autonomous smart feed production machine

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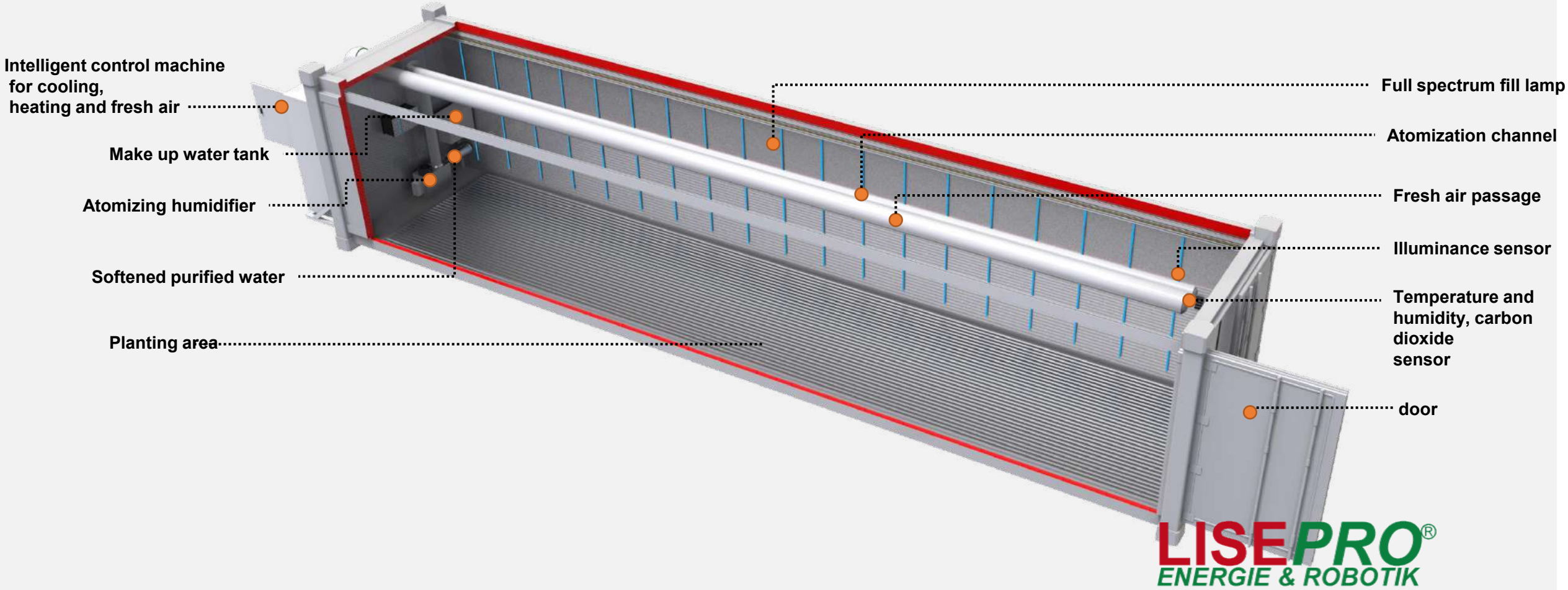
Program advantages

