DRK250 Constant Temperature Humidity Tester Manual

Product overview

1. This equipment simulates high and low temperature environments, and is widely used to determine the adaptability of electrical and electronic products to humid and hot environments (especially the changes in the electrical and mechanical properties of the products), and can also be used to check the resistance of samples to certain corrosion Ability.

2. Equipment related standards:

GB2423.1

GB2423.2

GB/T2423.3

GB/T2423.4

Product technical parameters

1. Model: DRK250

2. Temperature range: -70℃-150℃/-40℃-150℃/-20℃-150℃/0-150℃

3. Humidity range: 25-98% R.H

4. Temperature fluctuation: ≤±1℃

5. Temperature uniformity: ≤±2℃

6. Humidity uniformity: ±3～4％R.H (when no load)

7. Working room volume (L): 100L/150L/225L/408L/500L/1000L

3. Product use conditions

1. Ambient temperature: 10～35℃;

2. Relative humidity: not more than 85%R.H

3. No strong vibration around;

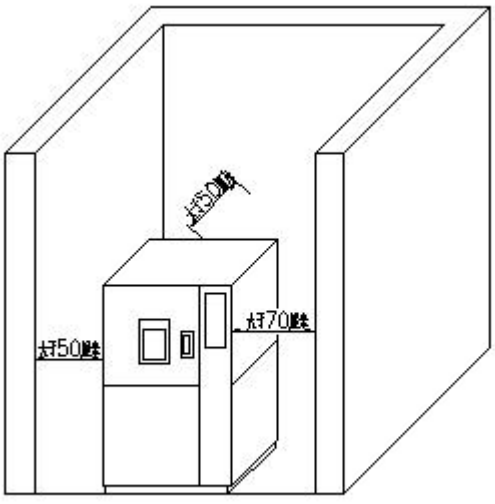
4. No direct sunlight or direct radiation from other heat sources;

5. There is no strong air current around. When the surrounding air is forced to flow, the airflow should not be directly blown onto the box;

6. There is no strong electromagnetic field around;

7. There is no high concentration dust and corrosive substances around.

8. To ensure the normal operation of the equipment and the convenience of operation, in addition to keeping the equipment horizontally placed, a certain space should be reserved between the equipment and the wall or utensils. As shown below:



Product structure

Product design

(1) The unique balance temperature adjustment method enables the equipment to have stable and balanced heating and cooling capabilities, and can perform high-precision and high-stability constant temperature control.

(2) The studio is made of high-quality stainless steel plates, and the sample shelf is also made of stainless steel, which is corrosion-resistant and easy to clean.

(3) There is a test power lead-in hole to facilitate the power-on test of the sample.

(4) The temperature control part of the equipment adopts PID self-tuning, high precision and high stability to ensure precise control of the equipment.

(5) The equipment has over-temperature protection, voice prompts and timing functions. When the timing ends or alarms, the power supply is automatically cut off to stop the equipment to ensure the safety of the equipment and personnel.

(6) The sealing strip of the equipment is made of silica gel, which has the characteristics of good toughness and resistance to deformation and stickiness in high and low temperature environments.

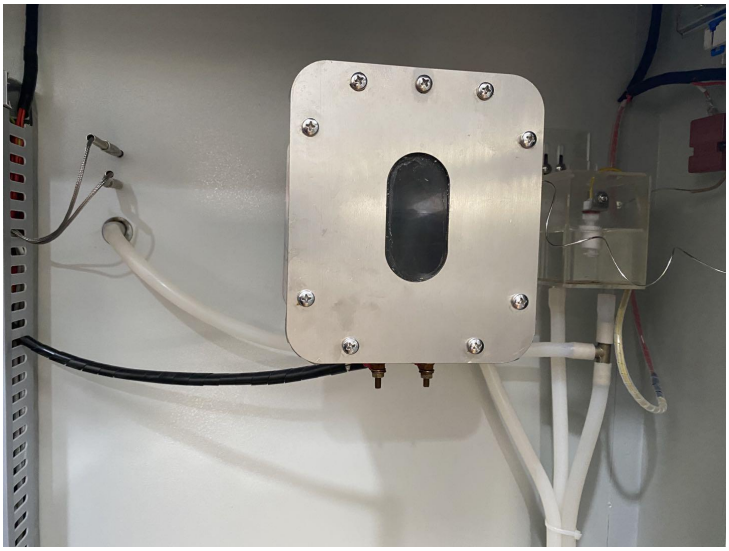
(7) The cabinet is made of electrostatic spray, with uniform color tone and beautiful appearance.

Attentions as using

(1) Precautions for using the new machine

1. Before using the equipment for the first time, please open the baffle on the right door of the box to check if any components are loose or fall off during transportation.

2. When testing the machine, set the temperature of the temperature control instrument to 0℃ and set the humidity to 0%RH in the fixed value state, add distilled water in the water tank (do not use tap water or untreated well water), and run Damp heat test, observe the water addition of the plexiglass water tank and humidifier (the two components are on the same horizontal line, at the upper right of the circuit board) in the electric control cabinet. If there is no water in a certain device, it may be connected to the two There is air in the water pipe of the device. Please squeeze it out by hand until the water level is at the same level.



3. After completing the above steps, the humidity test run can be carried out, set the temperature to 50℃ and humidity to 95%RH. During trial operation, please pay attention to observe whether the equipment is abnormal.

4. When running a new device for the first time, there may be a slight peculiar smell.

(2). Matters needing attention before equipment operation

1. Please confirm whether the equipment is reliably grounded.

2. Before the impregnated material is baked, it must be dripped and dried outside the test box before being placed in it.

3. There is a test hole on the side of the machine. When connecting the test piece test circuit, please pay attention to the area of the wire and insert the insulation material after the connection.

4. Please install an external protection mechanism and supply system power according to the product nameplate requirements;

5. It is absolutely forbidden to test explosive, flammable and highly corrosive substances.

6. Wet ball gauze should be degreased, and hands should be washed before installation to prevent contamination of the gauze. The gauze should be close to the wet ball. After installation, check whether the gauze is wet and whether there is water in the sink.

