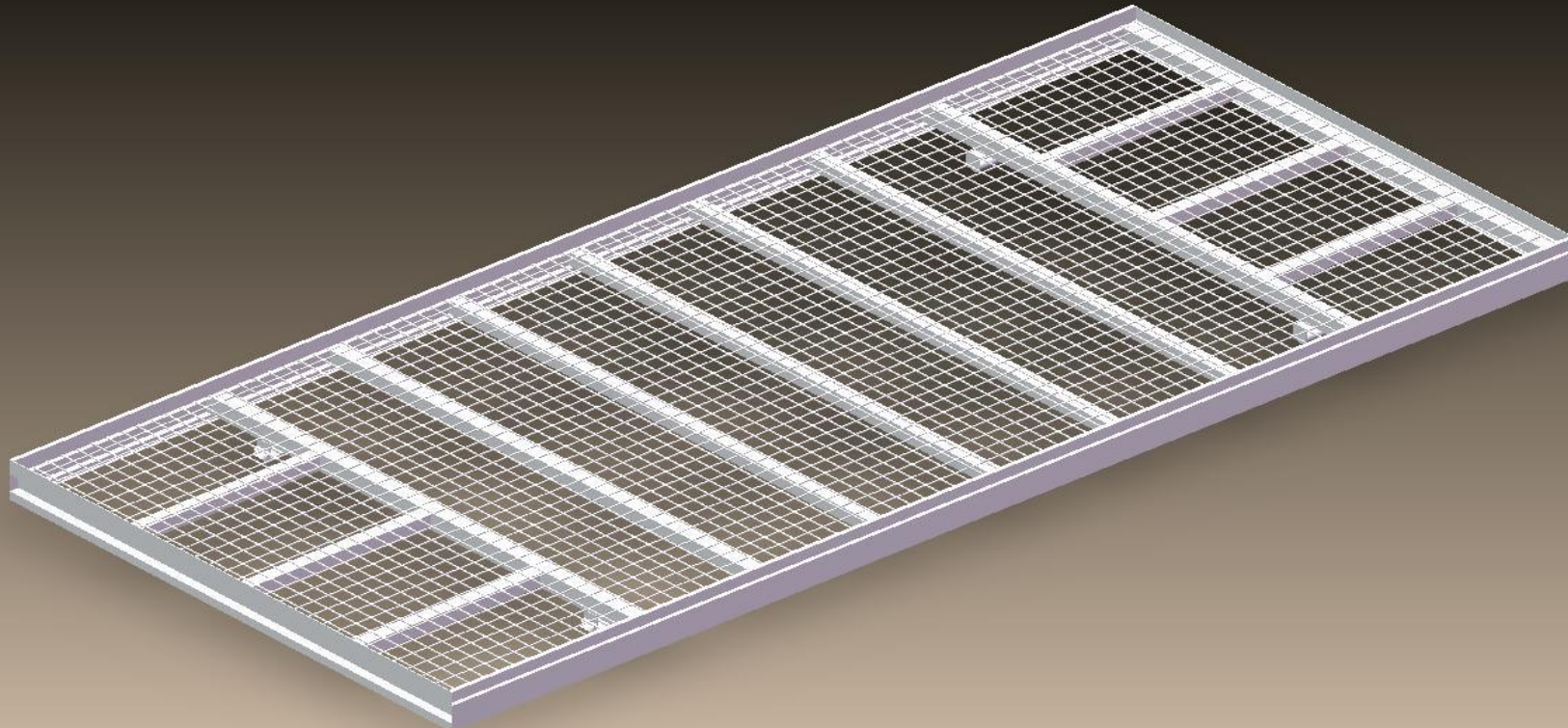


# Fully automatic mesh logistics seedbed



