

Lab Companion

Temperature And Humidity Test Chamber

C-64-70

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	400	400	400
Overall	660	1570	1070

Temperature range

from -70°C to +150°C

Humidity range

20~98%RH

Homogeneity and Regulation:

Temperature fluctuation:

$\leq \pm 0.5^\circ\text{C}$

Temperature deviation:

$\leq \pm 2.0^\circ\text{C}$

Temperature uniformity:

$\leq 2^\circ\text{C}$

Temperature rise time:

$\geq 3^\circ\text{C}/\text{min}$ (+25°C→ +150°C) The whole process of nonlinear heating, no-load)

Temperature drop time:

$\geq 1.0^\circ\text{C}/\text{min}$ (+25°C→-70°C) The whole process of nonlinear cooling, no-load)

Relative humidity deviation:

$\leq 2\sim 3\%RH$

Relative humidity uniformity:

$\leq 3\%RH$

Other parameters:

Controller model:

Q8 color touch screen

Compressor model:

NEU2183*2

Refrigerant:

R-404A/R23

Temperature electric heating:

1.6KW

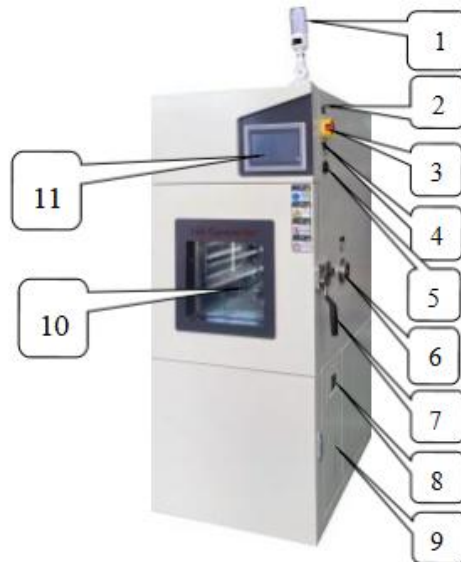
Humidity electric heating:

1.1KW

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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	Over temperature Setting	To Set the upper temperature limit in the test area
3	Scram switch	Used to connect the device and cut off the power supply
4	USB interface	Used to copy curves or document-related data
5	Network interface	The computer can be connected to the controller through the network cable for remote operation
6	The test hole	An external power supply can be plugged in from the test hole for live product testing
7	The door lock	Pull the vertical door to open it
8	Water injection tank	Add water when doing humidity test
9	Water level gauge	How much water can be observed when adding water
10	Glass window	To observe the inner workings of the laboratory
11	Controller panel	The intelligent operating panel

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2. Control panel



Number	Name	Illustration
1	Controller	Touch screen programmable controller (Refer to controller manual)

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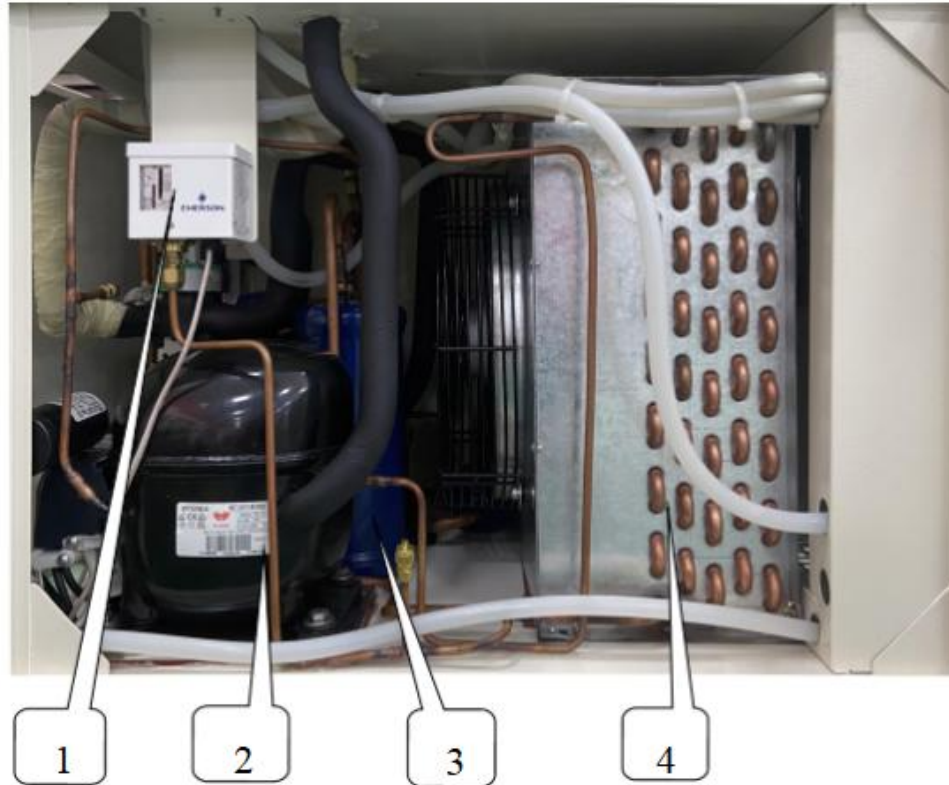
3. Test area