7. In order to ensure the accuracy of the temperature control of the equipment, when the equipment is running, there must be no items on the top of the equipment. Before each test, check whether the gauze can continue to be used (subject to whether the gauze becomes yellow as a whole). If it is yellow, it should be replaced immediately, otherwise it will affect the accuracy of the test humidity.

(3) .Equipment operation matters needing attention

1. During the operation of the equipment, unless it is necessary, please do not open the door casually and put your hands into the test chamber, otherwise the following adverse consequences may occur.

A: The inside of the test chamber still maintains high temperature, which may cause burns.

B: At low temperatures, it will cause partial icing of the evaporator, which will affect the cooling capacity. If the time is too long, it will also affect the life of the equipment.

2. When operating the instrument, please do not change the set parameter value at will, so as not to affect the control accuracy of the equipment.

3. If the test box has abnormal conditions or burnt smell, stop using it and check it immediately.

4. Wear heat-resistant gloves or pick-and-place tools when picking and placing items during the test process. Beware of burns or frostbite, and the time should be as short as possible.

5. When the equipment is running, do not open the electrical control box to prevent dust from entering or electric shock accidents.

6. During low-temperature operation, please do not open the door to prevent the evaporator and other refrigeration parts from freezing and freezing, which will reduce the efficiency of the equipment.

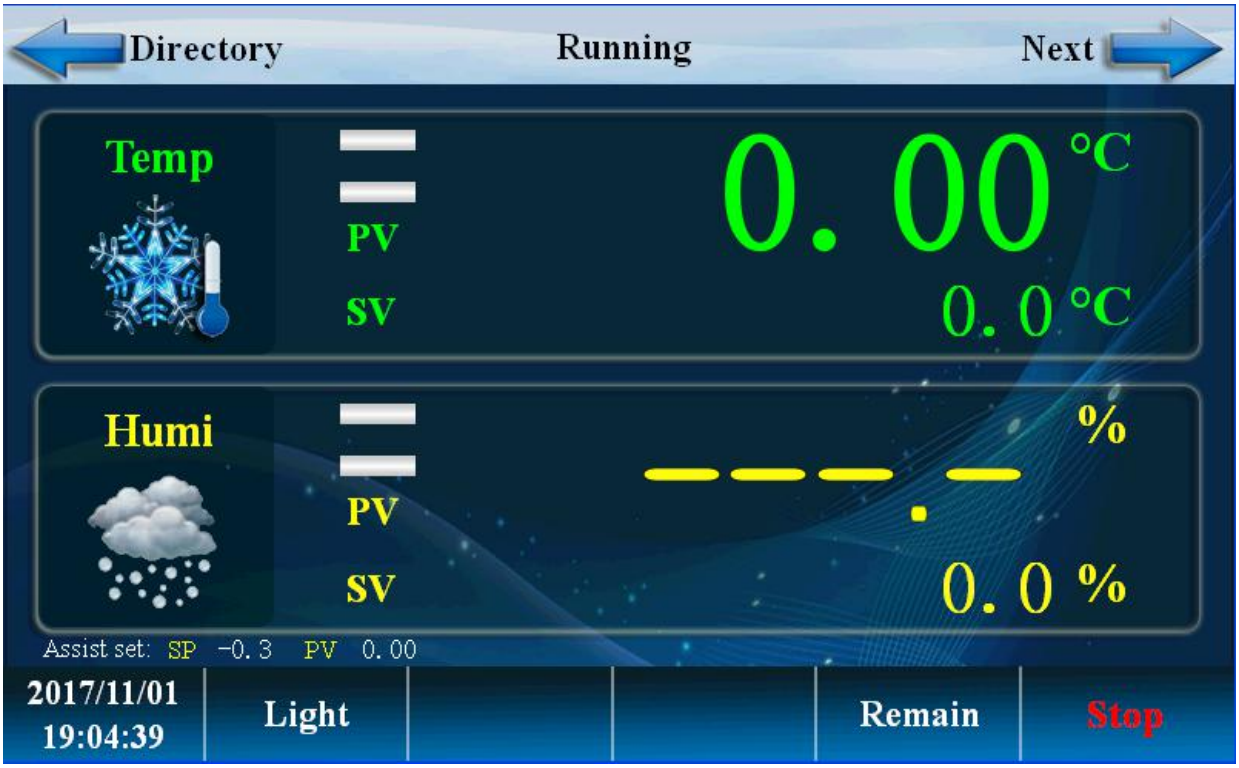
7. The volume of the test item shall not exceed 50% of the content of the equipment studio, otherwise it will affect the temperature uniformity of the equipment and affect the experimental results.

8. During the operation of the equipment, no items are allowed to cover, so as not to affect the heat dissipation of the equipment.

9. If the high temperature experiment above 80.0℃ is just finished, low temperature experiment is needed. It is best not to turn on the cooler directly at this time, but wait until it is naturally cooled to below 60.0℃ before turning on the cooler; this can maximize Ensure good performance of the equipment's refrigeration system.

Programmable controller with constant temperature and humidity

TH series manual

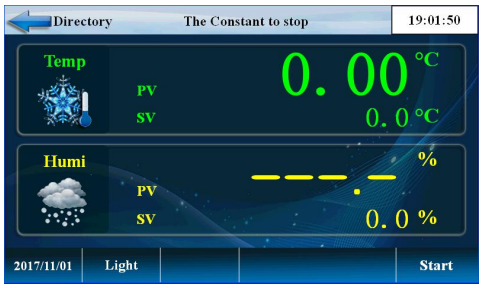


Directory

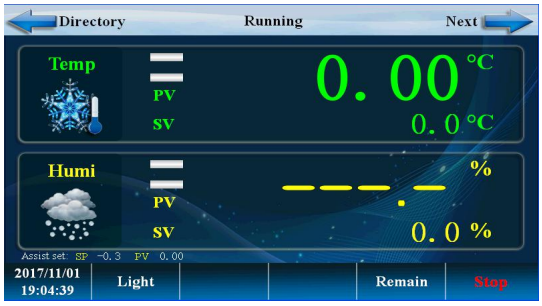
Flow chart of operation setting

Flow chart below

Stop of value (Fig. 2)