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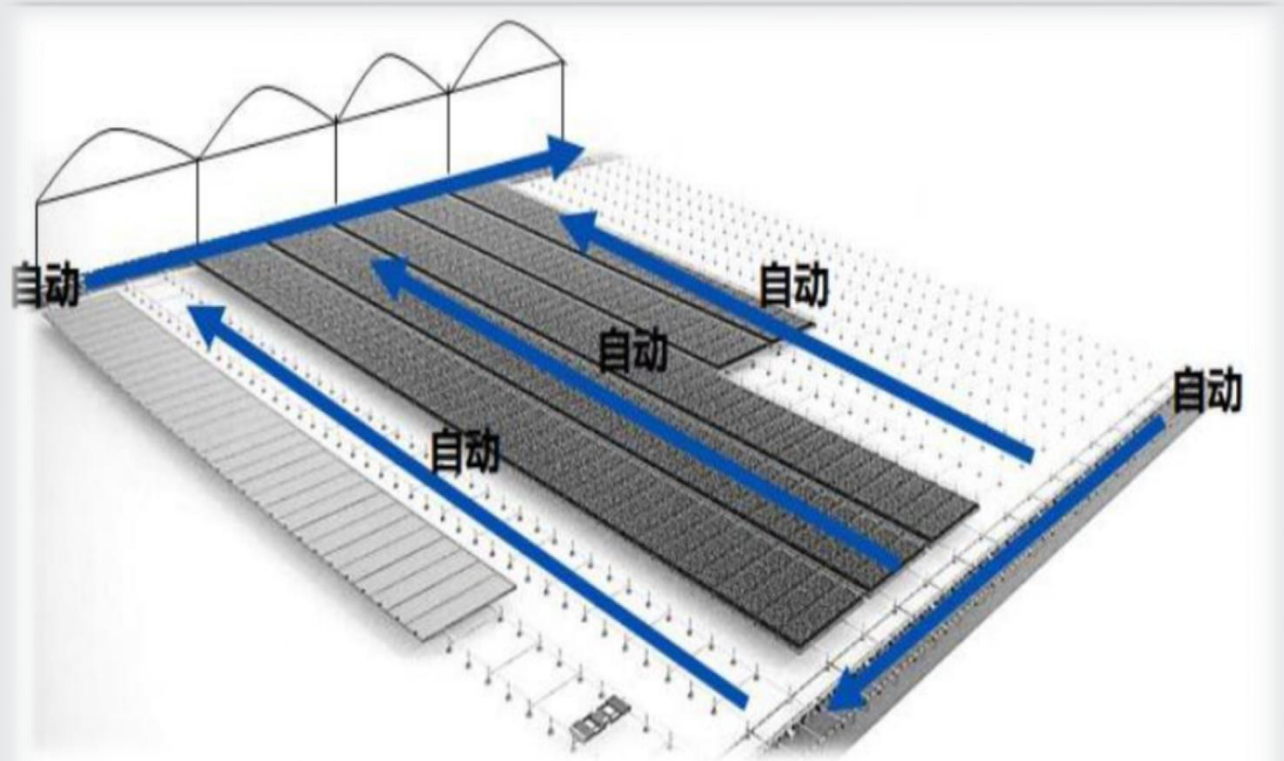


01

[ Part I ]

