

Lab Companion

Rapid Temperature Change Test Chamber SE-250-10

Custom Solution

Brief Introduction



Rapid temperature change 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.

Lab Companion

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 -55~ +125°C temperature range, the lifting temperature rate is 10°C/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	600	700	600
Overall	920	1860	1830

Temperature range
from -70°C to +150°C

Homogeneity and Regulation:

Temperature fluctuation:

≤±0.5°C

Temperature deviation:

≤±1.5°C

Temperature uniformity:

2°C

Temperature control accuracy:

0.1°C

Lab Companion

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	The control panel	Machine operation panel
3	The control panel	Leakage protector and safety control configuration
5	The door lock	Pull the vertical door to open it
6	Glass window	To observe the inner workings of the laboratory

Lab Companion

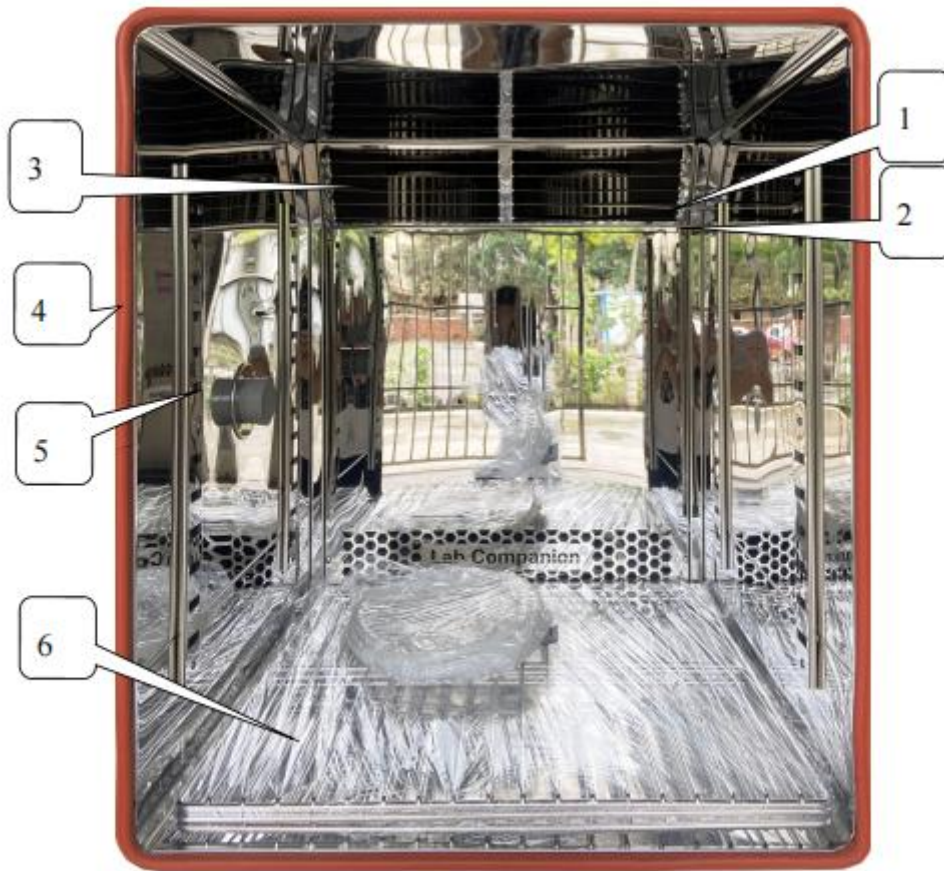
2. Control panel



Number	Name	Illustration
1	Controller	Touch screen programmable controller
2	USB interface	Used to copy curves or document-related data
3	Scram switch	Used to connect the device and cut off the power supply