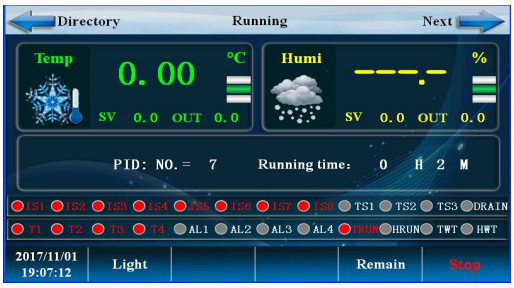


Fixed value startup (Figure 3)



Main picture (4)

Detailed value setting (Figure 5)



Program setting (Figure 6)

System settings (Figure 7)

Password setting (Figure 8)

Initial picture

Display when power is switched on

Figure 9

Main picture

Figure 10

Number	Name	Instructions
1	Monitor screen	Enter monitor screen
2	Setting value	Enter the set value setting screen
3	program settings	Enter the program settings screen
4	Curve monitoring	Enter the curve monitor screen
5	Operation setting	Enter the running picture
6	reserve set	Enter booking picture
7	file management	Enter the file management picture
8	alarm monitoring	Enter alarm monitor screen
9	catalogue	Enter the system settings screen

Run screen

The display information status picture of the controller

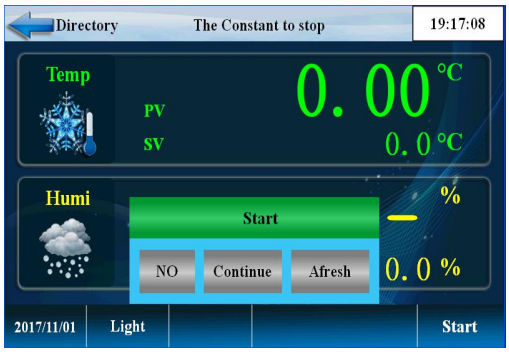
Program stop screen

Figure 11

Number	Name	Instructions
1	show value	Current temperature display value
2	form	Current program number that can start running
3	firing	Start button
4	segment	The current operating segment
5	headlamp	Light button
6	catalogue	Home

Program startup determination

Program stop determination



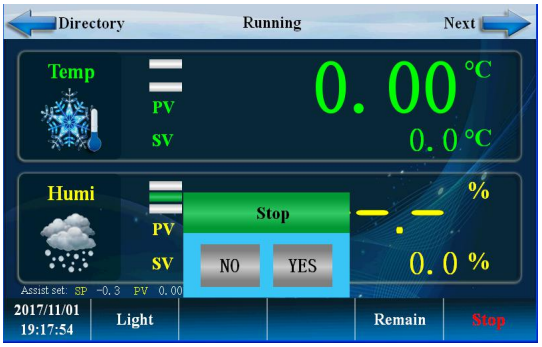


Figure 12

Program running screen 1

figure 13

Number	Name	Instructions
1	Start the confirmation	The choice is to start effectively, and choose not to start invalid
2	Start to stop	The choice is to stop effectively and choose not to stop invalid
3	remaining time	The remaining time of the current section
4	headlamp	Light button

5	Program segment number	The currently running program, Sec
6	hops	Select "skip segment" to skip this paragraph
7	keep	Select "hold" to run, keep the timing unchanged
8	changing-over	Switch to Figure 14
9	Temperature display	Display current temperature
10	setting temperature	Display current setting temperature
11	Humidity display	Display current humidity
12	Humidity setting	temperature set point

Program running detailed picture 2

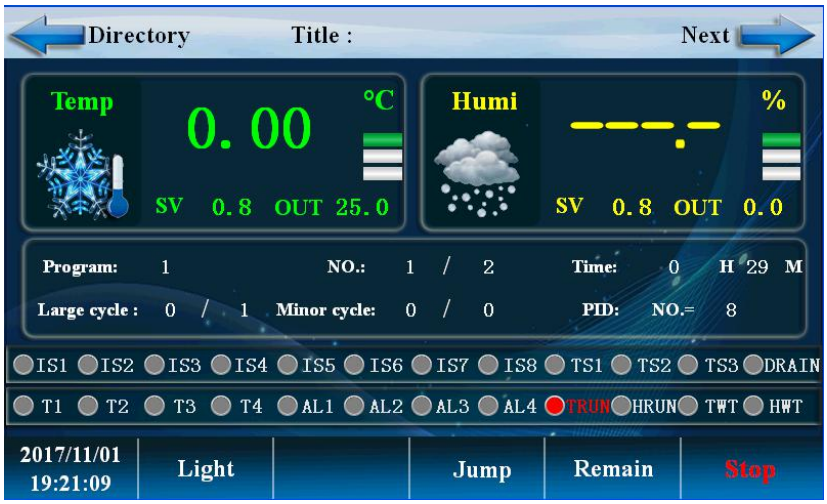


figure 14

Number	Name	Instructions
1	Temperature output intensity	Temperature PID control output power
2	Program cycle	Number of program cycles
3	PID number	The PID parameter group used in the

		current control
4	Segment number cycle	Segment number cycle
5	changing-over	Switch to the real time record curve screen
6	put forth one's strength	Humidity PID control output power
7	output listing	Detailed description at output

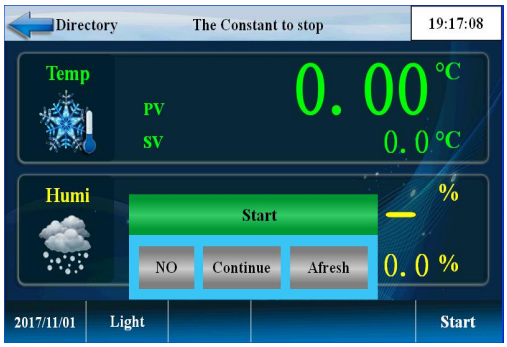
Fixed value stop screen

Figure 15

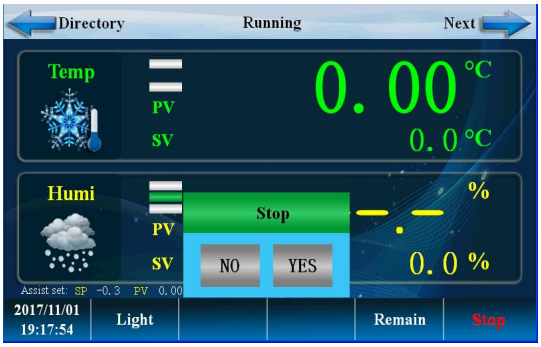
Number	Name	Instructions
1	catalogue	Return directory (Figure 10)
2	temperature set point	Setting temperature
3	Humidity setting value	Setting humidity
4	firing	Fixed value start button

