ISO CE SGS

- Free installation
- With wheels
- 160 trays(SS304)
- Capacity: 500KG

MODEL SH series

Heat Pump Dryer

Guangzhou SIBIONO Drying Equipment Co., Ltd

Installation structure diagram of SH series heat pump dryer

Reading Guide

01 Models

Part 01:
Parameters of SIBIONO brand SH series 1 heat pump dryer.

02 Principle

Part 02:
Working principle and drying process principle of heat pump dryers.

03 Structure

Part 03:
Components, materials, elements, control system, and remote control system of the dryer.

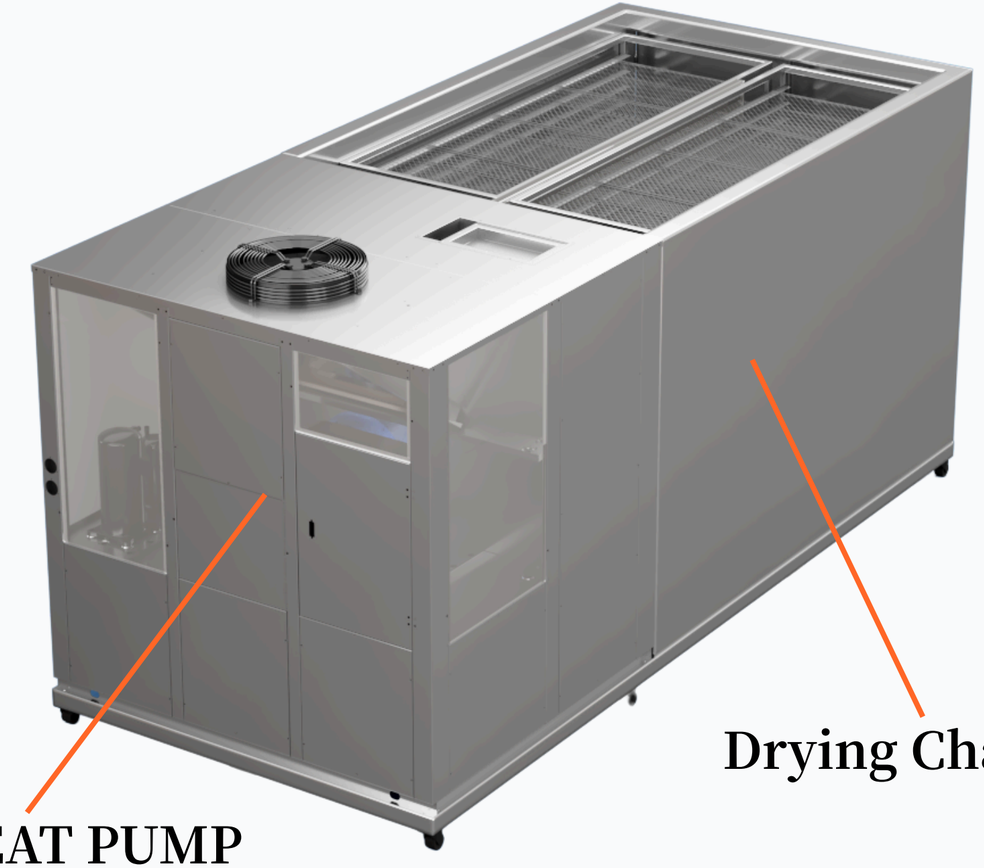
04 System

Part 04:
Functions of SIBIONO brand heat pump dryers, and compare SIBIONO brand heat pump dryers with those from other factories.

3 types of materials of SH-K07 Dryer

Model	SH-K07		
Material No.	**MH01**	MH02	MH03
Power supply	380V-3PH 50/60HZ		
Input power(kw)	12.4		
Dimension(mm)	L4950*W2000*H2130 mm		
Capacity	500kg		
Heat pump Enclosure	Spray painted	SUS201	SUS304
Chamber material	Coated Steel	SUS304	SUS304
	Insulation material is polyurethane(Thk 100mm)		
Tray material	SS304		
Qty of tray & Trolley	160 trays & 8 trolleys		
Refrigerant	R134a/4.5kg		
Dehumidification	40L/H		
Hot air circulation	Regularly switch the direction of hot air circulation		
Application	Fruits / Vegetables / Pet food / Meat / Spices / Flowers / Charcoal / Fish / Shrimp / Nut / Incense / Cotton pad etc.		

