

Lab Companion

Temperature And Humidity Test Chamber

C-80-40

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	400	500	400
Overall	670	1670	970

Temperature range:

from -40°C to +150°C

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:

$\geq 3.5^\circ\text{C}/\text{min}$ (25°C → +150°C) The whole process of nonlinear heating, without load)

Temperature drop time:

$\geq 1.2^\circ\text{C}/\text{min}$ (25°C → -40°C) The whole process of nonlinear cooling, without load)

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Appearance Introduction and Description:

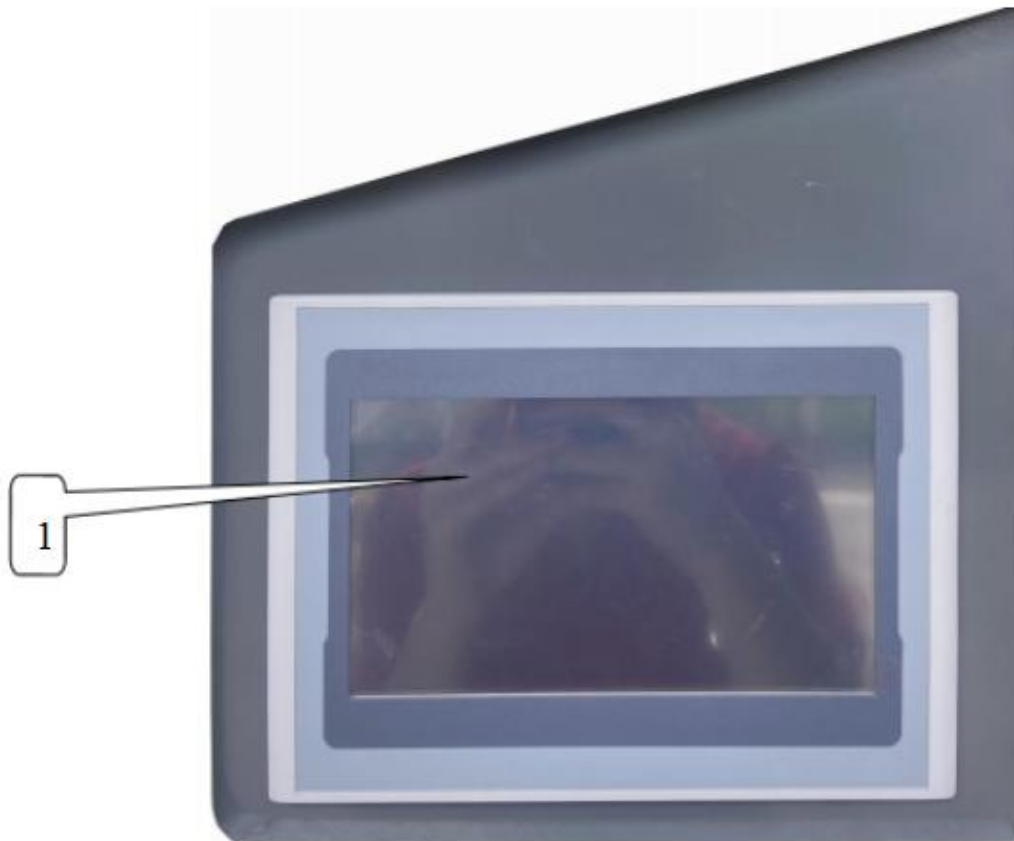
1. Front and side of the machine



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	The USB interface	Used to copy data related to curves or documents.
4	Emergency stop switch	Used to connect the device and cut off power supply
5	Network interface	The computer can be connected to the controller through the network cable for remote operation
6	Test hole	An external power supply can be plugged in from the test hole for live product testing
7	Glass Window	To observe the workings of the inner studio
8	Controller panel	The intelligent operating panel

