

**Miilkiia Agriculture**, company that integrates design, innovation, production, construction, and installation in the greenhouse industry.

The company's main products include intelligent glass greenhouses, PC board connected greenhouses, connected film greenhouses, photovoltaic greenhouses, sunlight greenhouses, spring and autumn sheds, edible mushroom greenhouses, sunshades - glass canopies, etc.

The supporting systems include internal and external sunshade systems, internal insulation systems, ventilation cooling systems, seedling bed systems, irrigation and fertilization, control power systems, hydroponic systems, lighting systems, heating equipment, IoT control systems, agricultural environmental protection, as well as various greenhouse accessories.

# GREENHOUSE

## ACCESSORIES MANUAL

**Endless Greenhouse Possibilities**



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## Characteristics of greenhouse skeleton with continuous glass and solar panels

The appearance of the connected glass or solar panel greenhouse is modern and innovative, with a stable structure. The greenhouse is made of hot-dip galvanized pipes, connected with hot-dip galvanized anti-corrosion bolts and self tapping nails, without welding points, sturdy and practical, and overall simple and beautiful. Covering the canopy with glass or polycarbonate sheets has extremely high transparency and good insulation properties. Large span pointed roof design, large indoor operating space, high utilization rate of greenhouse, and good display effect. It can be used as a large ornamental greenhouse, seedling greenhouse, flower greenhouse, flower market, large shopping mall, and ecological restaurant.

## Main configuration

The configuration includes: hot-dip galvanized main frame, internal and external shading system, skylight and side window ventilation system, water curtain fan cooling system, computer comprehensive control system, drip irrigation spray system, seedbed, supplementary lighting system and other facilities. Users can choose other configurations according to their planting needs.



## General design technical parameters

Wind resistance load: 0.5KN/m<sup>2</sup> Snow resistance load: 0.5KN/m<sup>2</sup>

Greenhouse constant load: 15kg/m<sup>2</sup> Greenhouse maximum rainfall: 140mm/h

## Please refer to the table below for specific specifications and dimensions

| Greenhouse type/parameters        | Span (m) |      |    | Room (m) |     | Eave height (m) | Ridge height (m) |
|-----------------------------------|----------|------|----|----------|-----|-----------------|------------------|
| Multi span intelligent greenhouse | 9.6      | 10.8 | 12 | 4.0      | 8.0 | 4.0-6.0         | 4.8-6.8          |

Note: The eave height can vary according to user requirements



## Characteristics of multi span film greenhouse

This greenhouse is an economical greenhouse that is popular among users for its beautiful curved shape and low cost. The curved ceiling is beautiful and elegant, with a smooth line of sight. The structure uses less steel and has good insulation performance.

## Greenhouse materials

The main structure of the greenhouse is made of hot-dip galvanized pipes and connected with hot-dip galvanized bolts, which have good anti-corrosion performance.

## Main configuration

Internal and external shading, seedbeds, skylight side ventilation, water curtains, and fan cooling facilities can be configured as required.

## Service life

The main body is over 15 years old, and the film should be replaced every 3-5 years.

## Covering materials

The top of the greenhouse is covered with 15 wire P0 film or crystal film, with an outer layer that is UV resistant and an inner layer that is anti condensation. The surrounding walls are covered with 15 wire P0 film, crystal film, or polycarbonate sheets, and the surrounding walls can also be modified according to user requirements.

## General design technical parameters

Wind resistance load:  $0.4\text{KN/m}^2$  Snow resistance load:  $0.35\text{KN/m}^2$  Greenhouse constant load:  $10\text{KG/m}^2$   
Maximum rainfall discharge:  $140\text{mm/h}$  Hanging load:  $15\text{kg/m}^2$

## Please refer to the table below for specific specifications and dimensions

| Greenhouse type/<br>parameters    | Span (m)  | Room (m) | Eave height (m) | Ridge height (m) |
|-----------------------------------|-----------|----------|-----------------|------------------|
| Thin film connected<br>greenhouse | 8.0 -10.0 | 4.0-5.0  | 3.5 -4.5        | 5-6              |

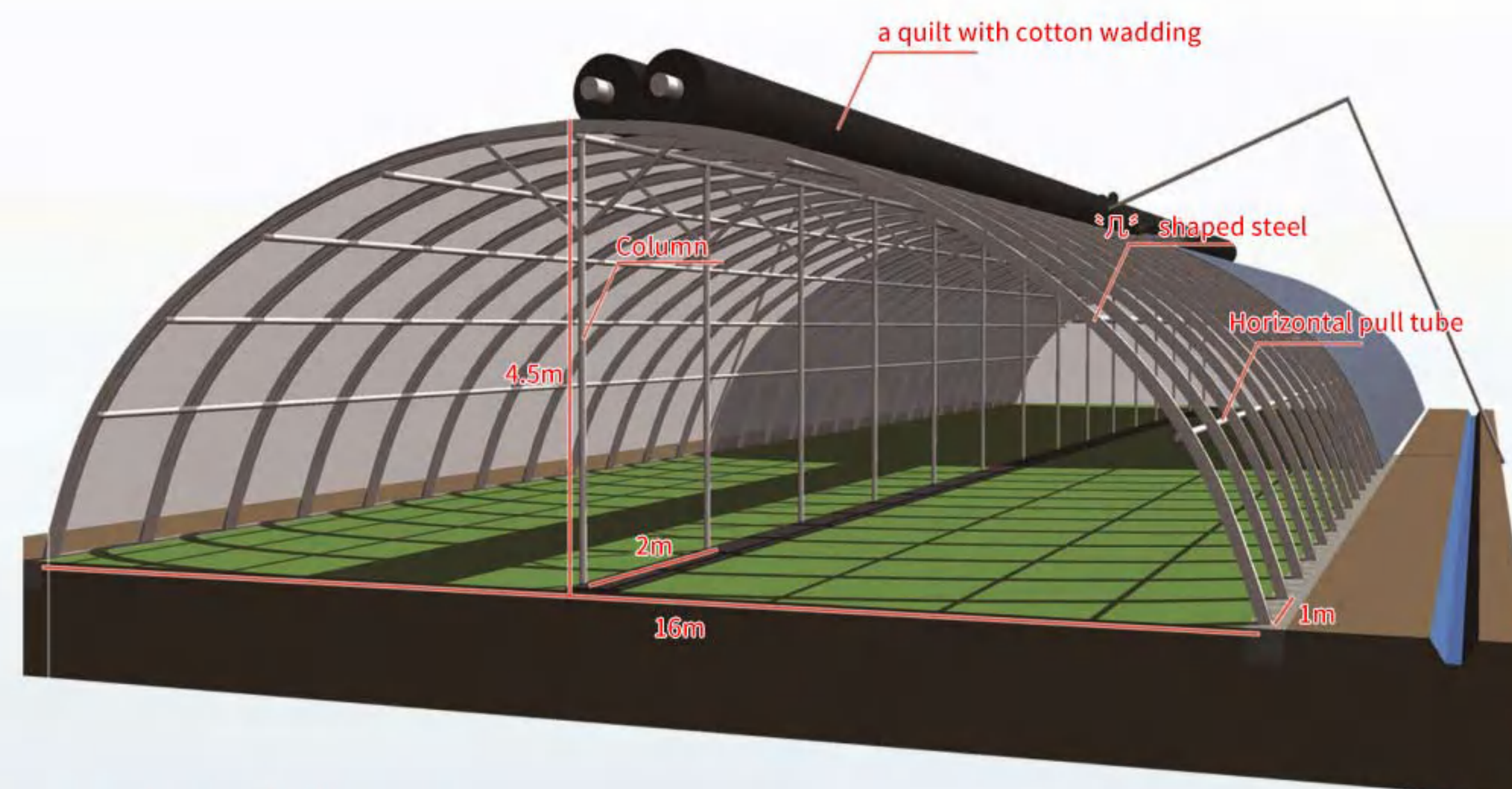
Note: The eave height can vary according to user requirements



## Characteristics of Arch Shed Skeleton

Arched greenhouse, also known as cold greenhouse or bread greenhouse, has a curved top that is easy to construct and disassemble. It requires less one-time investment and is suitable for planting and breeding sheds in southern and northern regions during spring, summer, and autumn seasons. In northern China, the performance of arched greenhouse is slightly lower than that of winter warm greenhouse. Two or three films can be added to the greenhouse to increase nighttime temperature. The spacing between beams is generally about 1 meter, the construction span is generally between 6-8 meters, the construction height is about 3 meters, the utilization rate is high, the specifications are unified, and the operation inside the shed is convenient and conducive to mechanized farming. It is suitable for planting in southern regions and northern spring, summer, and autumn seasons.





“几” shaped steel frame

| Wall type                      | Structure type           | Height and span               | Covering materials    | Thermal insulation facilities        | Technical Parameter                                                                                                                                                             |
|--------------------------------|--------------------------|-------------------------------|-----------------------|--------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Insulation board or brick wall | '几' type steel structure | H 3.5m-4.5 m<br>About W8m-10m | Thin film solar panel | Roller shutter machine, cotton quilt | Wind resistant load: 0.6KN/m <sup>2</sup><br>Snow load resistance: 0.5KN/m <sup>2</sup><br>Greenhouse constant load: 25 kg/m <sup>2</sup><br>Hanging load: 50 kg/m <sup>2</sup> |

★ Can be designed according to different regions



## Advantages of assembling greenhouse

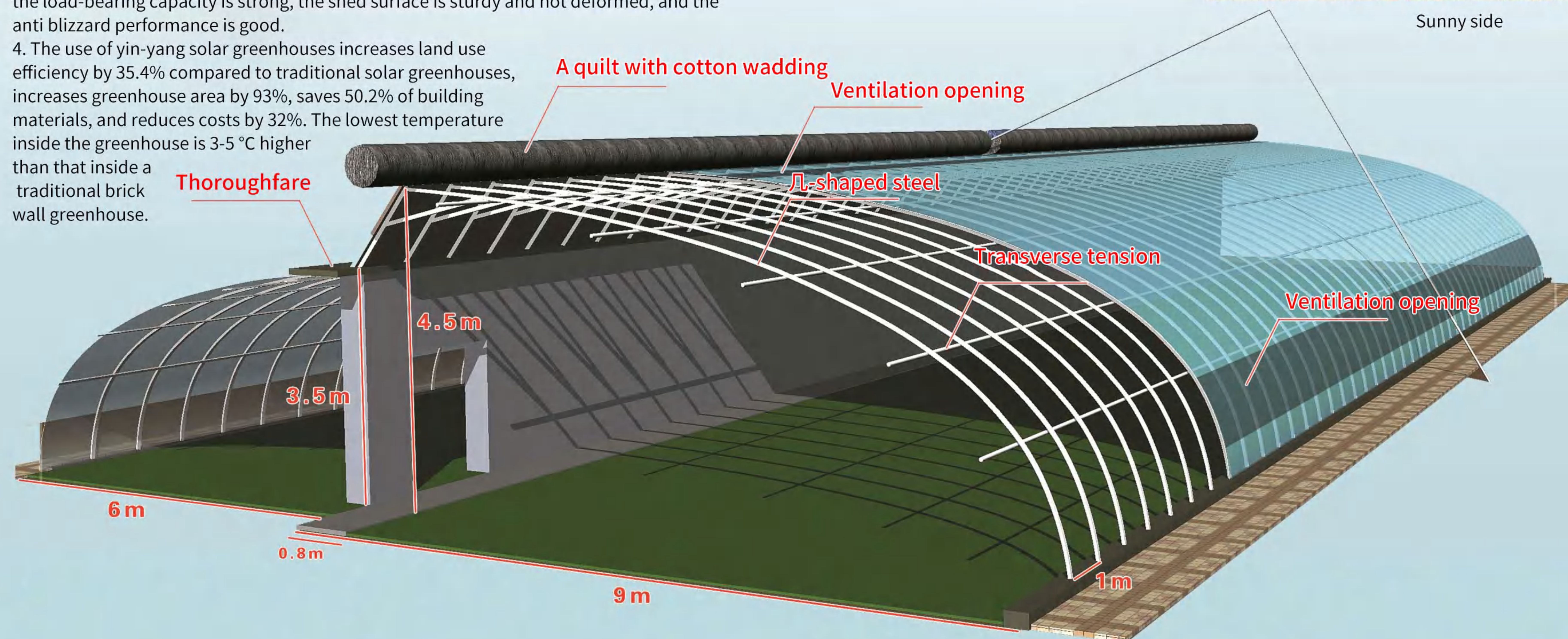
1. The yin-yang solar greenhouse is a traditional solar greenhouse that is located on the north side, borrowing (or sharing) the back wall and adding a sloping greenhouse of the same length but with the daylighting surface facing north, forming a yin-yang solar greenhouse together. A greenhouse with a sunny side is called a sunshade, while a greenhouse with a shaded side is called a shaded greenhouse.
2. The shade shed of the greenhouse perfectly utilizes the shading area that must be left in the traditional layout of the solar greenhouse to ensure natural lighting in the rear, thus improving the land use efficiency of the solar greenhouse. And it prevents the back wall of the shade shed from directly facing wind and snow damage, reducing the heat loss of the back wall of the shade shed, which is beneficial for increasing the temperature of the shade shed. The insulation of the shade shed is relatively poor, making it suitable for producing crops such as edible mushrooms.
3. The main beams are all made of hot-dip galvanized steel in one molding process, connected by hot-dip galvanized parts. The overall anti-corrosion performance is good, the load-bearing capacity is strong, the shed surface is sturdy and not deformed, and the anti blizzard performance is good.
4. The use of yin-yang solar greenhouses increases land use efficiency by 35.4% compared to traditional solar greenhouses, increases greenhouse area by 93%, saves 50.2% of building materials, and reduces costs by 32%. The lowest temperature inside the greenhouse is 3-5 °C higher than that inside a traditional brick wall greenhouse.



Nightside



Sunny side



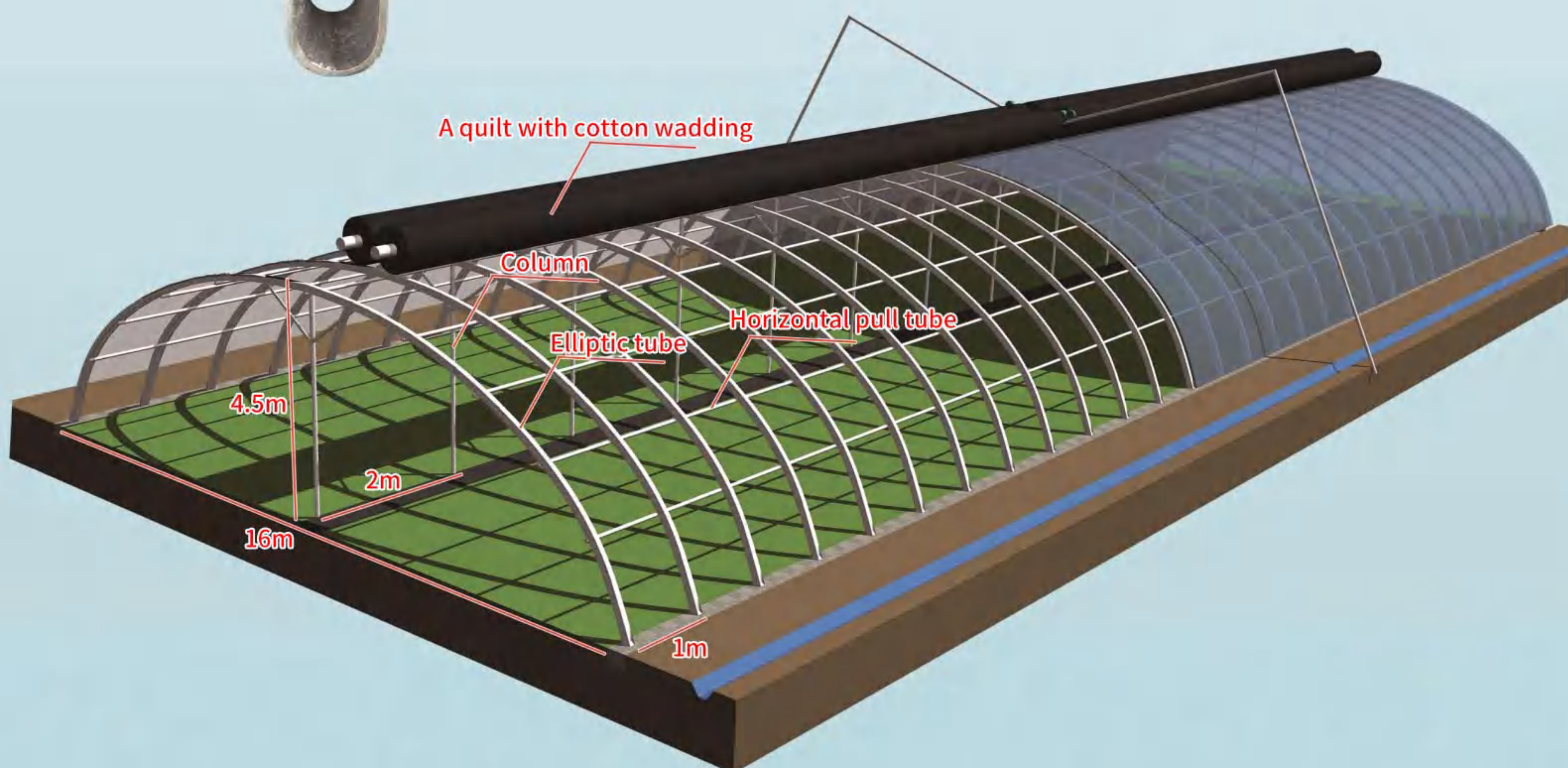
The elliptical tube greenhouse roof adopts elliptical tubes as the main beam, which has good bending and compression resistance, good flatness, and quick and convenient installation. The shed surface is fixed with hot-dip galvanized pipes and horizontal bolts, which increases the load-bearing capacity and wind and snow resistance of the shed surface. The walls are made of brick or earth walls, with an overall beautiful appearance and can be planted and used all year round.



| Wall type                               | Structure type | Height and span                       | Covering materials                                   | Thermal insulation facilities                        | Technical Parameter                                                                                                                                                             |
|-----------------------------------------|----------------|---------------------------------------|------------------------------------------------------|------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Assemble greenhouse Insulated arch shed | Elliptic tube  | Height 4-6 m<br>Width of about 10-25m | Polyvinyl chloride high-temperature film or EVA film | Automatic rolling shutter machine insulation blanket | Wind resistant load: 0.4KN/m <sup>2</sup><br>Snow load resistance: 0.5KN/m <sup>2</sup><br>Greenhouse constant load: 25 kg/m <sup>2</sup><br>Hanging load: 50 kg/m <sup>2</sup> |
|                                         | Л-shaped steel |                                       |                                                      |                                                      |                                                                                                                                                                                 |
|                                         | C-shaped steel |                                       |                                                      |                                                      |                                                                                                                                                                                 |

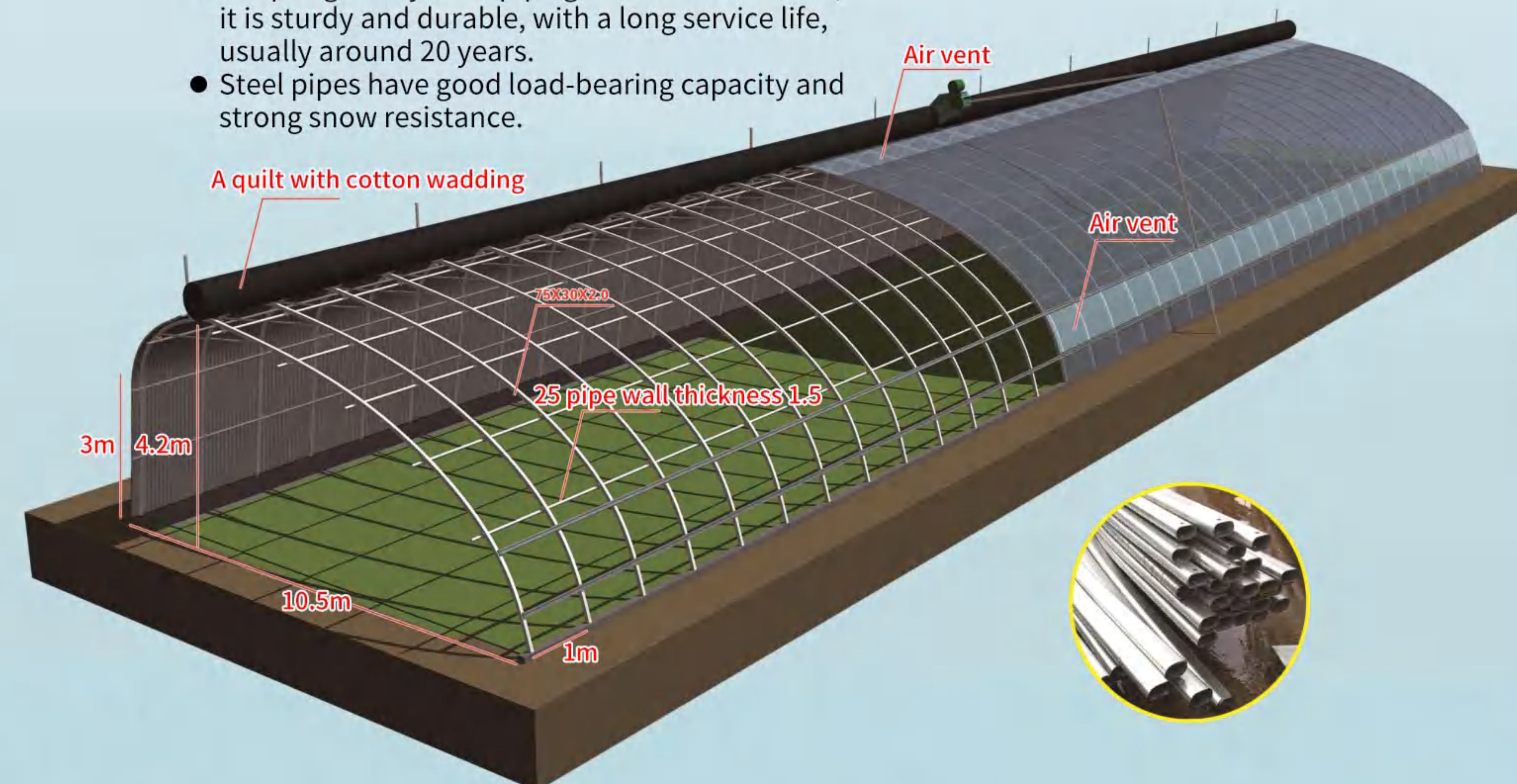


★ Can be designed according to different regions



## Elliptical tube skeleton

- The single unit has no three-dimensional structure, with a span generally between 8-12 meters, making it easy to move mechanically.
- There is a pillar structure with a span of 15-20 meters, which provides good lighting and increases land use area.
- Adopting a fully steel pipe greenhouse skeleton, it is sturdy and durable, with a long service life, usually around 20 years.
- Steel pipes have good load-bearing capacity and strong snow resistance.



The greenhouse canopy adopts elliptical tubes, Л types of steel, and C-shaped steel frames as the main beams, which have good bending and compression resistance, good flatness, and quick and convenient installation. The shed surface is fixed with hot-dip galvanized pipes and horizontal bolts, which increases the load-bearing capacity and wind and snow resistance of the shed surface. The walls are made of brick or earth walls, and the overall appearance is beautiful. It can be planted and used all year round.

C-shaped steel



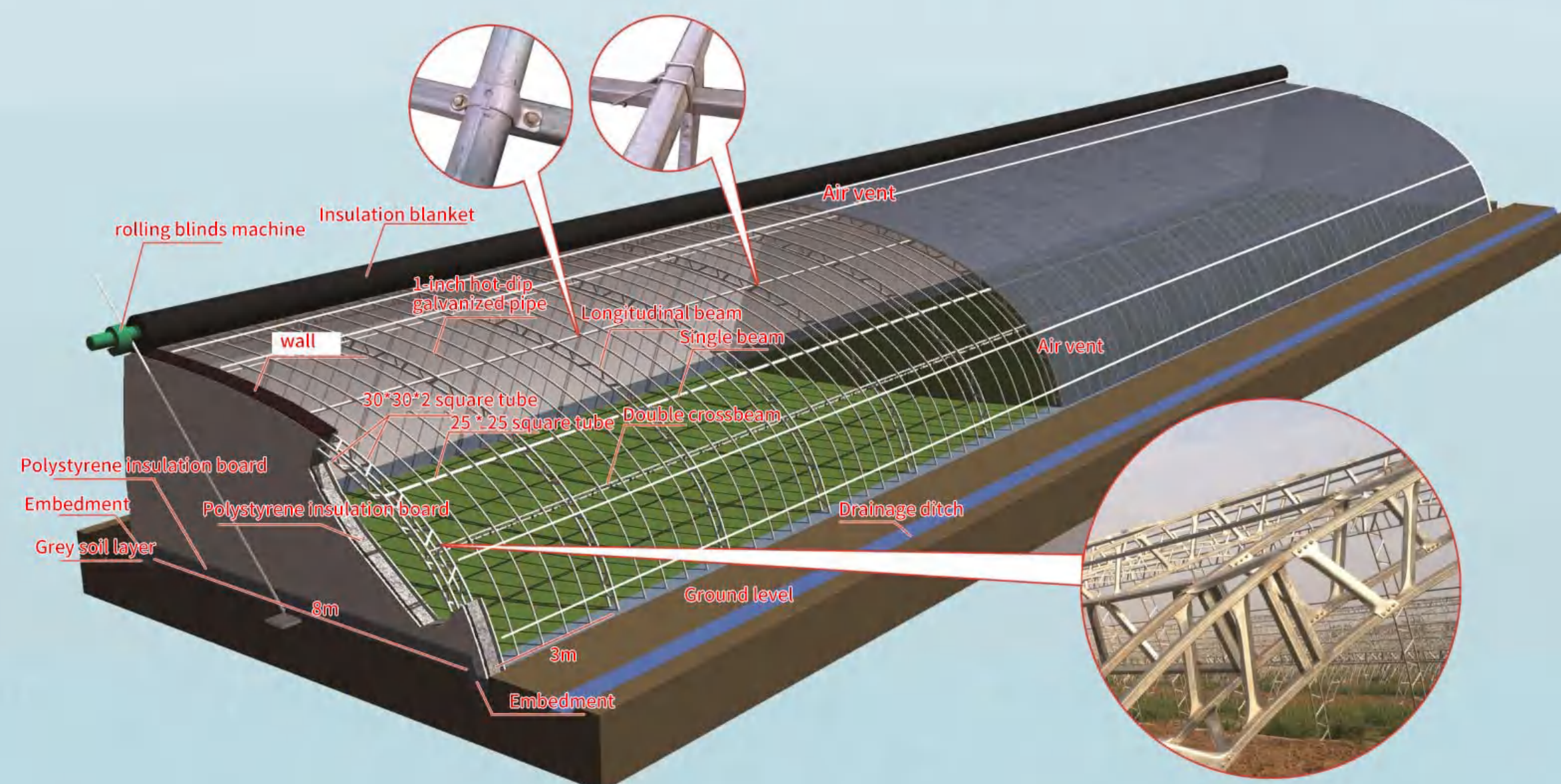
| Wall type                                  | Structure type | Height and span                       | Covering materials                                   | Thermal insulation facilities                        | Technical Parameter                                                                                                                                                             |
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|                                            | Л-shaped steel |                                       |                                                      |                                                      |                                                                                                                                                                                 |
|                                            | C-shaped steel |                                       |                                                      |                                                      |                                                                                                                                                                                 |

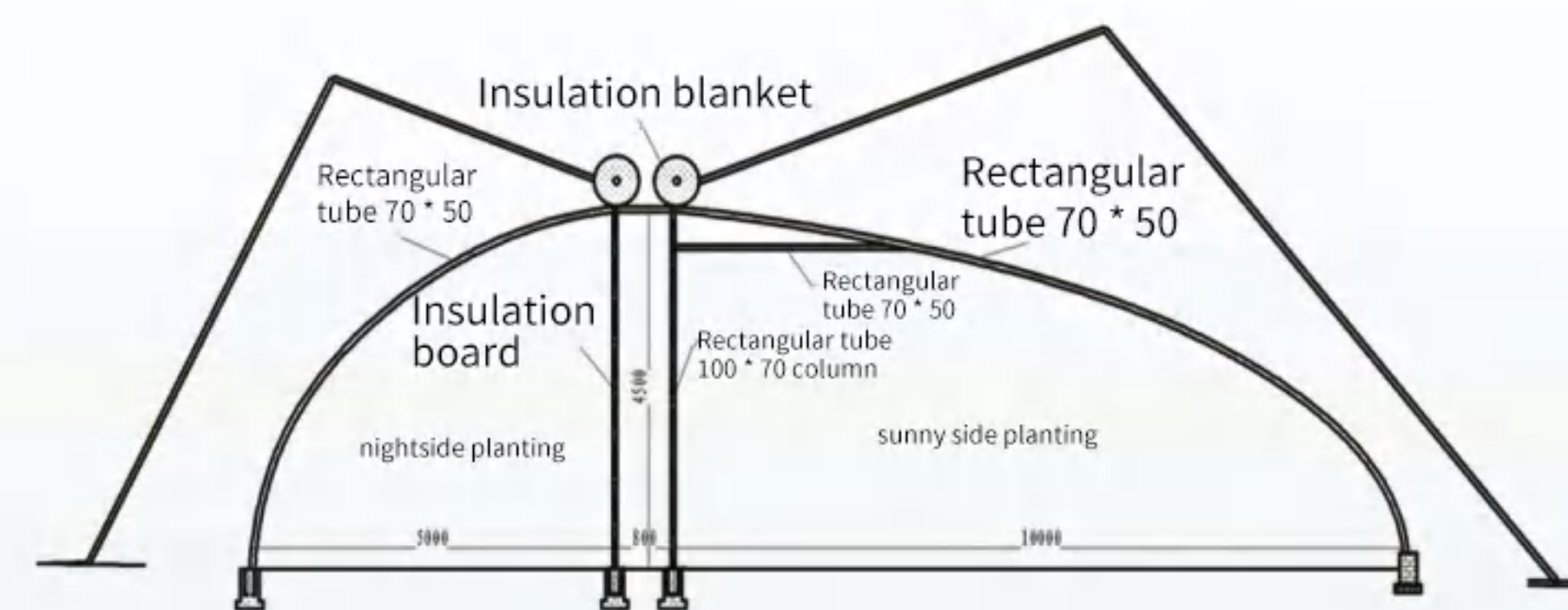
★ Can be designed according to different regions



## Characteristic

- The span of the assembled greenhouse is generally between 10-25 meters, with the maximum utilization of land area.
- No pillar structure, wide planting area, good lighting effect, and easy mechanical operation.
- Adopting a fully steel pipe greenhouse skeleton, it is sturdy, durable, and has a long service life, generally around 20 years.
- Steel pipes have good load-bearing capacity and strong wind and snow resistance.





| Wall type                                  | Structure type | Height and span                       | Covering materials                                   | Thermal insulation facilities                        | Technical Parameter                                                                                                                                                             |
|--------------------------------------------|----------------|---------------------------------------|------------------------------------------------------|------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Assemble greenhouse<br>Insulated arch shed | Elliptic tube  | Height 4-6 m<br>Width of about 10-25m | Polyvinyl chloride high-temperature film or EVA film | Automatic rolling shutter machine insulation blanket | Wind resistant load: 0.4KN/m <sup>2</sup><br>Snow load resistance: 0.5KN/m <sup>2</sup><br>Greenhouse constant load: 25 kg/m <sup>2</sup><br>Hanging load: 50 kg/m <sup>2</sup> |
|                                            | Л-shaped steel |                                       |                                                      |                                                      |                                                                                                                                                                                 |
|                                            | C-shaped steel |                                       |                                                      |                                                      |                                                                                                                                                                                 |

★ Can be designed according to different regions



Based on the construction characteristics of steel structure greenhouses, especially for the greenhouse construction needs in border, mountainous, and desert areas where transportation is relatively difficult, the company has tailored a high-precision, easy to operate, multifunctional, remote parameter setting, and fault diagnosis CNC flat tube bending and arc machine specifically for greenhouse skeletons to help customers achieve on-site processing and immediate installation of greenhouse skeletons, reduce transportation costs for secondary processing, and lower construction costs.

## CNC flat tube bending and arc forming integrated machine

### Technical parameters

Power: 8-16 KW  
Number of forming wheels: 12, 13 wheels  
One time forming arc segment: 10 segments  
Maximum feeding torque: 3000N · m  
Minimum bending radius: 300 mm  
Maximum flat tube diameter: 60mm  
Maximum bend diameter: 80 mm  
Minimum bend diameter: 25 mm  
Bend slider thrust: 50 KN  
Bend slider stroke: 250-500 mm  
Bend slider speed: 2cm/s



Elliptical tube forming bending machine-12



elliptic tube



Elliptical tube forming bending machine-13



Elliptical tube forming bending machine-12

## CNC pipe bending machine

### Technical Parameters

Power: 4KW  
Number of forming wheels: 3, 7, 9  
One time forming arc segment: 10 segments  
Maximum feeding torque: 1200N · m  
Minimum bending radius: 300 mm  
Maximum bend diameter: 80 mm  
Minimum bend diameter: 25 mm  
Bend slider thrust: 50 KN  
Bend slider stroke: 250-500 mm  
Bend slider speed: 2cm/s



Bending machine-7



Bending machine-12

## Necking machine



Hydraulic necking, punching, and cold bending integrated machine

### Technical Parameters

Power: 5 KW  
Capacity: 60L  
Flow rate: 21 L/Min  
Export pressure: 16 MPa  
Thrust of circular tube contraction oil cylinder: 500 KN  
Flat punch oil cylinder thrust: 240 KN  
Elliptical tube contraction oil cylinder thrust: 190 KN  
Cold bending cylinder thrust: 160 KN  
Size: 1600x1200x1000  
Weight: 450 KG

### Technical Parameters

Compression diameter range: 6-80 mm  
Hydraulic cylinder thrust: 500 KN  
Zhanghe cycle: 10 seconds  
Pressing control accuracy: 0.02 mm  
System pressure: 16 MPa  
Button diameter circular runout: 0.1mm  
Whole machine weight: 220 Kg



Round tube necking machine

A professional production line for punching, cold bending, and arc bending of double film skeleton C-shaped steel sheets for greenhouse use, with fully automated equipment control. The production line involves automatic feeding racks, automatic feeding machines, punching machines and punching molds, C-shaped steel forming keel machine equipment and cutting equipment, cold bending and arc forming machines, etc. The company always adheres to the principles of quality, integrity, and innovation, providing customers with high-quality products and comprehensive after-sales service through reasonable design schemes and precise machining and assembly quality.

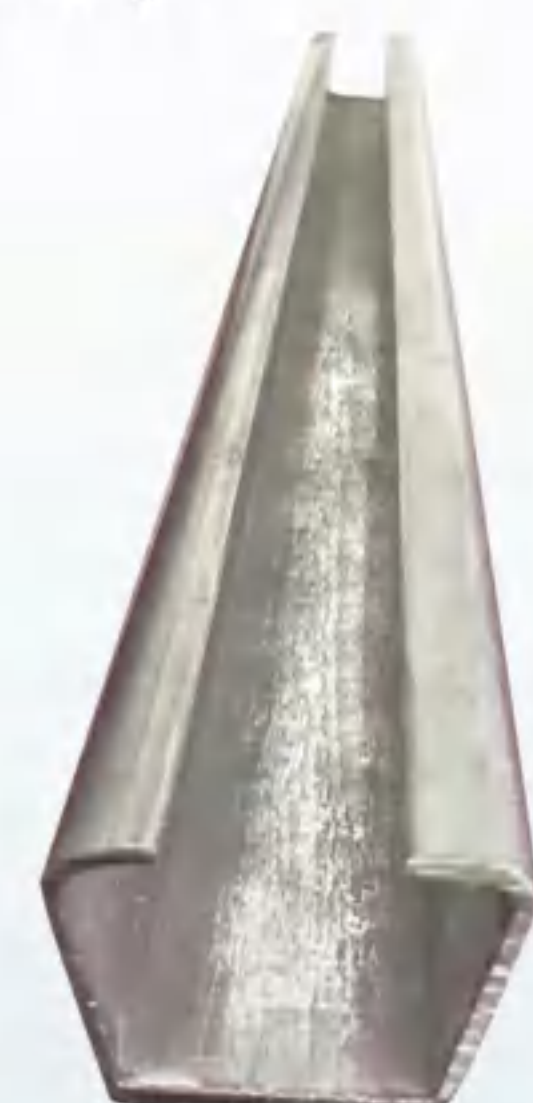
## Double membrane skeleton C-shaped steel production line

### Technical Parameters

Total power: 10 KW  
C-shaped steel width: 80, 100mm  
Number of C-shaped steel forming rolls: 14sets  
Keel machine spindle diameter: 60mm  
Roll material: Cr12  
Punch tonnage: 250 KN  
Discharge speed: 13 m/Min



7-shaped steel



C-shaped steel



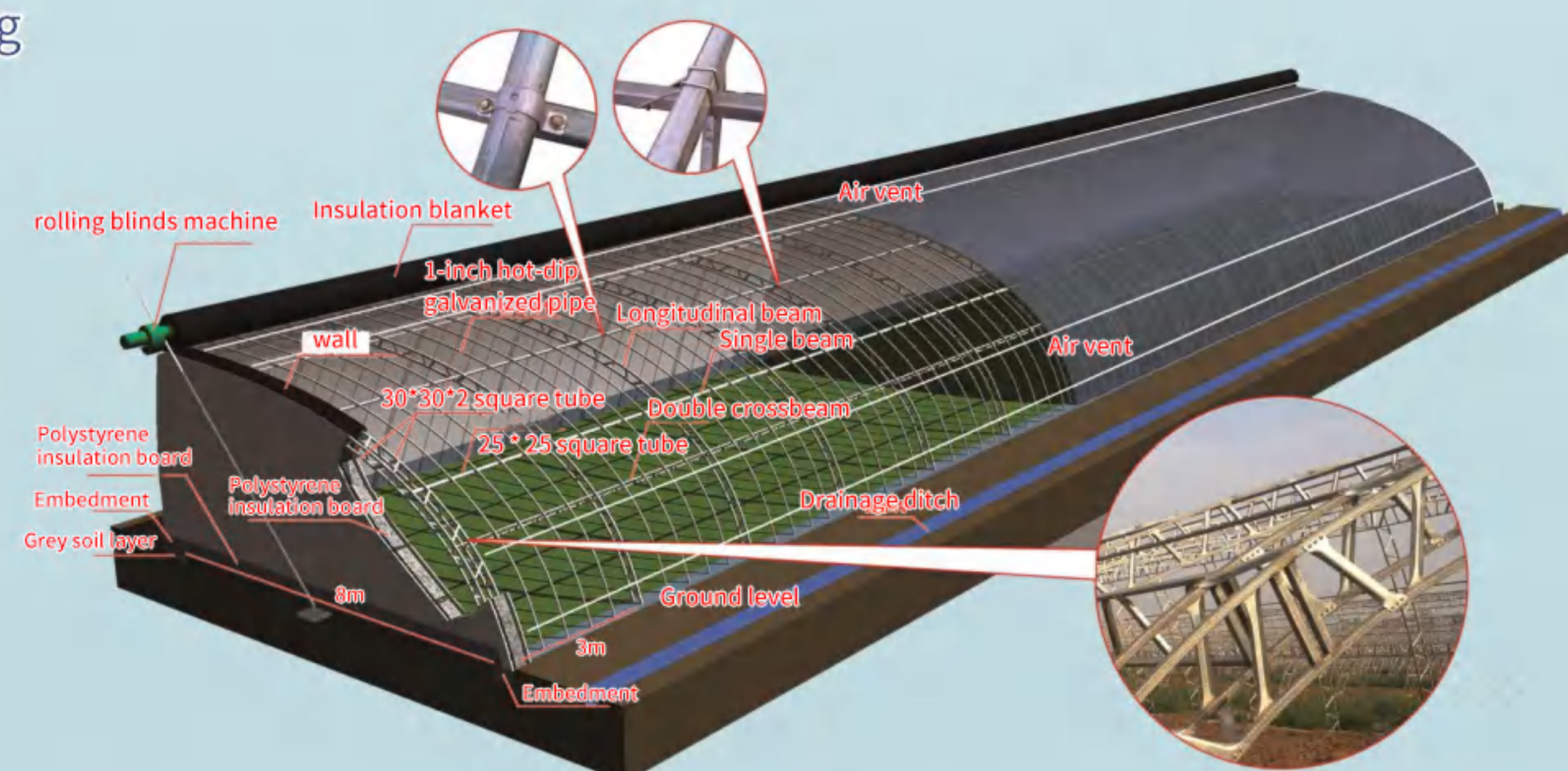
Punching



C-shaped steel forming machine



Feeder



This product has a high-precision seeder, which can achieve seeding accuracy of one seed per hole or multiple seeds per hole according to different needs. The plant spacing and depth can be adjusted as needed. The sowing wheel is made of imported special materials, which are characterized by anti-static and non adhesive properties, allowing seeds to fall smoothly and not easily broken. You can choose the appropriate sowing wheel based on the required seed size and plant spacing.



