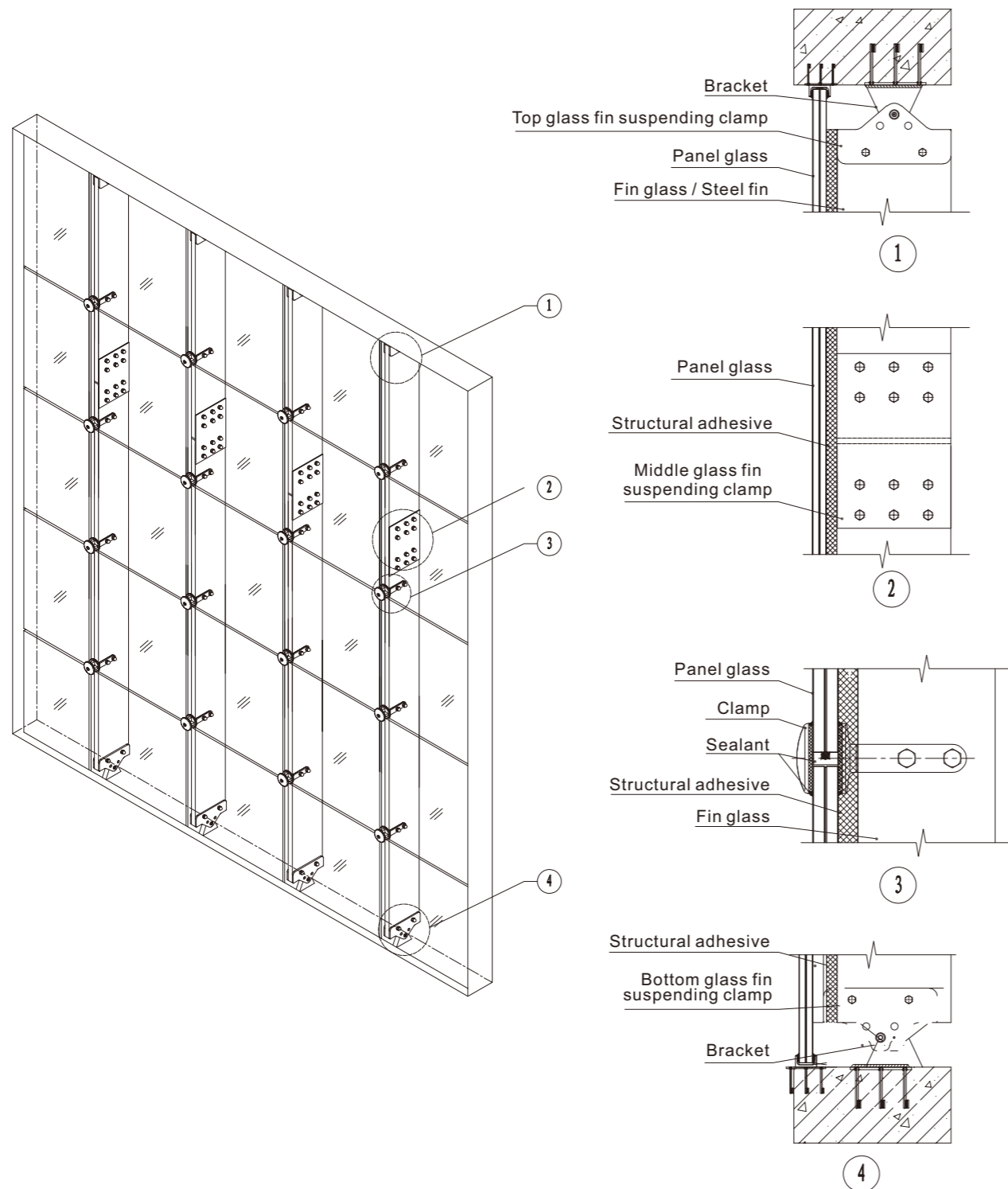


## Rod Truss Glass Curtain Wall System

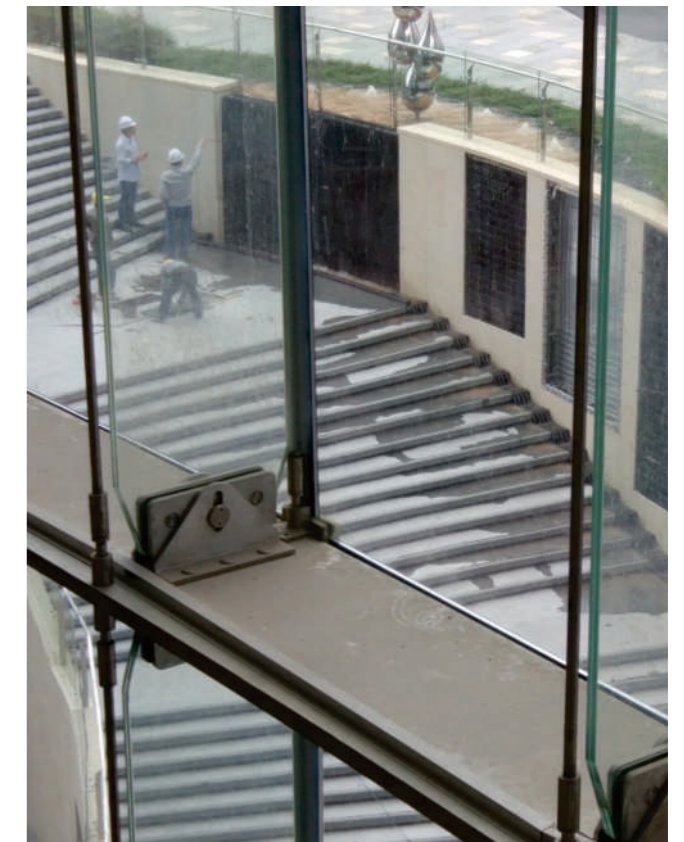




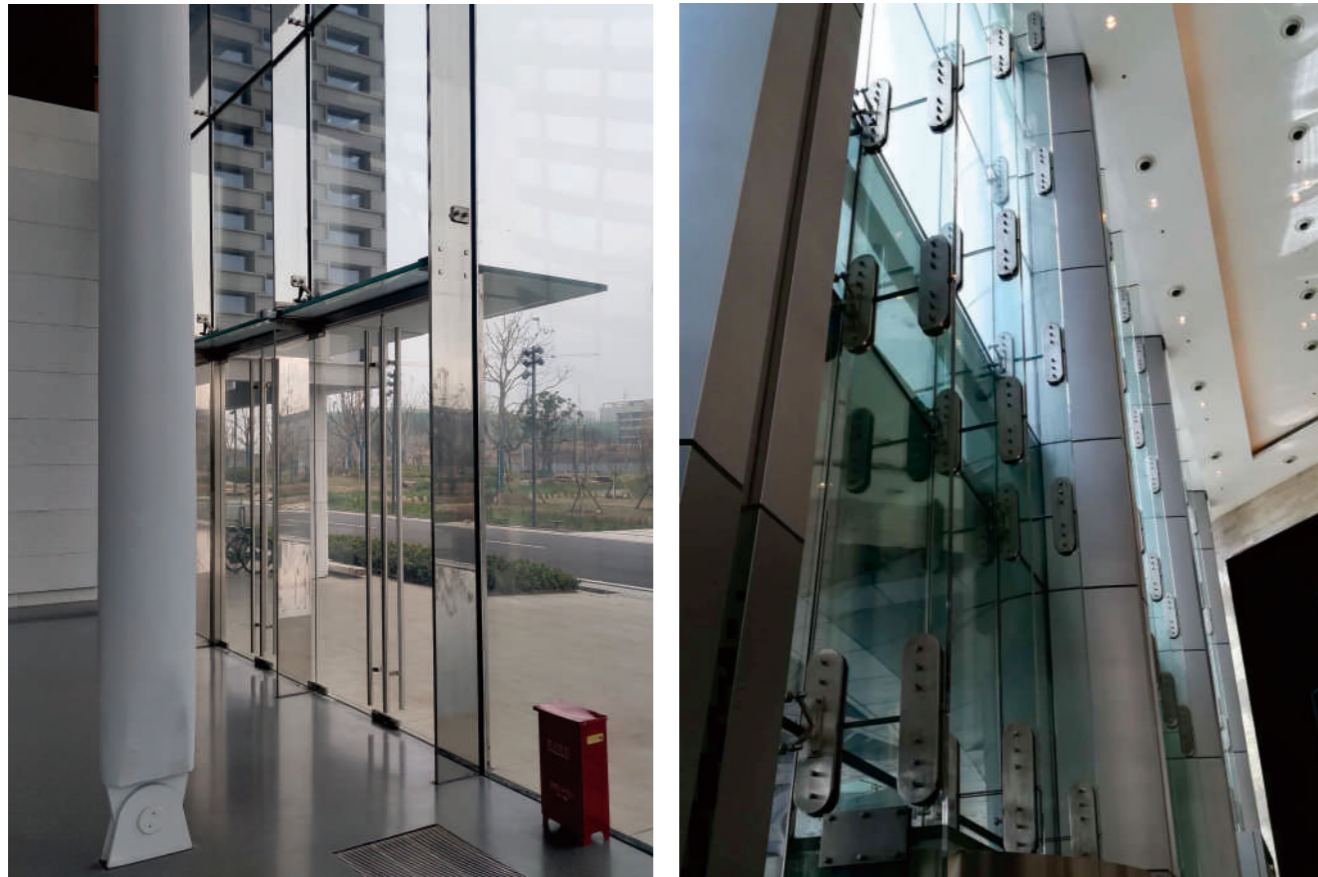
## Steel Fin Glass Curtain Wall System



## Steel Fin Glass Curtain Wall System



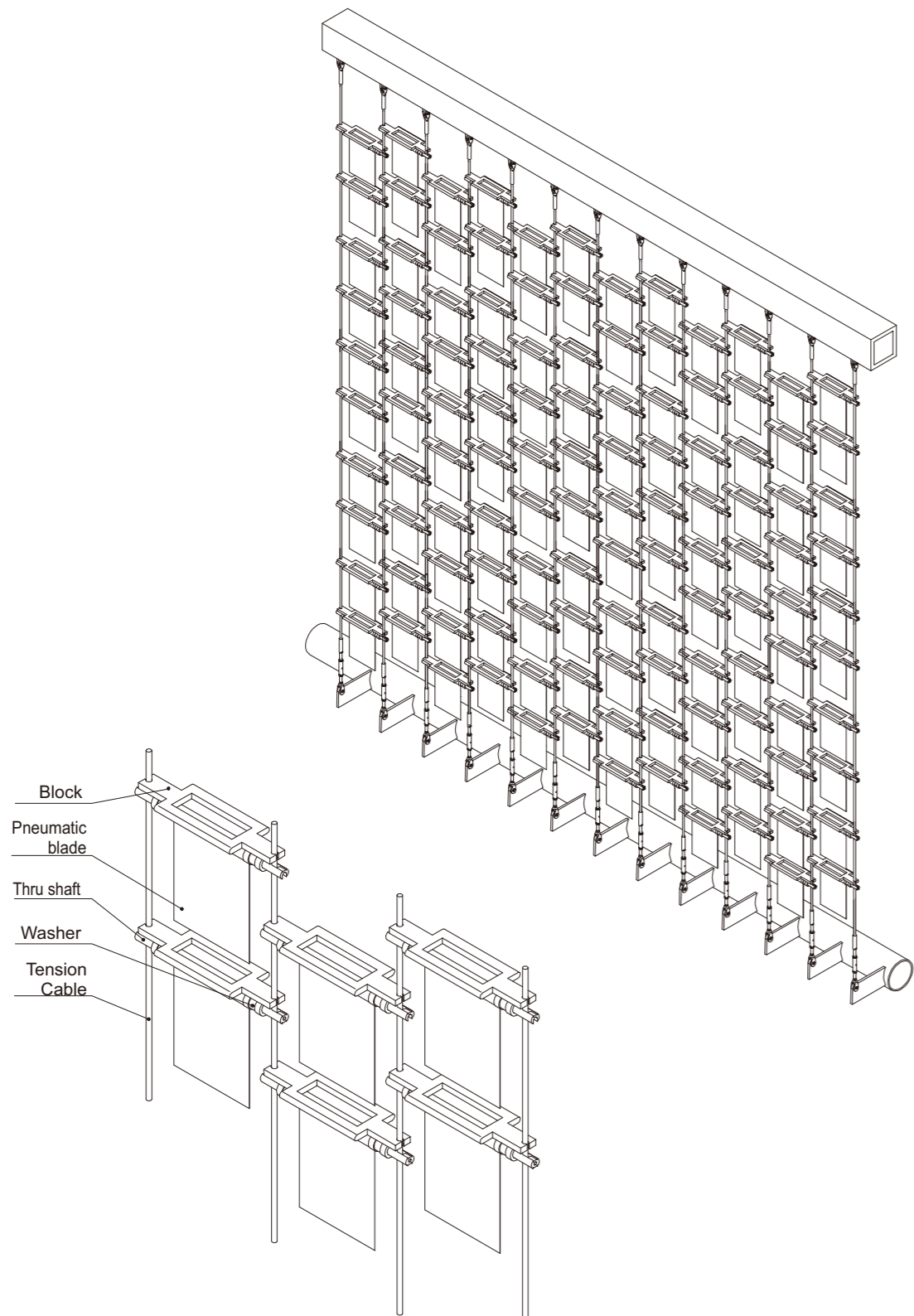
### Steel Fin Glass Curtain Wall System



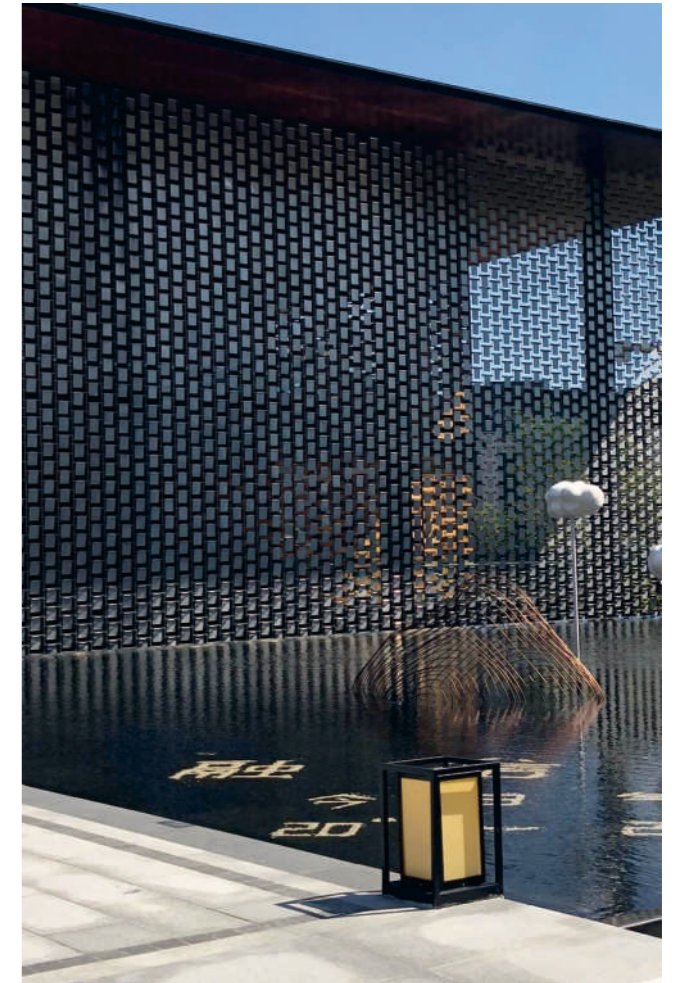
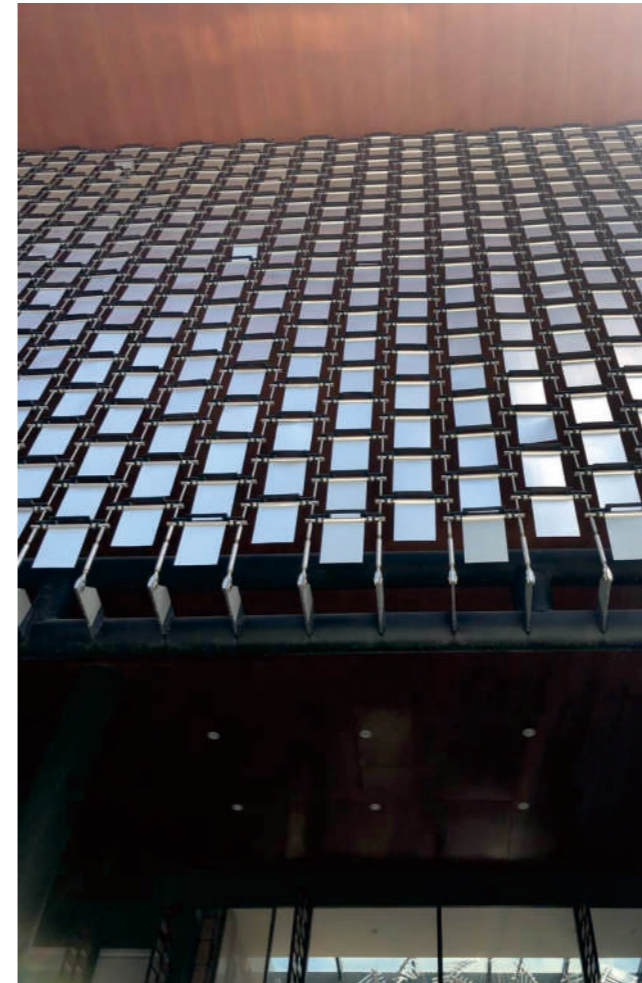
### Steel Fin Glass Curtain Wall System



## Decorated Curtain Wall System



## Decorated Curtain Wall System



## Refined steel curtain wall system

### Introduction to refined steel

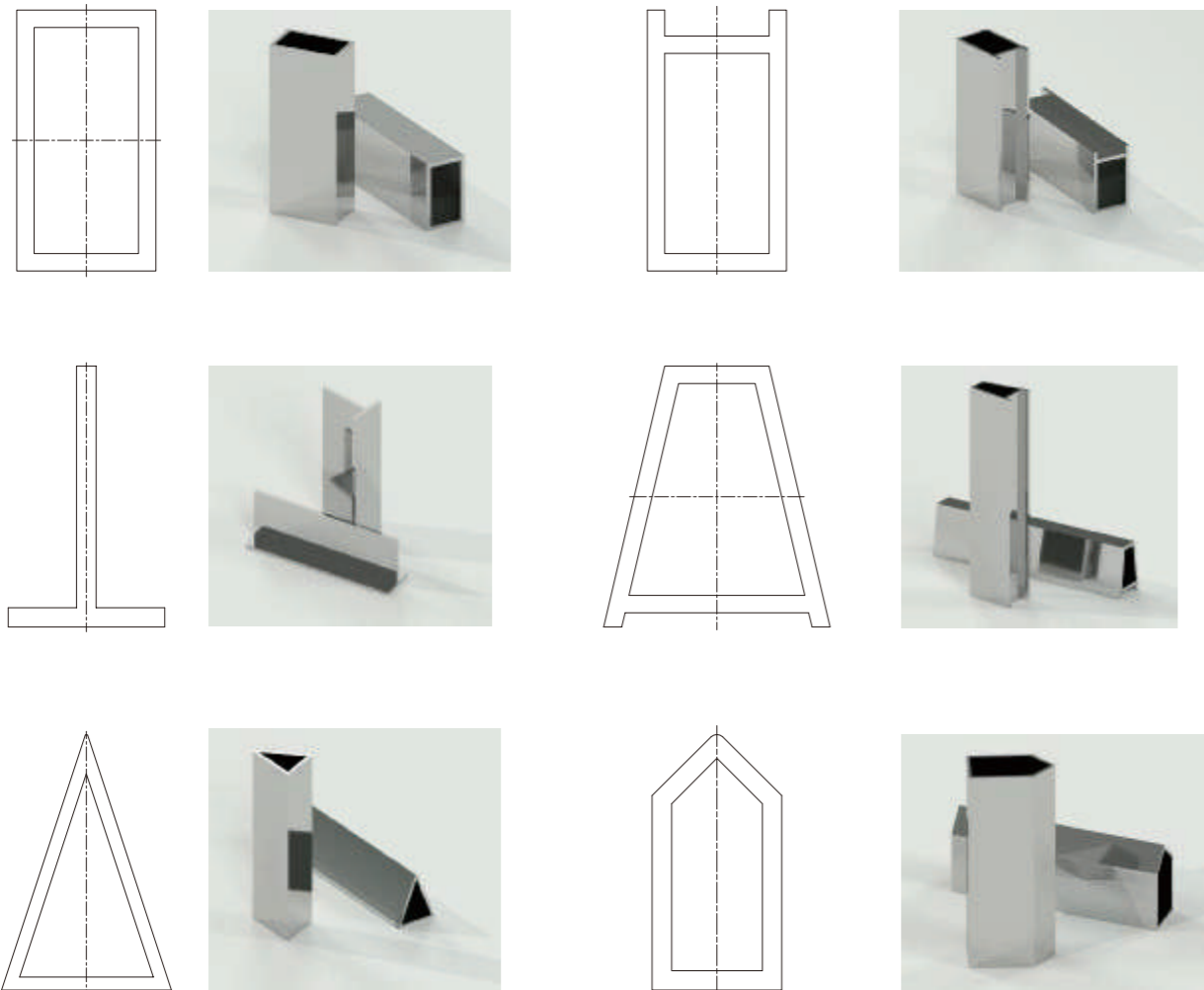
Refined steel is often called fine steel, high precision steel, etc.; A high precision steel profile with high flatness, high straightness and sharp edges. Need not Secondary anti-corrosion and decoration, direct structure - decoration integrated molding. Material has stainless steel, carbon steel and other materials.

Stainless steel surface treatment is wire drawing, mirror light, carbon steel surface treatment is usually self-drying fluorocarbon paint spraying.

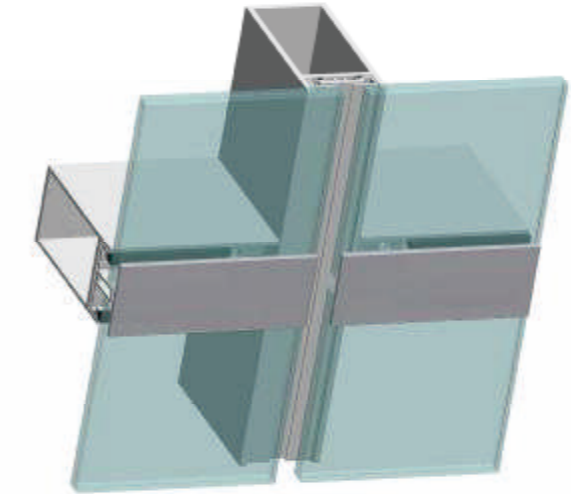
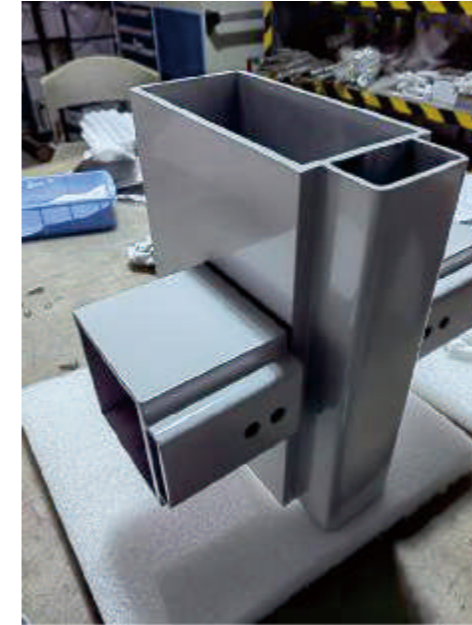
Refined steel is usually used in structural systems with high permeability, high span, large span and irregular joints. For example: lobby, atrium, Landscape, foyer, unit steel frame, grid structure and other public buildings.

Main features: angular, without R Angle, horizontal vertical.

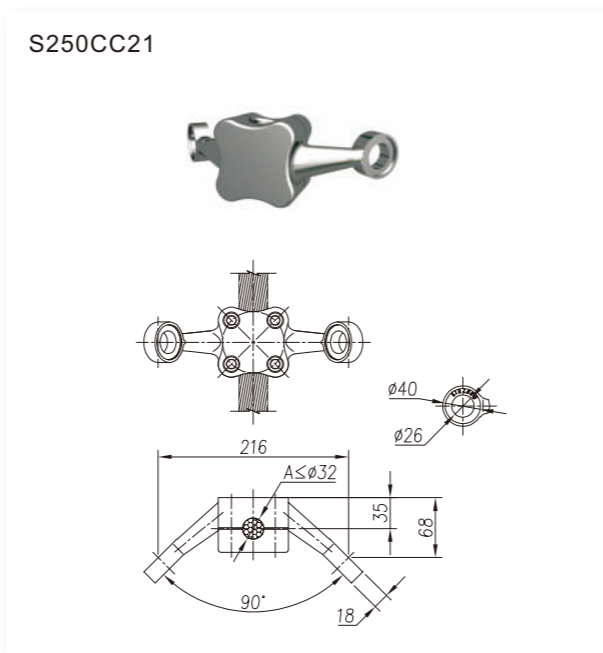
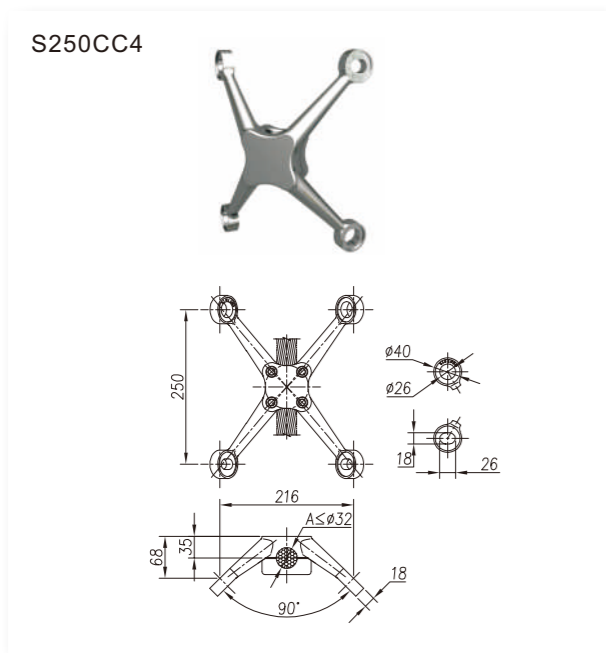
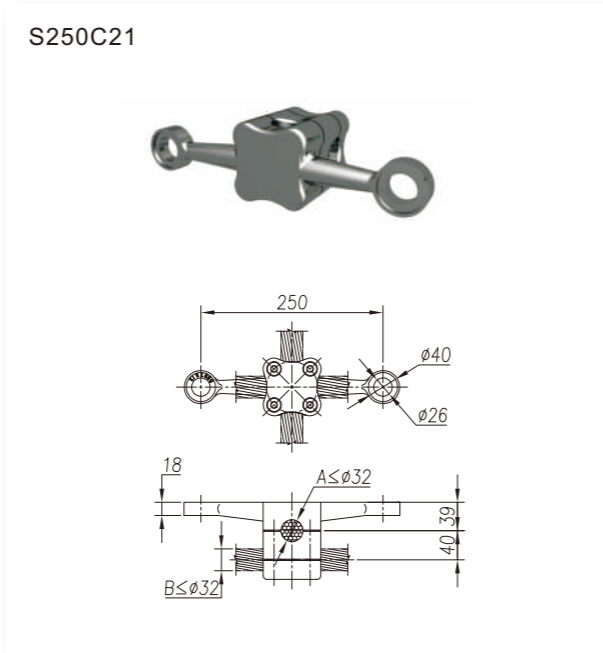
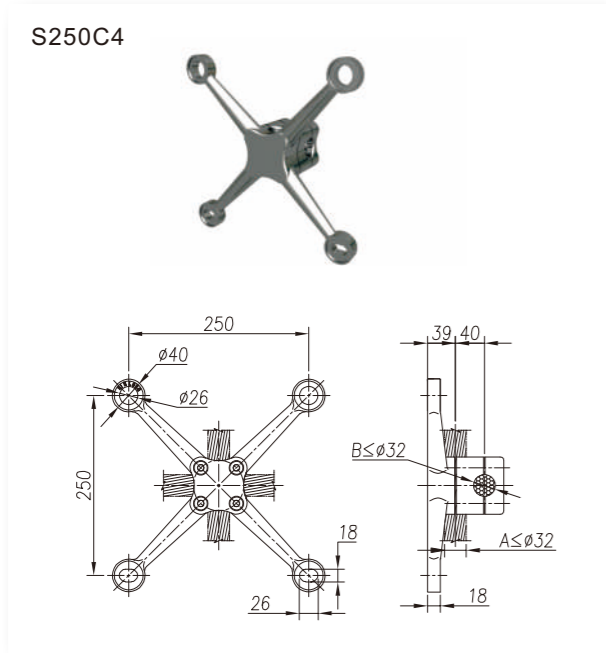
### Regular section shape of refined steel



## Refined steel curtain wall system



## Cable Spider



| The Recommended Value of Load Capacity(N) | Model        | Material: CF8M、CF8 |      | Material: CD3MN |      |  |
|---|--------------|--------------------|------|-----------------|------|--|
|   |              | Fx ≤               | Fy ≤ | Fx ≤            | Fy ≤ |  |
|   | S250C Series | 2500               | 1500 | 3300            | 2000 |  |
| S250CC Series                             |              |                    |      |                 |      |  |

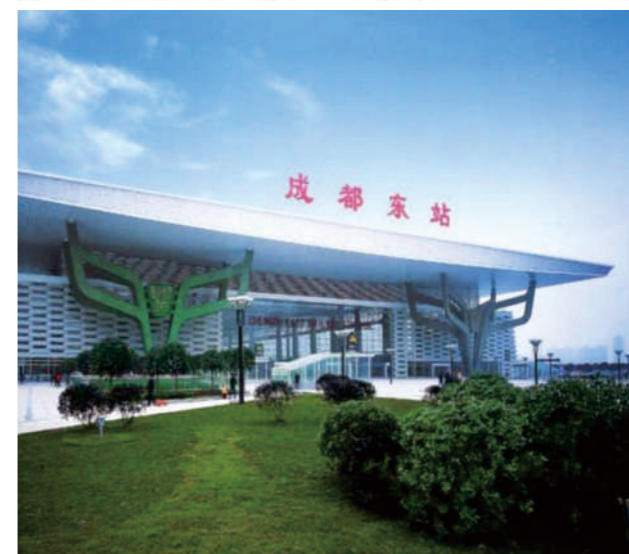
## Clamp

### I. Clamp supporting advantages:

1. Simpler structure, lower cost;
2. No need drilling hole, can avoid glass manufacture defects and reduce the drilling fee;
3. No hole sealing issue of double glazing.
4. Lots of washers type for different project options.
5. Clamp hole the panel close to the structure which reduce the bending effect from the dead load.
6. Clients can choose or customize from many appearance types.

