Light Deprivation Greenhouse Series

THE BENEFITS OF LIGHT DEPRIVATION

Adding a light deprivation systems to your cannabis greenhouse benefits you through an improved product, an increased bottom line, and more eco-friendly growing practices.

- The ability to produce year-round regardless of weather conditions and natural sunlight.
- Harvesting multiple times per year increases profits.
- Growers have better control of their harvests with light deprivation.
- Crops can go to market at any time of year where they are worth more and sell quicker.
- Light deprivation removes the need for grow lights, which reduces monthly overhead and your carbon footprint.
- Growers have fresh product in their greenhouse, while, at the same time, plants under full sun are still vegetative or early flowering

LIGHT DEPRIVTION GREENHOUSE

Advancing Alternatives' greenhouse light deprivation supplies will help you construct a system that is uniquely designed to roll your blackout poly on structure. Light deprivation follows the same principals as using grow lamps for indoor growing, controlling the amount of light and darkness your plants are exposed too. Flowering is controlled by a plant's natural reaction to light, a process called photoperiodism. As seasons change, the amount of available daylight will encourage flowering in plants.

Model 1: AXLP01

Features:
- Standard size: 9*30m(30ft*100ft)
- Structure: Hoop style
- Frame material: hot galvanized steel
- Cover material: 150microns Po film
- Blackout system: Electric or manual roll up system+white&black film

• **Other sizes:**
6m*30m(20ft*100ft)
8m*40m(26.2ft*131ft)
9m*36m(30ft*118ft)
Your own sizes can be customized.

• **Structure:**
Arch:Φ78*30*2"(Oval pipe), spacing can be 1m,1.2m, 1.5m,1.8m, 2m
Corss Beam: □50×30×2mm
End Beam: □50×30×2mm
Purlin：Φ32*1.5mm", on roof to strengthen structure
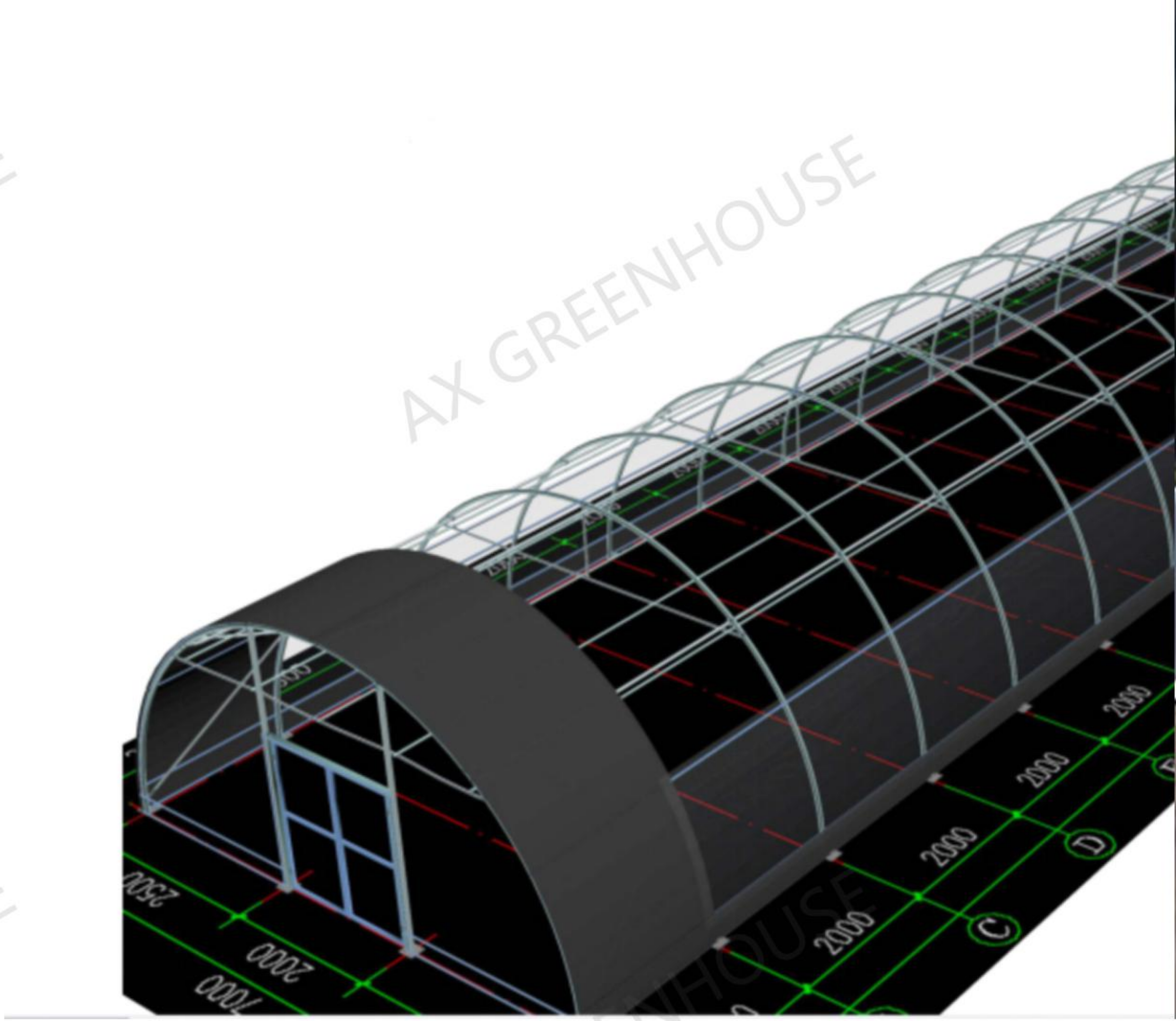Wind support pipe: Φ32*1.5mm
End column: □50×30×2mm
Card slot&Wirelock & Top connection card & other accessories

• **Cover:**
There are PE film and PO film, thickness 80micron, 100microns, 120microns, 150microns, 180microns, 200microns

• **Blackout poly(white on the outside, black on the insside)**
Regarding this film, it is 1 side black color, the other side white color. The black side completely contains light, the white side reflects heat.

• **Electric/Manual roll up sides**
-Easy-to-use wind up tool.
-Smoothly roll plastic up to desired height.
-Clear plastic is secured to the galvanized steel roller bar, eliminating flyaway edges.
-Includes 2 steel roller bars, 2 winding mechanisms and mounting bolts.
-Keep in mind that this option can only be used when the blackout poly is rolled up and not covering the sides.

• **Other parts**

Motors and Power controller, Connectors&ends, , Zig Zag Wire and Profiles, Insect net and door and some other items.

Model 2: AXLP01

Features:
- Standard size: 9*30m(30ft*100ft)
- Structure: Gothic style
- Frame material: hot galvanized steel
- Cover material: Top 150microns Po film, End corrugated sheet
- Blackout system: Electric or manual roll up system+white&black film

• **Other sizes:**

6m*30m(20ft*100ft)
8m*40m(26.2ft*131ft)
9m*36m(30ft*118ft)
10m*30m(32.8ft*100ft)
12m*40m(39.4ft*131.2ft)
Your own sizes can be customized.

• **Structure:**

Arch:Φ78*30*2"(Oval pipe), spacing can be 1m,1.2m, 1.5m,1.8m, 2m
Corss Beam: □50×30×2mm
End Beam: □50×30×2mm
Purlin：Φ32*1.5mm", on roof to strengthen structure
Wind support pipe: Φ32*1.5mm
End column: □50×30×2mm
Card slot&Wirelock & Top connection card & other accessories

• **Cover:**

There are PE film and PO film, thickness 80micron, 100microns, 120microns, 150microns, 180microns, 200microns
Corrugate steel sheet: 4mm, 5mm, 6mm,7mm,8mm thickness

• **Blackout poly(white on the outside, black on the insside)**

Regarding this film, it is 1 side black color, the other side white color. The black side completely contains light, the white side reflects heat.