Seeder

## Vegetable seeder

### Technical Parameters

Power: 4.2KW/3600rpm  
Startup mode: manual/electric  
Walking speed: 0.2~1m/s  
Specification: 1400x700x600mm  
Weight: 60 Kg

Features: Easy to use, this machine can complete multiple seeding processes including trenching, sowing, soil covering, and compaction in one go.  
Seed types: Carrots, turnips, beets, onions, taro, spinach, bamboo shoots, cabbage, asparagus, okra, lettuce, celery, Chinese cabbage, bok choy, onions, snow red, rapeseed, chili peppers, broccoli and other small granular vegetable seeds.



Plug seeder

## Needle suction tray seeder

### Technical Parameters

Power: Air suction  
Efficiency: 300 disks/hour  
Specification: 2000x700x600  
Weight: 60 Kg

Features: Small size, light weight, easy to move, simple operation, capable of precision sowing of any type of seed and irregular seeds.



film Greenhouse Gutter



Glass, PC Greenhouse Gutter



Skeleton production



Skeleton production



Truss



Column



Production equipment



Arch bar



Elliptic tube



Production equipment



Clamp



Clamp



Clamp



Door hinges



Door hinges



Four hole pressure plate



T-shaped clamp



Hoop (45 °)



Hoop (60 °)



Four hole pressure plate



Four hole pressure plate



Elliptical tube four hole pressure plate



Hoop (90 °)



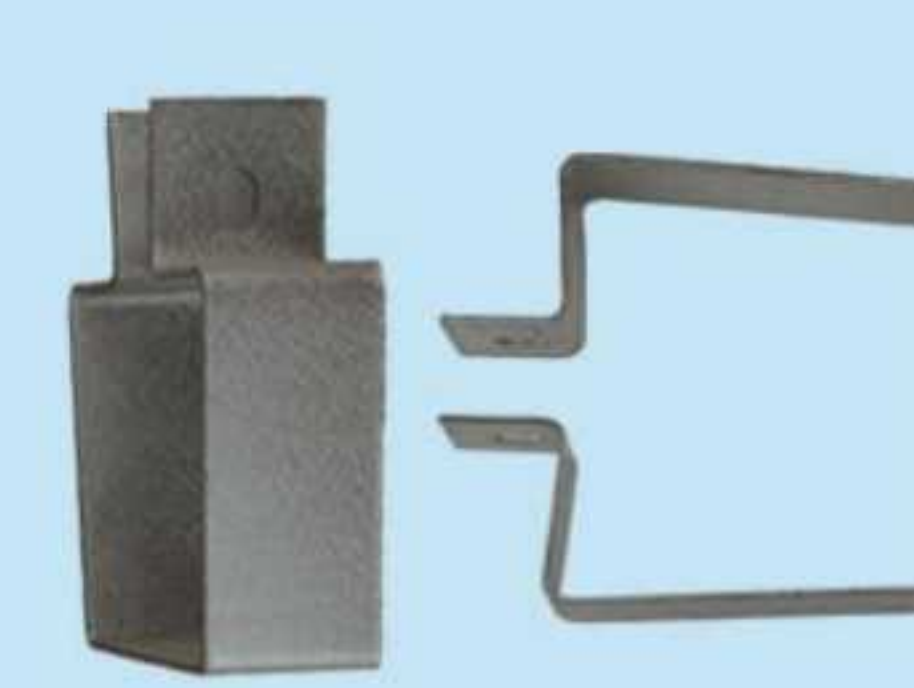
Elliptical tube clamp



Two hole pressure plate



Square tube clamp



Square tube clamp



Square tube clamp



Two hole pressure plate



Two hole pressure plate



Hoop



Square tube clamp



Round pipe clamp



Slant support connector



Shaft seat connector



Shaft seat connector



External sunshade pillar connector



Cross connecting plate



Card slot bracket and top window frame connector



Longitudinal beam connector



A-frame crossbeam connector



A-frame crossbeam connector



Cross beam end face connector of A-frame



Corner Connection



External sunshade connector



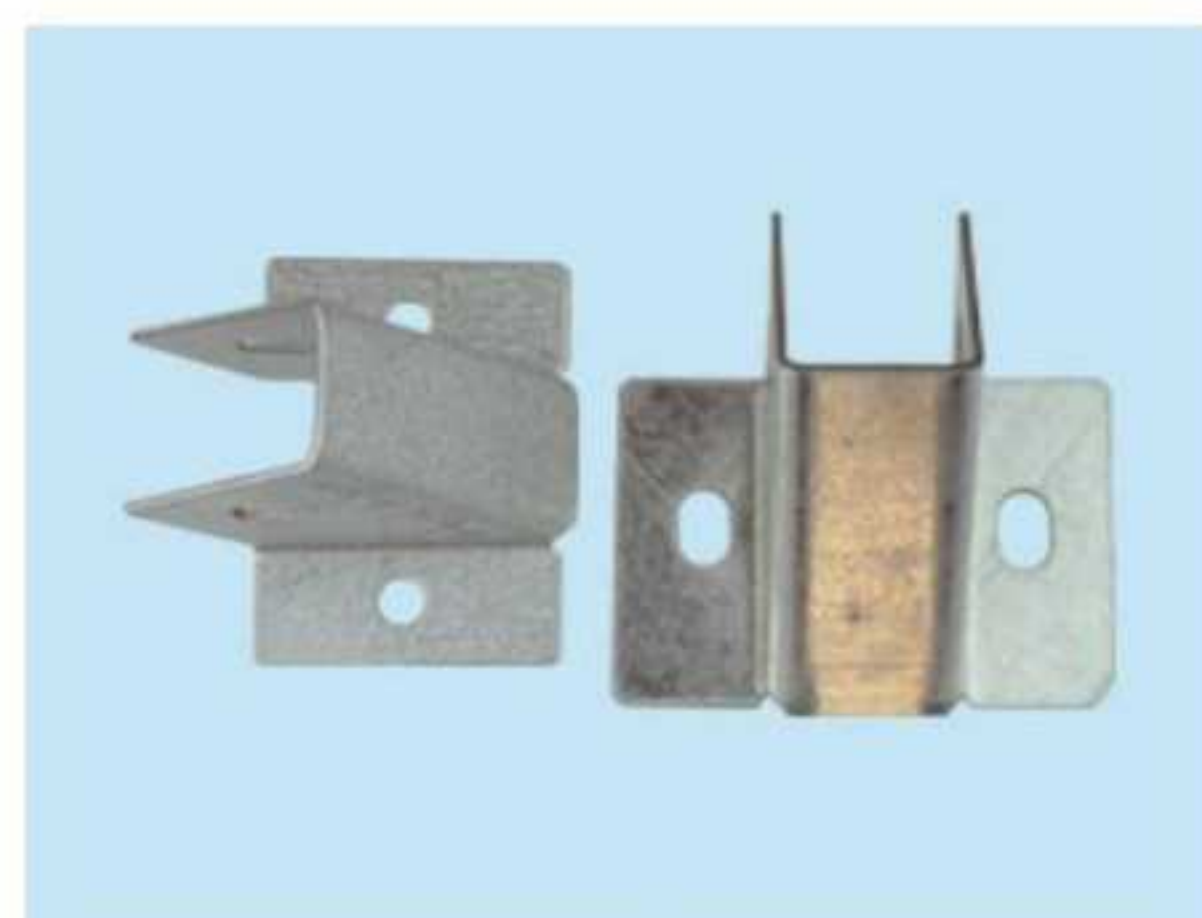
Hoop



T-shaped arch card



A-frame gutter connector



A-frame gutter connector



Cross connecting plate



Push rod connector



Small aircraft



A-frame gutter connector



Elliptical tube connector



Elliptical tube connector



Hinge



Double arch card



Card slot connector



Connecting components  
of crossbeam arch bars



Square tube clamp



Square tube clamp



Column connectors



Roof ridge connector



Six hole connecting plate



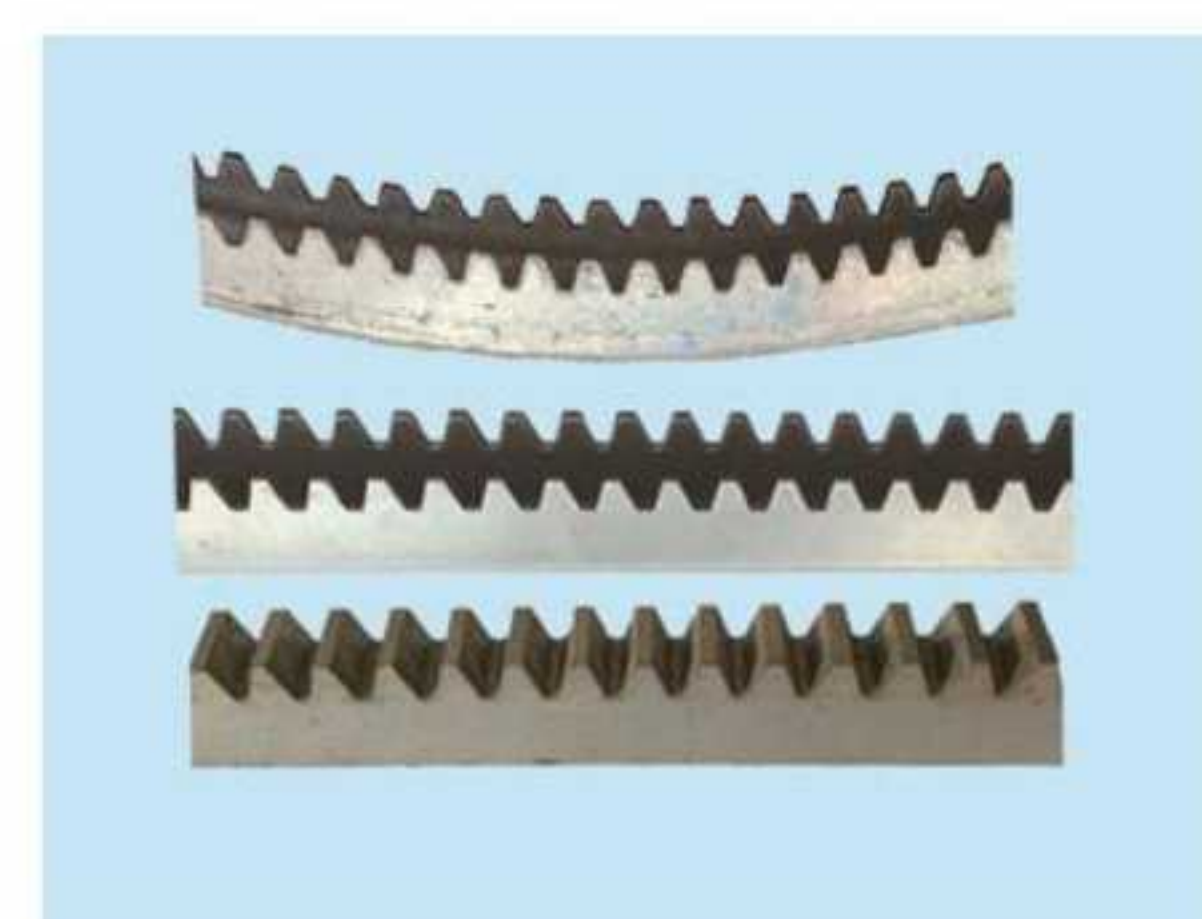
Square tube clamp



Tight wire clip



Square tube clamp



Rack



Cross tube clamp



Cross tube clamp



60 ° circular pipe clamp



T-shaped clamp



45° circular pipe clamp



Л-shaped steel connector



Л-shaped steel connector



Л-shaped steel  
elbow connector



Cross clamp



U-bolt



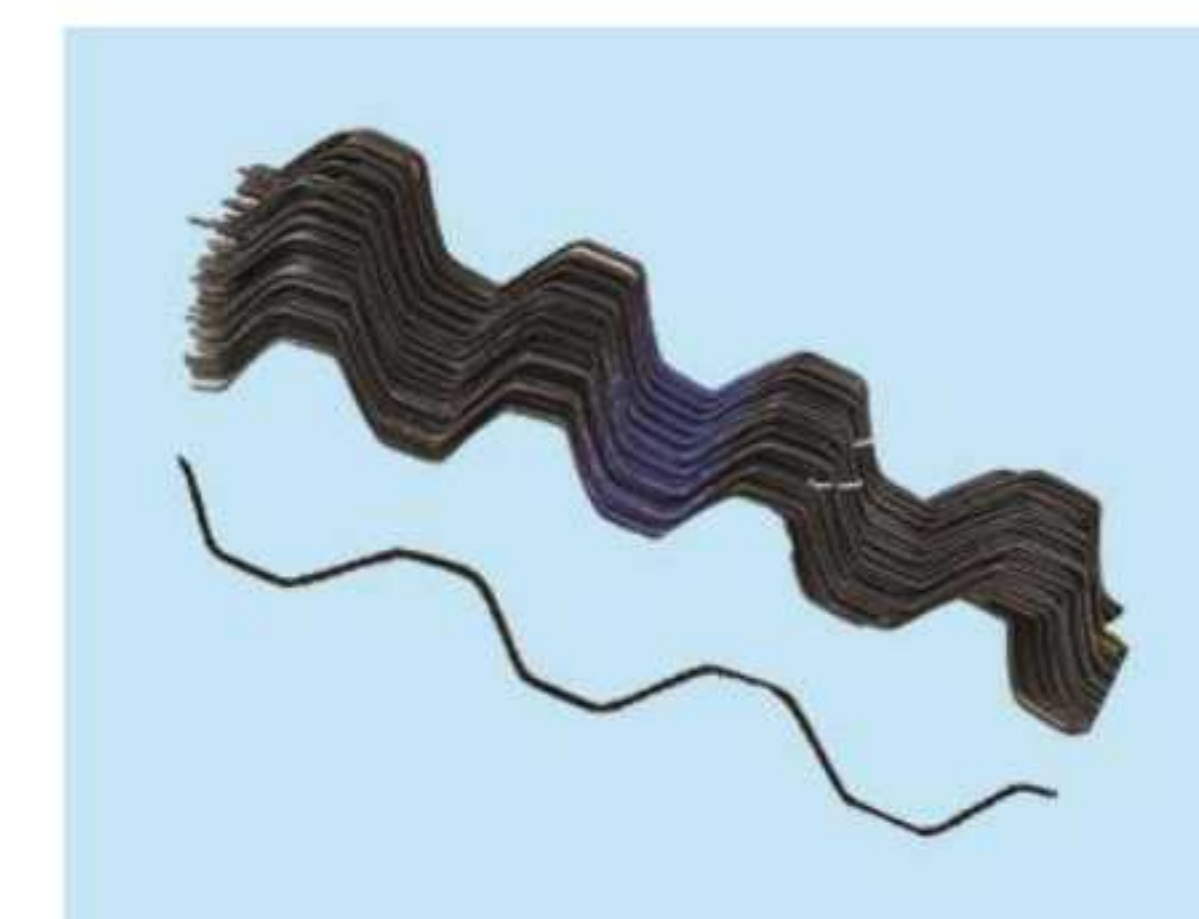
Gutter column connector



Л-shaped steel connector



Slot



Snap ring



Arch bar connector



Rain gutter



End face gutter



External sunshade pillar base



External sunshade pillar base



Bearing housing



Thin film greenhouse gutter bracket



Thin film greenhouse gutter bracket



Thin film greenhouse gutter bracket



Turnbuckle



Hanging wheel



Hanging wheel



Glass greenhouse gutter bracket



Glass greenhouse gutter bracket



Glass greenhouse gutter bracket



Hanging wire wheel



Hanging wire wheel



Double hanging wire wheel



Aluminum alloy gutter special bracket



Thin film greenhouse gutter bracket



Gutter bracket connector



Reverse wheel



Rail type window opening gear seat



B-type curtain gear seat



Side window gear seat



Window opening gear seat



A-type curtain gear seat



Welding joint



Push rod joint



Cardan joint



Climbers



Climbers



Door hanging wheel



Drive card sleeve



Driver card



Large positioning card



Horizontal clamp



Reverse wheel



End face pulley



Small positioning card



Column connectors



Spanish greenhouse rain trough bracket connector



Bearing housing



Bearing housing



Slot



Window support roller



Window support roller fixing plate



Motor fixed seat



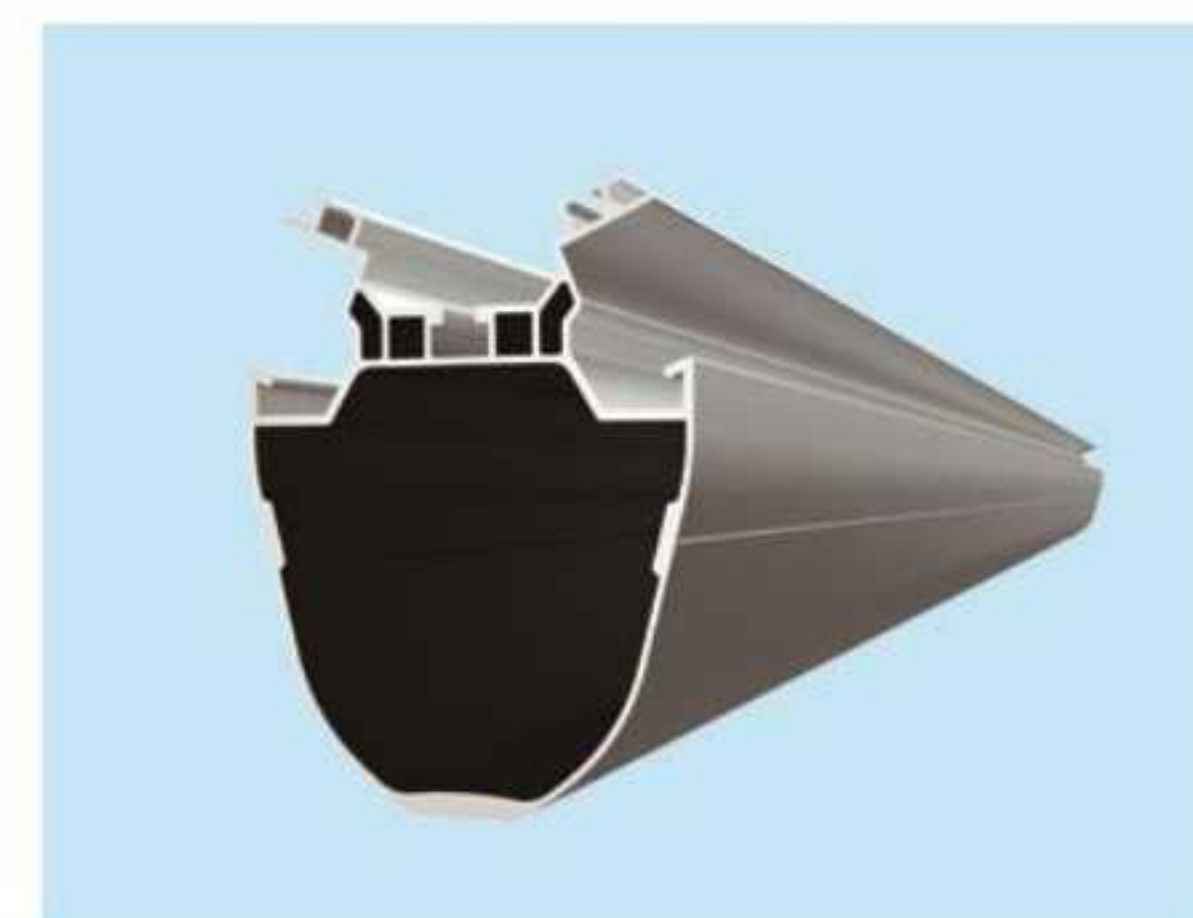
Top pressure spring



Couple



Catching groove hook



Aluminum alloy rain trough



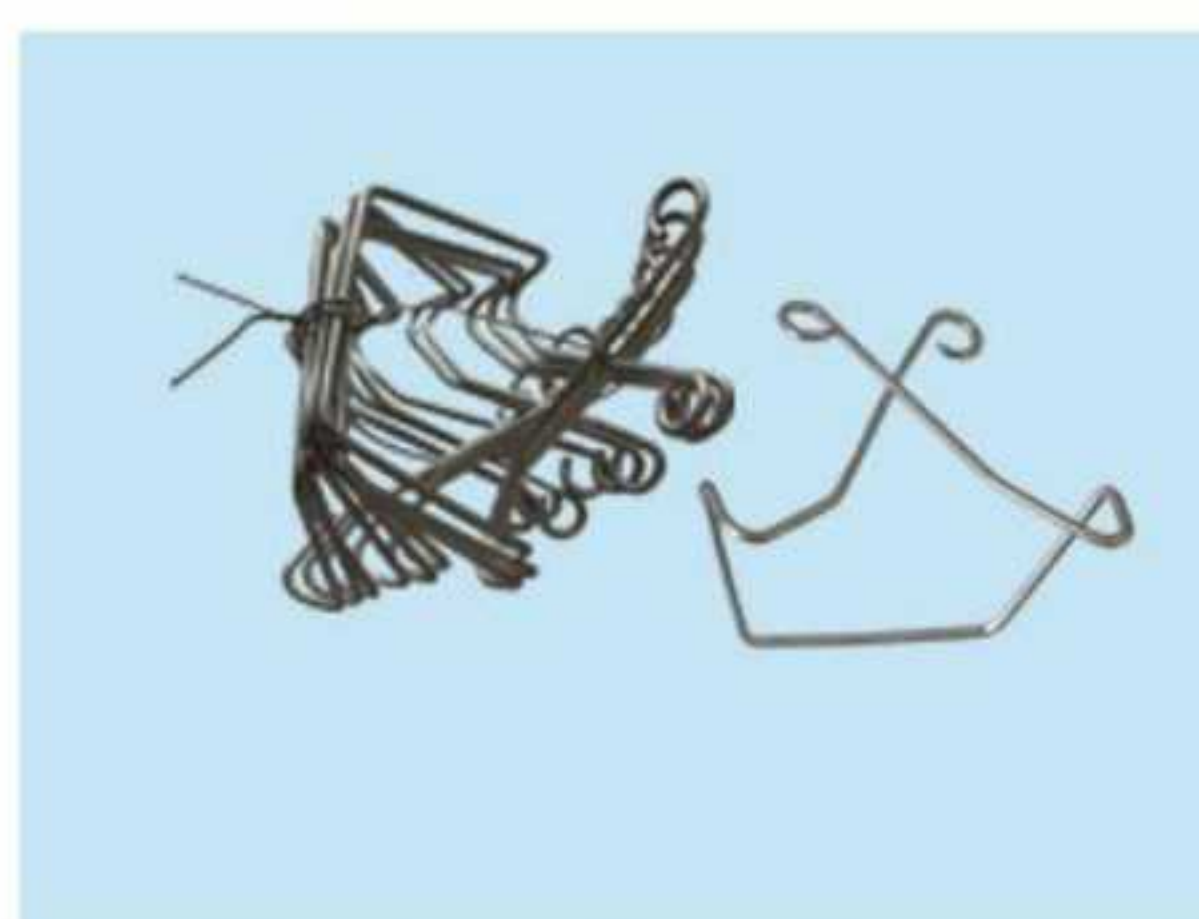
Aluminum alloy rain trough bracket



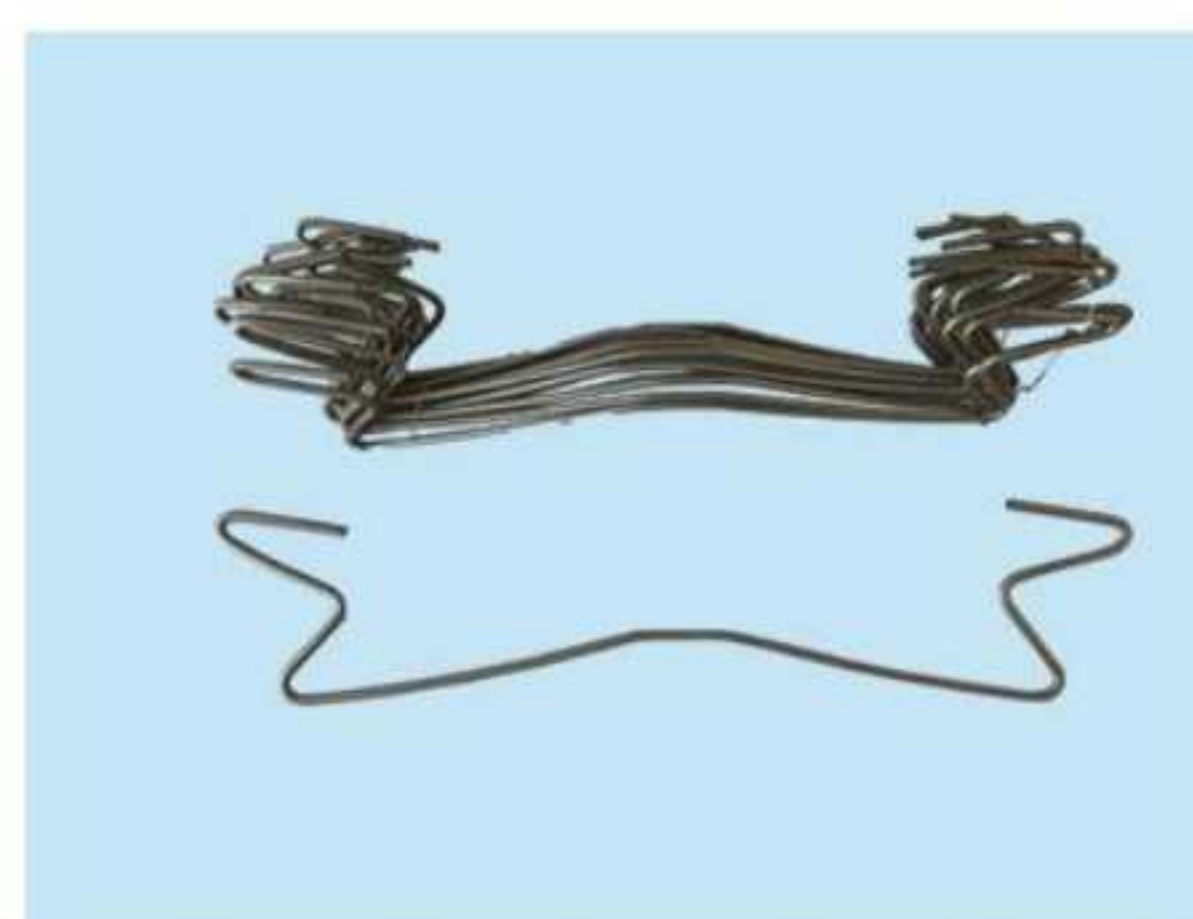
Aluminum alloy rain trough connector



Catching groove hook



Galvanized positioning card wire



Catching groove hook



Pony Seat



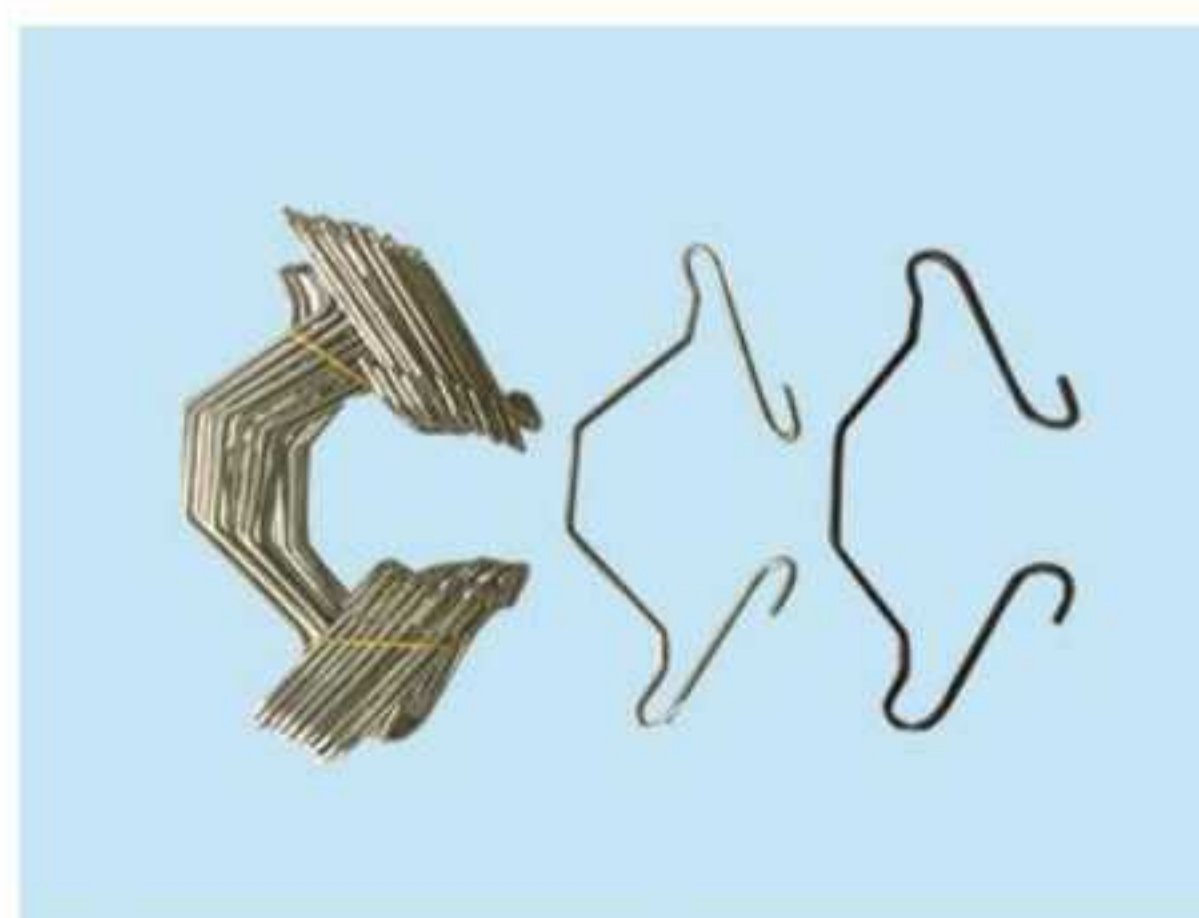
Edge hinge support



Window push rod support



Positioning card



Lead wire spring



Gear spring clamp



Size positioning card



External sunshade hook



Internal sunshade hook



Fixed film card



Fixed film card



Cultivation bracket



Sunshade net hook



Counterweight



Curtain falls



Small suspension reel



Equipped with  
screw driven card



Catch piece



Aluminum alloy clip



Aluminum alloy profiles



Aluminum alloy roof joint



Sunshade net clip



Wire rope clamp



T-bolt



Card slot connector



Connection on the roof ridge



Aluminum square drive card



Drive edge profile



Drive edge profile



Profile connection plate



Bars folder



A-frame connection



A-frame fixing piece



Bobbin



Sheath



Pony Seat



A-frame connection



Water fertilizer integrated  
machine frame



Water fertilizer integrated  
machine connection



Aluminum Tape



Thin film repair tape



Pressure film tape



Waterproof tape



Steel strand



Oil wire rope



Drive line



Tuomu Line



Tuomu Line



End face tension line



Wire



Water stop rubber strip



Widely used in various greenhouse constructions, such as sunlight greenhouse construction, vegetable greenhouse construction, pig breeding greenhouse construction, plastic greenhouse construction, chicken greenhouse construction, connected greenhouse accessories, and steel frame greenhouse accessories.

**Good product quality  
and long service life**

Higher gear hardness,  
waterproof and  
corrosion-resistant



### Characteristics and Applications of Electric Film Rollers:

The electric film rolling device is the latest generation of greenhouse film rolling ventilation and cooling equipment, replacing traditional manual film rolling devices to achieve rapid film rolling, film release, and automatic control of greenhouse environment. It has the characteristics of light weight, high output torque, output self-locking, high stroke adjustment accuracy, large adjustment range, rain resistance, anti condensation, and low power consumption. It is suitable for use in different climatic conditions and is the best choice for modern solar greenhouses.

### Operating instructions for adjusting the stroke of the electric film roller:

1. Loosen the locking screws on the two stroke adjustment knobs of the electric film coiler, rotate the stroke adjustment knobs so that both gear ring bosses are not pressed against the micro switch control points. Turn the reversing switch of the power supply to start the operation of the electric film winding device. At this time, confirm the position of the power reversing switch for the "film winding direction" and "film release direction".
2. Place the power reversing switch in the "film winding direction" position, and manually rotate any stroke adjustment knob to press the contact of the micro switch with the gear ring protrusion (you can feel a clicking sound). If the electric film winding machine motor stops rotating at this time, it means that this adjustment knob is used to adjust the stroke in the "film winding" direction. If the motor does not stop rotating, it indicates that the other adjustment knob is used to adjust the stroke in the "film winding" direction.
3. Place the power switch in the "film winding direction" position, manually rotate the "film winding direction" stroke adjustment knob to adjust the film winding stroke, and after confirming the film winding stroke, gently pull up the knob. Place the power supply in the "release direction" position, manually rotate the "release direction" stroke adjustment knob to adjust the release stroke, and after confirming the release stroke, gently pull up the knob.

### Instructions for power supply of electric film rolling machine:

1. The electric film winding device must be powered by a dedicated DC power supply with an output voltage of 24V, or it can be powered by a battery with an output voltage of 24V.
2. The power supply should have a positive and negative polarity reversing switch.
3. Before the electric film winding device starts working, the power reversing switch should be in the "stop" position.

### Precautions for using electric film winding machine:

1. During transportation and installation, prevent the electric film roller from falling or bumping.
2. It is strictly prohibited to exceed the output torque range of the electric film roller.
3. If the user discovers a malfunction in the electric film winding device during use, please do not disassemble the main body of the film winding device by yourself. You can notify our company by phone, and our company will help the user solve the problem in the shortest possible time.



**> A must-have greenhouse to  
help you harvest better!**



### Main performance characteristics of manual film rolling machine:

1. The casing of the manual film roller is made of cast aluminum material, which is cast using precision die-casting one-time molding technology. Its raw materials and casting quality are synchronized with top domestic brands, and the surface accuracy is very high.
2. The manual film coiler is equipped with a self-locking device inside, which can stop and start at any position during the opening and closing process of the film coiler without any auxiliary devices.
3. The key components of the manual film rolling device, such as gears, gear shafts, and bidirectional self-locking devices, are all made of 45 # national standard steel and refined through professional heat treatment to ensure durability.
4. The surface of the manual film coiler is coated with both internal zinc and external spray coating for double-layer anti rust protection, and the standard parts are made of stainless steel material.
5. There is a hole at 2/3 of the handle of the manual film rolling machine. Installing the handle here reduces the radius of rotation of the handle, so it can also be installed and used in small spaces.
6. The reasonable design of the speed ratio and torque of the manual film roller makes it easier and more convenient for you to use.

- SAVE MONEY** The labor-saving film rolling machine is finely manufactured, durable and long-lasting
- SAVE WORRY** The reasonable design of speed ratio and torque makes it easier and more worry free for you to use
- EASY** During the opening and closing process of the film roller, it can stop starting at any position
- LABOR SAVING** Can achieve semi-automatic control of functions such as film rolling/rolling shutter



The greenhouse window opening system is a necessary equipment for greenhouses, used for natural ventilation of temperature and humidity, which can effectively change environmental factors such as temperature and CO2 concentration inside the greenhouse. The gear rack window opening system is the most widely used window opening form, which runs smoothly, safely and reliably, has strong load-bearing capacity, high transmission efficiency, precise operation, and is easy to achieve automatic control. Formally, there are continuous window opening systems and track type window opening systems.

## Continuous window opening system

The reduction motor drives the gear to rotate through the drive shaft, and the gear meshes with the rack to make it move back and forth, thereby achieving the opening and closing of the window.