## Mesh logistics seedbed

## Operation mode of logistics seedbed area

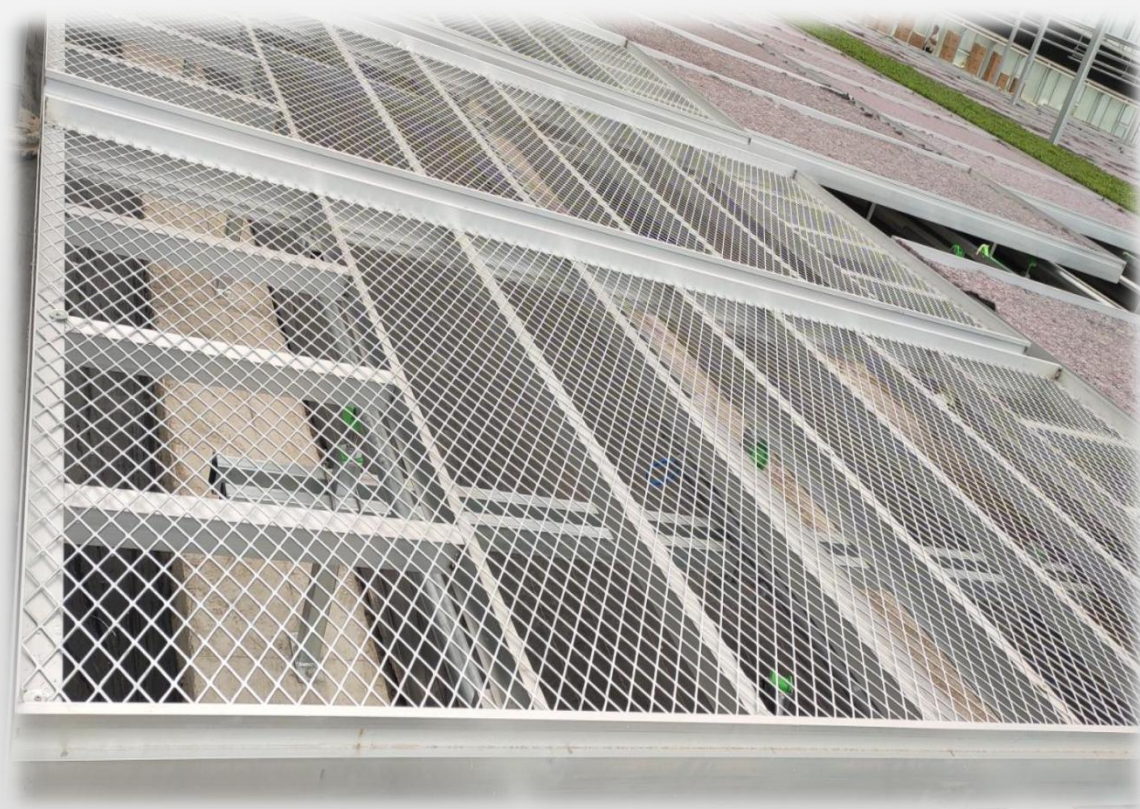


3) 全自动-横向、纵向均为自动

The system intelligently controls the transportation of logistics seedbeds through a portable industrial tablet computer, with high flexibility. The PLC system controls the motor operation, enabling the seedbeds to move in the direction indicated by the arrow on the moving track. The seedbeds can freely operate in different areas of the greenhouse through horizontal and vertical transportation tracks.

## Bed frame material

- a. Outer dimensions of seedbed: 6100mm length x 1720mm width x 140mm height
- b. The long frame, short frame, and support rod of the seedbed are all made of 6063 aluminum alloy material with a thickness of 1.5mm. The seedbed frame needs to be welded with aluminum, which is sturdy, durable, and has a long service life.
- c. The guide wheel of the seedbed is made of stainless steel bearings, which have high corrosion resistance and longer service life. The auxiliary wheel material is made of brand new nylon CNC machining, which has advantages such as high strength and good wear resistance.
- d. The seedbed mesh is made of 2.8mm cold plate stamping, and the surface is hot-dip galvanized. The mesh needs to be installed on the seedbed frame with stainless steel screws and fixing pieces.



## Horizontal transportation track

- Working mode: The horizontal conveying system drives the conveying rubber wheels through domestic motors, driving the movement of the seedbed. When the pneumatic lifting track is raised, the seedbed can move along the lifting track to the longitudinal moving track. The seedbed can freely operate in different areas of the greenhouse through the horizontal conveying system.
- Track support: It is composed of hot-dip galvanized 50mm x 50mm x 2mm steel pipe legs and 50mm x 50mm x 2mm steel pipe crossbeams, forming a portal support. The width and height can be freely adjusted to ensure smooth and stable operation of the seedbed on the lateral moving track. The support structure needs to be fixed on the concrete ground with 304 stainless steel anchor bolts.