Ecological design, building the ark



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Program advantages

Intelligent control to create the best ecological environment

Manual and automatic control switching

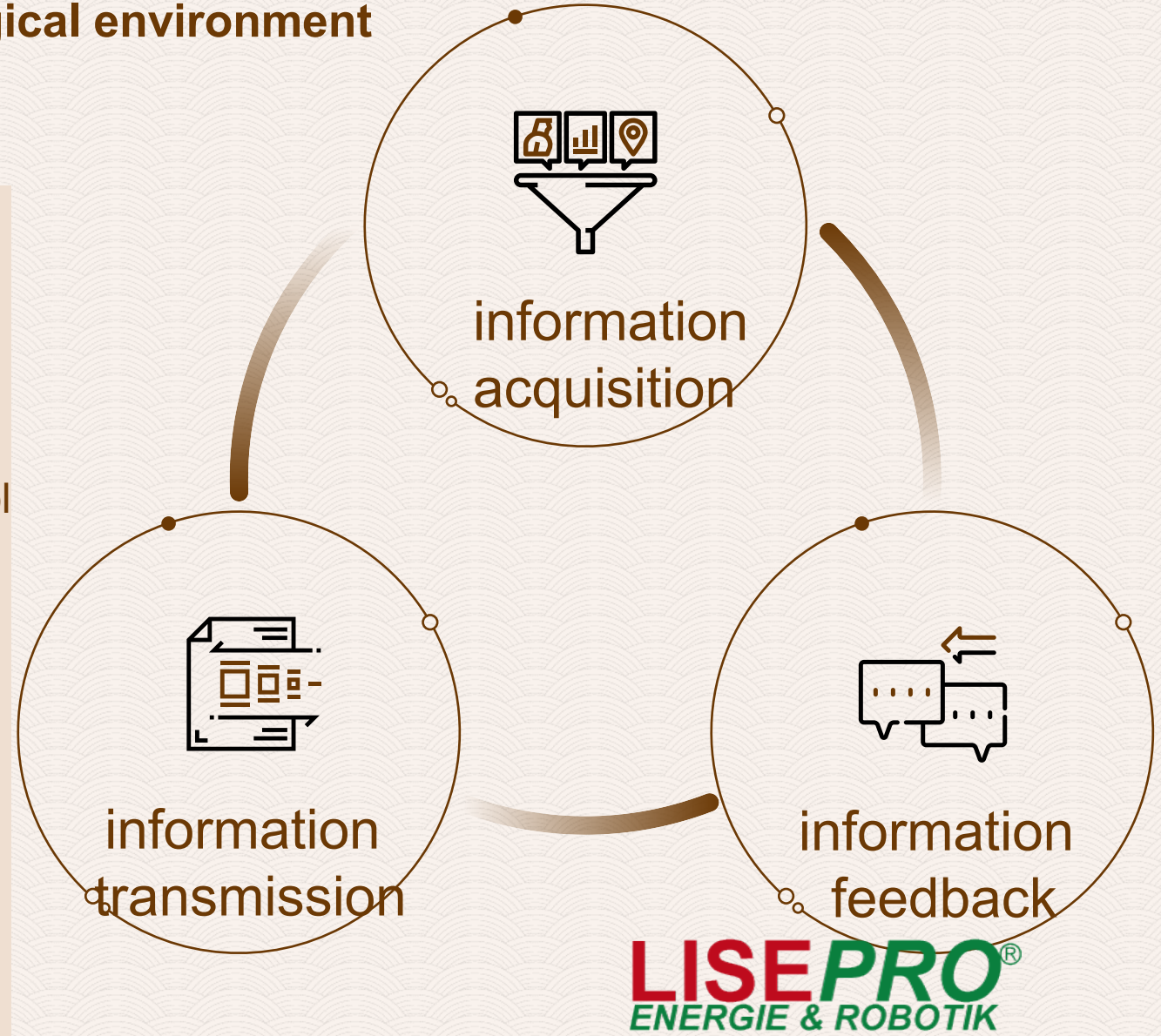
According to the different needs of growth stage, the environment is dynamically adjusted and optimized.

Environmental monitoring and precise control

Real time acquisition of temperature and humidity, CO2 concentration and other information and accurate control.

Preset strain template

Different environmental parameters are preset to realize high-efficiency, high-quality and high-yield mushroom cultivation.



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Program advantages

Aseptic technology ensures growth environment

Accurate fresh air system

Air filtration ensures the cleanliness of
The fresh air introduced can accommodate this
Forage growth requirements.