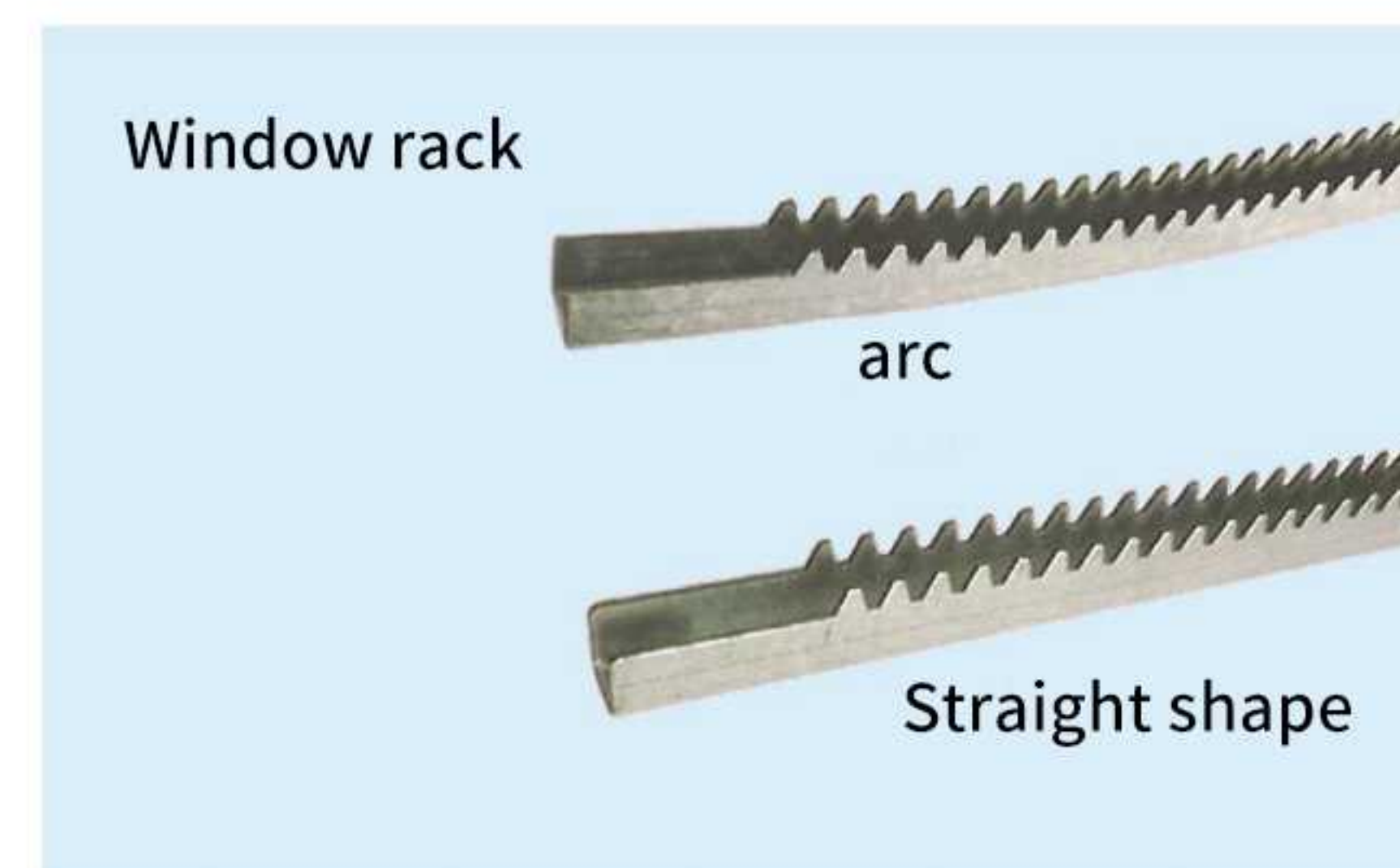


| Number | Name                  | Specification and model | Unit   |
|--------|-----------------------|-------------------------|--------|
| 1      | Window opening motor  |                         | tower  |
| 2      | Window rack           |                         | branch |
| 3      | Window opening gear   |                         | piece  |
| 4      | Rack connection plate |                         | piece  |
| 5      | Bearing housing       | φ 32 φ 42               | piece  |
| 6      | Motor base            | T-type                  | piece  |



Product features:  
light weight, small size; Accurate and stable operation

| Specification and model | Voltage | Power | Output RPM | Torque |
|-------------------------|---------|-------|------------|--------|
| SLC-LM550               | 380V    | 550W  | 2.6r/min   | 400N.m |
| SLC-LM750               | 380V    | 750W  | 2.6r/min   | 800N.m |



| Type           | Length (mm) | Length (mm) | Nnit  |
|----------------|-------------|-------------|-------|
| arc            | 1050        | 2.0 2.5 3.0 | piece |
|                | 1250        | 2.0 2.5 3.0 | piece |
| Straight shape | 1050        | 2.0 2.5 3.0 | piece |
|                | 1250        | 2.0 2.5 3.0 | piece |
|                | 1450        | 2.0 2.5 3.0 | piece |
|                | 1650        | 2.0 2.5 3.0 | piece |
|                | 1950        | 2.0 2.5 3.0 | piece |



## Track type window opening system

This window opening method is mainly used for top ventilation in Wenluo style greenhouses. Due to the opening of the top window, indoor air convection is maximized, and the ventilation effect is very significant.



| Number | Name                          | Specification and model | Unit  |
|--------|-------------------------------|-------------------------|-------|
| 1      | Window opening motor          |                         | cover |
| 2      | Rail type window opening gear |                         | piece |
| 3      | Rail type window rack         | L=1050mm                | piece |
| 4      | Welding joint                 | 1 "and 5/4" universal   | piece |
| 5      | Bearing housing               |                         | piece |
| 6      | Window support roller         |                         | piece |
| 7      | Window rack push rod joint    | φ 32                    | piece |
| 8      | Window push rod support       | φ 27 φ 32               | piece |
| 9      | Window hinge support          | φ 32                    | piece |

Window opening motor



Product features:  
light weight, small size; Accurate and stable operation

| Specification and model | Voltage | Power | Output RPM | Torque |
|-------------------------|---------|-------|------------|--------|
| SLC-LM550               | 380V    | 550W  | 2.6r/min   | 400N.m |
| SLC-LM750               | 380V    | 750W  | 2.6r/min   | 800N.m |

Rail type window opening gear



Rail type window rack



Welding joint



Bearing housing



Window support roller



Window rack push rod joint



| Specifications | Unit       |
|----------------|------------|
| φ 27 φ 32      | individual |

Window push rod support



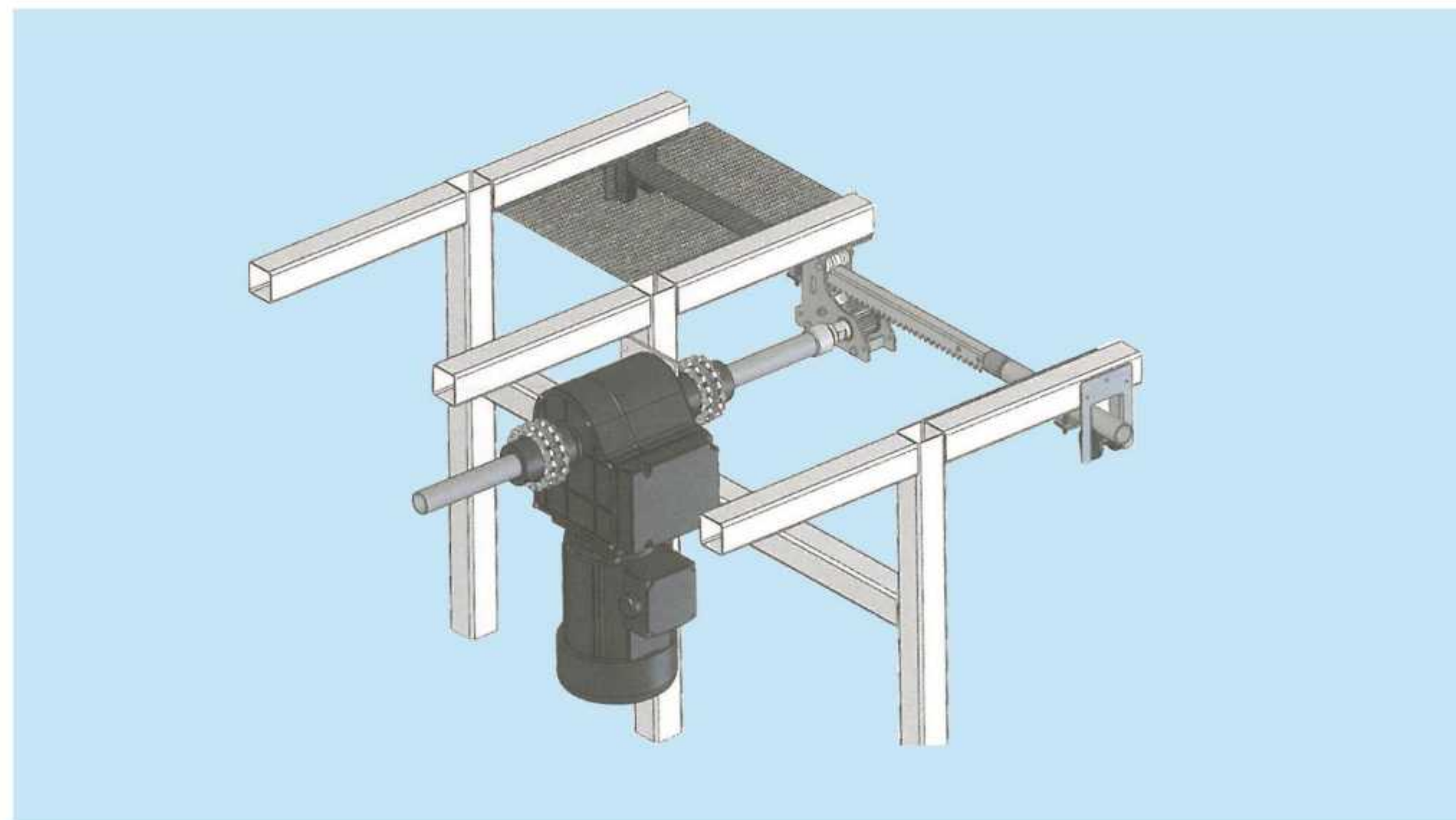
| Specifications | Unit       |
|----------------|------------|
| φ 27 φ 32      | individual |

Window hinge support



The gear rack curtain system is a type of greenhouse curtain system, and its main transmission component is gear rack transmission. The gear rack mechanism is used to convert the rotational motion of the reduction motor into the linear motion of the rack, achieving the unfolding and folding of the curtain. This system has the characteristics of smooth and reliable transmission, high transmission accuracy, etc. There are two common forms of gear rack curtain systems: A-type curtain system and B-type curtain system.

## A-type gear rack curtain system



| Number | Name                                          | Specification and model | Unit  |
|--------|-----------------------------------------------|-------------------------|-------|
| 1      | Curtain motor                                 |                         | cover |
| 2      | A-type curtain gear                           |                         | piece |
| 3      | Curtain rack                                  |                         | piece |
| 4      | Welding joint                                 | 1 "and 5/4" universal   | piece |
| 5      | Gear spring clamp                             |                         | piece |
| 6      | Rack push rod joint                           | $\phi 27$ $\phi 32$     | piece |
| 7      | Push rod guide rod connection card            |                         | piece |
| 8      | Activity edge pot profile                     | L=6m                    | metre |
| 9      | Type I connection plate                       |                         | piece |
| 10     | Supporting roller                             |                         | piece |
| 11     | Supporting curtain line                       |                         | piece |
| 12     | Large positioning card                        |                         | piece |
| 13     | Small positioning card                        |                         | piece |
| 14     | External sunshade hook                        |                         | piece |
| 15     | Motor fixed seat                              | L-type                  | piece |
| 16     | Counterweight                                 |                         | piece |
| 17     | Drive card with T-bolt and anti loosening nut | M6x75                   | cover |



**Product features:**  
light weight, small size; Accurate and stable operation

| Specification and model | Voltage | Power | Output RPM | Torque  |
|-------------------------|---------|-------|------------|---------|
| SLC-LM550               | 380V    | 550W  | 5. 2r/min  | 400N. m |
| SLC-LM750               | 380V    | 750W  | 5. 2r/min  | 800N. m |

A-type curtain gear



Curtain rack



| Specifications and materials |          | Unit  |
|------------------------------|----------|-------|
| L=3965mm                     | T=2.75mm | piece |
| L=3965mm                     | T=3mm    | piece |
| L=4965mm                     | T=3mm    | piece |

Supporting roller



Large positioning card



Small positioning card



Welding joint



Gear spring clamp



Rack push rod joint



Supporting curtain line



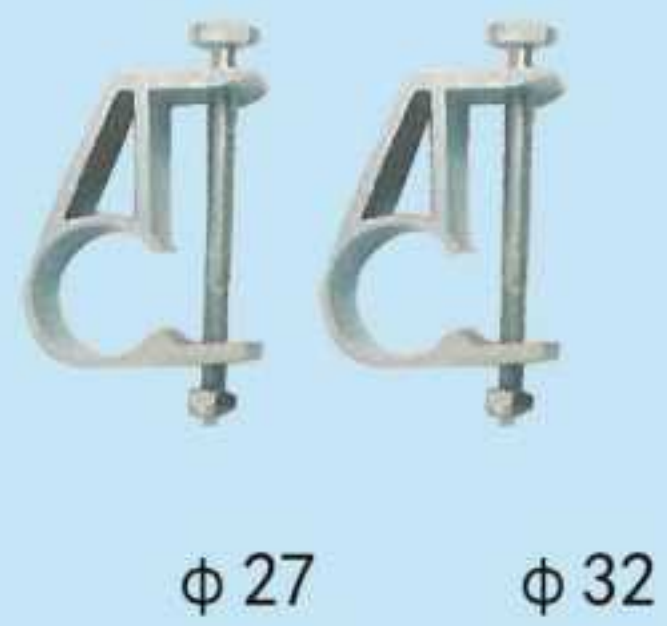
External sunshade net hook



Internal sunshade net hook



Push rod guide rod connection card



Drive edge profile



Note: Used in conjunction with a snap spring

Profile connection plate



Motor fixed seat L-shaped



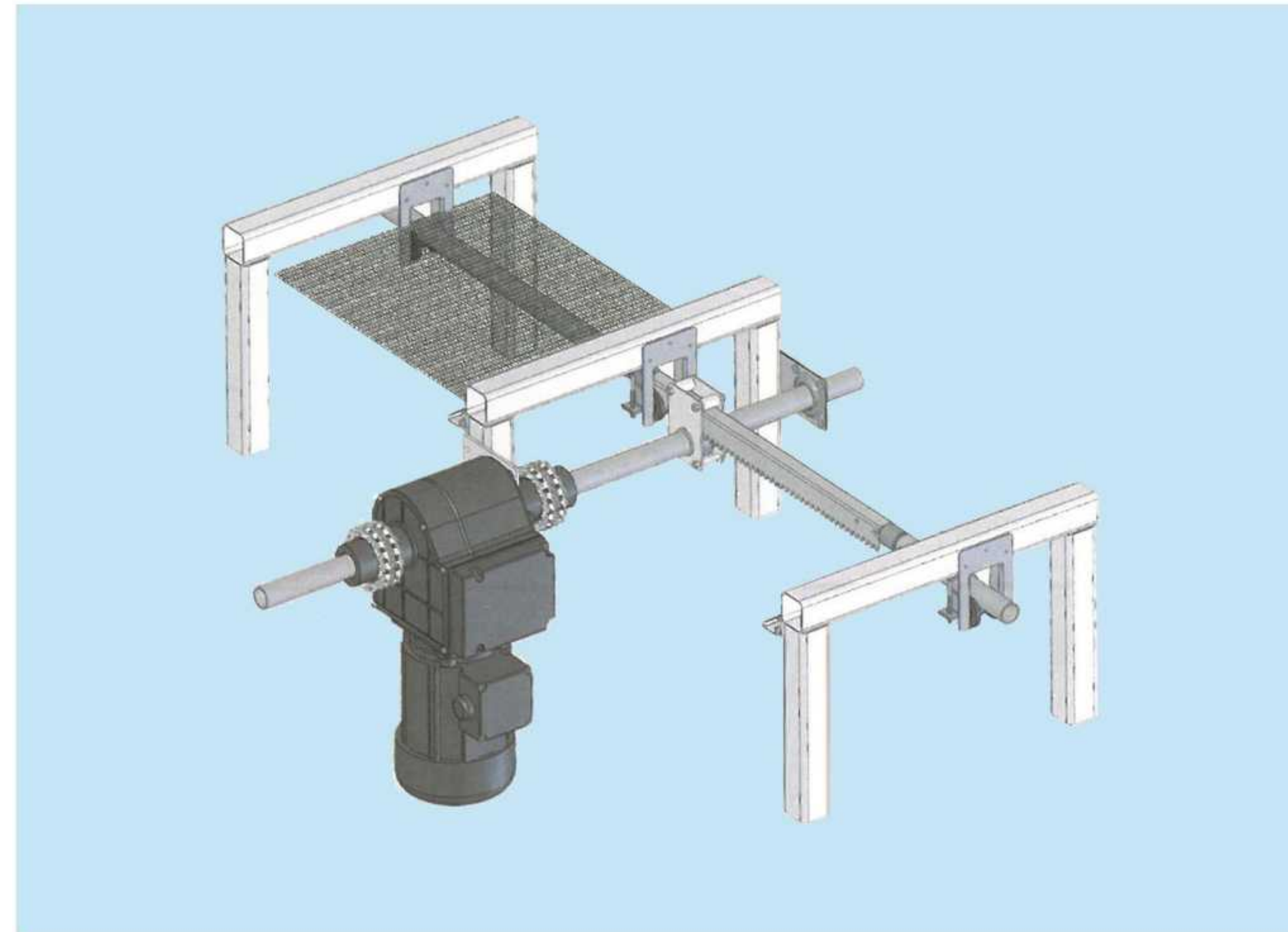
Counterweight



T-bolt



## B-type gear rack curtain system



| Number | Name                               | Specification and model | Unit  |
|--------|------------------------------------|-------------------------|-------|
| 1      | Curtain motor                      |                         | cover |
| 2      | B-type curtain gear                | 1" 5/4"                 | piece |
| 3      | Curtain rack                       |                         | piece |
| 4      | Bearing housing                    | 1" 5/4"                 | piece |
| 5      | Rack push rod joint                | φ 27 φ 32               | piece |
| 6      | Push rod guide rod connection card | φ 27 φ 32               | piece |
| 7      | Activity edge aluminum profile     | L=6m                    | metre |
| 8      | Profile connection plate           |                         | piece |
| 9      | Supporting roller                  |                         | piece |
| 10     | Supporting curtain line            |                         | roll  |
| 11     | Large positioning card             |                         | piece |
| 12     | Small positioning card             |                         | piece |
| 13     | Sunshade net hook                  |                         | piece |
| 14     | Motor fixed seat                   | L-type                  | piece |
| 15     | Counterweight                      |                         | piece |
| 16     | Driver with T-bolt                 | M6x75                   | cover |



Curtain motor



**Product features:**  
light weight, small size; Accurate and stable operation

| Specification and model | Voltage | Power | Output RPM | Torque  |
|-------------------------|---------|-------|------------|---------|
| SLC-LM550               | 380V    | 550W  | 5. 2r/min  | 400N. m |
| SLC-LM750               | 380V    | 750W  | 5. 2r/min  | 800N. m |

## B-type curtain gear



| Specifications and materials              | Unit  |
|-------------------------------------------|-------|
| φ32 copper sleeve Stainless steel wheels  | piece |
| φ32 copper sleeve Powder metallurgy wheel | piece |
| φ32 copper sleeve Powder metallurgy wheel | piece |

## Curtain rack



| Specifications and materials | Unit  |
|------------------------------|-------|
| L=3965mm T=2.75mm            | piece |
| L=3965mm T=3mm               | piece |
| L=4965mm T=3mm               | piece |

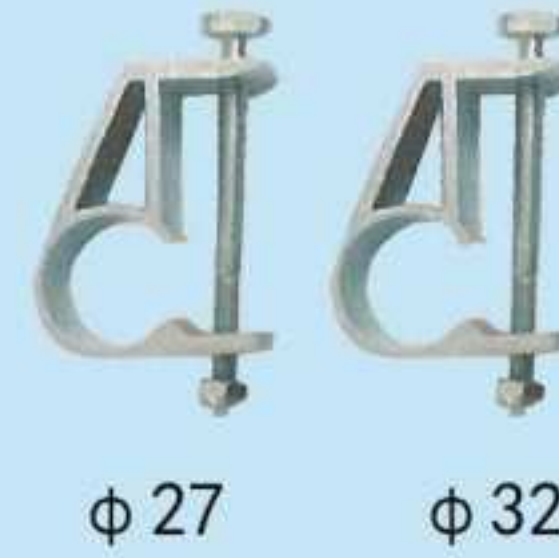
## Bearing housing



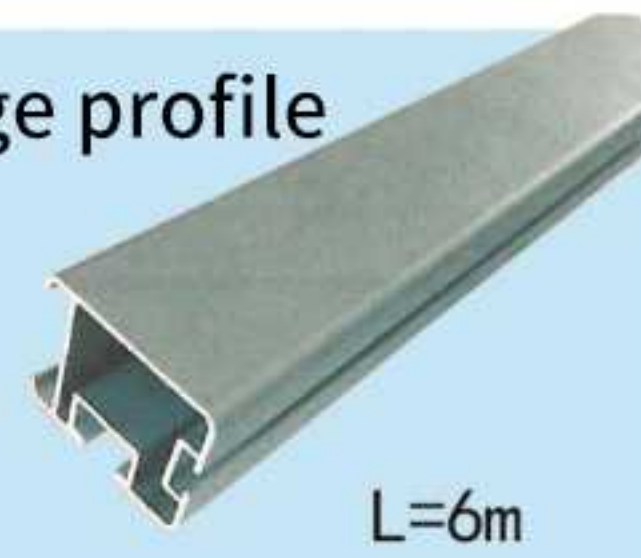
## Rack push rod joint



## Push rod guide rod connection card



## Drive edge profile



Note: Used in conjunction with a snap spring

## Profile connection plate



## Snap ring



## Positioning card



## Supporting roller



## Supporting curtain line



## Sunshade net hook



## External sunshade net hook



## Internal sunshade net hook



## Motor fixed seat L-shaped



## Counterweight

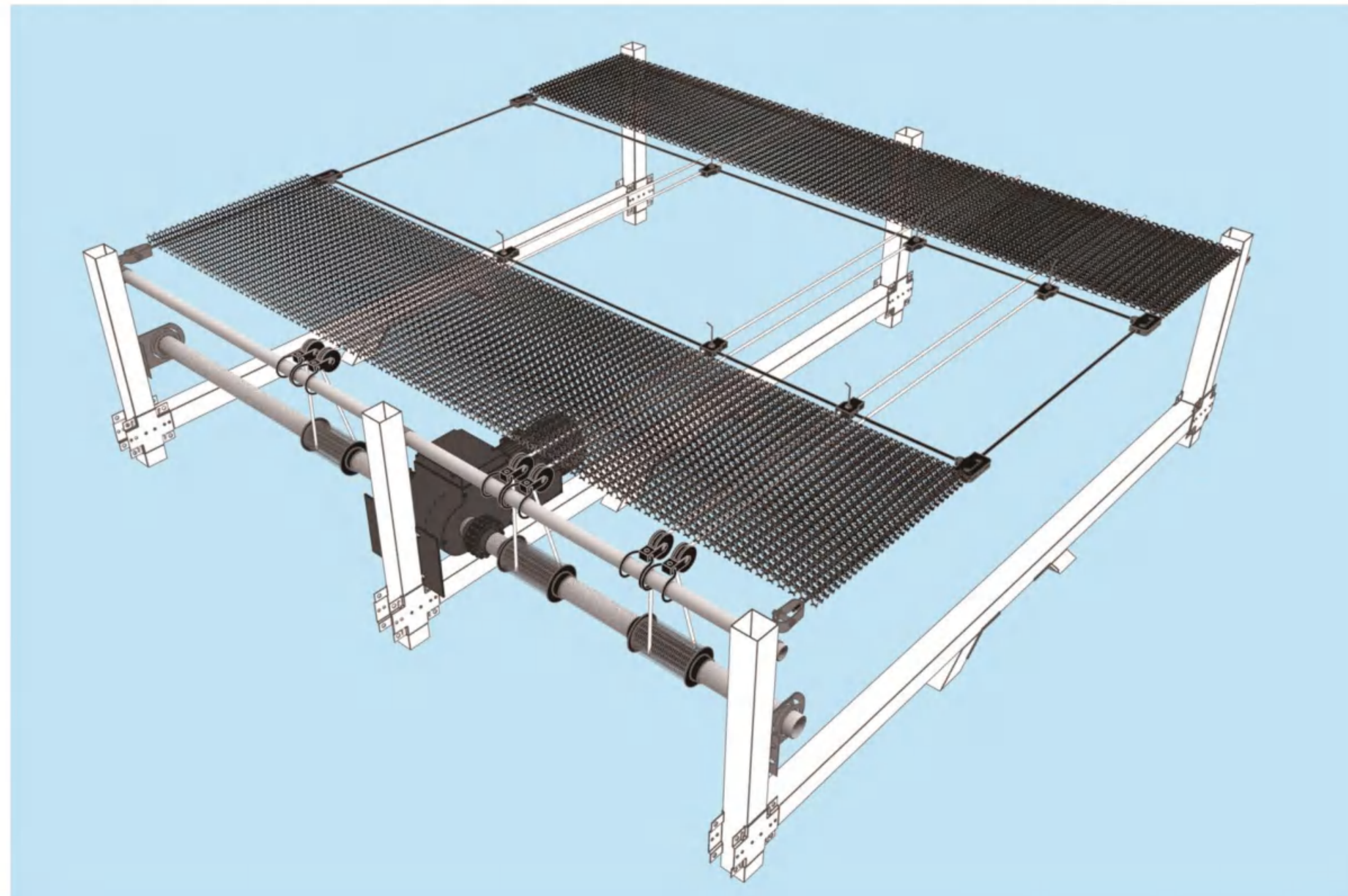


## T-bolt



## Steel cable pulling system

A type of greenhouse curtain pulling system, which works by using steel cables and reversing wheels to convert the rotational motion of the driving motor into linear motion of the steel cable, achieving the unfolding and folding of the curtain. The characteristics of this system are: simple form, flexible installation method, and low cost.



| Number | Name               | Specification and model | Unit  |
|--------|--------------------|-------------------------|-------|
| 1      | Curtain motor      | 380V/750W               | cover |
| 2a     | Bearing housing    | φ 32                    | piece |
| 2b     | Bearing housing    | φ 60                    | piece |
| 3a     | Shaft joint        | φ 40X150mm              | piece |
| 3b     | Shaft joint        | φ 52. 5X140mm           | piece |
| 4a     | Tightening sleeve  | φ 60X150mm              | piece |
| 4b     | Tightening sleeve  | φ 70X160mm              | piece |
| 5      | Hanging wire wheel | Double wheel            | piece |
| 6      | Reverse wheel      | Both eyes               | piece |
| 7      | Horizontal clamp   |                         | piece |
| 7a     | Steel strand No.2  |                         | metre |
| 8      | Steel strand No.4  |                         | metre |
| 9      | Suspension lines   |                         | metre |
| 10     | Transmission shaft |                         | piece |



**Product features:**  
light weight, small size; Accurate and stable operation

| Specification and model | Voltage | Power | Output RPM | Torque  |
|-------------------------|---------|-------|------------|---------|
| SLC-LM550               | 380V    | 550W  | 5. 2r/min  | 400N. m |
| SLC-LM750               | 380V    | 750W  | 5. 2r/min  | 800N. m |



Horizontal clamp



Tight wire clip



End face pulley



Reverse wheel

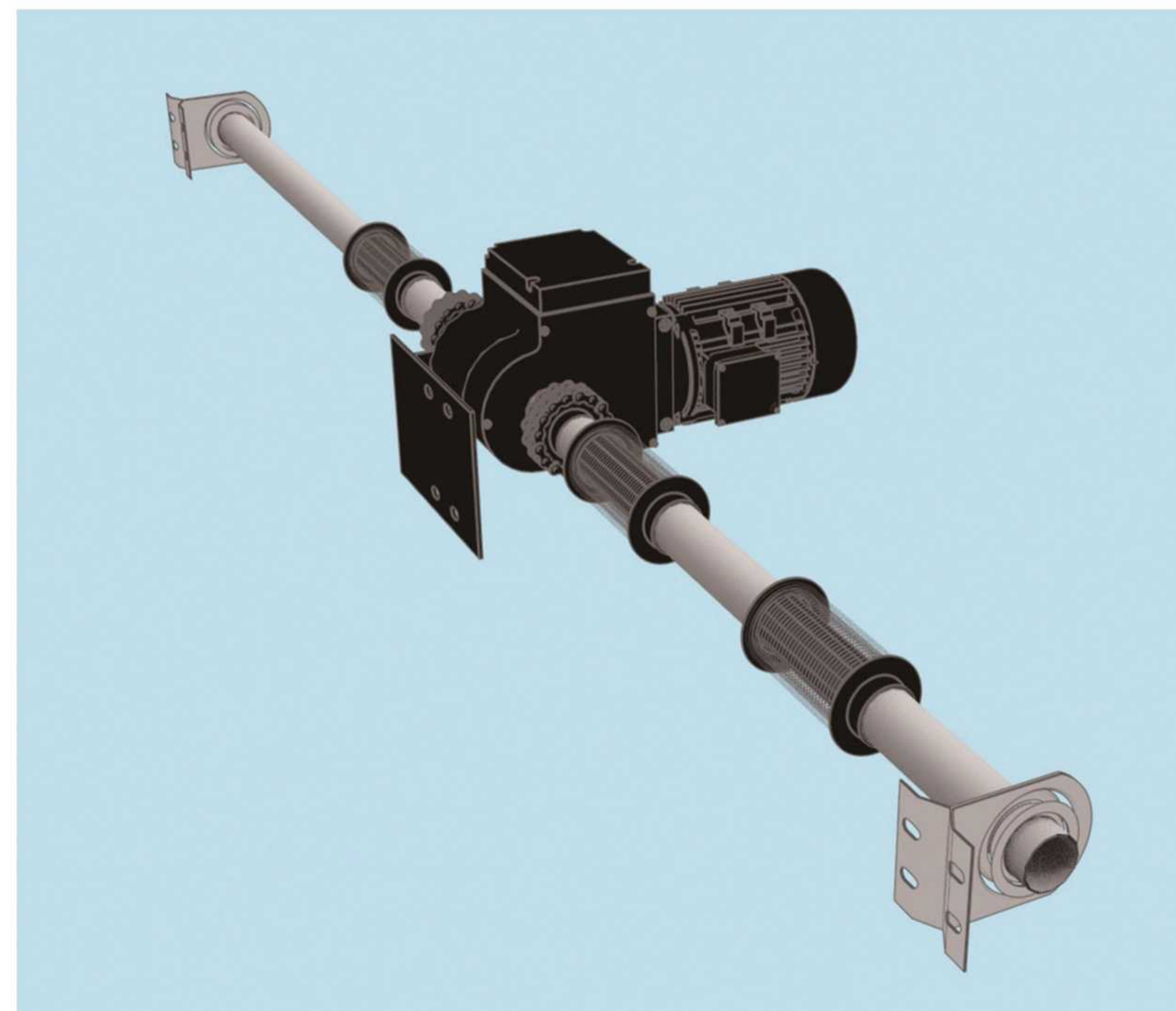


End face tension line



2# 3# 4#

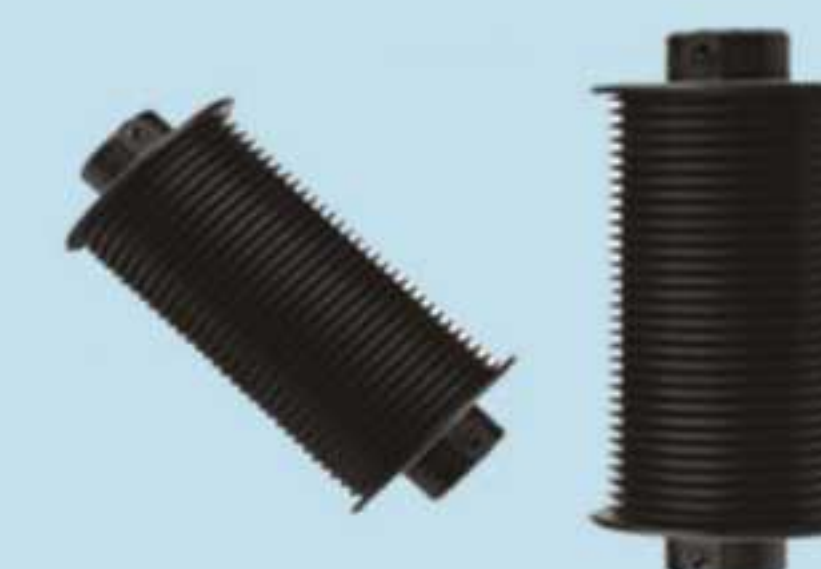
Two hole pressure plate



Bearing housing


 $\Phi 32$   $\Phi 40$   $\Phi 50$ 

Bobbin


 $\Phi 32$   $\Phi 40$   $\Phi 50$ 

Wire rope clamp



Motor fixed seat



Supporting curtain line

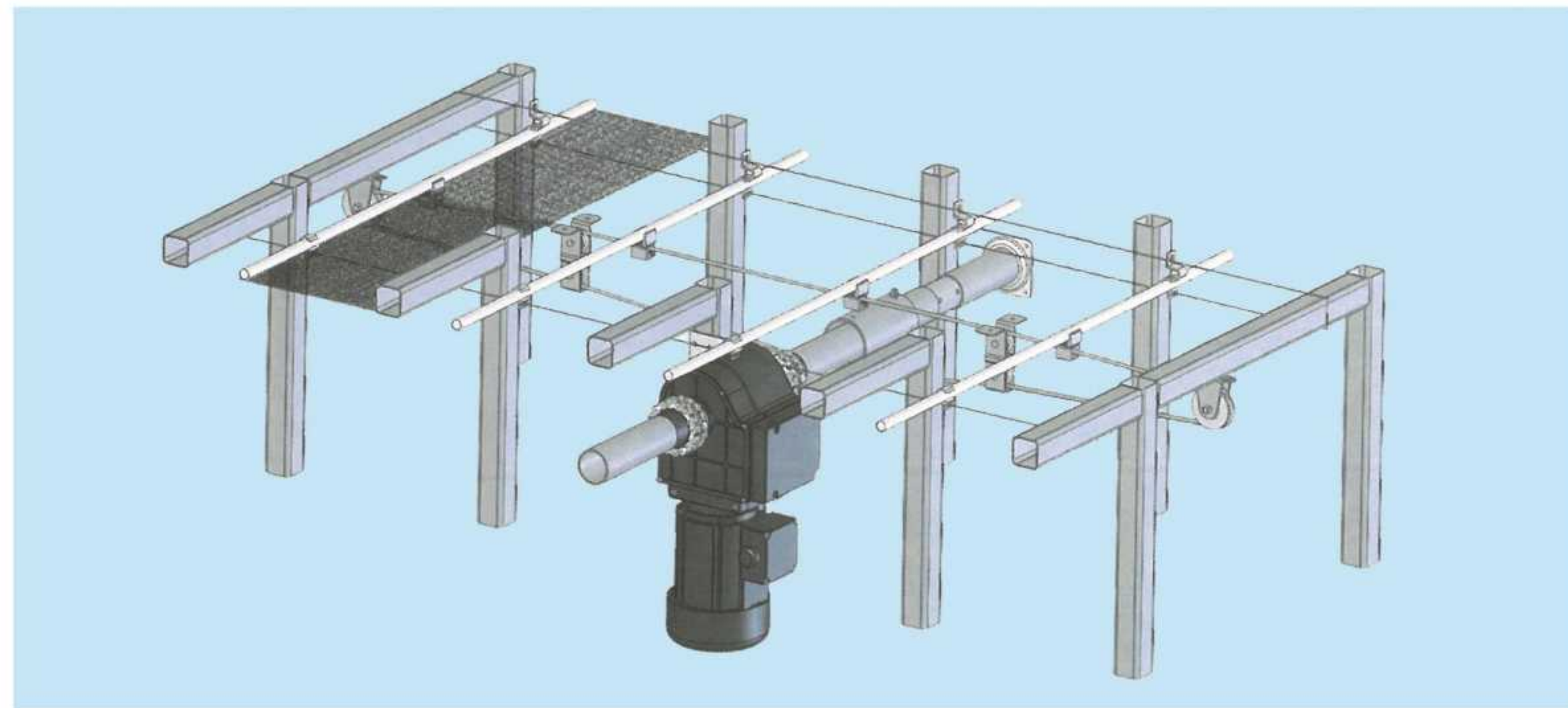


Drive line



## Steel cable curtain system

A type of greenhouse curtain pulling system, which works by using steel cables and reversing wheels to convert the rotational motion of the driving motor into linear motion of the steel cable, achieving the unfolding and folding of the curtain. The characteristics of this system are: simple form, flexible installation method, and low cost.



| Number | Name                                           | Specification and model | Unit  |
|--------|------------------------------------------------|-------------------------|-------|
| 1      | Curtain motor                                  | 380V/750W               | cover |
| 2a     | Bearing housing                                | φ 32                    | piece |
| 2b     | Bearing housing                                | φ 60                    | piece |
| 3a     | Shaft joint                                    | φ 40X150mm              | piece |
| 3b     | Shaft joint                                    | φ 52. 5X140mm           | piece |
| 4a     | Tightening sleeve                              | φ 60X150mm              | piece |
| 4b     | Tightening sleeve                              | φ 70X160mm              | piece |
| 5      | Hanging wire wheel                             | Double wheel            | piece |
| 6      | Reverse wheel                                  | Both eyes               | piece |
| 7      | Activity edge aluminum profile (aluminum tube) | φ 19                    | metre |
| 7a     | Activity edge aluminum profile                 | L=6m                    | metre |
| 8      | Aluminum driver card                           | Square                  | piece |
| 9      | Bars folder                                    | φ 19                    | piece |
| 10     | Tightener                                      |                         | piece |
| 11     | Coated steel cable                             | 1x19                    | metre |
| 12     | Large positioning card                         |                         | piece |
| 13     | Small positioning card                         |                         | piece |
| 14     | Type I connection plate                        |                         | piece |
| 15     | Steel wire rope clamp                          |                         | cover |
| 16     | Sunshade net hook                              |                         | piece |
| 17     | Supporting curtain line                        |                         | piece |
| 18     | Motor fixed seat                               | L-type                  | piece |
| 19     | Counterweight                                  |                         | piece |

Curtain motor



Product features:  
light weight, small size; Accurate and stable operation

| Specification and model | Voltage | Power | Output RPM | Torque  |
|-------------------------|---------|-------|------------|---------|
| SLC-LM550               | 380V    | 550W  | 5. 2r/min  | 400N. m |
| SLC-LM750               | 380V    | 750W  | 5. 2r/min  | 800N. m |

Bearing housing



φ 32



φ 60



φ 60

Shaft joint



| Specifications and materials | Unit |
|------------------------------|------|
| φ 40X150mm                   | ↑    |
| φ 52. 5X140mm                | ↑    |