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

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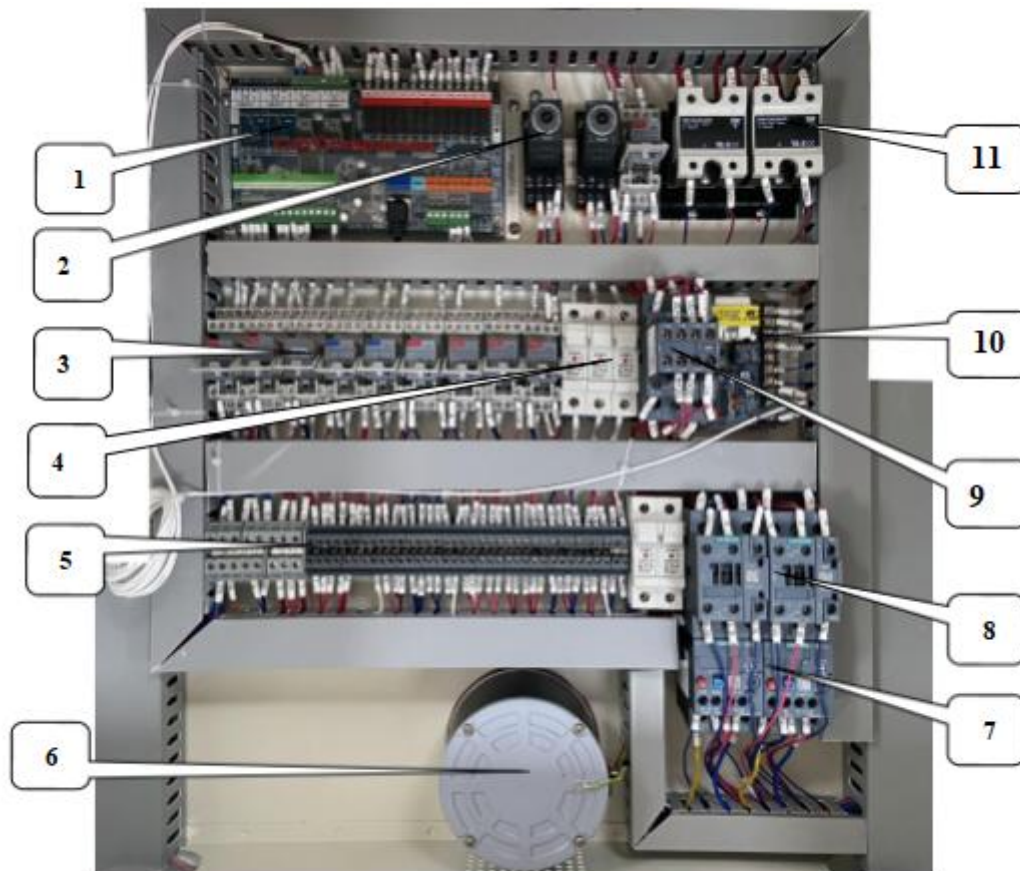
4. The cooling machine room



Number	Name	Illustration
1	Pressure protection controller	When the pressure in the pipeline is too high or too low, the controller will alarm
2	Compressor	Compression refrigeration
3	Oil separator	Separate refrigerant and refrigerant oil
4	Condenser	Cooling refrigerant

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5. Power distribution room



Number	Name	Number	Name
1	Temperature controller	7	Thermal overload relay
2	Time relay	8	Ac contactor
3	Intermediate relay	9	Auxiliary contact
4	Fuse	10	Overheated plate
5	Connector terminal	11	Solid state relay
6	Circulating machine	12	

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Test Report:

Temperature Sensor °C	-60°C	-20°C	0°C	20°C	40°C	85°C	125°C	25°C 25%	50°C 50%	60°C 95%
1	-59.7	-20.1	0.5	20.8	40.1	85.4	125.2	25.4	50.1	59.4
2	-59.4	-20.4	0.2	20.5	40.2	85.7	125.0	25.1	50.3	59.1
3	-59.5	20.5	0	20.7	40.5	85.6	125.3	24.8	50.4	59.5
4	-59.8	-20.3	0.3	20.9	40.7	85.2	125.1	25.0	50.6	59.8
5	-60.0	-20.6	0.1	21.0	40.9	85.7	124.8	25.2	50.8	60.1
6	-60.2	-20.2	0.4	21.3	41.0	85.9	125.0	25.7	51.0	60.3
7	-60.4	-19.8	0.6	21.2	41.2	86.0	125.3	25.5	51.2	60.5
8	-60.2	-19.9	0.9	21.5	41.0	86.1	125.5	25.9	51.0	60.4
9	-59.9	-20.0	0.7	21.7	41.3	86.0	125.7	26.0	50.9	60.2
Temperature deviation	0.6	0.6	0.9	1.7	1.3	1.1	0.7	1.0	1.2	0.9
Humidity display								24.5 %	49.6 %	94.2%
Temperature uniformity	1.0	0.8	0.9	1.2	1.2	0.9	0.9	1.2	1.1	1.4