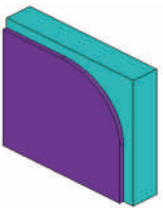
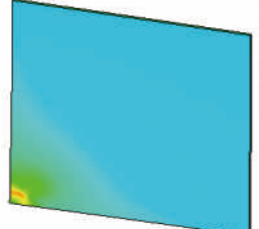

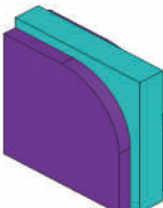
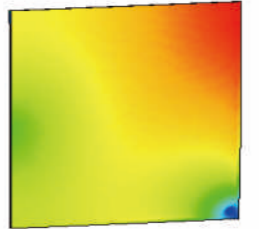

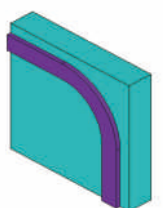
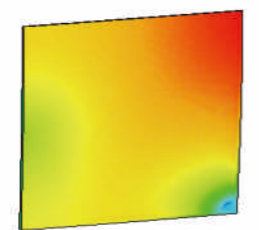

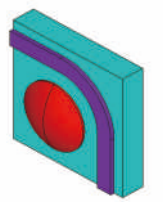
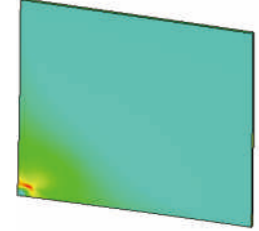
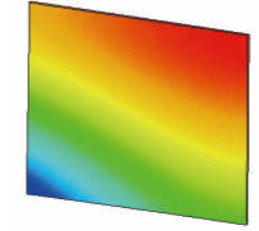
### II. Clamp supporting disadvantages:

1. Dead load bear by the bottom of glass causing glass bending.
2. Supporting plates locate at the glue-line , so curtain wall glue-line need to be designed more wider;
3. Since clamp loading point is on the corner, glass calculation span can't be reduced.
4. Large dimension of hardware.
5. Having a long glue side and located at the glue-line, so it has a high construction requirement for silicone sealant.



III. The glass loading features under the clamp supporting

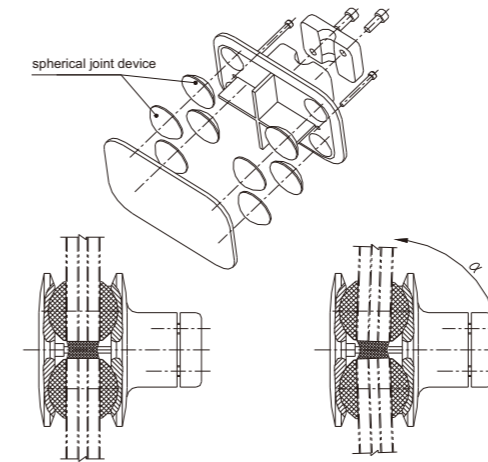
The glass loading, when it's under clamp supporting, has the relation with glass dimension, thickness, shape, etc. After the glass dimension confirmed, the glass loading will be more affected by clamp gasket. Common gasket supporting type and loading features as following:

| Corner Supporting Manner  | Stress (N/mm <sup>2</sup> )   | Deflection (mm)   | Features  |
|---|---|---|---|
|  <p>2mm rubber gasket</p>                                  |  <p>maximum stress 55.702N/mm<sup>2</sup></p>    |  <p>maximum deflection 37.955mm</p>   | The thinner the gasket, the greater the constraint on the rotation of the glass corner. The analysis result shows that the stress is large and the deflection is small.   |
|  <p>6mm rubber gasket</p>                                 |  <p>maximum stress 41.315N/mm<sup>2</sup></p>   |  <p>maximum deflection 46.326mm</p>  | The thicker the gasket, the smaller the constraint on the rotation of the glass corner. The analysis result shows that the stress is small and the deflection is large.   |
|  <p>2mm banded rubber gasket</p>                         |  <p>maximum stress 40.073 N/mm<sup>2</sup></p> |  <p>maximum deflection 43.369mm</p> | The narrower (or smaller) gaskets have less constraint on the rotation of the glass corners. The analysis results are small stress and large deflection.  |
|  <p>Nylon spherical hinge + 2mm banded rubber gasket</p> |  <p>maximum stress 46.427N/mm<sup>2</sup></p>  |  <p>maximum deflection 38.624mm</p> | The constraint of the spherical hinge on the corner of the glass is actually determined by the peripheral gasket (or glue joint). In this case, the analysis result is that the stress is large and the deflection is small. It has big difference with the simple spherical hinge support. |

**Analysis & Conclusion:**

- In the above comparison, the glass specification is 1800mm\*2000mm. Glass type is 12mm tempered glass. Wind stress is 2.0Kpa. Glass strength design value is 84 N/mm<sup>2</sup>.
- From the comparison, the more rotating restrain capacity of corner supporting, the bigger glass stress but the smaller deflection. So put more restrain to the glass corner, the deflection will decrease. (or less glass thickness)
- The main purpose of this analysis is contrast different supporting glass force features. The result accuracy just can responsible for the model. And It may be small difference between other models. This analysis for reference only.

Lateral Spherical Joint Clamp  
(patent: 200820092149.7)



[19] 中华人民共和国国家知识产权局 [51] Int. Cl.  
E04B 2/88 (2006.01)

[12] 实用新型专利说明书  
专利号 ZL 200820092149.7

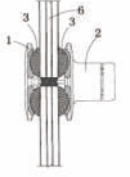
[45] 授权公告日 2009年1月14日 [11] 授权公告号 CN 201180326Y

[22] 申请日 2008.2.15 [74] 专利代理机构 广州华进联合专利商标代理有限公司  
[21] 申请号 200820092149.7 代理人 郑小琴  
[73] 专利权人 东莞市坚五金制品有限公司 地址 528415 广东省东莞市塘厦镇大坪工业区  
[72] 发明人 白宝耀

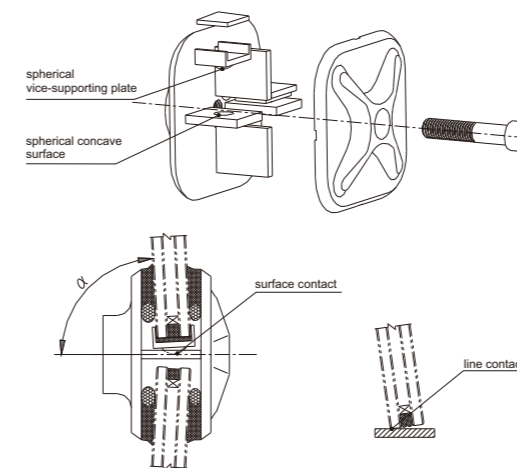
说明书附图 2 页 附图 6 张 附图 3 页

[54] 实用新型名称  
点胶式幕墙夹具

[57] 摘要  
一种点胶式幕墙夹具, 至少包括: 外夹板, 设有多个成内凹的部分球面状的球铰孔; 内夹座, 与外夹板正对平行排列并通过螺栓螺母于内夹座和外夹板中而连接成一体; 内夹座正对于外夹板上的球铰孔设有多个成内凹的部分球面状的球铰孔; 以及多个垫片, 成部分球体状, 一端为凸配于外夹座上的球铰孔或内夹座上的球铰孔的球铰面, 另一端为安装平面, 垫片置于该球铰孔中, 幕墙面板夹持在多个垫片之间, 利用球形垫片的调整, 幕墙面板在一定范围内可以微调, 既在安装过程中, 可根据各部件的相对位置在一定范围内调节安装角度, 安装易于实施且方便, 而且能够减小幕墙面板特别是玻璃幕墙面板受外力时产生的挠度, 提高抗震性能及耐冲击破坏性能。



Supporting Spherical Joint Clamp  
(patent: 200920204817.5)



[19] 中华人民共和国国家知识产权局 [12] 实用新型专利

[21] 申请号 200920204817.5 [10] 授权公告号 CN 201802118.1  
[22] 申请日 2009.09.07 [45] 授权公告日 2010.06.09

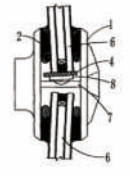
[73] 专利权人 东莞市坚五金制品有限公司 地址 528415 广东省东莞市塘厦镇大坪工业区  
[72] 发明人 白宝耀  
[74] 专利代理机构 广州华进联合专利商标代理有限公司 44224 代理人 吴平

[51] Int. Cl.  
E04B 2/88 (2006.01)

说明书附图 1 页 附图 5 张 附图 5 页

[54] 实用新型名称  
点胶式幕墙夹具

[57] 摘要  
一种点胶式幕墙夹具, 至少包括: 外夹板, 内夹座, 该内夹座与该外夹板间隔地固定连接成一体; 托板, 固设于该外夹板与该内夹座之间, 以及副托板, 与该托板形成较接并承载上方的幕墙面板。本实用新型的幕墙夹具对幕墙面板实现了夹持连接, 副托板与托板之间形成较接连接, 副托板承载幕墙面板, 幕墙面板在三维方向上在一定角度范围内可转动而幕墙面板在转动过程中, 幕墙面板底面与副托板之间始终保持面接触, 即保持承载面积不变, 不会产生线接触的应力集中, 承载稳定可靠, 安装性高。



IV. Clamp instructions:

**1. Using taboo for gasket & glue**

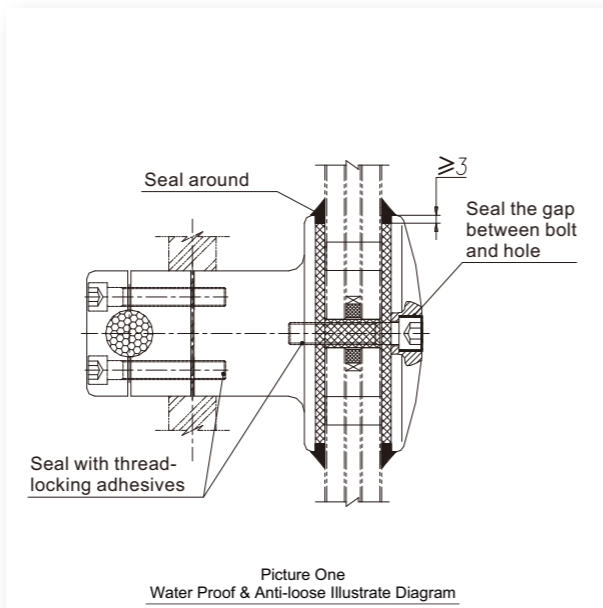
- (1) To avoid the sealant color changing to yellow (as below picture) and affect the appearance, so suggesting choose black sealant.
- (2) Before sealing, suggest to dye or compatibility test between the glue and gasket according to the manufacture standard.
- (3) Sealant suggesting use it with neutral silicone weather-proof attributes.
- (4) The glue area must be clean before sealing, and the exact requirement can consult the supplier.

**2. Sealing measure**

- (1) RG unilateral distance design should be  $\geq 3\text{mm}$  between clamp edge and two glass facade sides.
- (2) Clear the glue area before sealing and glue continuously to provide good glue-line. guarantee the glue-line quality.

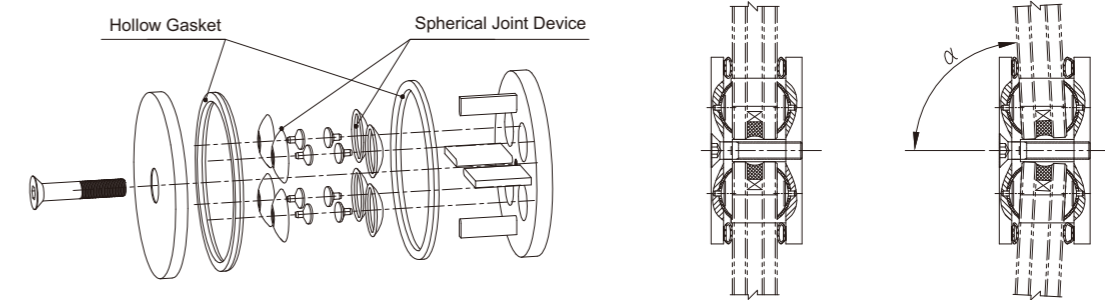
**3. Anti-loose measure**

Suggest to lock the screw with thread-locking adhesives to prevent clamp screw loose after long time vibration.



V. Clamp new technique

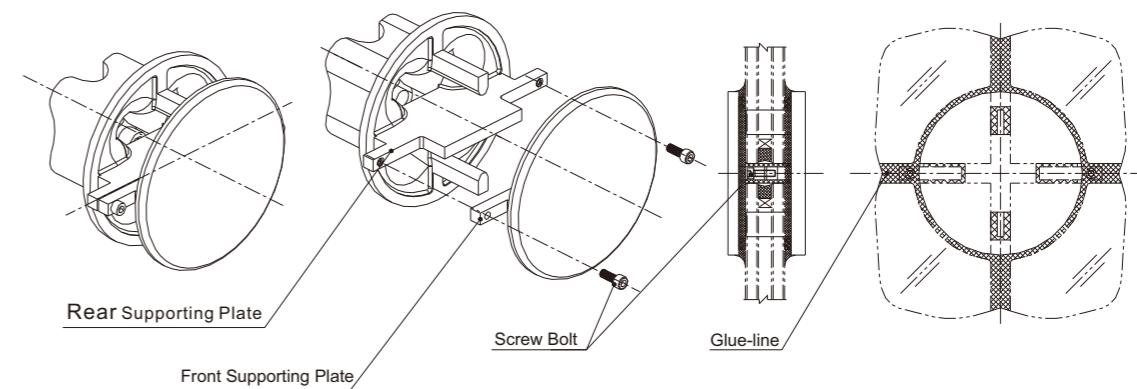
New spherical clamp



**Product highlights:**

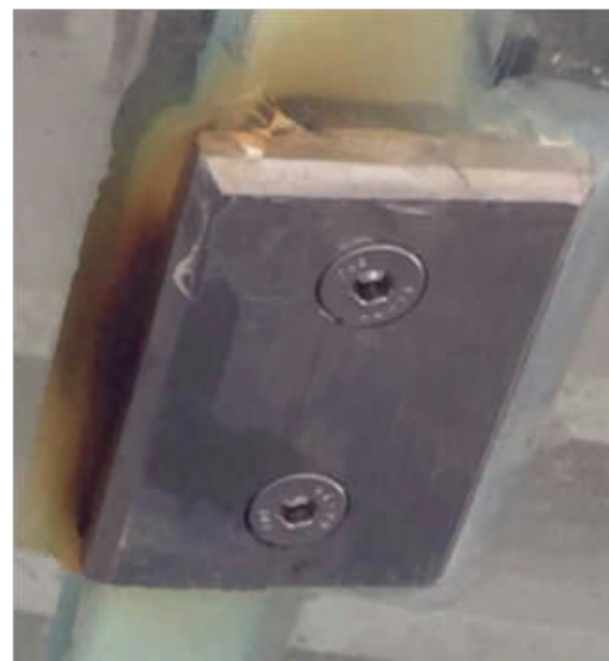
- 1. Decrease the glass restriction effect of the edge gasket and sealing, give full play to spherical joint.
- 2. No need fill in foam stick before sealing and it can get the same wide sealant, which increases the installation efficiency.

Screw concealed clamp

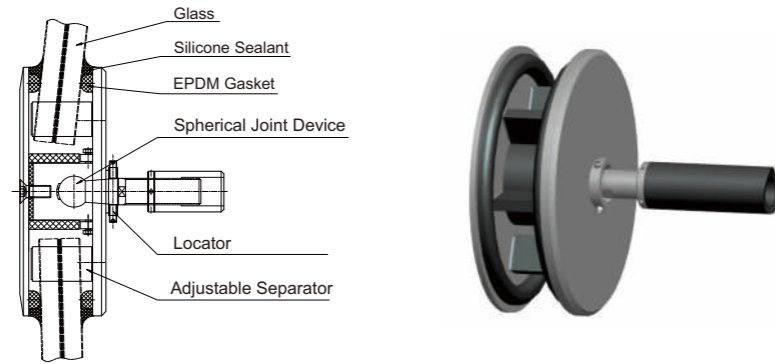


**Product highlights:**

- 1. The installation blot is invisible from indoor & outdoor, good appearance.
- 2. Can prevent clamp screw bolt become loose after long time vibration.
- 3. No screw hole sealing and can perfect solve the screw hole water leakage.



Clamp for Curved Glass



Features of the Clamp Special for Curved Glass

1. The EPDM thick gasket, formed by injection molding, is used at the outer edge of clamp, providing point support to glass corner and adaptation to the changing of angle between glass and clamp.
2. Removable and adjustable separators are easy for the installation of multi panels in different angle.
3. The spherical joint device inside the clamp is easy for adjusting the angle of clamp. The locator in the rear can locate the clamp after the angle adjustment, to avoid the interaction effect between glasses during installing or under stress.

Note: the adjustable separator and locator is the patent of KIN LONG, right reserved.

Project Cases:

Beijing Huaifang Sports Complex // Henan Provincial Tennis Stadium // Qingdao World Horticulture Expo Park  
Nanjing Xiaohonghua Art Primary School // Yunnan Science and Technology Museum // Dali Taiye International Plaza  
Nanjing Xianlin Wanda MAO // Quanzhou Public Cultural Center // Yangjiang Yingxin Plaza



▲ Nanjing Small Red Flower Art Primary School



▲ Yangjiang Yingxin Plaza

▼ Installation Section



▼ Installation Section



(19) 中华人民共和国国家知识产权局

(12) 发明专利申请

(10) 申请公布号 CN 103321333 A  
(43) 申请公布日 2013.09.25

(21) 申请号 201310254878.4  
(22) 申请日 2013.06.24  
(71) 申请人 广东坚朗五金制品股份有限公司  
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(72) 发明人 白宝魁  
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代理人 吴平

(51) Int. Cl.  
E04B 2/88 (2006.01)

权利要求书1页 说明书5页 附图5页

(54) 发明名称  
点胶式幕墙夹具

(57) 摘要  
一种点胶式幕墙夹具,至少包括:外夹板1;内夹座,内夹座与外夹板隔地固定连接;以及多个球铰结构,与外夹板一起夹持幕墙面板;球铰结构包括分体连接的球铰垫片和球铰底座,球铰垫片包括球面部,球铰底座也包含匹配正对于球铰垫片的球面部的球面,多个球铰底座安装在内夹座上,球铰垫片安装在球铰底座上,采用分体模压化的球铰结构,本发明的幕墙夹具对幕墙面板实现夹持连接,在安装过程中,可根据幕墙面板的安装情况灵活地设置球铰底座的个数,从而,解决了一个节点处玻璃幕墙面板数量增减和不同安装状态的问题。

CN 103321333 A

(19) 中华人民共和国国家知识产权局

(12) 实用新型专利

(10) 授权公告号 CN 203429835 U  
(45) 授权公告日 2014.02.12

(21) 申请号 201320409875.X  
(22) 申请日 2013.07.09  
(73) 专利权人 广东坚朗五金制品股份有限公司  
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(72) 发明人 白宝魁  
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代理人 吴平

(51) Int. Cl.  
E04B 2/88 (2006.01)

权利要求书1页 说明书3页 附图1页

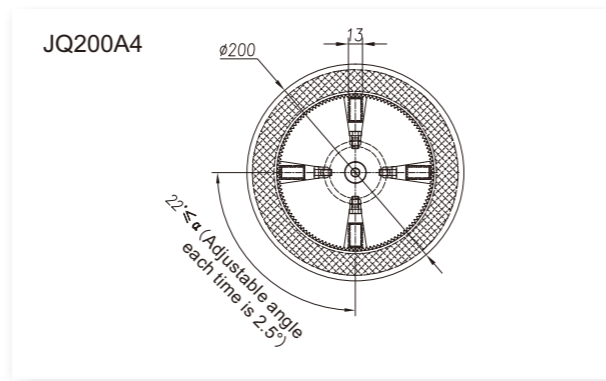
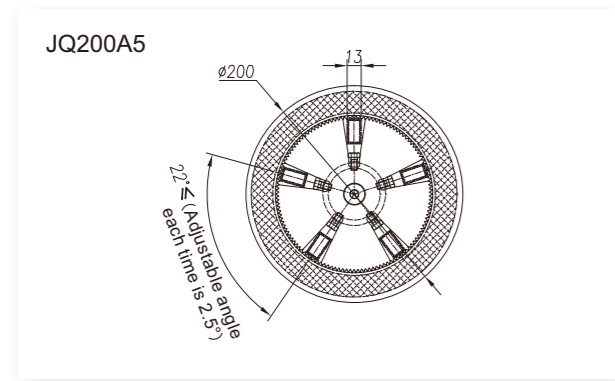
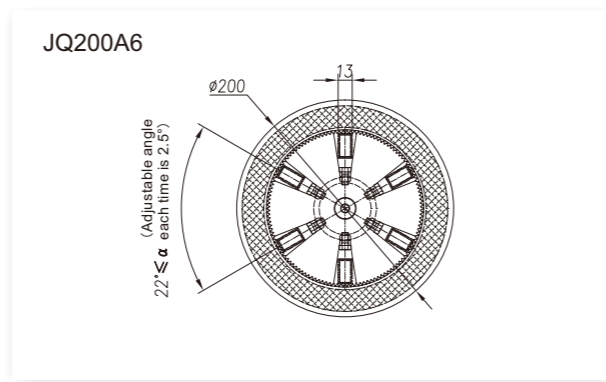
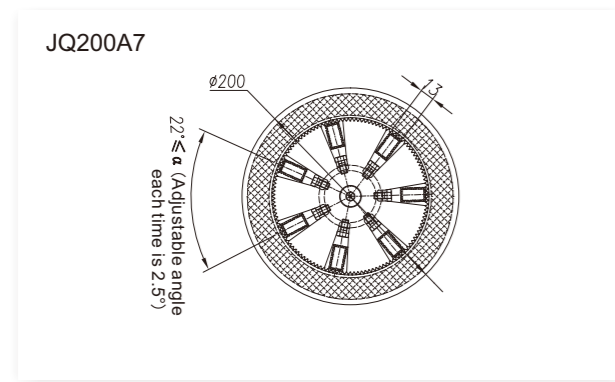
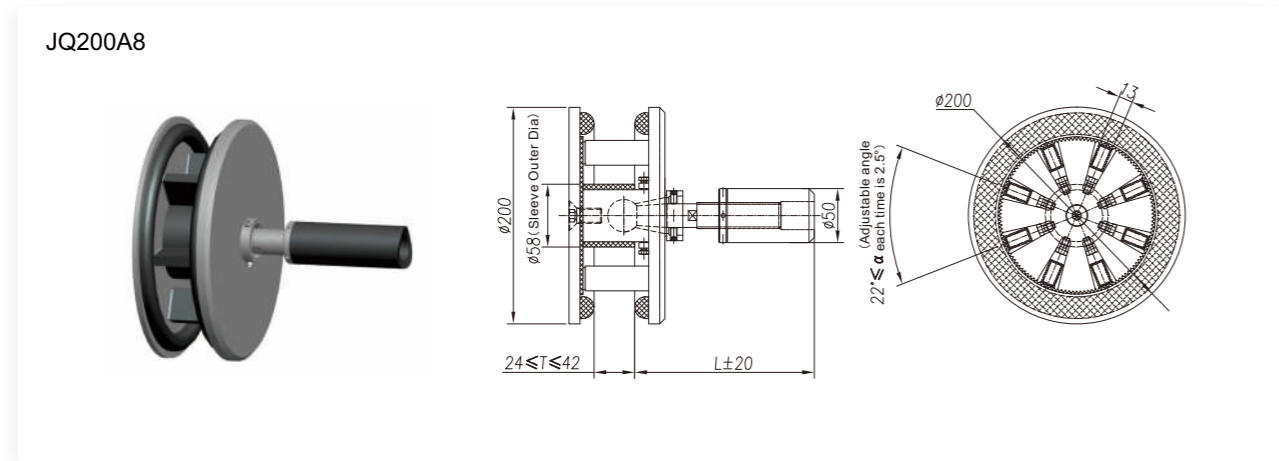
(54) 实用新型名称  
定位装置及使用该定位装置的球铰夹具

(57) 摘要  
本实用新型涉及一种定位装置及使用该定位装置的球铰夹具,一种球铰夹具的定位装置,球铰夹具包括主体与自由摆动的杆件,定位装置包括至少两个固定孔,固定孔设在该主体上;匹配固定孔数量的固定件,每个固定件紧固设在每个固定孔内,并与自由摆动的杆件抵触并将其与主体连为一体。由于本实用新型是在球铰夹具中增加了定位装置,有效的解决球铰夹具角度无法固定的问题,消除焊接或安装过程中出现的角度误差。

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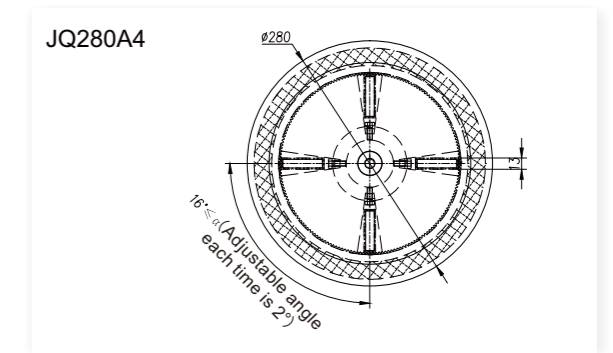
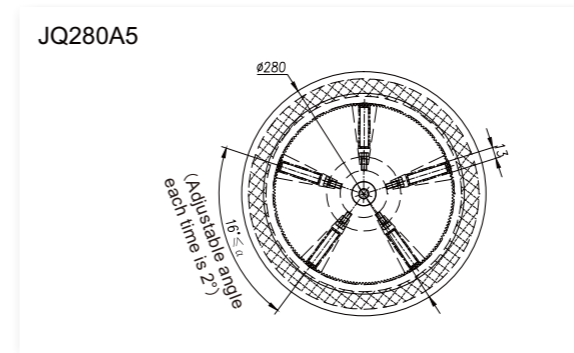
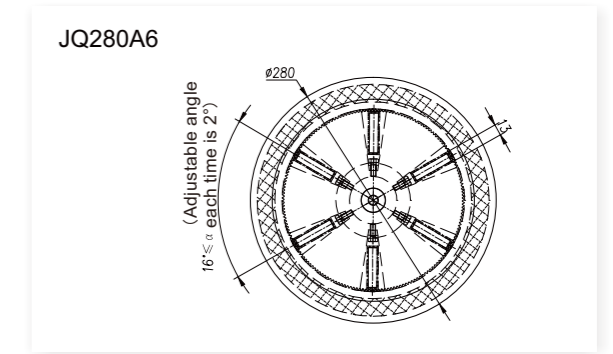
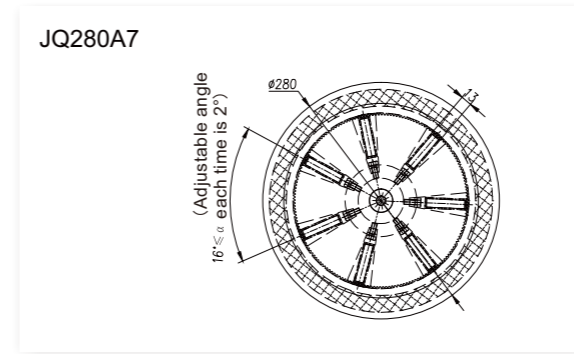
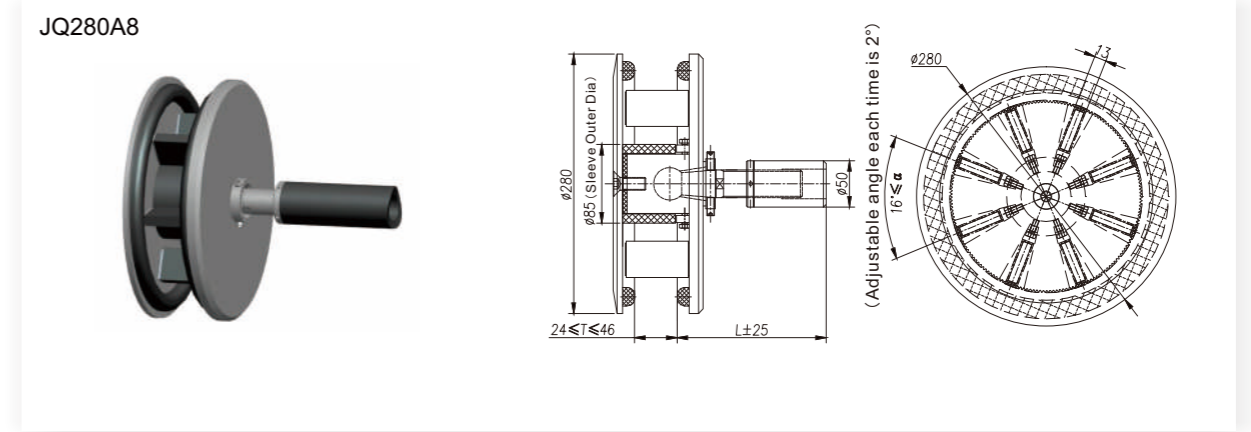