Tightening sleeve



| Specifications and materials | Unit |
|------------------------------|------|
| φ 32X150mm                   | ↑    |
| φ 60X150mm                   | ↑    |
| φ 70X160mm                   | ↑    |

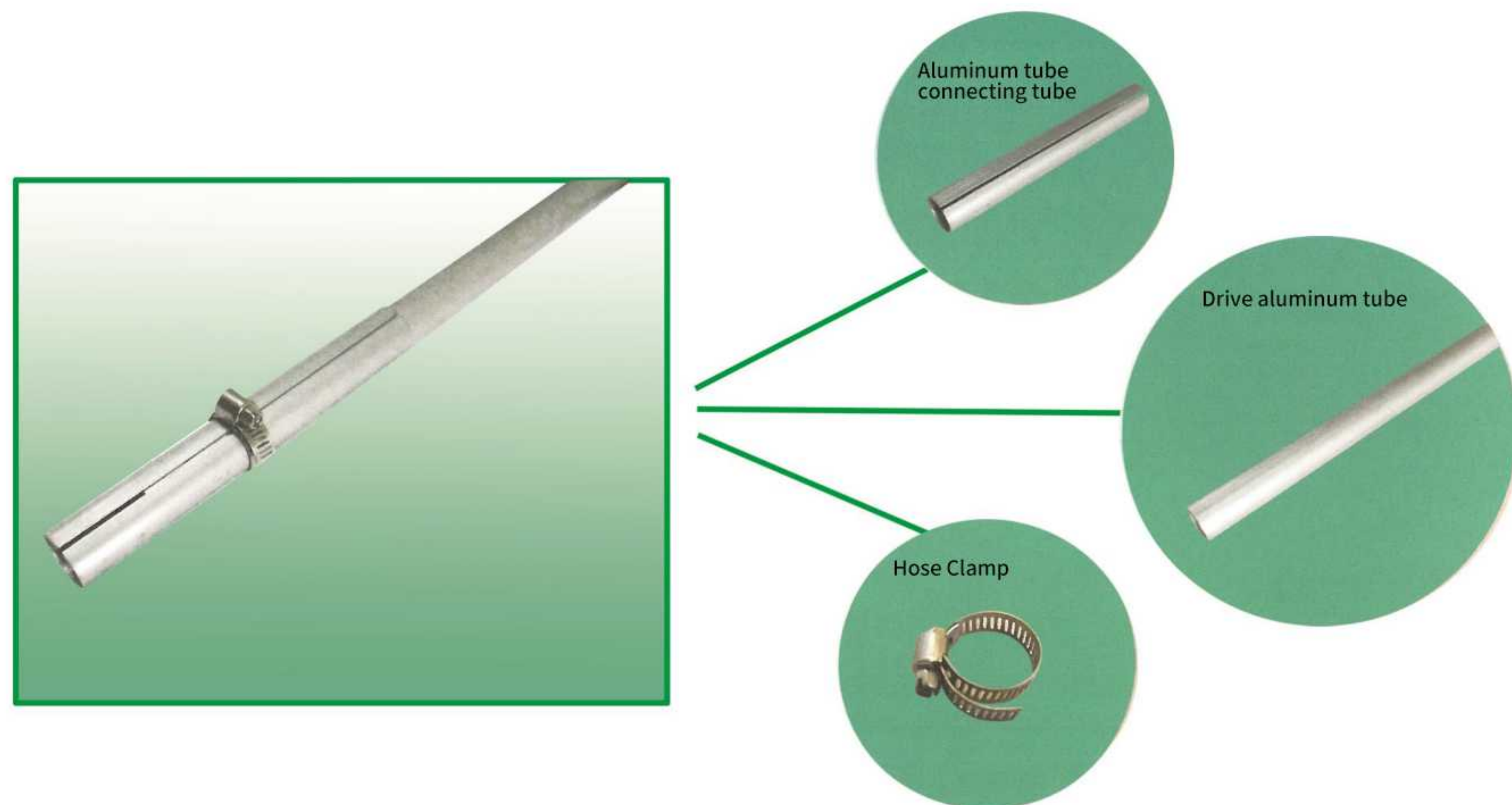
Hanging wire wheel



Small suspension reel Double wheel suspension pulley

Reverse wheel





Aluminum square drive card



Bars folder



Equipped with screw driven card



Large positioning card



Note: Used in conjunction with driving aluminum tubes

Small positioning card



Note: Used in conjunction with driving aluminum tubes

Catch up on the network video



Drive edge profile



L=6m

Note: Used in conjunction with a snap spring

Large positioning card



Small positioning card



External sunshade net hook



Internal sunshade net hook



Sunshade net clip



Supporting curtain line



Tightener



Wire rope clamp



Motor fixed seat L-shaped



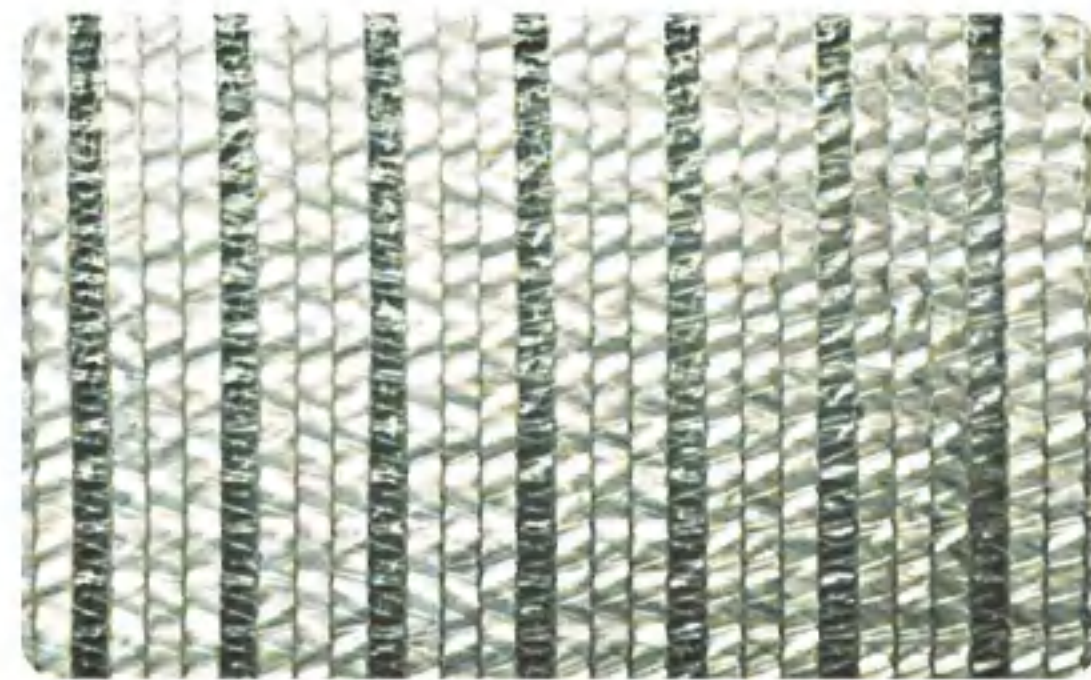
Counterweight



T-bolt



Aluminum foil internal sunshade and insulation screen



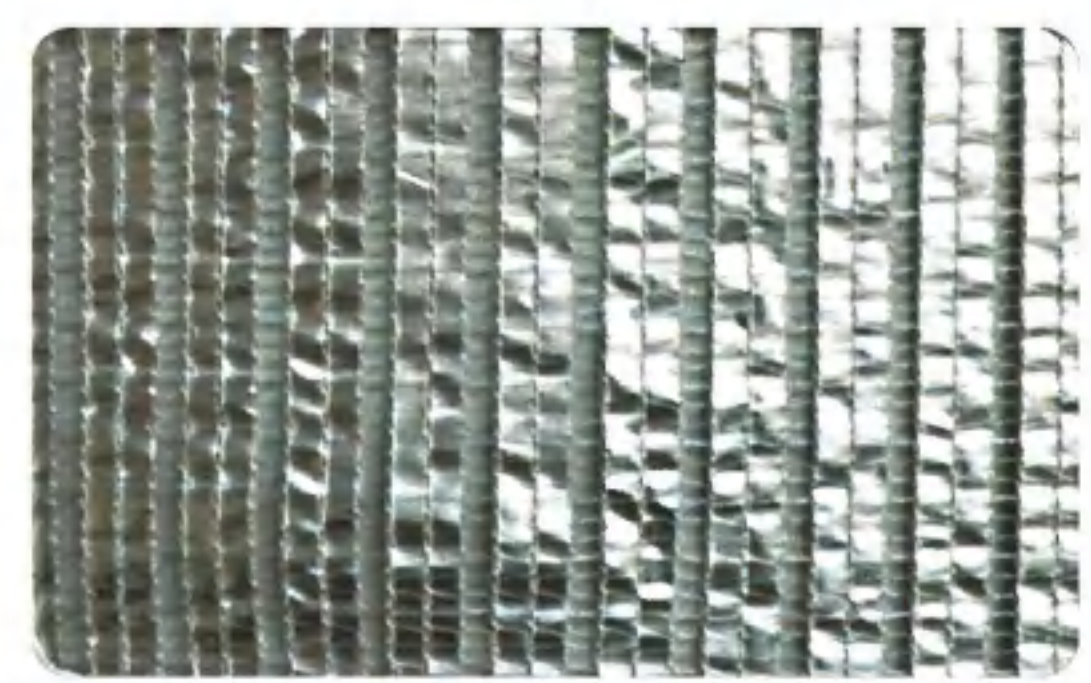
| Sunshade rate | Unit           |
|---------------|----------------|
| 55%           | 米 <sup>2</sup> |
| 65%           | 米 <sup>2</sup> |
| 75%           | 米 <sup>2</sup> |

Aluminum foil inner sunshade screen breathable screen



| Sunshade rate | Unit           |
|---------------|----------------|
| 55%           | 米 <sup>2</sup> |
| 65%           | 米 <sup>2</sup> |
| 75%           | 米 <sup>2</sup> |

Aluminum foil external sunshade screen



| Sunshade rate | Unit           |
|---------------|----------------|
| 55%           | 米 <sup>2</sup> |
| 65%           | 米 <sup>2</sup> |
| 75%           | 米 <sup>2</sup> |

Thin film external sunshade screen



| Sunshade rate | Unit           |
|---------------|----------------|
| 55%           | 米 <sup>2</sup> |
| 65%           | 米 <sup>2</sup> |
| 75%           | 米 <sup>2</sup> |

Folding Long Life Sunshade Net



| Sunshade rate | Unit           |
|---------------|----------------|
| 50%           | 米 <sup>2</sup> |
| 60%           | 米 <sup>2</sup> |
| 70%           | 米 <sup>2</sup> |

Longevity outer sunshade net



| Sunshade rate | Unit           |
|---------------|----------------|
| 50%           | 米 <sup>2</sup> |
| 60%           | 米 <sup>2</sup> |
| 70%           | 米 <sup>2</sup> |



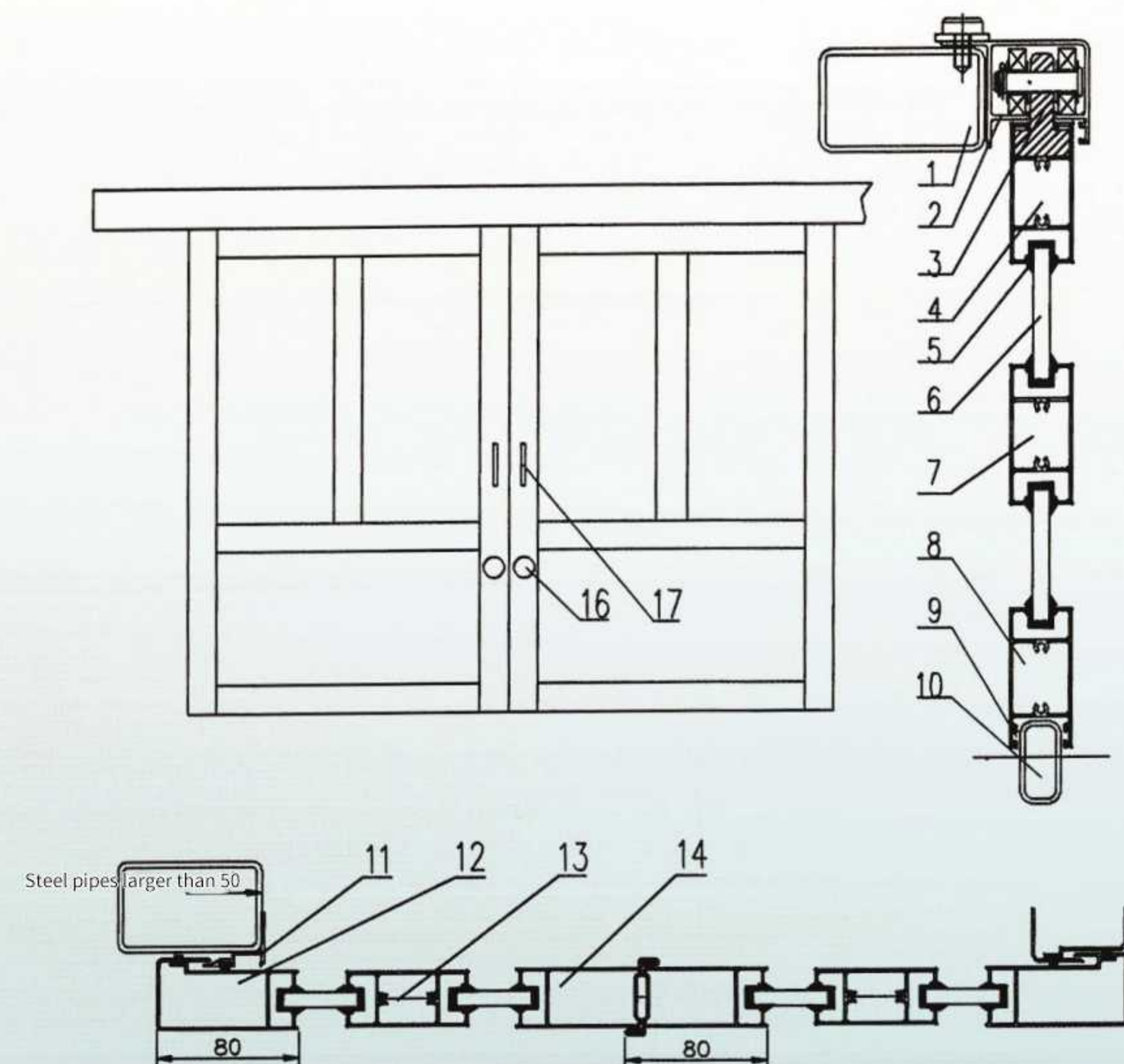
Cultivating seedbeds can improve ground utilization and have been widely used in potted plant cultivation and seedling production.

Characteristics of seedbed:

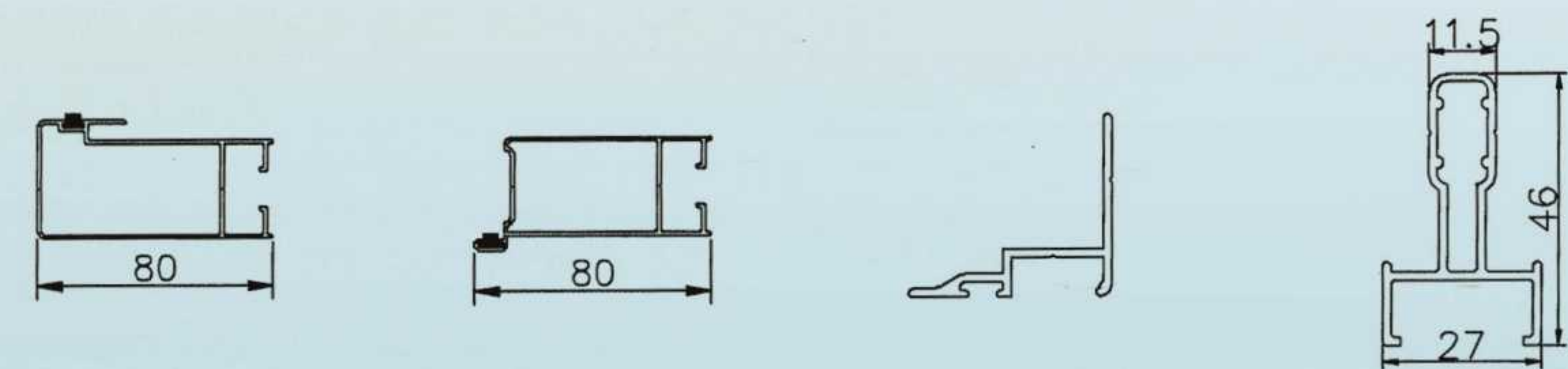
- ◆A working channel of about 0.6-0.8m can be set between any existing seedbeds;
- ◆The frame is made of aluminum alloy, which is lightweight and durable;
- ◆The seedbed net adopts a welded surface coating with anti-corrosion and anti overturning limit device;
- ◆Effectively improve the utilization rate of greenhouse land, and the coverage area of seedbeds can reach over 80%.



1 # (New 80) sliding door



1. Steel beams
2. Up the slide
3. Hanging wheel
4. Top horizontal
5. Rubber strip
6. PC board
7. Middle horizontal
8. Bottom horizontal
9. Woolen strips
10. Glide slope
11. Door frame
12. 80 hook enterprises
13. Column
14. 80 sealed
16. Door lock
17. Handle handle

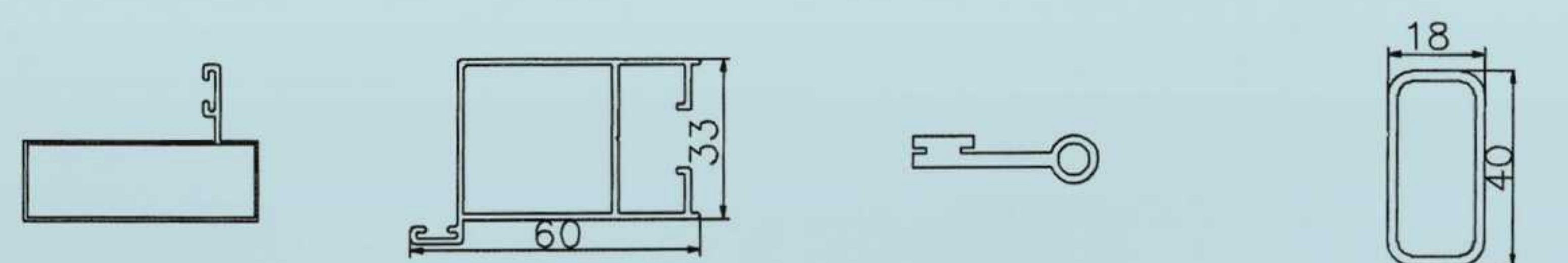


80 hook enterprises

80 sealed

Seam by the door

Davit



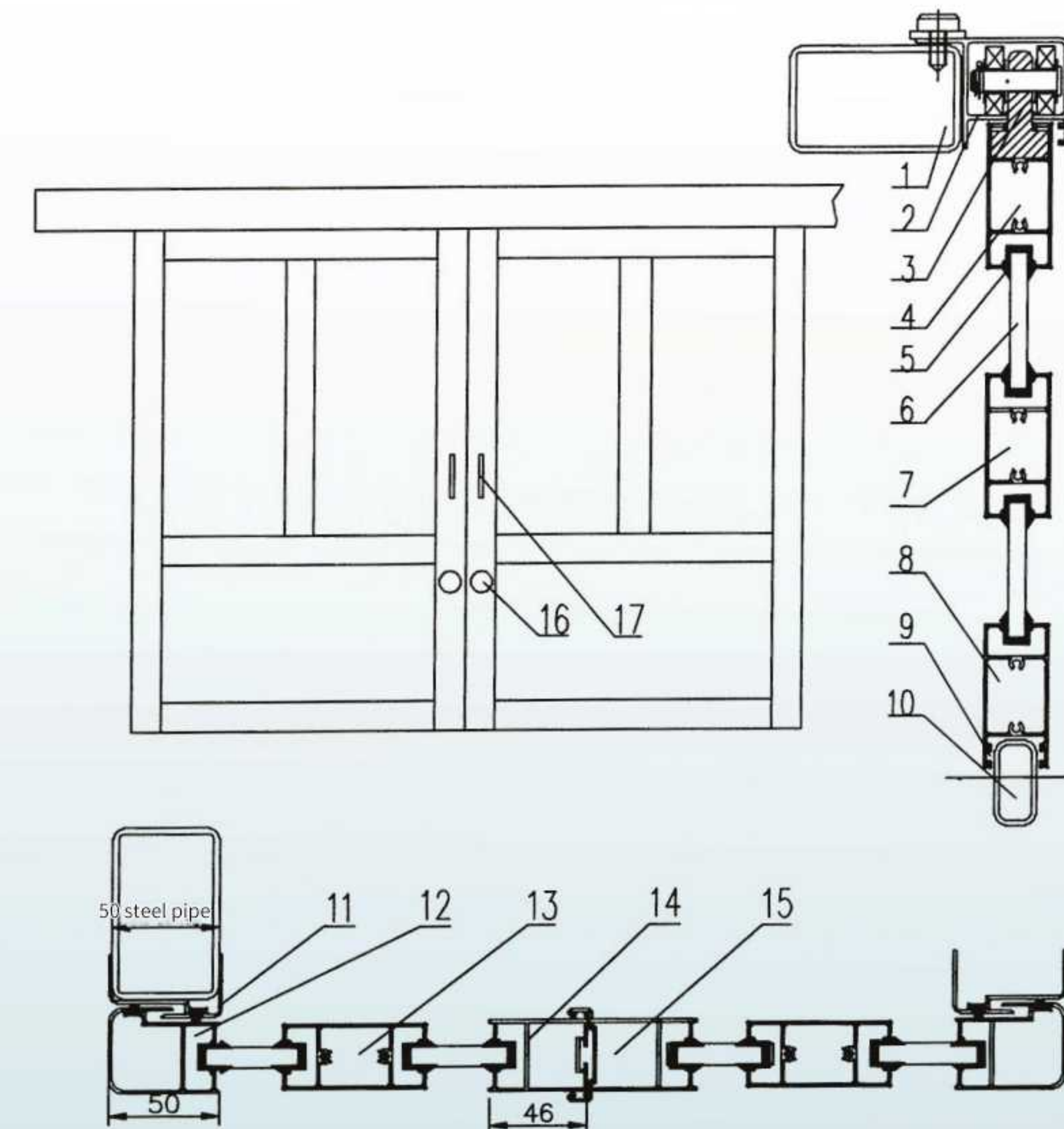
Flat door frame

Door seal

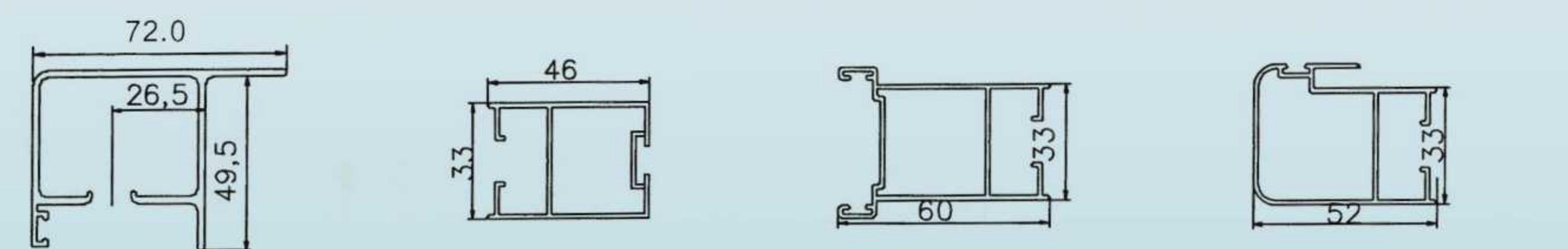
Flat door hinges

Door sliding

2 # sliding door



1. Steel beams
2. Up the slide
3. Hanging wheel
4. Top horizontal
5. Rubber strip
6. PC board
7. Middle horizontal
8. Bottom horizontal
9. Woolen strips
10. Glide slope
11. Hook enterprise edge seal
12. Gou Enterprise
13. Column
14. Guangqi Enterprise
15. Door seal
16. Door lock
17. Handle handle

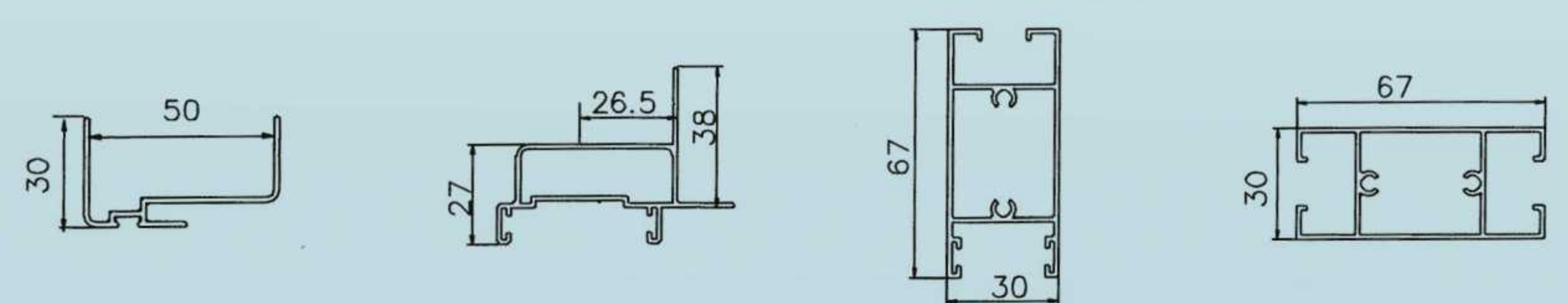


Slide DY-01

Guangqi DY-MO5

Door seal DY-MO6

Gou Enterprise DY-M07



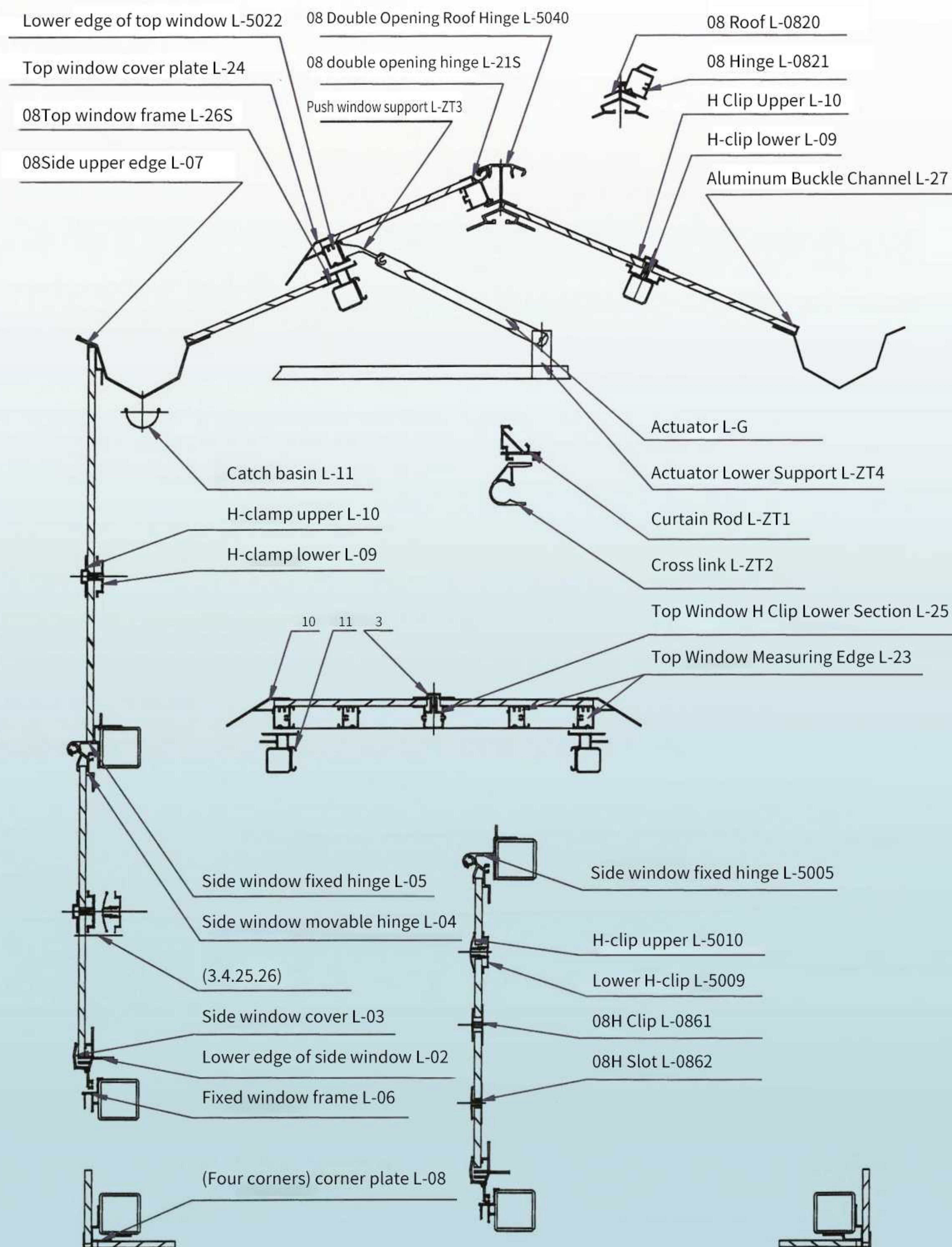
Hook enterprise edge seal DY-02

Door single seal DY-M11

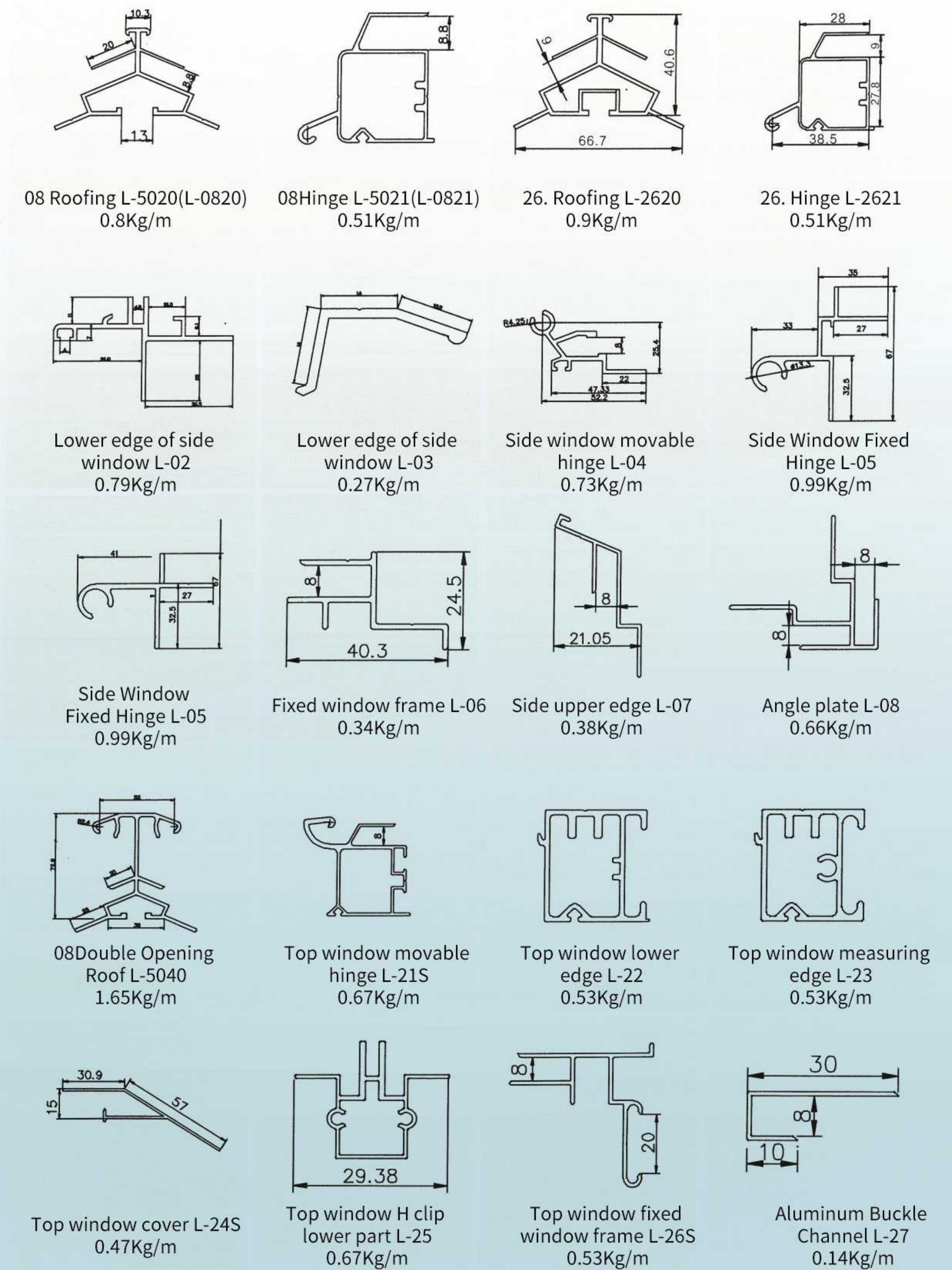
Horizontal DY-M08

Middle horizontal (column) DY-M07

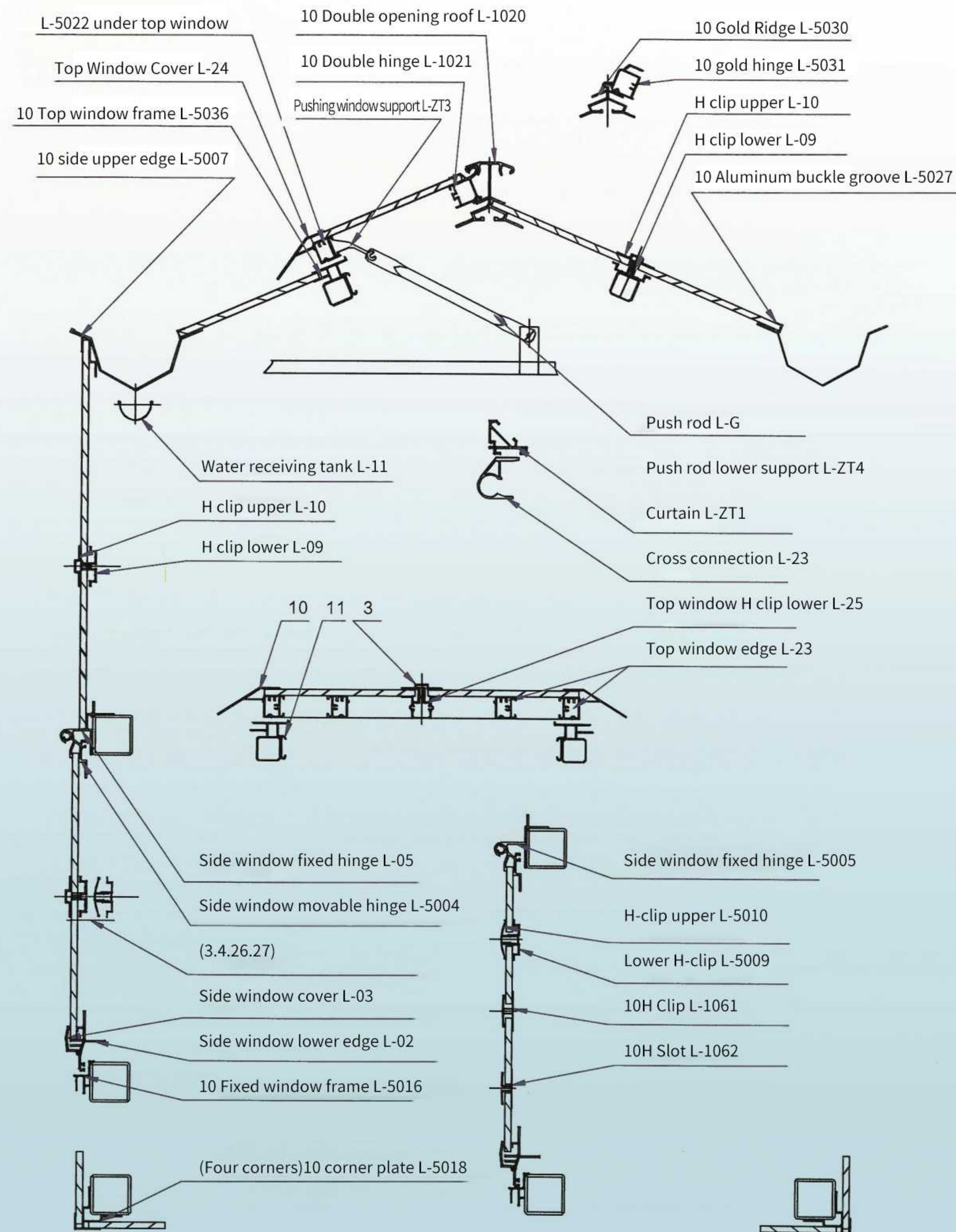
## 8mm PC board greenhouse structure diagram