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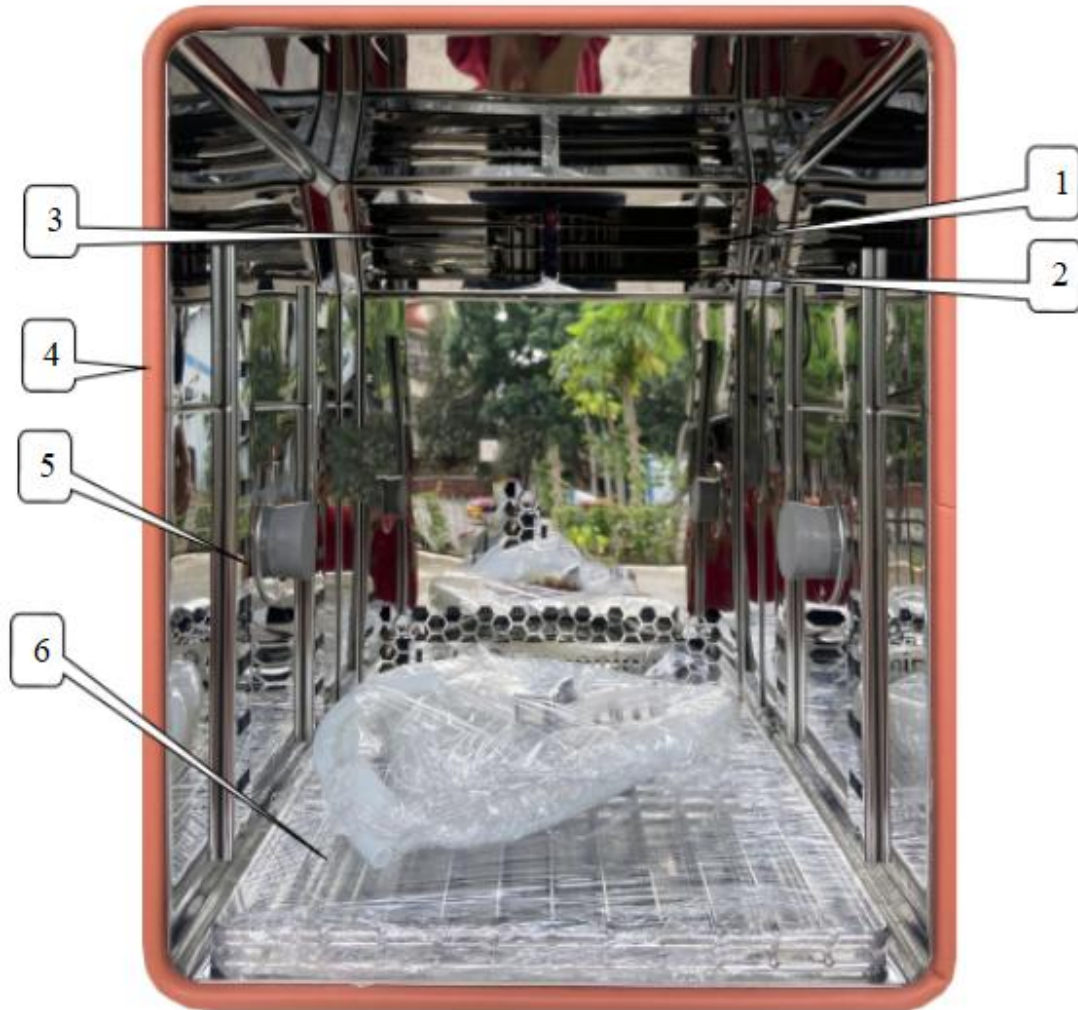
2. Control panel



Number	Name	Illustration
1	Controller	Touch screen programmable controller

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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	Air outlet	Test area circulates air outlet
4	Sealant	Heat preservation and air leakage prevention
5	Sample rack track	Used to secure the sample holder
6	Sample holder	Used to place test products

