

Lab Companion

Temperature And Humidity Test Chamber

C-408-40

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	800	850	600
Overall	1110	1860	1620

Temperature range:

from -40°C to +150°C(air-cooled)

Humidity range:

20~98%RH

Homogeneity and Regulation:

Temperature fluctuation:

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

Temperature uniformity:

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

Humidity fluctuation:

$\pm 1\%$

Humidity uniformity:

$\pm 2.5\%$

Temperature rise time:

$\geq 3.5^{\circ}\text{C}/\text{min}$ (20°C → +150°C) The whole process of nonlinear heating, no-load)

Temperature drop time:

$\geq 1.2^{\circ}\text{C}/\text{min}$ (20°C → -40°C) The whole process of nonlinear cooling, no-load)

Relative humidity deviation:

+2~3%RH (> 75%); $\pm 5\%$ RH ($\leq 75\%$)

Power supply specifications:

AC 380 V, 50/60 HZ, 3 ϕ 5 wire

Rated current:

AC 18 A, power 4 KW

This machine is dedicated to the above marked power supply, please use according to the rated power distribution. If the use area is changed, please contact our company.

Service phone 400-628-2786.

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Appearance Introduction and Description:

1. Front and side of the machine



Number	Name	Illustration
1	Controller panel	The intelligent operating panel
2	Test hole	An external power supply can be plugged in from the test hole for live product testing
3	The door lock	Pull the vertical door to open it
4	Controller panel	Leakage protector and safety control
5	Water injection tank	Add water when doing humidity test
6	Water level gauge	How much water can be observed when adding water
7	Glass Window	To observe the workings of the inner studio

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2. Control panel



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

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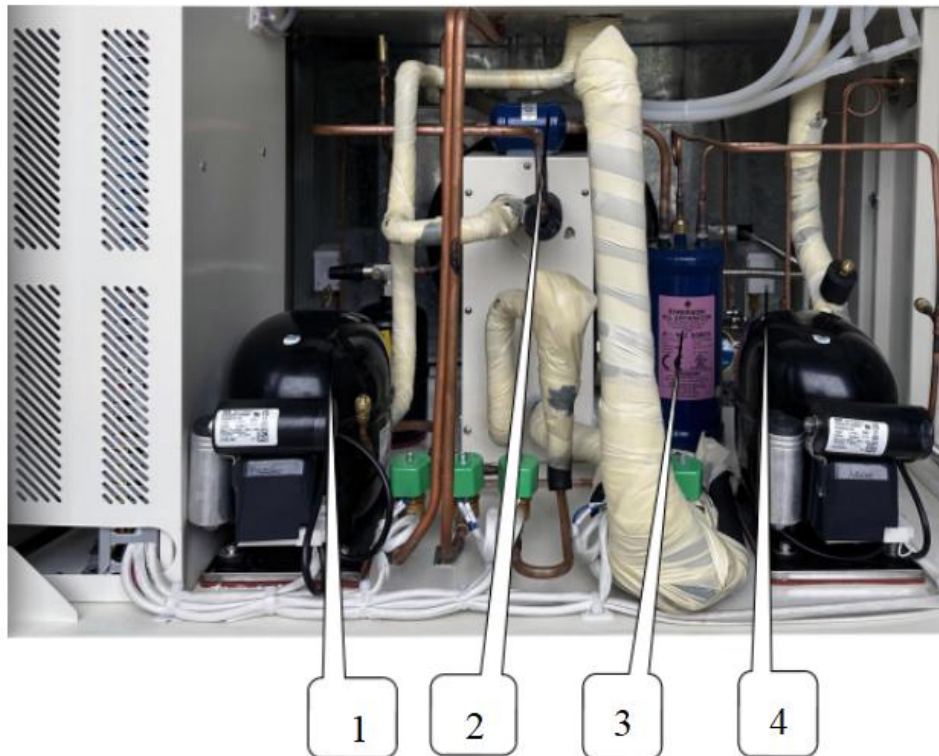
3. Test area



