Lab Companion

Temperature And Humidity Test Chamber C-1000-70

Custom Solution

Brief Introduction

The humidity test can be conducted at the same time as the temperature test, so that the test effect is closer to the natural climate, simulating a worse natural climate, so that the reliability of the tested sample is higher.

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Particularities:

❇High-strength, high-reliability structural design - to ensure the high reliability of the equipment;

❇The inner chamber material is SUS304 stainless steel - anti-corrosion, strong hot and cold fatigue function, and long service life;

❇High density polyurethane foam insulation - ensures minimal heat loss;

❇Plastic-sprayed surface – to ensure the lasting anti-corrosion function and appearance life of the equipment;

❇High-strength temperature-resistant silicone rubber sealing strip – ensures the high sealing performance of the equipment door;

❇A variety of optional functions (test hole, recorder, water purification system, etc.) meets the user's needs for various functions and tests;

❇Large-area electric heating anti-frost observation window, built-in lighting - can provide good observation effect;

❇Environmentally friendly refrigerants – to ensure that the equipment is more in line with your environmental protection requirements;

❇Customized constant temperature and humidity test chamber, tell us any function you want and we will make it.

❇Triple protection mechanism.

❇USB interface and Ethernet communication function enable the communication and software expansion function of the device to meet various needs of customers.

❇Adopting internationally popular refrigeration control mode, which can automatically adjust the refrigeration power of the compressor by 0%~100%, reducing energy consumption by 30% compared with the traditional heating balance temperature control mode.

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Technical Features:

Dimensions (mm)	Width	Height	Depth
Useful	1000	1000	1000
Overall	1350	2030	2000

Temperature range
from -55°C to +150°C (The lowest limit temperature can reach -70 ℃)
Humidity range
10~98%RH

Homogeneity and Regulation:

Temperature fluctuation:
≤±0.3℃
Temperature deviation:
≤±2.0℃
Temperature uniformity:
≤2℃
Temperature rise time:
≥3.0℃/min (-55℃→ +125℃) The whole process of nonlinear heating, no-load)
Temperature drop time:
≥1.0℃/min (+20℃→-55℃) The whole process of nonlinear cooling, no-load)
Humidity fluctuation:
≤2%RH
Humidity deviation:
±2%RH(when humidity >75%RH); ±3%RH(when humidity ≤75%RH)
Relative humidity uniformity:
≤3%RH

Other parameters:

Controller model:
Q8 color touch screen
Compressor model:
ZF11KQE*2
Refrigerant:
R-404A/R23
Temperature electric heating:
5.4 KW
Humidity electric heating:
6 KW

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Appearance Introduction and Description:

1. Front and side of the machine

Number	Name	Illustration
1	Three color lights	Green running, yellow standby, red fault
2	Controller panel	The intelligent operating panel
3	The test hole	An external power supply can be plugged in from the test hole for live product testing
4	The door lock	Pull the handle door to the right to open
5	Control panel	Leakage protector and safety control
6	Water injection tank	Add water when doing humidity test
7	Water level gauge	How much water can be observed when adding water
8	Glass window	To observe the inner workings of the laboratory

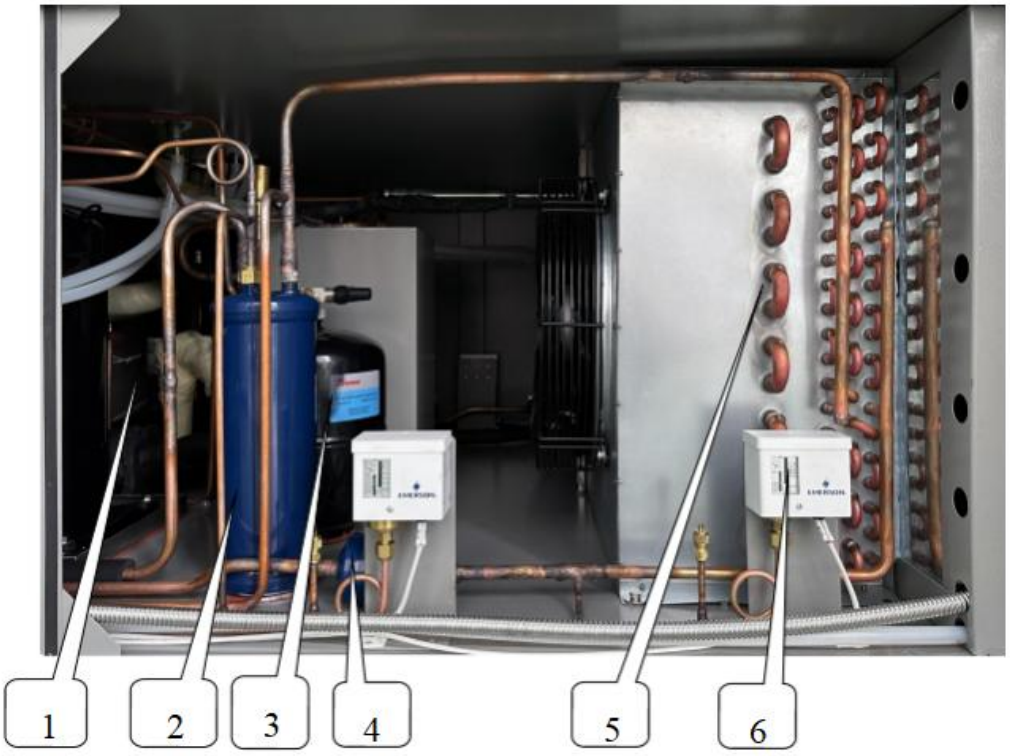
2. Control panel

Number	Name	Illustration
1	Controller	Touch screen programmable controller (Refer to controller manual)
2	USB interface	Used to copy curves or document-related data
3	Scram switch	Used to connect the device and cut off the power supply