Ultrasonic humidification system

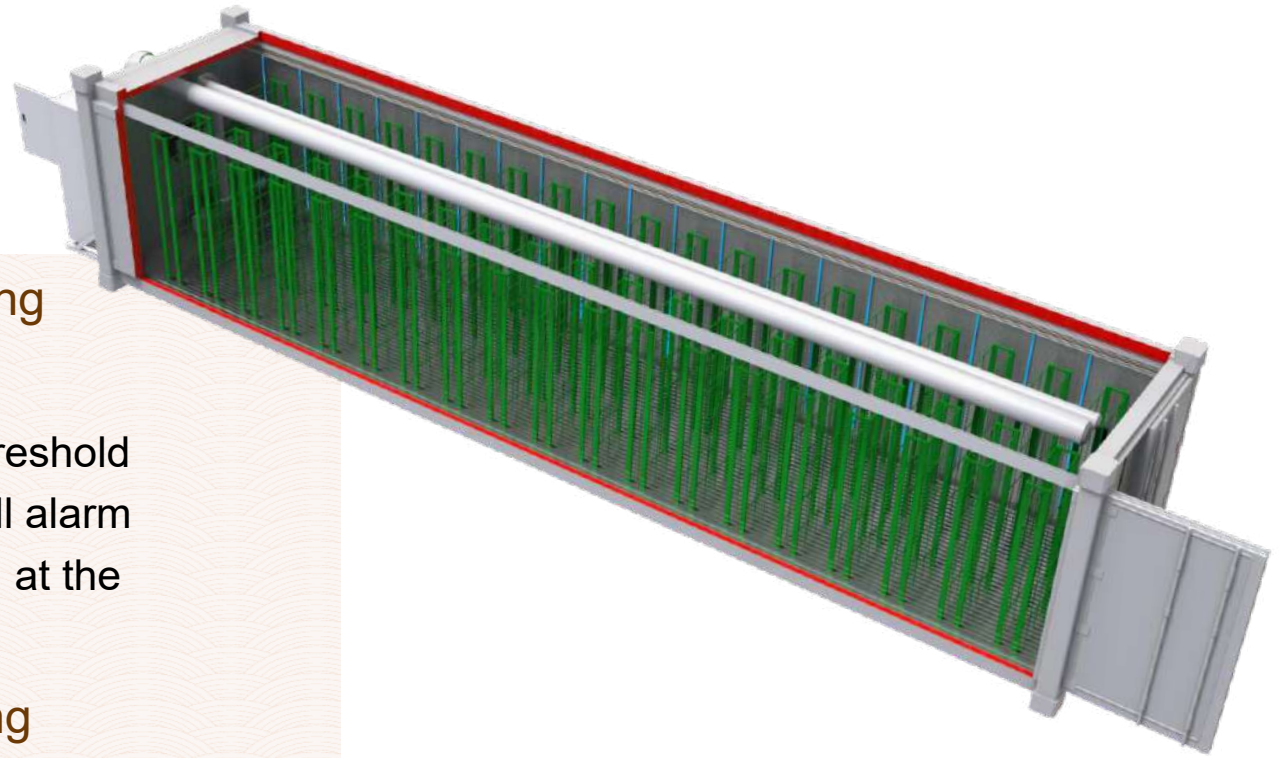
The water used in the atomizing humidifier in the process of planting was filtered and sterilized.

Process sterilization

After refueling, the container is sterilized as a whole.

Program advantages

Multiple security protection, abnormal alarm



Equipment operation status

Key equipment operation status monitoring, early warning in advance to ensure the growth environment.

environmental monitoring

When the environmental parameters exceed the threshold value, the warning light will alarm and upload to the platform at the same time.

CO2 concentration warning

If the concentration of CO2 exceeds the tolerance range of human body, the warning light at the door and the platform will give early warning.

Door opening monitoring

Monitor the opening and closing times of the outer door.

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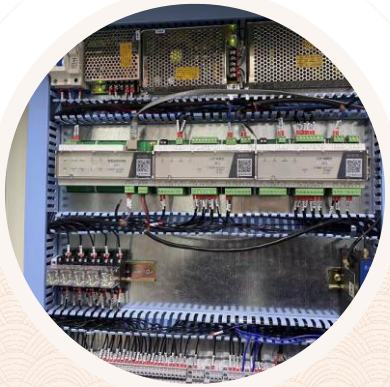
Programme value

Increase production

The intelligent feed shelter can get rid of the restrictions of natural conditions such as season and geography, and realize annual cultivation through precise control, which is more than 20 times of the traditional edible mushroom output value.



Labor saving

The intelligent operation of planting box can reduce the labor intensity of personnel and greatly reduce the dependence on labor in the process of crop growth and planting.