• **Electric/Manual roll up sides**

-Easy-to-use wind up tool.
-Smoothly roll plastic up to desired height.
-Clear plastic is secured to the galvanized steel roller bar, eliminating flyaway edges.
-Includes 2 steel roller bars, 2 winding mechanisms and mounting bolts.
-Keep in mind that this option can only be used when the blackout poly is rolled up and not covering the sides.

• **Other parts**

Motors and Power controller, Connectors&ends, , Zig Zag Wire and Profiles, Insect net and door and some other items.

Model 3: AXLP03

Features:
- Standard size: 9*32m(30ft*105ft)
- Structure: Gothic style
- Frame material: hot galvanized steel
- Cover material: 150microns Po film
- Top Ventilation system or Side ventilation
- Blackout system: Rack&pinion transmission automatic system

- **Other sizes:**

6m*30m(20ft*100ft)
8m*40m(26.2ft*131ft)
9m*30m(30ft*100ft)
9m*36m(30ft*118ft)
10m*30m(32.8ft*100ft)
12m*40m(39.4ft*131.2ft)
Your own sizes can be customized.

- **Structure:**

Arch:Φ78*30*2"(Oval pipe), spacing can be 1m,1.2m, 1.5m,1.8m, 2m
Corss Beam: □50×30×2mm
End Beam: □50×30×2mm
Purlin：Φ32*1.5mm", on roof to strengthen structure
Wind support pipe: Φ32*1.5mm
End column: □50×30×2mm
Card slot&Wirelock & Top connection card & other accessories

- **Cover:**

-There are PE film and PO film, thickness 80micron, 100microns, 120microns, 150microns, 180microns, 200microns
-Clear Multiple layer PC board: : 4mm, 6mm, 8mm, 10mm, 12mm, 16mm; 2-layer, 3-layer, 4-layer, 6-layer
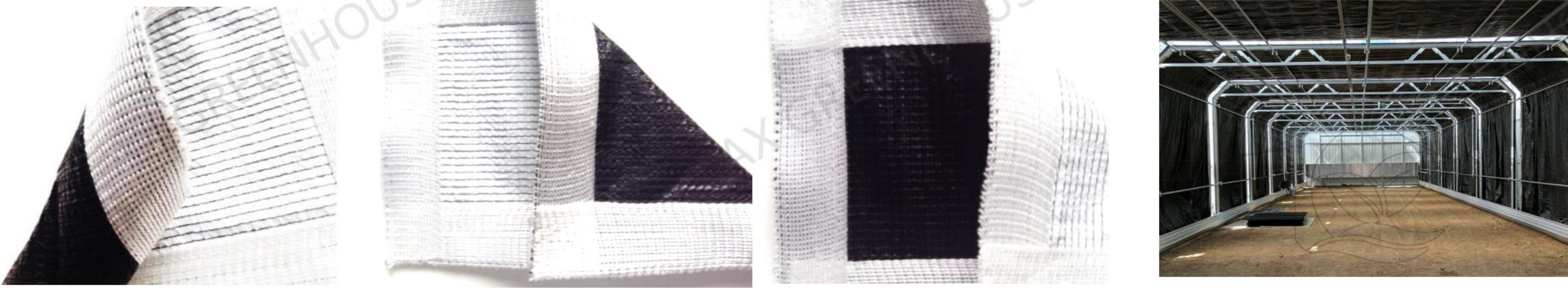-Sandwich Panel (on the endwall)： Steel Panel+insulation material+steel panel; 50mm, 75mm thickness, with excellent thermal insulation performance.
-Corrugate steel sheet(on the endwall): 4mm, 5mm, 6mm,7mm,8mm thickness

- **Blackout system**

It mainly consists the rack&pinion transmission system&the blackout curtains.
Blackout curtain: the 3- layer 100% blackout-enough for the most cannabis. Breathable, flame retardant material.

Technical data

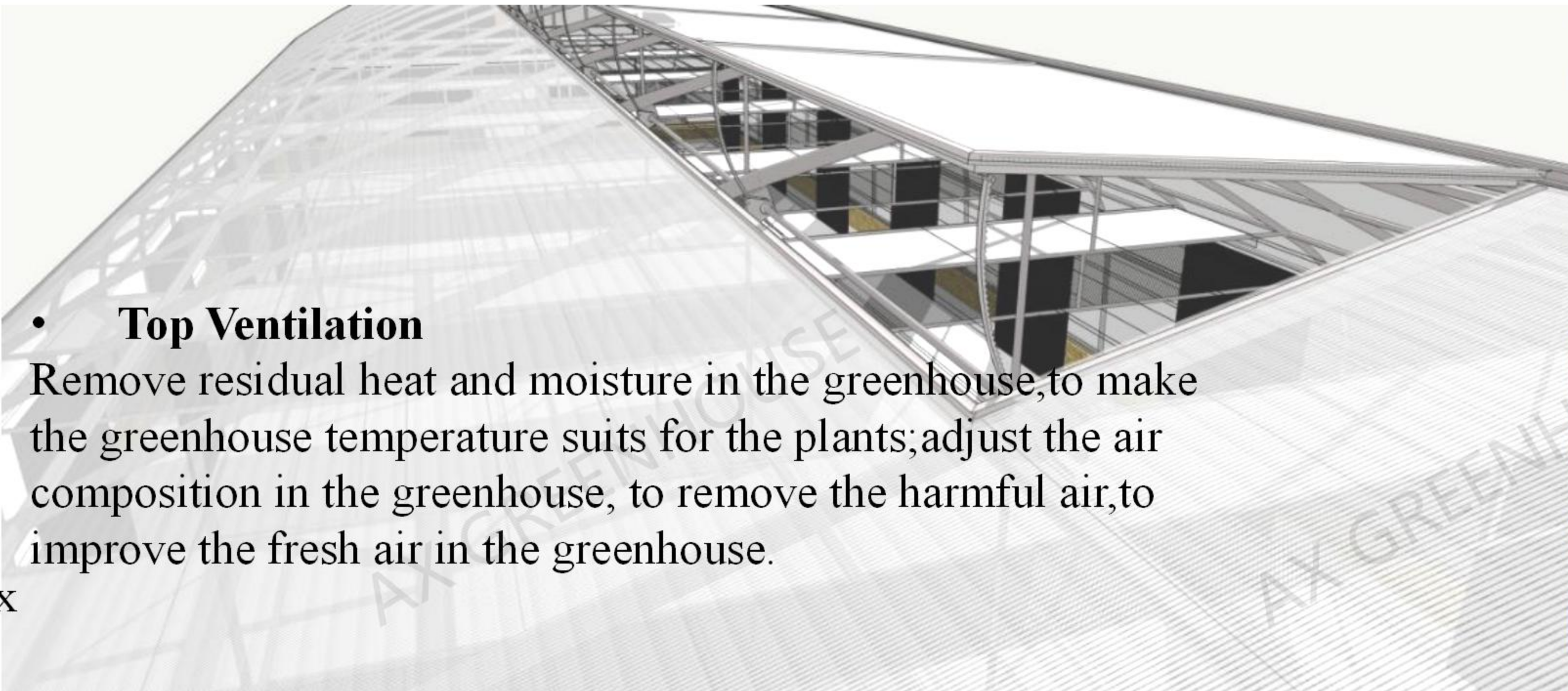| Application	Inside
Width of strips	4mm
Standard width	3.2mm, 4.3mm, 5.3mm available in demand
Flame retardant	50cm firebresk-normal-50 firebreak