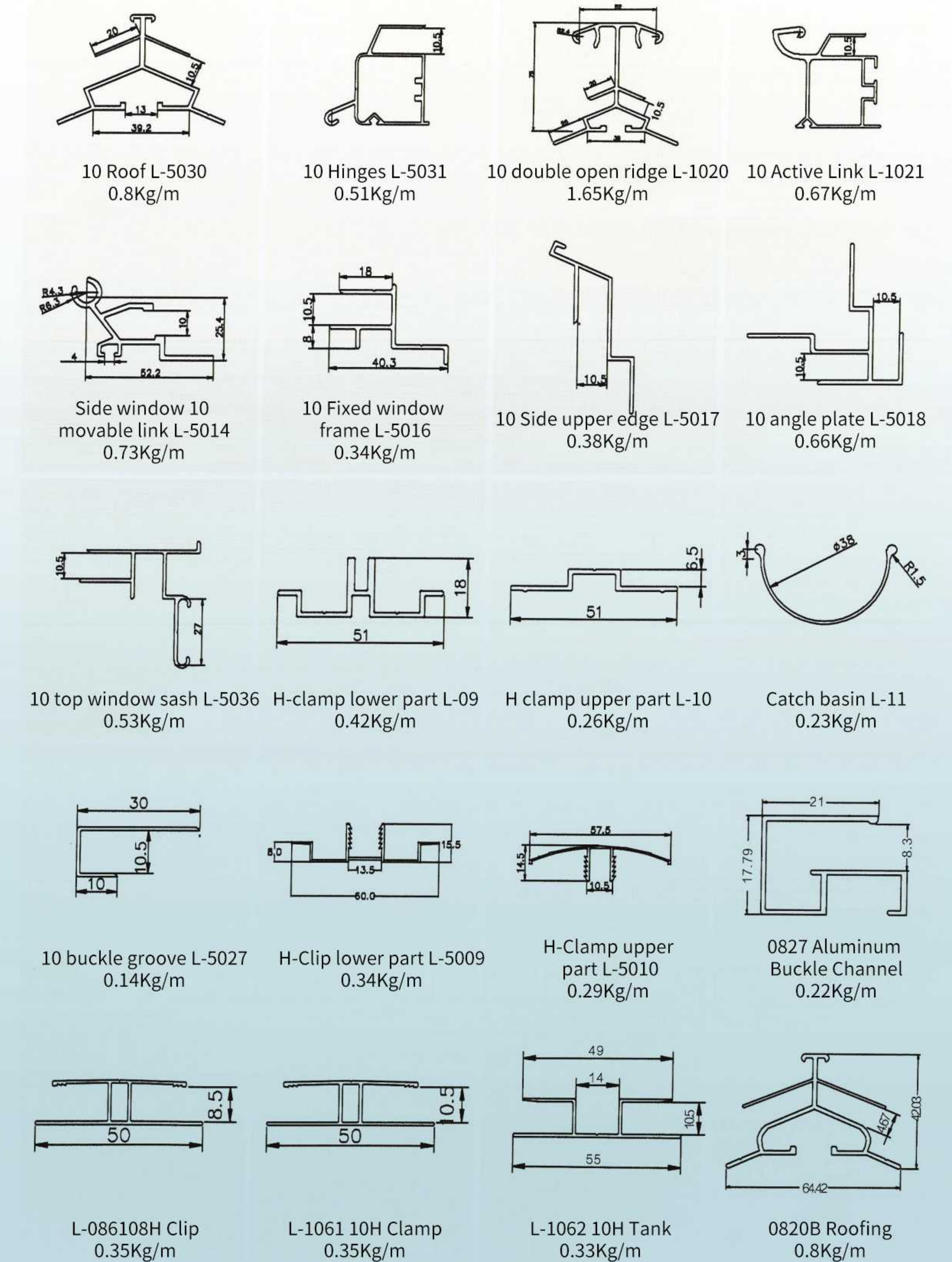
## 8mm PC greenhouse aluminum



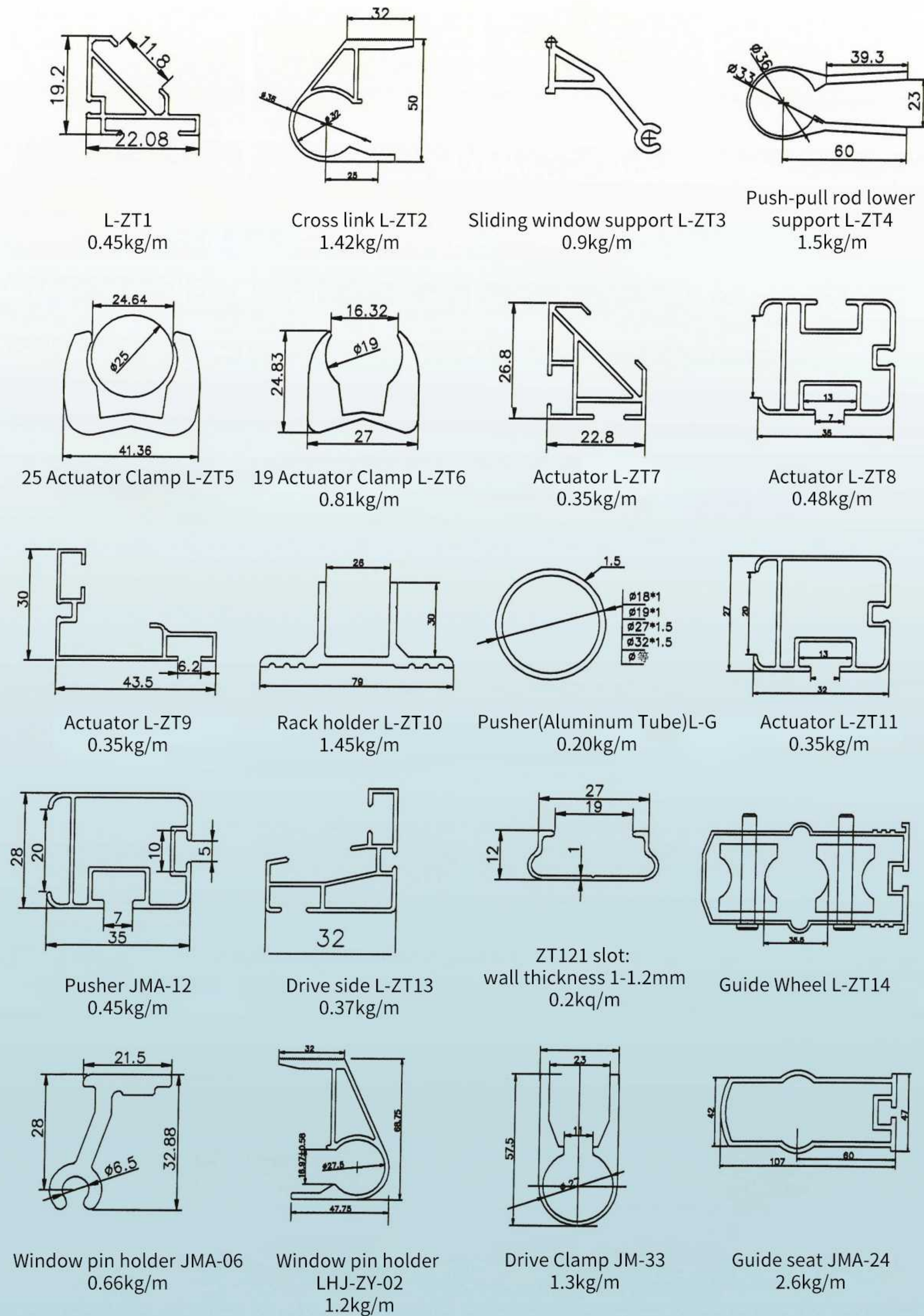
## 10mm PC board greenhouse structure



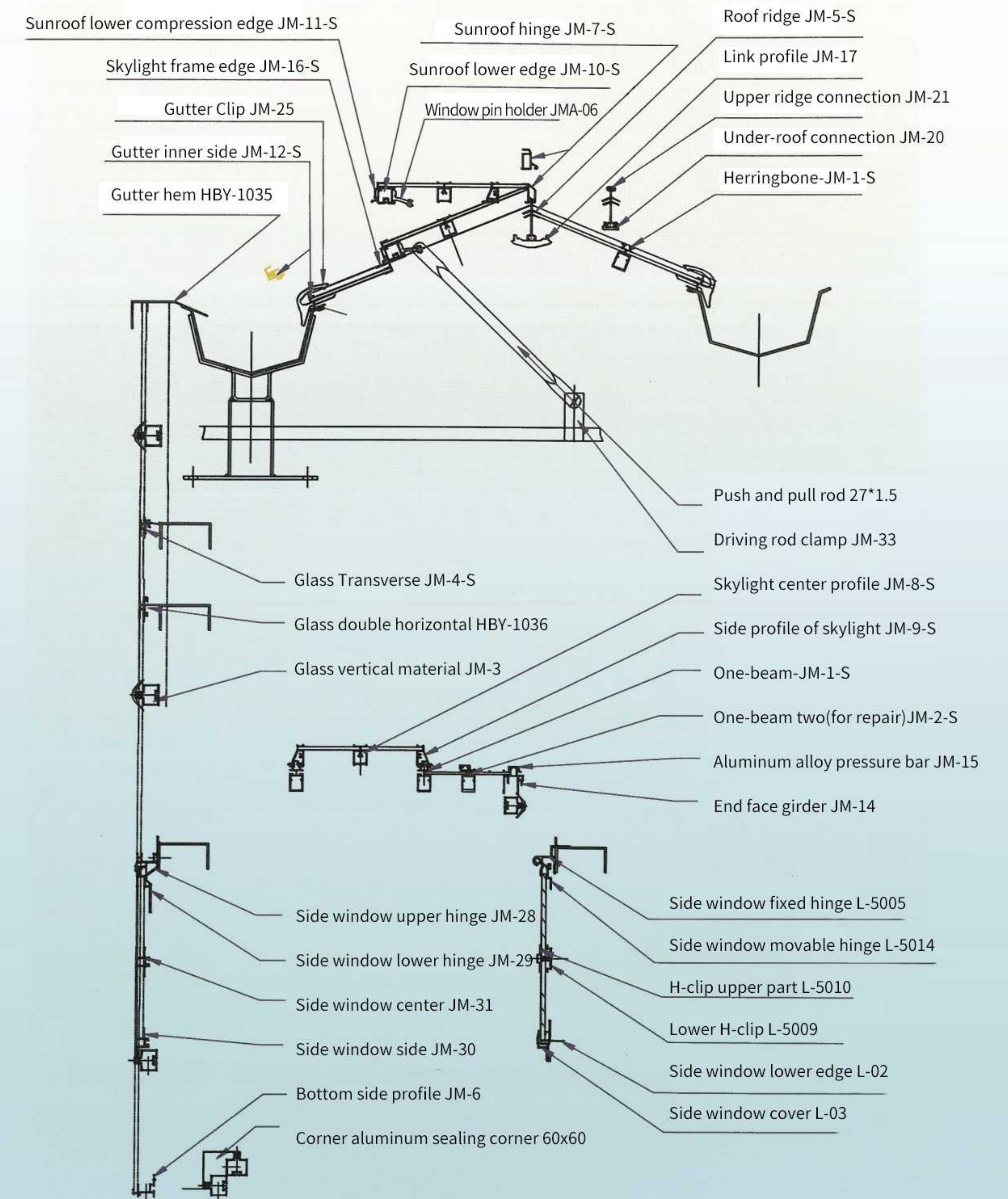
## 10mm PC Greenhouse Aluminum



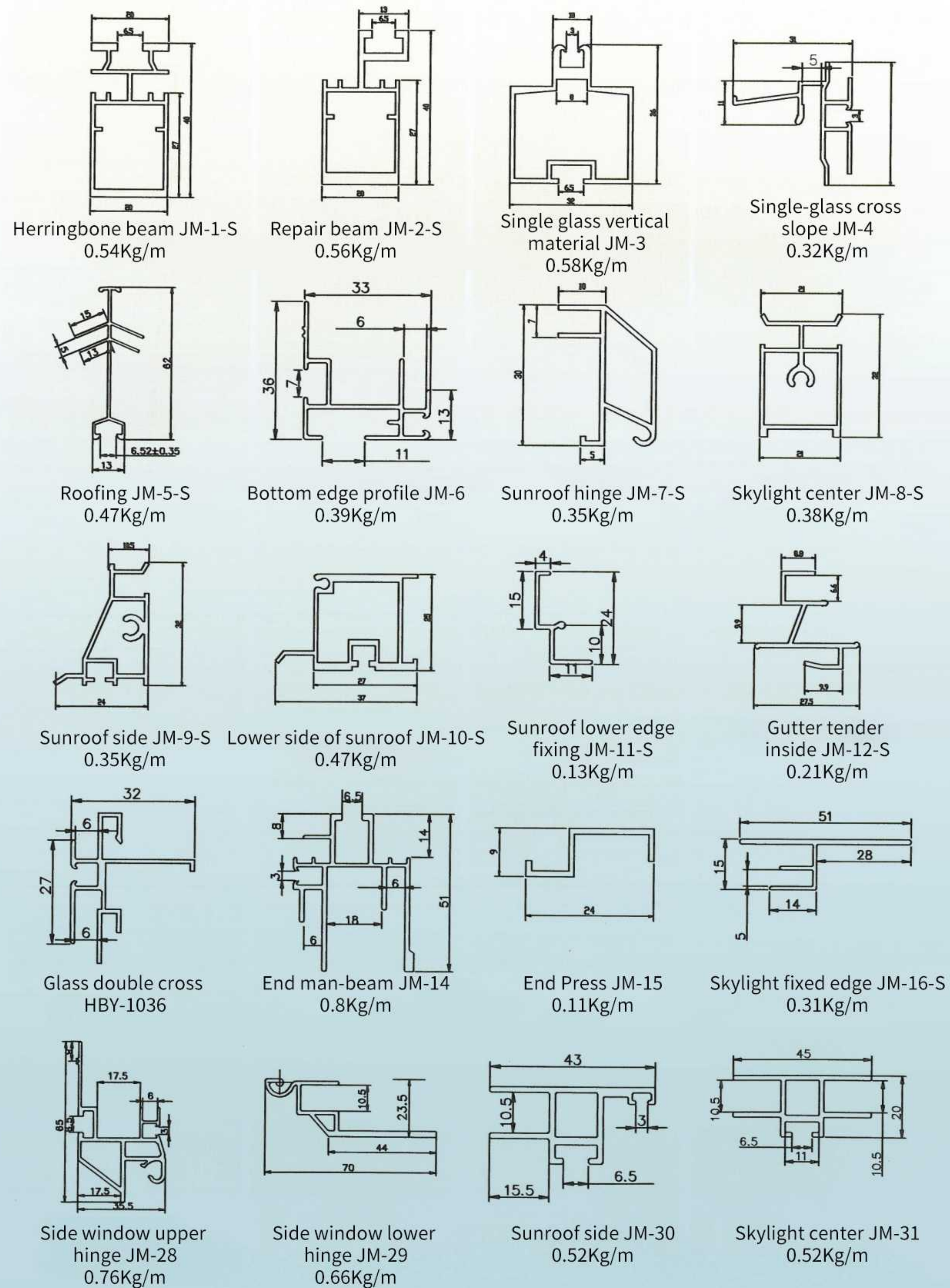
## Sunshade Drive Aluminum



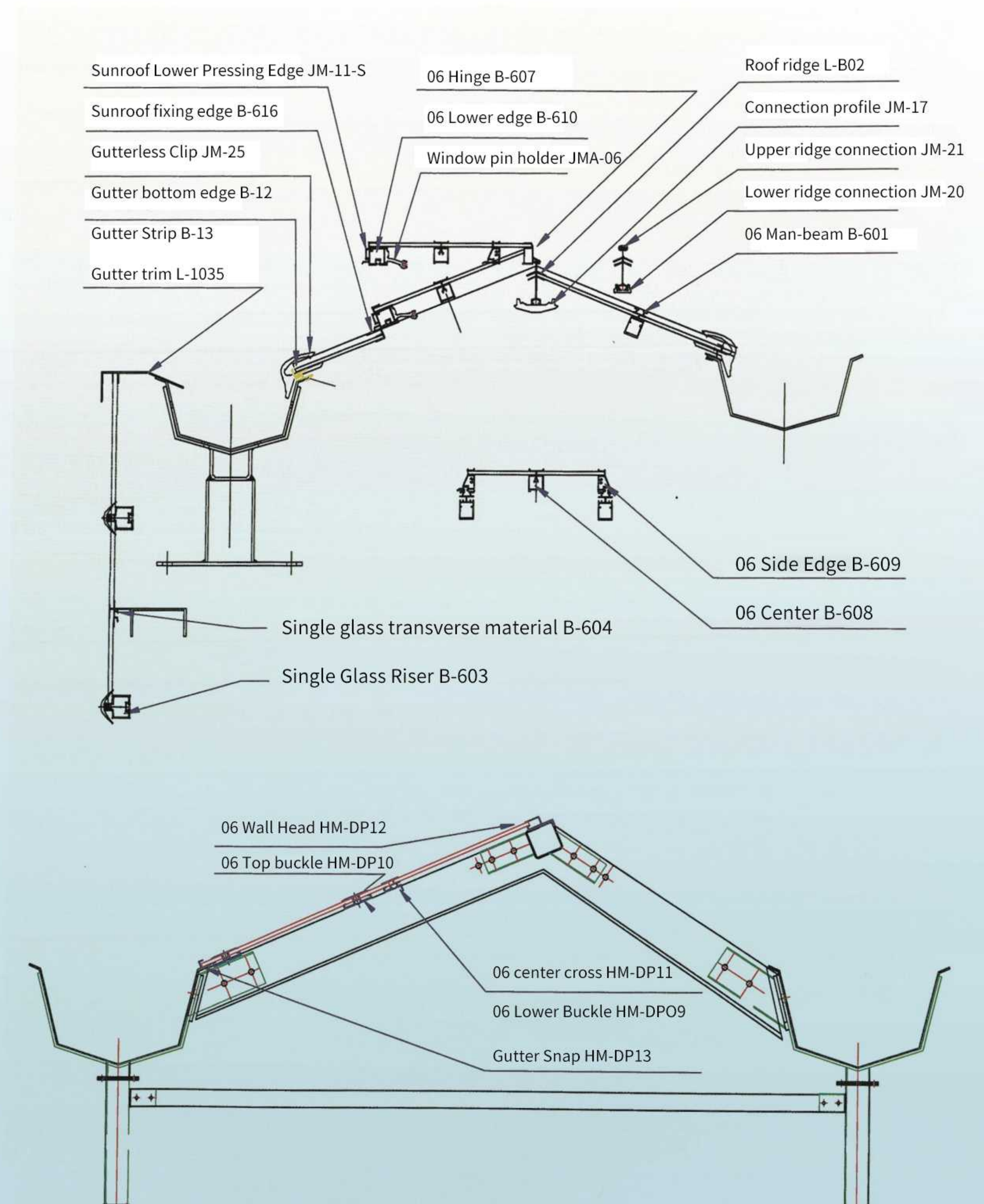
## 5mm glass greenhouse structure

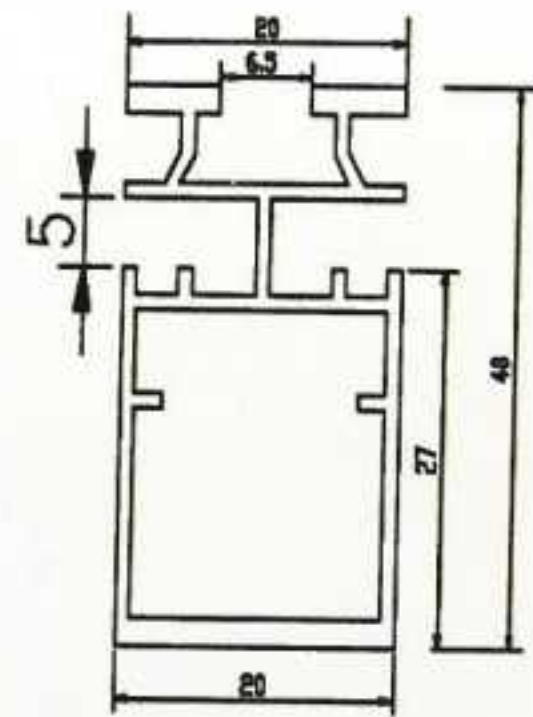


## Glass greenhouse aluminum

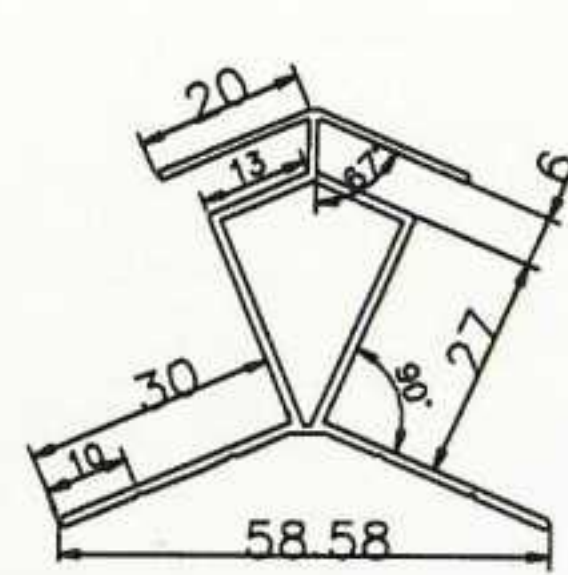


## 6mm photovoltaic panel racking structure

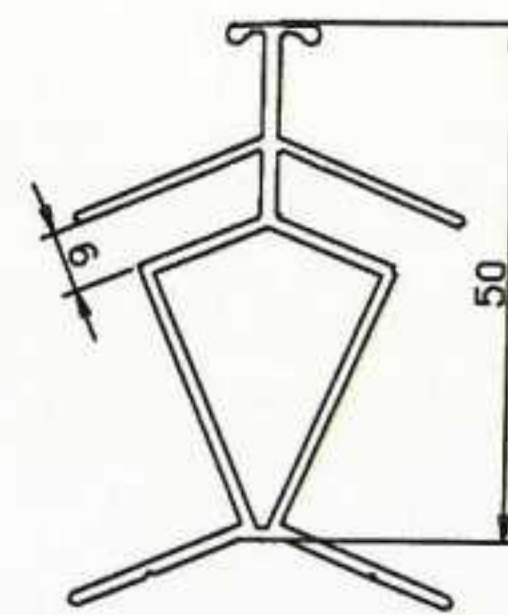




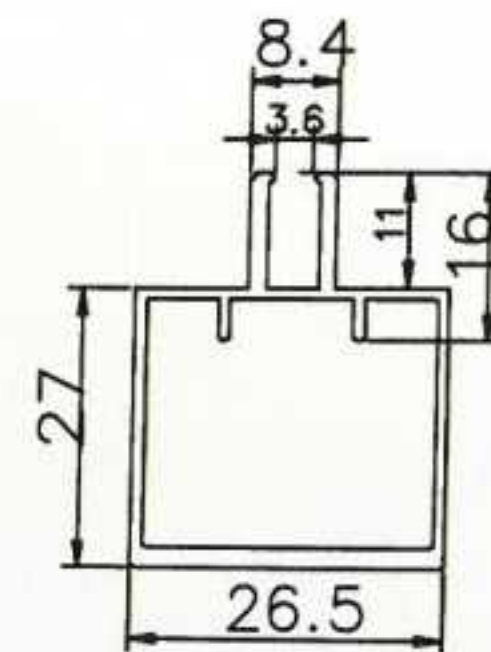
Reinforced Herringbone Beam L-B01  
0.58kg/m



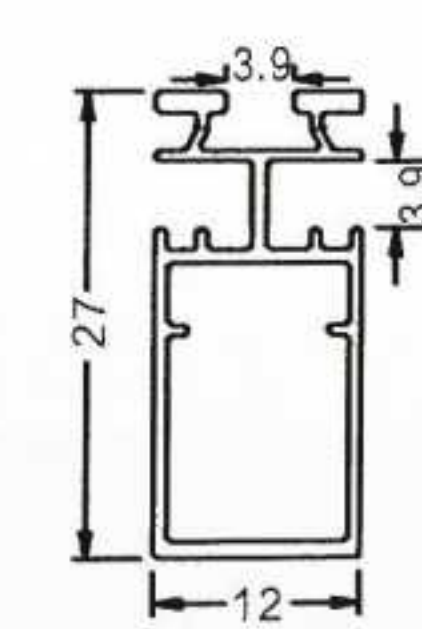
Roofing L-B02  
0.73kg/m



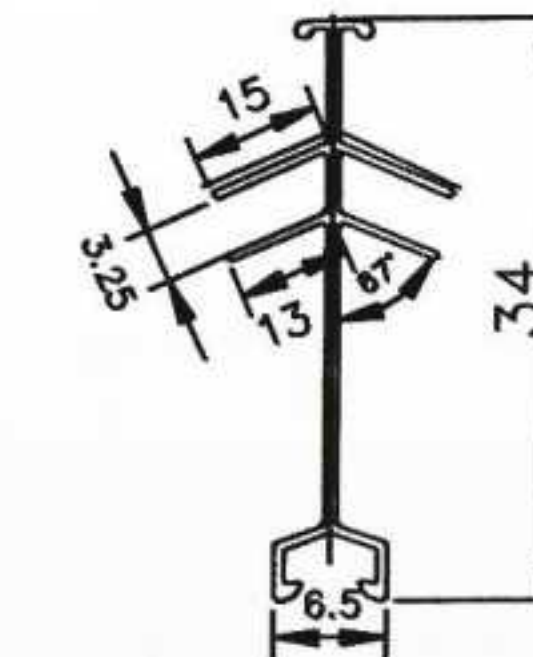
Roofing L-B22  
0.75kg/m



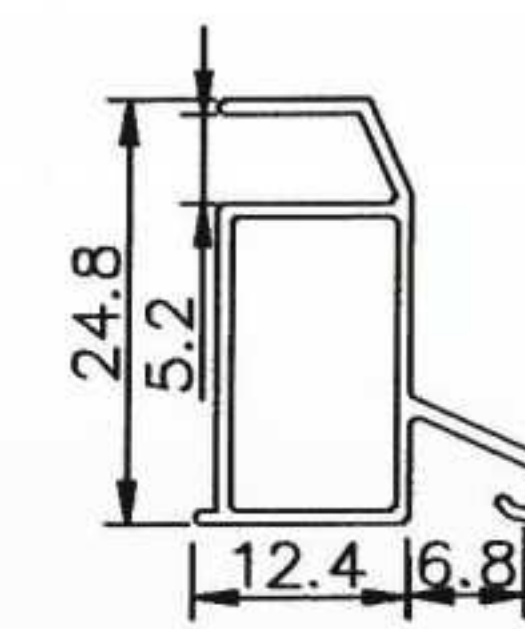
Herringbone beam L-B03  
0.731kg/m



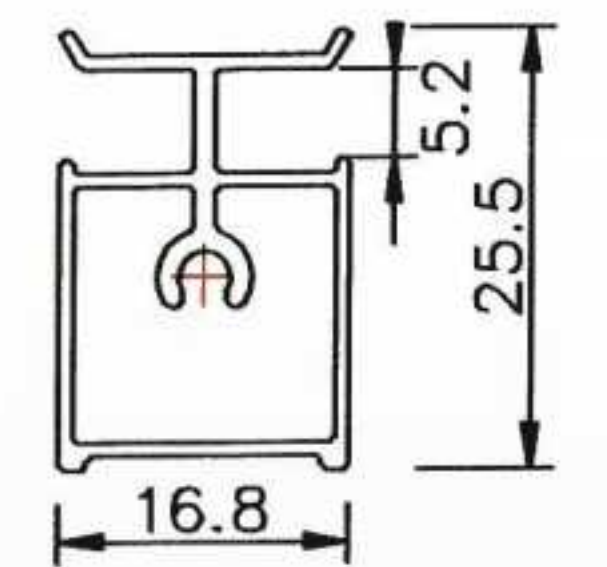
06 Herringbone beam B-601  
0.58kg/m



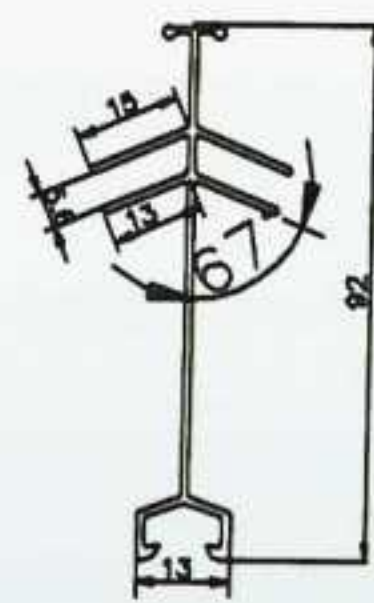
06 Roofing B-605  
0.49kg/m



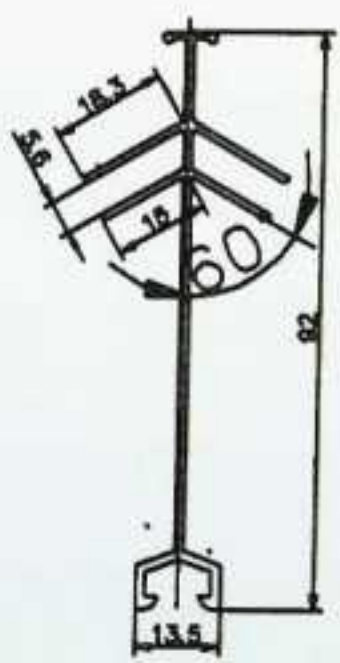
06Hinge B-607  
0.275kg/m



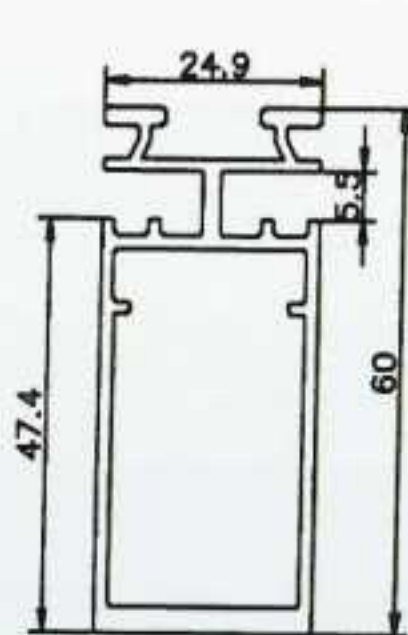
06 Intermediate B-608  
0.38kg/m



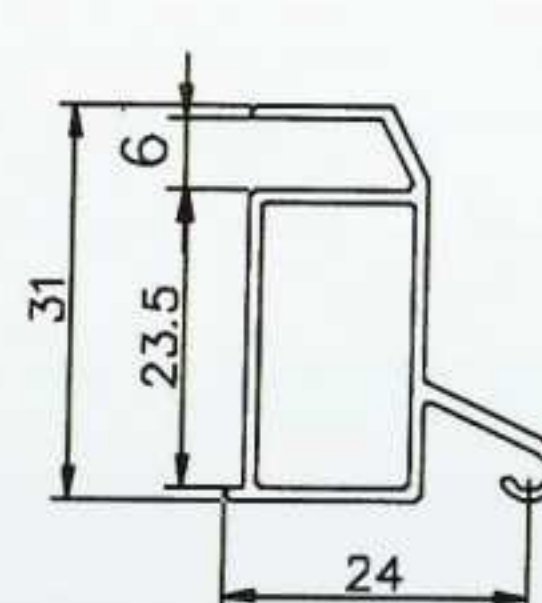
23 - Big Roof B-004



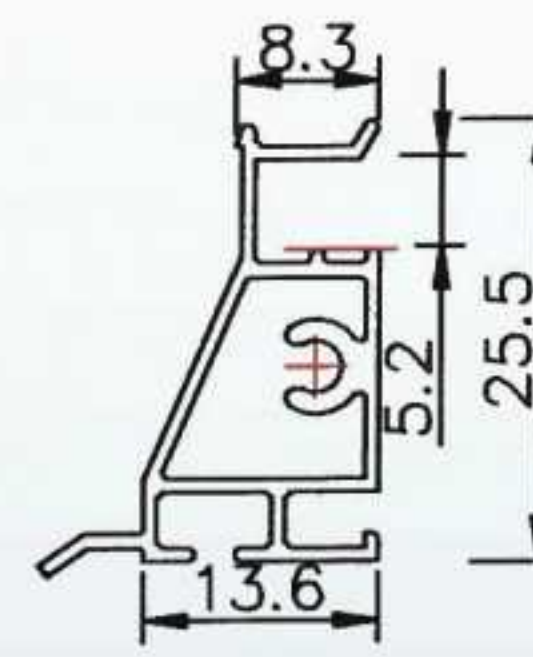
30 - Big Roof B-005



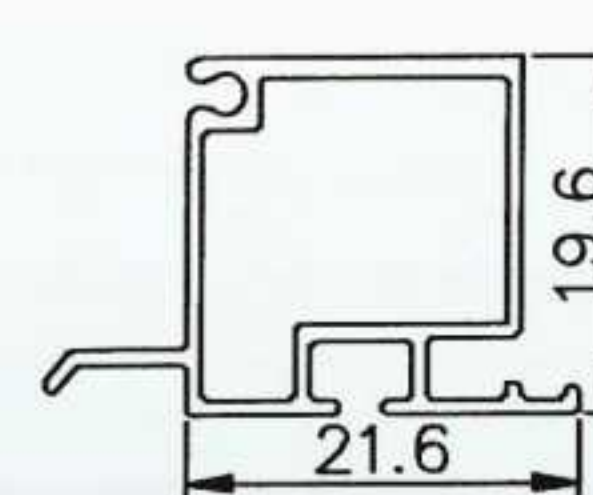
Adult Beam B-006



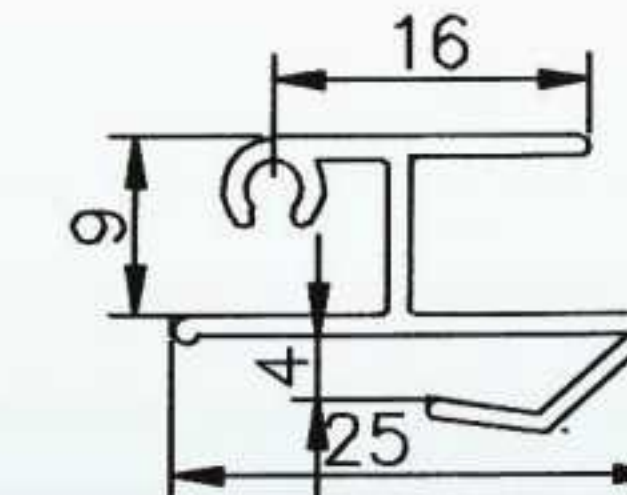
Sunroof hinge B-007  
0.275kg/m



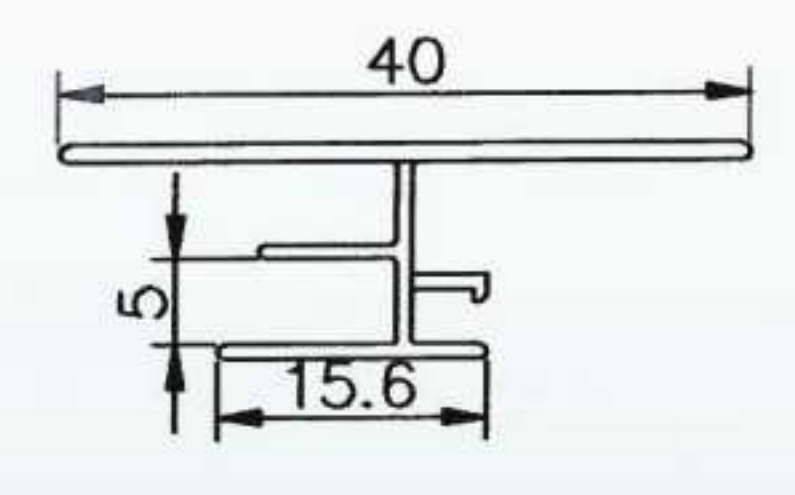
06 Side edge B-609  
0.35kg/m



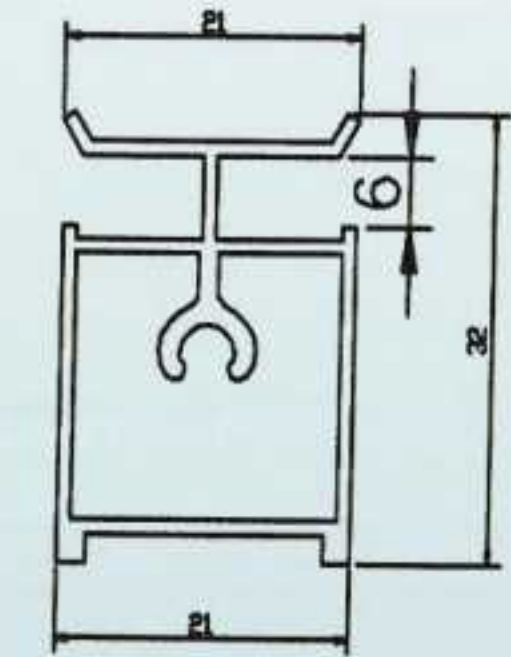
06 Lower edge B-610  
0.47kg/m



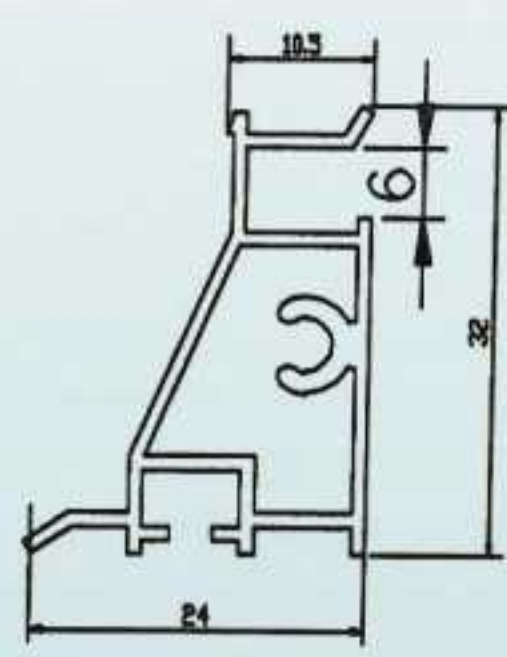
Bottom edge of gutter B-612  
0.23kg/m



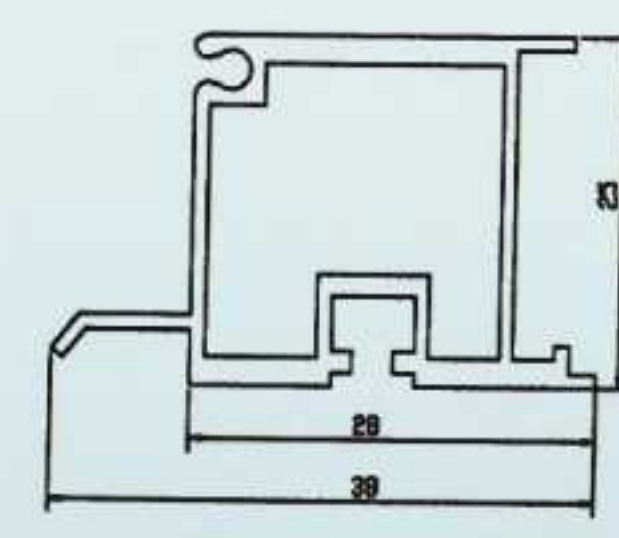
Sunroof fixing edge B-616  
0.32kg/m



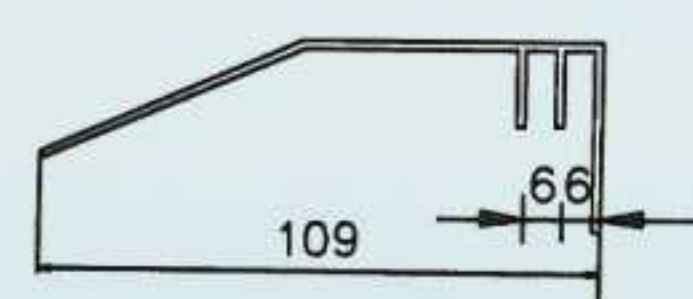
Sunroof center B-008  
0.38kg/m



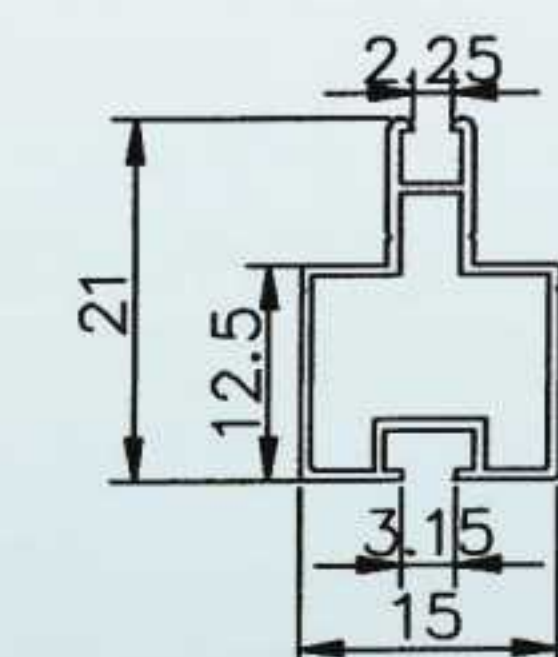
Side of sunroof B-009  
0.345kg/m



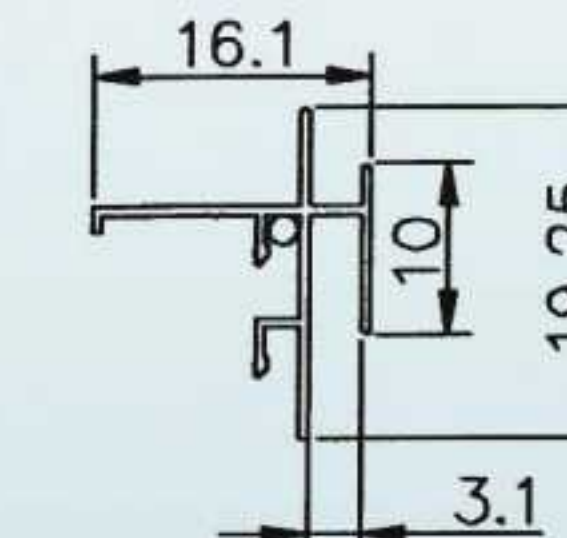
Window lower profile B-010  
0.47kg/m



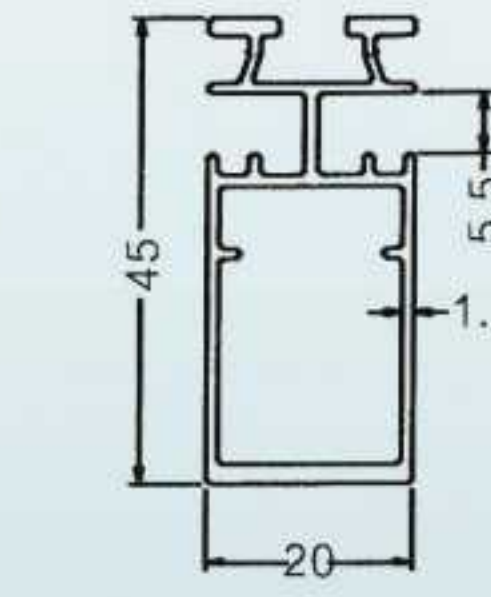
Gutter trim L-1035  
0.75kg/m



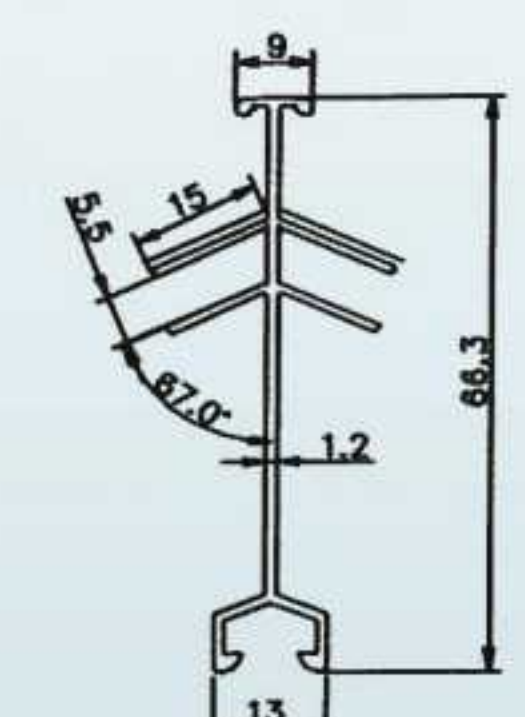
Single Glass Riser B-603  
0.56kg/m



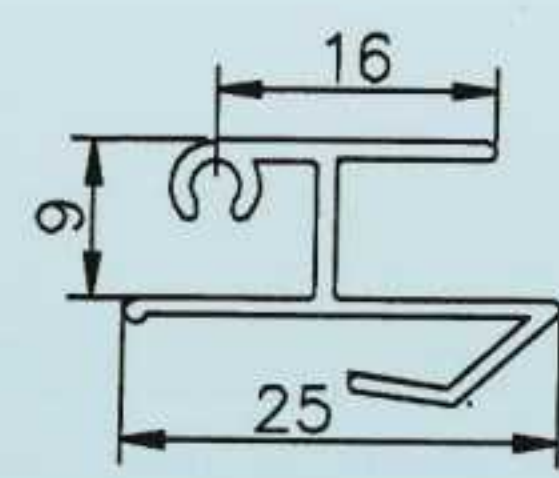
Single glass transverse material B-604  
0.34kg/m



