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COMPLETE GREENHOUSE SOLUTION SPECIALIST

## JIANDA GREENHOUSE LEADING AGRICULTURE TO THE WORLD

Weifang Jianda Greenhouse is located in Weifang city , Shandong Province, China. It has focused on greenhouse designing, manufacturing and construction for more than 10 years. We already helped our customers from China and overseas markets to build hundreds of different types of greenhouses for vegetables planting, flowers planting and many other uses. Now our projects are all over the world such as Philippines,Thailand, Malaysia, Japan, North Korea, Russia, Ukraine, Uzbekistan, Turkmenistan, Qatar, UAE, Saudi Arabia, Egypt, Australia, Kuwait, etc. The mission of Jianda Greenhouse is to offer quality greenhouse at affordable price, followed by the best service to our customers. Warmly welcome customers from all over the world to visit us.



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## VENLO TYPE GREENHOUSE

Venlo greenhouse is the most well known type of greenhouse among professional growers over the world. It is designed with Dutch technology. This design has proven to be suitable for all crops in most climate conditions.

### ■ Structure

The main structure of the greenhouse adopts hot-dip galvanized steel pipes, connecting with hot-dip galvanized bolts, good anti-corrosion performance.

### ■ Covering materials

Roofing covering with tempered glass or double layer polycarbonate sheet. Sidewalls covering with hollow glass or tempered glass or double layer polycarbonate sheet.

### ■ Optional systems

Shading system, Ventilation system, Cooling system, Heating system, Irrigation and fertilization system, Automatic control system, Hydroponic system, Lighting system, etc.

### ■ Specification

Span width	8.0m, 9.6m, 10.8m, 12.0m
Gutter Height	3.0m - 6.0m
Column Spacing	4.0m, 8.0m
We can design and manufacture as customized requirements.	
Wind Load	0.5KN/m <sup>2</sup>
Snow Load	0.5KN/m <sup>2</sup>
Dead Load	15KN/m <sup>2</sup>
Maximum Drainage	140mm/h





# MULTI SPAN FILM GREENHOUSE

Multi-span arch greenhouse is a kind of economic greenhouse, suitable for most crops and climates. It is popular among growers because of its beautiful arc-shaped and low cost. The arched roof is beautiful designed, and the sight is smooth. The amount of steel used in the structure is relatively small, and the thermal insulation performance is good. The manufacturing cost is relatively low.

## ■ Structure

The main structure of the greenhouse adopts hot-dip galvanized steel pipes, connecting with hot-dip galvanized bolts, good anti-corrosion performance.

## ■ Covering materials

Roofing covering with double arch double film or single layer film or double layer polycarbonate sheet. Sidewalls covering with double layer film or single layer film or double layer polycarbonate sheet or glass.

## ■ Optional systems

Shading system, Ventilation system, Cooling system, Heating system, Irrigation and fertilization system, Automatic control system, Hydroponic system, Lighting system, etc.

## ■ Specification

Span width	6.0m, 8.0m, 10.0m, 12.0m
Gutter Height	3.0m - 6.0m
Column Spacing	4.0m, 6.0m, 8.0m
We can design and manufacture as customized requirements.	
Wind Load	0.3KN/m2
Snow Load	0.25KN/m2
Dead Load	10KN/m2
Maximum Drainage	140mm/h





## SOLAR GREENHOUSE

Solar greenhouse are widely built in cold area, which is the so-called energy-saving greenhouse. It have good performance in energy conservation, thermal storage and insulation. It is cost effective in building, operation and maintenance. In the winter, the thermal insulation blanket is rolled up at daytime, and applied at night time. Normally, this kind of greenhouse don't need heater in winter even in the cold area.

- Span width 8m-15m, it can be designed as customer's requirement.
- The main structure of the greenhouse adopts hot-dip galvanized steel pipes, connecting with hot-dip galvanized bolts, good anti-corrosion performance.
- It mainly consists of north wall, north roof, south roof, thermal insulation blanket, rolling shutter and steel structure.
- According to requirements, side ventilation system, outside shading system, cooling system, heating system, Irrigation system, automatic control system, hydroponic system, lighting system, can be added in the greenhouse.