Lab Companion

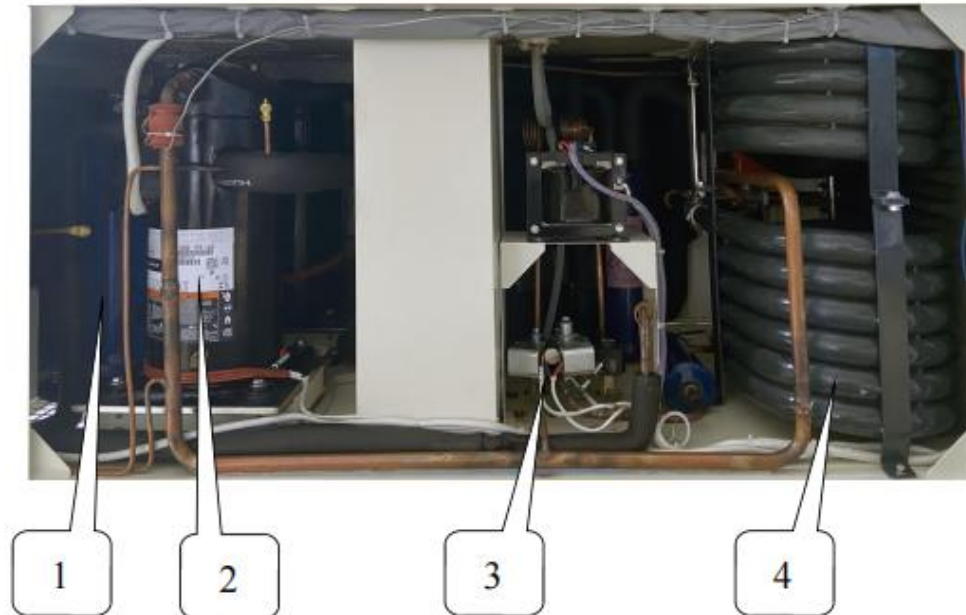
3. Test area



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	Shelf	Used to place test products

Lab Companion

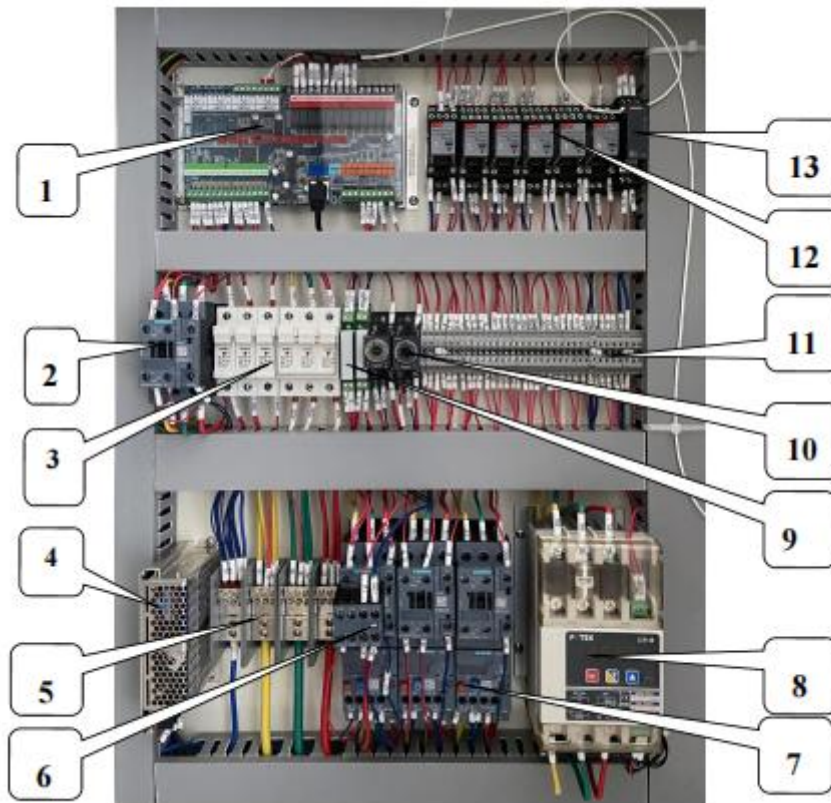
4. The cooling machine room



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

Lab Companion

5. Power distribution room



Number	Name	Number	Name
1	Temperature controller	8	Power regulator
2	AC contactor	9	Solid state relay for cold and hot valves
3	Fuse	10	Time relay
4	DC power supply	11	Connecting wire terminal
5	High current terminal	12	Intermediate relay
6	Auxiliary contact	13	Under-reverse phase protector
7	Thermal overload relay		

Lab Companion

Test Report:

Temperature Sensor °C	-60°C	-20°C	0°C	40°C	85°C	125°C	150°C
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	41.1	85.9	124.6	150.2
Temperature deviation	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