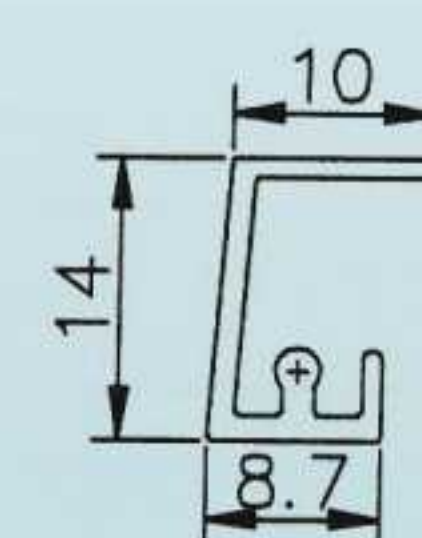
45 Herringbone beam B-4501  
0.58kg/m



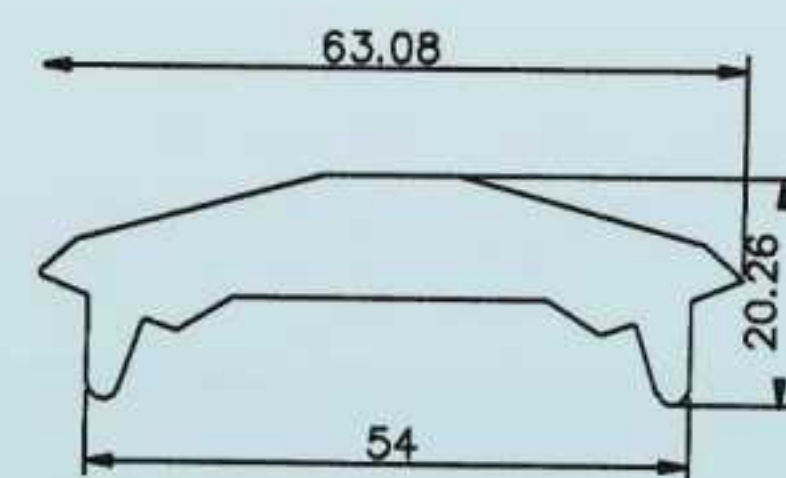
45 Roofing B-4505  
0.49kg/m



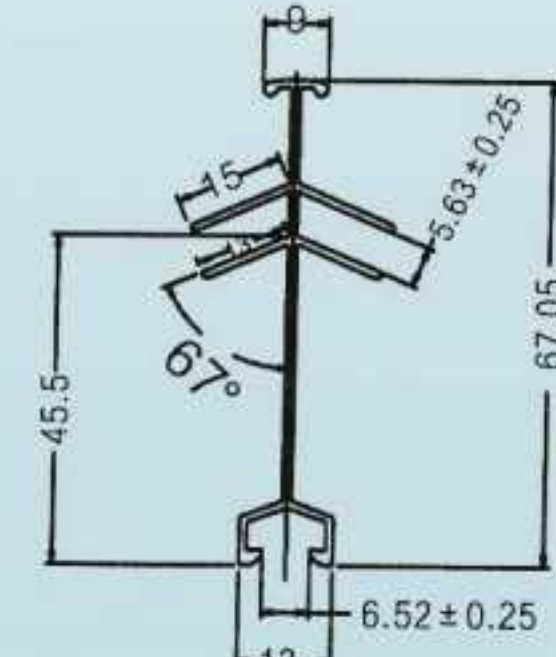
Bottom edge of gutter B-12  
0.23kg/m



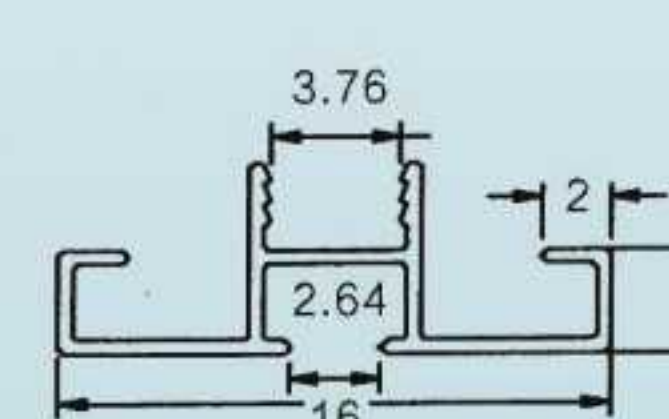
Gutter Tabs B-13  
0.13kg/m



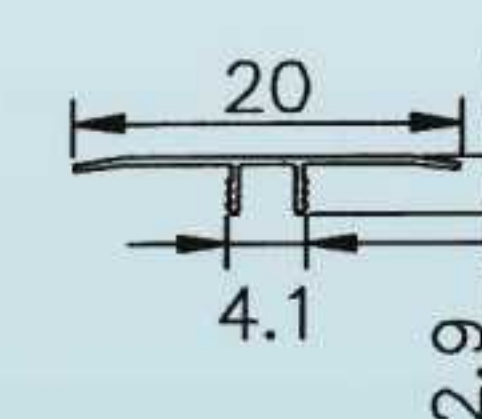
Connecting profile JM-17  
0.163kg/m



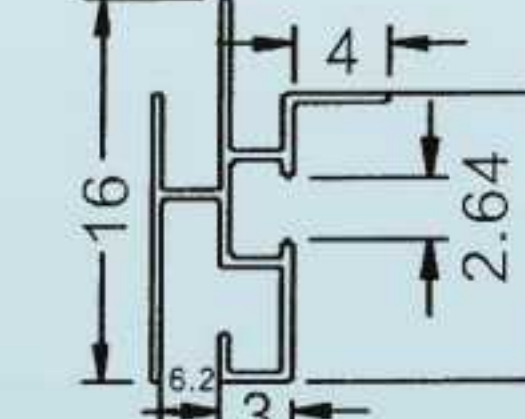
45°Ridge HR-B-4505  
0.48kg/m



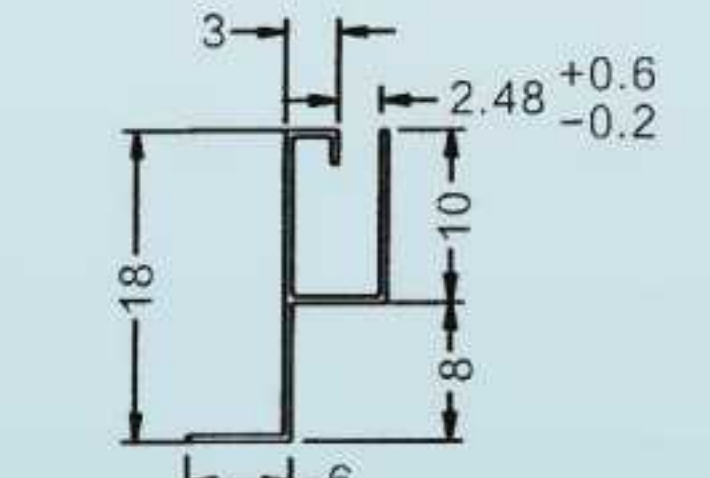
06 Lower Buckle HM-DP09  
0.27kg/m



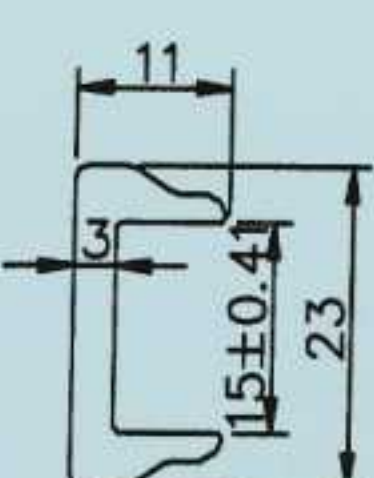
06Upper Buckle HM-DP10  
0.185kg/m



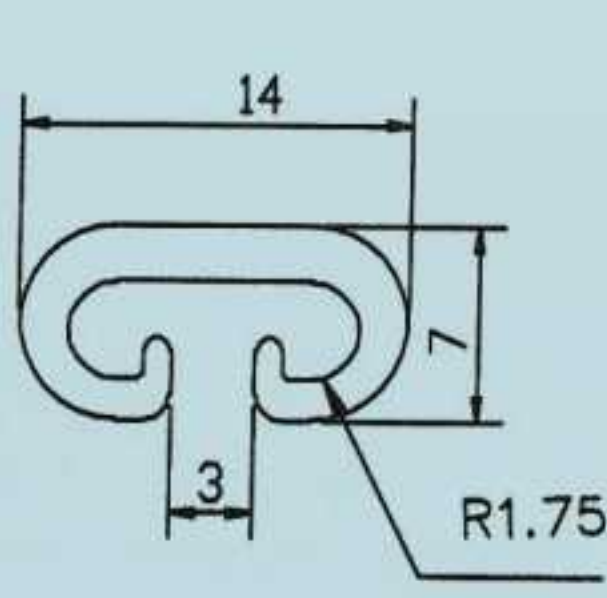
06 and HM-DP 11  
0.34kg/m



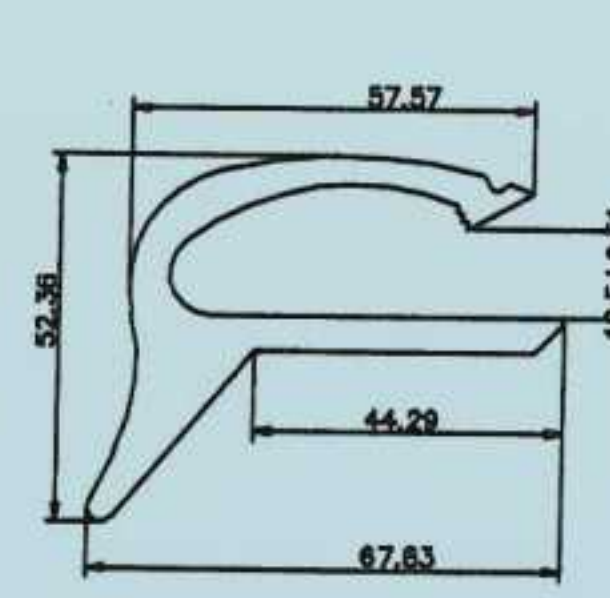
06 End HM-DP12  
0.34kg/m



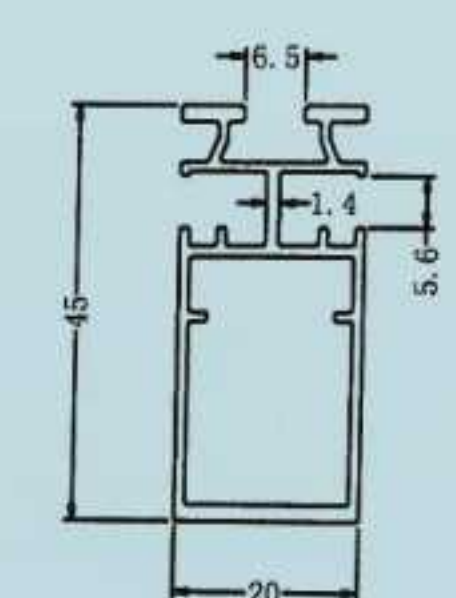
Under-roof connection JM-20  
0.3kg/m



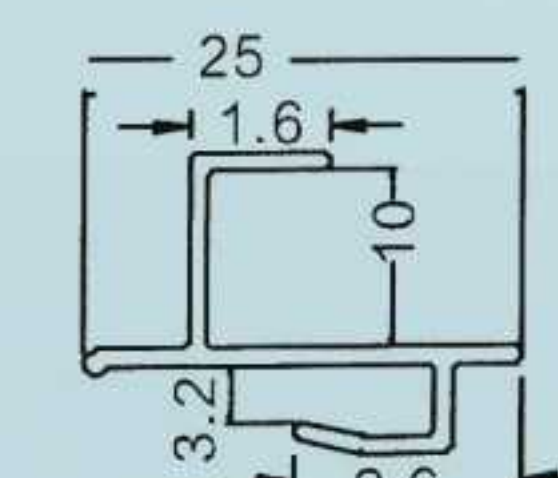
Ridge connection JM-21  
0.14kg/m



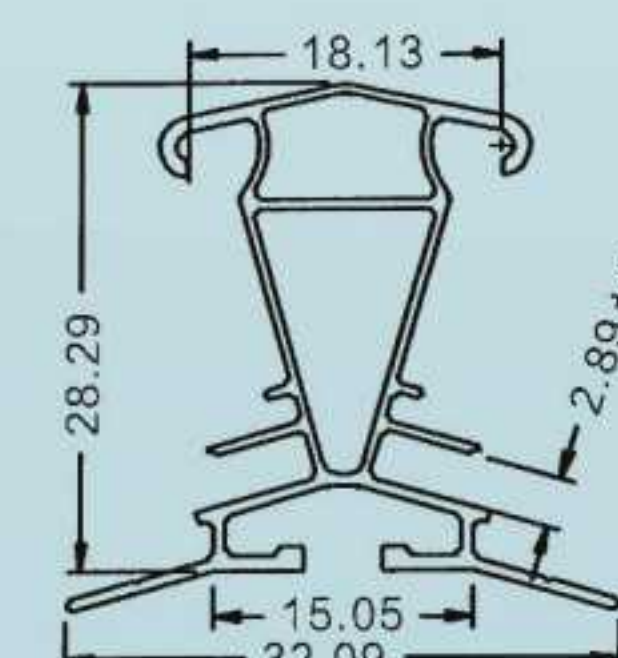
Non-groove clamp JM-25  
2.35kg/m



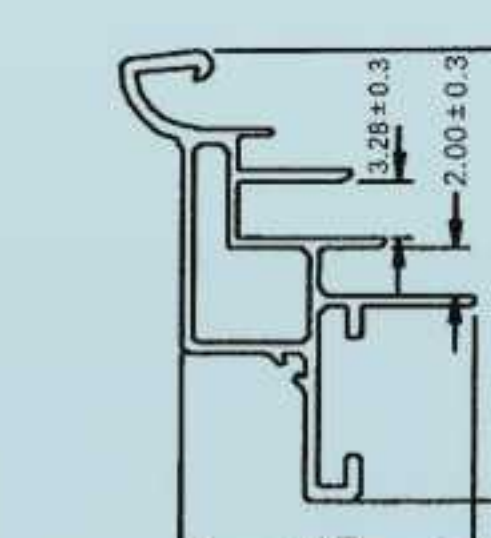
45° Herringbone beam HR-B-4501  
0.55kg/m



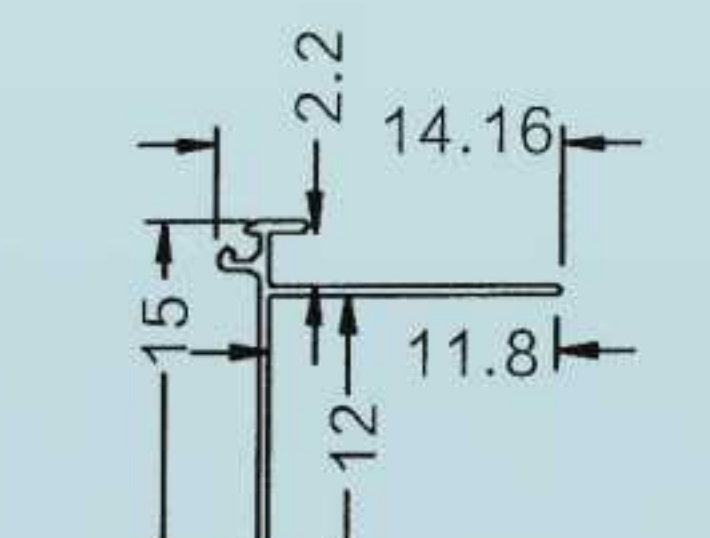
09Gutter Card Edge HM-DP13  
0.16kg/m



Roof ridge HM-NO1  
2.2kg/m

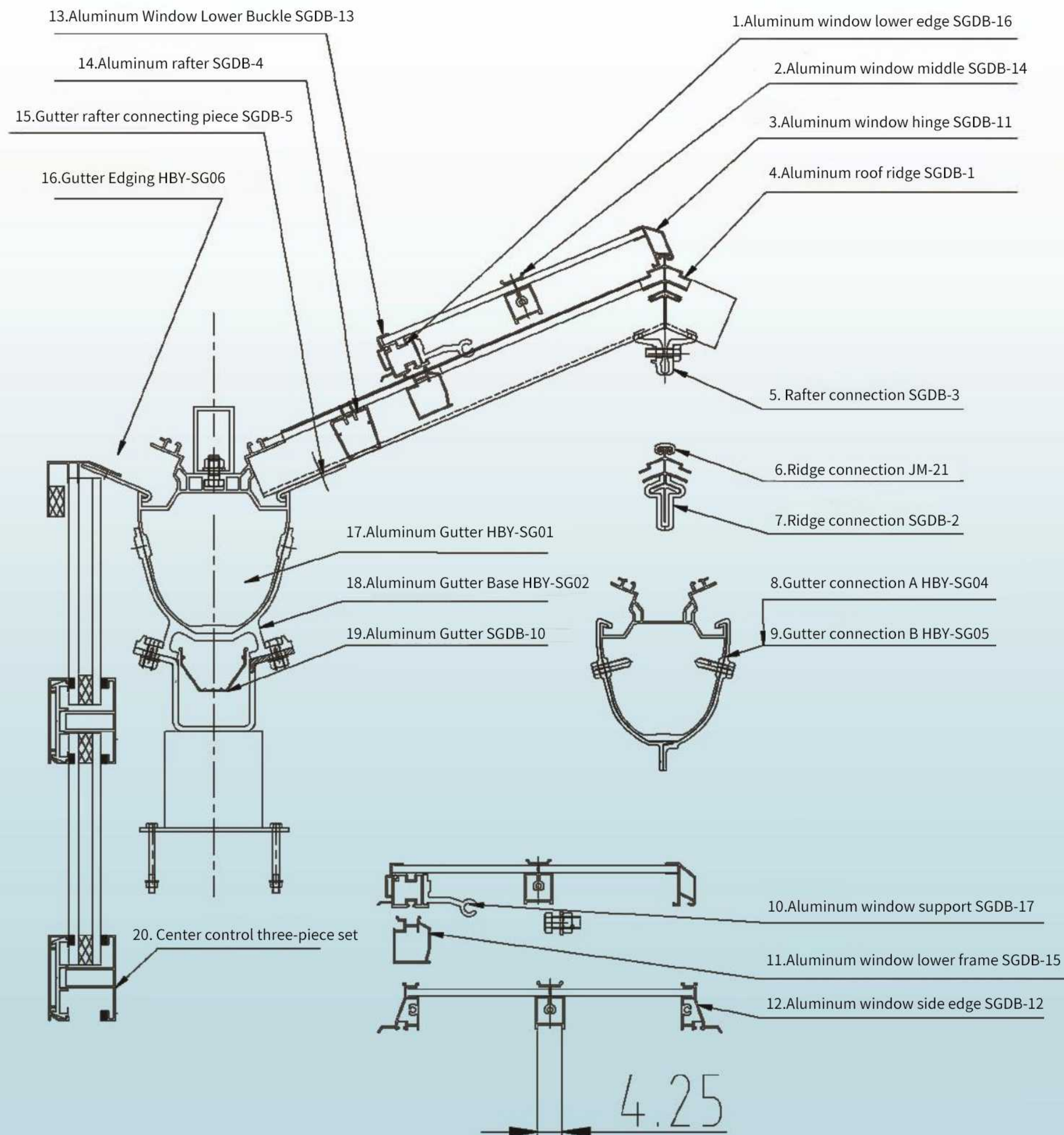


Hinge DY-NO2  
1.1kg/m

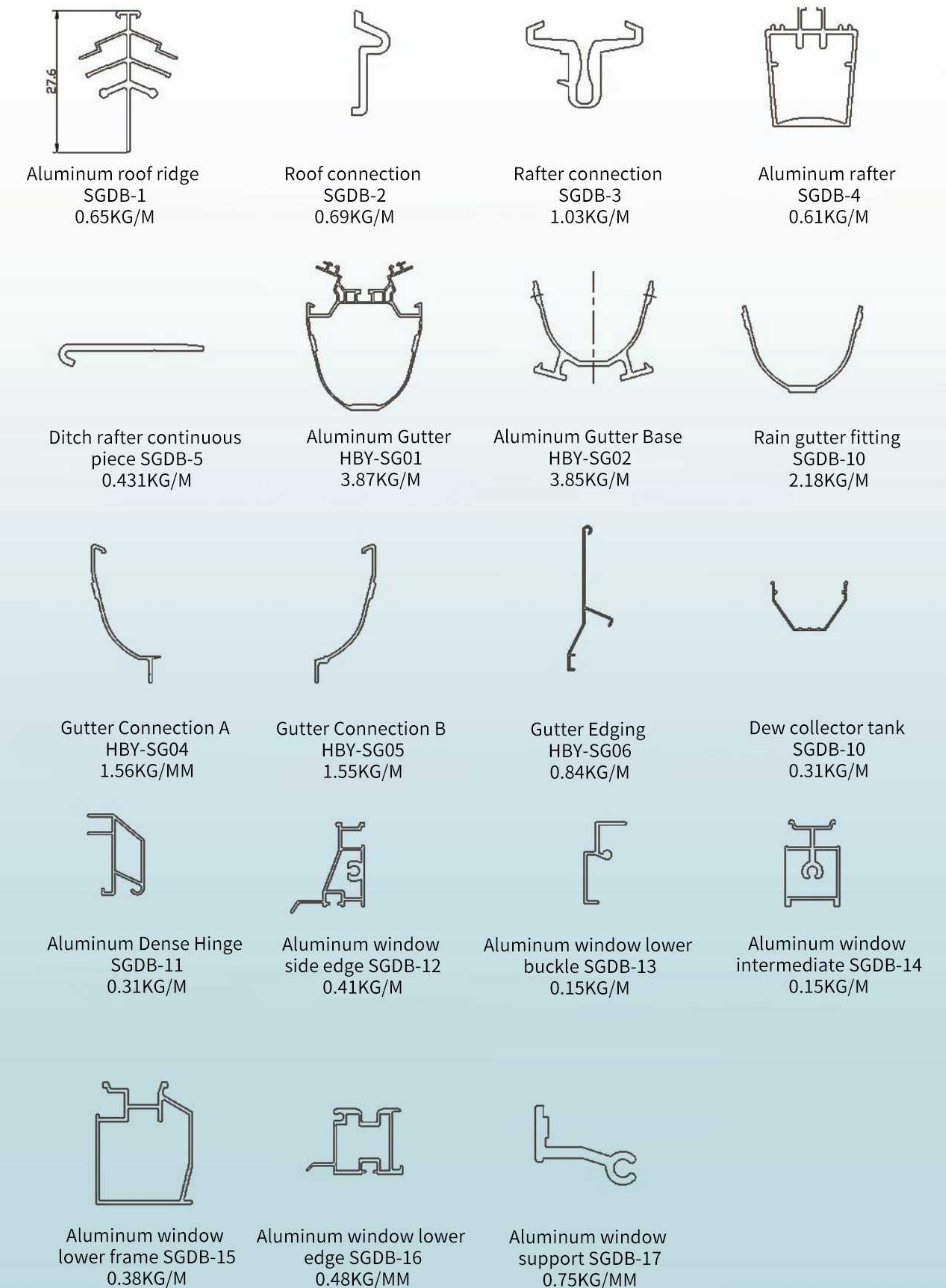


Corner edge DY-NO3  
0.24kg/m

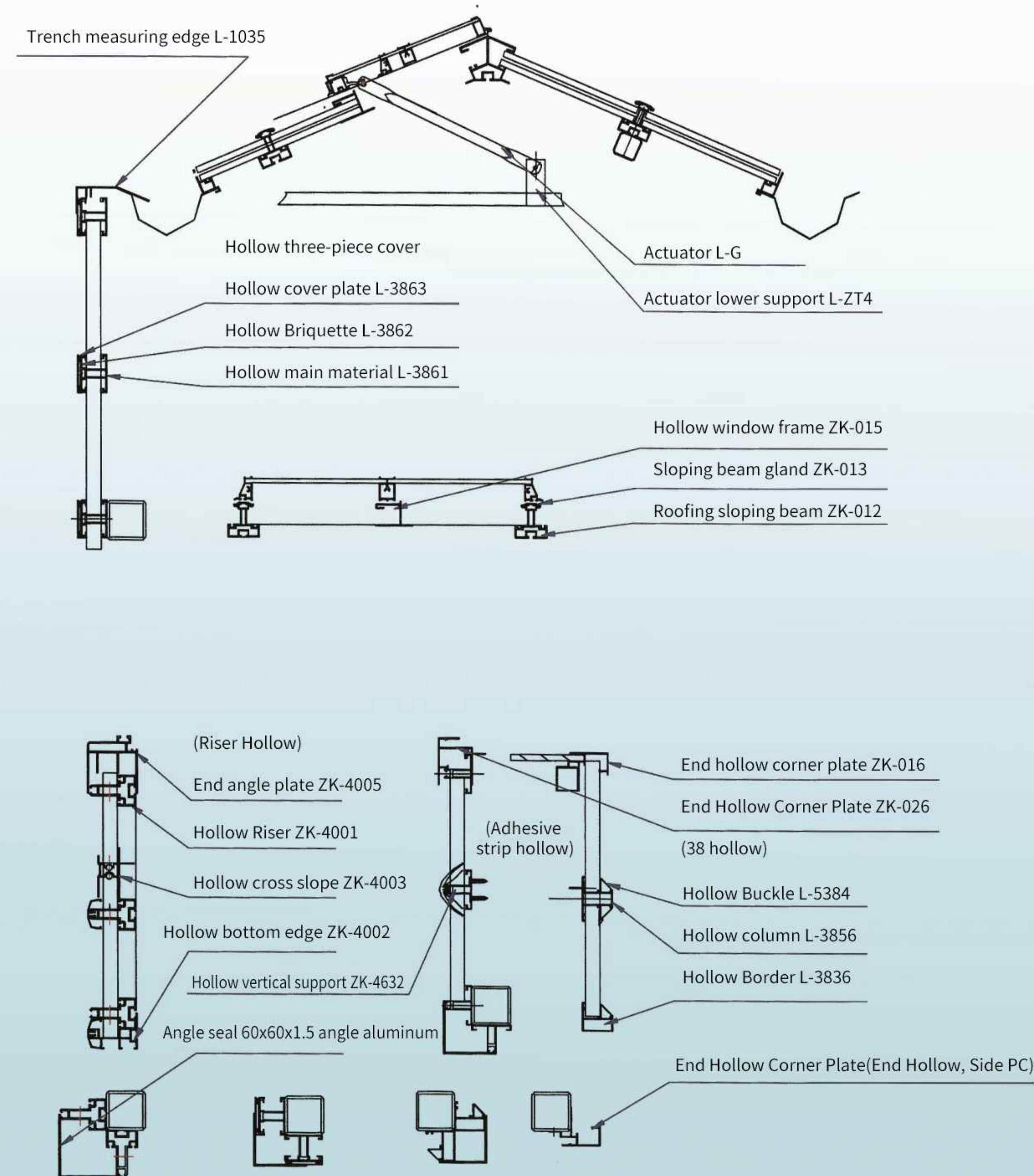
## Aluminum Gutter Greenhouse Structure



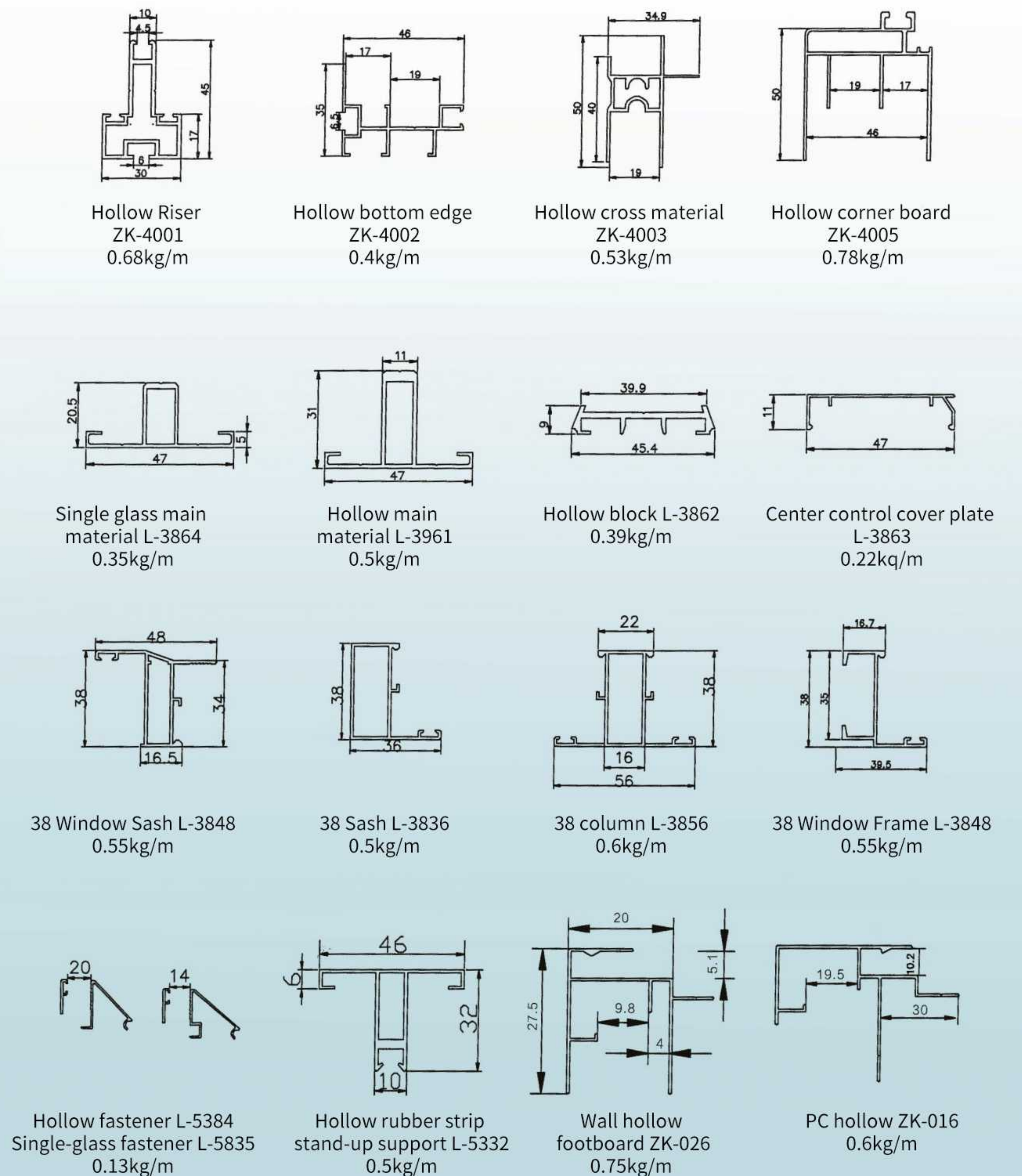
## Aluminum Gutter Greenhouse Accessories