First, let's take a look at the main structure



HEAT PUMP

Drying Chamber

1. Calorific function
2. Dehumidification function
3. Hot air flow function

Air deflector

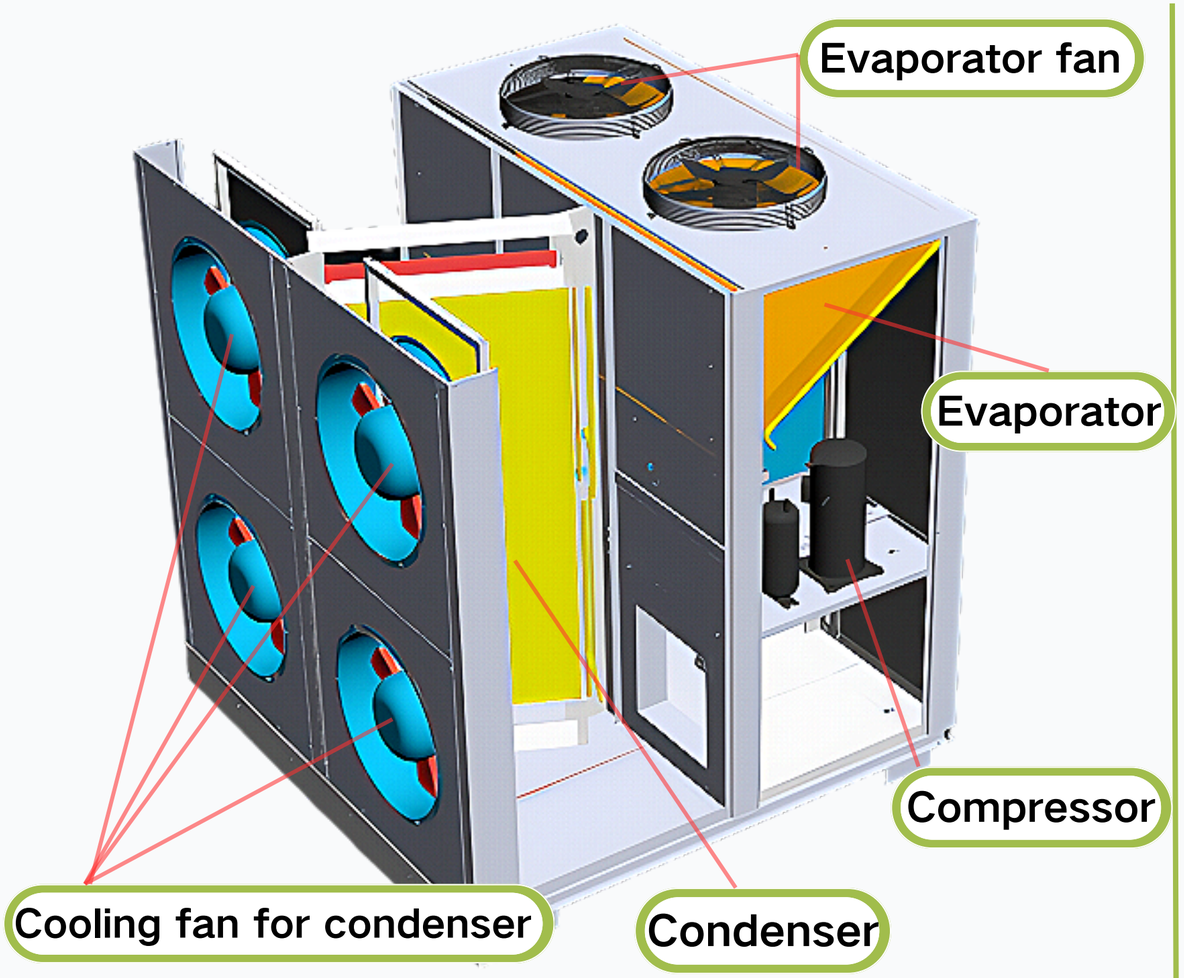
Fan

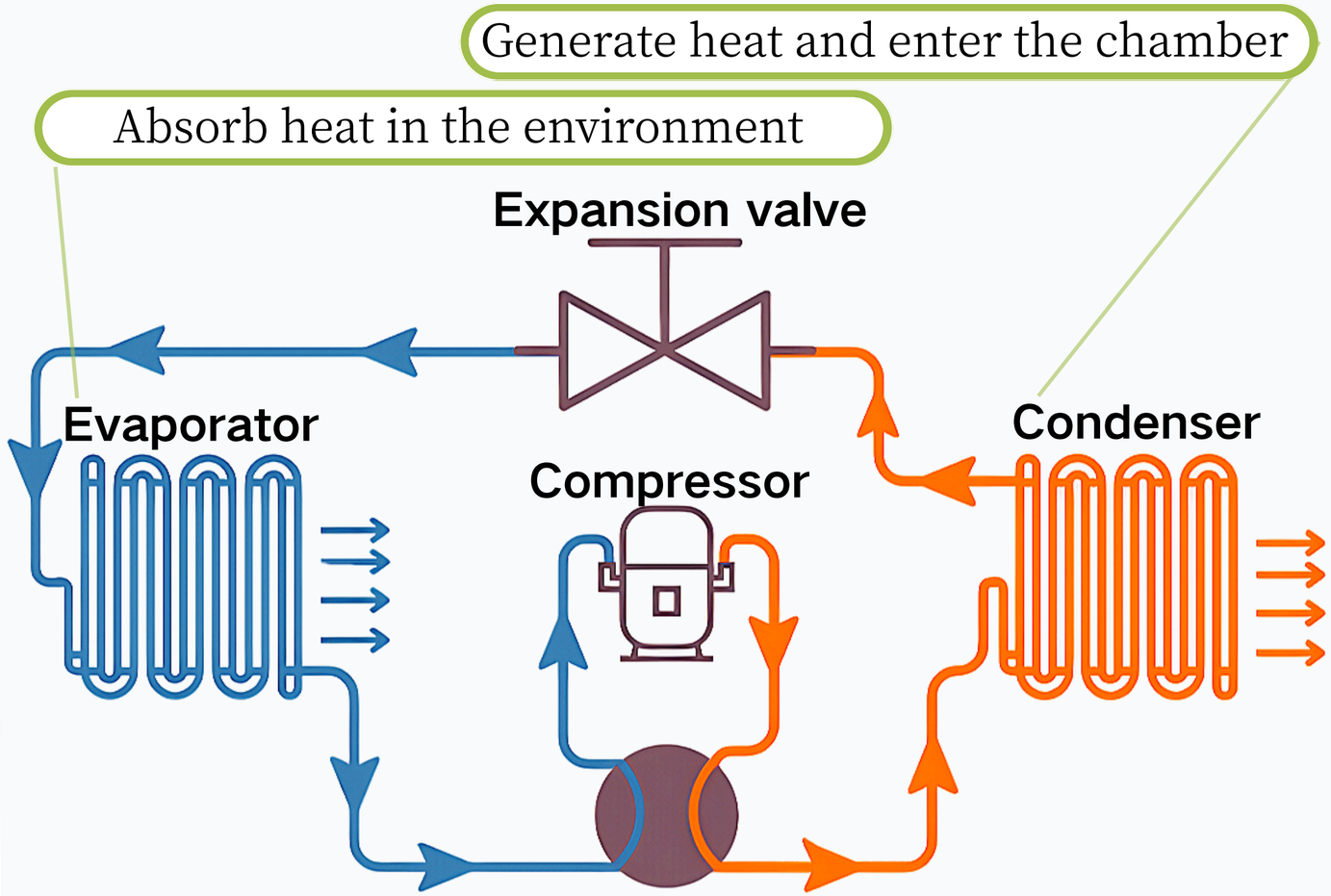
Trays

Wheel

Door

Then, let's see how the heat pump heats up





The refrigerant absorbs heat in the evaporator, becomes a gaseous refrigerant, and then enters the compressor. The compressed gaseous refrigerant in the compressor becomes high temperature and is input into the condenser, dissipating heat into the chamber.