Low carbon and energy saving

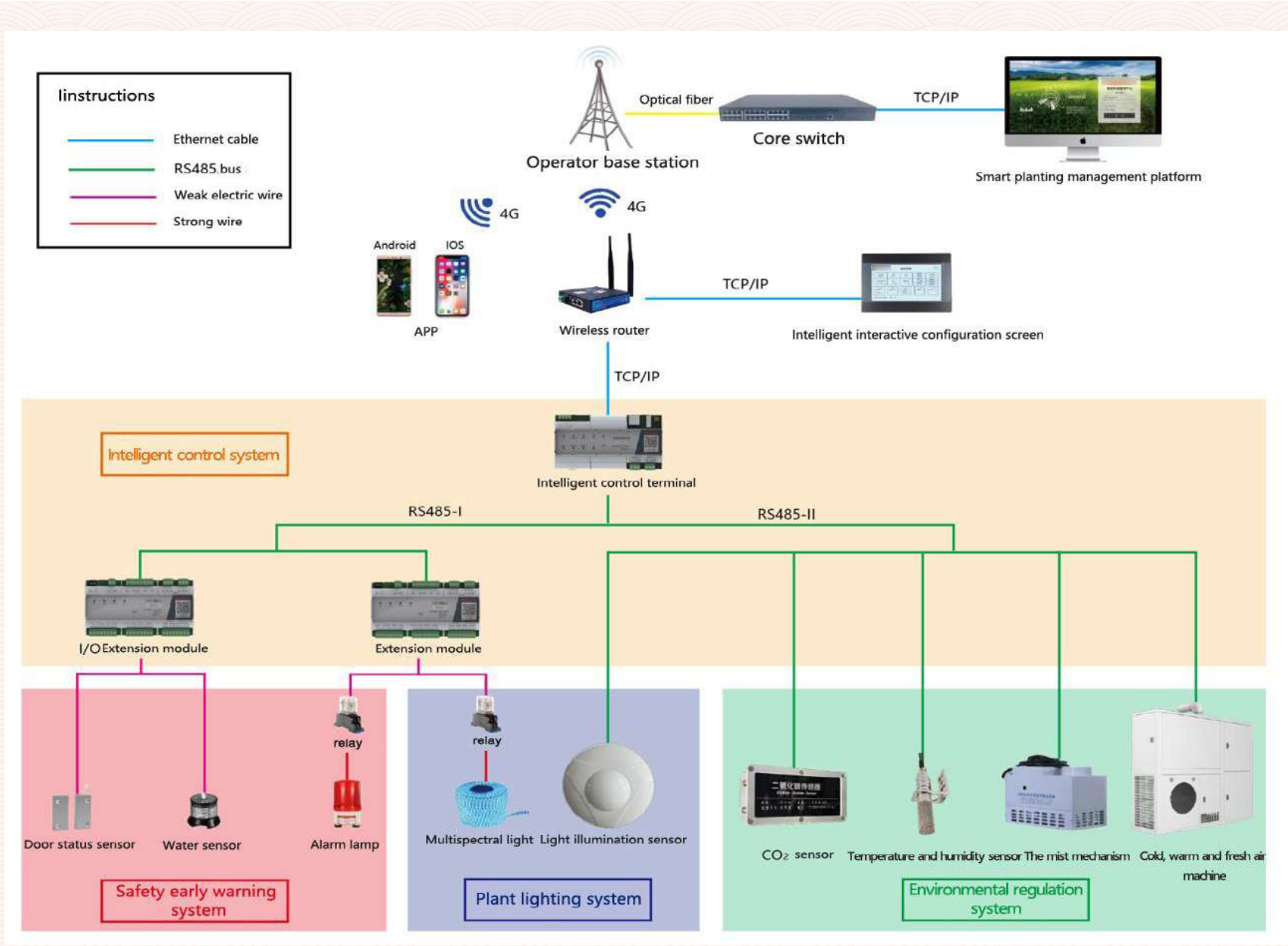
Using the air source heat pump principle of cold, warm and fresh air integrated machine, calmly deal with the harsh weather environment, provide efficient, continuous and stable heat source, and save energy by more than 40% compared with the traditional operation mode.

intelligent control system

environmental monitoring

Planting managem ent

Door opening record

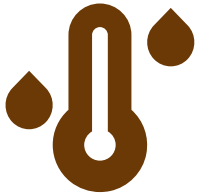


intelligent control system

Setting and monitoring of environmental parameters

constant temperature

5 ~ 30 ?
adjustable



Constant humidity

Up to 95% RH

Illuminance

On demand

CO_2

On demand

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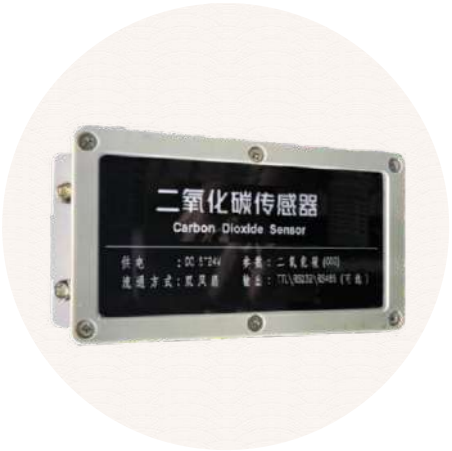
intelligent control system