JQ200A Series



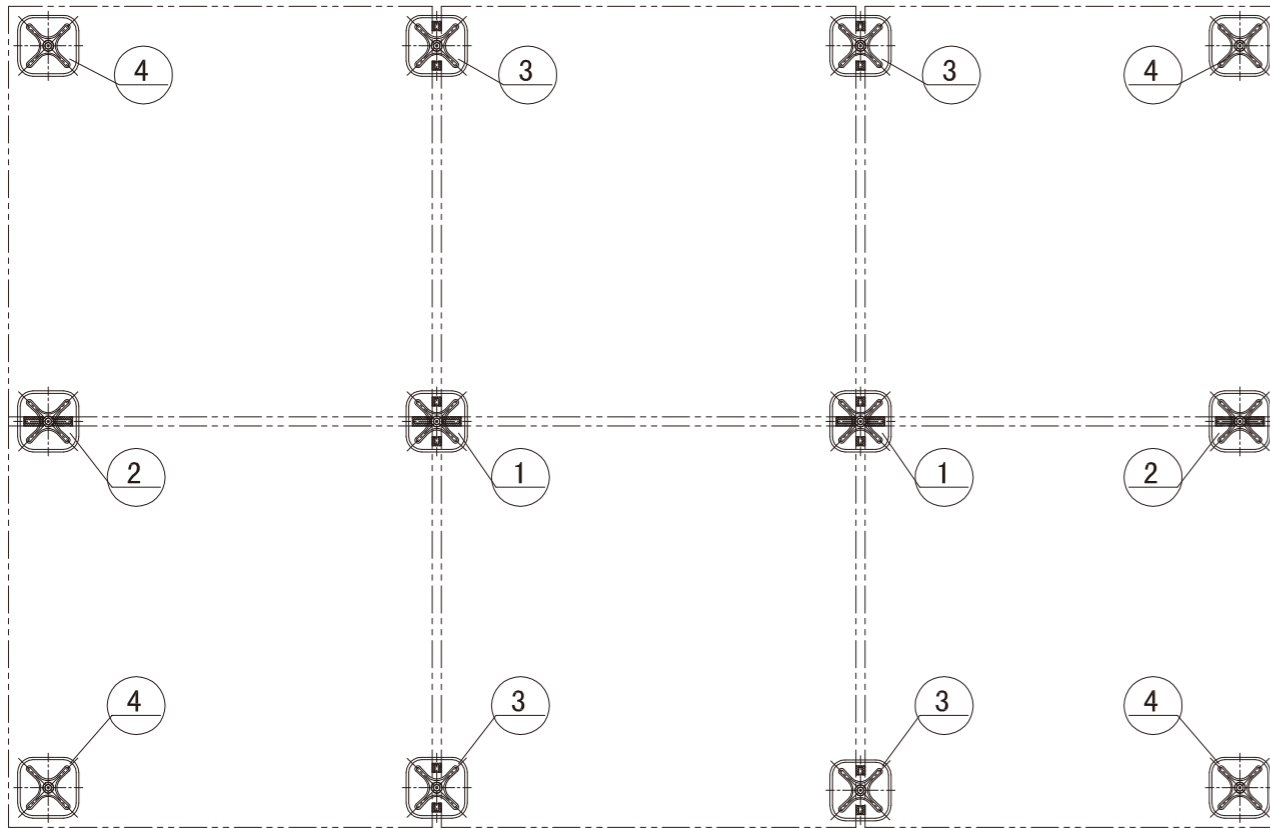
|   |                     |   |  |
|---|---------------------|---|--|
| The Recommended Value of Load Capacity(N) | Material: CF8M, CF8 |   |  |
|   | $F_x \leq$          | Single Reinforcement Plate<br>$F_{yd} \leq$ |  |
|   | 10000               | 1000  |  |

JQ280A Series



|   |                     |   |  |
|---|---------------------|---|--|
| The Recommended Value of Load Capacity(N) | Material: CF8M, CF8 |   |  |
|   | $F_x \leq$          | Single Reinforcement Plate<br>$F_{yd} \leq$ |  |
|   | 10000               | 1000  |  |

VI. Clamp Numbering Rule



| Curtainwall Node   | ①                                 | ②                   | ③                    | ④                  |
|--------------------|-----------------------------------|---------------------|----------------------|--------------------|
| Diagram            |                                   |                     |                      |                    |
| Separator Quantity | 4 pieces (two long and two short) | 2 pieces (two long) | 2 pieces (two short) | without rib plates |
| Product Code       | Regular Number                    | Regular Number+WS   | Regular Number+WH    | Regular Number+W   |
| Regular Number     | J120B11                           | J120B11WS           | J120B11WH            | J120B11W           |

- Note:**
1. Regular number means the clamp has both vertical and horizontal separators, regular number +W/WS/WH means clamp without separators/ without vertical separator/ without horizontal separator.
  2. Regular Number+W clamp needs glass drilling, different clamp may have different drilling, please consult KIN LONG for more details.

J100A Series Clamp (round shape)

**J100A11**

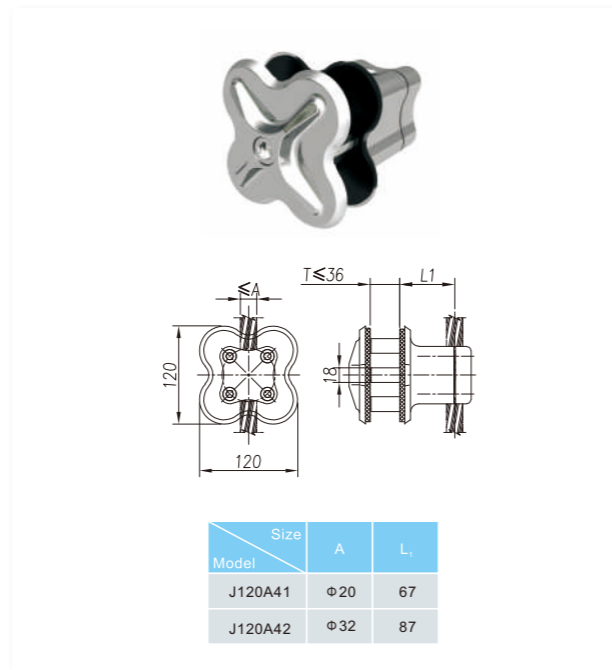
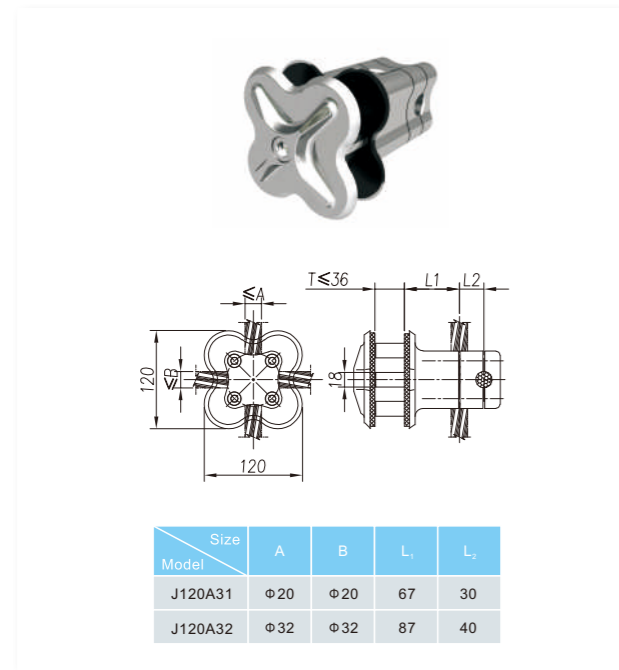
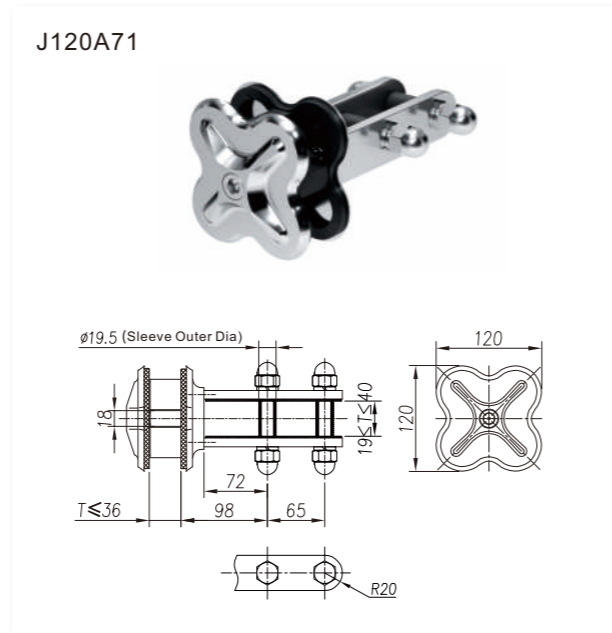
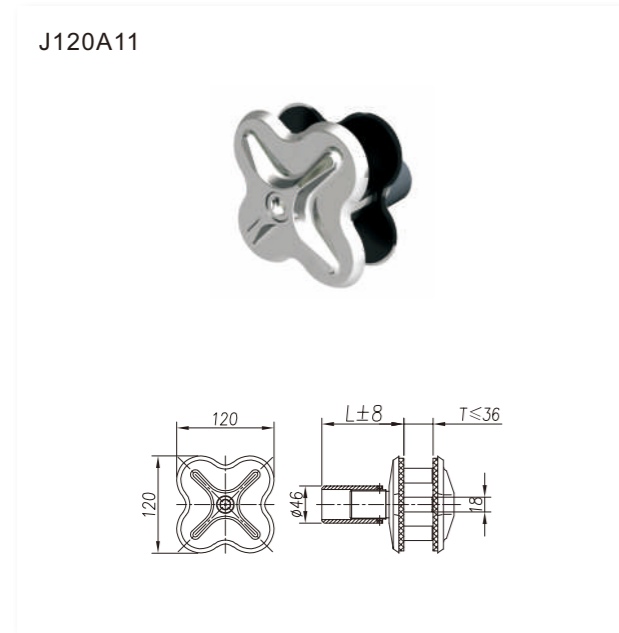
**J100A71**

| Model   | Size | A   | B  | L <sub>1</sub> | L <sub>2</sub> |
|---------|------|-----|----|----------------|----------------|
| J100A31 | φ20  | φ20 | 64 | 30             |                |
| J100A32 | φ32  | φ32 | 84 | 40             |                |

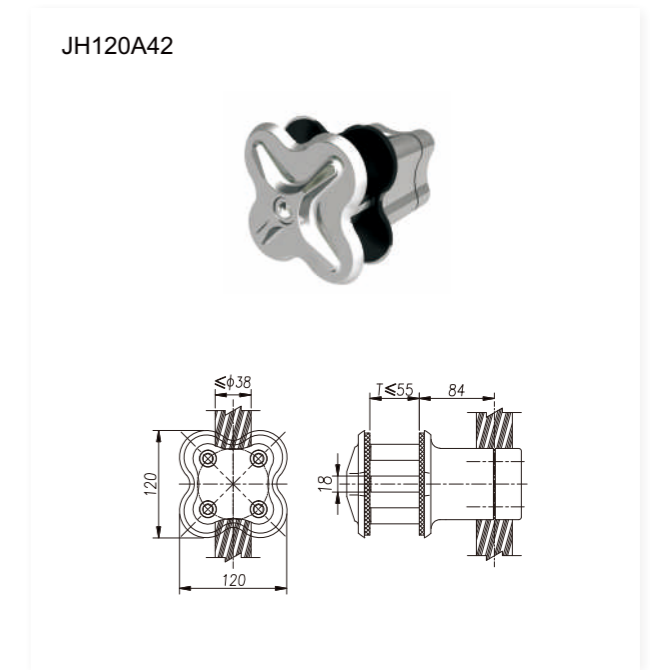
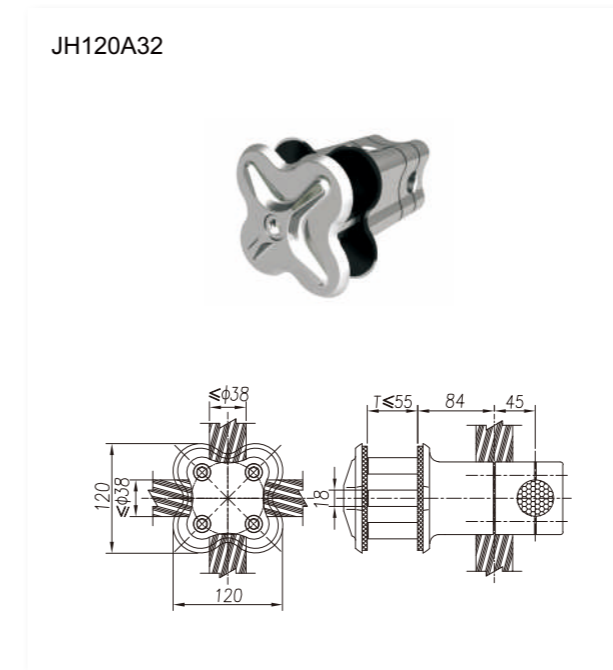
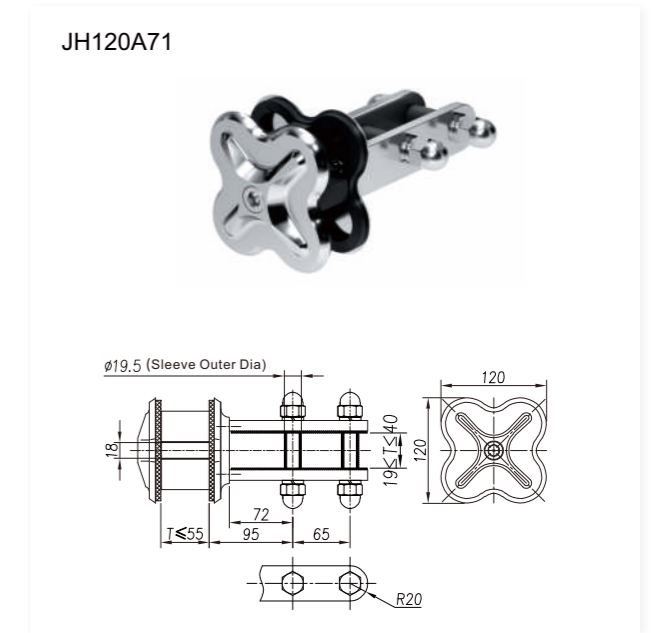
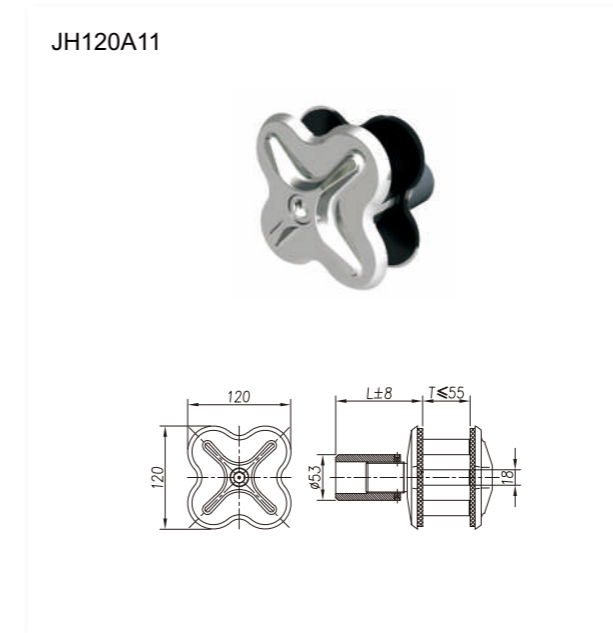
| Model   | Size | A  | L <sub>1</sub> |
|---------|------|----|----------------|
| J100A41 | φ20  | 64 |                |
| J100A42 | φ32  | 84 |                |

| The Recommended Value of Load Capacity(N) | Material: CF8M, CF8 |                  |
|---|---------------------|------------------|
|   | F <sub>x</sub> ≤    | F <sub>y</sub> ≤ |
|   | 16000               | 3000             |

J120A Series Clamp (flower shape)



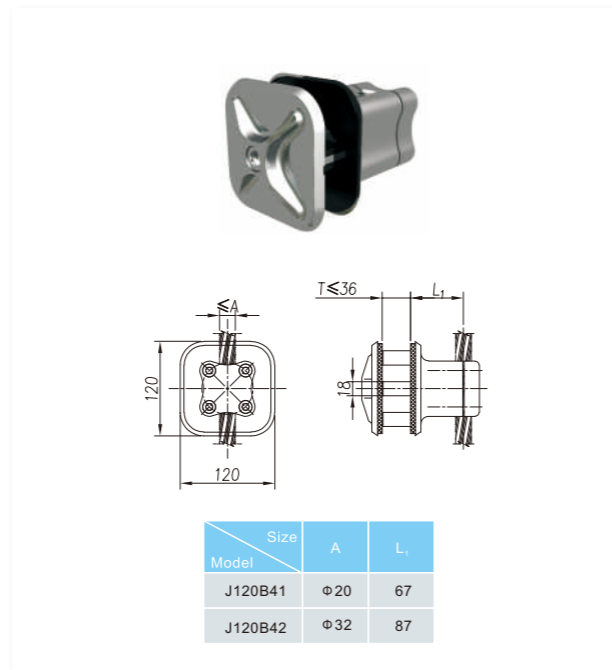
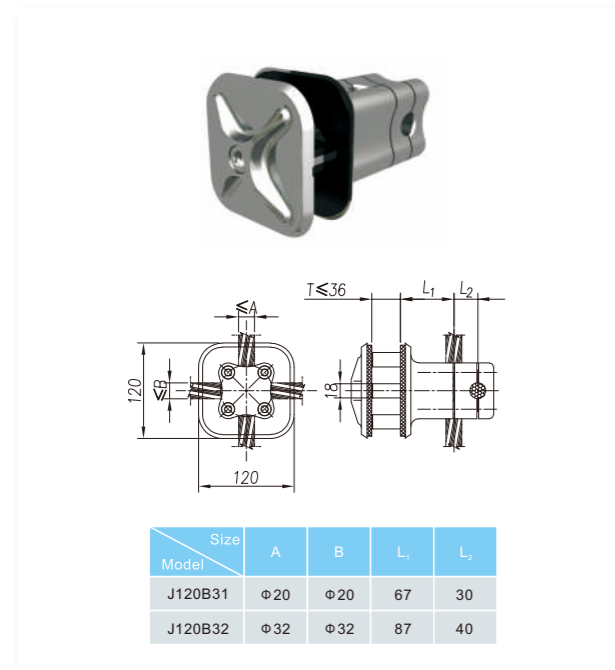
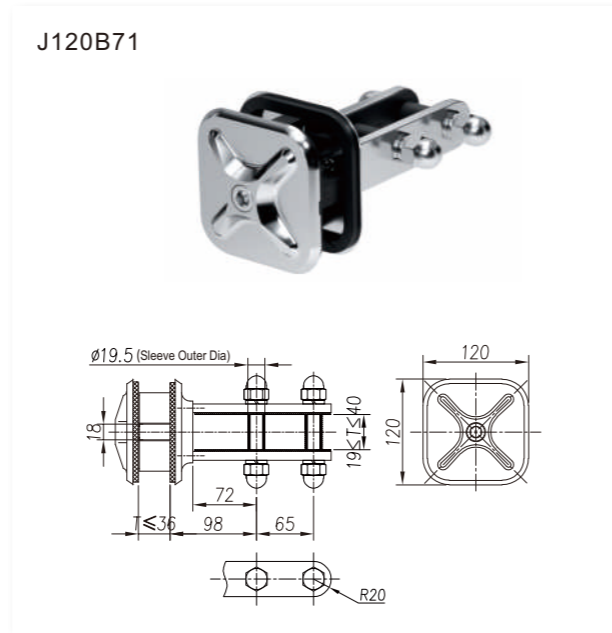
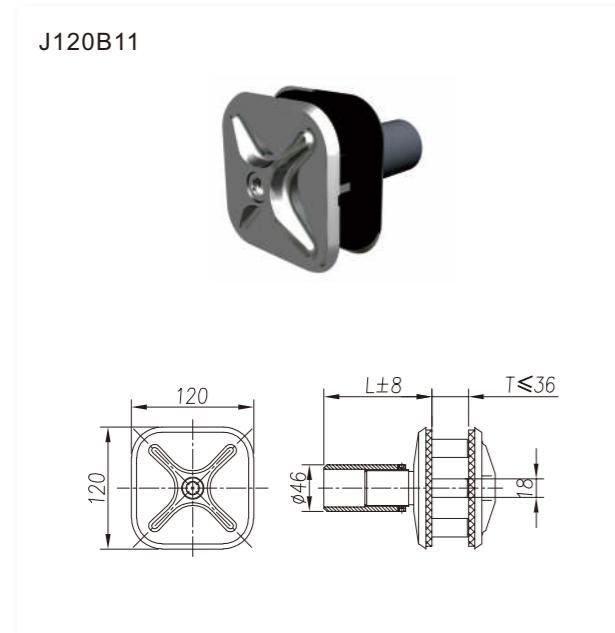
JH120A Series (flower shape)



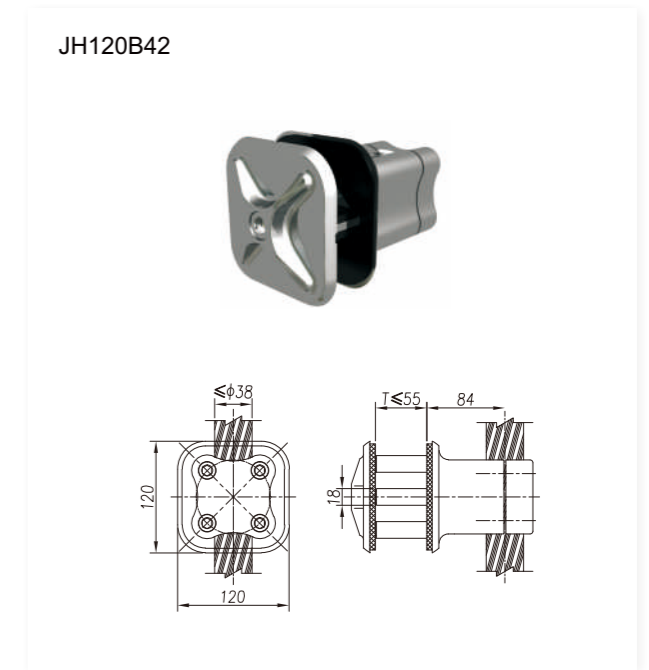
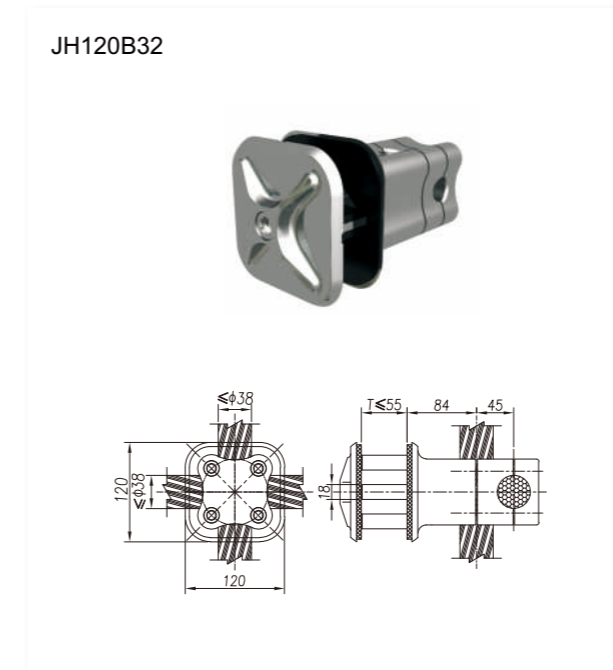
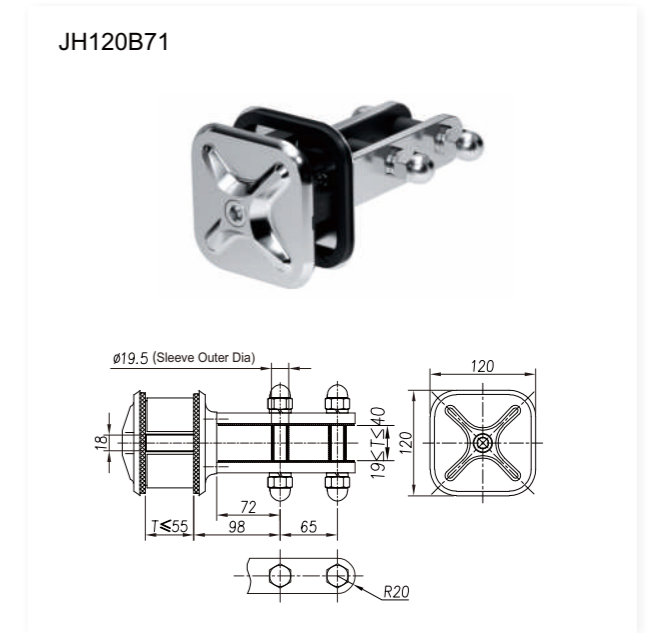
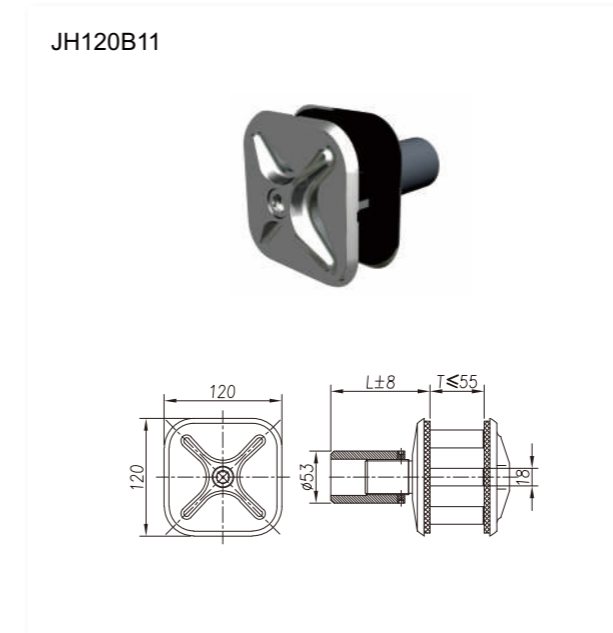
| The Recommended Value of Load Capacity(N) | Material: CF8M, CF8 |                  |  |
|---|---------------------|------------------|--|
|   | F <sub>x</sub> ≤    | F <sub>y</sub> ≤ |  |
|   | 16000               | 3000             |  |

| The Recommended Value of Load Capacity(N) | Material: CF8M, CF8 |                  |  |
|---|---------------------|------------------|--|
|   | F <sub>x</sub> ≤    | F <sub>y</sub> ≤ |  |
|   | 16000               | 5000             |  |

J120B Series (square shape)



JH120B Series (square shape)



| The Recommended Value of Load Capacity(N) | Material: CF8M, CF8 |                  |  |
|---|---------------------|------------------|--|
|   | F <sub>x</sub> ≤    | F <sub>y</sub> ≤ |  |
|   | 16000               | 3000             |  |

| The Recommended Value of Load Capacity(N) | Material: CF8M, CF8 |                  |  |
|---|---------------------|------------------|--|
|   | F <sub>x</sub> ≤    | F <sub>y</sub> ≤ |  |
|   | 16000               | 5000             |  |