Fixed value start up screen

Fixed value start up determination



Setting stop determination



Fixed value running picture

Figure 16

Number	Name	Instructions
1	Turn on the start switch	The choice is to start effectively, and choose not to start invalid
2	Stop button	The choice is to stop effectively and choose not to stop invalid
3	catalogue	Return

4	temperature	Setting value and setting temperature
5	humidity	Setting value and setting humidity
6	floodlight	Switch lamp
7	keep	Select "keep" run time to stay the same.

Fixed value running screen 2

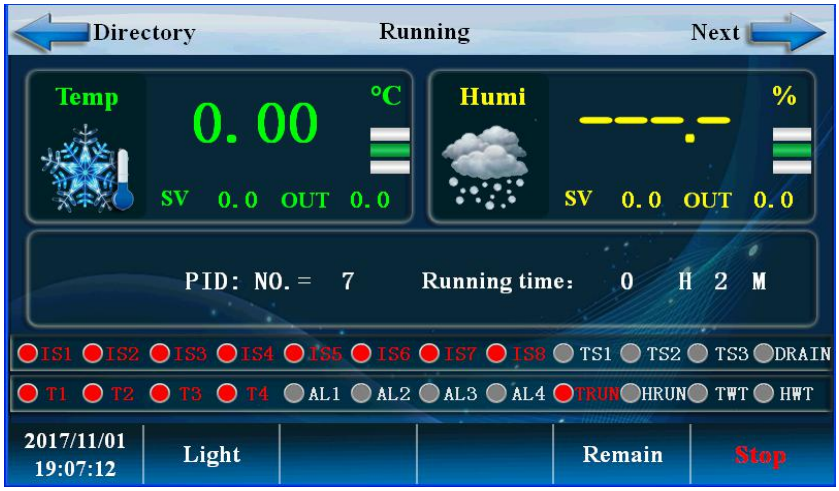


figure 17

Number	Name	Instructions
1	catalogue	Return directory
2	Output display	Temperature control PID output
3	PID number	The PID segment of the current setting
4	performance period	Timed running time
5	keep	Select "hold" to run, keep the timing unchanged

Operation settings screen

Figure 18

Click on 'run settings' and enter the following picture

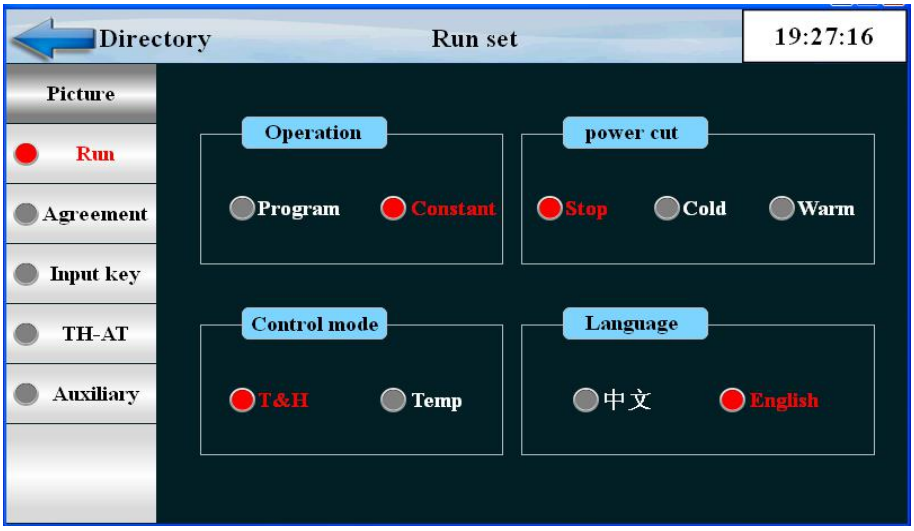


Figure 19

Click the 'communication settings' button and enter the following picture

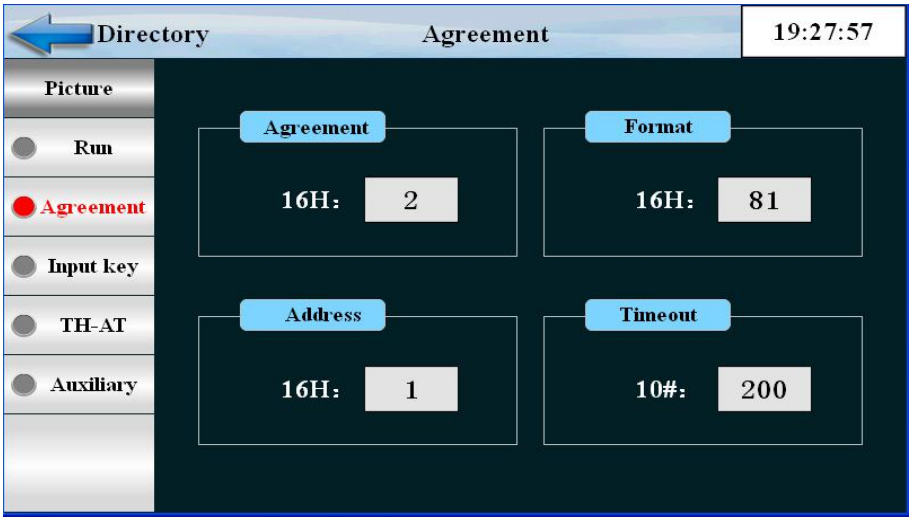


Figure 20

Number	Name	Instructions
1	Communication protocol	Communication port
2	The communication format	Baud rate
3	Address stand no.	From machine address number.
4	timeout	Communication timeout