Model 4: AXLP04

Features:
- Standard size: 9*32m(30ft*105ft), H: 3m, 4m, 5m
- Structure: Gable style
- Frame material: hot galvanized steel
- Cover material: 8mm 2-layer Pc Board
- Top Ventilation system & Side ventilation
- Blackout system: Rack&pinion transmission automatic system
- **Other sizes:**

6m*30m(20ft*100ft)
8m*40m(26.2ft*131ft)
9m*30m(30ft*100ft)
9m*36m(30ft*118ft)
10m*30m(32.8ft*100ft)
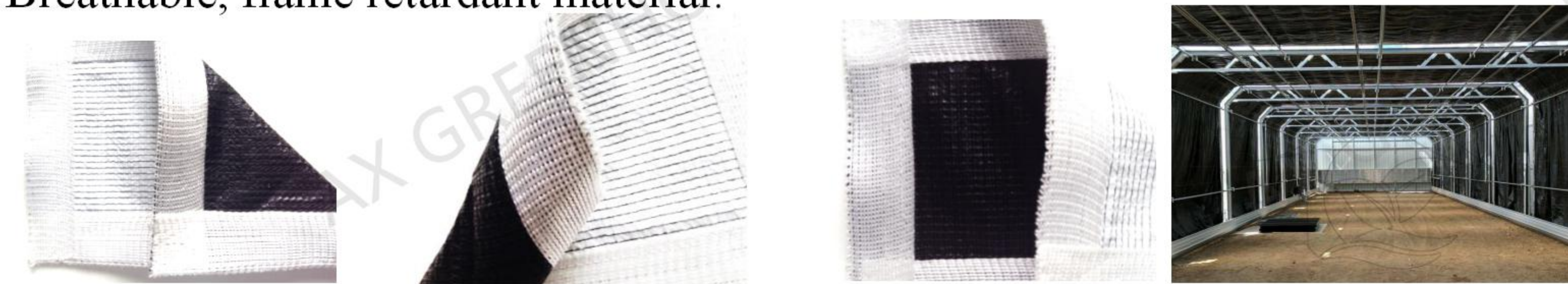12m*40m(39.4ft*131.2ft)
Your own sizes can be customized.
- **Structure:**

Main Column: □80*80*2mm
Sub Column: □80*40*2mm
End Column: □80*40*2mm
Purlin: □50*30*1.5
Roof Truss: □80*40*2
The struture is determined by the local weather, especially the max windload and snow load. So tell us your local climate data and your requirements, we will custom design for you.

- **Cover:**
-Clear Multiple layer PC board: : 4mm, 6mm, 8mm, 10mm, 12mm, 16mm; 2-layer, 3-layer, 4-layer, 6-layer
-Sandwich Panel (on the endwall)：Steel Panel+insulation material+steel panel; 50mm, 75mm thickness, with excellent thermal insulation performance.
-Corrugate steel sheet(on the endwall): 4mm, 5mm, 6mm,7mm,8mm thickness

- **Blackout system**
It mainly consists the rack&pinion transmission system&the blackout curtains.
Blackout curtain: the 3- layer 100% blackout-enough for the most cannabis.
Breathable, flame retardant material.

Technical data

Application	Inside
Width of strips	4mm
Standard width	3.2mm, 4.3mm, 5.3mm available in demand
Flame retardant	50cm firebresk-normal-50 firebreak