J120C Series (square shape)

**J120C11**

**J120C71**

| Model   | Size | A   | B  | L <sub>1</sub> | L <sub>2</sub> |
|---------|------|-----|----|----------------|----------------|
| J120C31 | Φ20  | Φ20 | 64 | 30             |                |
| J120C32 | Φ32  | Φ32 | 84 | 40             |                |

| Model   | Size | A  | L <sub>1</sub> |
|---------|------|----|----------------|
| J120C41 | Φ20  | 64 |                |
| J120C42 | Φ32  | 84 |                |

J120D Series (rectangle shape)

**J120D11**

**J120D71**

| Model   | Size | A   | B  | L <sub>1</sub> | L <sub>2</sub> |
|---------|------|-----|----|----------------|----------------|
| J120D31 | Φ20  | Φ20 | 64 | 30             |                |
| J120D32 | Φ32  | Φ32 | 84 | 40             |                |

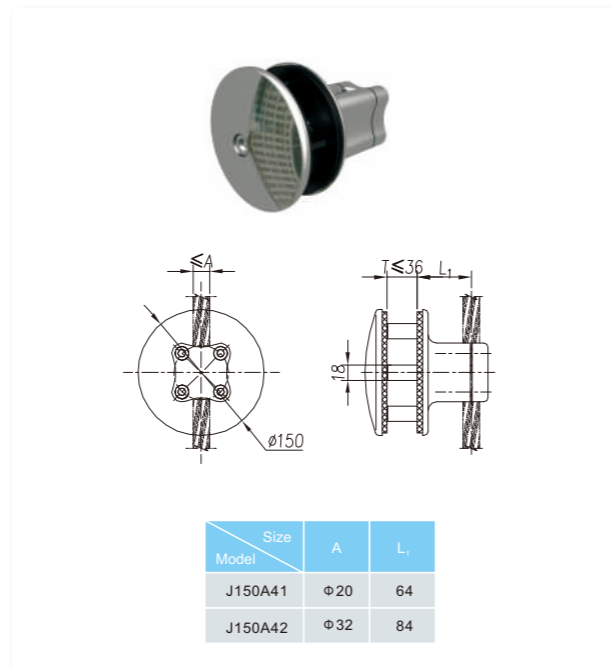
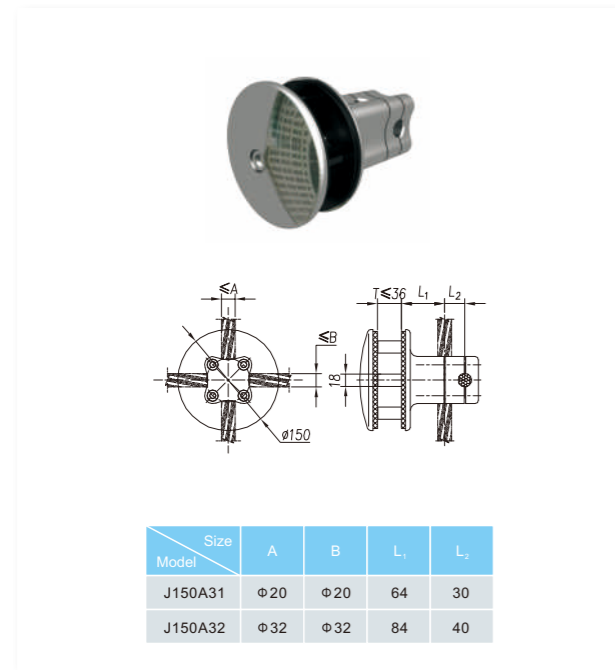
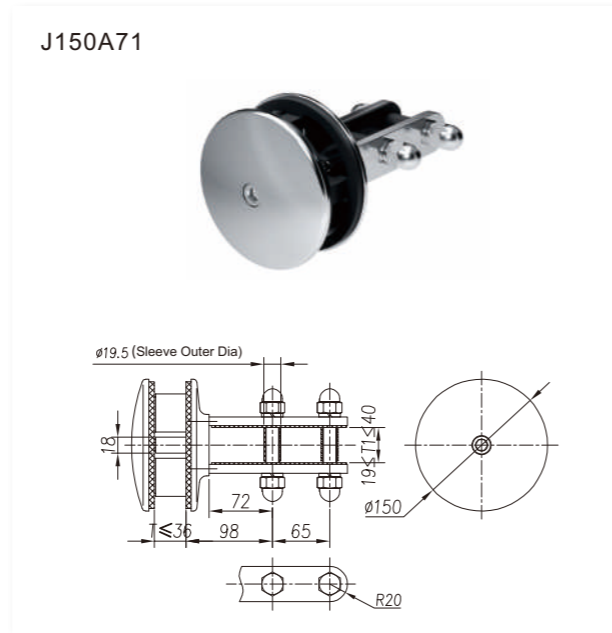
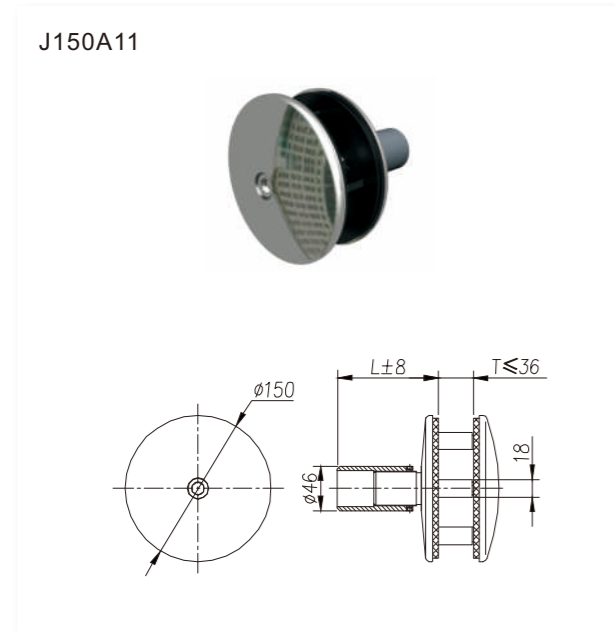
  

| Model   | Size | A  | L <sub>1</sub> |
|---------|------|----|----------------|
| J120D41 | Φ20  | 64 |                |
| J120D42 | Φ32  | 84 |                |

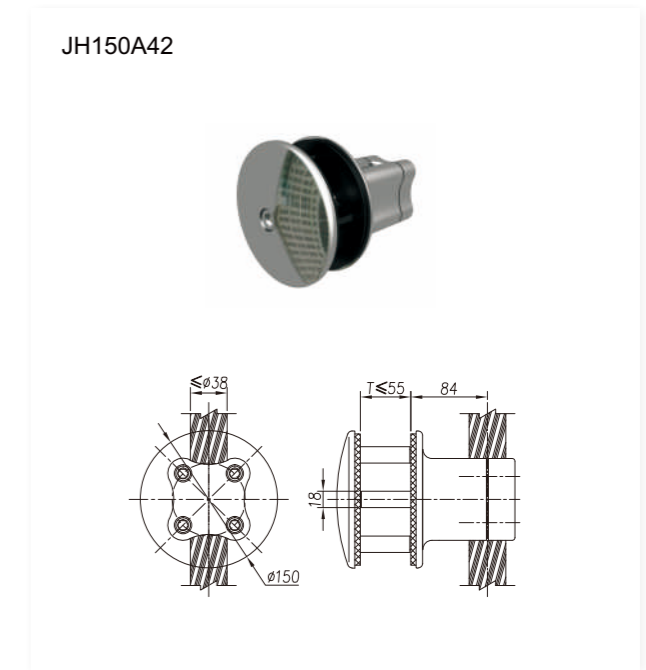
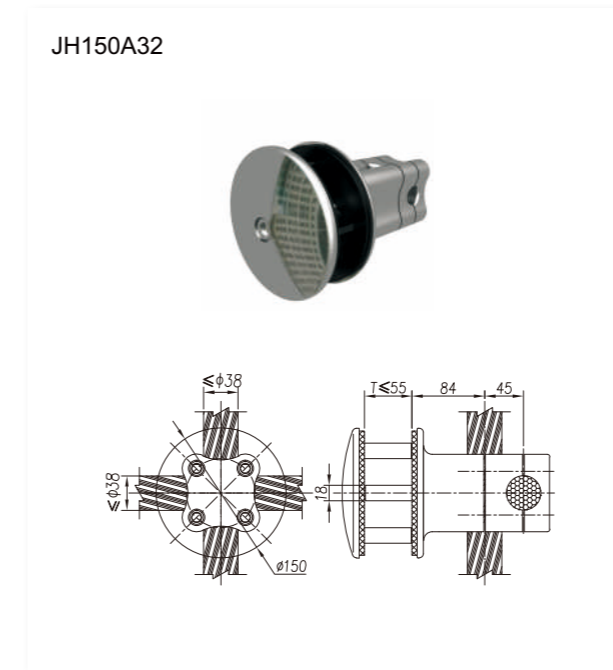
|   |                     |            |  |
|---|---------------------|------------|--|
| The Recommended Value of Load Capacity(N) | Material: CF8M, CF8 |            |  |
|   | $F_x \leq$          | $F_y \leq$ |  |
|   | 16000               | 3000       |  |

|   |                     |            |  |
|---|---------------------|------------|--|
| The Recommended Value of Load Capacity(N) | Material: CF8M, CF8 |            |  |
|   | $F_x \leq$          | $F_y \leq$ |  |
|   | 16000               | 4000       |  |

J150A Series (round shape)



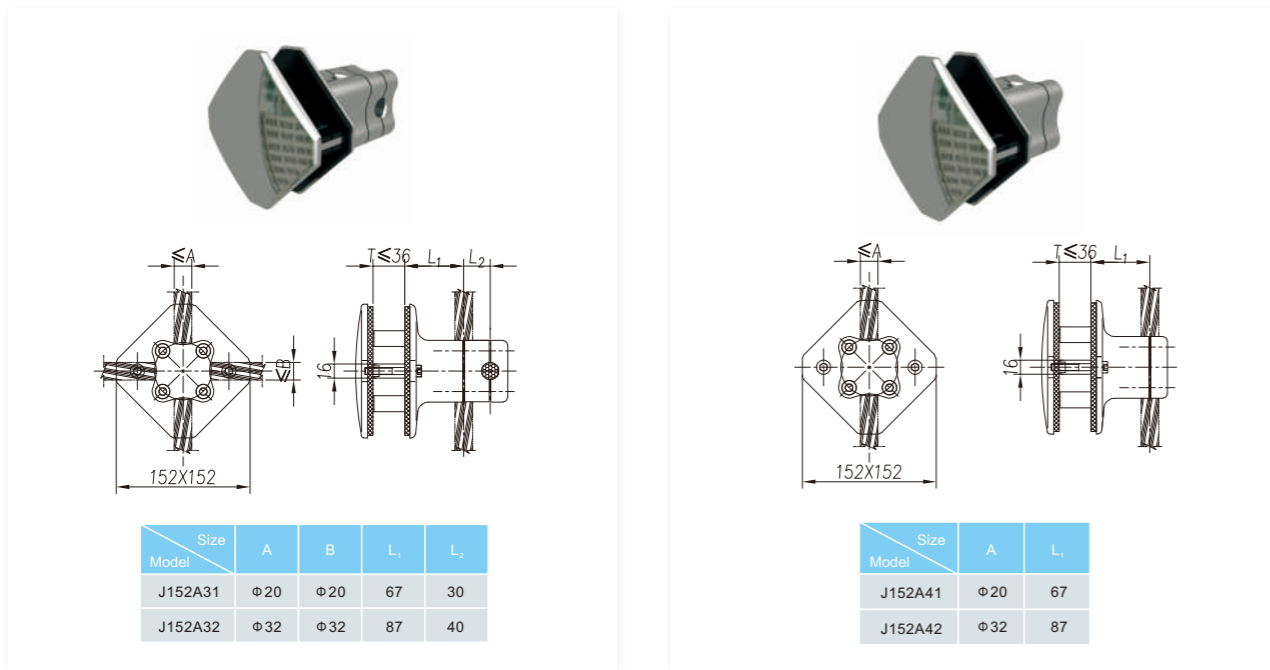
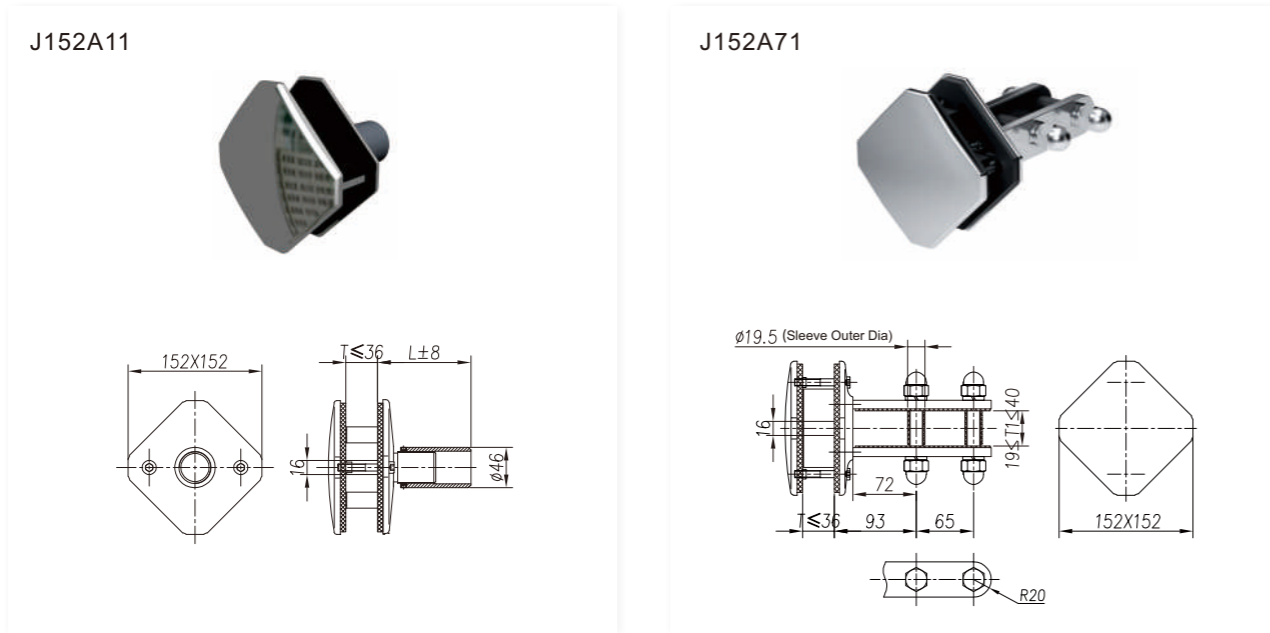
JH150A Series (round shape)



| The Recommended Value of Load Capacity(N) | Material: CF8M, CF8 |                  |  |
|---|---------------------|------------------|--|
|   | F <sub>x</sub> ≤    | F <sub>y</sub> ≤ |  |
|   | 16000               | 4000             |  |

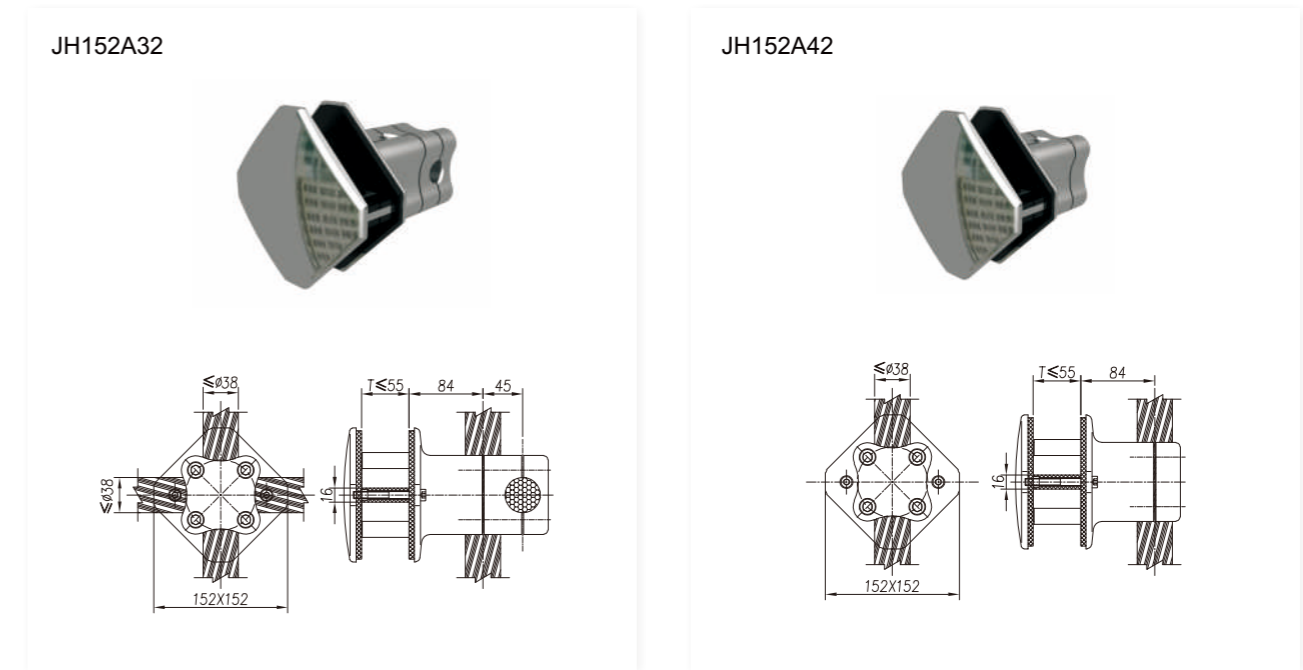
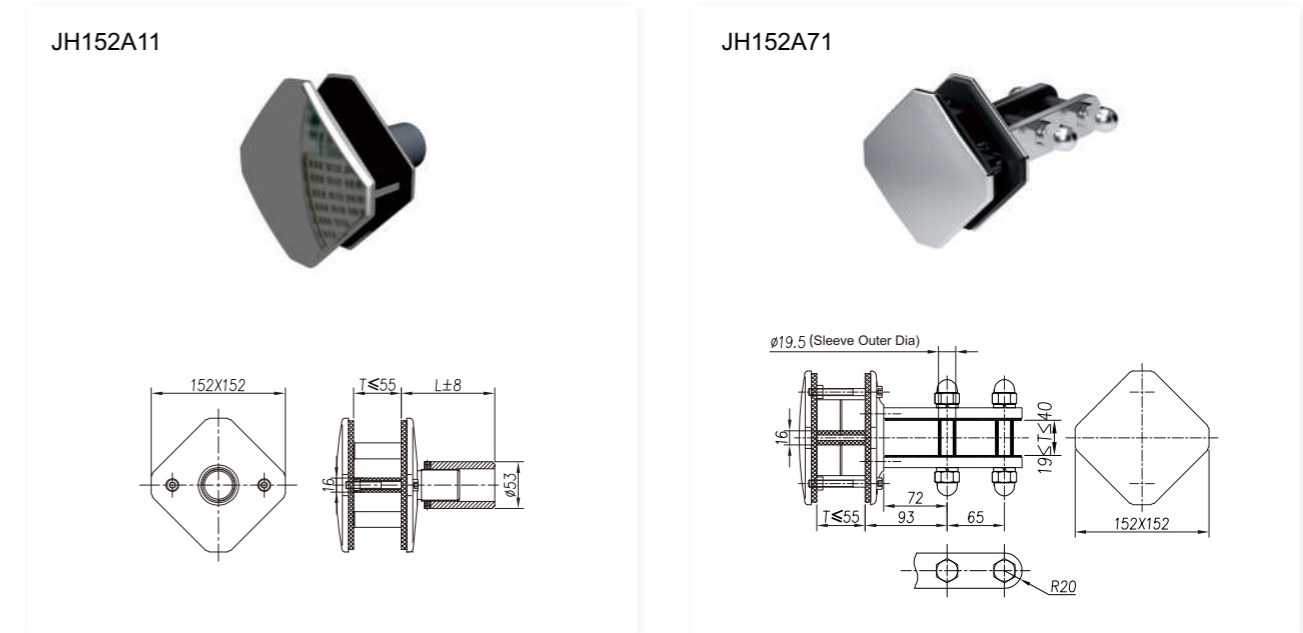
| The Recommended Value of Load Capacity(N) | Material: CF8M, CF8 |                  |  |
|---|---------------------|------------------|--|
|   | F <sub>x</sub> ≤    | F <sub>y</sub> ≤ |  |
|   | 16000               | 6000             |  |

J152A Series (rhombus shape)



|   |                     |                  |  |
|---|---------------------|------------------|--|
| The Recommended Value of Load Capacity(N) | Material: CF8M, CF8 |                  |  |
|   | F <sub>x</sub> ≤    | F <sub>y</sub> ≤ |  |
|   | 16000               | 4000             |  |

JH152A Series (rhombus shape)



|   |                     |                  |  |
|---|---------------------|------------------|--|
| The Recommended Value of Load Capacity(N) | Material: CF8M, CF8 |                  |  |
|   | F <sub>x</sub> ≤    | F <sub>y</sub> ≤ |  |
|   | 16000               | 6000             |  |

J160A Series (rectangle shape)

**J160A11**

**J160A71**

| Model   | Size | A   | B  | L <sub>1</sub> | L <sub>2</sub> |
|---------|------|-----|----|----------------|----------------|
| J160A31 | Φ20  | Φ20 | 66 | 30             |                |
| J160A32 | Φ32  | Φ32 | 86 | 40             |                |

| Model   | Size | A  | L <sub>1</sub> |
|---------|------|----|----------------|
| J160A41 | Φ20  | 66 |                |
| J160A42 | Φ32  | 86 |                |

JH160A Series (rectangle shape)

**JH160A11**

**JH160A71**

**JH160A32**

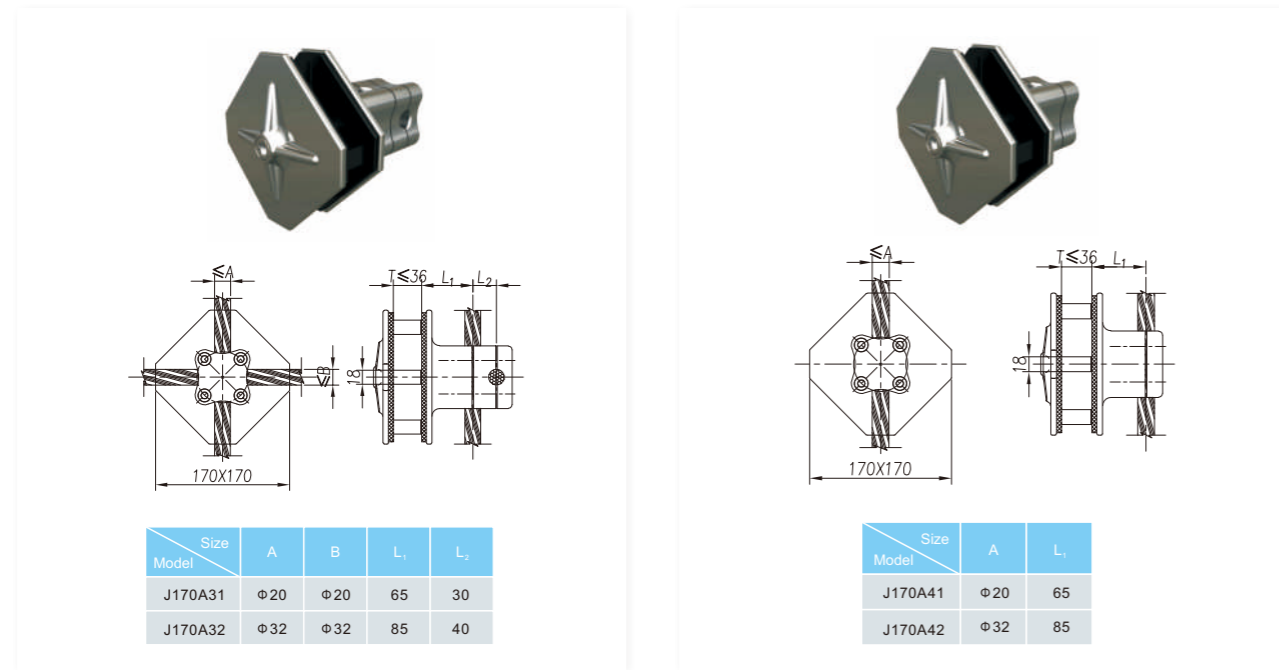
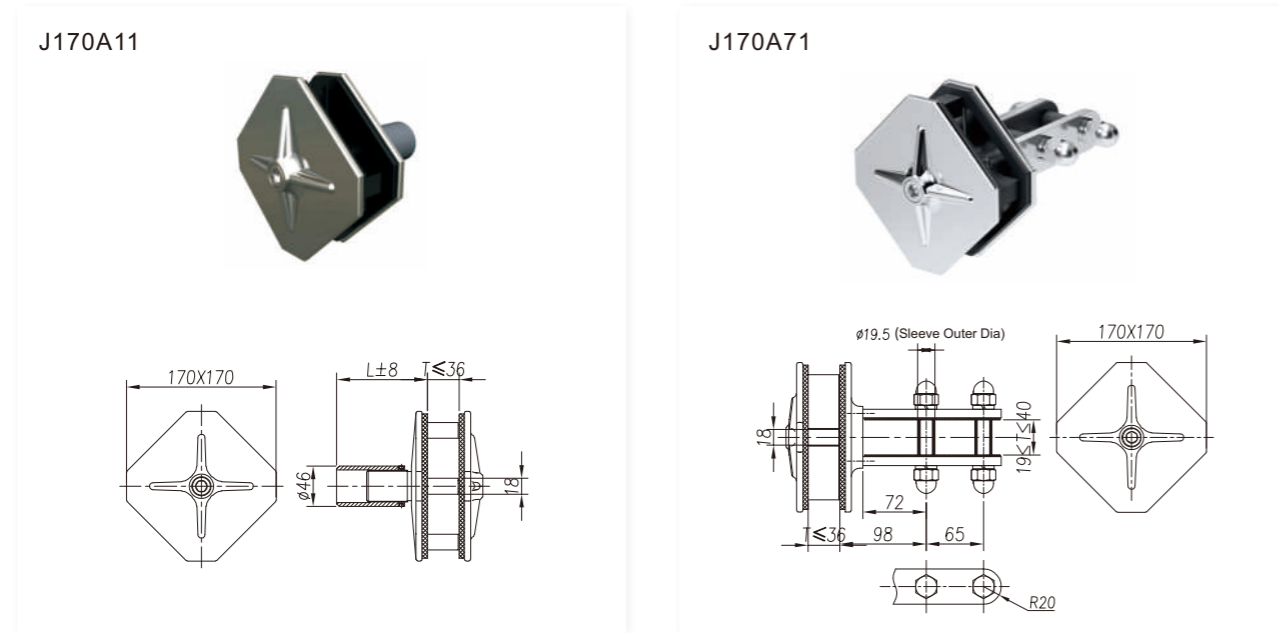
**JH160A42**

|   |                     |            |  |
|---|---------------------|------------|--|
| The Recommended Value of Load Capacity(N) | Material: CF8M, CF8 |            |  |
|   | $F_x \leq$          | $F_y \leq$ |  |
|   | 16000               | 4000       |  |