Energy Consumption for Heating 100m3 from 20℃ to 75℃ in 30 mins		
Heating Technology	Energy Consumption	Unit
Heat Pump	0.576	kWh
Electric Heater	1.843	kWh
Natural Gas	0.203	Cubic Meters (m^3)
Biomass Pellets	0.466	Kilograms (kg)

The four major advantages of heat pumps:

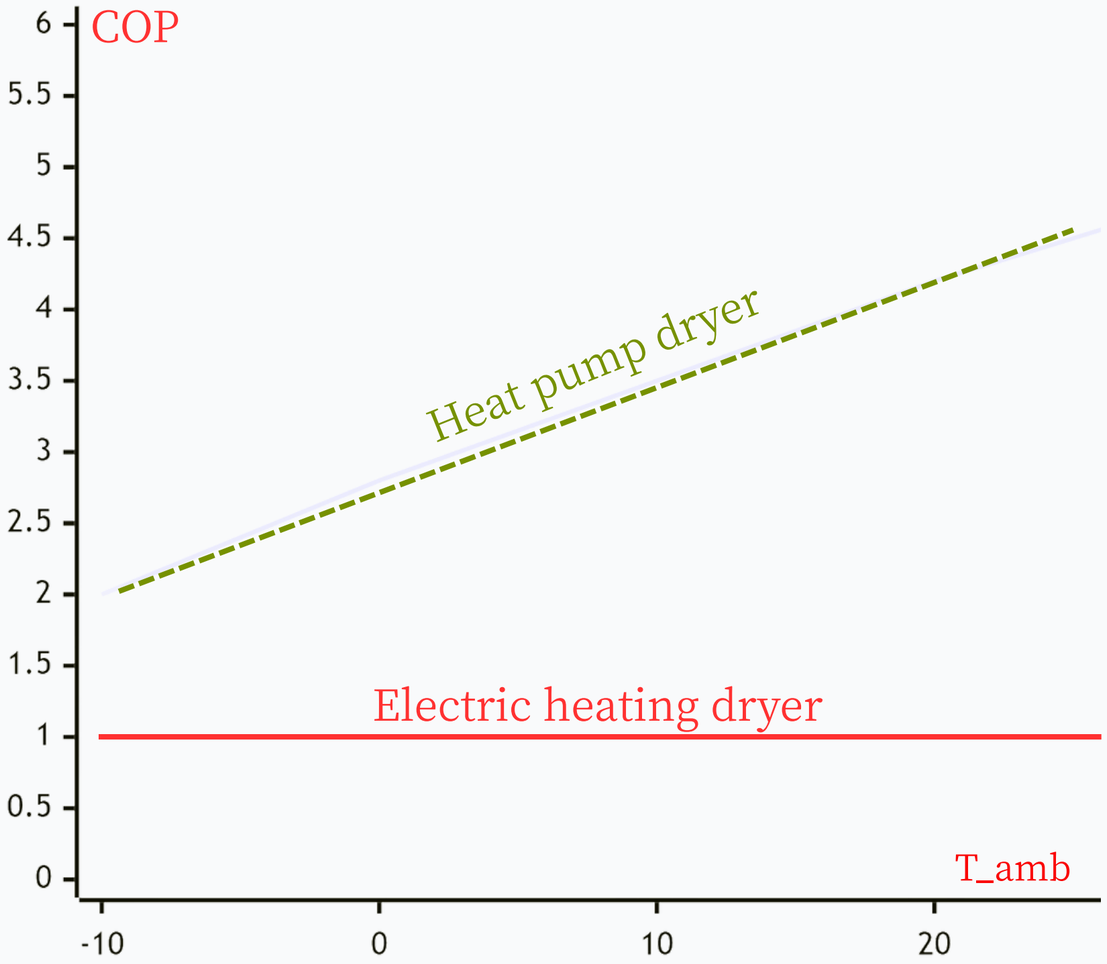
1. High heating efficiency and low drying cost;

2. Clean energy (electricity) that meets environmental protection requirements;

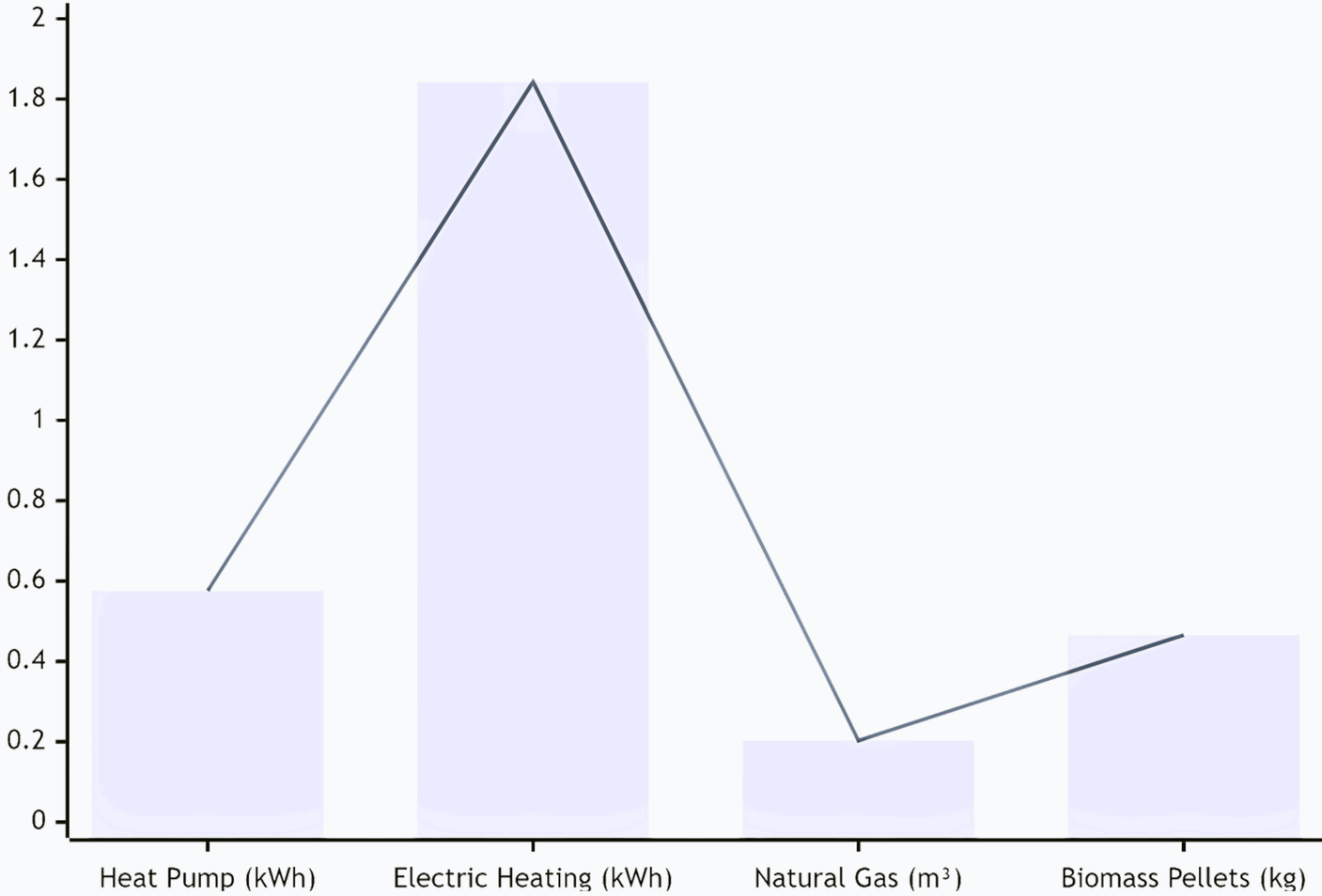
3. No open flame heating, high safety factor.