Setting and monitoring of environmental parameters (subject to the actual object)

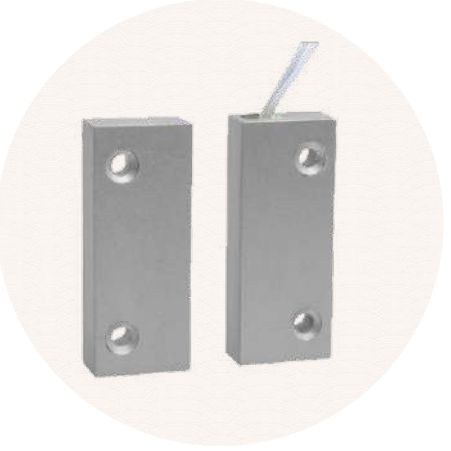
Temperature and humidity sensor

Illuminance sensor



CO2 sensor

Flooding detector



Gate magnetic sensor

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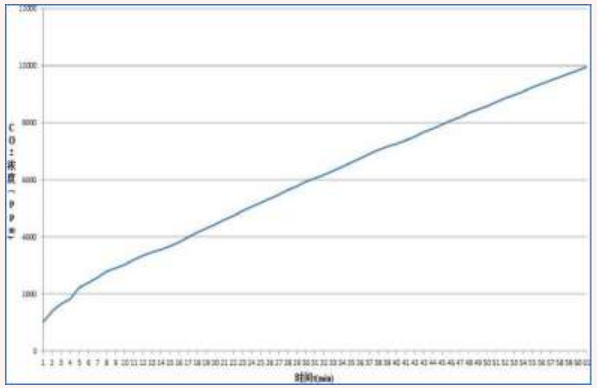
intelligent control system

Air source heat pump technology based cooling, heating and fresh air integrated machine (subject to the actual object)

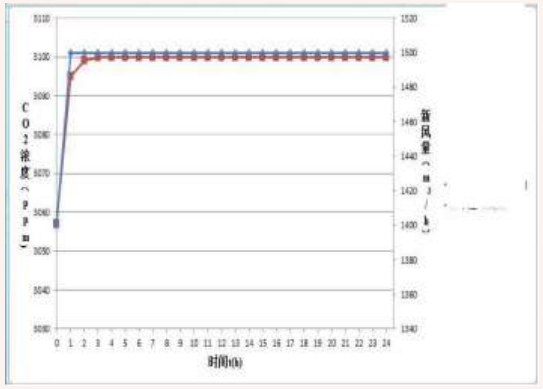
- Heating capacity : 18 kw
- COP : 3.6
- Cooling capacity : 16 kw
- EER : 3.25
- Fresh air volume : 3600 m^3/h

In the feed breeding home, precise control is required Cold and warm air system technology was used first to accurately control indoor CO2 concentration and temperature to ensure the most suitable one Environment for forage growth.