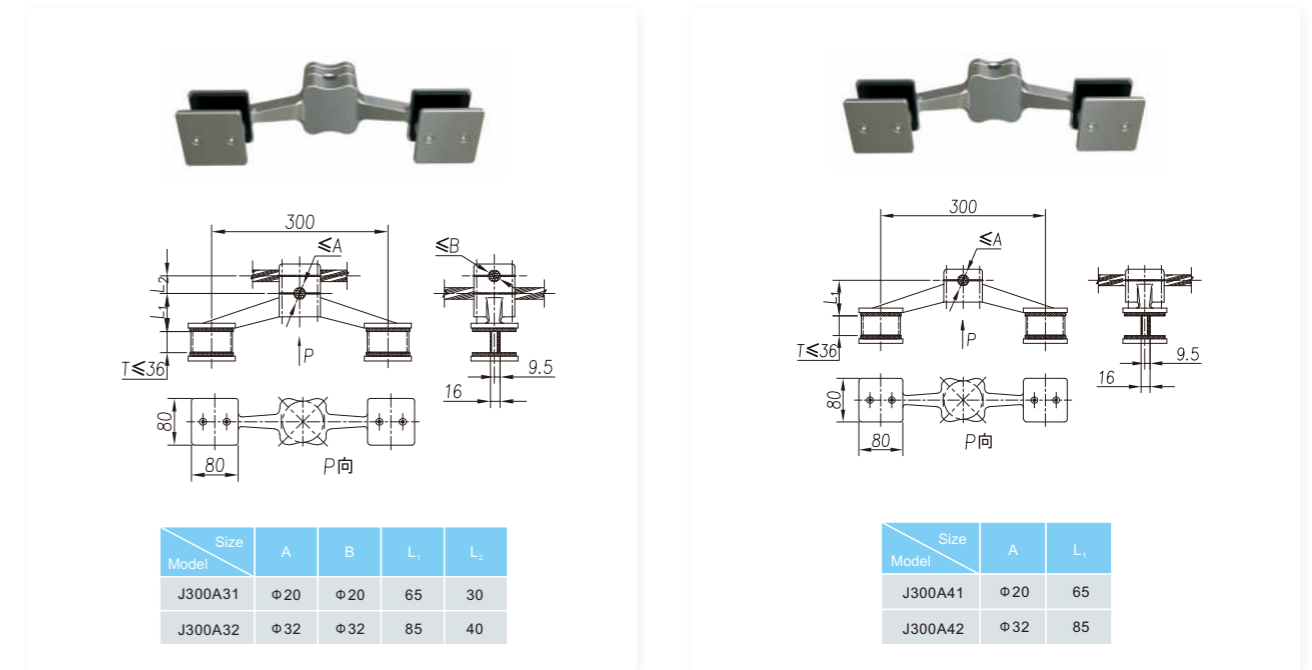
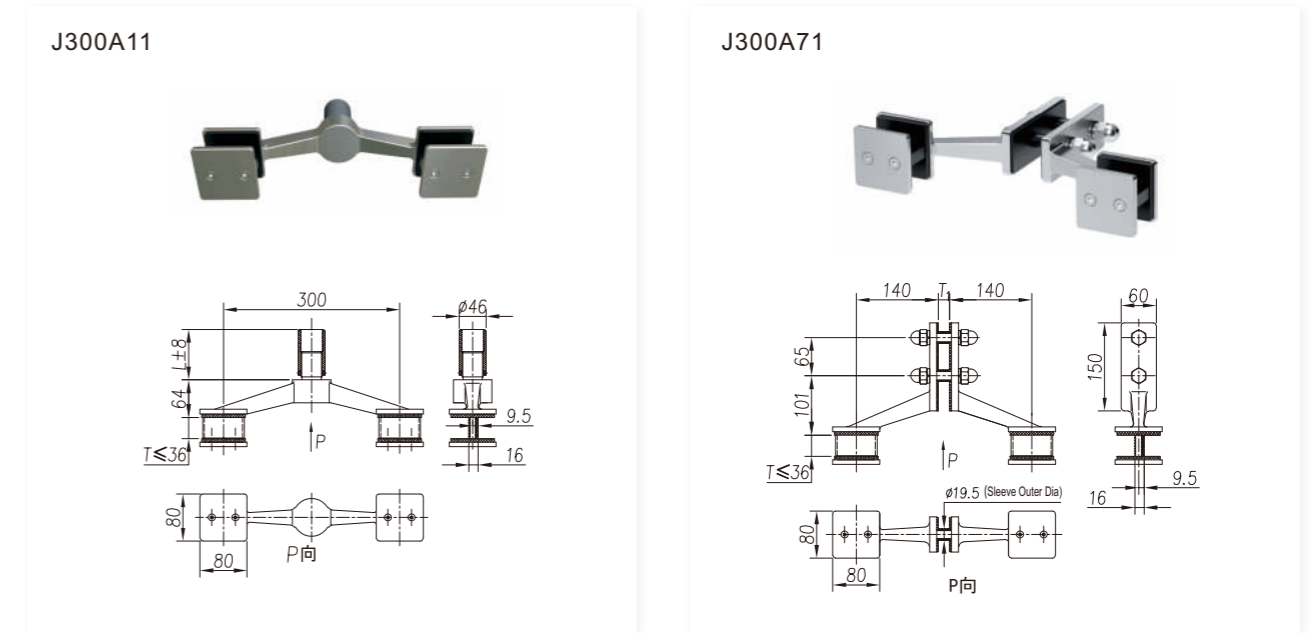
|   |                     |            |  |
|---|---------------------|------------|--|
| The Recommended Value of Load Capacity(N) | Material: CF8M, CF8 |            |  |
|   | $F_x \leq$          | $F_y \leq$ |  |
|   | 16000               | 6000       |  |



J170A Series (rhombus shape)



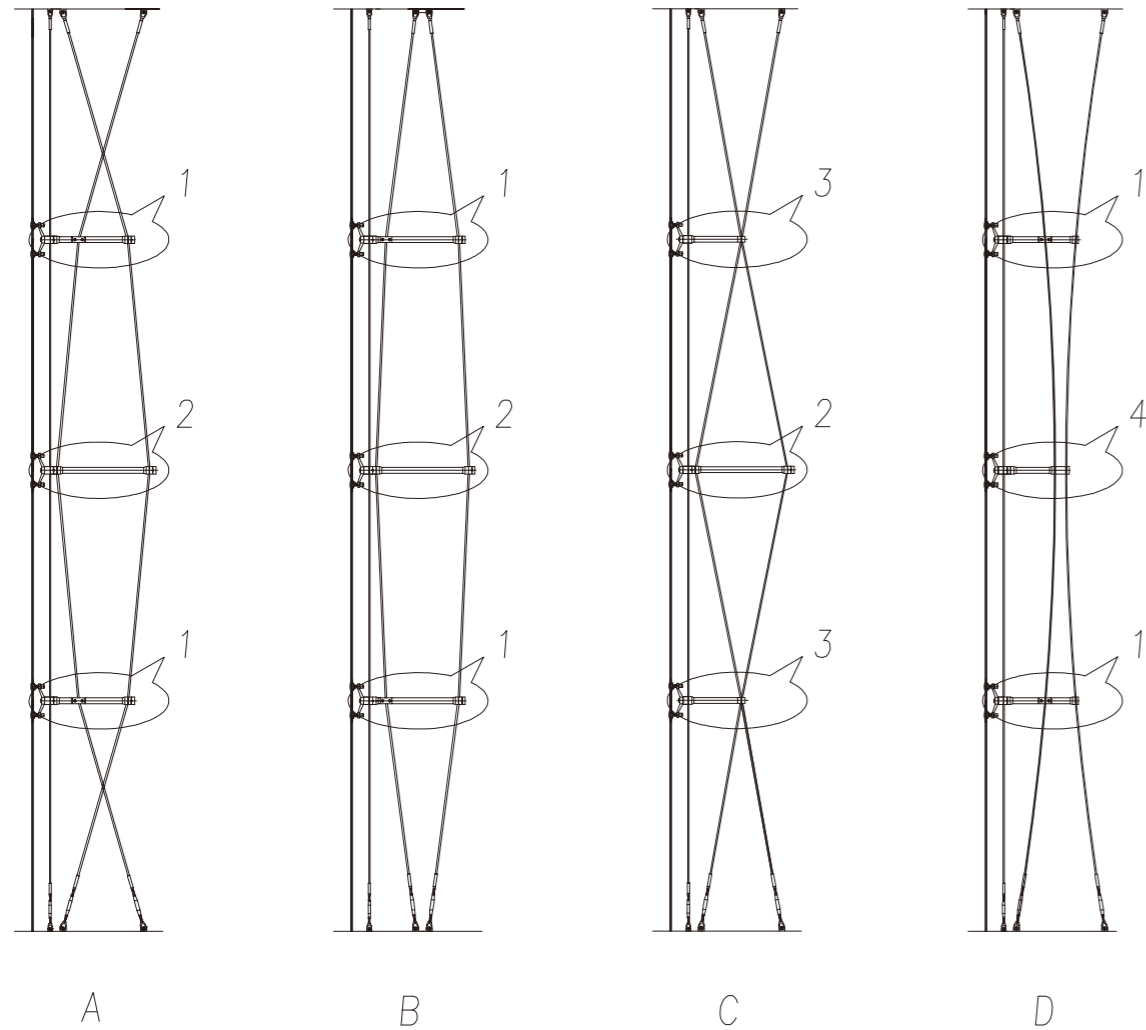
J300A Series (shape of spider)



| The Recommended Value of Load Capacity(N) | Material: CF8M, CF8 |                  |
|---|---------------------|------------------|
|   | F <sub>x</sub> ≤    | F <sub>y</sub> ≤ |
|   | 16000               | 4500             |

| The Recommended Value of Load Capacity(N) | Material: CF8M, CF8 |                  |
|---|---------------------|------------------|
|   | F <sub>x</sub> ≤    | F <sub>y</sub> ≤ |
|   | 5000                | 2500             |

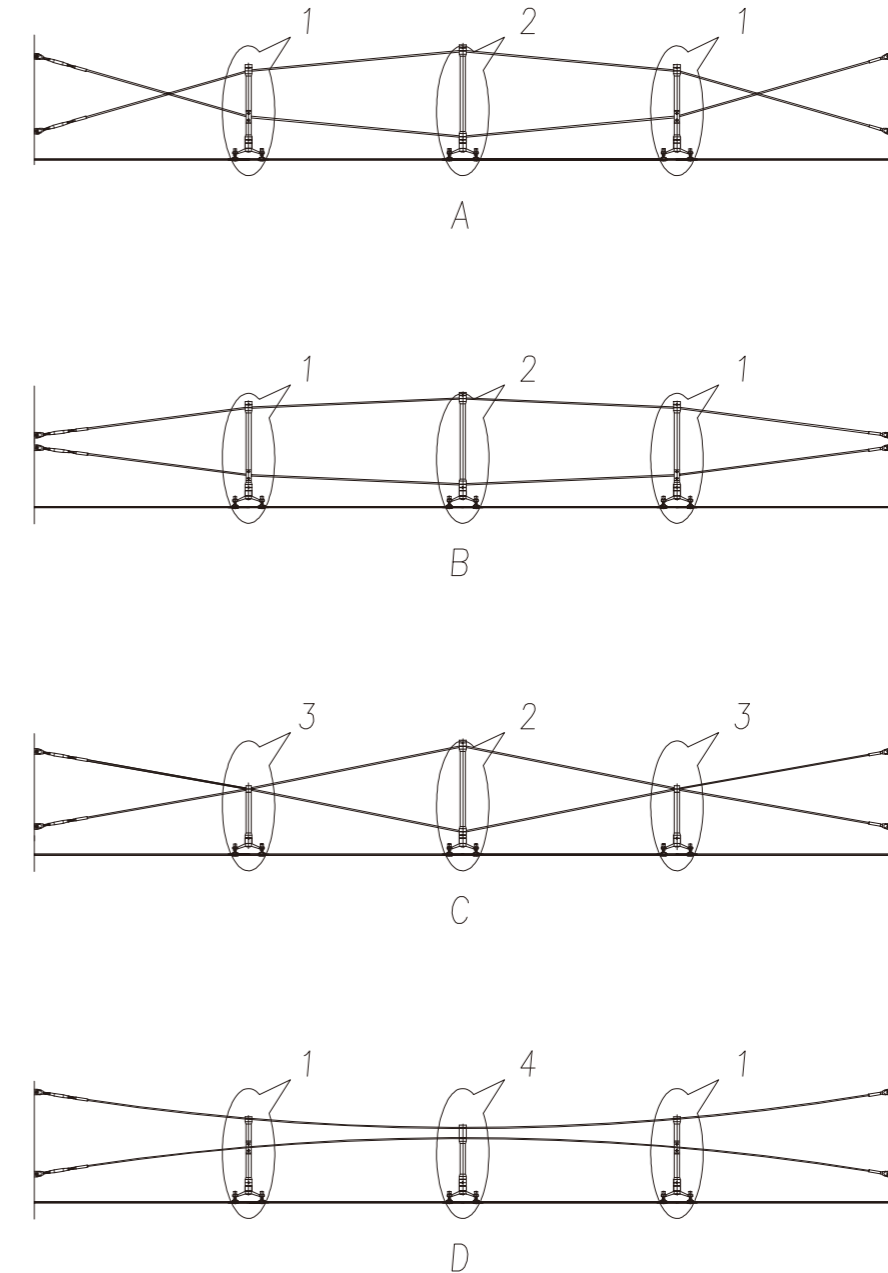
### Strut Bar of Tension Cable(一)



Forms of Vertical Cable Arrangement

|  |                |
|--|----------------|
| Available support bar type at detail 1 | SSA-21、 SSA-22 |
| Available support bar type at detail 2 | SSA-11、 SSA-12 |
| Available support bar type at detail 3 | SSA-31、 SSA-32 |
| Available support bar type at detail 4 | SSA-41         |

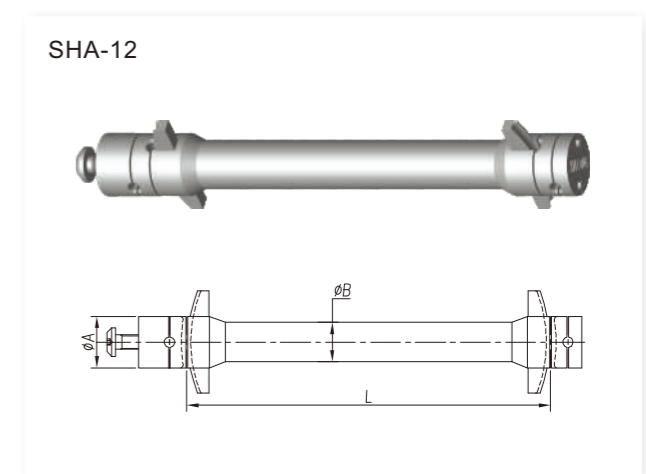
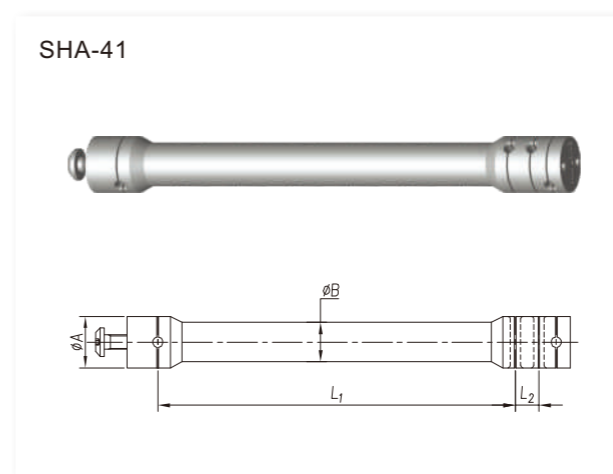
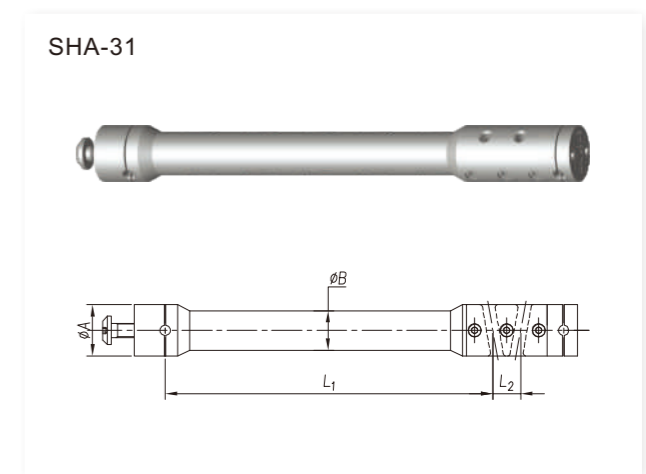
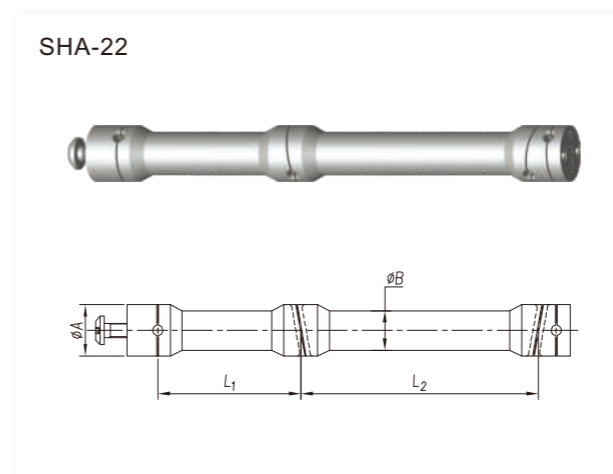
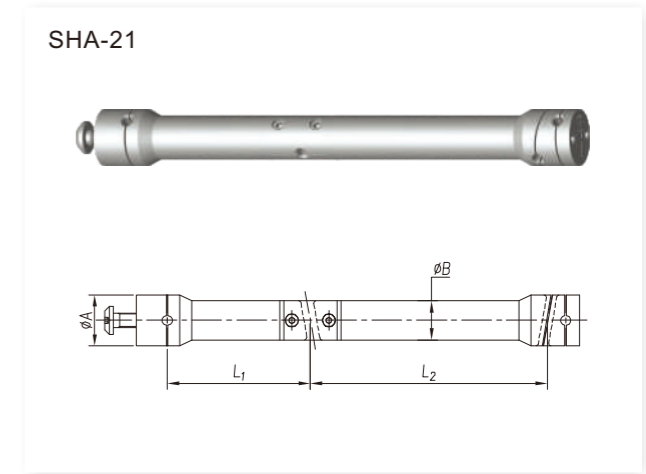
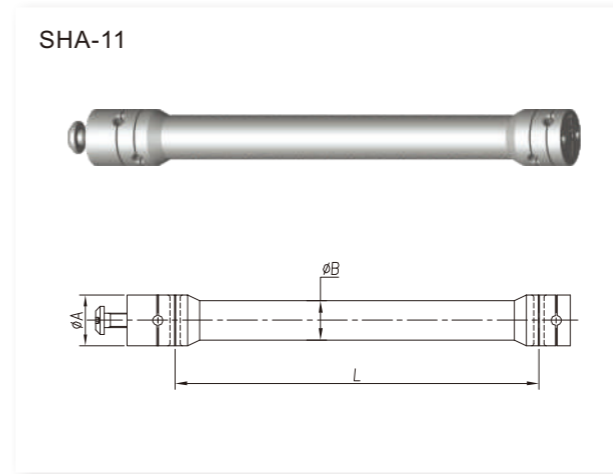
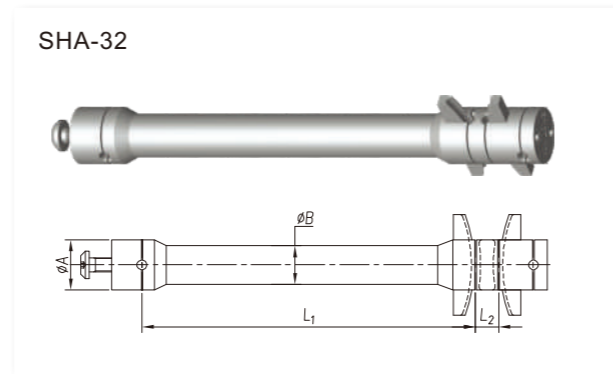
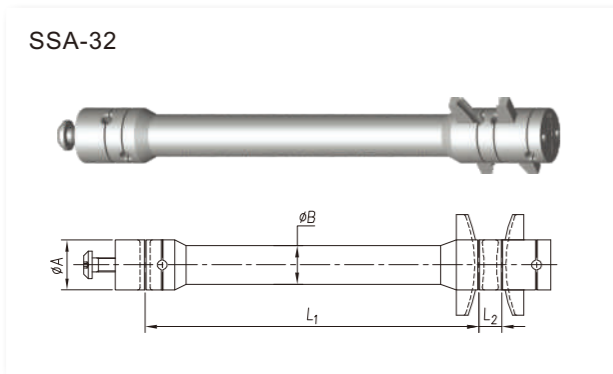
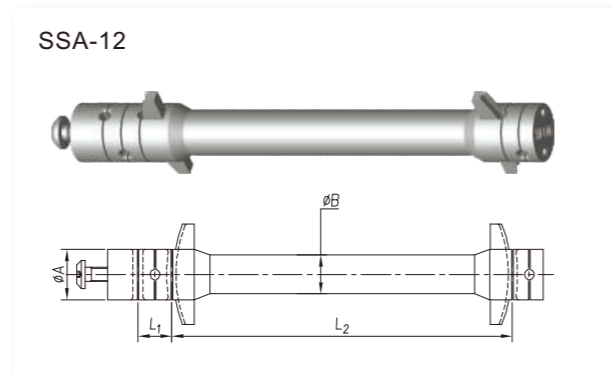
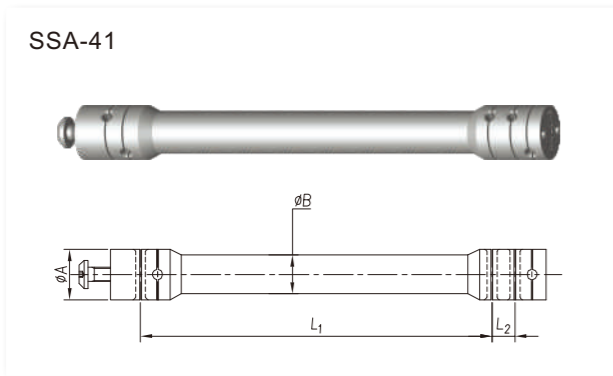
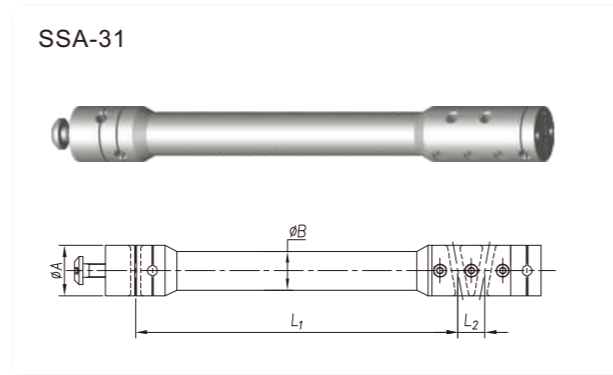
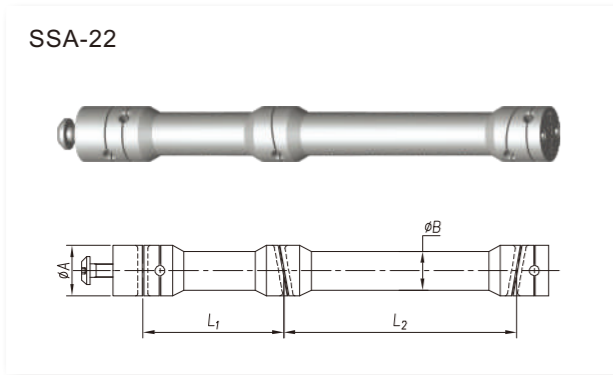
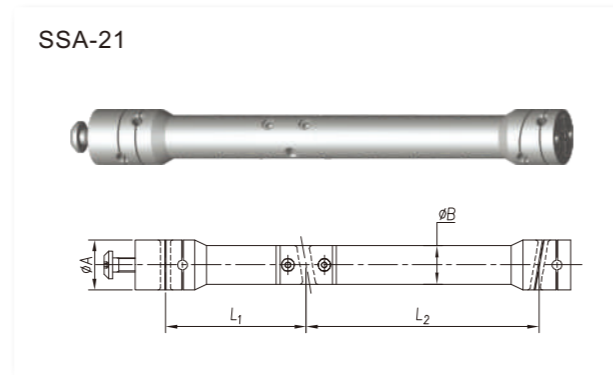
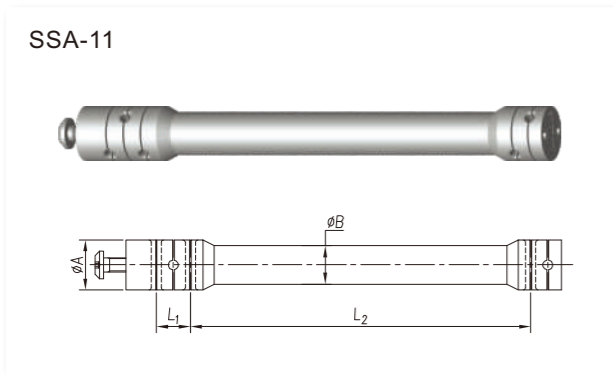
### Strut Bar of Tension Cable(二)



Forms of Horizontal Cable Arrangement

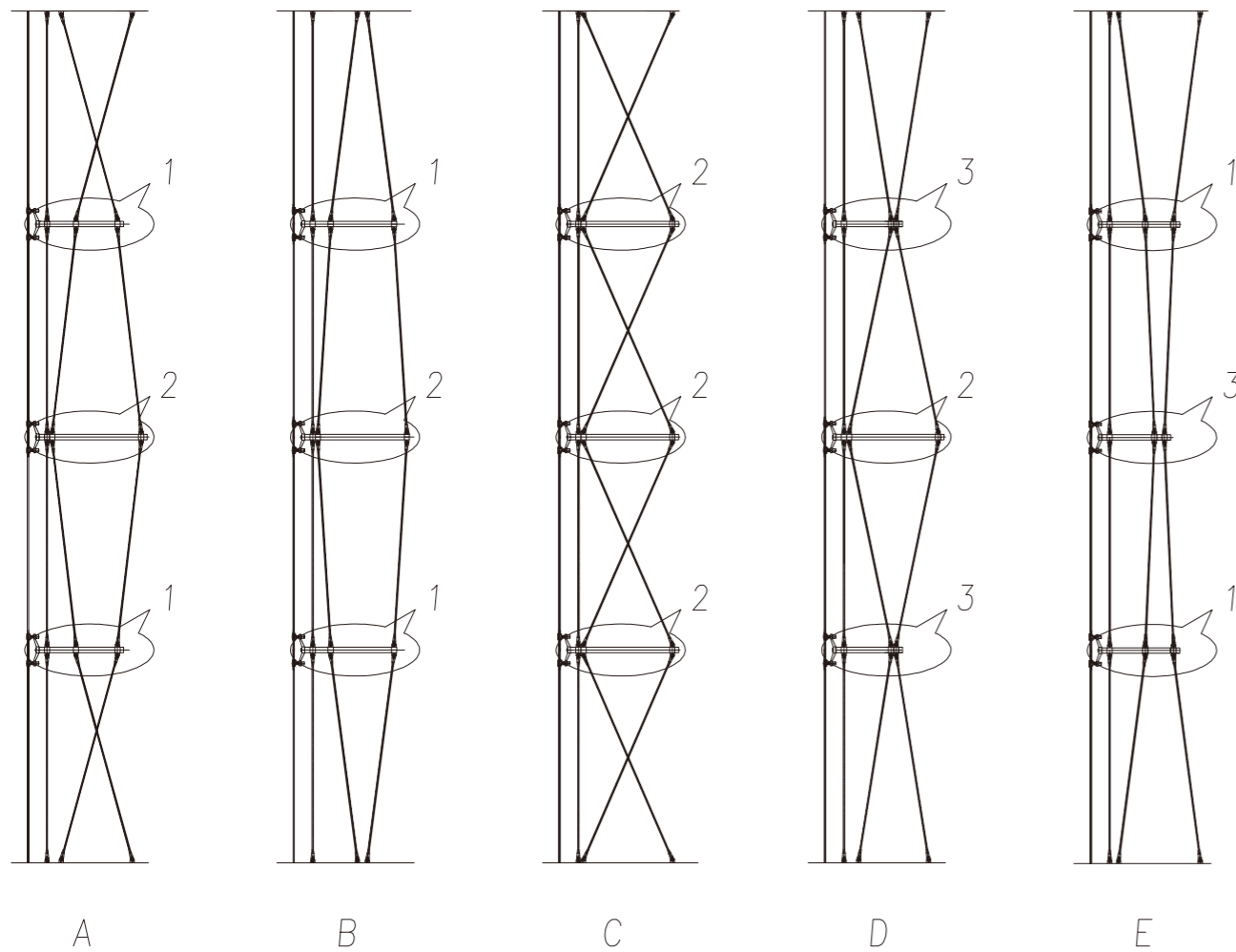
|  |                |
|--|----------------|
| Available support bar type at detail 1 | SHA-21、 SHA-22 |
| Available support bar type at detail 2 | SHA-11、 SHA-12 |
| Available support bar type at detail 3 | SHA-31、 SHA-32 |
| Available support bar type at detail 4 | SHA-41         |

## Strut Bar of Tension Cable



Notes: 1. There are two types of diameter of lock block  $\phi A$ :  $\phi 65$  and  $\phi 75$ , select proper one according to the diameter of cable.