Heat pump dryer VS Other types of dryers

Energy Efficiency Ratio (COP)
Heat pump dryer VS Electric heating dryer
Condition 1 : Environmental temperature 0-20 ℃



The energy cost of heating
Condition 1 : Insulated and sealed 100 cubic meter space
Condition 2 : 20 ℃ to 75 ℃ within 30 minutes



Then, how does the dryer heat the material?

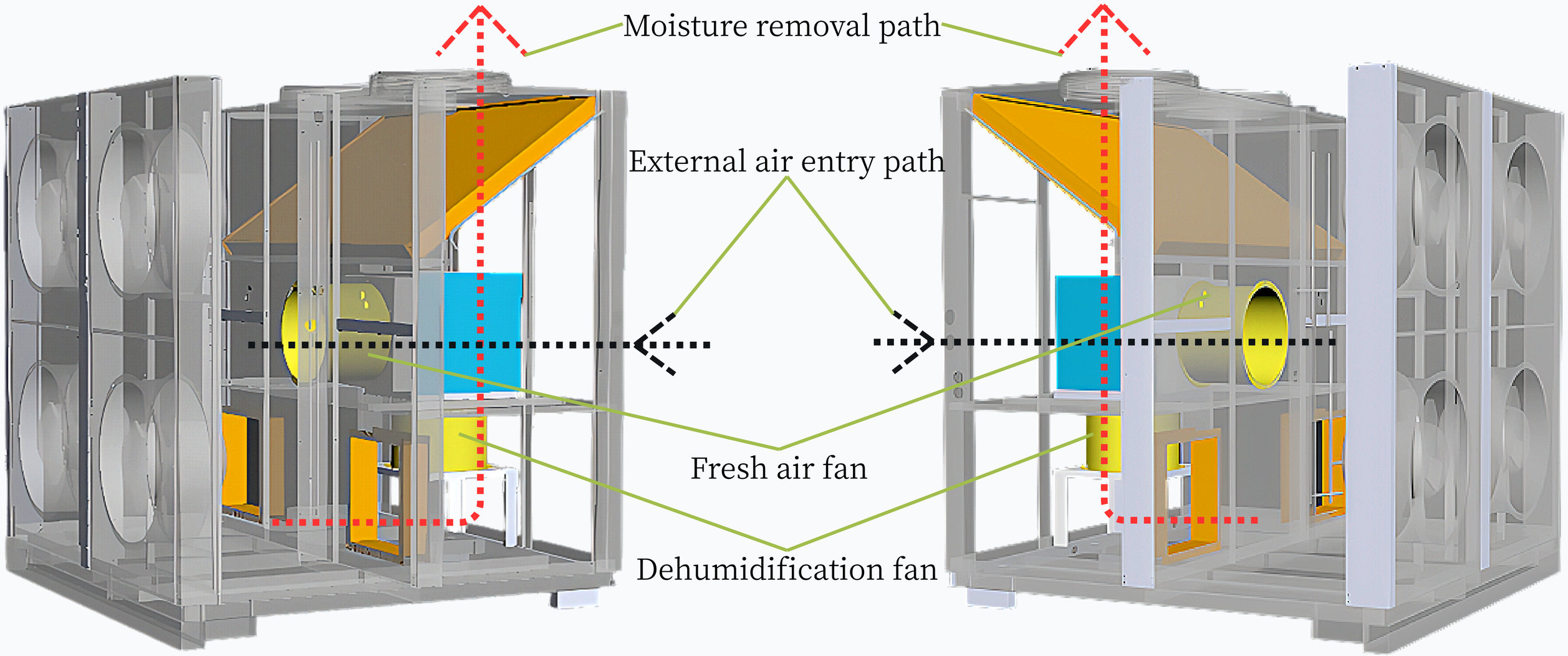
Place the product into the dryer chamber

Hot air
(Clockwise)

Hot air
(Counterclockwise)

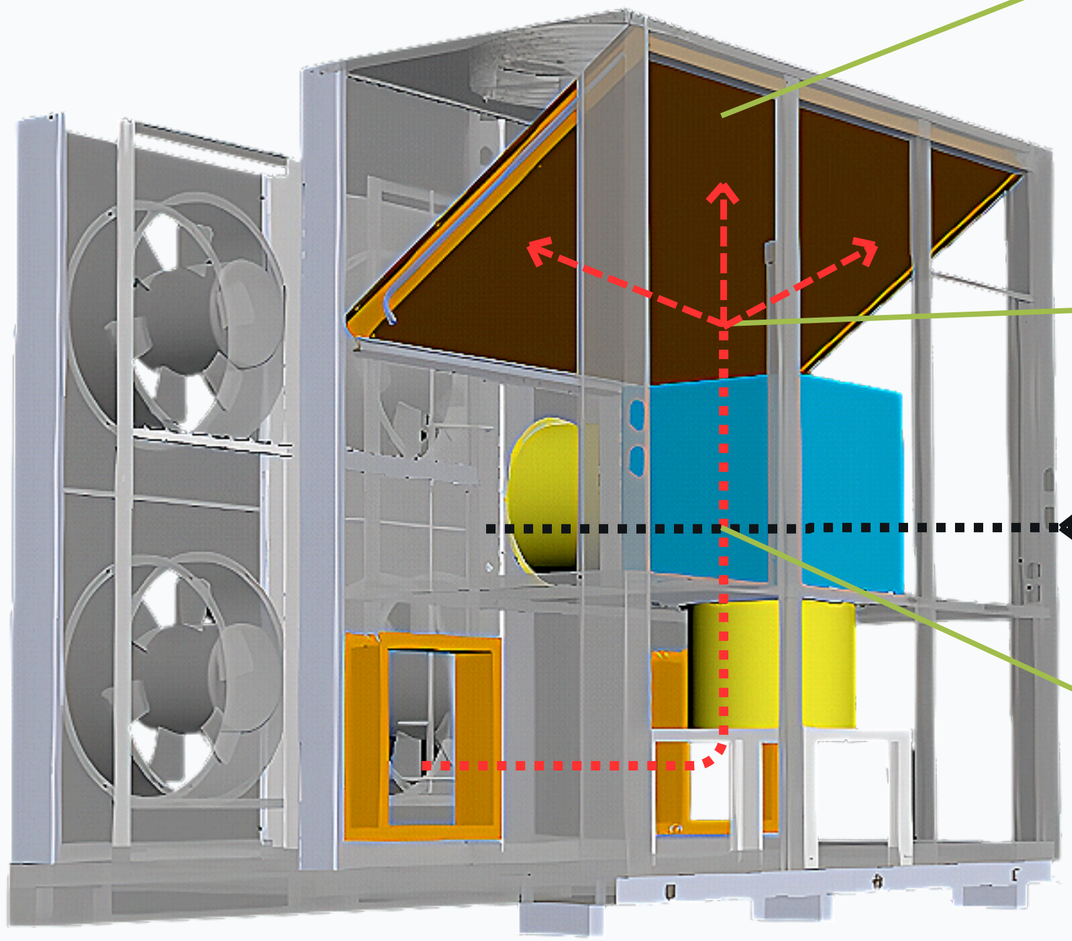
When the heat pump starts to generate heat, a hot air flow is formed in the chamber through the operation of the fan. The products in the chamber absorb heat and evaporate moisture when they come into contact with the hot air.