CO2 concentration

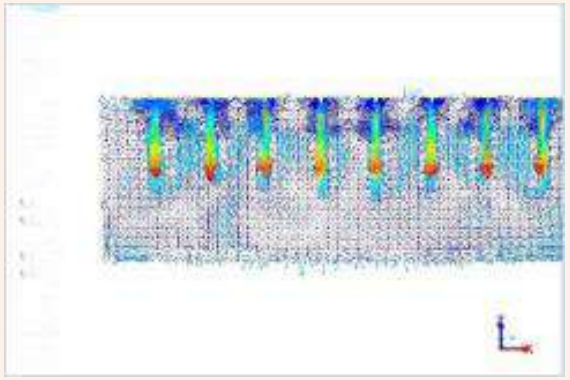


CO2 concentration curve of feed sample

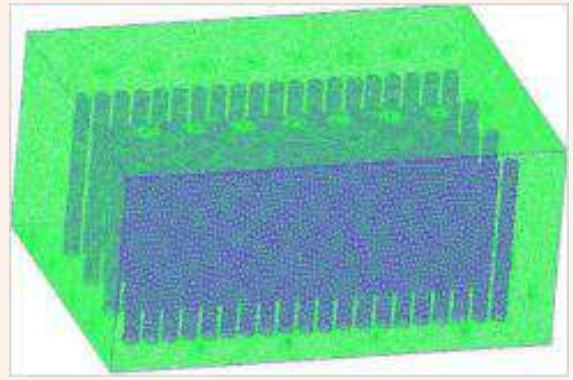


Relationship between CO2 concentration and fresh air volume

CFD simulation



Section vector



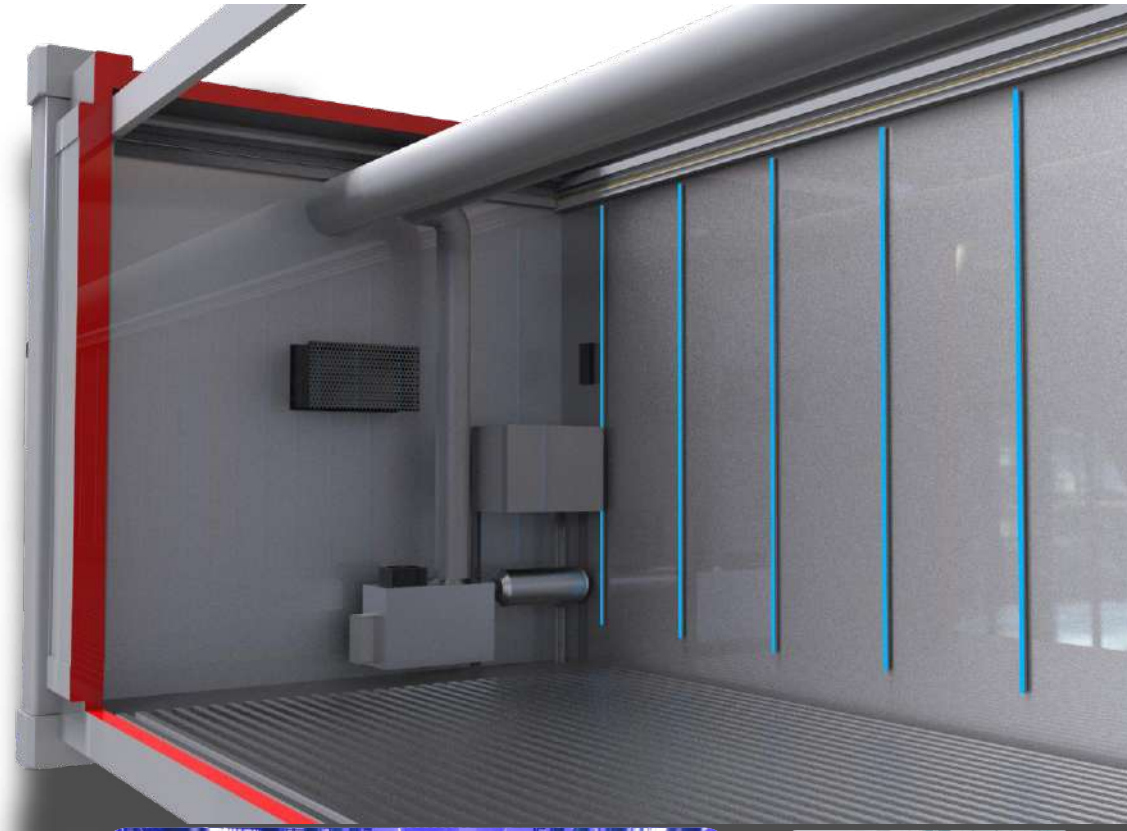
Model of feed house

intelligent control system

Atomization humidifier (subject to actual object)

descripti

- ? Ultrasonic atomization technology, moisture-proof power box and other high-quality accessories, more stable performance;
- ? Intelligent time and humidity control to meet the needs of customers;
- ? The energy consumption of unit humidification is only 1 / 10 of that of other humidification methods;
- ? It has high humidification intensity, small and uniform fog particles, and can quickly reach the required relative humidity per unit time.