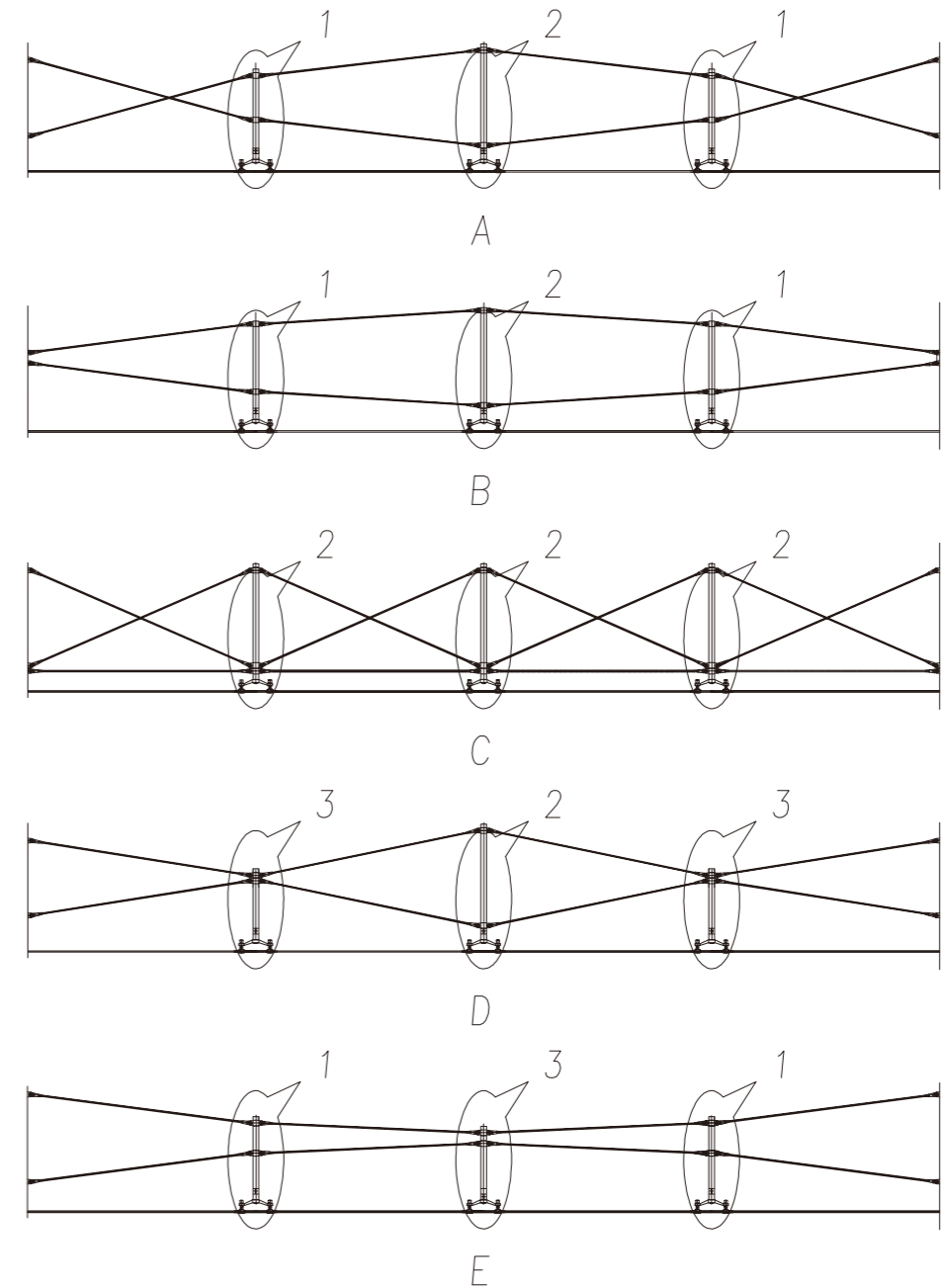
### Strut Bar of Tension Rod(一)



Forms of Vertical Rod Arrangement

|  |                  |
|--|------------------|
| Available support bar type at detail 1 | GA-2、GB-2        |
| Available support bar type at detail 2 | GA-1、GB-1        |
| Available support bar type at detail 3 | GA-31、GA-32、GB-3 |

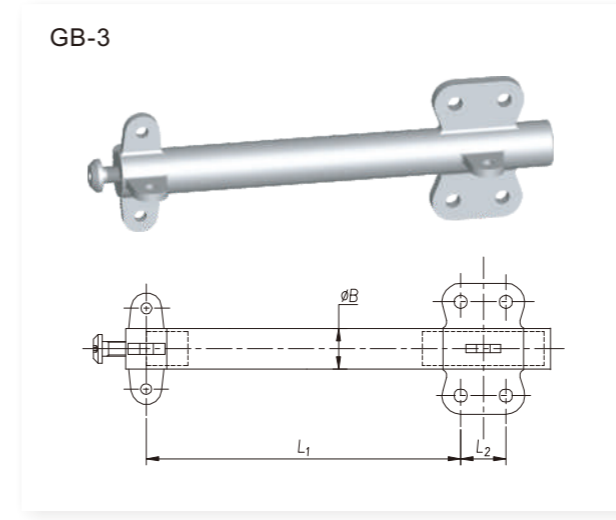
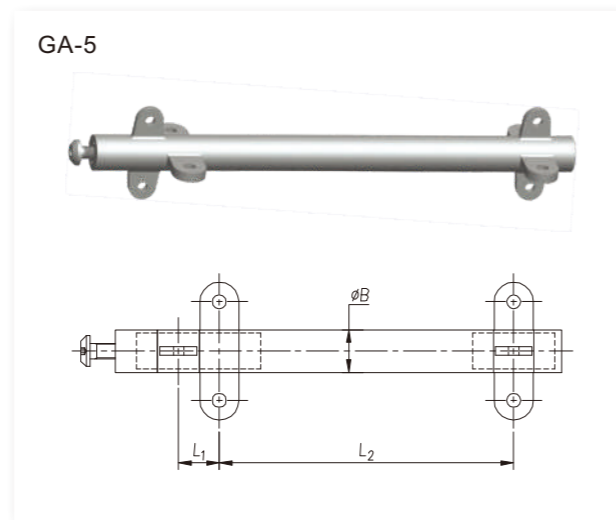
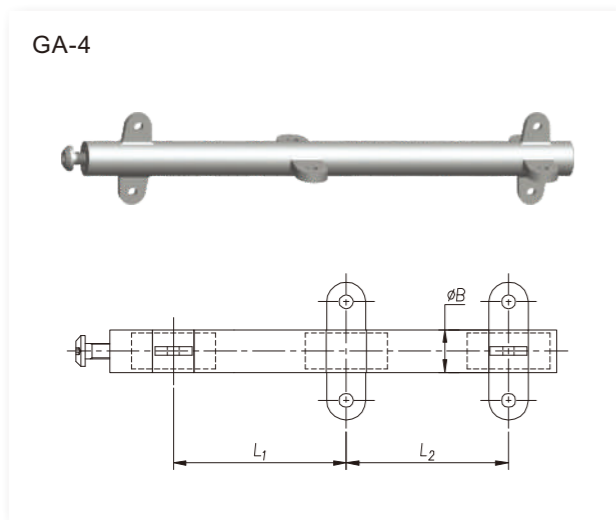
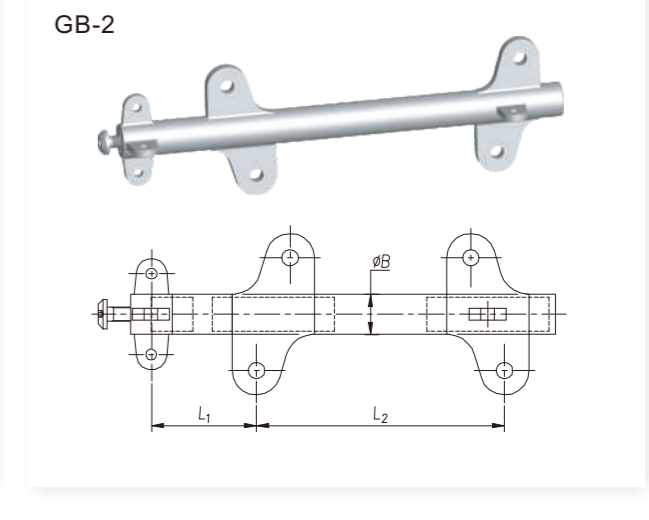
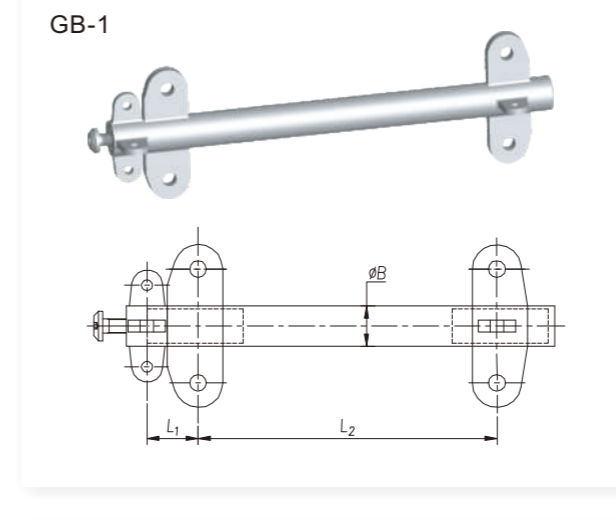
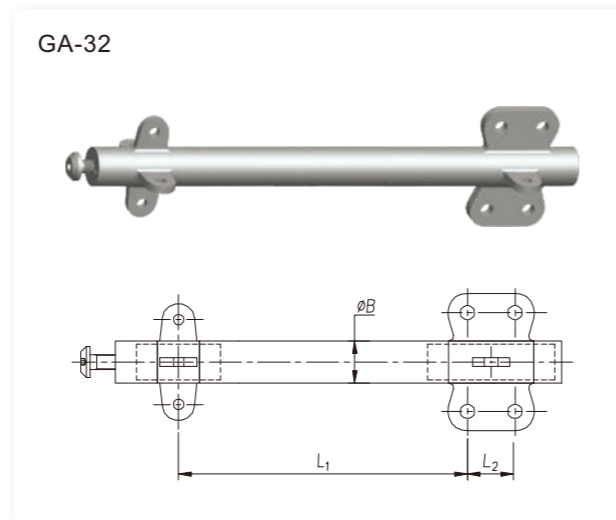
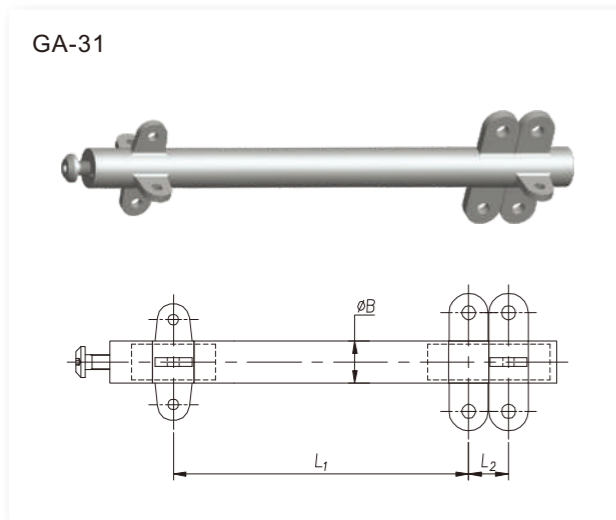
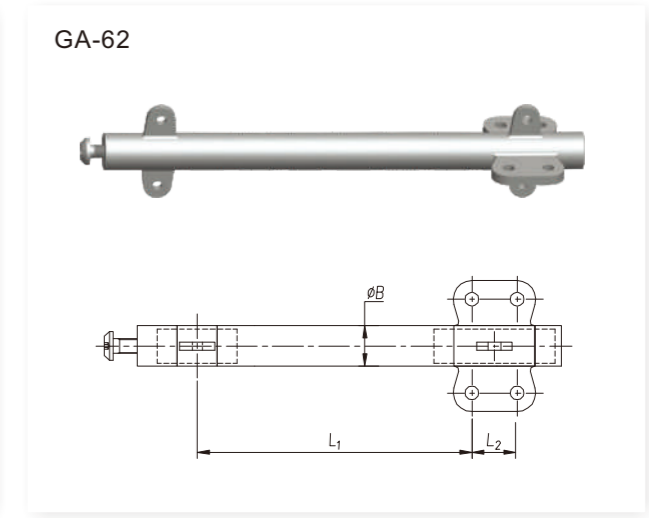
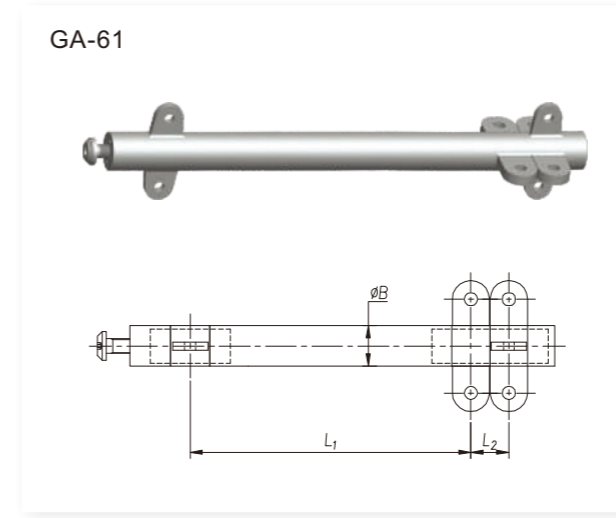
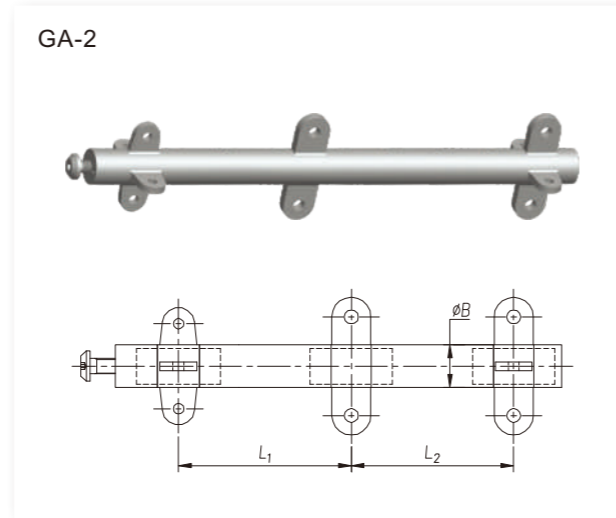
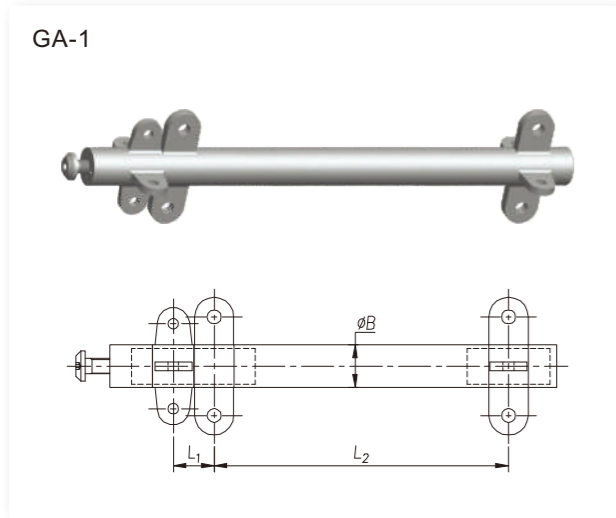
### Strut Bar of Tension Rod(二)



Forms of Horizontal Rod Arrangement

|  |                |
|--|----------------|
| Available support bar type at detail 1 | GA-4           |
| Available support bar type at detail 2 | GA-1、GB-1、GA-5 |
| Available support bar type at detail 3 | GA-61、GA-62    |

## Strut Bar of Tension Rod



Note: The otic placode of strut bar is depended on the size of tension rod.

## Stainless Steel Tension Rod



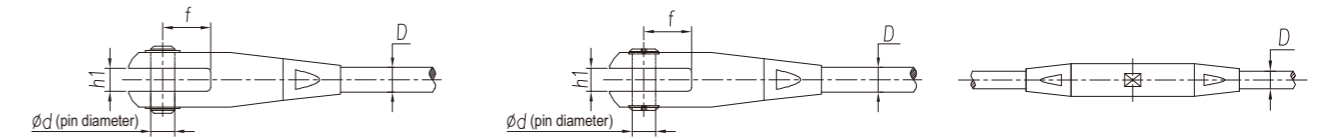
### Material

| Type        | Product | Screw Rod | Fastener                   | Tension Rod Joint | Product Range |
|-------------|---------|-----------|----------------------------|-------------------|---------------|
| Q01A Series |         | 316, 304  | 316, 304<br>(A4-70, A2-70) | CF8M, CF8         | Φ 10-Φ 36     |
| Q01B Series |         | 316, 304  | 316, 304<br>(A4-70, A2-70) | CF8M, CF8         | Φ 10-Φ 36     |

### The parameters of the rod body

| No. | Thread Diameter (mm) | Effective Section Area (mm <sup>2</sup> ) | Yield Strength $\sigma_{0.2}$ (MPa) | Tensile Strength $\sigma_s$ (MPa) | Elongation $\delta\%$ |
|-----|----------------------|---|-------------------------------------|-----------------------------------|-----------------------|
| 1   | M10                  | 57.99                                     | 515                                 | 650                               | ≥25                   |
| 2   | M12                  | 84.27                                     |                                     |                                   |                       |
| 3   | M14                  | 115.44                                    |                                     |                                   |                       |
| 4   | M16                  | 156.67                                    |                                     |                                   |                       |
| 5   | M18                  | 192.47                                    |                                     |                                   |                       |
| 6   | M20                  | 244.79                                    |                                     |                                   |                       |
| 7   | M22                  | 303.40                                    |                                     |                                   |                       |
| 8   | M24                  | 352.50                                    |                                     |                                   |                       |
| 9   | M27                  | 459.40                                    |                                     |                                   |                       |
| 10  | M30                  | 560.59                                    |                                     |                                   |                       |
| 11  | M33                  | 693.60                                    |                                     |                                   |                       |
| 12  | M36                  | 816.72                                    |                                     |                                   |                       |

### Model



Pin fixed by snap spring for diameter  $d \leq M22$

Pin fixed by screw for diameter  $d > M22$

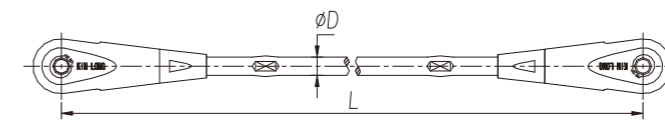
Adjustable connector

### Specification

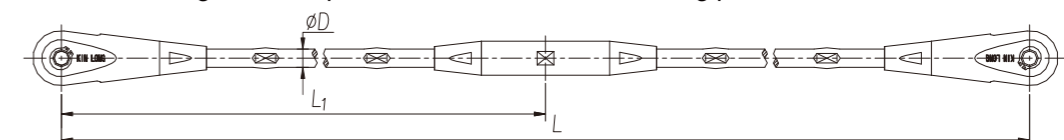
| Type    | OD of Screw | D      | f  | $h_i$ | d  | Single Side Adjustment Capacity |    |
|---------|-------------|--------|----|-------|----|---------------------------------|----|
| Q01A-10 | M10         | Φ 9    | 23 | 11    | 13 | ±12.5                           |    |
| Q01A-12 | M12         | Φ 10.8 | 23 | 11    | 13 |                                 |    |
| Q01A-14 | M14         | Φ 12.6 | 25 | 13    | 15 |                                 |    |
| Q01A-16 | M16         | Φ 14.6 | 28 | 15    | 16 |                                 |    |
| Q01A-18 | M18         | Φ 16.3 | 35 | 17    | 18 |                                 |    |
| Q01A-20 | M20         | Φ 18.3 | 35 | 17    | 20 | ±14                             |    |
| Q01A-22 | M22         | Φ 20.3 | 42 | 21    | 22 |                                 |    |
| Q01A-24 | M24         | Φ 24   | 48 | 21    | 24 |                                 |    |
| Q01A-27 | M27         | Φ 27   | 52 | 25    | 27 |                                 |    |
| Q01A-30 | M30         | Φ 30   | 60 | 25    | 30 |                                 |    |
| Q01A-33 | M33         | Φ 33   | 65 | 27    | 33 | ±17.5                           |    |
| Q01A-36 | M36         | Φ 36   | 72 | 29    | 37 |                                 |    |
| Q01B-10 | M10         | Φ 9    | 23 | 11    | 13 |                                 | ±5 |
| Q01B-12 | M12         | Φ 10.8 | 23 | 11    | 13 |                                 |    |
| Q01B-14 | M14         | Φ 12.6 | 25 | 13    | 15 |                                 |    |
| Q01B-16 | M16         | Φ 14.6 | 28 | 15    | 16 |                                 |    |
| Q01B-18 | M18         | Φ 16.3 | 35 | 17    | 18 |                                 |    |
| Q01B-20 | M20         | Φ 18.3 | 35 | 17    | 20 |                                 |    |
| Q01B-22 | M22         | Φ 20.3 | 42 | 21    | 22 |                                 |    |
| Q01B-24 | M24         | Φ 24   | 48 | 21    | 24 |                                 |    |
| Q01B-27 | M27         | Φ 27   | 52 | 25    | 27 |                                 |    |
| Q01B-30 | M30         | Φ 30   | 60 | 25    | 30 |                                 |    |
| Q01B-33 | M33         | Φ 33   | 65 | 27    | 33 |                                 |    |
| Q01B-36 | M36         | Φ 36   | 72 | 29    | 37 |                                 |    |

### Order Instruction

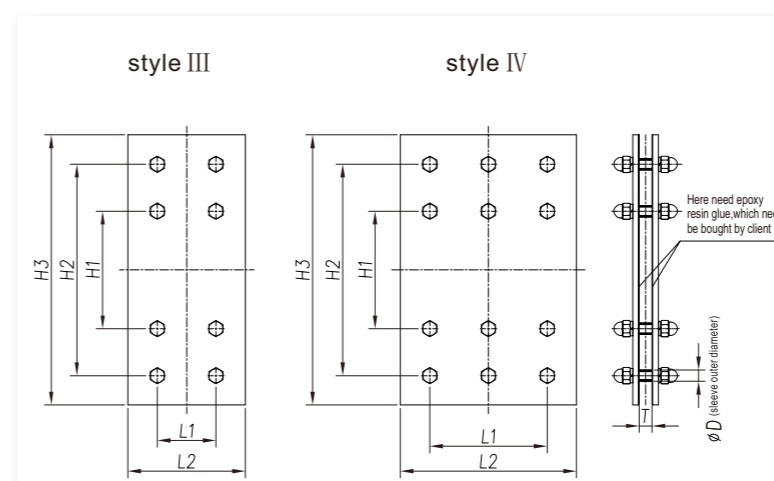
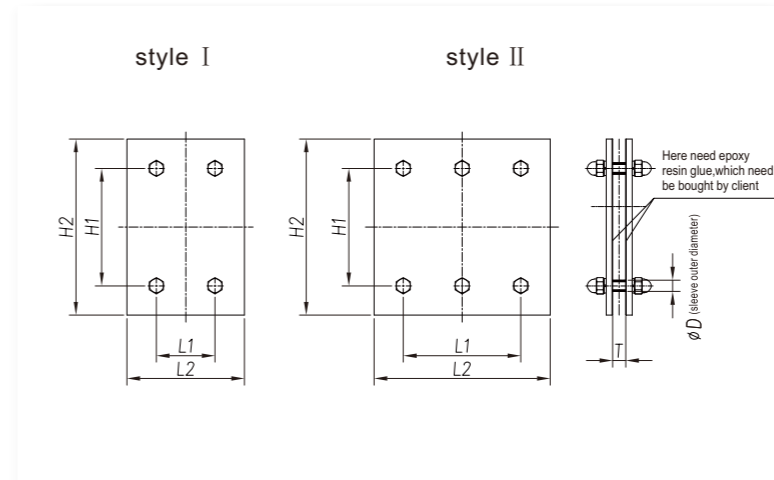
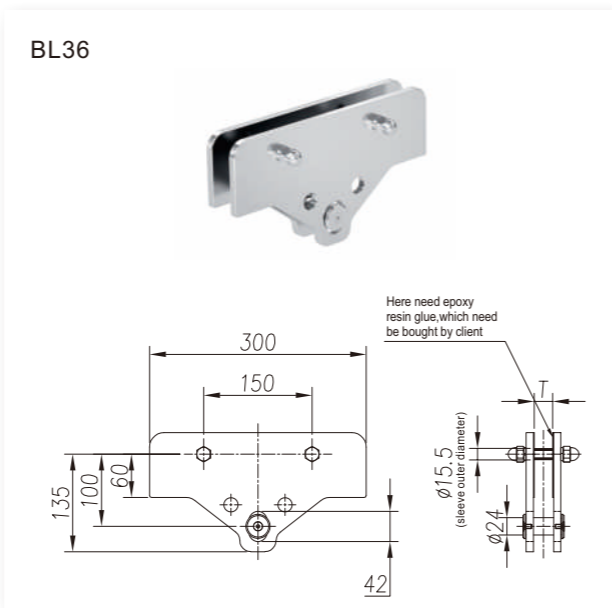
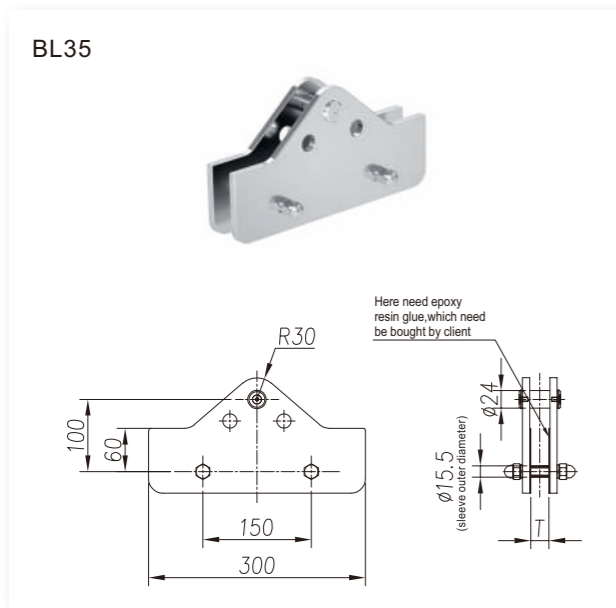
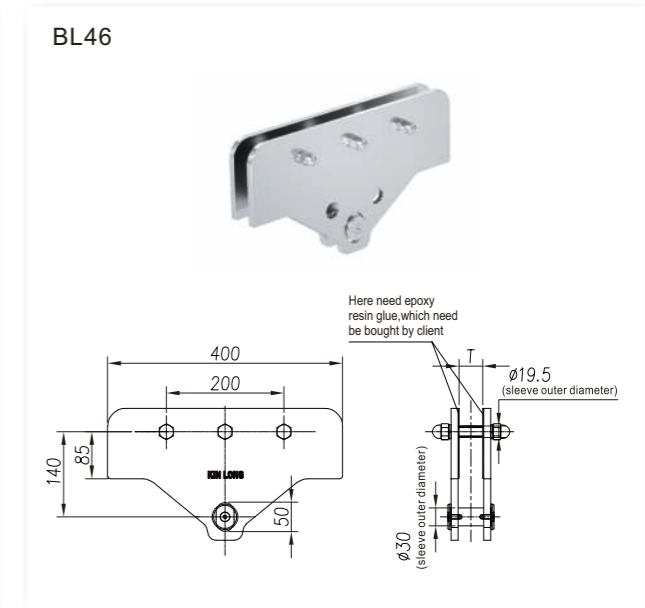
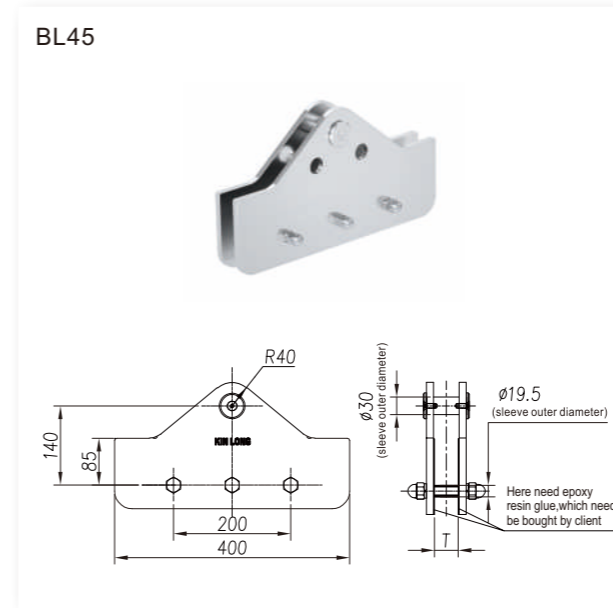
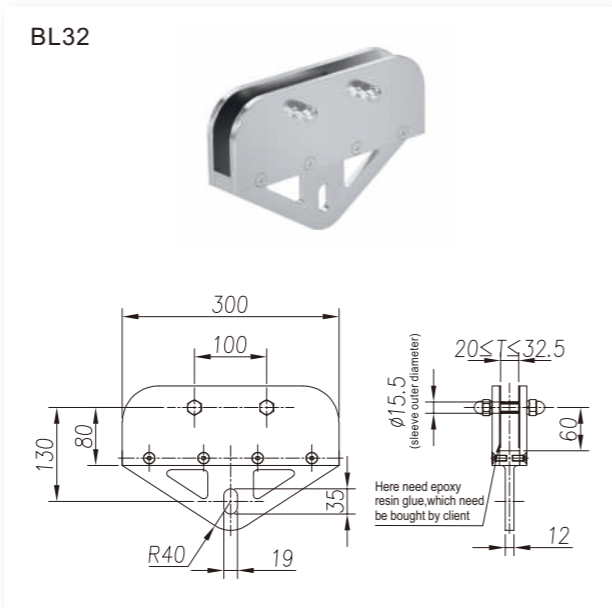
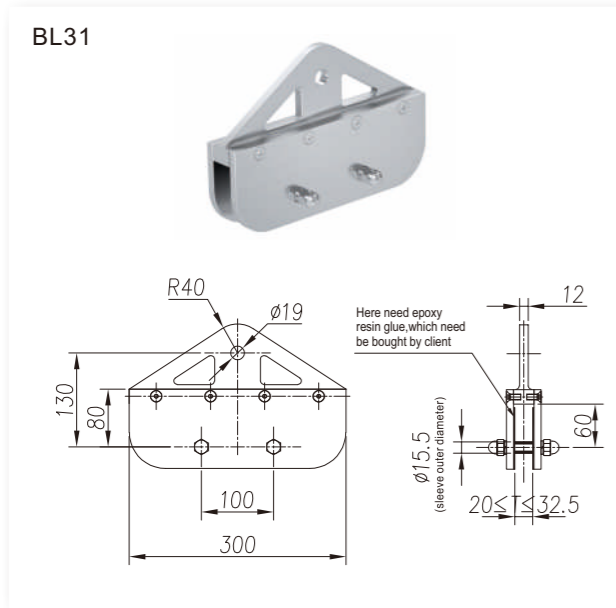
The Length of the tension rod is from pin to pin.