Click the permissions settings button to enter the picture below

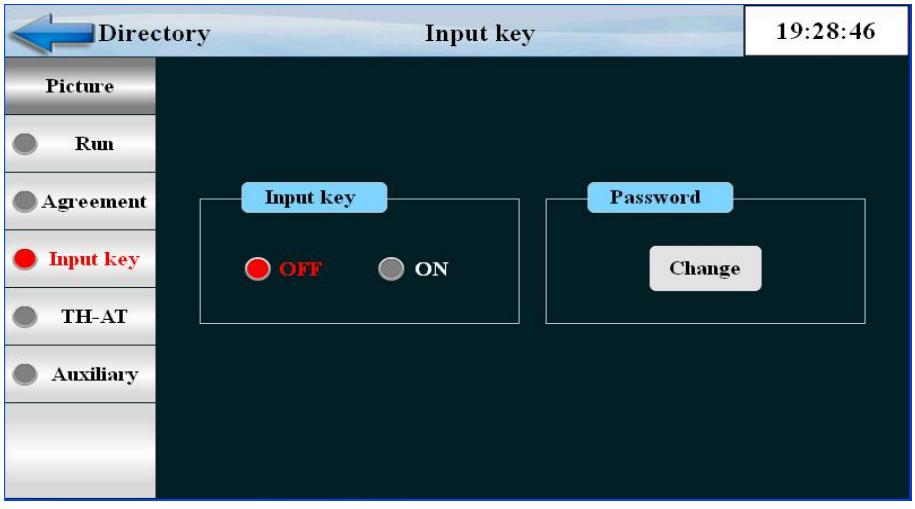


Figure 21

Number	Name	Instructions
1	Input permission	Input permissions open or close
2	Password authority	Password modification permission

Click the 'TH-AT' button and enter the following picture

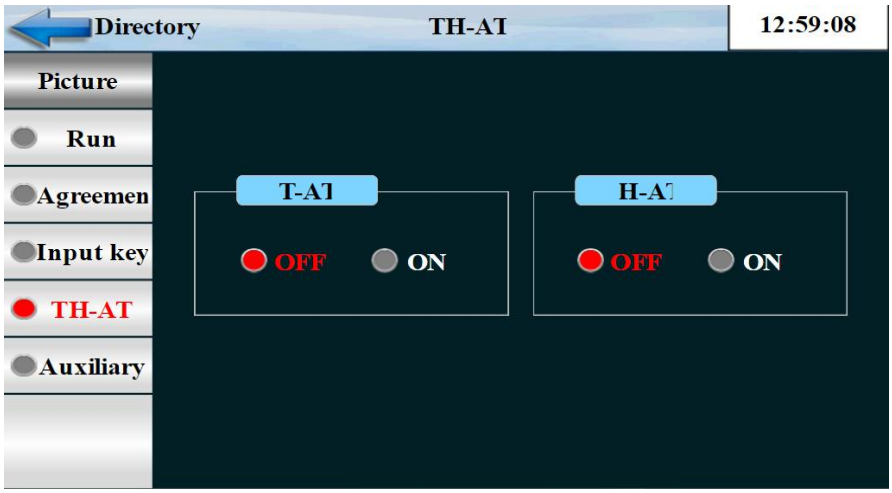


Figure 22

Number	Name	Instructions
1	T-AT	Temperature fuzzy control + adaptive PID
2	H-AT	Humidity fuzzy control + adaptive PID

Click the "auxiliary function" button to enter the picture below

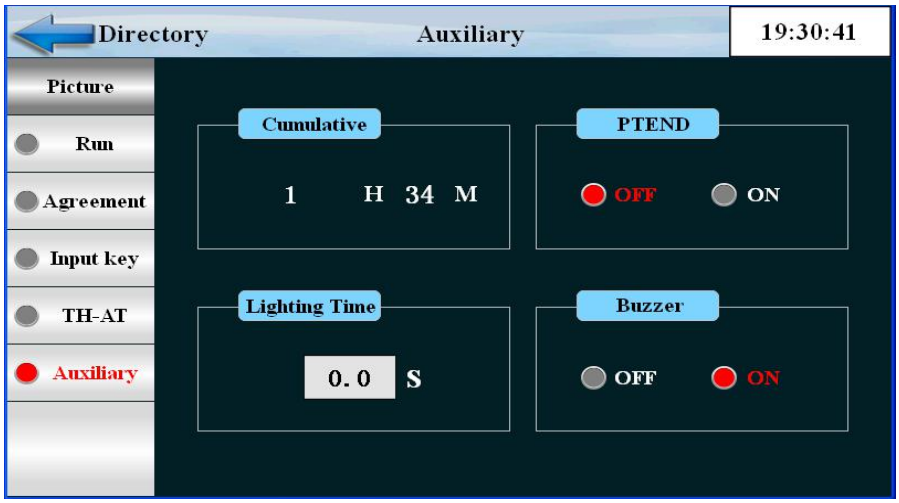


Figure 23

Number	Name	Instructions
1	current"on"time	Power on time
2	PTEND	end of program
3	lighting hours	Set lighting time
4	buzzer	HMI alarm buzzer with on / off

Appointment setting screen

Set the current time, set the appointment run time

Figure 24

Click 'appointment settings' to enter the following picture

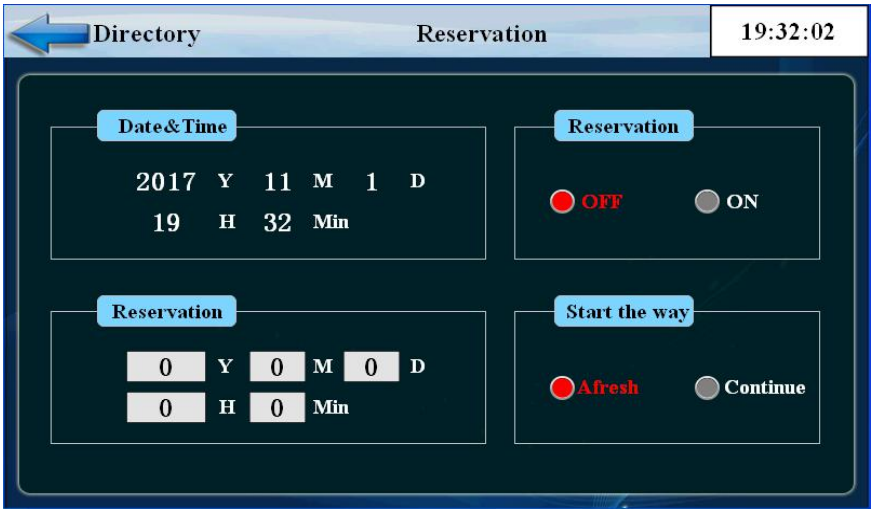


Figure 25

Number	Name	Instructions
1	present time	present moment
2	Duty time	Machine reservation start time
3	Reservation mode	Reboot or continue operation