- **Top Ventilation**
Remove residual heat and moisture in the greenhouse,to make the greenhouse temperature suits for the plants;adjust the air composition in the greenhouse, to remove the harmful air,to improve the fresh air in the greenhouse.
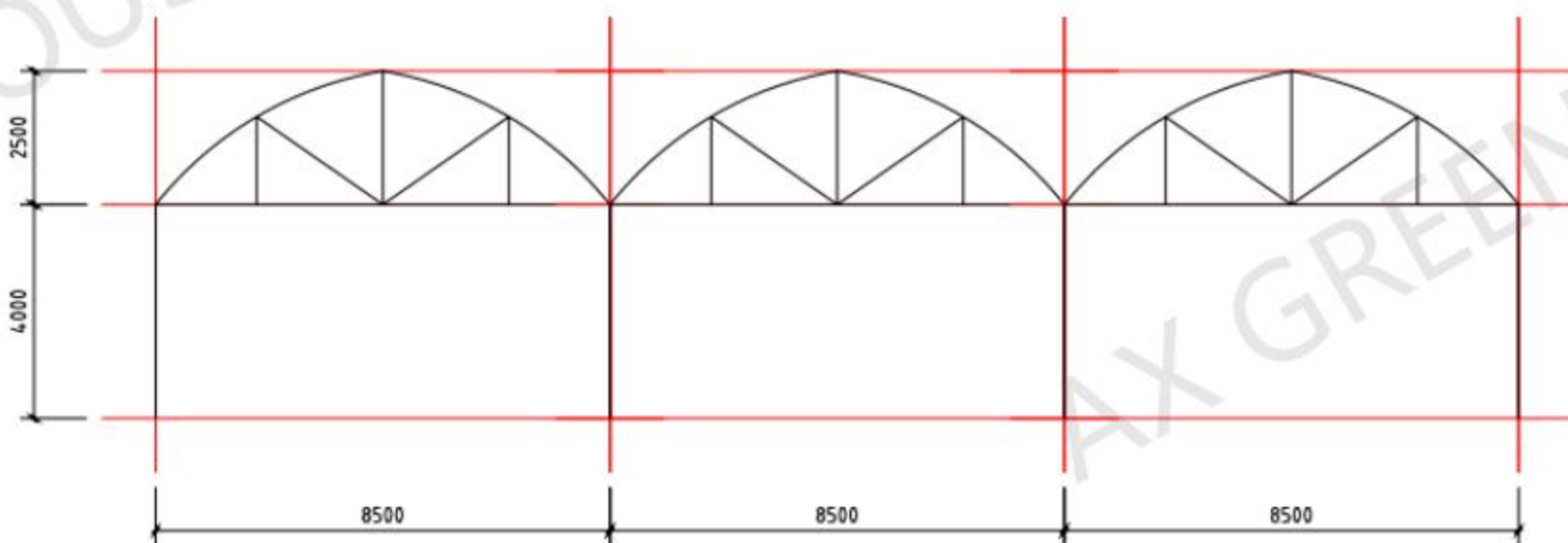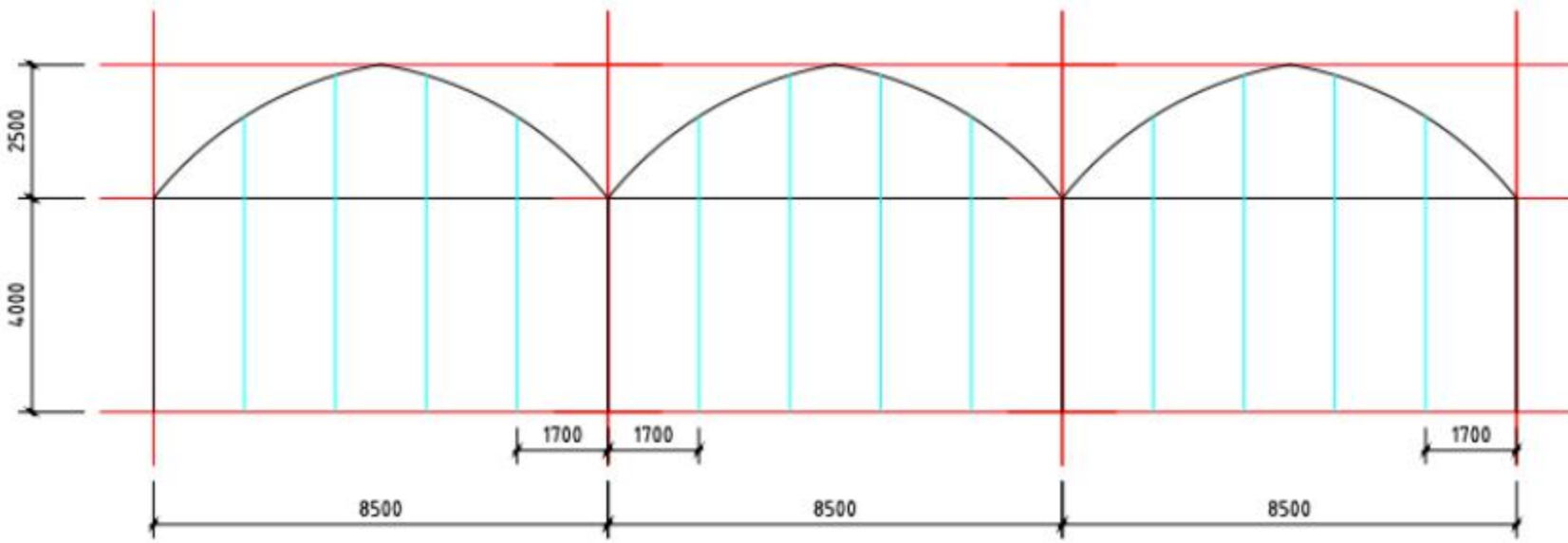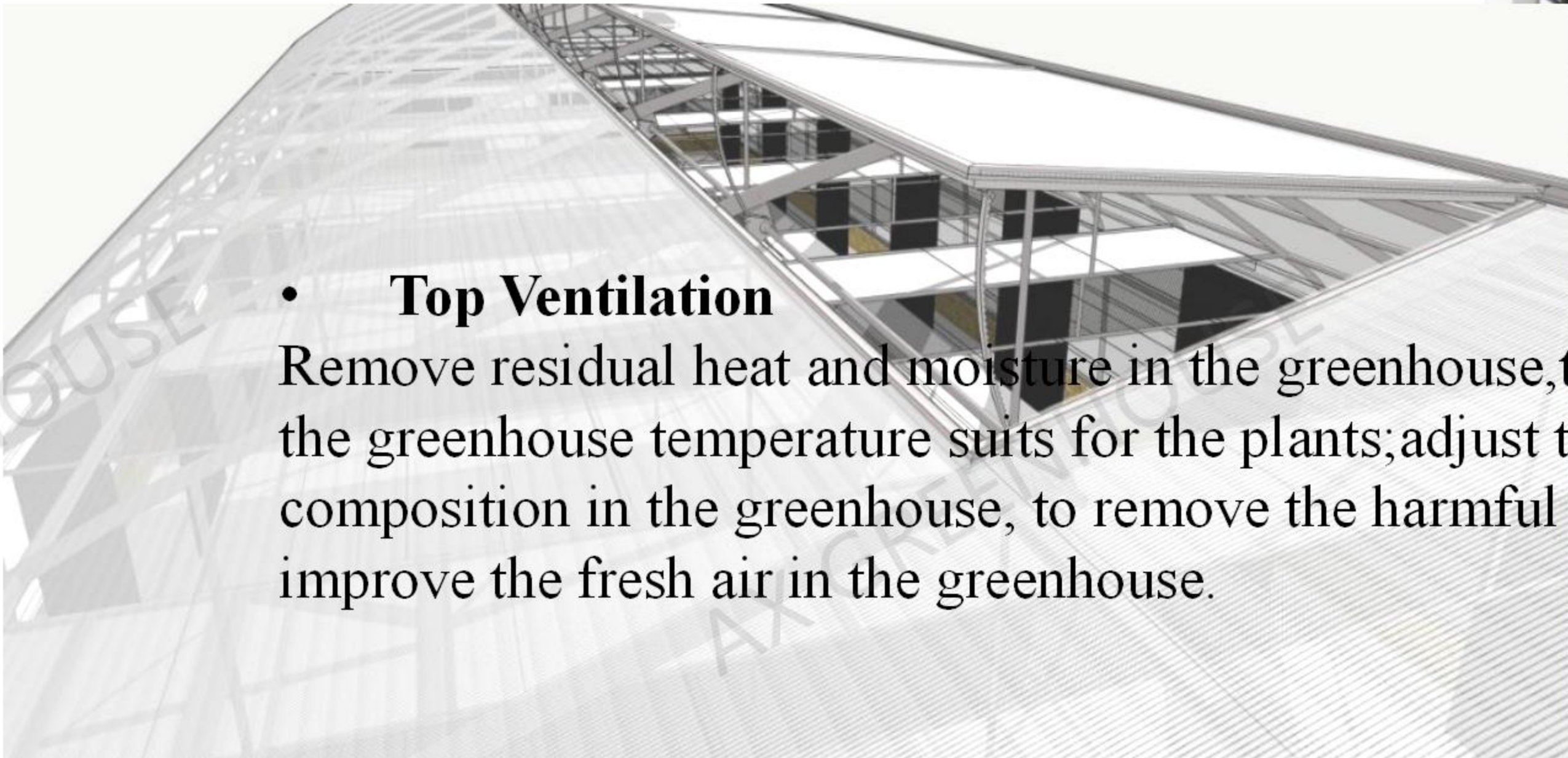
Model 5: AXLP05

Multi-span Light Deprivation Greenhouse

Features: Multi-span

- Standard size: 8m span width 8.5m span width, 9m span width, 10m span width
- Gutter Height: 4m, Total height is determined by the span width
- Structure: Gothic style
- Frame material: hot galvanized steel
- Cover material: Plastic film or PC board
- Top Ventilation system & Side ventilation
- Blackout system: Rack&pinion transmission automatic system
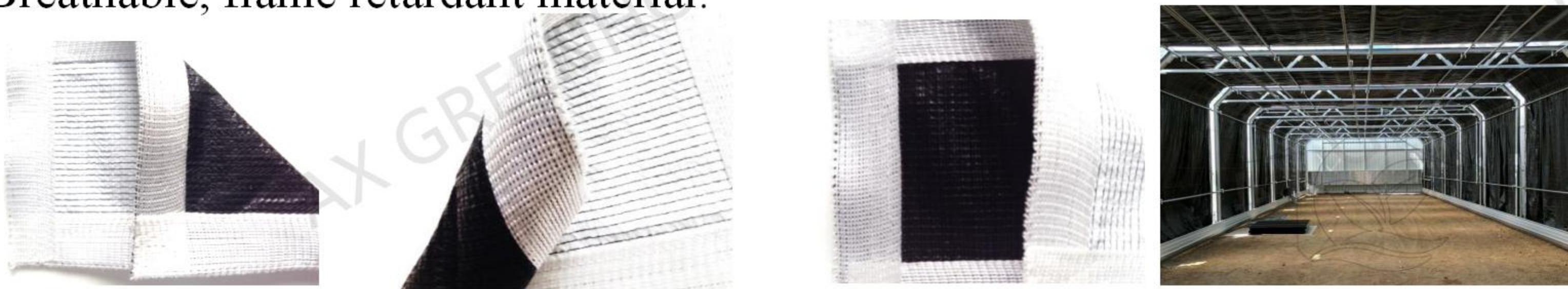- Other size customized

- **Structure:**

Main Column: □100*50*2.5mm
Sub Column: □100*50*2mm
End Column: □100*50*2mm
Purlin: □50*30*1.5
Arch: Φ48*1.5mm

The struture is determined by the local weather, especially the max windload and snow load. So tell us your local climate data and your requirements, we will custom design for you.