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 penetrate about half of the sensor, and the other One end should be completely submerged in sink water
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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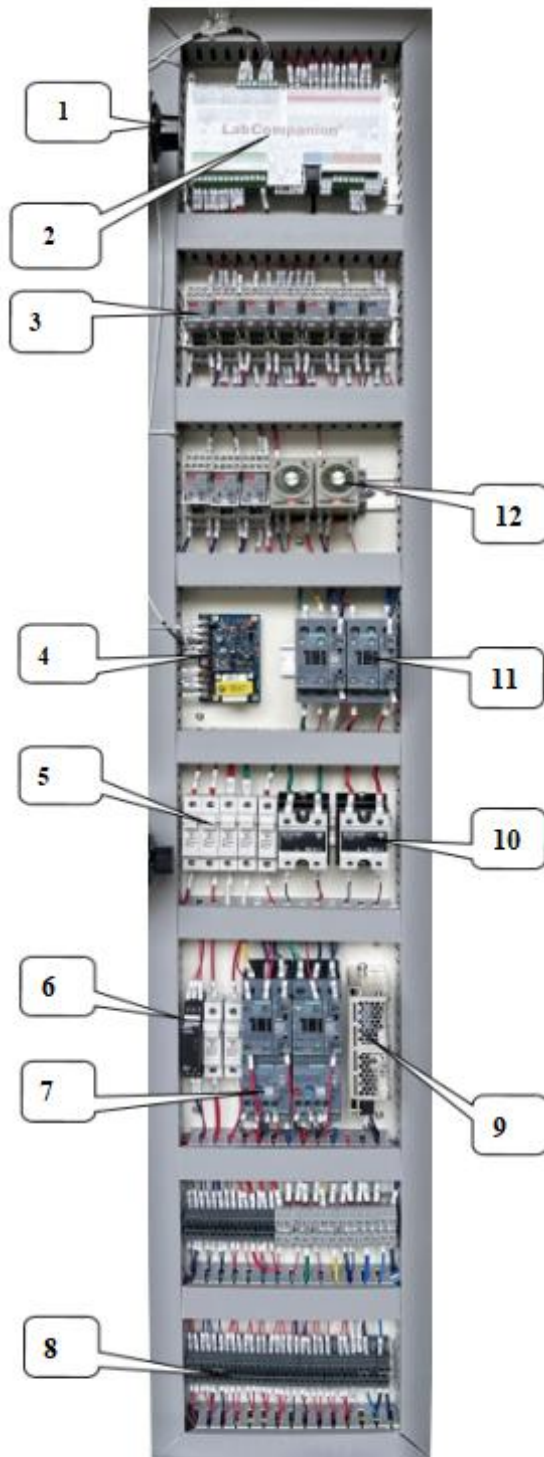
4. The cooling machine room



Number	Name	Illustration
1	Compressor	Compression refrigeration
2	Filter dryer	Filter out debris from the cooling system
3	Oil separator	Separate refrigerant and refrigerant oil
4	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	Temperature controller
3	Intermediate relay
4	Overheated plate
5	Fuse
6	Underinverting phase protector
7	Thermal overload relay
8	Connector terminal
9	Dc power supply
10	Solid state relay
11	Ac contactor
12	Time relay

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Test Report:

Temperature Sensor °C	-40°C	-20°C	0°C	85°C	125°C	25°C 25%	50°C 50%	60°C 95%
1	-40.5	-20.0	0.7	85.3	125.1	25.6	50.1	58.7
2	-40.0	-19.8	0.4	85.7	124.7	26.0	49.7	59.0
3	-40.1	-20.1	0.6	86.0	125.0	26.4	49.5	59.4
4	-39.8	-20.5	0.1	85.5	125.3	26.1	49.9	59.2
5	-39.6	-20.3	0	85.3	125.5	25.9	50.2	59.6
6	-39.9	-20.7	0.4	85.6	125.1	25.4	50.7	59.9
7	-40.0	-20.9	0.5	85.8	124.9	25.1	50.5	60.0
8	-39.5	-20.6	0.9	86.1	125.0	24.8	50.9	60.1
9	-40.1	-20.9	0.7	85.6	125.2	25.3	50.2	60.4
Temperature deviation	0.5	0.9	0.9	1.1	0.5	1.1	0.9	1.3
Humidity display						24.8%	49.5%	94.6%
Temperature uniformity	1.0	1.1	0.9	0.8	0.8	1.3	1.4	1.7