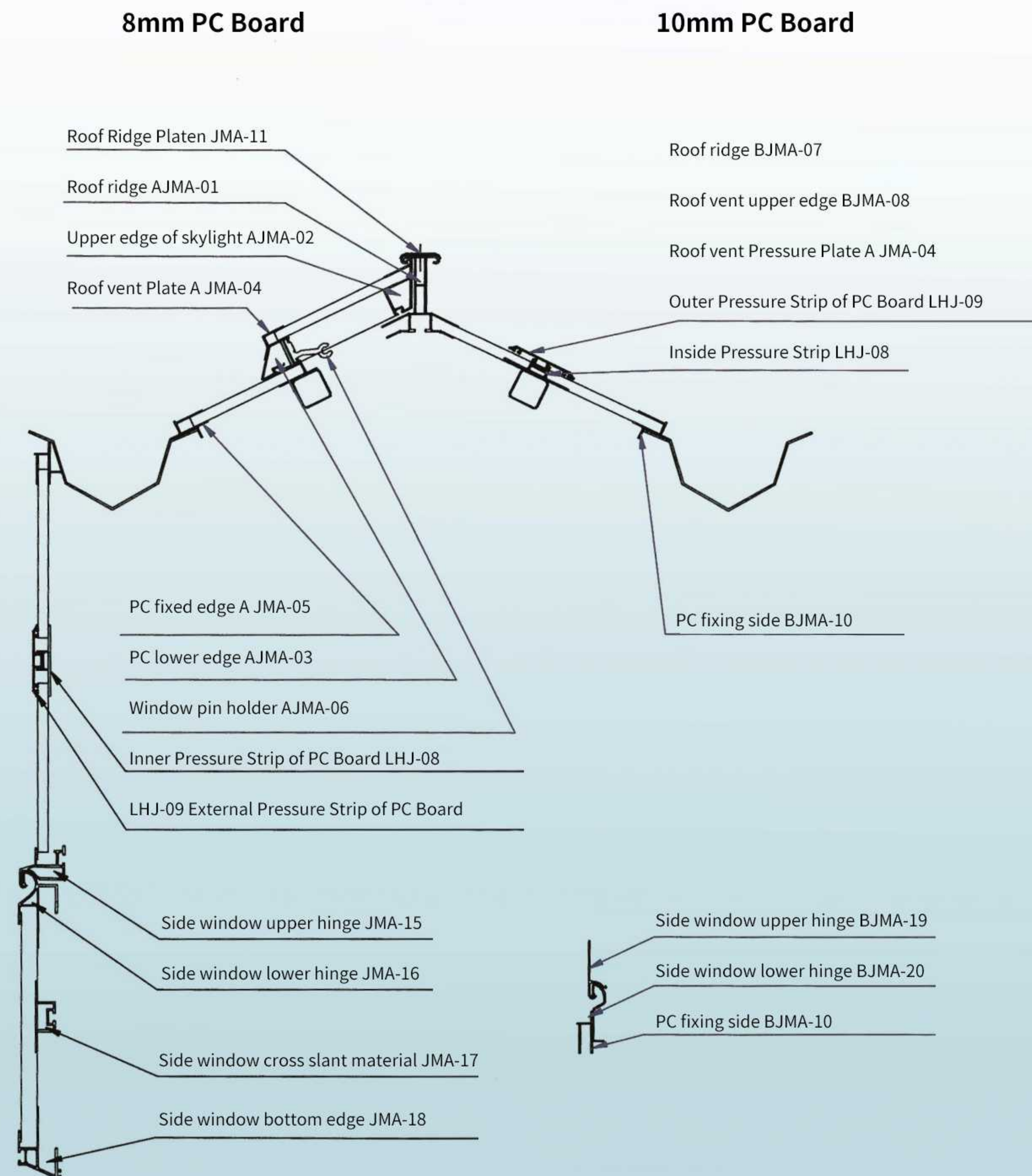
## Glass greenhouse structural diagram



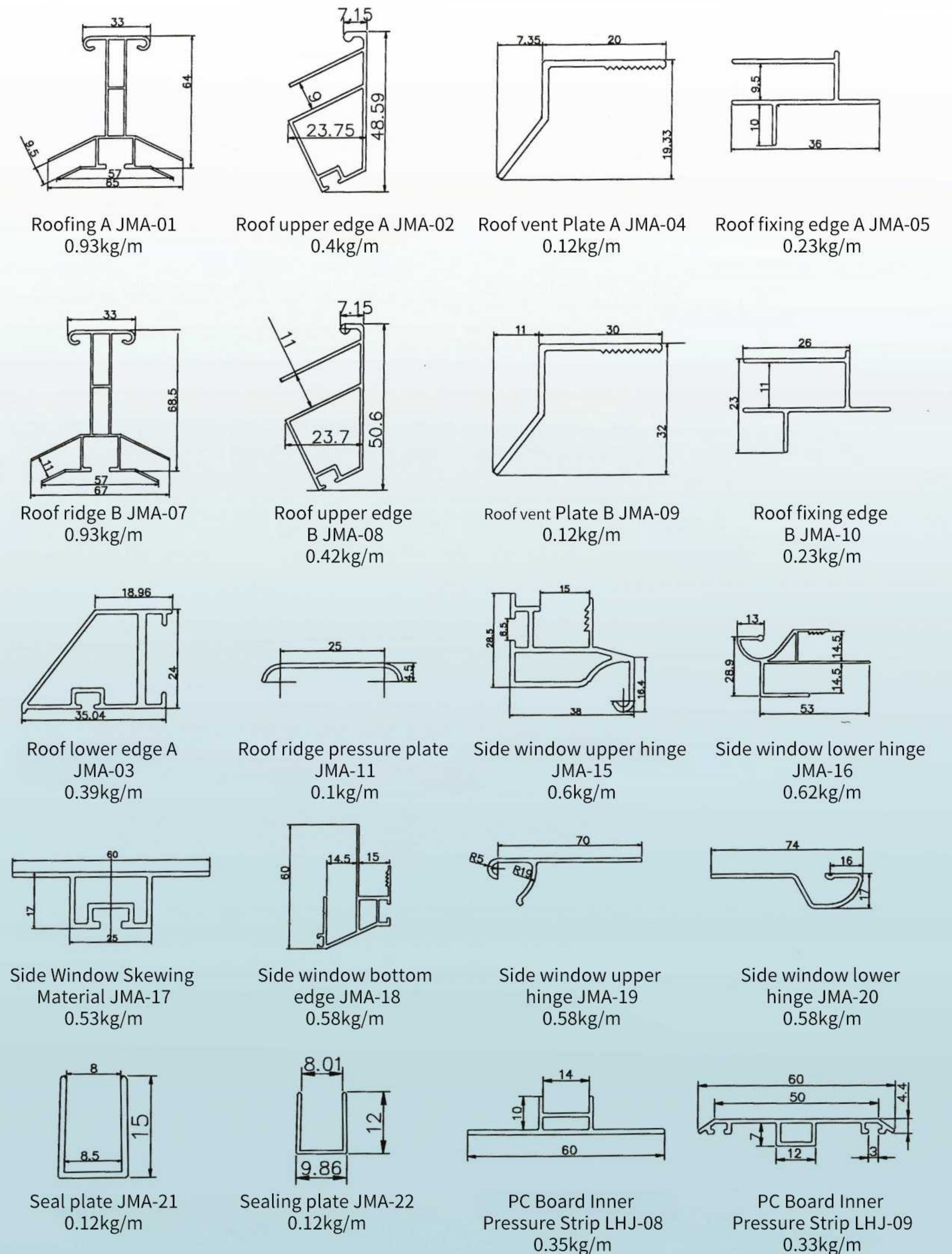
## Hollow greenhouse aluminum



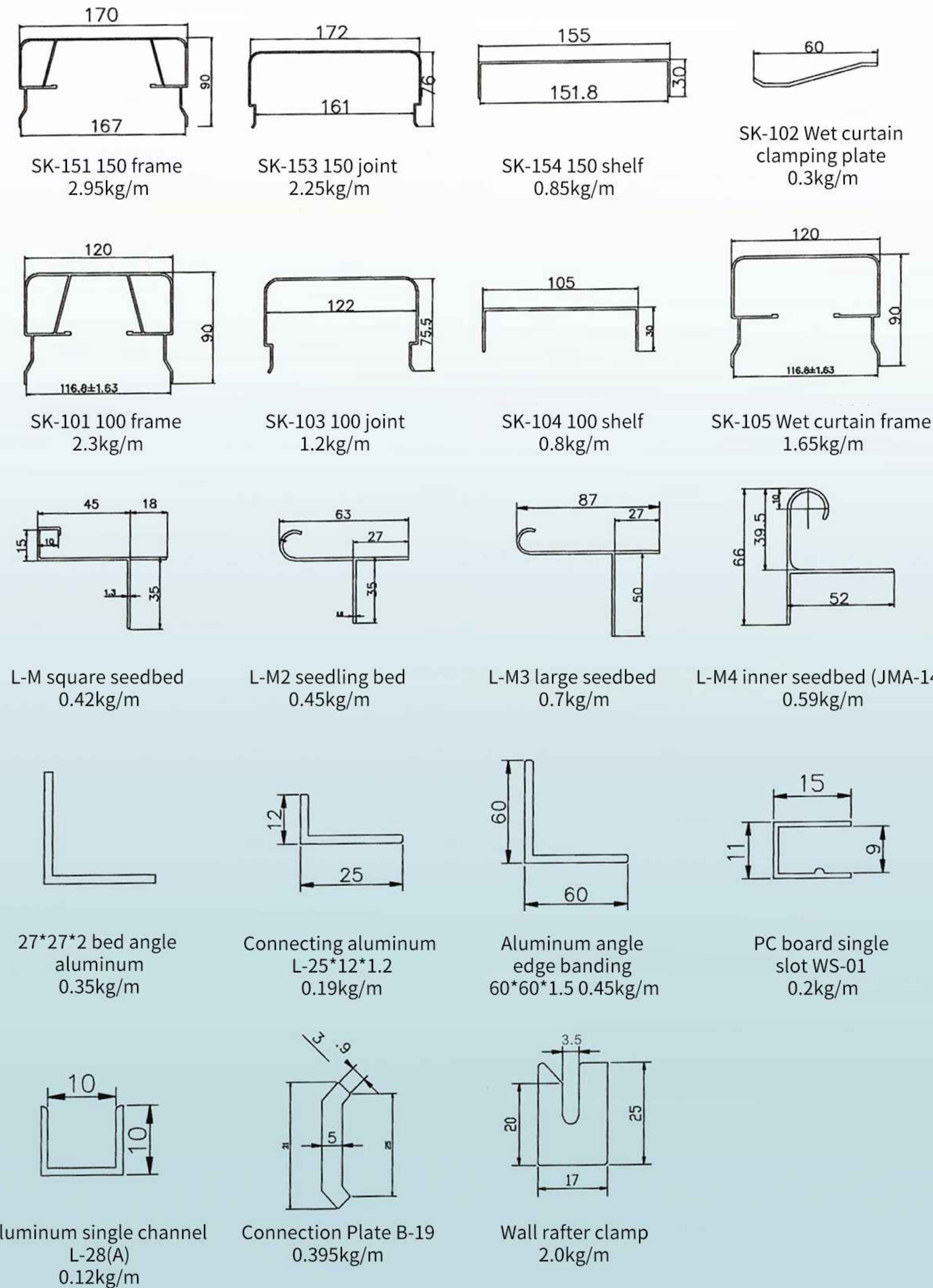
## JMA Series-pc board Greenhouse Structure



## PC greenhouse aluminum



## Spare parts for PC board greenhouses

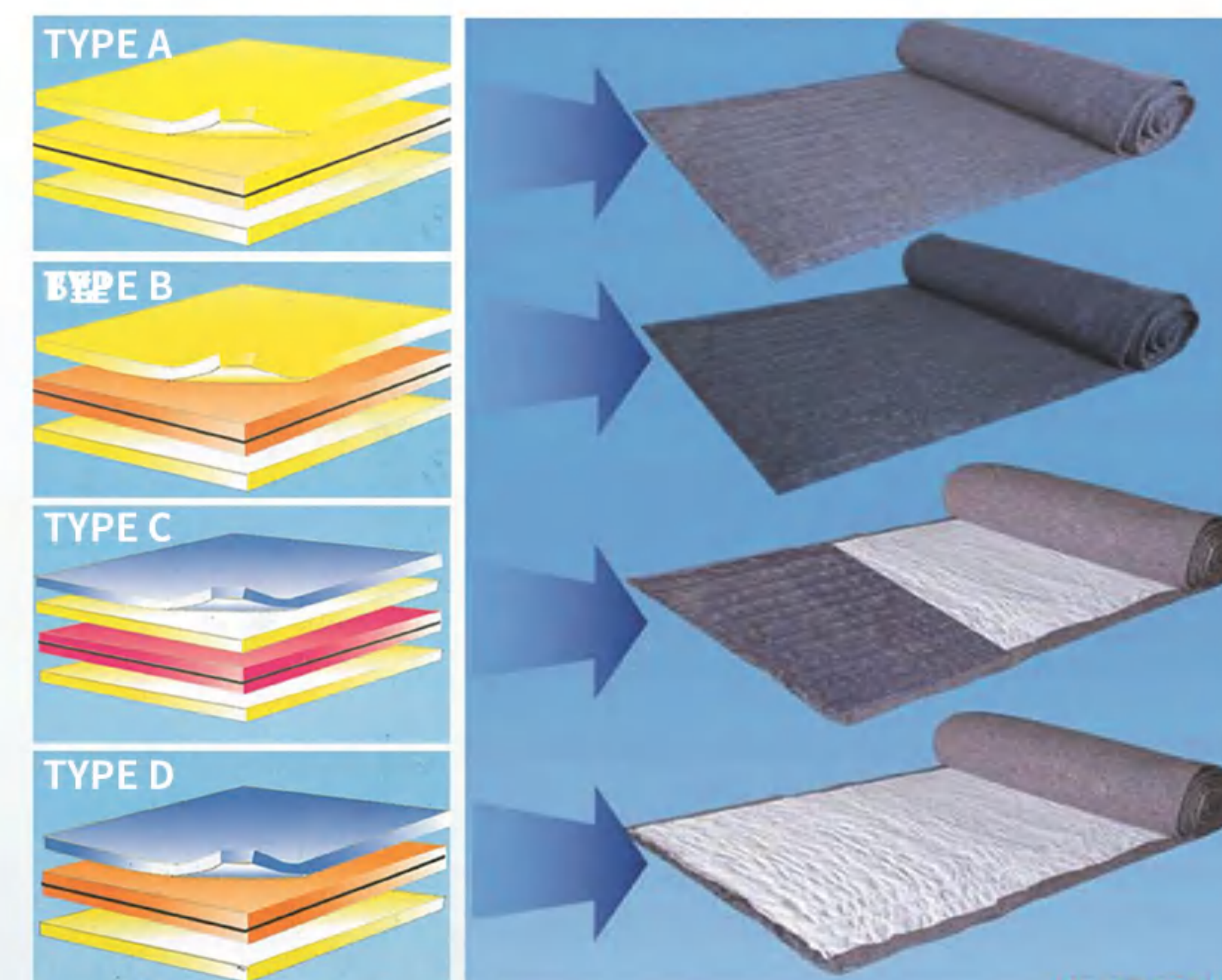
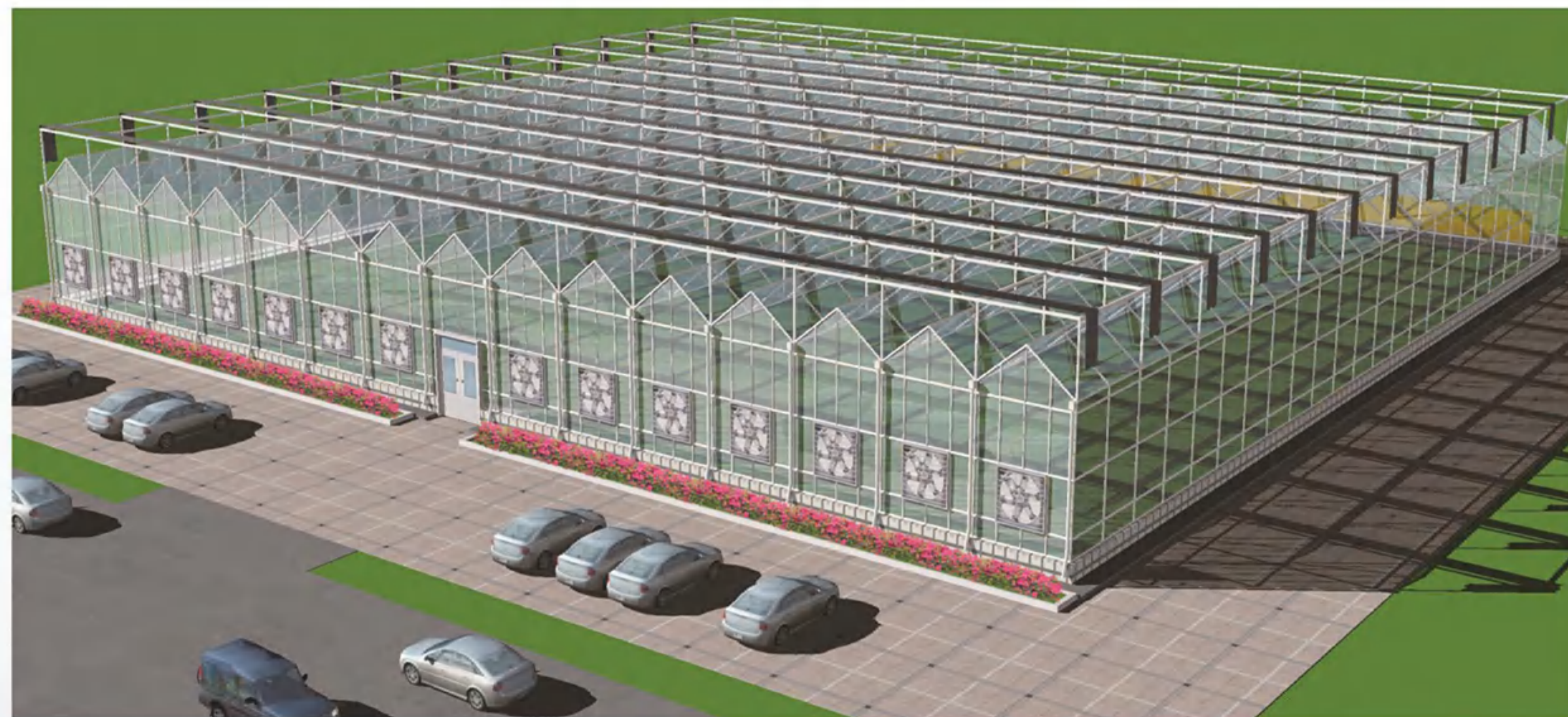


## Spare parts for glasshouse



## Spare parts for seedbeds





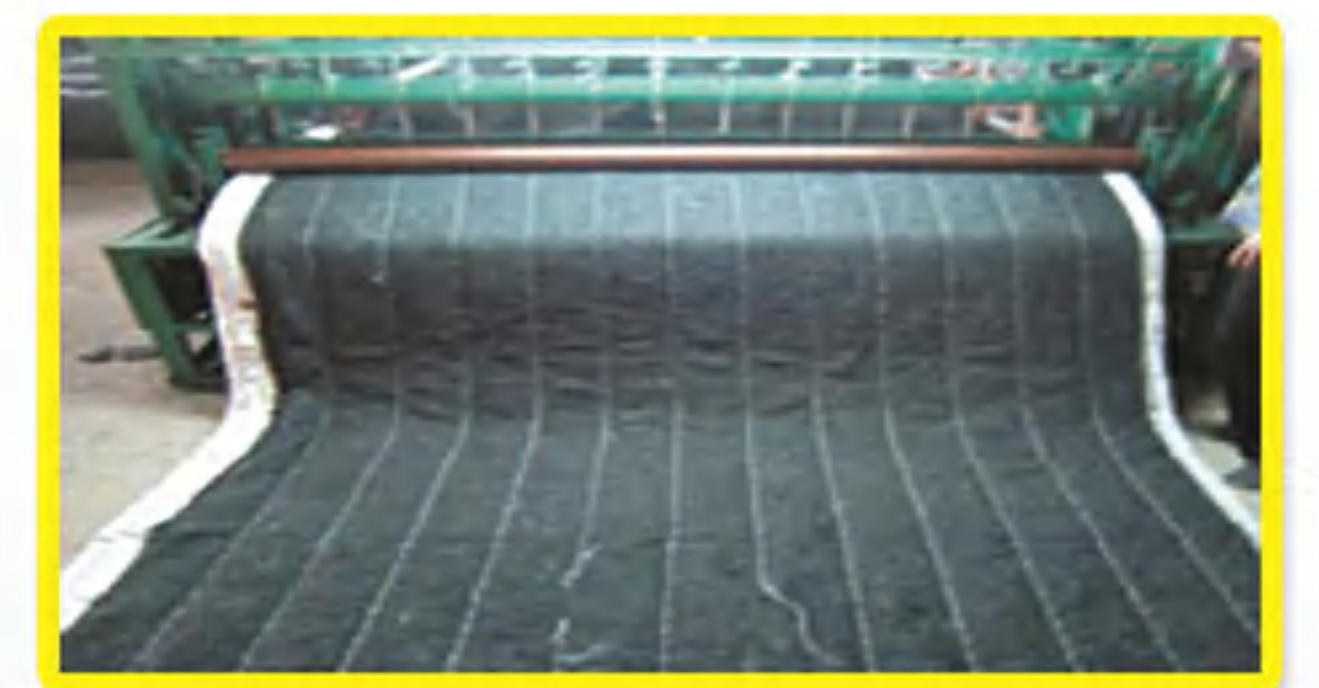
High strength nonwoven fabric Insulation fiber layer Waterproof layer Pearl cotton or PEF Reinforcement layer

**A** Product Description: This type of thermal insulation quilt is made of high quality non-woven multi-layer composite fabric with good tensile strength, with three specifications of width 2 meters, 2.5 meters and 3 meters, with unlimited length, and the thickness can be adjusted according to the customer's requirements, this type of quilt has good tensile strength, is not easy to be deformed, is wind-proof, has strong adhesive force, and has superior thermal insulation, which is the best choice for the farmers.

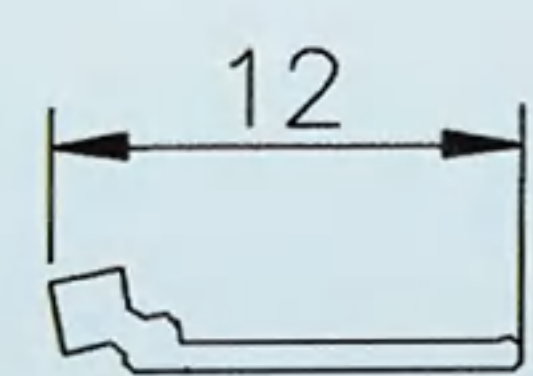
**B** Product Description: This type of heat preservation quilt in the non-woven type on the basis of adding heat preservation cotton core in the middle (the number of layers can be adjusted, the specifications are the same as the above) The advantage is that the cost is low.

**C** Product Description: This type of heat preservation quilt is light in quality and high in cost.

**D** Product Description: This type is based on the first three types, the upper or lower layer of the quilt on the addition of fabrics such as Oxford cloth or rain silk insulation quilt. Other types can be customized according to customers' requirements!



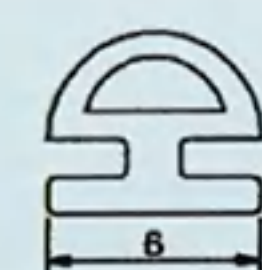
## Other spare parts



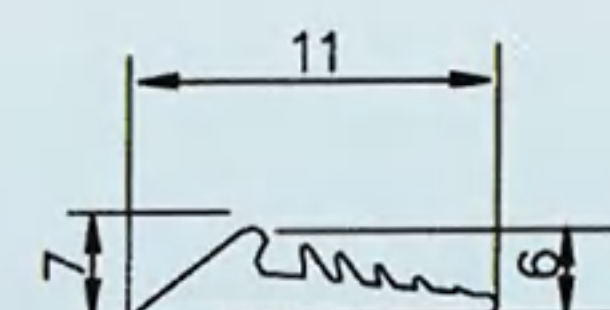
PC Top Window Strip D1



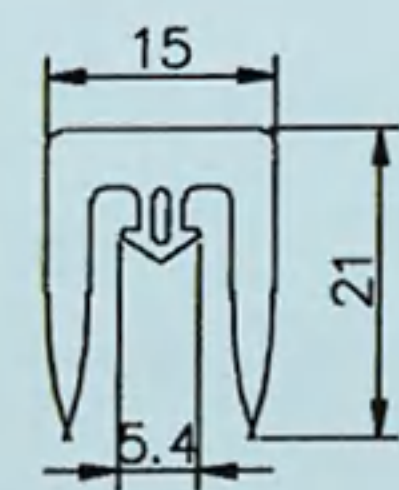
BL Top Window Strip PK



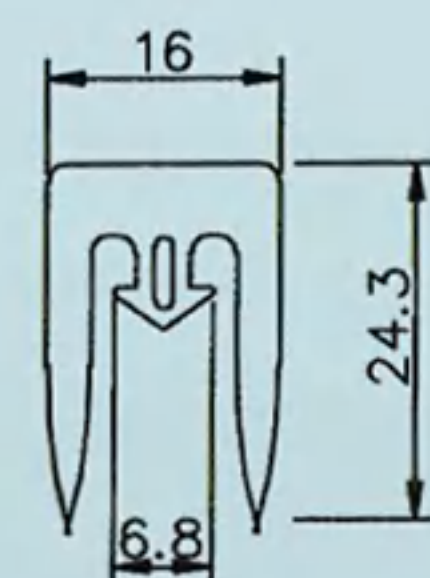
PC Side Window Strip P06



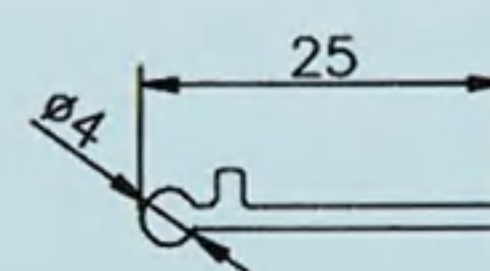
16 Hollow Strip M16



BL Vertical Strip M1



BL Hollow Vertical Rubber Strip M2



Curtain rod rubber strip M3



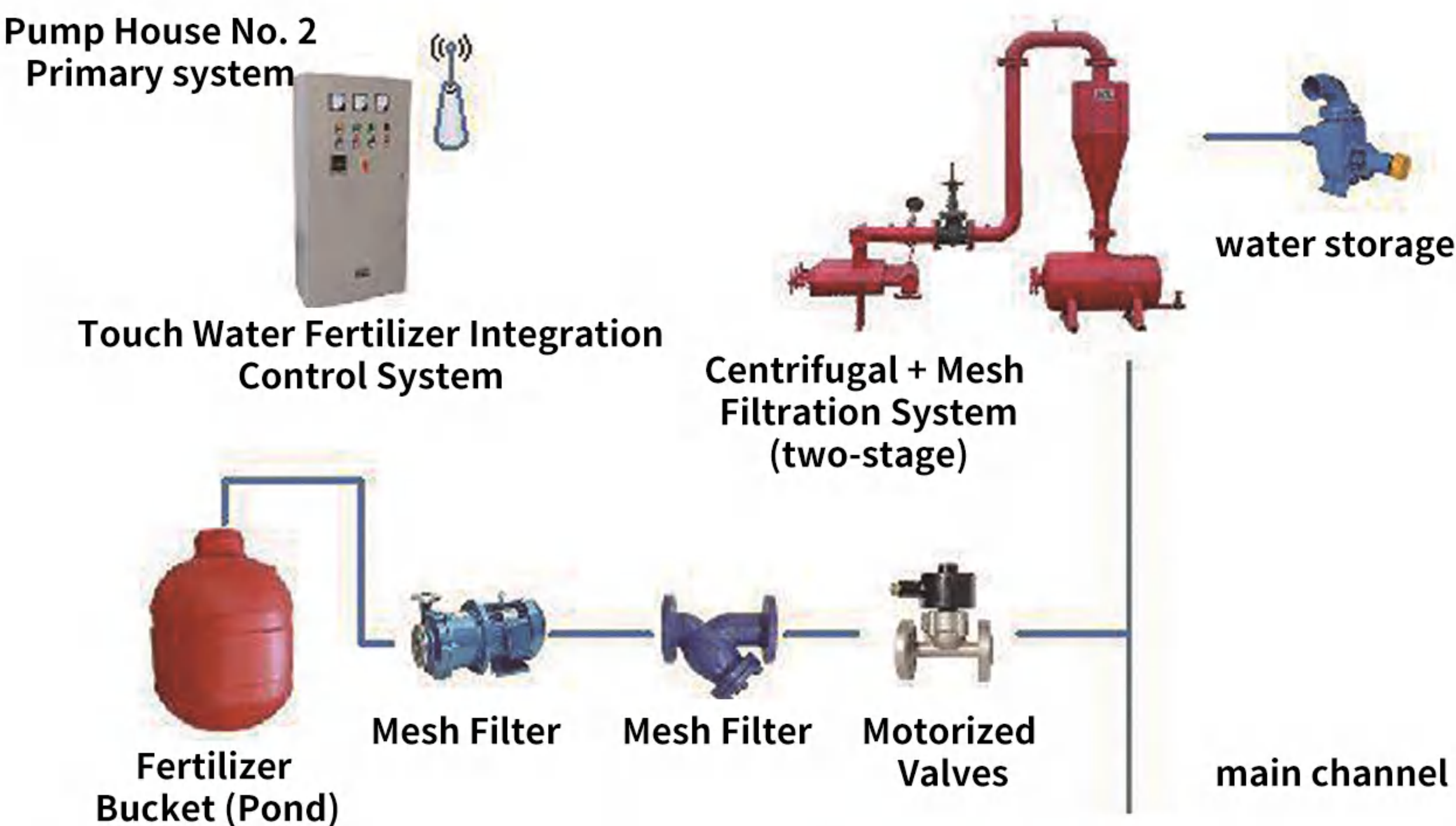
**DY-750**

DY-750 is a newly developed model with increased gear module, strengthened bearings, and strong tensile strength. Strong tensile strength, load-bearing capacity of more than 25 tons, suitable for 100m-150m greenhouses.



**DY-550**

DY-550 type is designed according to some areas without power electricity, this model two electricity, three electricity can be applied, the advantages of speed ratio is large, energy saving, energy saving, can extend the life of the motor, suitable for 50-80 meters greenhouses.



| Serial number | Name             | Specification      | Unit  |
|---------------|------------------|--------------------|-------|
| 1             | Water Fertilizer |                    | set   |
| 2             | Water pumps      |                    | set   |
| 3             | Filter           | Centrifugal + mesh |       |
| 4             | Dosing Bucket    |                    | Piece |
| 5             | Mains            |                    | Meter |
| 6             | Outlet pipe      |                    | meter |
| 7             | Drip Tape        |                    | Meter |



The water-fertilizer integration system consists of closed cultivation tanks, water-fertilizer-pharmaceutical integration equipment, nutrient solution recycling and disinfection device, and intelligent fully automatic control system. The system adopts advanced computer, automatic control and Internet of Things technologies, uses rock wool as cultivation substrate, and is designed according to the water and fertilizer demand pattern of crop growth and development, changes in growth environment conditions, and substrate water and nutrient status, which can realize fully automatic detection, proportioning and irrigation of nutrient solution, and combine with nutrient solution recovery and disinfection technology to realize the recycling of nutrient solution. The system is capable of supplying nutrient solution, drug solution and irrigation water directly to plants evenly, regularly and quantitatively through controllable pipelines and drip irrigation system according to the demand for irrigation and fertilization and medication set by the user on the programmable controller, and according to the growth of the plants and environmental conditions with the help of the pressure system, so as to realize high-yield, high-quality and environmentally friendly cultivation of the crops. Due to the special characteristics of the cultivation substrate rockwool, the system has considerable advantages in realizing precise nutrient management. The use of this system can improve the uniformity of irrigation, fertilization and medication, reduce the labor intensity of production, and is effective in achieving efficient use of resources and environmental sustainability.

BRAND  
INFORMATION

SAVE TIME AND EFFORT EASY TO INSTALL EASY TO USE



Name: Intelligent Fertilizer Applicator  
Power: DC220V  
Size: 600\*700\*1400  
Fertilizer suction power: 0.75kw  
Weight: 40kg  
Inlet and outlet: DN32  
Maximum fertilizer suction capacity: 50-480/small hour  
Product components: fertilizer pump, flow sensor, inverter, solenoid valve, etc.  
Product structure: three fertilizer suction channel, can control 8 solenoid valves  
Application: Vegetables, greenhouses, orchards, gardens, gardening, horticulture  
Advantages: Quantitative irrigation and fertilization, real-time monitoring of water and fertilizer ratio, fully improve the nutrient utilization rate, temperature control and humidity control, easy to operate.

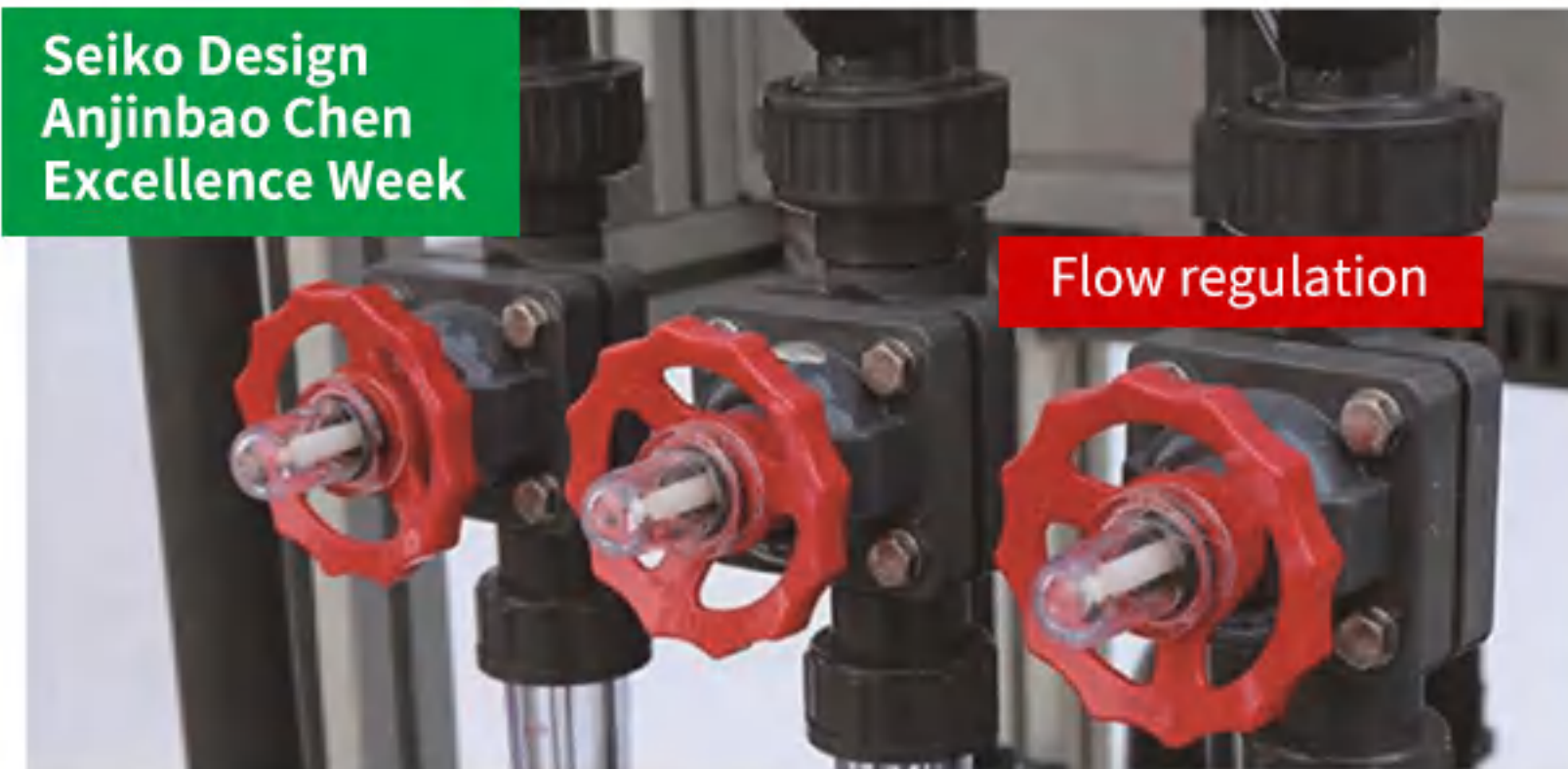
DETAILS



Water-fertilizer integrated fertilizer applicator



Thickened PVC pipe fittings



Water-fertilizer integrated fertilization machine



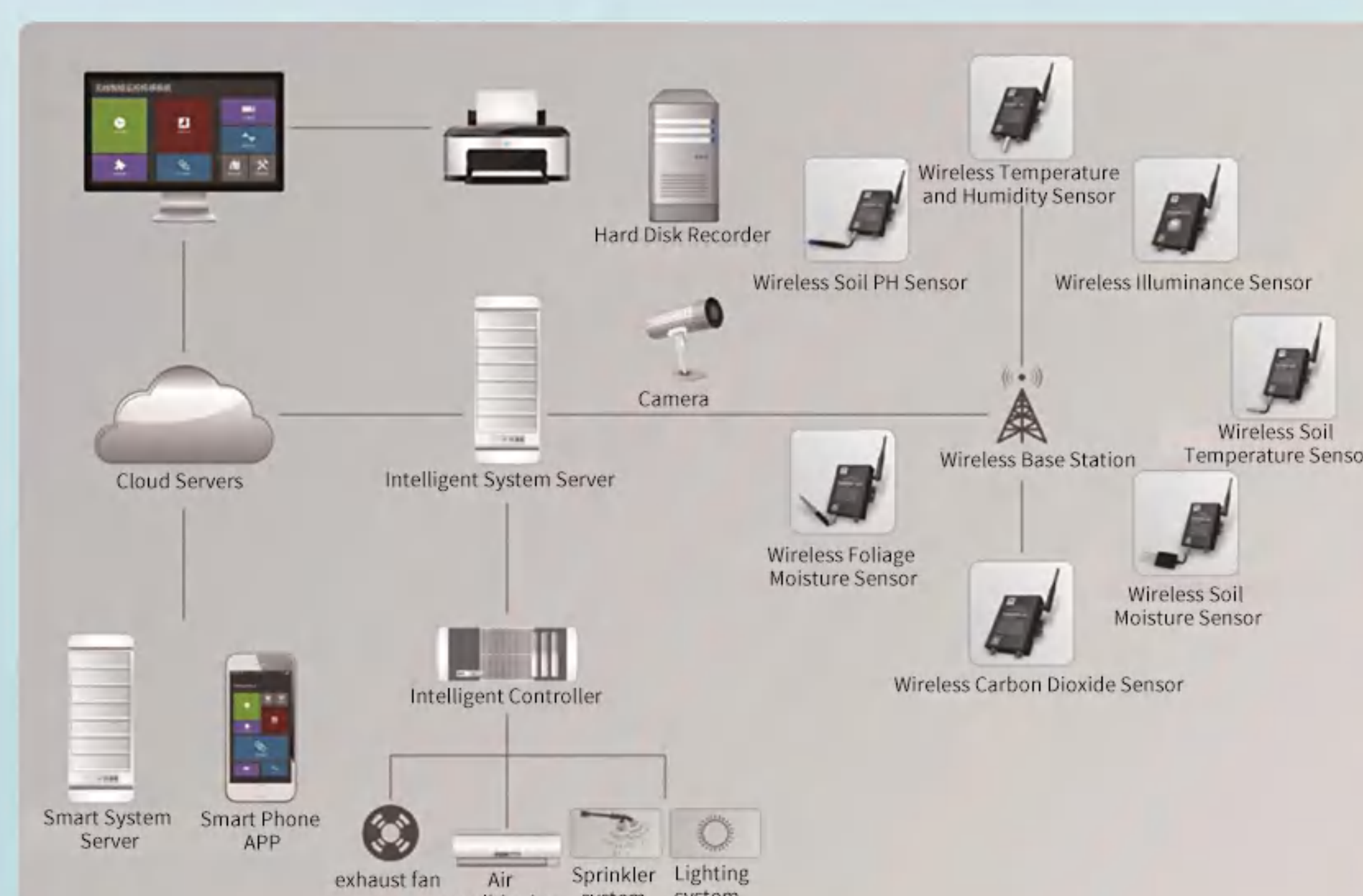
Fertilizer applicator with filter

## Miilkiia Agriculture Environmental testing and automatic control system

Miilkiia Agriculture environmental detection and automatic control system combines the most advanced network communication, Internet of Things, automatic control and software technology, the system is able to real-time remote access to the greenhouse greenhouse air temperature and humidity, soil moisture temperature, carbon dioxide concentration, light intensity and video images, through modeling and analysis, automatic control of the greenhouse wet curtain fan, spray drip irrigation, internal and external sunshade, top windows and side windows, Heating and supplementing light and other equipment. The system can push real-time monitoring information and alarm information to managers through cell phones, computers and other information terminals, realizing greenhouse informatization, intelligent remote management, and truly realizing the production and management process can be controlled, information can be queried, and the source can be traced.