Finally, how does the dryer remove moisture?



The dehumidification path is divided into two paths:
① Clockwise delivery of hot air: Open the dehumidification outlet in the corresponding return air area;
② Transport hot air counterclockwise: open the dehumidification outlet in the corresponding return air area;

Reduce heat loss during dehumidification?



Heat recovery: When the evaporator encounters high temperatures, the refrigerant inside the evaporator will quickly absorb heat and vaporize, thereby improving heating efficiency and energy efficiency ratio.

When the water vapor of the product is discharged outward, it will be accompanied by a large amount of heat, This heat will be used for heat recovery (Output to the surface of the evaporator).

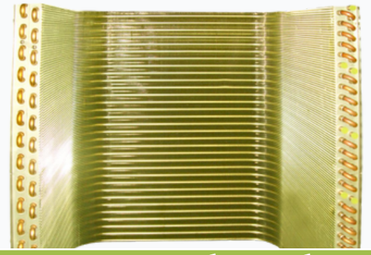
Fresh air passing through the heat source area, preheating mechanism for fresh air

During the dehumidification process, fresh air and high-temperature steam will cross contact once in the heat recovery device to achieve two purposes:

1. New air preheating mechanism and improve the temperature stability of the dryer;
2. Reduce the humidity of fresh air entering the chamber and minimize fluctuations in humidity in the dryer;

Heat Pump Dryer

Components of a dryer



Evaporator and condenser
(Nano anti-corrosion)

Compressor
(Emerson / Copeland)

Circulating fan
(SIBIONO)

Dehumidification fan
(SIBIONO)

Heat recovery device
(SIBIONO)

Temper & humi probe
(SIBIONO)

PLC control
(SIBIONO)

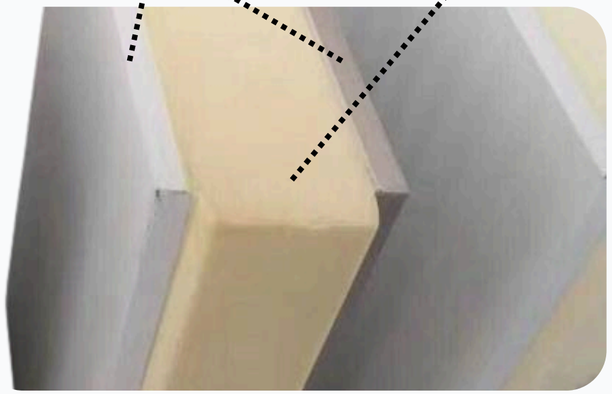
KM & TOL
(Schneider)

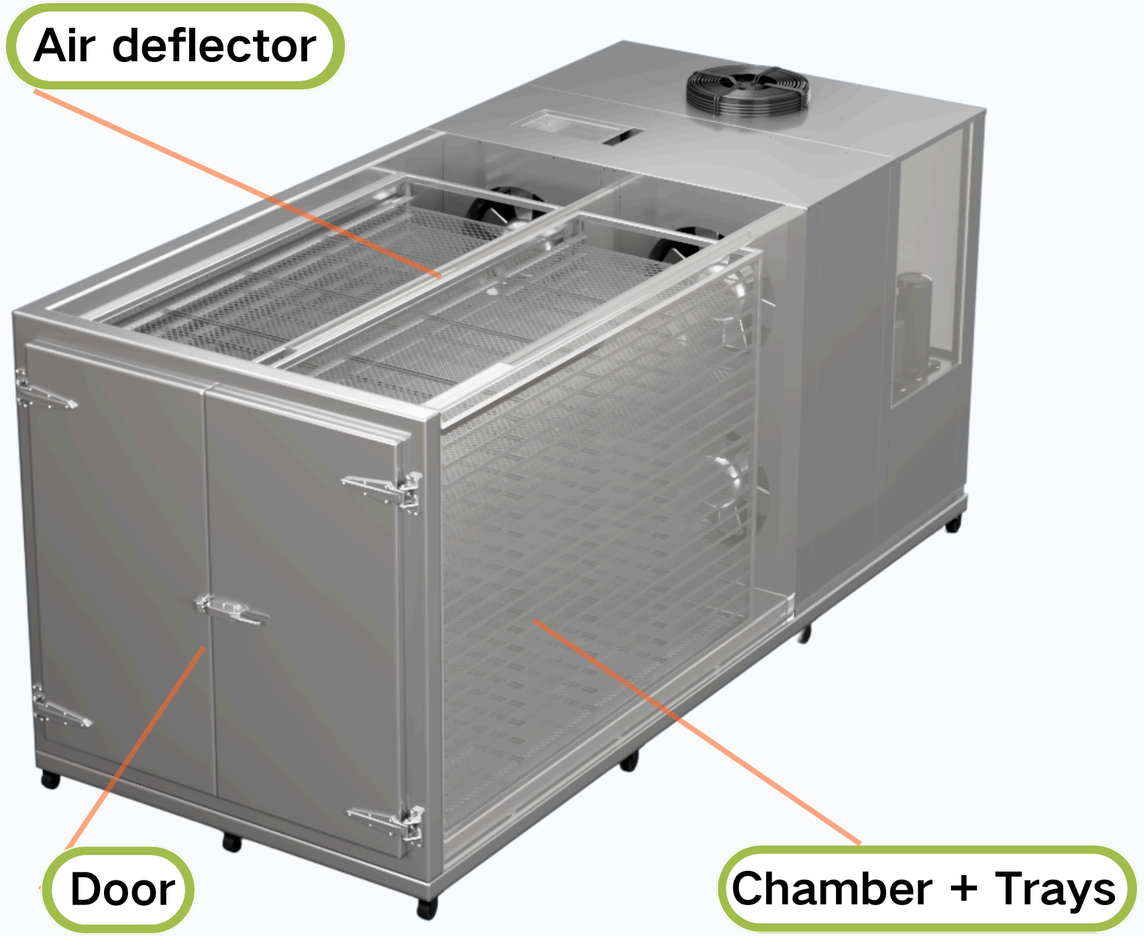
Expansion valve
(SANHUA)

Then, the structure of the chamber!