## TUNNEL GREENHOUSE

Tunnel greenhouse is also named Single-span Greenhouse, Arched Greenhouse or Hoop Greenhouse.

- Span width 6m-12m, it can be designed as customer's requirement, different climatic conditions or crops planting.
- The main structure of the greenhouse adopts hot-dip galvanized steel pipes, connecting with hot-dip galvanized bolts, good anti-corrosion performance.
- The covering material is PO film, PE film or polycarbonate sheet.
- According to requirements, side ventilation system, outside shading system, cooling system, heating system, Irrigation system, automatic control system, hydroponic system, lighting system, can be added in the greenhouse.

## GREENHOUSE STRUCTURE

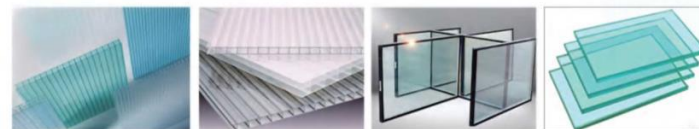
High quality hot-dip galvanized steel structure, Zinc-coating 275g/m<sup>2</sup>, service life over 20 years. All steel materials are field-assembled, no secondary processing required. The galvanized connectors and fasteners are not rusted for 20 years.



## GREENHOUSE COVERING

The greenhouse covering materials include PO film, PE film, polycarbonate sheet, glass. Polycarbonate sheet and glass are sealed with aluminum alloy profiles and rubber strips.

- PO film / PE film: 80-200 micron, anti-drip, anti-UV, quality assurance for 3-5 years.
- Polycarbonate sheet: 6mm-12mm thickness, double layer hollow, anti-UV, anti-drip, good thermal insulation performance, excellent strength, rigidity, hardness, toughness and crack resistance, quality assurance for 10 years.
- Glass: Single-layer tempered glass or hollow glass, beautiful appearance, good light transmittance performance, long service life, reasonable maintenance and practical service life of more than 30 years.





## EXTERNAL SHADING

The main function of the system is to cool and shade in the summer, so that the sunlight diffuses into the greenhouse to ensure that the crop is protected from glare of the sun.

- Anti-UV, anti-hail, reducing damage to the top of the greenhouse
- Depending on the crops planted, the shading nets with different shading rate can be chosen to meet the sunlight requirements of different crops.
- Shading and cooling: In summer, the closed curtain can effectively reflect part of the sunlight, which can reduce the greenhouse temperature by 4 ° C to 6 ° C.



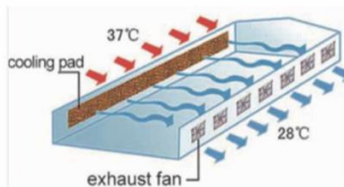
## INNER SHADING & INSULATION

- Anti-fog and anti-drip
- Energy-saving and insulation
- Water conservation
- The curtains are divided into two types, ventilated and insulated. Different types and shading rate of curtains are used as needed. In order to increase the insulation effect in the greenhouse, double inside shading nets can be used.



## COOLING SYSTEM

The cooling of greenhouse is achieved by the principle of evaporation and cooling of water. The special made cooling pad can ensure that the water evenly wets the entire cooling pad wall. When the air penetrates the cooling pad medium, it exchanges heat with the water vapor on the surface of the cooling pad to achieve humidification and cooling of the air.



## HEATING SYSTEM

- Boiler: Gas-fired boiler, Coal-fired boiler, Diesel-fired boiler
- Fan heater: water heating, electric heating
- Spiral finned tubes





## VENTILATION SYSTEM

- Roofing and sidewall ventilation system for optional
- Film greenhouse: Electric or manual film rolling system
- PC/Glass greenhouse: The windows adopt geared and racked transmission system, electric control.