When the tension rod length > 6m, please connect as the following picture.

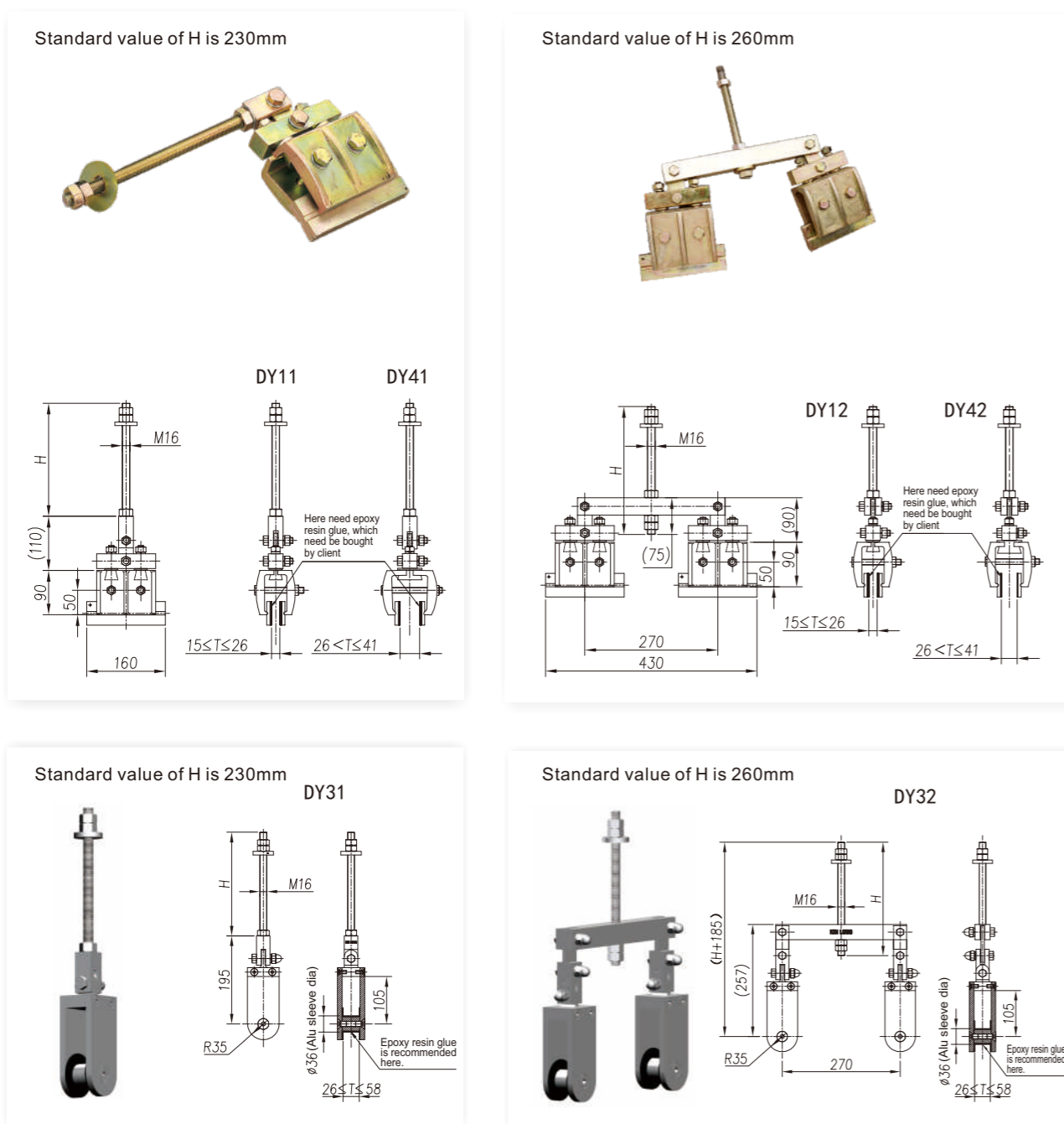


## Products for Steel Fin System



| The Recommended Value of Load Capacity (N) | Model | Main material: CF8M/316, CF8/304 |            |
|--|-------|----------------------------------|------------|
|  |       | $F_x \leq$                       | $F_y \leq$ |
|  | BL31  | 12000                            | 12000      |
|  | BL32  |                                  | /          |
|  | BL35  | 15000                            | 15000      |
|  | BL36  |                                  | /          |
|  | BL45  | 22000                            | 22000      |
|  | BL46  |                                  | /          |

## Glass Suspending Clamp



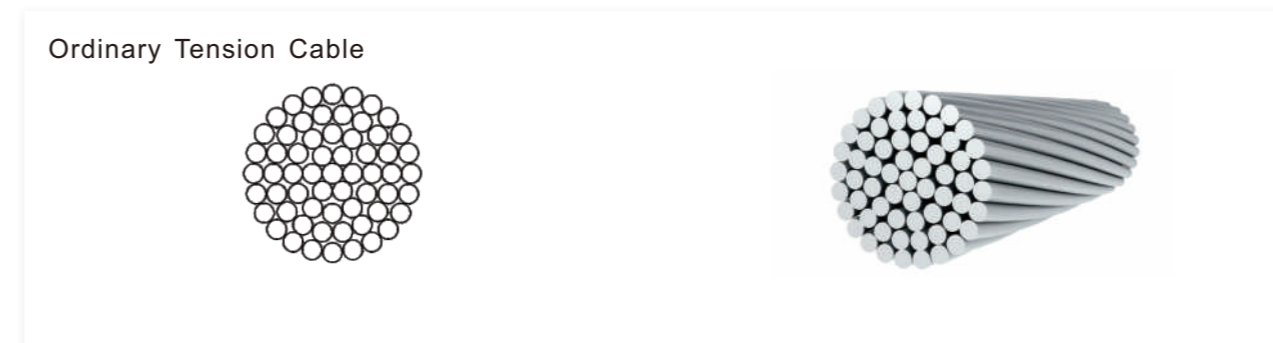
| The Recommended Value of Load Capacity (N) |              |      |      |      |         |       |
|--|--------------|------|------|------|---------|-------|
| Material                                   | Carbon steel |      |      |      | 316/304 |       |
| Model                                      | DY11         | DY12 | DY41 | DY42 | DY31    | DY32  |
| Bearing Capacity(N)                        | 4000         | 7000 | 4000 | 7000 | 6000    | 12000 |

Note: This product can not bear the horizontal load.

## Stainless Steel Tension Cable

### Material

| Type        | Product | Steel Strand | Fastener   | Swaged End With Adjustor, Lock Pin | Anchor | Product Range |
|-------------|---------|--------------|------------|------------------------------------|--------|---------------|
| A01、B01、M01 |         | 316/2205     | 316(A4-70) | 2205                               | CD3MN  | φ 8- φ 30     |



### Performance Parameter

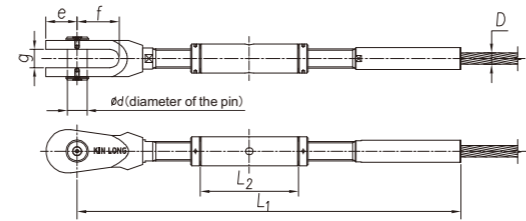
| Cable Diameter (mm) | Reference Configuration | Steel Wire Diameter (mm) | Sectional Area (mm <sup>2</sup> ) | Minimum Breaking Strength(kN) | Modules Elasticity (10 <sup>5</sup> N/mm <sup>2</sup> ) |
|---------------------|-------------------------|--------------------------|-----------------------------------|-------------------------------|---|
| 8                   | 1X19                    | 1.60                     | 38.20                             | 45.38                         | 1.30±0.10   |
| 10                  |                         | 2.00                     | 59.69                             | 70.91                         |   |
| 12                  |                         | 2.40                     | 85.95                             | 102.11                        |   |
| 14                  |                         | 2.80                     | 116.99                            | 138.99                        |   |
| 16                  | 1X37                    | 2.29                     | 152.39                            | 181.04                        |   |
| 18                  |                         | 2.57                     | 192.15                            | 225.68                        |   |
| 20                  |                         | 2.86                     | 237.22                            | 278.62                        |   |
| 22                  |                         | 2.44                     | 286.27                            | 336.23                        |   |
| 24                  | 1X61                    | 2.67                     | 340.69                            | 400.14                        |   |
| 26                  |                         | 2.89                     | 399.84                            | 469.61                        |   |
| 28                  |                         | 3.11                     | 463.71                            | 537.37                        |   |
| 30                  |                         | 1X91                     | 2.73                              | 531.60                        |   |

Note: Besides the above mentioned tension cables, we also can fabricate the cable with higher strength. Send your enquiry if in need.



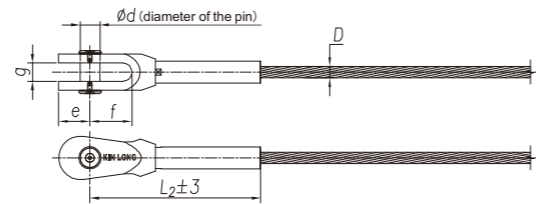
**Model**

Adjustable Swaged Anchor A01



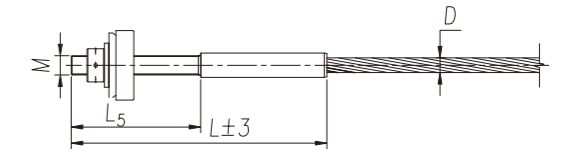
Note: The  $\Phi 8$  and  $\Phi 10$  cable lock nuts are outer hexagon standard nuts

Fixed Swaged Anchor B01



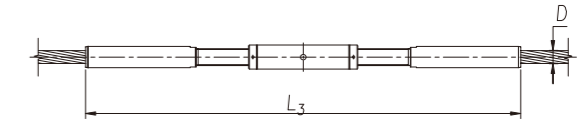
**Model**

Adjustable End of Spherical Hinge C01



Note: Material of ball joint seat is carbon steel.

Adjustable Center Connector M01



**Specification**

| 2205 Anchor (A01/B01) |    |    |    |    |                |                |
|-----------------------|----|----|----|----|----------------|----------------|
| D                     | d  | g  | e  | f  | L <sub>1</sub> | L <sub>2</sub> |
| φ8                    | 12 | 11 | 20 | 24 | ≤275           | 80             |
| φ10                   | 14 | 13 | 23 | 30 | ≤305           | 80             |
| φ12                   | 16 | 15 | 26 | 34 | ≤442           | 125            |
| φ14                   | 20 | 18 | 32 | 42 | ≤466           | 125            |
| φ16                   | 22 | 20 | 36 | 46 | ≤492           | 130            |
| φ18                   | 24 | 23 | 39 | 52 | ≤523           | 130            |
| φ20                   | 27 | 25 | 43 | 58 | ≤655           | 175            |
| φ22                   | 30 | 27 | 48 | 65 | ≤684           | 175            |
| φ24                   | 33 | 29 | 53 | 74 | ≤728           | 180            |
| φ26                   | 33 | 32 | 53 | 74 | ≤746           | 180            |
| φ28                   | 36 | 34 | 58 | 80 | ≤778           | 185            |
| φ30                   | 39 | 37 | 62 | 88 | ≤935           | 230            |

**Specification**

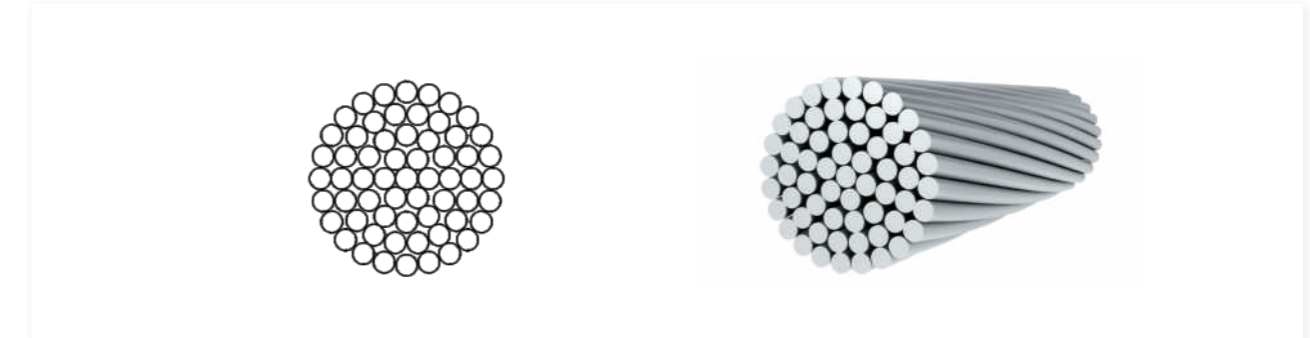
| 2205 Anchor (M01/C01) |       |     |                |                |
|-----------------------|-------|-----|----------------|----------------|
| D                     | M     | L   | L <sub>5</sub> | L <sub>3</sub> |
| φ8                    | M12   | 158 | 90             | ≤304           |
| φ10                   | M16   | 178 | 92             | ≤342           |
| φ12                   | M18x2 | 228 | 119            | ≤497           |
| φ14                   | M20x2 | 250 | 124            | ≤523           |
| φ16                   | M22x2 | 270 | 132            | ≤552           |
| φ18                   | M24x2 | 294 | 140            | ≤596           |
| φ20                   | M27x2 | 350 | 177            | ≤736           |
| φ22                   | M30x2 | 378 | 187            | ≤773           |
| φ24                   | M33x2 | 398 | 190            | ≤819           |
| φ26                   | M33x2 | 413 | 190            | ≤855           |
| φ28                   | M36x3 | 453 | 212            | ≤893           |
| φ30                   | M39x3 | 502 | 245            | ≤1061          |

## 热铸型不锈钢拉索 ("易张拉"系列)

### Material

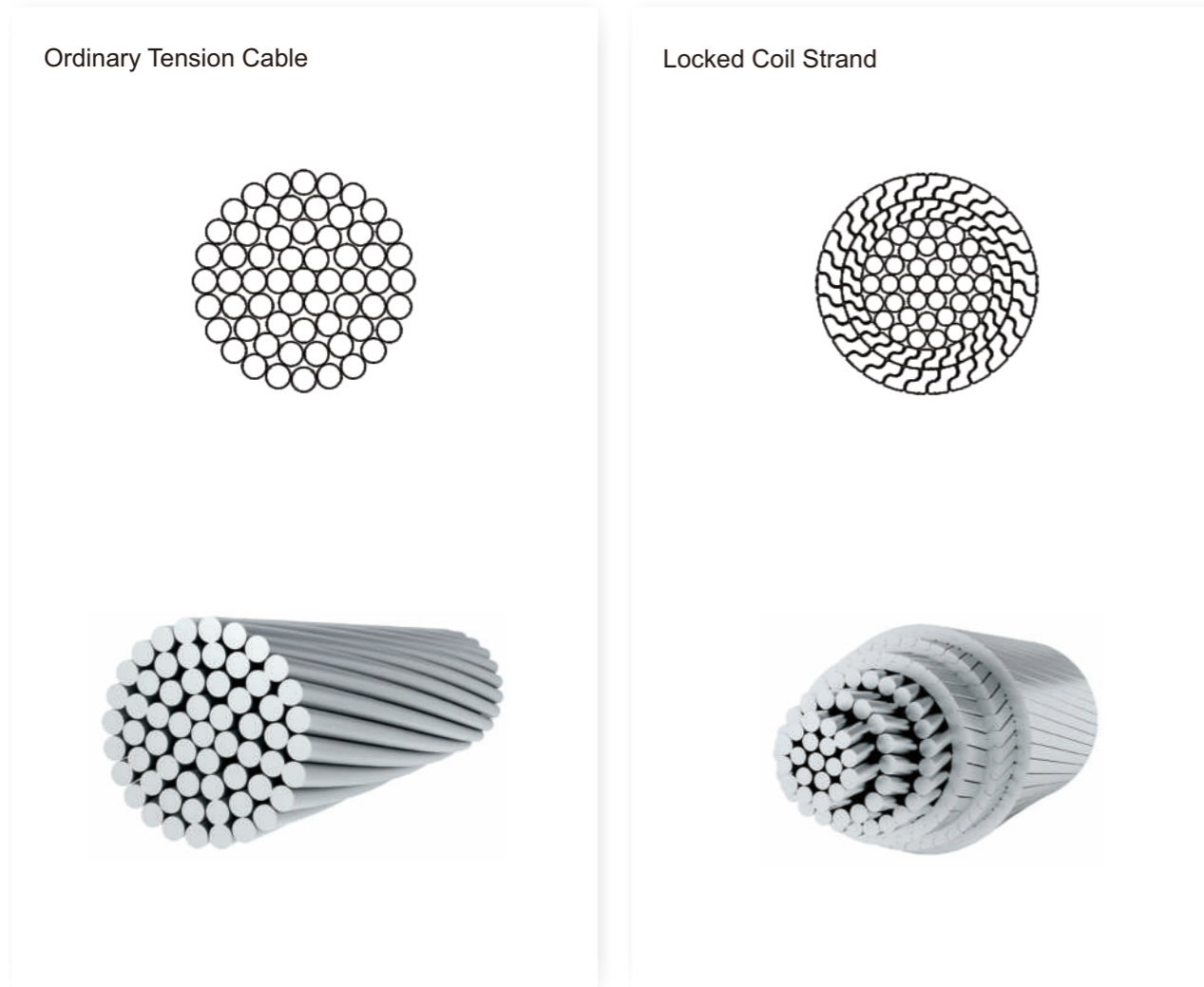
| Type          | Product | Steel Strand | Fastener    | Swaged End With Adjustor, Lock Pin | Anchor | Product Range |
|---------------|---------|--------------|-------------|------------------------------------|--------|---------------|
| G02, H02, K02 |         | 316/2205     | 316 (A4-70) | 2205                               | CD3MN  | φ30- φ100     |

### Parameter of the Ordinary Tension Cable

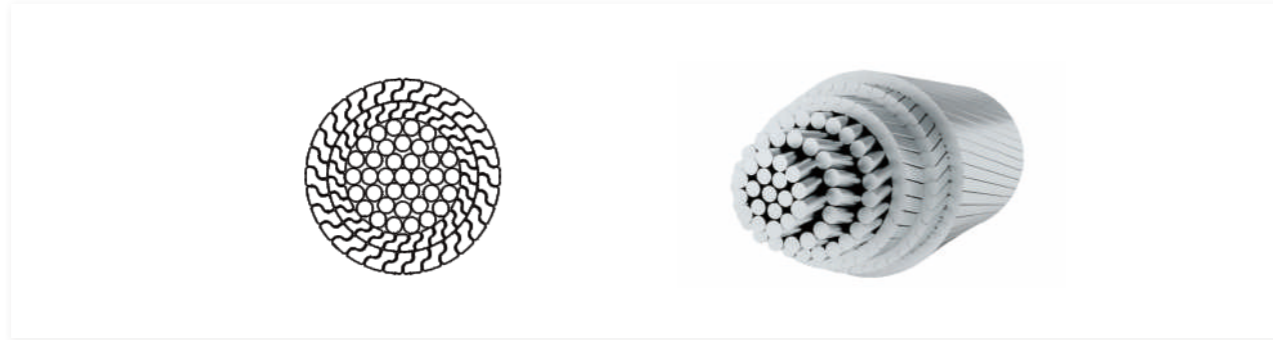


| Cable Diameter (mm) | Reference Configuration | Steel Wire Diameter (mm) | Sectional Area (mm <sup>2</sup> ) | Minimum Breaking Force (kN) | Modules Elasticity (10 <sup>5</sup> N/mm <sup>2</sup> ) |
|---------------------|-------------------------|--------------------------|-----------------------------------|-----------------------------|---|
| 30                  | 1x91                    | 2.73                     | 531.60                            | 693.74                      | 1.30±0.10   |
| 32                  |                         | 2.91                     | 604.85                            | 789.33                      |   |
| 34                  |                         | 3.09                     | 682.82                            | 879.20                      |   |
| 36                  |                         | 3.27                     | 765.51                            | 985.67                      |   |
| 38                  |                         | 3.45                     | 852.93                            | 1098.23                     |   |
| 40                  |                         | 3.64                     | 945.07                            | 1216.87                     |   |
| 42                  |                         | 3.82                     | 1041.94                           | 1341.61                     |   |
| 45                  |                         | 4.09                     | 1196.11                           | 1456.86                     |   |
| 48                  | 4.36                    | 1360.91                  | 1657.59                           |                             |   |
| 52                  | 1x127                   | 4.00                     | 1595.93                           | 1943.84                     |   |
| 56                  |                         | 4.31                     | 1850.90                           | 2254.40                     |   |
| 60                  | 1x169                   | 4.00                     | 2123.72                           | 2556.96                     |   |
| 65                  |                         | 4.33                     | 2492.42                           | 3000.87                     |   |
| 70                  | 1x217                   | 4.12                     | 2889.67                           | 3479.16                     |   |
| 75                  | 1x271                   | 3.95                     | 3316.46                           | 3993.02                     |   |
| 80                  |                         | 4.21                     | 3773.39                           | 4543.16                     |   |
| 85                  | 1x331                   | 4.05                     | 4259.09                           | 5127.94                     |   |
| 90                  |                         | 4.29                     | 4774.90                           | 5748.98                     |   |
| 95                  |                         | 4.52                     | 5320.18                           | 6405.50                     |   |
| 100                 |                         | 4.76                     | 5894.94                           | 7097.51                     |   |

Note: Besides the above mentioned tension cables, we also can fabricate the cable with higher strength. Send your enquiry if in need.



Parameter of Locked Coil Strand

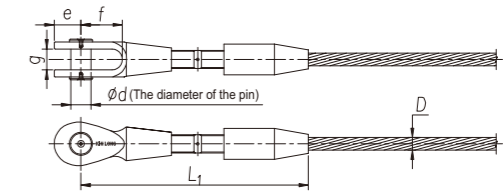


| Cable Diameter (mm) | Sectional Area (mm <sup>2</sup> ) | Minimum Breaking Force (kN) | Modules Elasticity (10 <sup>5</sup> N/mm <sup>2</sup> ) |
|---------------------|-----------------------------------|-----------------------------|---|
| 36                  | 817.38                            | 1025.00                     | 1.30±0.10   |
| 40                  | 1006.08                           | 1261.63                     |   |
| 46                  | 1386.76                           | 1739.00                     |   |
| 52                  | 1724.62                           | 2162.68                     |   |
| 56                  | 2043.06                           | 2548.68                     |   |
| 60                  | 2299.92                           | 2867.65                     |   |
| 66                  | 2869.25                           | 3584.73                     |   |
| 70                  | 3185.13                           | 3977.71                     |   |
| 75                  | 3635.36                           | 4502.95                     |   |
| 82                  | 4310.58                           | 5336.05                     |   |
| 86                  | 4781.53                           | 5915.54                     |   |
| 90                  | 5176.15                           | 6111.92                     |   |
| 95                  | 5764.6                            | 6801.28                     |   |
| 100                 | 6350.2                            | 7485.98                     |   |

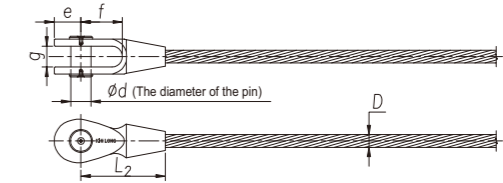
Note: Besides the above mentioned tension cables, we also can fabricate the cable with higher strength. Send your enquiry if in need.

Model

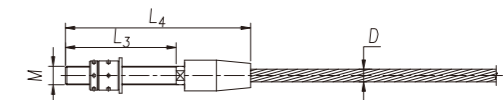
Adjustable Swaged Anchor G02



Fixed Swaged Anchor H02



Screw Anchor K02



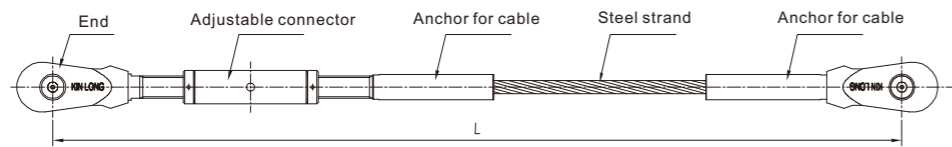
Note: Suggest to use spherical hinged shim at screw end.

Specification

| D    | d   | g   | e   | f   | L <sub>1</sub> | L <sub>2</sub> | L <sub>3</sub> | L <sub>4</sub> | M       |
|------|-----|-----|-----|-----|----------------|----------------|----------------|----------------|---------|
| φ30  | 46  | 50  | 64  | 99  | ≤ 630          | 205            | 250            | 435            | M45     |
| φ32  | 50  | 53  | 68  | 105 | ≤ 673          | 220            | 260            | 456            | M48     |
| φ34  | 52  | 57  | 71  | 112 | ≤ 701          | 230            | 269            | 472            | M52     |
| φ36  | 56  | 60  | 76  | 115 | ≤ 729          | 236            | 280            | 493            | M56     |
| φ38  | 60  | 63  | 81  | 118 | ≤ 758          | 250            | 290            | 509            | M56     |
| φ40  | 62  | 65  | 85  | 132 | ≤ 797          | 262            | 300            | 530            | M60x4   |
| φ42  | 66  | 70  | 88  | 138 | ≤ 817          | 280            | 305            | 541            | M60x4   |
| φ45  | 70  | 75  | 95  | 148 | ≤ 875          | 300            | 318            | 568            | M64     |
| φ48  | 74  | 80  | 100 | 156 | ≤ 944          | 320            | 330            | 595            | M68     |
| φ52  | 80  | 85  | 108 | 170 | ≤ 994          | 340            | 360            | 647            | M72x6   |
| φ56  | 88  | 93  | 117 | 185 | ≤ 1063         | 370            | 380            | 684            | M80x6   |
| φ60  | 94  | 100 | 126 | 196 | ≤ 1122         | 395            | 395            | 710            | M85x6   |
| φ65  | 102 | 108 | 136 | 214 | ≤ 1205         | 435            | 411            | 756            | M90x6   |
| φ70  | 108 | 117 | 147 | 230 | ≤ 1285         | 460            | 435            | 806            | Tr100X6 |
| φ75  | 116 | 125 | 158 | 246 | ≤ 1360         | 500            | 455            | 855            | Tr105X6 |
| φ80  | 124 | 133 | 167 | 263 | ≤ 1413         | 530            | 460            | 880            | Tr110X6 |
| φ85  | 132 | 141 | 177 | 280 | ≤ 1460         | 556            | 470            | 910            | Tr115X6 |
| φ90  | 140 | 150 | 190 | 296 | ≤ 1528         | 595            | 485            | 950            | Tr120X6 |
| φ95  | 148 | 159 | 200 | 312 | ≤ 1593         | 625            | 485            | 985            | Tr130X6 |
| φ100 | 156 | 167 | 210 | 328 | ≤ 1652         | 660            | 490            | 1005           | Tr135X6 |

Notes: The above specifications are the corresponding sizes of ordinary cables. For the specifications and sizes of locked coil strand, please consult our company

## Order Instruction



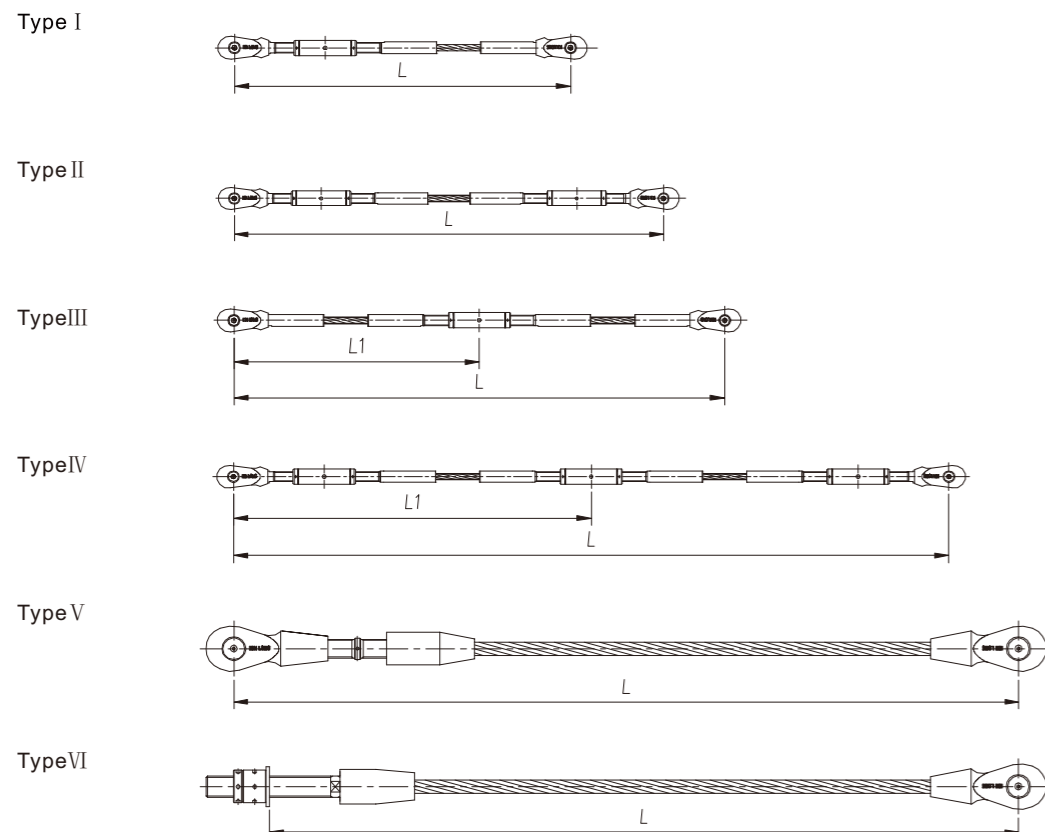
When order the products, please pay attention to the following:

- 1.L is the length as your requirement.(L means pin to pin ).
- 2.The below format is the cable length that one adjusting end normally can adjust(L),if the needed cable length is more than L of the below format ,it needs to add adjusting anchors or consult KIN LONG company.

| Tension cable diameter $\Phi$ D      | $\Phi$ 8 | $\Phi$ 10 | $\Phi$ 12 | $\Phi$ 14 | $\Phi$ 16 | $\Phi$ 18 | $\Phi$ 20 | $\Phi$ 22 | $\Phi$ 24 | $\Phi$ 26 | $\Phi$ 28 | $\Phi$ 30 |
|--------------------------------------|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Adjustable tension cable length L(m) | $\leq 5$ | $\leq 5$  | $\leq 10$ | $\leq 10$ | $\leq 10$ | $\leq 10$ | $\leq 16$ | $\leq 16$ | $\leq 16$ | $\leq 16$ | $\leq 20$ | $\leq 25$ |

- 3.When purchasing this product, please provide the value of pretension force.
- 4.For  $\Phi$ 8 and  $\Phi$ 10 cable ,the anchor is hexagon.