Surface material of the chamber

100mm thick polyurethane

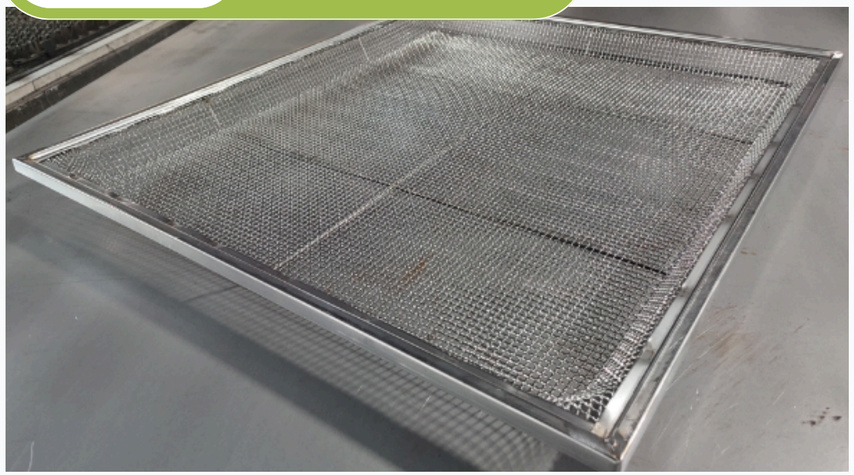




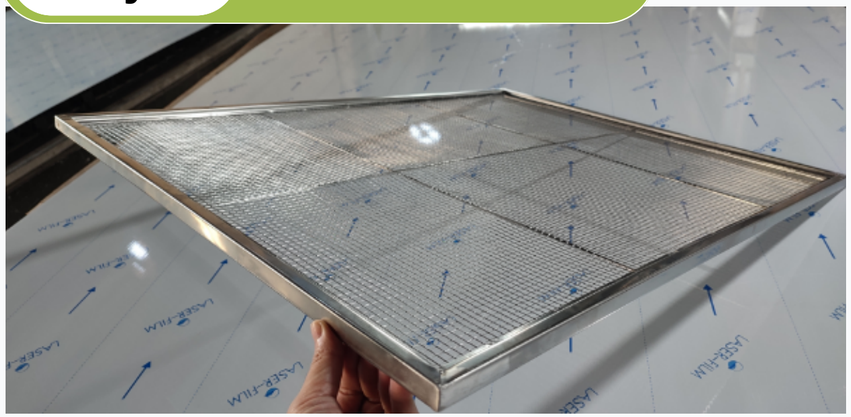
Using **100MM thick polyurethane insulation material** to construct the chamber of the dryer, the product can be dried in a sealed and insulated environment, achieving the goals of energy conservation and efficiency.

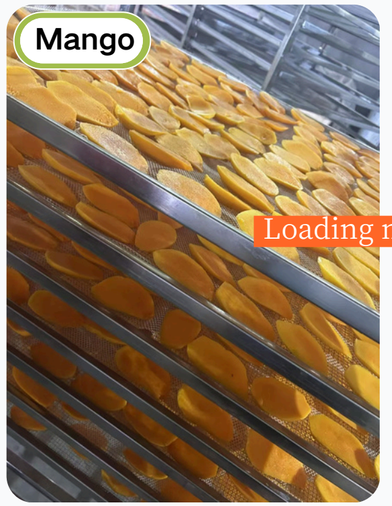
Next is the display of trolley and tray!