- **Cover:**

-Plastic film: 100microns, 150microns, 180micorns, 200microns
-Clear Multiple layer PC board: : 4mm, 6mm, 8mm, 10mm, 12mm, 16mm; 2-layer, 3-layer, 4-layer, 6-layer
-Sandwich Panel (on the endwall)： Steel Panel+insulation material+steel panel; 50mm, 75mm thickness, with excellent thermal insulation performance.
-Corrugate steel sheet(on the endwall): 4mm, 5mm, 6mm,7mm,8mm thickness

- **Blackout system**

It mainly consists the rack&pinion transmission system&the blackout curtains.
Blackout curtain: the 3- layer 100% blackout-enough for the most cannabis.
Breathable, flame retardant material.

Technical data

Application	Inside
Width of strips	4mm
Standard width	3.2mm, 4.3mm, 5.3mm available in demand
Flame retardant	50cm firebresk-normal-50 firebreak

- **Top Ventilation**

Remove residual heat and moisture in the greenhouse,to make the greenhouse temperature suits for the plants;adjust the air composition in the greenhouse, to remove the harmful air,to improve the fresh air in the greenhouse.
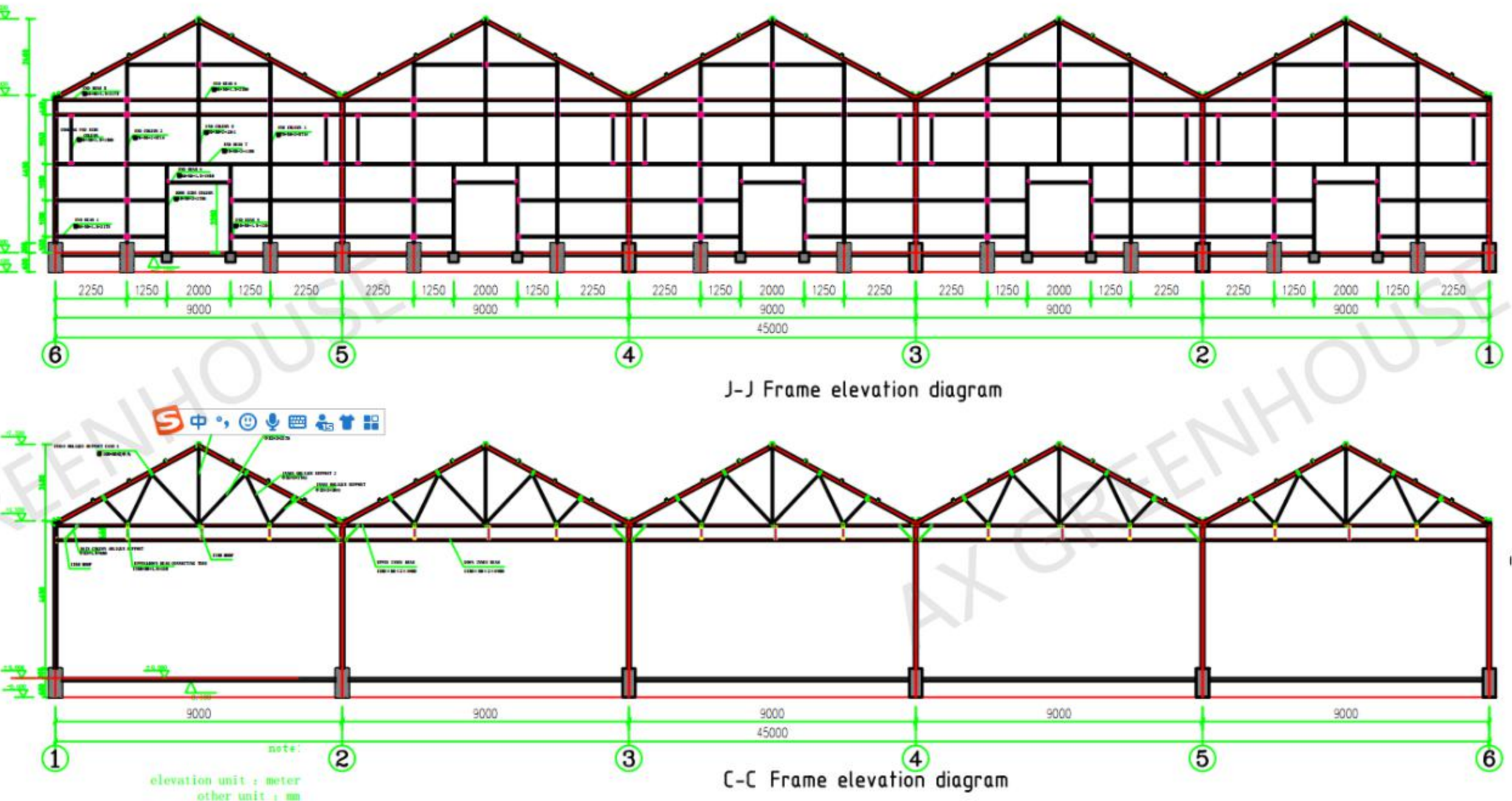
Model 6: AXLP06

Multi-span Light Deprivation Greenhouse

Features: Multi-span

- Standard size: 8m span width 8.5m span width, 9m span width, 10m span width
- Gutter Height: 4m, Total height is determined by the span width
- Structure: Gable style
- Frame material: hot dip galvanized steel
- Cover material: PC board
- Top Ventilation system & Side ventilation
- Blackout system: Rack&pinion transmission automatic system
- Other size customized

J-J Frame elevation diagram

C-C Frame elevation diagram

Structure:

Material:Hot Dip Galvanized Steel

Corner Column: 100*100*3mm

Middle Column: □100*50*2.5mm, spaceing 4m

Side Column: □100*50*2mm

Sub Column: □100*50*2mm

End Column: □100*50*2mm

Gutter: S2*500

Roof truss:□100*50*2mm

Support: round tube φ 32mm,1.5mm thickness

Purline：C70*50*2

Top edge cover

Door Size: 2.2m*2m

AccessoriesThe struture is determined by the local weather, especially the max windload and snow load. So tell us your local climate data and your requirements, we will custom design for you.

Cover:

-Clear Multiple layer PC board: : 4mm, 6mm, 8mm, 10mm, 12mm, 16mm; 2-layer, 3-layer, 4-layer, 6-layer

-Sandwich Panel (on the endwall)：Steel Panel+insulation material+steel panel; 50mm, 75mm thickness, with excellent thermal insulation performance.
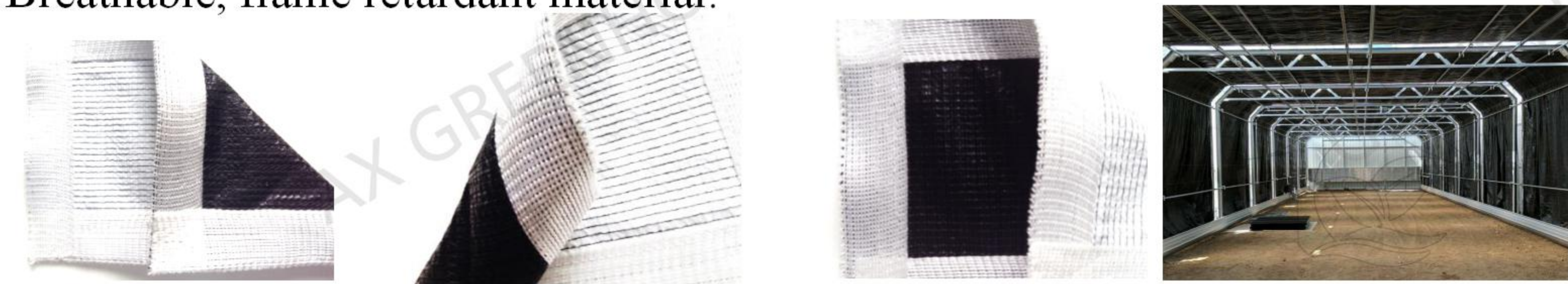
-Corrugate steel sheet(on the endwall): 4mm, 5mm, 6mm,7mm,8mm thickness

Blackout system

It mainly consists the rack&pinion transmission system&the blackout curtains.