## IRRIGATION&FERTILIZER SYSTEM

- Reasonably designed irrigation and fertilization water treatment systems can improve the absorption of fertilizers by crops and improve the quality of crops.
- It is especially suitable for using in areas with poor water quality and greenhouses for growing crops with high water quality requirements.
- Effective combination of advanced water treatment technology and greenhouse production technology.



Drip Irrigation Hose



Drip Irrigation Arrow



Mounted Micro Spraying



Mobile Sprinkler



Intelligent Water and Fertilizer Integrated System



## SOILLESS CULTIVATION

■ Soilless cultivation is divided into hydroponics, aeroponics and substrate cultivation according to different cultivation media.

■ Hydroponics refers to the cultivation method in which the root system is directly contacted with the nutrient solution without using a substrate to fix the root system. It mainly includes deep flow technique (DFT), nutrient film technique (NFT) and floating capillary hydroponics (FCH).

■ Aeroponics is to use the nutrient solution after filtering to pass the atomizing spray device under pressure to atomize the nutrient solution into fine droplets and spray it directly to the root system of the plant to provide the water and nutrients required for plant growth.

■ Substrate cultivation is to fix the roots of crops in organic or inorganic substrates. Organic substrates include peat, rice husks, and bark. Inorganic substrates include vermiculite, perlite, rock wool, ceramsite, gravel, sponge soil, etc. It can be used as a supporting medium to supply crop nutrient solution by drip irrigation or trickle irrigation.





## BENCH SYSTEM

The bench bracket is made of hot-dip galvanized steel pipes. The bench frame is made of angle steel and aluminum alloy.

Rolling bench: The steel wire mesh is laid on the surface of bench, and the surface of the steel wire mesh is treated with hot-dip galvanizing.

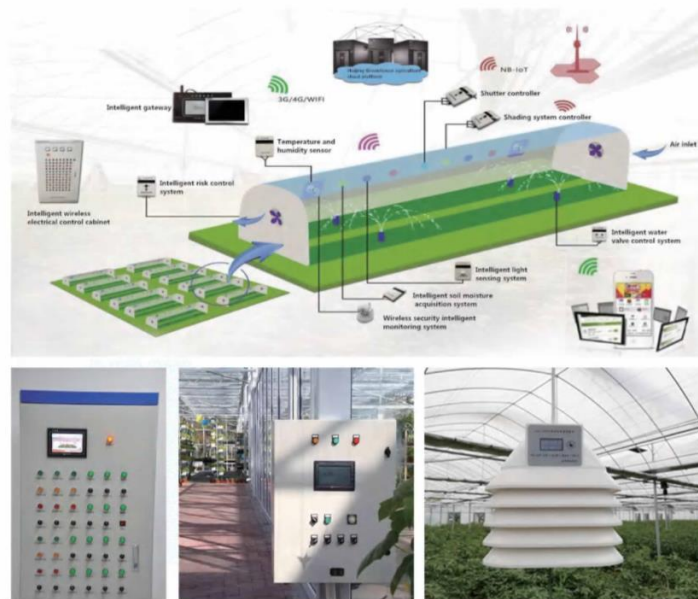
Ebb and flood bench: The planting plate is made of ABS environmental protection material, which has high anti-corrosion performance, anti-UV and pressure resistance, good load-bearing capacity and long service life.



## CONTROL SYSTEM

The normal control system (control cabinet) enables central control of the greenhouse ventilation system, shading system, cooling system, etc.

The intelligent control system (IOT system) consists of weather station, indoor environment sensors, greenhouse control software, etc. By deploying sensors, controllers, cameras and other Internet equipment on the greenhouse, using computers and phones, real-time monitoring of agricultural production environment indicators, and remote automatic controlling of various greenhouse systems.





## OTHER EQUIPMENTS



Circulation Fan



Lighting System



Photovoltaic Power Generation System



CO2 Generator



Pipe Rail Harvesting Trolley



Water Treatment Equipment

## JIANDA PROJECT CASES