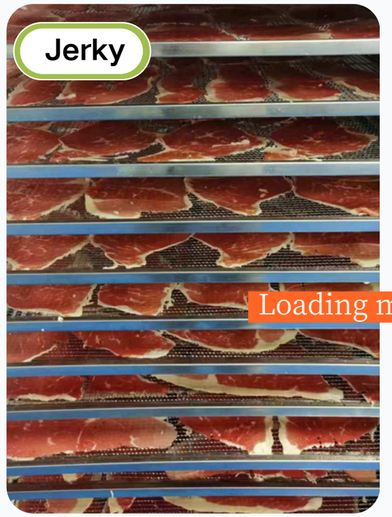
Tray A 80*60*5cm



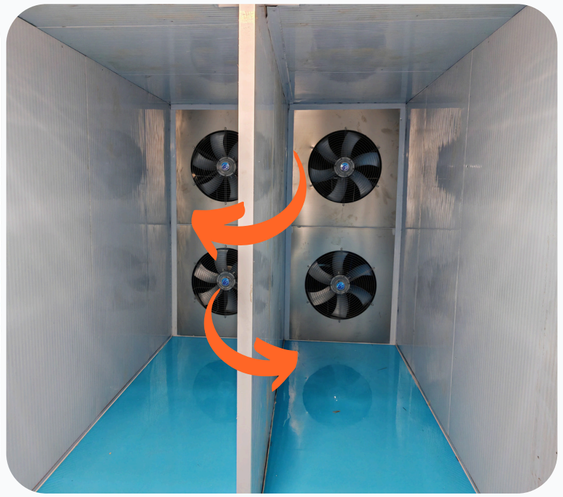
Tray B 80*60*1.5cm

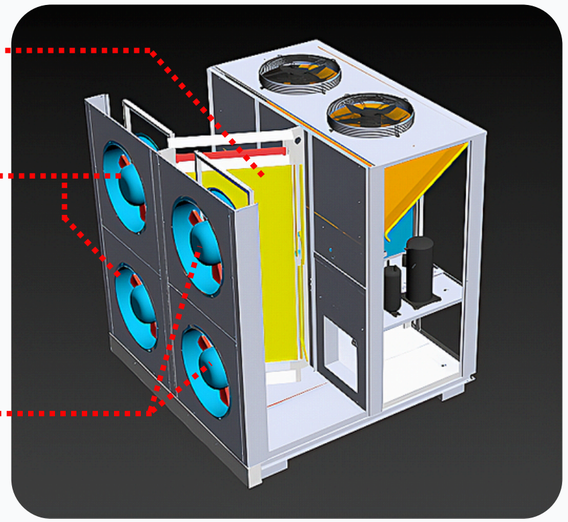






New hot air system: timed direction change! Products absorbs heat more evenly



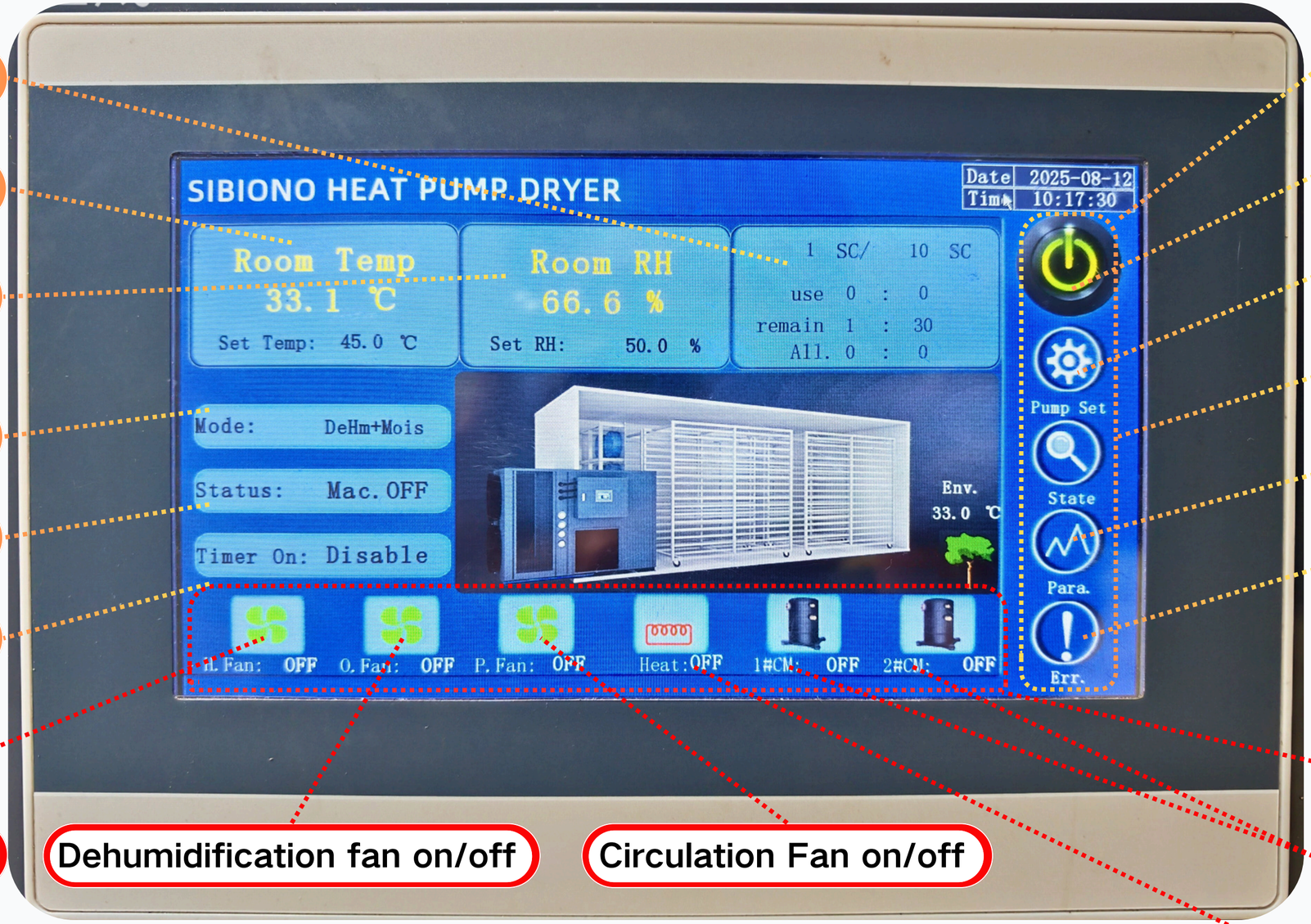


Hot air
(Clockwise)

Hot air
(Counterclockwise)

1. Automatic and timed switching of hot air output direction;
2. Bidirectional heat output reduces indoor temperature difference;
3. Left fan delivers hot air, while the right fan sucks back the hot air;
4. Right fan delivers hot air, while the left fan sucks back the hot air.

Firstly, take a look at the control screen!



- Run time statistics
- Chamber temperature
- Chamber humidity
- Drying machine mode
- Running state
- Timed function status
- Function button area
- Heat Pump on/off
- System setting
- Dryer status
- User Param setting
- Fault information
- component status bar
- Evaporator fan on/off
- Dehumidification fan on/off
- Circulation Fan on/off
- Compressor on/off
- assisted heating on/off

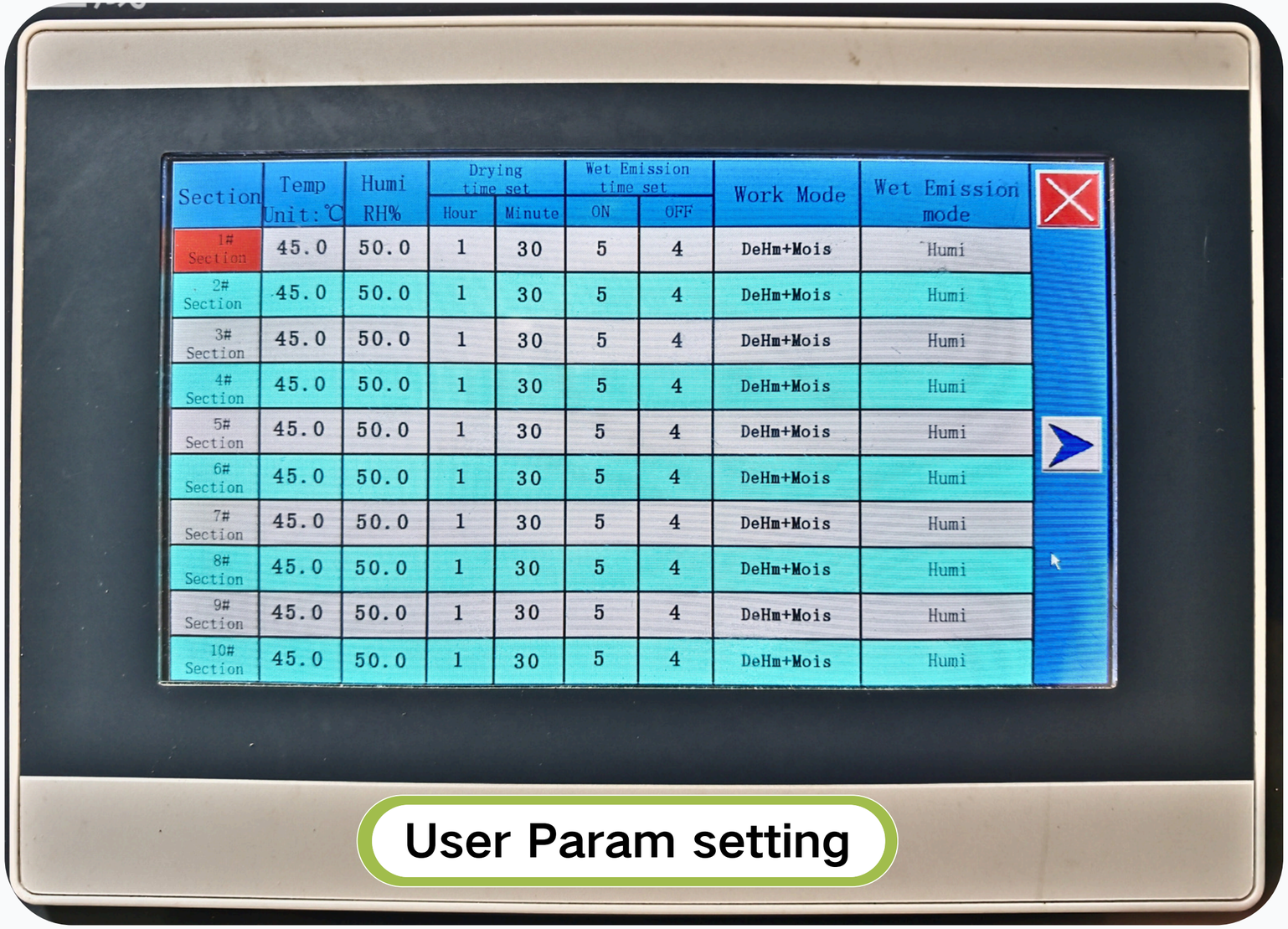
Secondly, the drying process setting table