Blackout curtain: the 3- layer 100% blackout-enough for the most cannabis.

Breathable, flame retardant material.

Technical data

Application	Inside
Width of strips	4mm
Standard width	3.2mm, 4.3mm, 5.3mm available in demand
Flame retardant	50cm firebresk-normal-50 firebreak

Top Ventilation

Remove residual heat and moisture in the greenhouse,to make the greenhouse temperature suits for the plants;adjust the air composition in the greenhouse, to remove the harmful air,to improve the fresh air in the greenhouse.

Complimentary Systems:
1. External shading system
2. Internal shading system
3. Blackout system
4. Cooling system
5. Light Straps
6. Heating System
7. Air circulation system
8. Lights
9. Workbench: Movable/fixed ebb&flow rolling benches, Net tables
10. Irrigation system
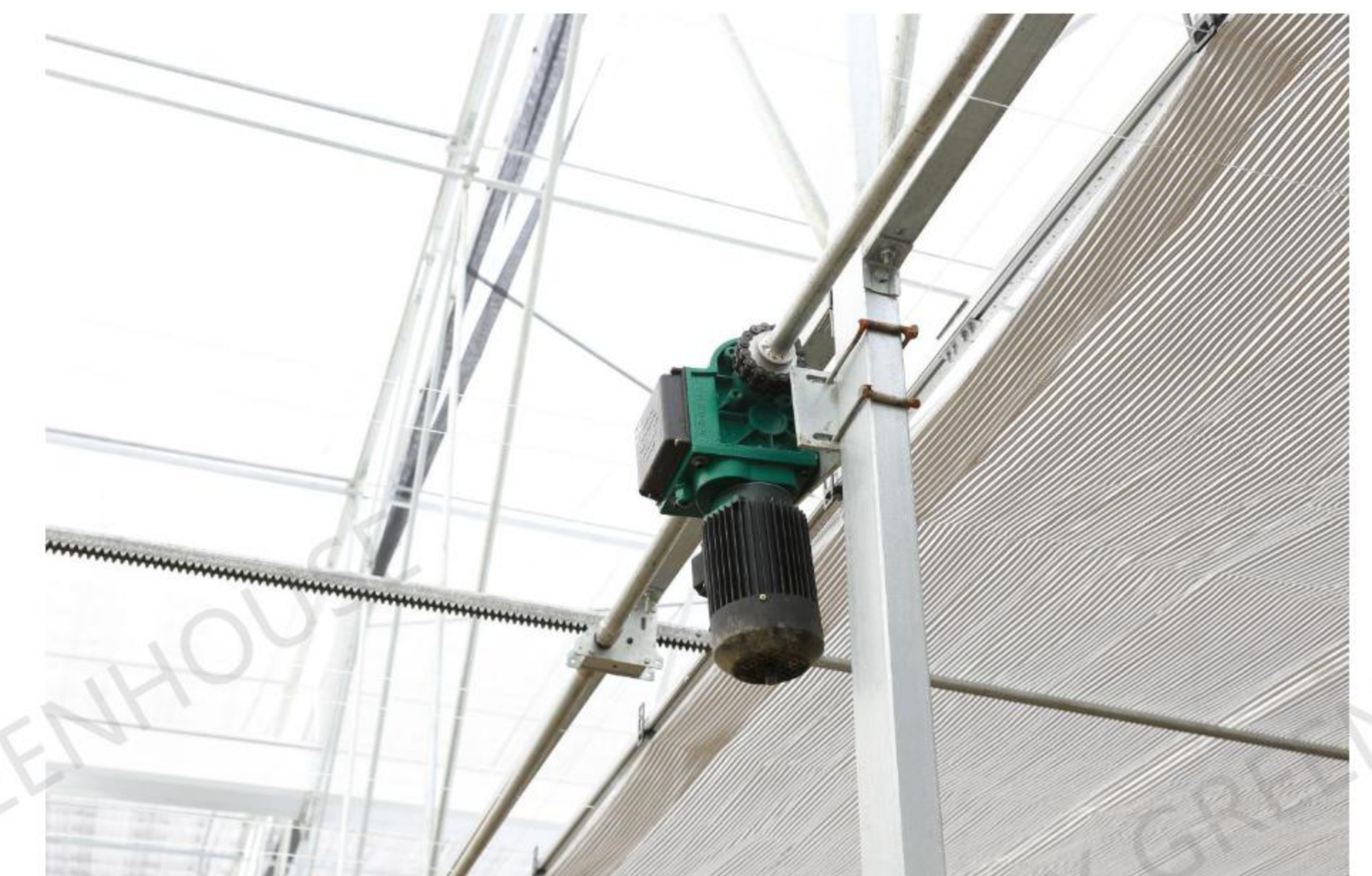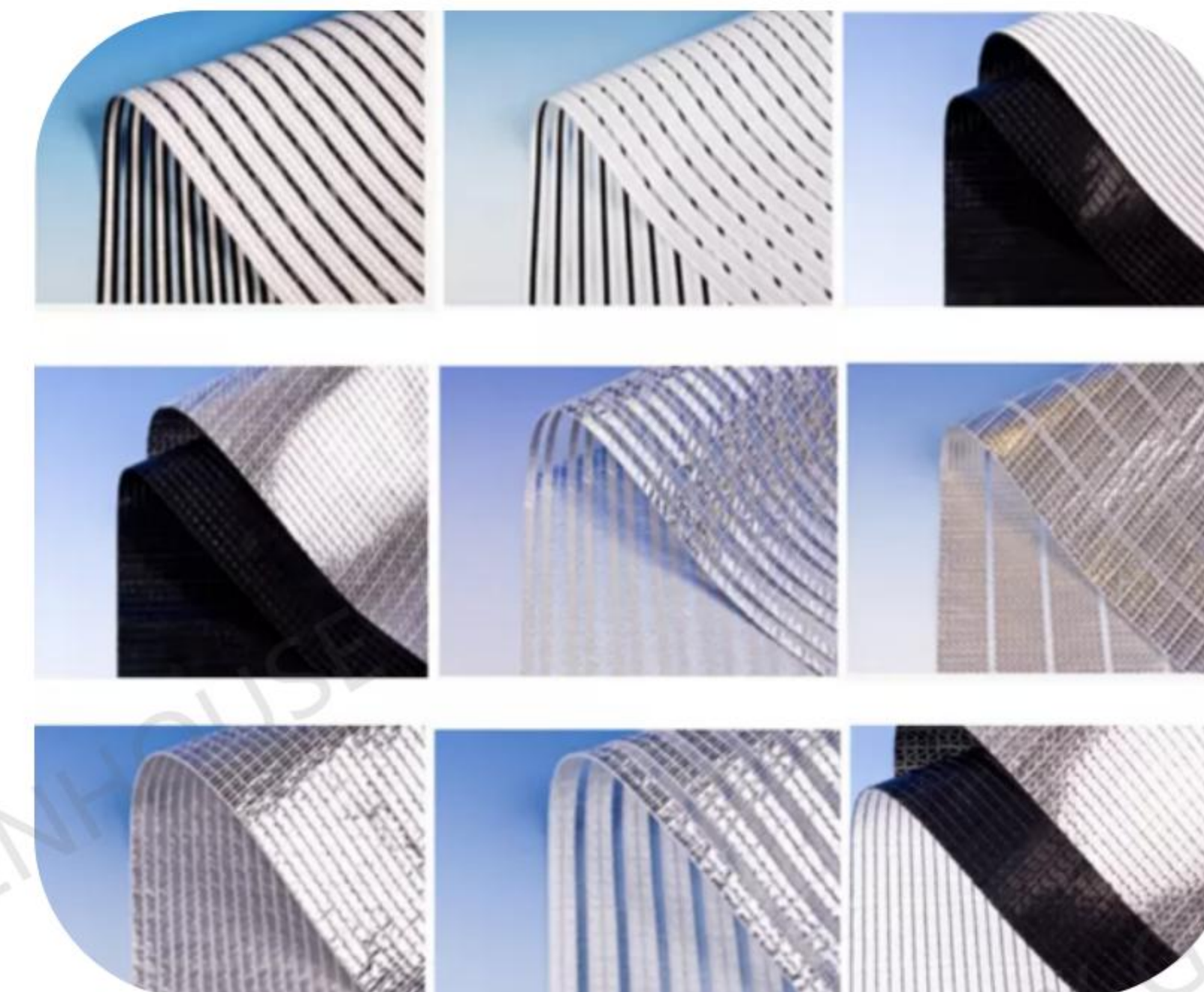11. Power control system/ Auto intelligent control system