Our company based on new and old customer demand and information feedback, for different customer needs to develop four different configurations of high reliability, high security, high availability and flexible scalability of greenhouse greenhouse Internet of Things system, formed Wen Luo type intelligent greenhouse things,

daylight type single greenhouse net-working system customized services.



## Program 1: Venlo-type intelligent greenhouse IOT control system

**SYSTEM ARCHITECTURE:** video monitoring + all types of 485 sensors + network transmission control host + computer, cell phone APP monitoring + greenhouse automation control

**INTEGRATED FUNCTIONS INCLUDE:** 4-channel video surveillance  
8-channel bi-directional control of external sunshade, internal shade, internal heat preservation, top window, external window, side window, etc.  
11 unidirectional control of wet curtain, 4 fans, planting pump, supplemental light, sprinkler, drip irrigation, micro-sprinkler, circulating fan, etc.  
Rain and snow sensor, wind speed sensor, temperature, illumination and other outdoor weather stations  
Indoor sensors such as temperature, humidity, light level, carbon dioxide concentration, soil moisture temperature and humidity, and EC value.

### SENSOR PARAMETERS:

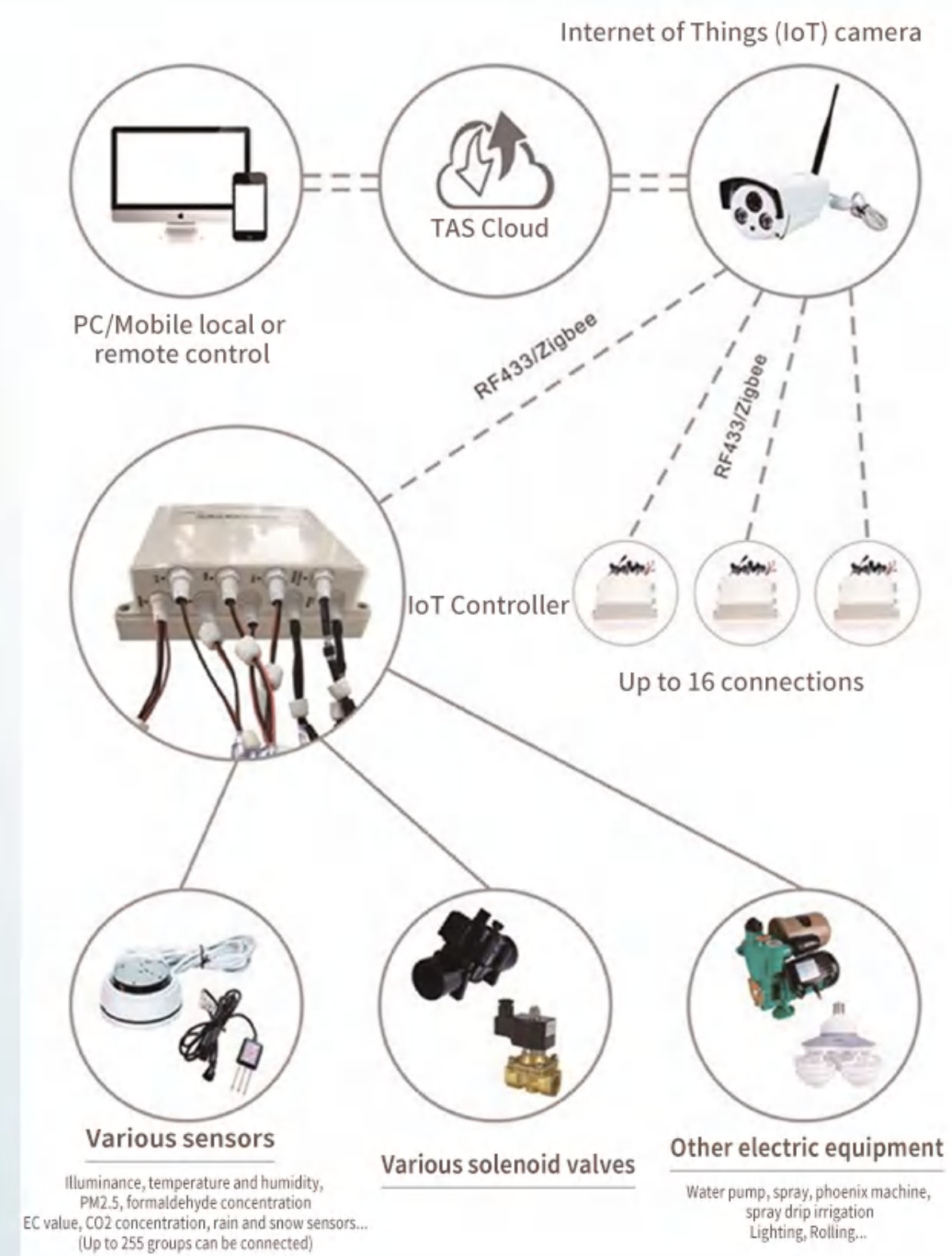
Air temperature -20-80 degree Celsius  
Air humidity 0-100 %RH  
Soil temperature 0-80 degree Celsius  
Soil moisture 0-100 %  
Illuminance 0-220000lux  
EC value 0-10000 uS/cm (micro Siemens/cm)  
PH value 0-14  
Carbon dioxide concentration 0-10000 ppm (1%)  
PM2.50-2000 micrograms per cubic meter (ug/m3)  
Formaldehyde 0-2000 ug/m3 (ug/m3)  
Outdoor temperature -40-80 degree Celsius  
Wind speed 0-40 m/s



Venlo type intelligent greenhouse network  
type control mainframe



Main unit function display



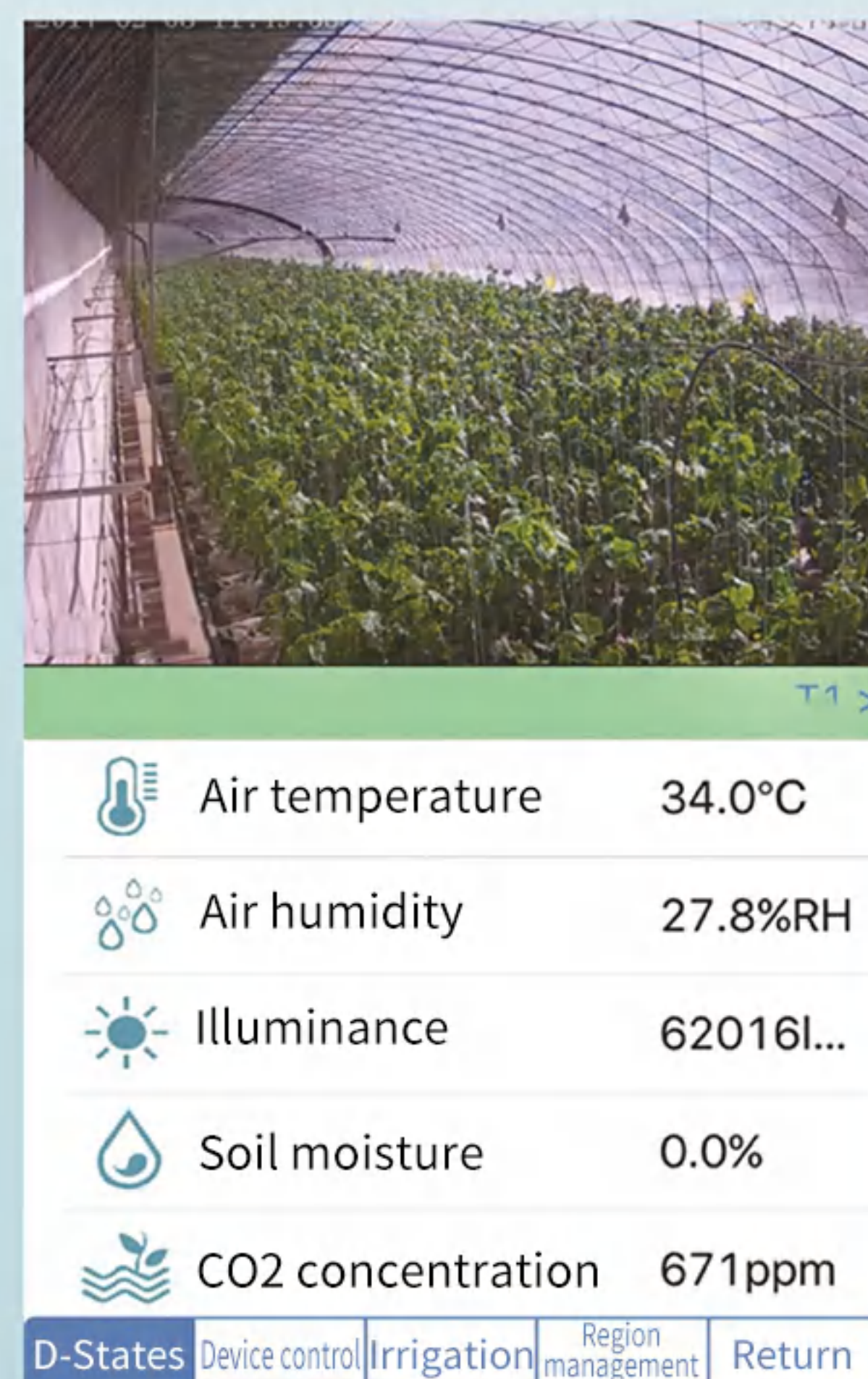
Architecture Schematic



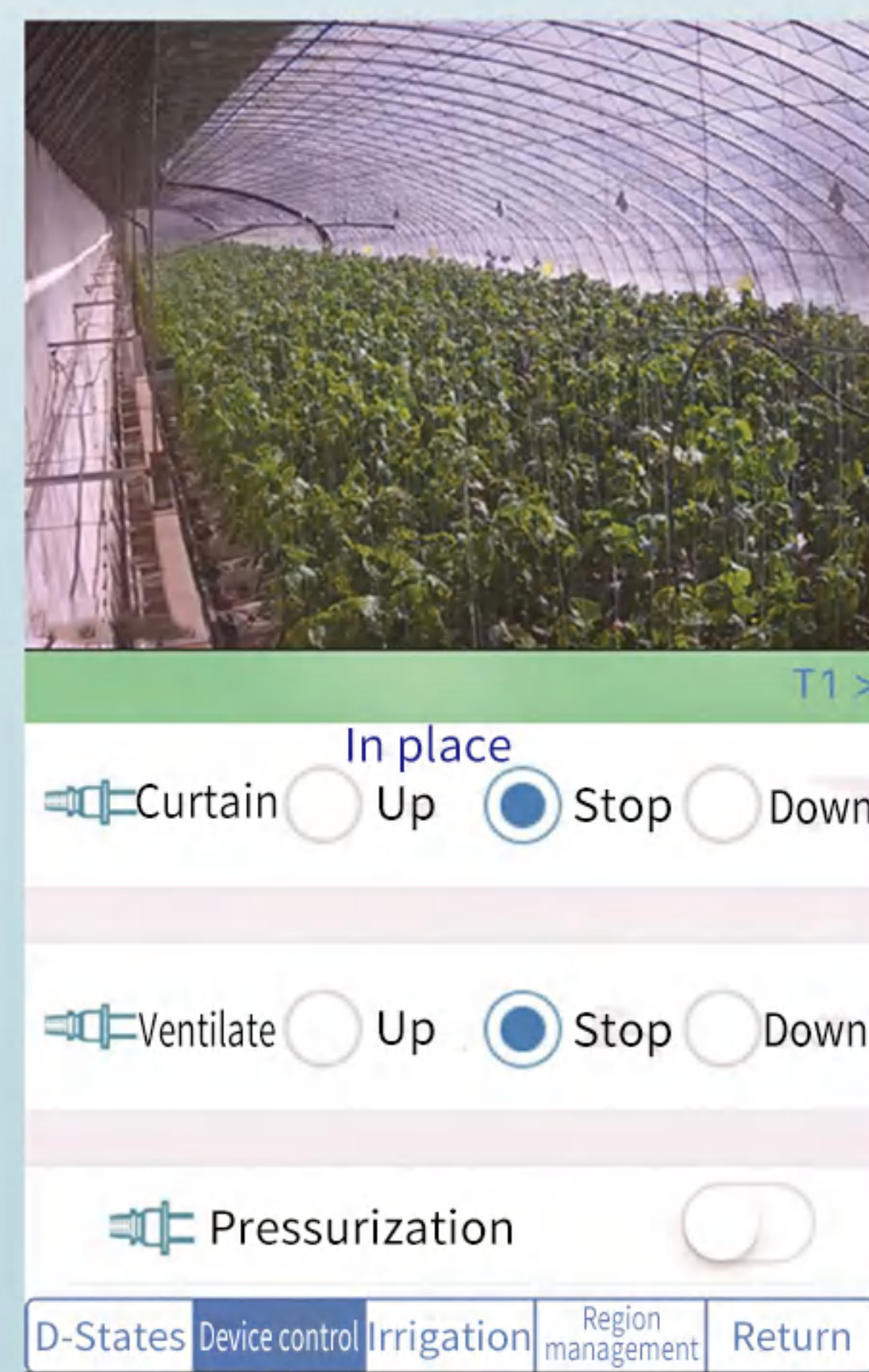
HD Wireless Camera



Computerized Monitoring Platform



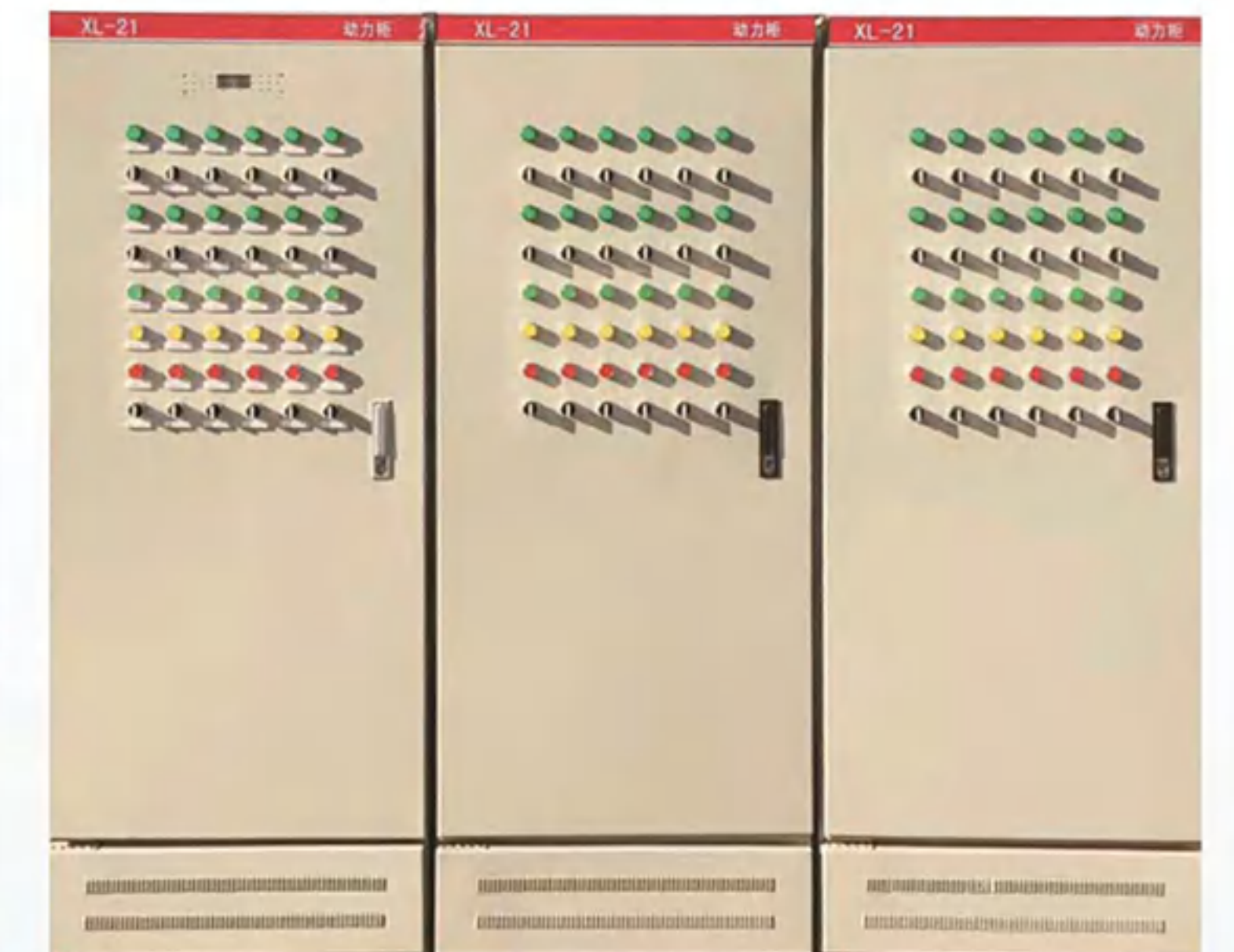
Mobile APP monitoring platform



Illuminance, temperature, and humidity sensors



Wenluo type greenhouse IoT standard control cabinet panel



IoT control cabinet

## Option 2: Solar type single temperature room IoT system

**System architecture:** video surveillance+485 sensors+network transmission control host+computer, mobile APP monitoring+greenhouse automation control

**The integrated functions include:**

1-channel video surveillance

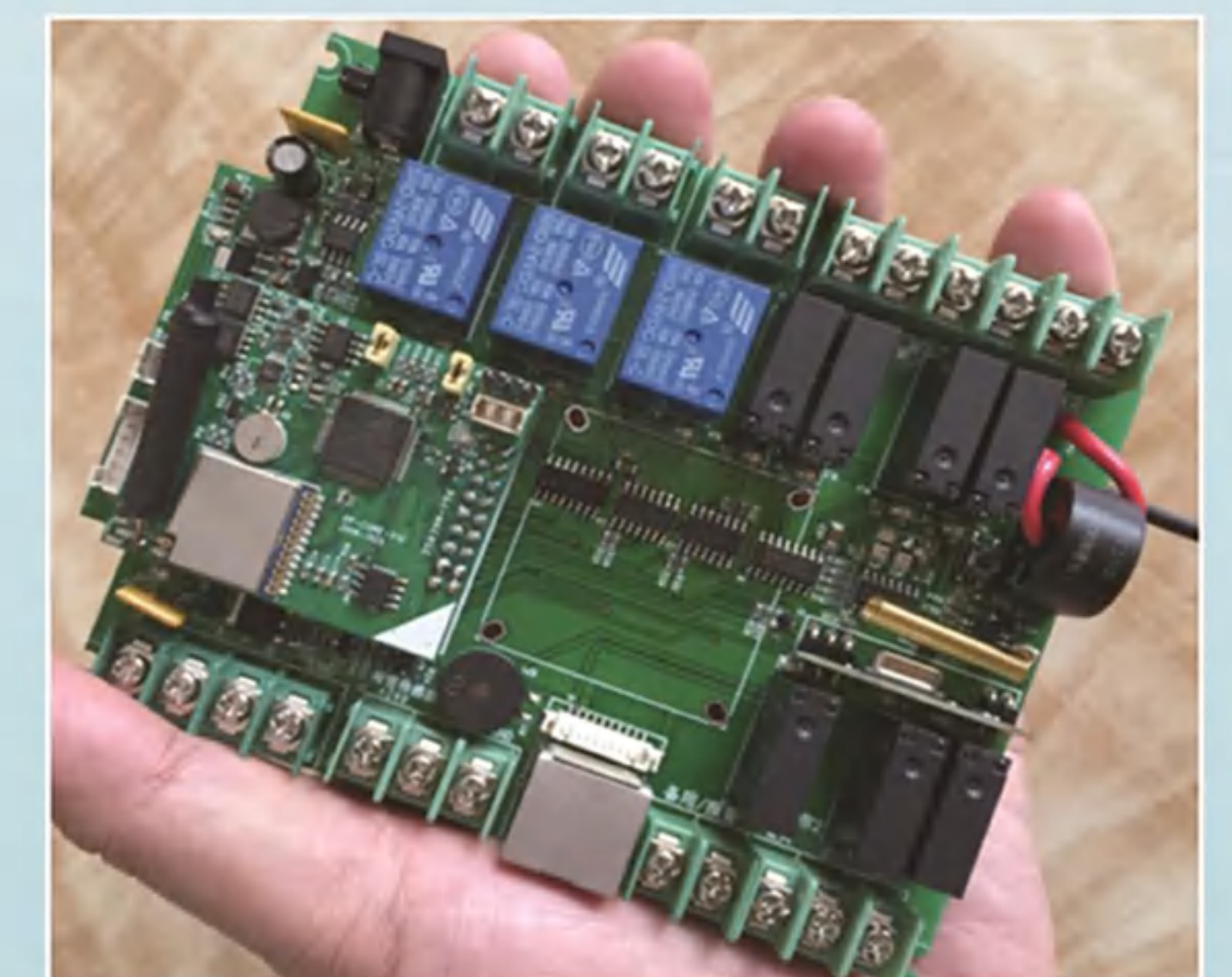
Two way bidirectional control of rolling shutter and ventilation system

Three unidirectional controls including supplementary lighting, sprinkler irrigation, and drip irrigation

Indoor sensors for temperature, humidity, light intensity, carbon dioxide concentration, soil moisture, temperature and humidity, and EC value



Sunshine single temperature room network control host



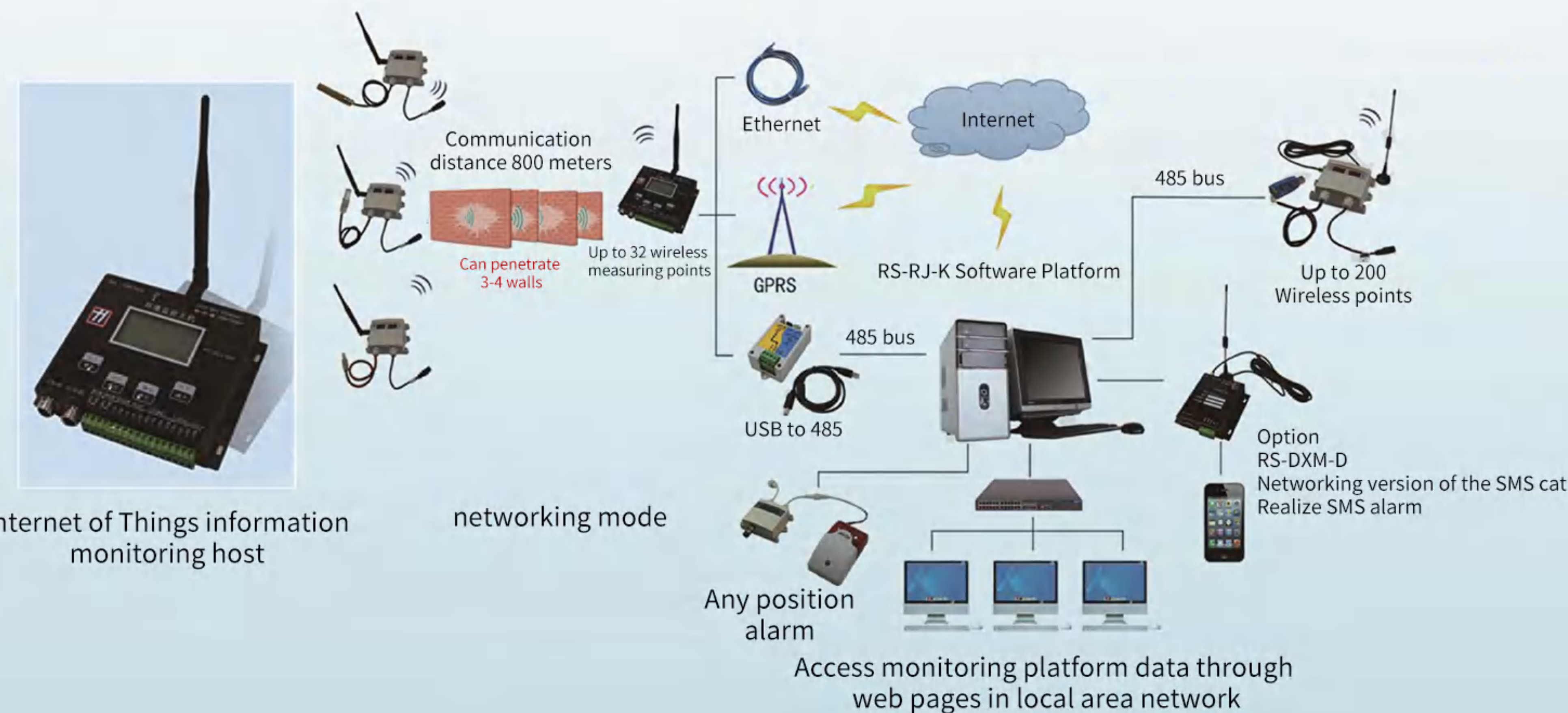
Integrated controller

### Program 3: Venlo intelligent monitoring greenhouse customized Internet of Things system

**System architecture:** wireless 433MHz, wired 485 sensor +GPRS, network transmission detection host + computer, mobile phone APP monitoring + PLC based customized greenhouse automatic control system

**Integrated features include:**

External shading, internal shading, internal insulation, top window, turning window, rollover window and other multi-channel bidirectional control, the number of customized wet curtains according to the actual needs of users, 4 groups of fans, plant pumps, supplementary light, sprinkler irrigation, drip irrigation, micro-spray, circulation fan and other multi-channel unidirectional control, the number of customized rain and snow sensors, wind speed sensors, temperature, illumination and other outdoor weather stations Temperature, humidity, illumination, carbon dioxide concentration, soil moisture temperature and humidity and EC value and other indoor sensors, The number of sensors is customized according to the actual needs of users



Automatic control PLC mainframe



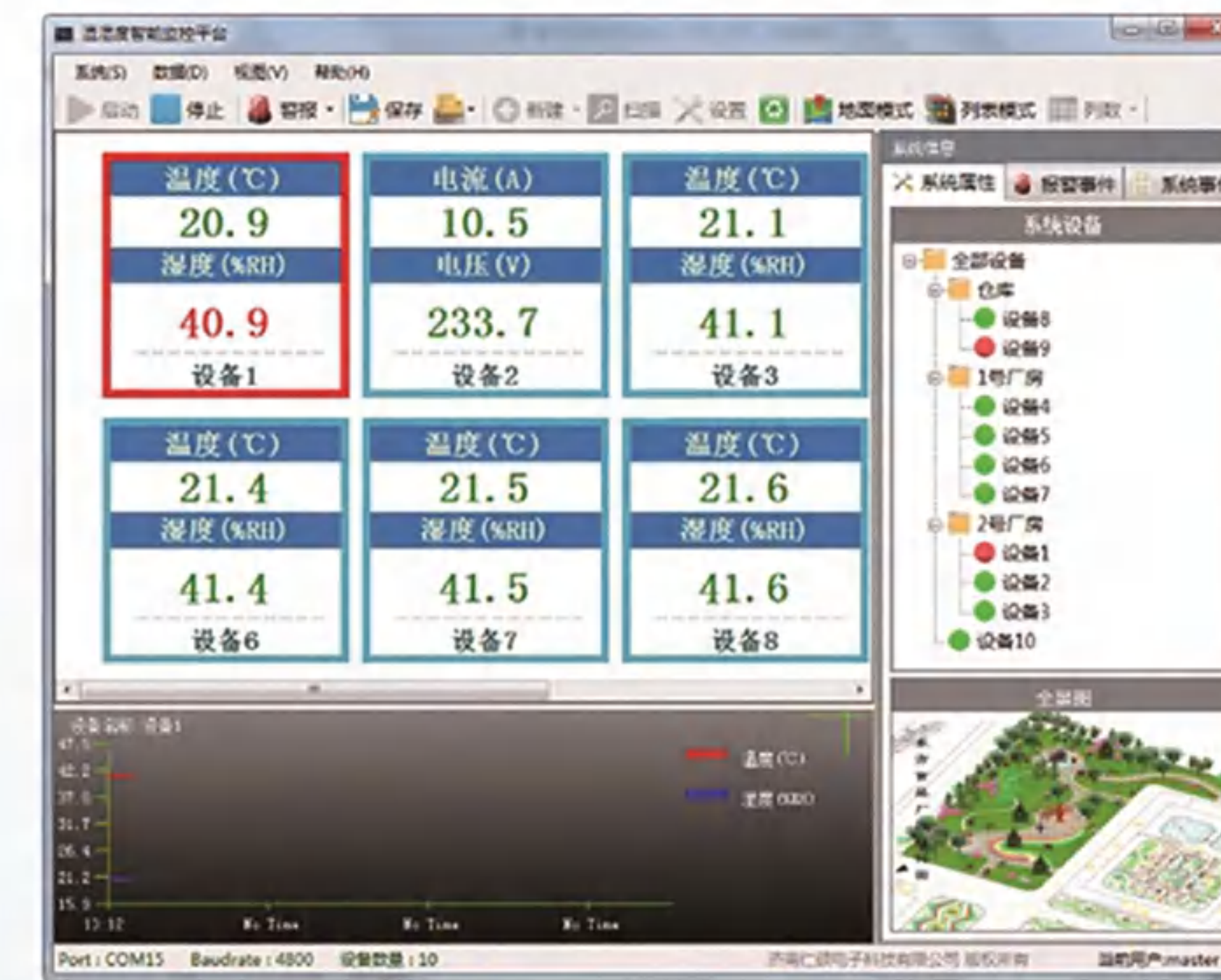
Temperature and humidity sensor



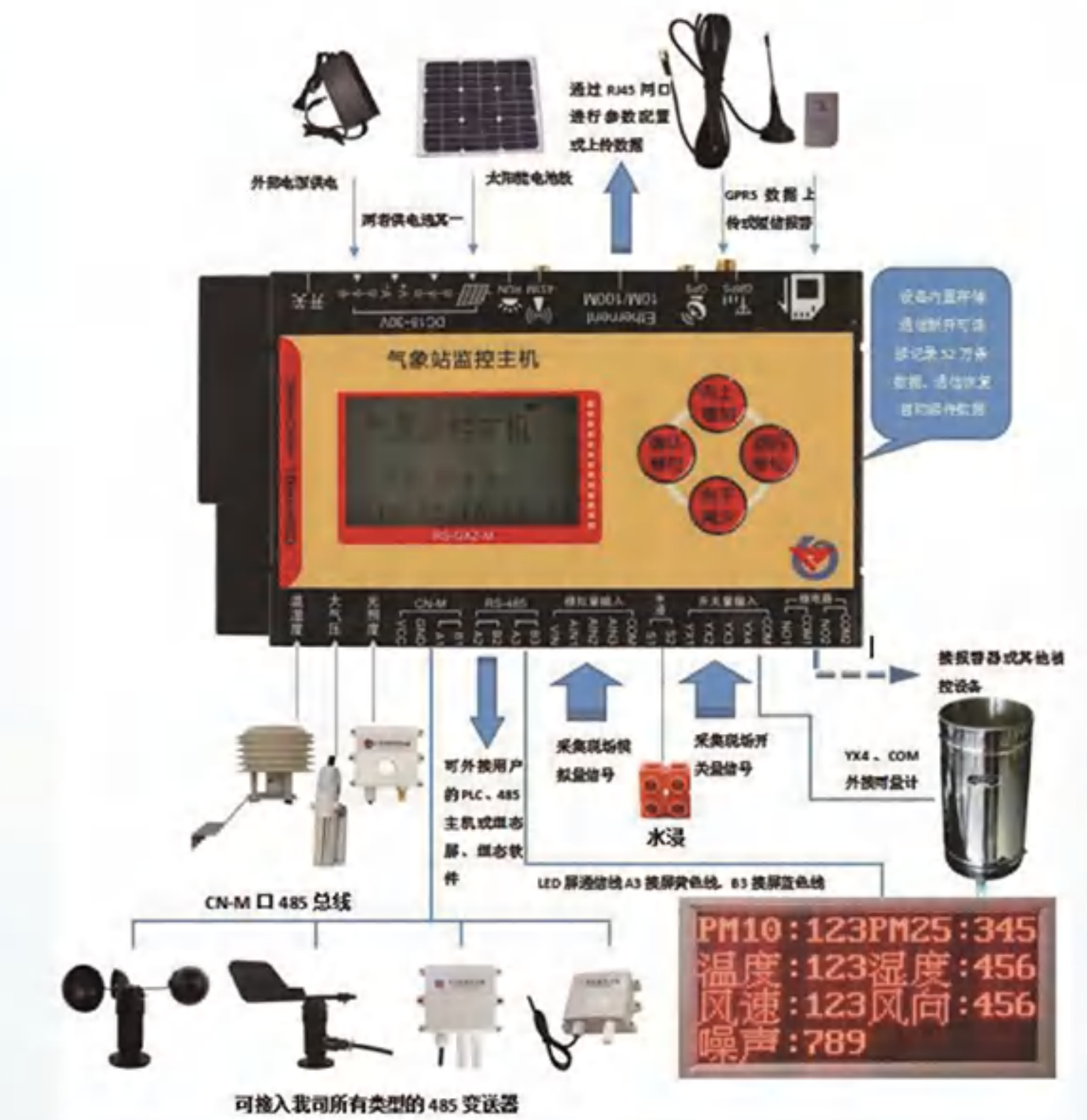
Soil temperature and humidity sensor



Temperature and humidity transmitter



Monitoring Platform



Weather Station Architecture Diagram

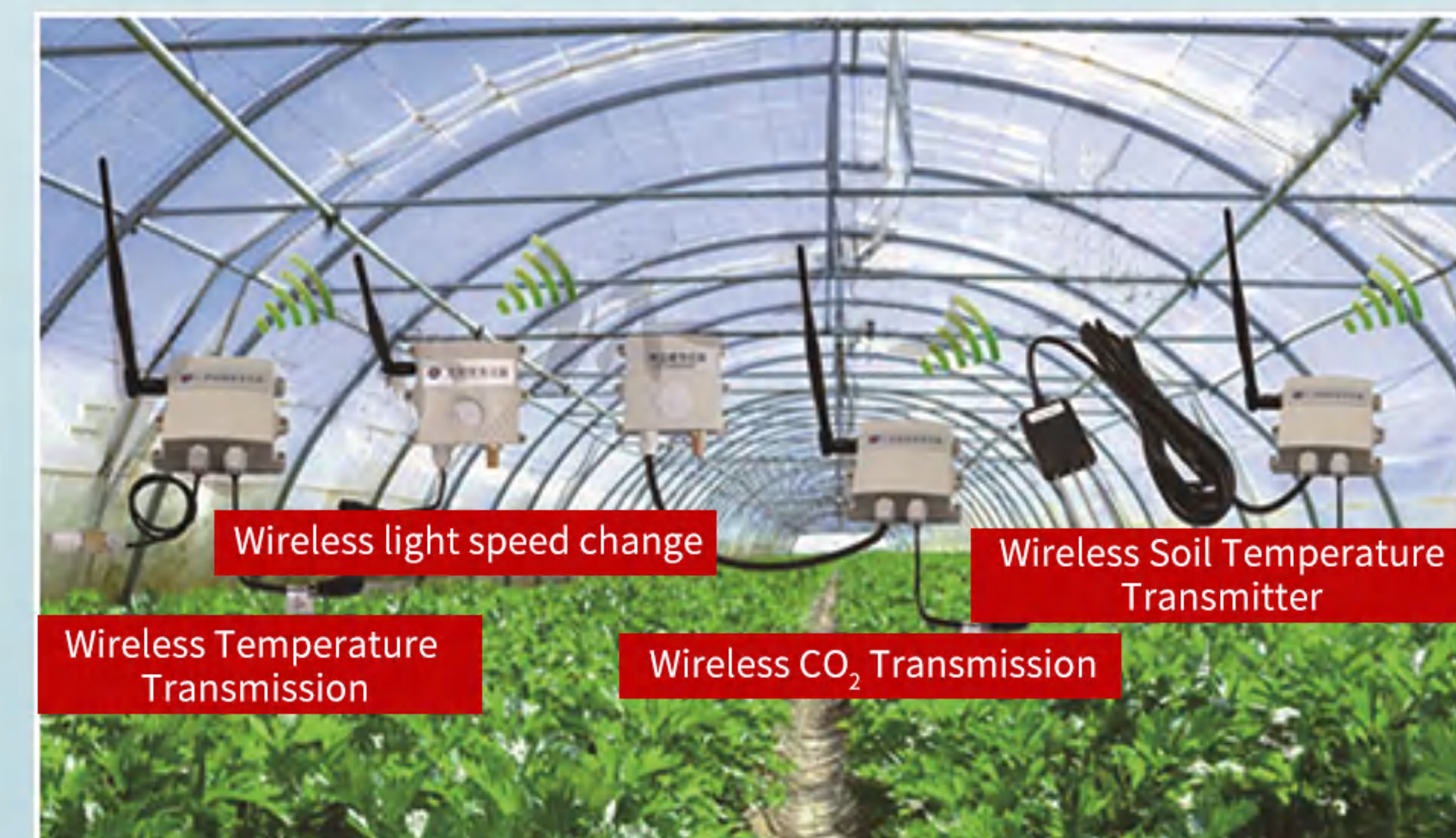
### Program 4: Daylight greenhouse environment monitoring, wind, shutter, water and fertilizer integration automatic Internet of Things system

**System Architecture :** Wired 485 sensors + customized PLC-based greenhouse automation system + audible and visual alarms  
**Integrated functions include:**Multi-way bidirectional control of shuttering, air release, etc., the number of which is customized according to the actual needs of the users.

Multi-way unidirectional control of supplemental light, sprinkler irrigation, drip irrigation, water-fertilizer integration, etc., the number of which is customized according to the actual needs of the user

Multi-way safety limit input points for rolling machine

Temperature, humidity, light, carbon dioxide concentration, soil moisture temperature and humidity and E°C value of indoor sensors, the number of sensors according to the actual needs of users customized



Wireless light speed change

Wireless Soil Temperature Transmitter

Wireless Temperature Transmission

Wireless CO<sub>2</sub> Transmission

Schematic diagram of environmental monitoring of greenhouses

# Miilkiia Agriculture



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Miilkiia Grow



Miilkiia Agriculture



Miilkiia Agriculture



Miilkiia Agriculture



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