The operation settings of SIBIONO heat pump dryer support up to 10 stages of operation data. After you fill in the parameters, the machine will automatically run according to these parameters:

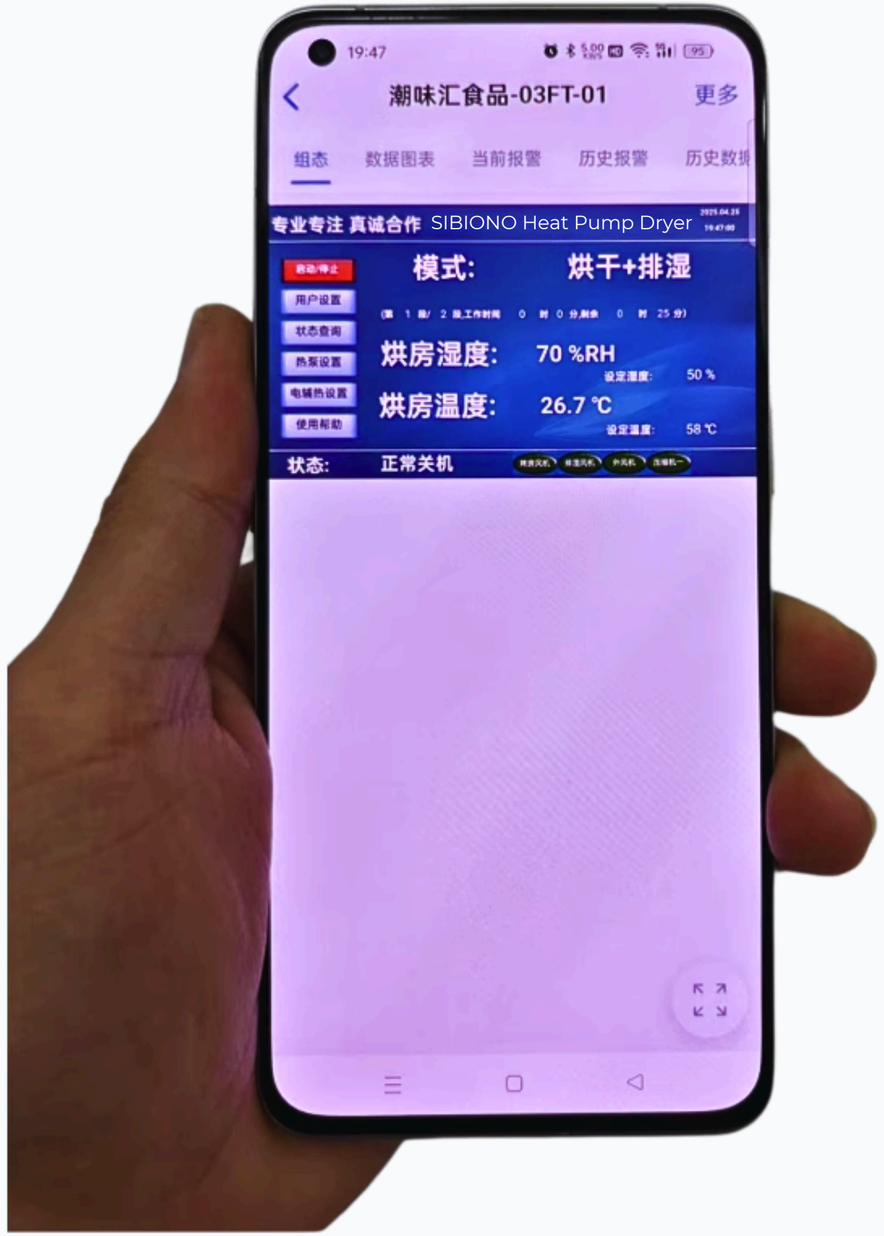
A. Set the running time for each stage;
B. Temperature can be set for each stage;
C. Humidity can be set for each stage;
D. Dehumidification frequency for each stage;

Regarding the drying parameters, different products have different parameters. We can provide corresponding drying parameter documents for each product to help you use the machine smoothly.

- Mango Drying Datas
- Lemon Drying Datas
- Apricot Drying Datas
- Jerky Drying Datas
- Pineapple Drying Datas
- .....



New feature, mobile online control APP



SIBIONO dryers all support online control, allowing real-time monitoring of data, fault notifications, and changes to the operation data of the dryer through mobile phones.

PS: Default support for Chinese and English, customizable language.

Case sharing

9-year-old brand SIBIONO dryer - Rich product experience








Please contact us for drying case

Fruits	Mango	Fig	Pineapple .....
Jerkys	Beef	Breasts	Duck breast meat ...
Vegetables	Edible fungi	Chili	Sweet potato ...
Seafoods	Small fish	Big Fish	Shrimp ...
Noodles	Noodle	Straight noodles	Rice noodles ...

赛百诺 SIBIONO

Guangzhou SIBIONO Drying Equipment Co., Ltd

Contact Us

9-year-old brand SIBIONO dryer - Rich product experience

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