

Lab Companion

Temperature And Humidity Test Chamber

C-34-40

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	350	310	290
Overall	600	1480	1050

Temperature range

from -40°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→-40°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:

EHU2140*2

Refrigerant:

R-404A/R23

Temperature electric heating:

1KW

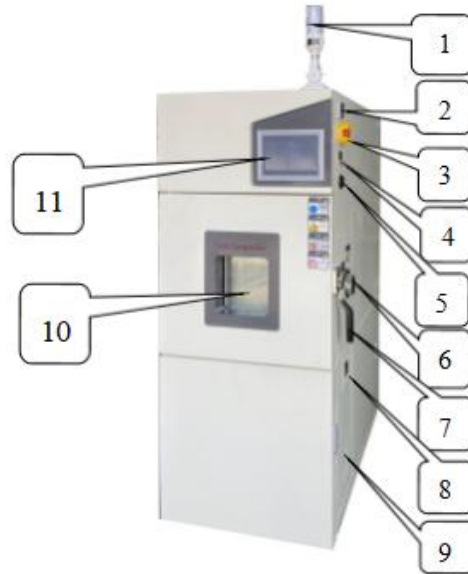
Humidity electric heating:

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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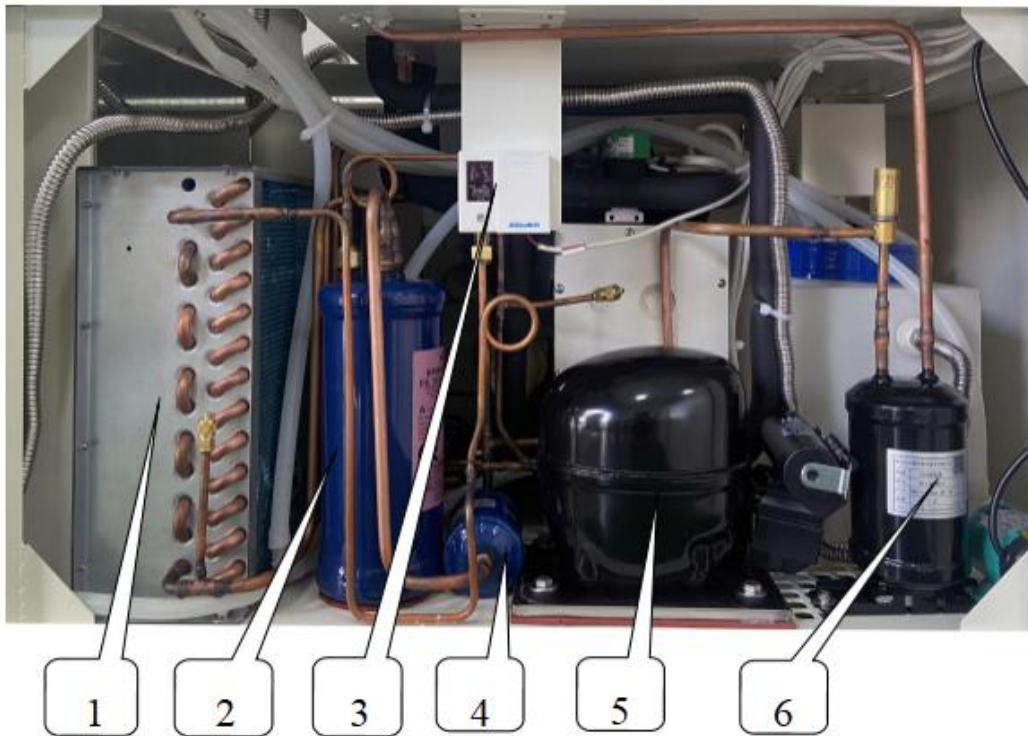
3. Test area



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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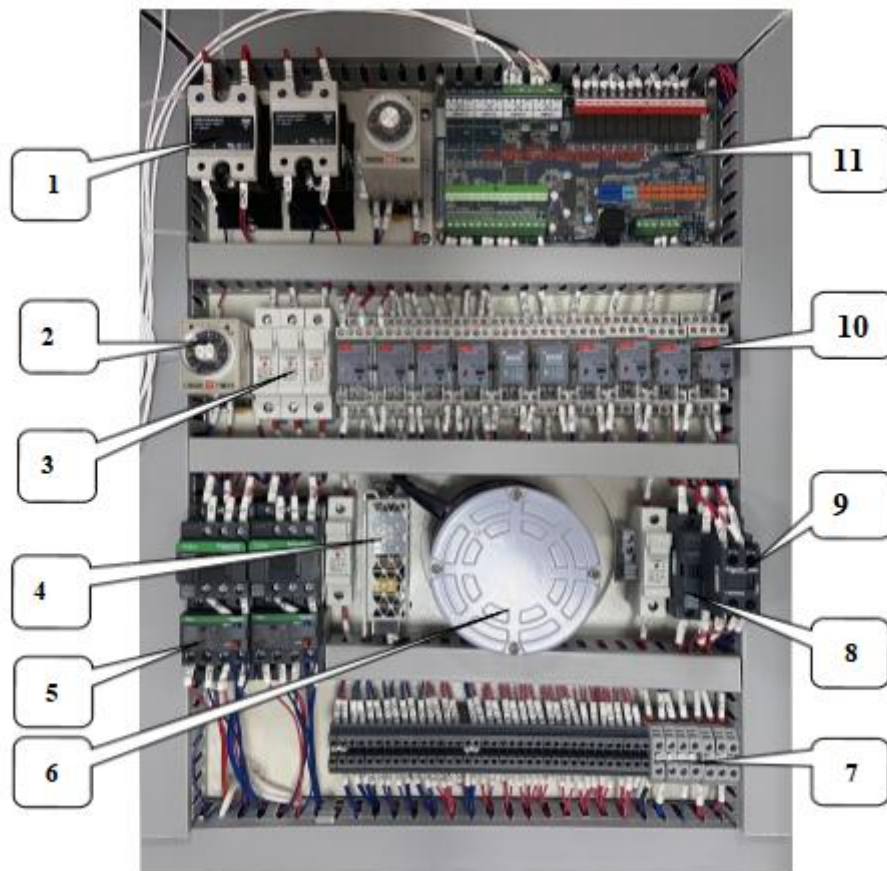
4. The cooling machine room



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

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5. Power distribution room



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

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Test Report:

Temperature Sensor °C	-40°C	0°C	20°C	40°C	85°C	125°C	25°C 25%	50°C 50%	60°C 95%
1	-39.5	0.3	20.1	40.0	85.2	124.9	25.3	49.9	58.9
2	-39.2	0	19.8	40.3	85.4	125.1	25.7	50.1	59.1
3	-39.6	0.1	20.0	40.5	85.7	125.3	25.9	50.4	59.3
4	-39.8	0.4	20.3	40.2	86.0	125.5	26.0	50.7	59.5
5	-40.0	0.7	20.5	40.6	86.3	125.8	26.3	50.5	59.7
6	-40.2	0.5	20.2	40.7	86.0	126.0	26.1	50.2	59.9
7	-39.8	0.8	20.6	40.6	85.8	126.1	25.8	50.5	60.0
8	-40.1	1.0	20.7	40.9	85.6	126.4	25.6	50.8	60.1
9	-40.4	0.9	20.5	40.7	85.9	126.5	25.3	51.0	59.9
Temperature deviation	0.8	1.0	0.7	0.9	1.3	1.5	1.3	1.0	1.1
Humidity display							24.5%	49.6%	94.2%
Temperature uniformity	1.2	1.0	0.9	0.9	1.1	1.6	1.0	1.1	1.2