Tension cable common combined types as below figure



## Stainless Steel Tension Cable Using Instructions

Stainless steel tension cable has high strength, good corrosion resistance, and high stiffness characteristic. Brightness appearance can maximum reflect metallic texture. It gets most of architects & clients approval. Therefore, stainless steel tension cable gets widely application in construction cable structure. In order to avoid abnormal appearing, we suggest paying attention to following points during the using:

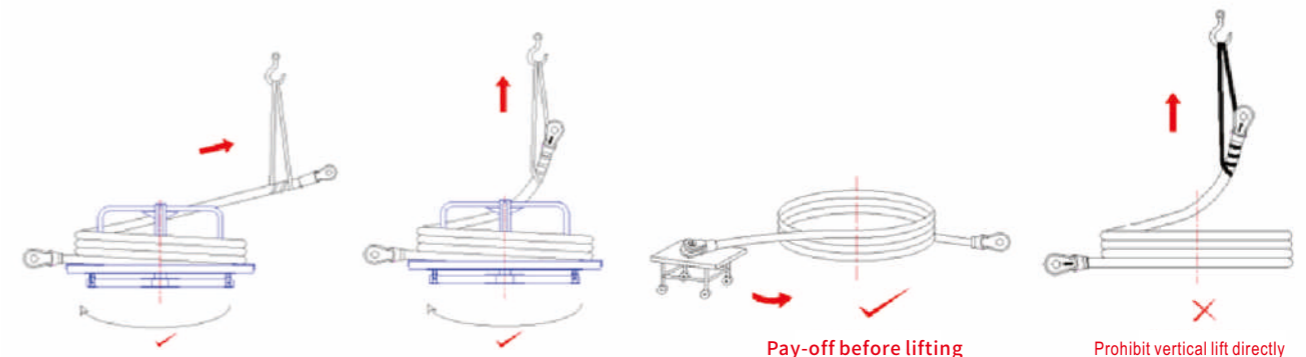
### 1.Storage:

After the tension cable ship to the construction site, it shall be inspected as soon as possible. If not use immediately after the inspection qualified, the product should be still kept in the original packaging box, and then deposits it according to the following conditions:

- (1) Tension cable deposit location should be indoors, storage environment should be ventilated, dry, no acid, alkali, salt and water vapor in high temperature which bad medium could lead to stainless steel corrosion. Such as the storage time more than one month, then half a month need to unpacking check regularly, to check if the surface is rust. If there is any rust, need to find and eliminate the cause of the corrosion products, when the reason belongs to the storage environment, its location should be changed to another proper one.
- (2) If the indoor storage conditions are not available, please pay attention to the above attentions and make waterproof protection. Besides weather enclosure or rain cover, please pad the product to prevent rainwater from the bottom into the packages. If packages get wet, the product must be cleaned and change into new packages. When in outdoor storage, the inspect period can be reduced to a week.
- (3) Please kept the packages for a period of time after taking out the tension cables for installation. The rest tension cables must be stored in the original packages; Any products return or repair needs to send back to supplier with original package.

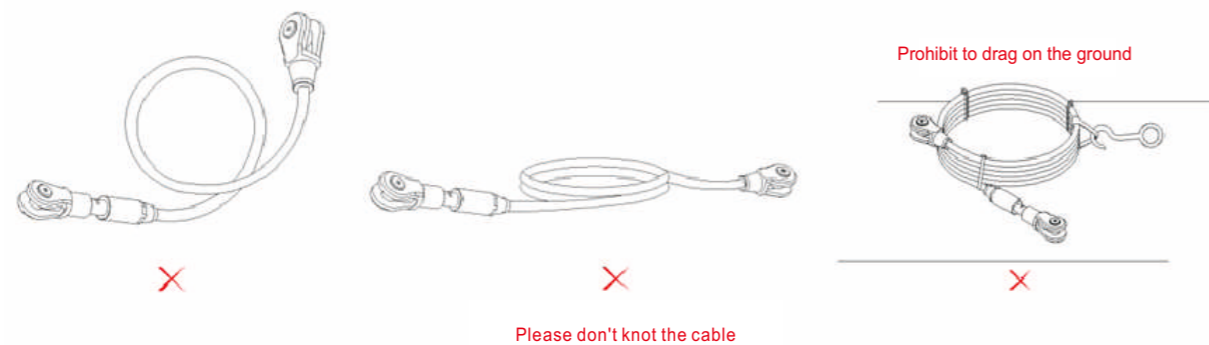
### 2. Installation:

- (1) Before lifting, please check the thread engagement of the adjustable anchor, the thread engagement of tension cable should be smoothly without stress, If can't goes smoothly, then should find the reason and eliminate them. Common problems are like thread out of shape, thread damage, having sand & soil on the thread. Solution refer to maintain with file, clear with steel brush, change the accessories etc. If the problems can not be solved accordingly on site, please contact us timely.
- (2) When lifting, for the small diameter tension cable, please straight the cable reverse to pay-off spool; For the big diameter tension cable, pay-off while lifting, the lifting speed shall be same as pay-off speed to make sure lift up the tension cable naturally. Prohibit vertical lift directly before the cable pay-off naturally. If the cable is spiral when lifting, the lifting work must be stop immediately. It can go on only after the cable is in a natural state, please lift and pay-off with folk-lift or manpower if no pay-off spool is available. Two anchors on both sides should be protected and the cable packaging should not tear off when lifting to prevent scratching and crashing.



## Instruction of Stainless Steel Tension Cable of "Easy extension" Series

- (3) There is no need to use pay-off spool if the cable is short or have the enough space. Concrete operations are: keep the pay-off spool still, lift the anchor and pay-off opposite to the spool, then begin to lift.
- (4) Once improper lifting operation caused cable warp, wire skip, strands loose or injured, please contact the professional person to repair and check whether the product is available.
- (5) After the cable lifting at proper position, confirm the length and dimension to make sure no dismantling any more, then coat the thread locking adhesives on the pin bolt thread and tighten the bolt with 3N·m torque.



### 3. Construction protection:

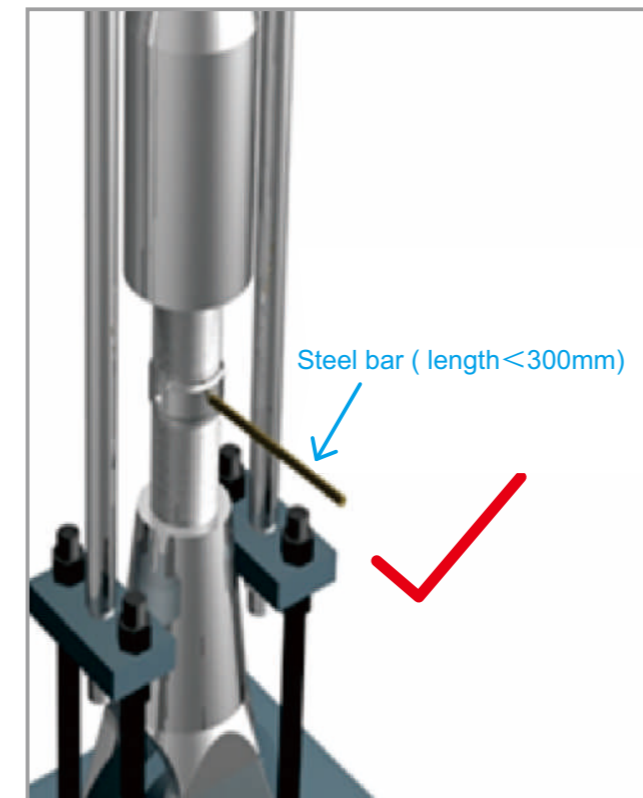
- (1) Tension cable should be handled gently on site, no throw or drop products, in order to avoid collision between products or damaged by other hard products; During the installation, the product should also be well protected to prevent scratches and crash, especially the thread part of the tension cable.
- (2) During installation, try to avoid welding or cross-operation. If have to, protection measures should be taken to avoid welding spark or slag to splash down to the surface of the tension cable. Particular attention is that cable can not be used as a welding lead.
- (3) If there are multi-cross operations on site, please protect the surface of tension cables away from cement mortar, coating and other pollutants of other type of works. If the products getting pollution and corrosion, clients should consult our company for solution and improve protection after cleaning.

### 4. Maintenances:

- (1) Surface cleaning:  
Stainless steel means it can have certain chemical stability around the corrosion mediums of air, water, acid, alkali, salt or others. But it does not mean the stainless steel will never rust. When come into service, the dust and other pollutants on product surface may lead to stainless steel corrosion and even rupture. Therefore, stainless steel tension cable must be regularly and daily cleaning. Regular cleaning cycle should within one year; daily cleaning cycle depends on the pollution, if it will cause corrosion, then cleaning or clearing. Since tension cable is multi-gap structure, liquid like water and detergent is not allowed to spray on it, please wring the wet towel out or clean it with few detergent on the soft fabric.

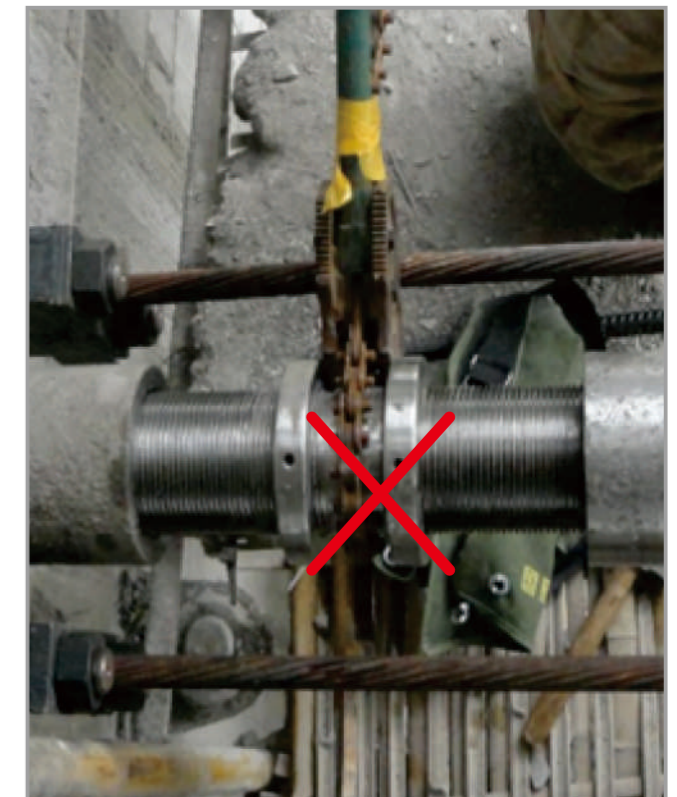
### Please pay attention to the following points during maintenance:

- ① In any case, it is forbidden to clean with chlorinated solution (such as bleaching fluid, 84 disinfectant and etc.). When chlorinated solution be used for other purpose (e.g. disinfection), the stainless steel should also be in a good protection.
  - ② Stainless steel gets rust is not only concerned with pollutants, but also with the ambient temperature, humidity, atmospheric composition and so on. If the product get rust without any obvious pollutants, besides timely rust cleaning, it need to find out the reason of corrosion and solution.
- (2) Others:  
Any product maintenance (such as prestress inspection and adjustment and etc.) doesn't mention above, please carry on according to the current industry standard Glass Curtain Wall Engineering Specifications.



### Please pay attention to the following matters when tensioning the cable:

1. Before tensioning, the thread should be checked again and remove the attached sand, welding slag and so on.
2. Before tensioning, make sure the exposed thread length is the same as picture shows.
3. Specified tension tools shall be use.
4. During tensioning, it is recommended to hand screw or screw by inserting steel bar (L≤300mm) into wrench hole. Normally, one hand can easily turn the screw (no more than 5KG force). If the above method can not easily turn the screw, it may cause by improper tools or adjustment, please readjust or consult our company.
5. It is forbidden to add extension bar, chain wrench, pipe wrench or any similar tools to screw. If any operation against above causes tension difficulty or product damage. KIN LONG will not take any responsibility.

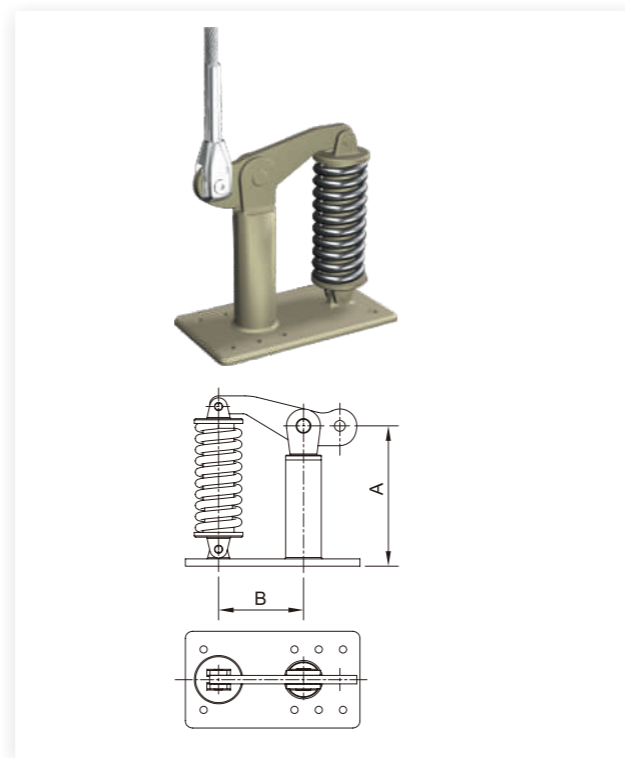
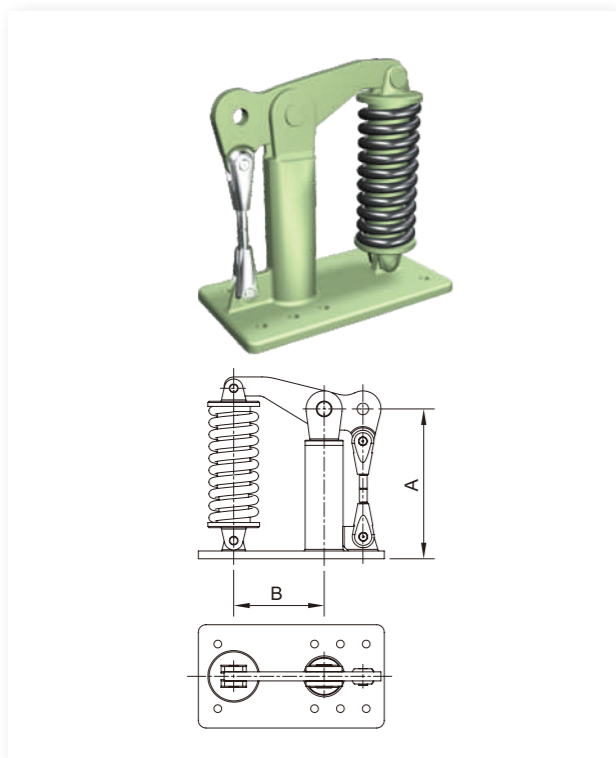


## Typical Fittings for Cable

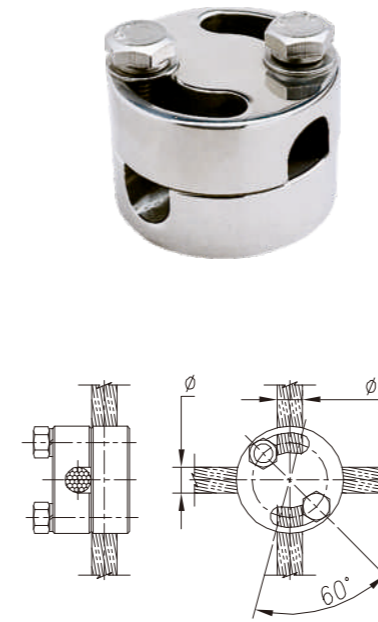


Overload Protection Device

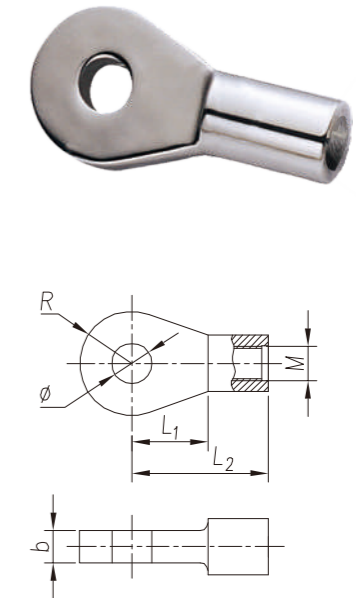
Pretension Keeping Device



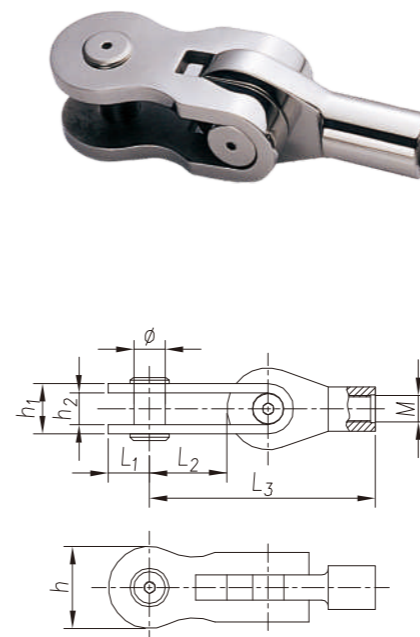
SGP-02



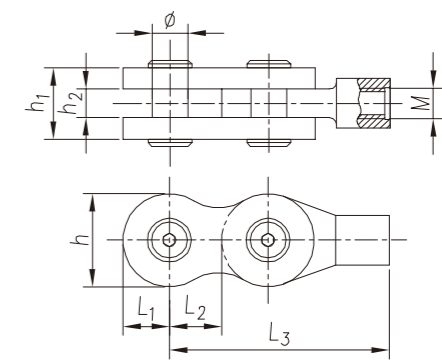
SGP-03



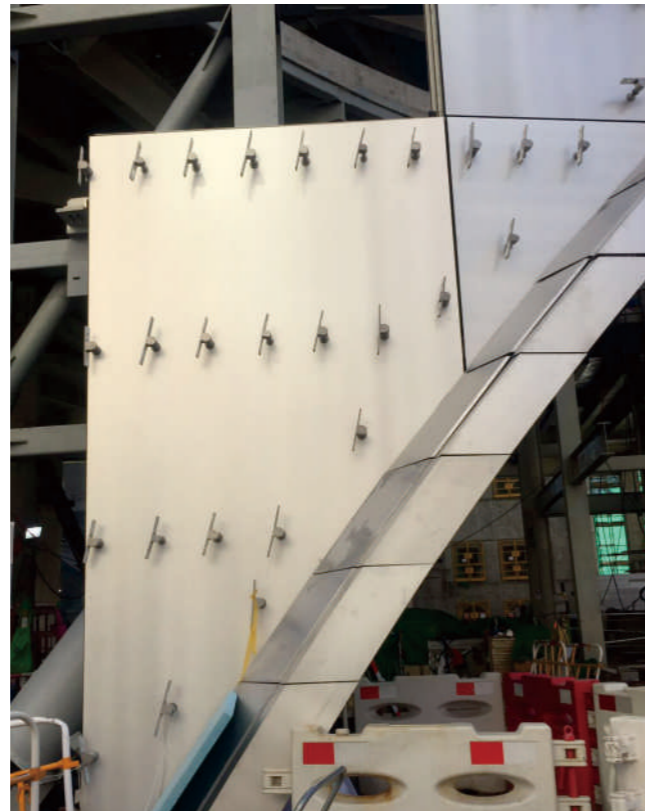
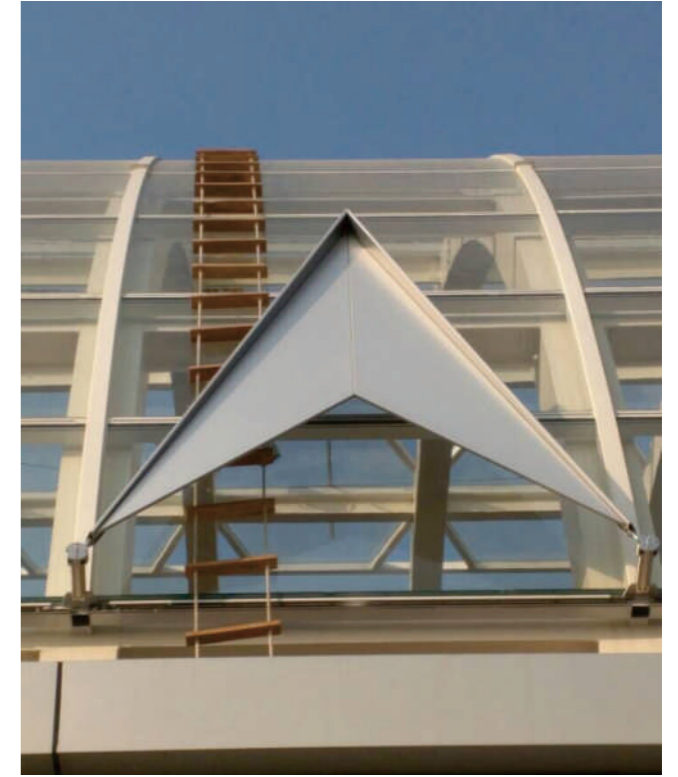
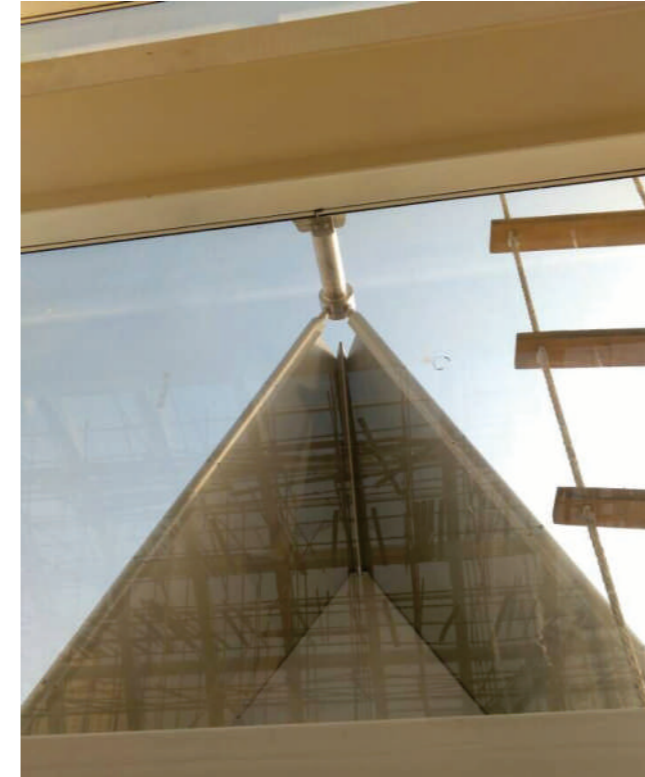
SGP-05



SGP-06



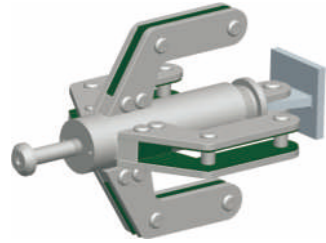
### Customized Products



### Customized Products



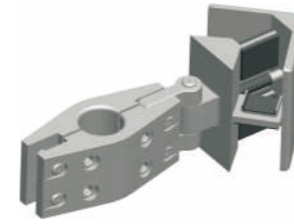
Zhenjiang Sports International Convention and Exhibition Center



Shenzhen Ping An International Financial Center



Shenyang Hanglung Plaza



HTC Headquarters Mansion in Taiwan



Beijing Golden Center



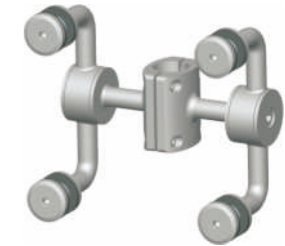
Project in California, U.S.A



ASOK Terminal 21 in Thailand



Dongguan Wing Lung Business Hotel



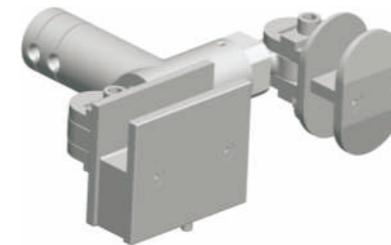
Sydney Green Center High-rise Apartment Building



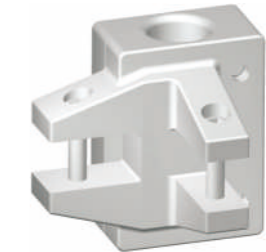
HK West Kowloon



Guangzhou West Tower



Shanghai Siemens



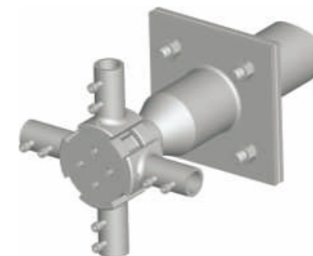
Burj Khalifa in Dubai



Shijiazhuang Airport



Shenzhen Stock Exchange



Shanghai Zhongjian Building





Shenzhen Gangxia Parkway



Shenzhen Baoan District Children's Palace



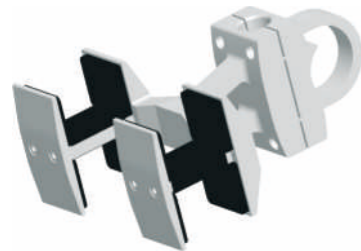
Nanchang International Expo City



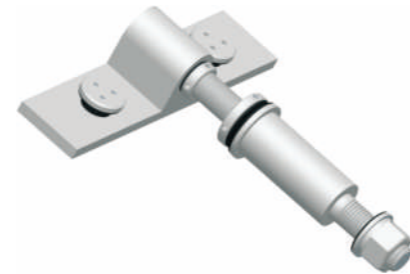
Taiwan United Daily



Shanghai Bund International Financial Center



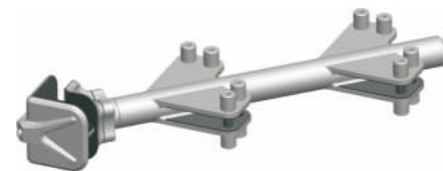
Hong Kong Drama Centre



Huaya Square Curtain Wall System



Shenzhen Zuotingyoyuan



### Statement

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