1. External shading system

This external shading system is driven by rack and pinions, powered by electric gear motor, it is useful to reduce solar load, cool down the inside temperature, and create a comfortable environment for the plants.

2. Internal Shading system

This system is driven by rack and pinions, powered by electric gear motor. Compare with the external shading system, internal shading system is more economical, and it could protect the plants from sun burning. Besides, it has the function of insolation.

3. Blackout system

Blackout system is specially designed for plants with special lighting needs like medical marijuana. With supporting facilities, growers can fully control the factors that affect the growth of plants. By changing the light, temperature and humidity, the greenhouse can shorten the growth cycle of plants to the maximum To maximize its profitability.

It mainly consists the rack&pinion transmission system&the blackout curtains.
Blackout curtain: the 3- layer 100% blackout-enough for the most cannabis.
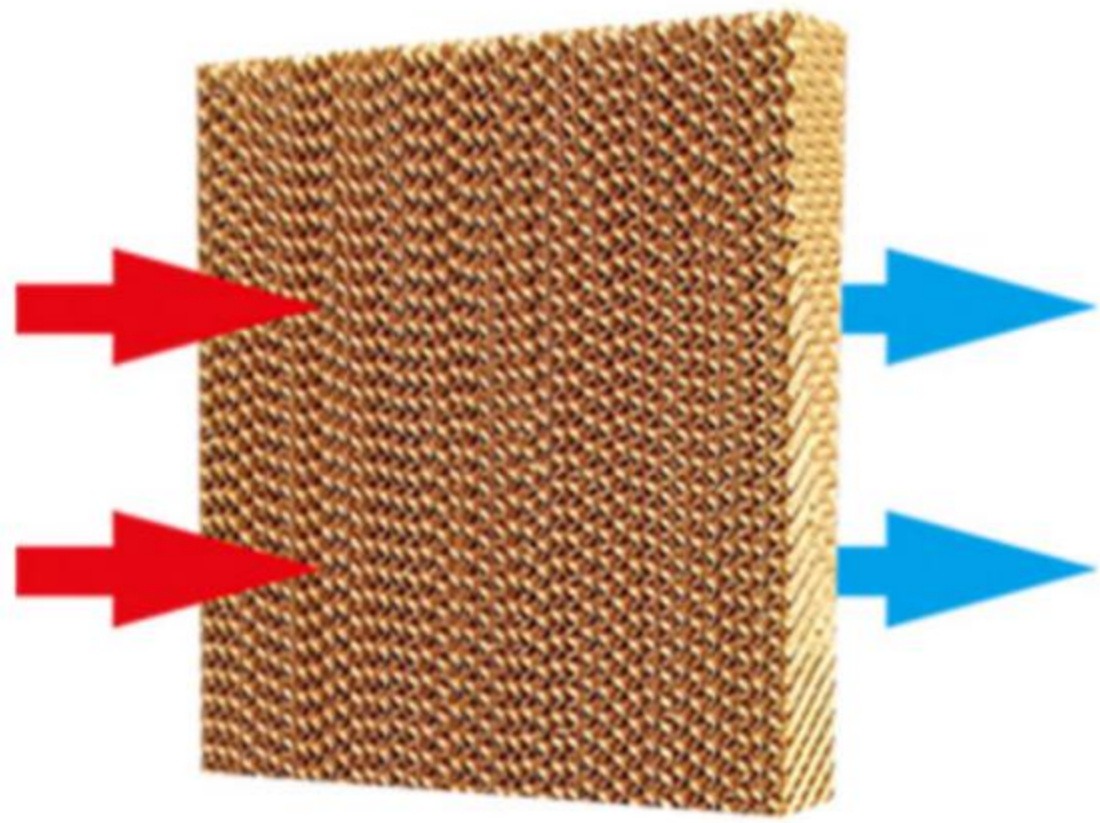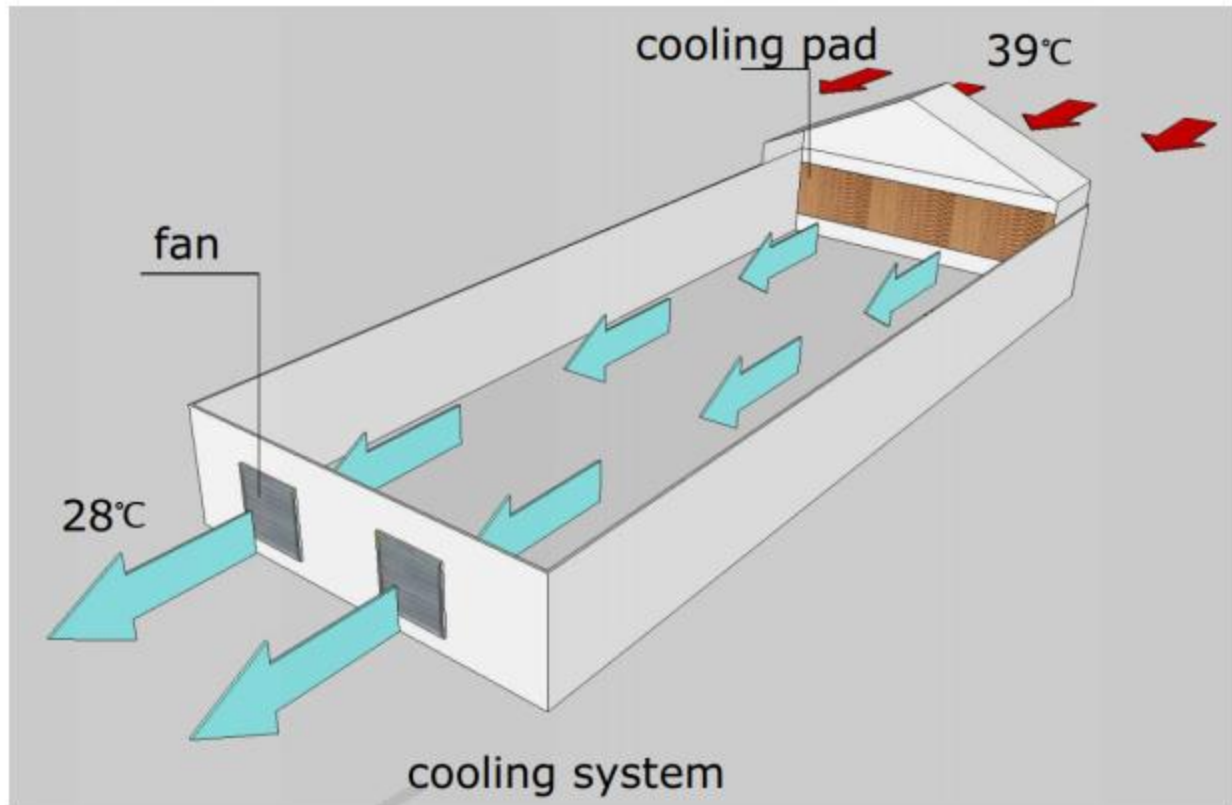Breathable, flame retardant material.

