Lab Companion

Temperature cycling test chamber SE-150-15

Custom Solution

Brief Introduction

Temperature cycling test chamber is suitable for instruments, chemistry, plastic, electronics, food, clothing, vehicles, metal, chemical, building materials, aerospace and other parts or machine. With rapid temperature change, gradient adaptability test and temperature stress screening test functions, helps to test the performance and change under the proposed conditions, for the purposes of product design,

improvement, identification and factory inspection.

Particularities:

1. The structure design of the Test Chamber is advanced and reasonable, and the supporting products and functional components have the international advanced level, which can meet the long-term, stable, safe and reliable production needs.
2. It can apply temperature stress and realize the change rapidly between the desired temperature values (such as -45~ +100℃ temperature range, the lifting temperature rate is 15℃/min).
3. It adopts the perfect modeling design, the appearance has excellent texture and beautiful atmosphere.
4. The control system adopts special control system, with strong expansibility, simple operation, accurate control.

Technical Features:

Dimensions (mm)	Width	Height	Depth
Useful	500	600	500
Overall	770	2030	1720

Temperature range
from -60℃ to +150℃

Homogeneity and Regulation:

Temperature fluctuation:
≤±0.5℃
Temperature deviation:
≤±1.5℃
Temperature uniformity:
≤2℃
Temperature change rate:
15℃/min (-45℃→ +100℃) Measurement of control points in the air intake area under no-load condition with linear temperature rise and fall throughout the entire process.

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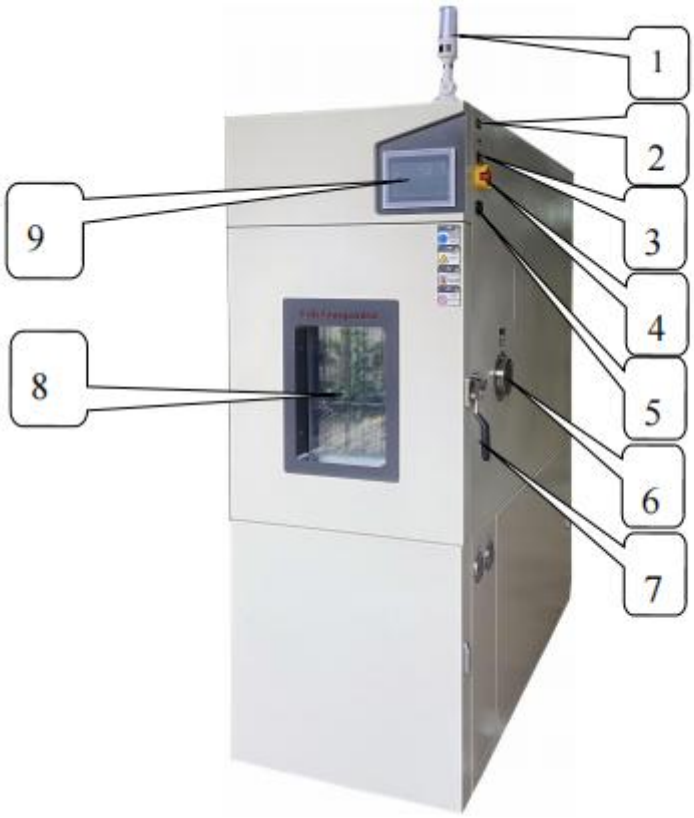
Appearance Introduction and Description:

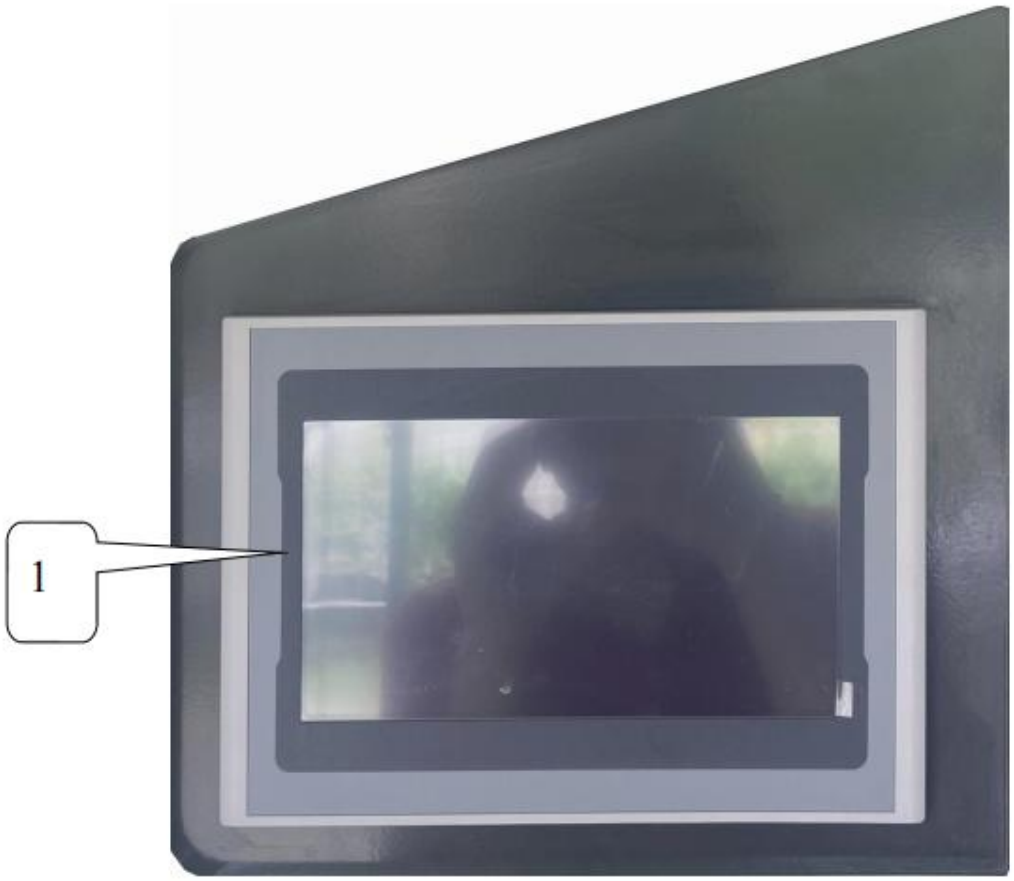
1. Front and side of the machine



Number	Name	Illustration
1	Tower Light	Green light-operation Yellow light-standby Red light-alarm
2	Over-temperature setting	Set the upper temperature limit in the test zone
3	USB interface	Used to copy the curve or the document-related data
4	Emergency stop switch	For equipment connection, cut off the power supply
5	Network interface	The computer and the controller can be connected remotely through the network cable
6	Test hole	Product live test can access the external power supply from the test hole

7	The door lock	Pull the vertical door to open it
8	Glass window	To observe the inner workings of the laboratory

2. Control panel

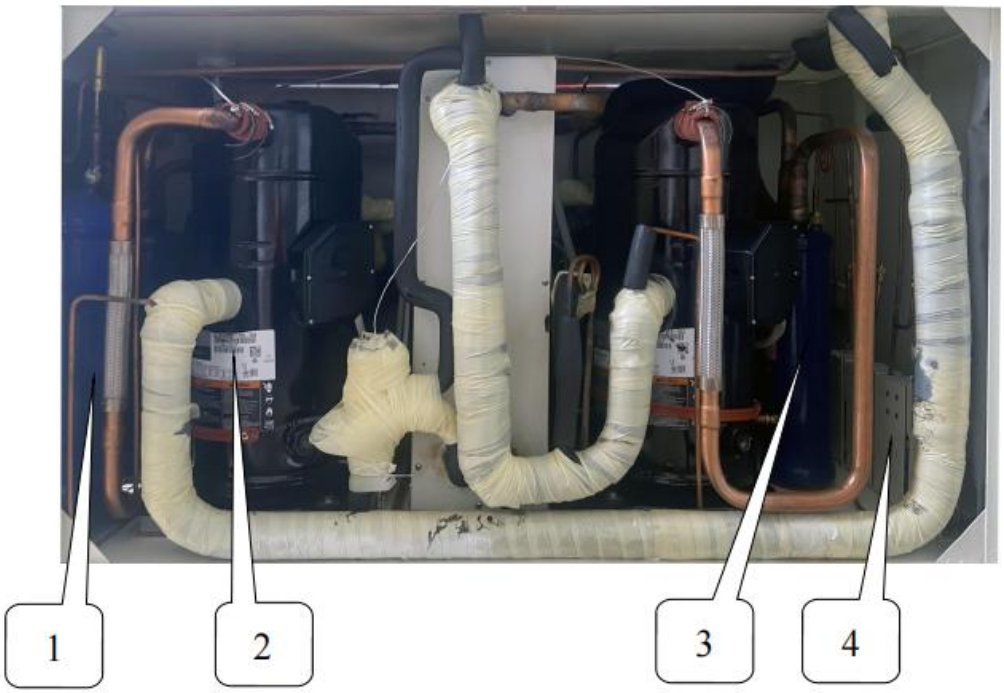


Number	Name	Illustration
1	Controller	Touch screen programmable controller (Refer to controller manual)