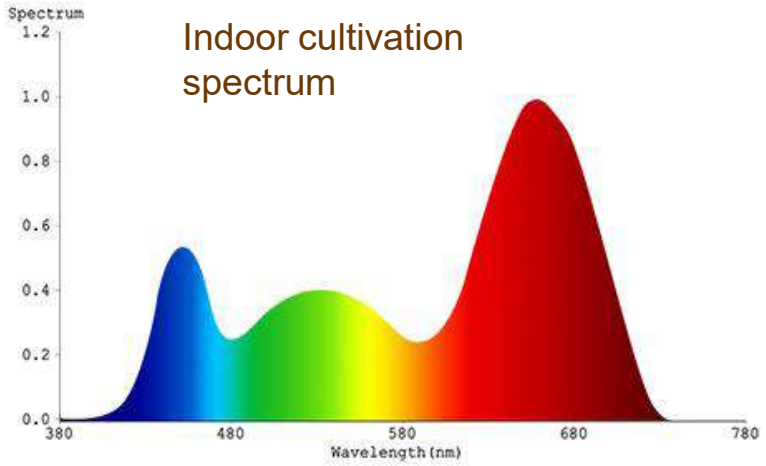
paramet

- ? Water flow : 28 L / h
- ? Power supply of atomization board : 220 V
- ? Fog size : 1-5 μm
- ? Number of mist outlet : 1

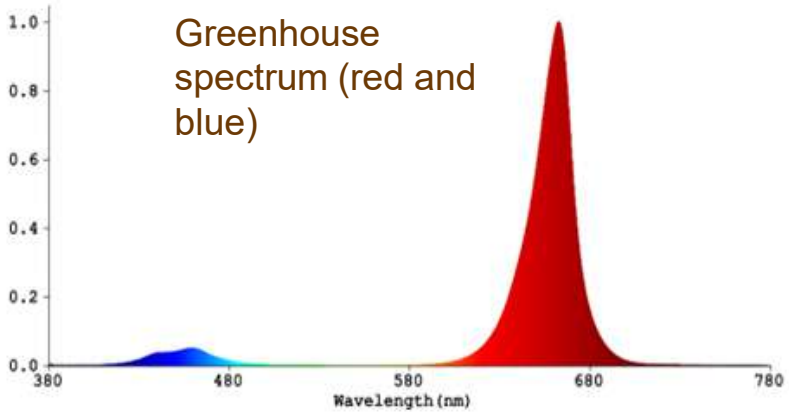
intelligent control system

Multispectral lighting

Ultra wide spectrum lighting configuration, according to the type of ffedroom and different growth stages, control the light of different wavelengths and duration to provide the best light demand, which can improve the yield and quality of crops.