4	Reservation switch	OFF reservation does not start, ON appointment starts

File management picture

Figure 26

Click the "file management" button to enter the following picture to set up the manufacturer information

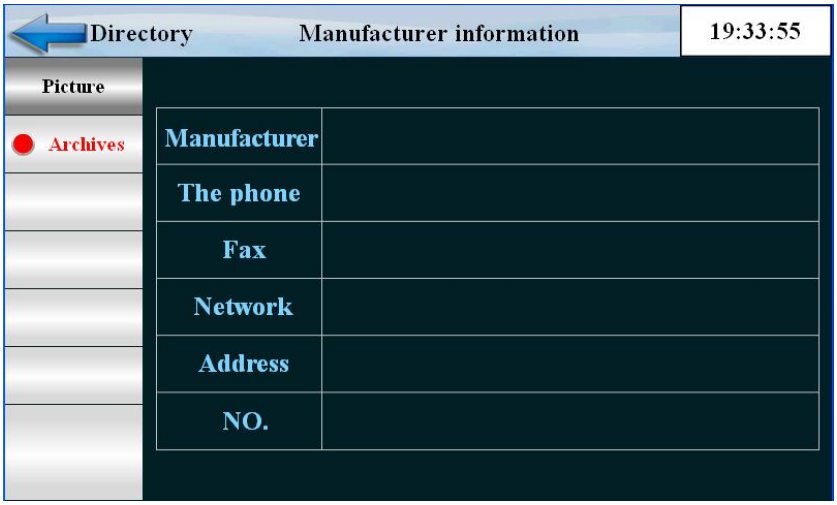


Figure 27

Alarm monitoring screen

Figure 28

Click the "alarm monitor" button to enter the picture below

Figure 29

Click the "history alarm" button to enter the picture below

Figure 30

Number	Name	Instructions
1	DI alarm	Fault alarm record of external input
2	Historical alarm	Alarm history data
3	Alarm release	Manually release alarm signal
4	Delete start	Operator removes alarm history

Curve display screen

Figure 31

Click the 'curve monitor' and enter the following picture

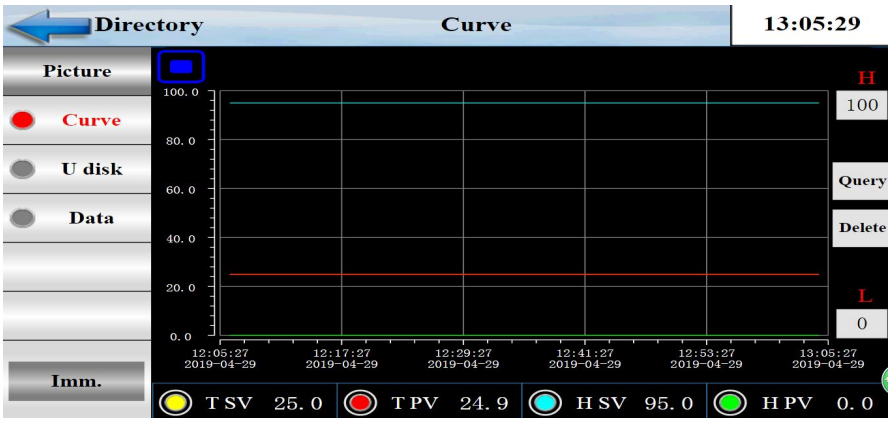
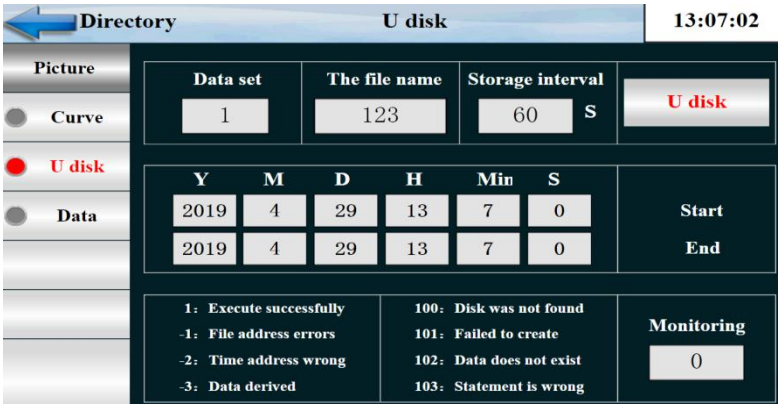


Figure 32

Number	Name	Instructions
1	Setting temperature SP	Current setting temperature display
2	Real time temperature PV	detection temperature
3	Setting humidity SV	Setting humidity display at present
4	Real time humidity PV	Current humidity display
5	superior limit	Upper limit of curve display
6	lower limit	Lower limit of curve display