3. Test area

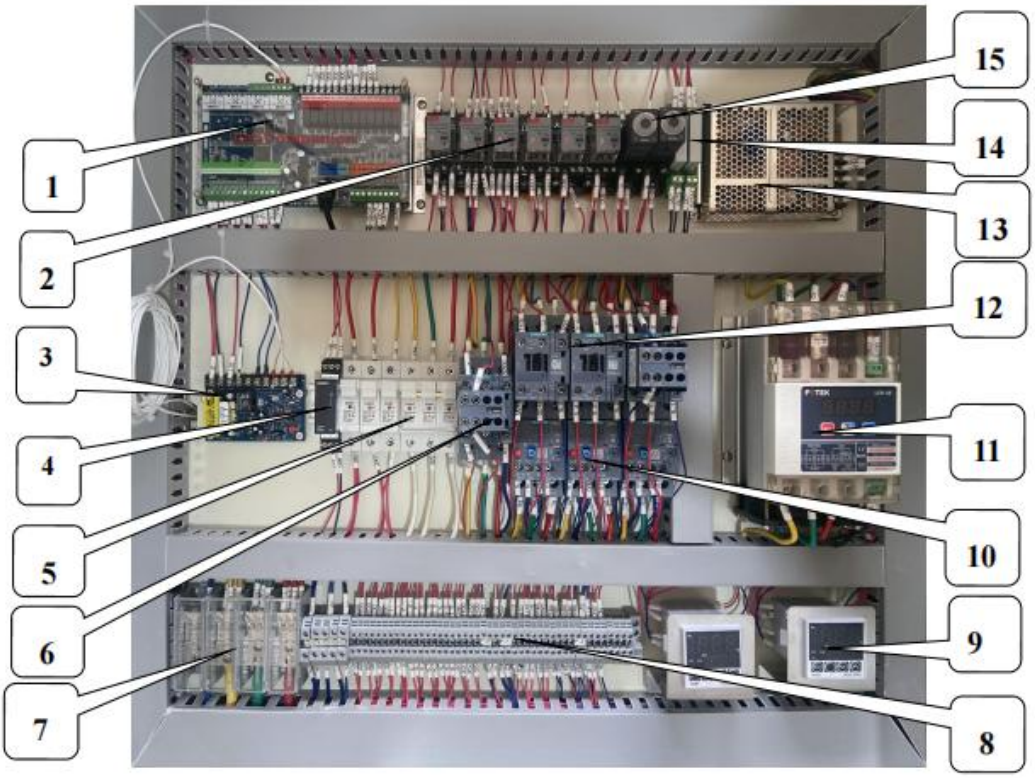
Number	Name	Illustration
1	Thermal resistance sensor	Used for panel overtemperature sensing the temperature of the inner chamber
2	Thermal resistance sensor	Used for the controller to sense the temperature of the inner chamber
3	Air outlet	Test area circulates air outlet
4	Sealant	Heat preservation and air leakage prevention
5	Sample rack track	Used to secure the sample holder
6	Sample holder	Used to place test products

4. The cooling machine room



Number	Name	Illustration
1	Fluid reservoir	Storage refrigerant
2	Compressor	Compression refrigeration
3	Oil extractor	Separate refrigerant and refrigerant oil
4	Pressure protection controller	When the pressure is too high, the machine will give the alarm

5. Power distribution room



Number	Name	Number	Name
1	Temperature controller	9	Thermostat
2	Auxiliary relay	10	Thermal overload relay
3	Ultra temperature plate	11	Power regulator
4	Under-voltage and Reverse-phase Protector	12	AC contactor
5	Fuse	13	DC power supply
6	Auxiliary contact	14	Solid-state relay
7	Large current terminal	15	Time relay
8	Connector terminal		

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Test Report:

Temperature ℃ sensor	-60℃	-20℃	0℃	40℃	85℃	125℃	150℃
1	-60.0	-19.8	0.4	40.4	84.8	124.6	149.8
2	-59.8	-20.0	0.2	40.2	85.0	124.8	150.0
3	-59.6	-20.2	0	40.5	85.3	125.1	150.1
4	-59.4	-20.4	0.2	40.7	85.5	125.3	149.7
5	-59.7	-20.6	0.4	40.6	85.2	125.4	149.9
6	-59.9	-20.8	0.7	40.8	85.3	125.2	150.1
7	-60.2	-20.6	0.9	41.0	85.6	125.0	150.3
8	-60.4	-20.7	1.0	41.1	85.7	125.4	150.5
9	-60.6	-20.5	1.3	41.0	85.9	125.6	150.2
Temperature departure	0.6	0.8	1.3	1.1	0.9	0.6	0.5
Temperature uniformity	1.2	1.0	1.3	0.9	1.1	1.0	0.8