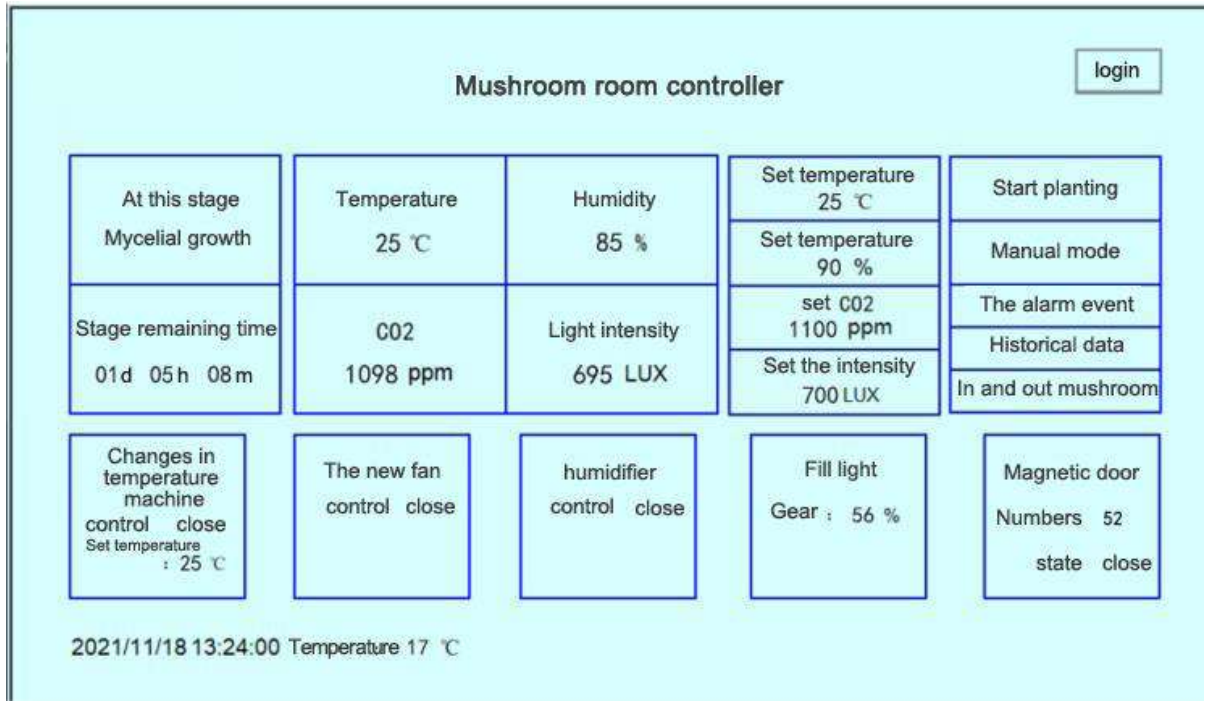
Indoor cultivation spectrum



Greenhouse spectrum (red and blue)

intelligent control system

Planting management



Configuration screen interface

Local control

Through the intelligent interactive configuration screen to achieve control visualization, card type operation interface, simple and fast.

- stage query
- Environmental Science parameter
- Environmental Science adjust
- switch control
- pattern set up
- history data

intelligent control system

Planting management

- Start planting planting complete
- Read current planting stage
- Set planting stage time

Manual control intelligence control

Parameter query settings	Switch control	Mode setting
temperature	New trend	Planting stage
humidity	Warm and cold	Spectrum settings
Illuminance	atomization	Fill lamp gear
CO2 concentration	fill-in light	

temperature control

humidity control

Illumination control

CO2 concentration control

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intelligent control system

Planting management

Remote control

The intelligent planting management platform provides a one-stop Internet of things management tool to fine remote control the agricultural production process.

- Front end data acquisition
- Planting data management
- Statistics of planting data
- Early warning and statistics
- trend analysis
- data storage

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Introduction to core products

Intelligent control terminal eict

- The terminal control logic is app based, and the HVAC energy-saving control logic is preset. Through configuration, the HVAC control logic deployment based on AI energy-saving optimization can be realized;
- Support algorithm configuration on demand, and support continuous iterative upgrade of optimization logic algorithm;

signal communication

100m network port * 1 RS-485*2
PLC (power carrier communication) * 1 (optional)
4G communication network card (optional)
RF wireless communication (optional)

storage

Processor 1.2Ghz
4-core CPU arm-a7
Communication coprocessor
DDR3 2GB
eMMc 8GB

operating system

Linux V3.10

Real time clock

Built in RTC, supporting 12 years of clock data retention

Intelligent control terminal

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Introduction to core products

I / O expansion unit eiou

- It is used with the intelligent control terminal eict and connected with the hardware equipment through I / O interface to support the input and output of digital and analog signals.

I / O interface

18 I / O points:
UI general input * 5
Di passive dry contact input * 5
Do relay output * 5
Ao analog output * 3

signal communication

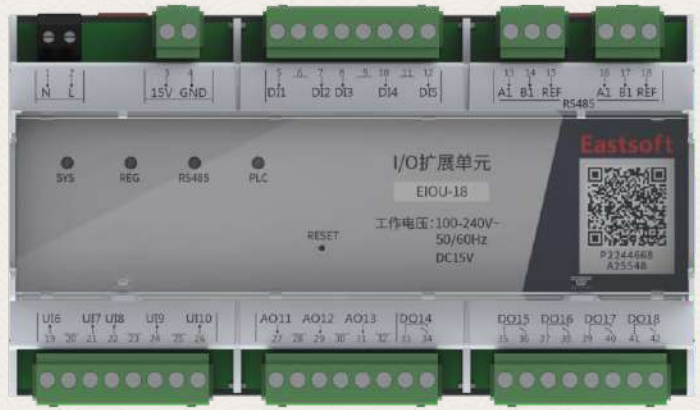
RS-485*1

CPU

32 bit arm main control CPU
Communication coprocessor

Signal accuracy

Heat input accuracy, 0.5 ?
0-10V voltage input / output, accuracy ± 50mV
4-20mA current input / output, accuracy ± 80μA



I / O expansion unit

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More application scenarios

Vegetable planting

rice planting

Cultivation of medicinal materials

Efficient agriculture, island areas, alpine regions, Gobi Desert

German Technology

produced in Turkey

Made in Türkiye

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