Technical data

Application	Inside
Width of strips	4mm
Standard width	3.2mm, 4.3mm, 5.3mm available in demand
Flame retardant	50cm firebresk-normal-50 firebreak

4. Cooling system

- Exhaust fan& wet curtain cooling system

The principle of pad&fan cooling system is to use the effective combination of the fan and the wet curtain to artificially reproduce the physical phenomenon of evaporation and cooling of the natural water to achieve the purpose of cooling.The wet curtain has a thin water film on the surface of the corrugated fiber paper. When the outdoor dry hot air is sucked through the paper pad by the fan, the water on the water film absorbs the heat in the air and evaporates into water vapor,then the cool and humid air enters the room.

Pad&fan cooling system is the most popular mechanical cooling method for greenhouse,with the system work,the greenhouse temperature could be cool down as 10 to 20 degrees.

Cooling pad:
Thickness: 10cm, 15cm, 20cm
Height: 1.5m,1.8m.2m

Exhuast fan size:
710*710*400；900*900*400
1060*1060*400；1220*1220*400
1380*1380*400
Air flow is from 11250-44500m³/h

-Misting cooling system

Misting cooling is another choice if the air in your project site is quite dry and the plants is ok with the humidity.

5. Light straps

Light traps be used to cover the wet curtain and fans to stop any light transfer when light deprivation systems closed to ensure the greenhouse will be 100% black.

Material: glare-free PVC
Anti-aging, chemical resistant, high pressure cleaning
Lock fastener material:PP
Stainless steel frame and galvanized steel frame optional
Size matched the wet curtain size and fan size
Size: For fan
Size: For cooling pad:

6. Heating system

In some cold area,heating system is necessary to keep the greenhouse temperature,we recommend two heating systems to our customer depend on the greenhouse size,water boiler&heating pipe system for large size greenhouse and air fan heater for small size greenhouse.

Air fan heater

Local hot air system powered by natural gas, diesel, electricity or coal. Efficient and space saver.
(From 20kW to 110kW)

To sum up, without using a lot of electricity, using a boiler to heat water is the most suitable.

There are two heating methods:
1-Boiler+ heating pipes under the bench
2-boiler+ heating pipes+water heater

The fuel for boiler are gas, coal, diesel and the biomass

7. Air Circulatio System

This system is set to make the air flow, then to make the whole greenhouse's temperature, humidity etc. be balanced
Outside material is stainless steel, fans made of aerospace aluminum alloy

Technical specification:

Parameter					
Blade diameter(MM)	Voltage(V)	Frequency(HZ)	Power(W)	Rotating speed(RPM)	Air volume(M3/H)
500	220/380	50	120	1400	6300

8. Lights

Two types of light sources are commonly used in the supplemental light system, high-pressure sodium (HPS) lamps and LED lamps.

HPS (High Pressure Sodium)

lighting is the most popularly used light source with a proven track record for cannabis growers, providing bright, intense light with a reasonably long lifespan

LED Grow Lights provide full

spectrum light for the plants growing,which is adjustable in different plants growing period.Drastically shorten the growing period and increase harvest.

9. Workbench:

- Fixed seedbed

Most of the fixed seedbeds use hot-dip galvanized angle steel or rectangular pipe as the skeleton, and the bed surface is covered with steel wire mesh
1. Mesh: 120*25, 130*30, 50*50;
2. Size: Width: 1.7m, 1.8m;
height: 0.75m, Length is as required or your customized size.

-Movable benche/rolling benches

The movable bench adopts hot-dip galvanized pipe, the frame is made of aluminum alloy, and the surface of the seedbed net is hot-dip galvanized with anticorrosion treatment;
1. Mesh: 120*25, 130*30, 50*50;
2. Size: Width: 1.7m, 1.8m;
height: 0.75m, Length is as required or your customized size.

Rolling benches Advantages:

1. Multiple anti-corrosion, durable;
2. Strong carrying capacity; Max load can be up to 120kg/m²
3. Anti-turning limit device to prevent skew caused by emphasis;
4. It can be moved left and right (0.6m movable), and the height can be finely adjusted (adjustable by 10 cm);

-Ebb&flow rolling bench

Advantages:

The frame of the tidal seedbed is hot-dip galvanized, and the bed surface is made of ABS panel, edible

1. It can be moved left and right (0.6m movable), and the height can be finely adjusted (adjustable 10 cm);
2. Anti-turning limit device to prevent skew caused by emphasis;
3. The maximum load capacity is 50kg/㎡;
4. Full hot-dip galvanizing process, durable;
5. The life span can reach 15-20 years;
6. Reduce irrigation waste, recycle and reuse;
7. Easy to install;
8. The system structure is reasonable;
9. Less maintenance;

* EBB&Flow Rolling Bench

Standard size:

1.22m*2.44m(4ft*8ft); 1.53m*2.44m(5ft*8ft)
1.7m*2.14m(5.57ft*7ft);   1.8m*2.14m(5.9ft*7ft)

Length can be customized

Multi-layer stacks

Hot Dip Galvanized Steel Sprayed
Height: 1.7m per layer
Total height: 3.5m
With rolling rail
Standard Size: 1.62m*12m/ Set

Your own size can be customized

- Labor-saving and cost-effective.
- Versatile system
- An entire acre or more can be watered automatically and efficiently.
- Plants are watere evenly, reducing losses due to poor watering practices.
- Plants can be fertilized as they are being watered.
- Floors are dry, avoiding accidents.
- System can water any of our wide line of retail Ebb-Flow benches.

10. Drip Irrigation System

Drip irrigation system makes the irrigation continued and moderate,which is a scientific irrigation way, fertilization could be done by this system

It includes:
Pressure compensation dripper
Proportional fertilizer pump
Drip Irrigation Regulator
Fertilizer bucket
Bypass valve
Barbed Bypass
Water diversion saddle
Stainless steel shockproof pressure gauge
UPVC pipe
UPVC oil valve
UPVC sewage valve
UPVC pipe fittings + auxiliary materials

11. Power control/Auto Intelligent Control System

We provide intelligent control system design and products to help you manage your greenhouse more efficient and easier.The advantages of all devices are no need for charging, wireless data transmission, and easy installation.

* Control Center

The data management control center has functions such as information display, video display, information and video linkage, remote control, audio and video interaction, etc.

* Multi-element Sensor

This sensor can measure air humidity, light, atmospheric pressure, soil temperature and other parameters, and users can choose the parameters to be measured according to their needs.

This product has the unique advantages of NDIR products such as good selectivity, high sensitivity, no oxygen dependence, long-term stability, and long life.

Our weather station can automatically detect the climate environment inside and outside the greenhouse, providing data support for improving crop yield and quality and reducing greenhouse operating costs.

Greenhouse butler is our special product. It can wirelessly receive data from all series of sensors to realize remote control. It can also be connected to a greenhouse controller to set various parameters of the system.

Greenhouse intelligent control cabinet

Greenhouse intelligent control cabinet is a customized electrical control cabinet designed for the specific application environment of greenhouse. Durable electrical components, standard circuit design and reliable lightning protection measures can enable it to operate stably under high temperature and high humidity environment, thus protecting the interests of growers from loss. The intelligent control cabinet will be customized according to the specific needs of customers.

High-end intelligent greenhouse controller, High-end intelligent greenhouse controller expander, Intelligent control box.

PC software&mobile software can be provided

12. Other optional items and system.

Dehumidifier

* **CO2 Generator**

Any more request,please feel free to tell us.

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AX Greenhouse

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Welcome to contact us at any time