## Track components

- Nursery bed limit mechanism
- Nursery bed auxiliary positioning mechanism
- Lateral drive mechanism (domestic motor)



## Vertical movement track

- Working mode: Through the pneumatic lifting and landing of the track, the seedbed can switch the direction of movement between the horizontal transportation track and the vertical movement track.
- Support column assembly: The support column is made of 50mm x 50mm x 2mm steel pipe and 5mm steel plate base welded and hot-dip galvanized; The supporting column assembly must be fixed to the concrete ground with stainless steel anchor bolts to ensure an effective depth of 60mm or more in the concrete.
- The seedbed track supporting longitudinal movement is composed of  $\varnothing 48\text{mm} * 2.75\text{mm}$  hot-dip galvanized round tubes;
- Height adjustment mechanism: The green U-shaped nylon support block is fixed to the track tube, and the height of the nylon support block is adjusted by rotating the M16 stainless steel bolt. The adjustable height range of the track is  $\pm 50\text{mm}$ .



## Nursery bed storage institution

- Working mode: The German imported Renz motor 0.47KW variable frequency integrated machine is used to drive the chain mechanism, which drives the storage mechanism. Through the pneumatic lifting track, the seedbed smoothly enters the longitudinal movement track, and the conveying speed can be adjusted by the frequency converter.





## Seedling bed outbound institution

- Working mode: The German imported Lenz motor with a 0.47KW drive chain drives the outbound mechanism to operate. The nylon push block in the U-shaped groove moves the seedbed smoothly into the horizontal transportation track, and the conveying speed can be adjusted by the frequency converter.



## Air source drive system

- System composition:  
permanent magnet variable  
frequency screw air compressor  
1Mpa, air storage tank, freeze  
dryer, adsorption dryer,  
precision filter, gas supply  
pipeline and accessories, driven  
by compressed air to operate  
normally, including pneumatic  
lifting track, blocking  
mechanism, auxiliary cylinder,  
etc.



02

[ Part II ]