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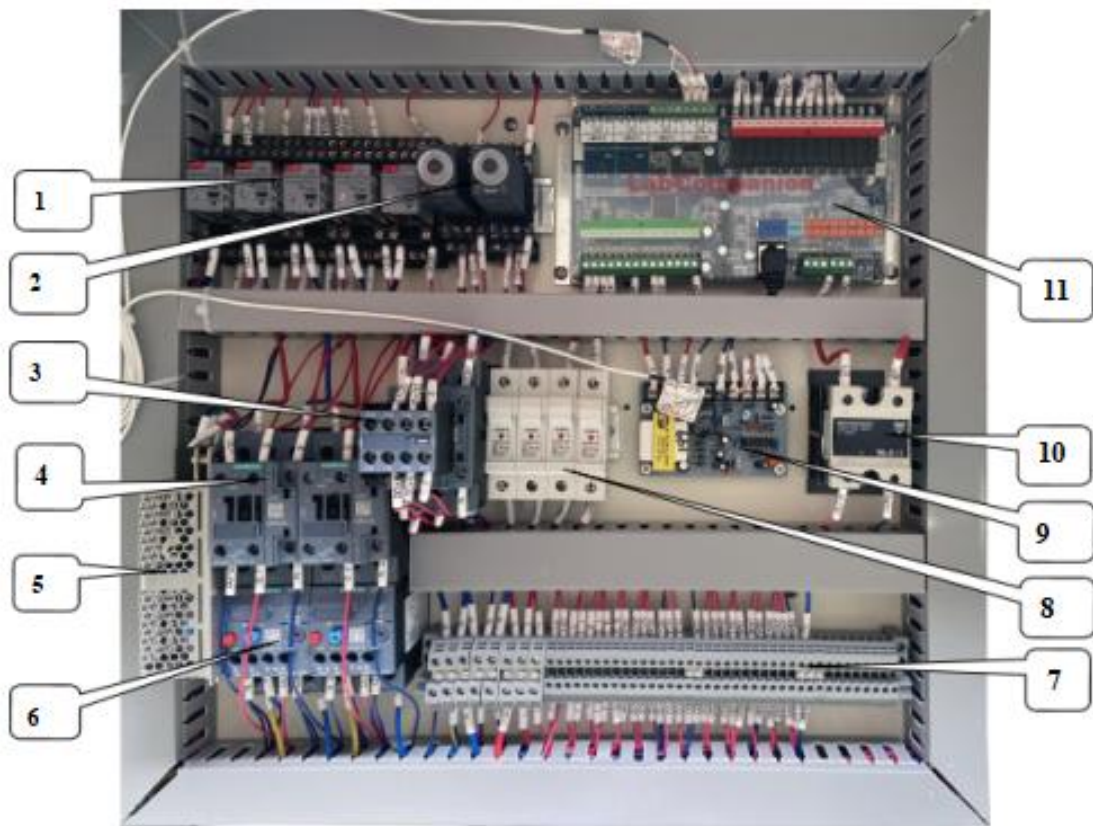
4. The cooling machine room



Number	Name	Illustration
1	Compressor	Compression refrigeration
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	Condenser	Cooling refrigerant

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5. Power distribution room



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

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Test Report:

Temperature Sensor °C	-40°C	-20°C	0°C	40°C	85°C	125°C	150°C
1	-40.1	-20.3	0.3	40.2	84.8	125.3	150.2
2	-39.9	-19.9	0.5	40.0	85.1	125.5	149.8
3	-39.7	-19.6	0.7	39.8	85.3	124.9	149.9
4	-39.9	-20.1	0.8	40.1	85.6	124.6	150.0
5	-40.2	-20.4	1.0	40.5	85.8	125.0	150.4
6	-40.4	-20.5	1.3	40.7	86.1	125.2	150.3
7	-40.5	-20.7	1.1	40.9	86.0	125.5	150.5
8	-40.7	-20.9	1.0	40.7	85.9	125.7	150.8
9	-40.5	-21.0	0.8	40.4	85.6	125.9	150.6
Temperature deviation	0.7	1.0	1.3	0.9	1.1	0.9	0.8
Temperature uniformity	1.0	1.4	1.0	1.1	1.3	1.3	1.0