Click the 'data export' button and enter the following picture



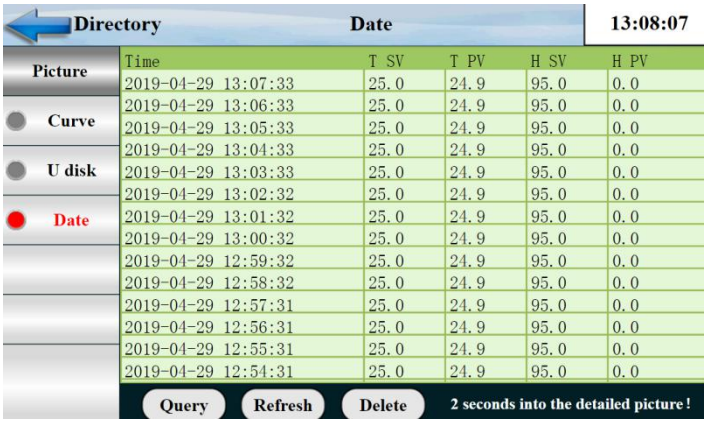


Figure 33

Export data process: insert the USB flash drive into the touch screen at the back of the USB - A port, in touch screen opens at "export data" screen shown , data set is defined as 1, file naming their own definition for example 123.The storage interval is the interval between which we view the data.Start time and end time to set the time according to the time period when you view the data.Then click the button 'data import U disk', and the status monitor is shown as' 1 'to be successful for exporting data.If the other data is displayed, the export data is not successful, and the prompt is reworked according to the following data definition.

Number	Name	Instructions
1	data form	Expressed in tabular form
2	file designation	Named export file
3	data set data set	Derived data set
4	Storage interval	The interval between data
5	DELETE	DELETE
6	starting time	Export data start time
7	terminal time	Export data cutoff time
8	Data import into U disk	Data import into U disk

Program settings screen

This is the central screen for setting up the program running parameters

Figure 34

Click the program settings button and enter the following picture

Figure 35

Number	Name	Instructions
1	EDIT	Program edit screen
2	segment number	Display the current editing code
3	temperature	Temperature per set
4	humidity	Each set of humidity
5	time	An hour for each temperature and humidity
6	TS	Timing information setting
7	Program number	Current recipe number

Click 'program standby' button to enter the following picture

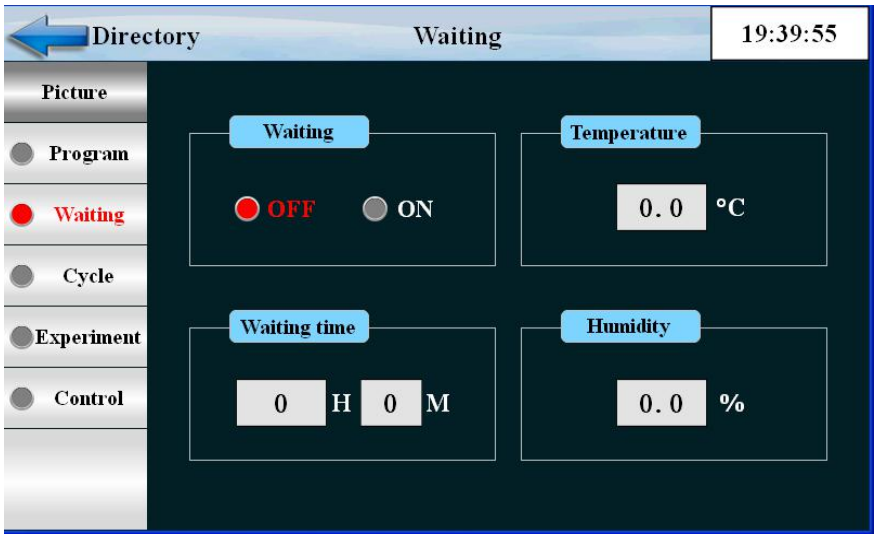


Figure 36

Number	Name	Instructions
1	Set the standby	Setting standby
2	stand-by time	Set standby time
3	temperature province	Temperature standby area
4	Humidity area	Humidity standby area

Click the "cycle edit" button to enter the following picture

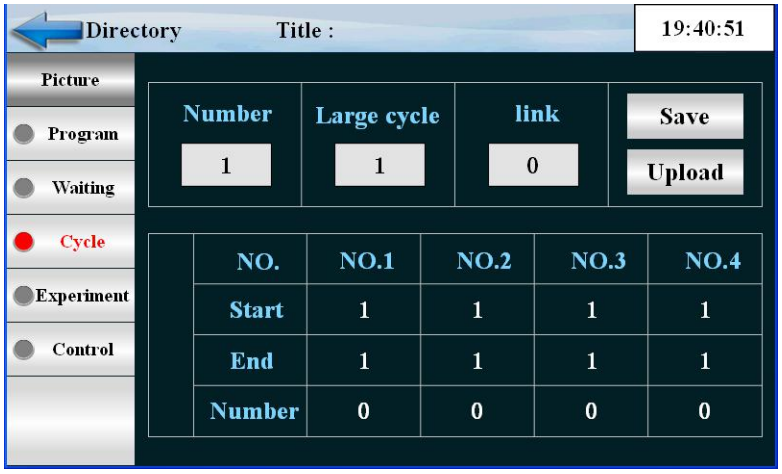


Figure 37

Number	Name	Instructions
1	Program number	Set the program number of the program to be recycled
2	repeat all	Set the number of cycles for the program to be infinite at 0
3	Start code	The program segment in the program has been set up to start the partial cycle operation
4	No end	The program segment has been set in the program to set the end of the end of the partial cycle operation. It is not circulating when it is less than 0
5	cycle index	In the program set, the number of cycles of the partial cycle operation is set, and the cycle is less than 0
6	parameter determination	Input the current parameters to the controller
7	Parameter upload	Upload the current parameters to the display
8	connect to	The number of programs should be run continuously after the current program is running