3. Test area

Number	Name	Illustration
1	Thermal resistance sensor	Used for panel overtemperature sensing the temperature of the inner chamber
2	Thermal resistance sensor	Used for the controller to sense the temperature of the inner chamber
3	Thermal resistance sensor	Used for the controller to sense the temperature of the inner chamber
4	Water tank	When hanging a wet cloth, one end of the wet cloth should be penetrated about half of the sensor, and the other end should be completely immersed in the water tank
5	Air outlet	Test area circulates air outlet
6	Sealant	Heat preservation and air leakage prevention
7	Sample rack track	Used to secure the sample holder
8	Sample holder	Used to place test products

4. The cooling machine room



Number	Name	Illustration
1	Compressor	Compression refrigeration
2	Oil separator	Separate refrigerant and refrigerant oil
3	Liquid storage tank	Storage refrigerant
4	Filter dryer	Filter out debris from the cooling system
5	Condenser	Cooling refrigerant
6	Pressure protection controller	When the pressure in the pipeline is too high or too low, the controller will alarm

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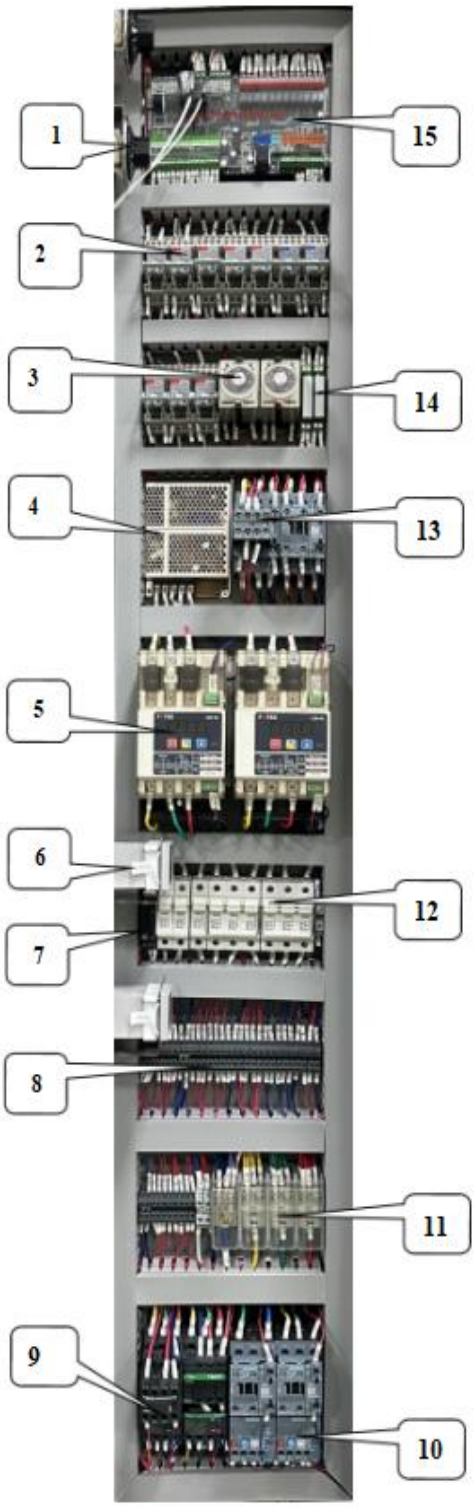
5. Power distribution room



1	Dry burn protector
2	Intermediate relay
3	Time relay
4	Dc power supply
5	Power regulator
6	Temperature controller
7	Underinverting phase protector
8	Connector terminal
9	Ac contactor
10	Thermal overload relay
11	One in six out terminals
12	Fuse
13	Auxiliary contact
14	Cold and hot valve solid state relay
15	Temperature controller

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Test Report:

Temperature Sensor ℃	-55℃	-40℃	20℃	85℃	125℃	25℃ 25%	50℃ 50%	60℃ 95%
1	-53.7	-40.3	20.5	85.8	125.3	25.1	50.6	58.4
2	-53.4	-40.5	20.1	85.6	125.1	25.3	50.1	58.9
3	-53.6	-40.1	19.7	85.9	124.7	25.0	50.3	59.1
4	-53.9	-40.0	19.9	86.0	125.0	24.6	50.8	59.5
5	-54.2	-39.8	20.0	85.8	125.4	25.1	51.1	59.2
6	-54.6	-39.5	20.3	85.5	125.7	25.3	50.9	59.7
7	-54.8	-39.7	20.5	85.3	125.9	25.8	50.4	59.9
8	-55.0	-39.9	20.7	85.7	126.0	26.0	50.6	60.0
9	-55.2	-40.1	20.9	85.2	126.2	26.4	50.2	60.3
Temperature deviation	1.6	0.5	0.9	1.0	1.2	1.4	1.1	1.6
Humidity display						24.5%	49.6%	94.2%
Temperature uniformity	1.8	1.0	1.2	0.8	1.5	1.8	1.0	1.9