## Functional area supporting equipment

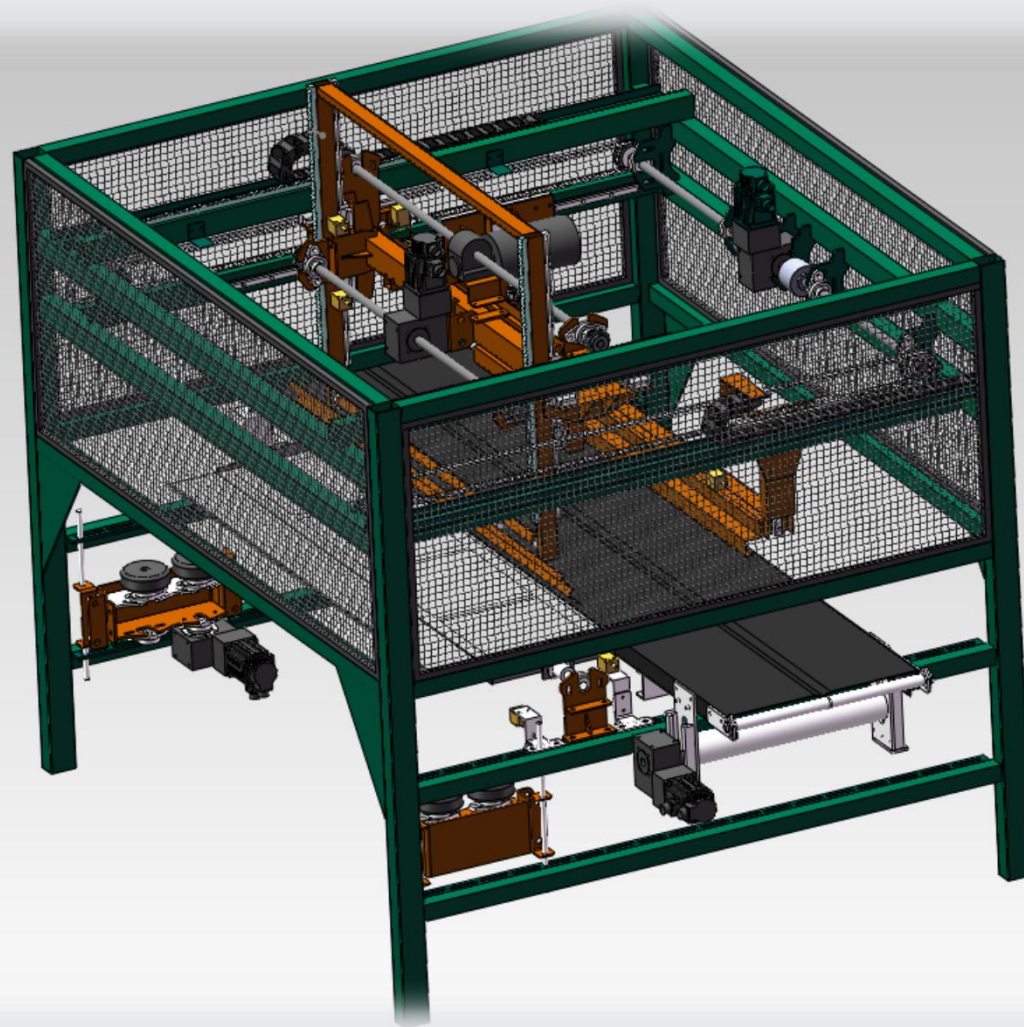


## Acupoint tray bed machine

Transfer the planting hole tray through conveyor belts and other mechanisms, and place it in a straight queue in the logistics seedbed. The seedbed can be connected to automatic seeding lines, classifiers, and other equipment through a bilateral drive system to achieve automatic stacking of planting holes. This equipment has the advantages of fast operation speed, accurate accuracy, and high degree of automation.

### Equipment parameters:

power supply:	Three-phase four-wire 380V/50Hz
power:	2KW
Maximum output:	600-800Disk/hour
Hole size:	540mm*280mm
Gas consumption:	30L/h
air pressure:	6bar
Machine dimensions:	customized
total weight:	<250Kg



### Light load overhead crane

The seedbed is transported through an air transportation system and intelligently controlled by a PLC system, which can achieve functions such as fixed-point lifting, horizontal transfer, and system arrangement of the seedbed. This enables the supply, transportation, and stacking of seedbeds before sowing and after production is completed. It can cooperate with the seedbed cleaning machine to solve the cumbersome handling and placement of individual seedbeds, saving 80% of its direct labor. The system is simple and flexible, and can be installed in various newly built or renovated greenhouse structures.

#### Equipment parameters:

power supply:	Three-phase four-wire 380V/50Hz
Operating power:	2.2KW
Maximum output:	30-50Disk/hour
Linear walking speed:	80-100m/min
Machine dimensions:	customized
Height of overhead crane frame:	4m
Single column stacking quantity:	16 fix



## Germination chamber

Design a multi-level clean cultivation space based on requirements such as germination environment, seedling cultivation, logistics, and equipment layout. By using an electronic sensing system, the temperature, humidity, and light of plant growth are automatically controlled to form an independent climate system suitable for seedling cultivation. When used in conjunction with elevated elevators, it improves the utilization rate of germination room space and can be perfectly connected with logistics seedbed systems.

### Equipment parameters:

power supply:	Three-phase four-wire 380V/50Hz
Operating power:	4KW
temperature range:	20-31 °C adjustable, deviation $\leq 2$ °C
Relative humidity range:	80-97% adjustable, deviation $\leq 8\%$
Specification of germination chamber:	Height of 4m, total of 5 floors
Storage capacity of seedbed:	70fix





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# 谢谢观赏

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