Click the "experiment title" button and enter the following picture

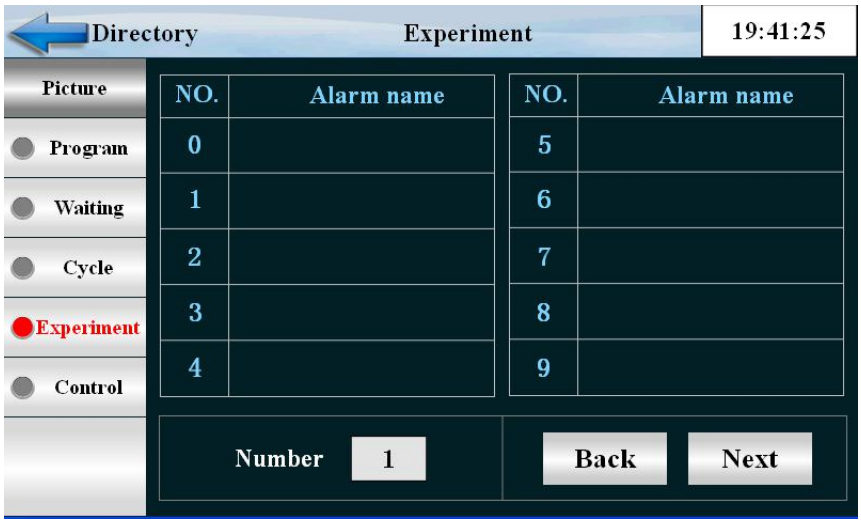


Figure 38

Click the "quick control settings" button to enter the picture below

Figure 39

Number	Name	Instructions
1	Experimental title	Enter the settings experiment name screen
2	Message setting	Message timing control
3	Experimental title	Setting the title of the experiment

Setting value setting

Click the "Settings" to enter the following picture

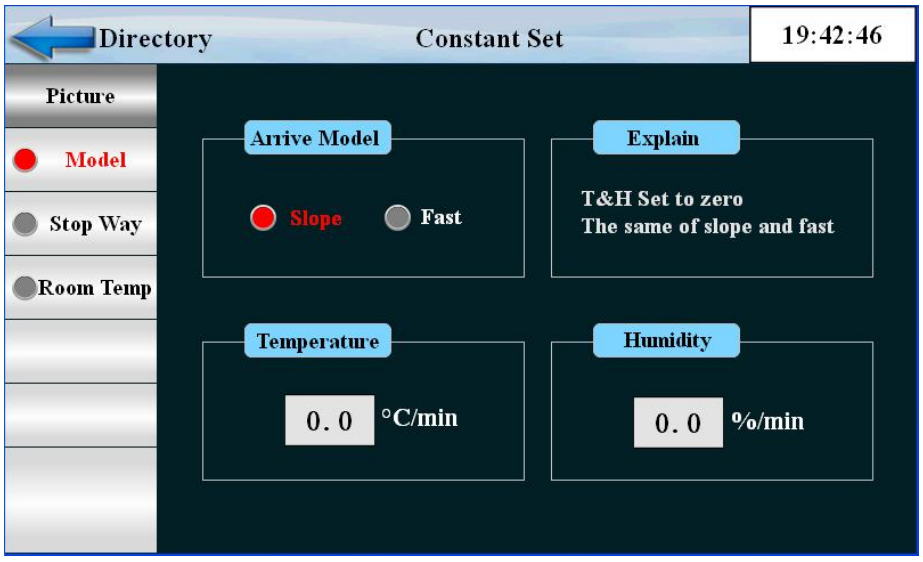


Figure 41

Number	Name	Instructions
1	control method	Slope control and fast control
2	Temperature slope	The temperature rises or falls at a certain slope

3	Humidity slope	Humidity rises or falls at a certain slope

Click the stop mode and enter the following picture

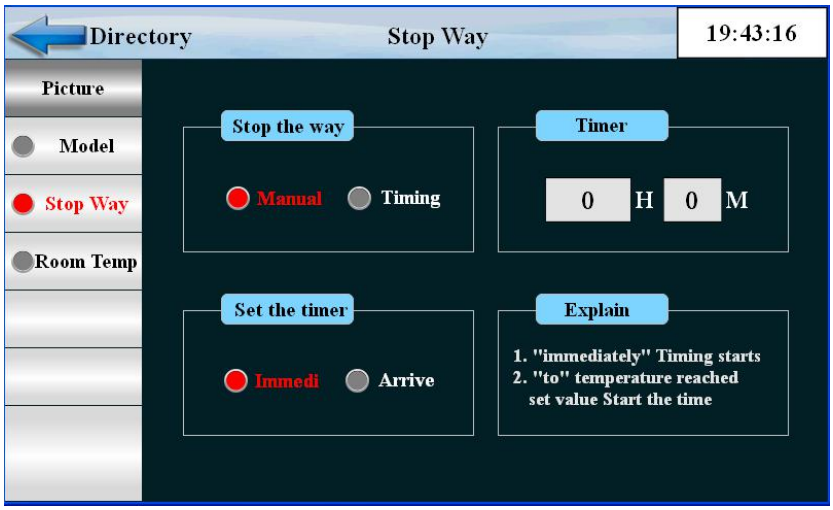


Figure 42

Number	Name	Instructions
1	stop mode	Manual stop and timing stop two ways
2	Timer	Set down time
3	timing pattern	There are two ways to start timing immediately and to set the temperature

Click the "back t ambient" button to enter the picture below

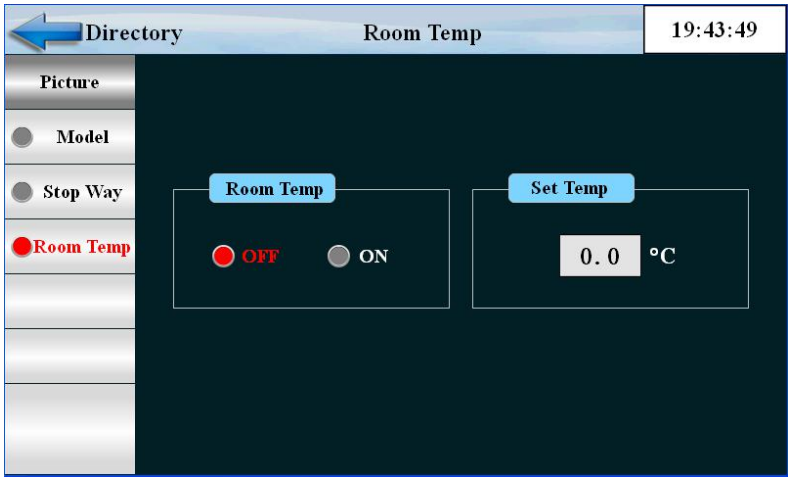


Figure 43

Number	Name	Instructions
1	Back to room temperature	Whether or not to return to normal temperature shutdown
2	Back to room temperature	Setting back to room temperature