

□ 3-Zone Thermal Shock Test Chamber



3TS-100

TEMPERATURE
-70°C ~ +200°C



Automobile



Material



Electronics



Aerospace



Navigation



Paintings



Battery



Pharmaceutical



Military



Cable



3-Zone Thermal Shock Test Chamber

【Technical Parameter】

| Model | | 3TS-100 | 3TS-210 | 3TS-300 | 3TS-500 |
|---------------------------|---------------------------|--|--|---|----------------|
| Internal Dimensions (mm) | | 500*500*400 | 700*600*500 | 700*780*550 | 900*800*700 |
| Overall Dimension (mm) | | 1150*1950*2100 | 1350*2100*2200 | 1350*2250*2300 | 2500*2250*2150 |
| Interior Volume (mm) | | 100L | 210L | 300L | 500L |
| Loading Capacity | | 10kg | 15kg | 25kg | 35kg |
| Parameter | Pre-heat Room | Upper limit Temperature | +220℃ | | |
| | | Heating Time | Ambient ~ +200℃, within 30 minutes | | |
| | Pre-cool Room | Lower limit Temperature | -70℃ | | |
| | | Cooling time | Ambient ~ -70℃, within 30 minutes | | |
| | Test Room | High Temperature Exposure Range | Ambient +20 ~ +200℃ | | |
| | | Low temperature Exposure Range | -65 ~ -5℃ | | |
| | Temperature Fluctuation | | ≤±0.5℃ | | |
| | Temperature Deviation | | ≤±3℃ | | |
| | Temperature Recovery Time | | Within 5 minutes | | |
| | Structure | Cooling | Cooling System | Mechanical compression refrigeration system | |
| Refrigerating Unit | | | French TECUMSEH compressor | | |
| Refrigerant | | | R404A, R23 | | |
| Heating Element | | Nichrome heater | | | |
| Controller | | Programmable color LCD touch screen controller | | | |
| | | Ethernet connection, PC Link | | | |
| Temperature Sensor | | PTR Platinum Resistance PT100Ω/MV A-class, accuracy 0.001℃ | | | |
| View Window Size(mm) | | 250*280 | 300*330 | | |
| Air Circulation | | Centrifugal wind fan | | | |
| Safety Device | | Over-temperature Protection; Over-current Protection; Refrigerant High-pressure Protection; Earth leakage Protection | | | |
| Material | Exterior Material | | Steel Plate with protective coating | | |
| | Interior Material | | SUS304 stainless steel | | |
| | Thermal Insulation | | Polyurethane foam and insulation cotton | | |
| | Observation Window | | Interior lighting, double-layer thermo stability silicone rubber sealing | | |
| Standard Configuration | | 1 Cable hole (Φ 50,) with plug; 2 shelves | | | |
| Power Supply | | 380V 50HZ | | | |
| Maximum Noise | | 65 dBA | | | |
| Environmental Conditional | | 5℃~+35℃ ≤85% RH | | | |

- Pneumatic Damper Type
- The Refrigerant can be replaced by R449A/R508B.

- Standard & customized.

*pay attention to the environmental condition during installing



Appearance

1. Workroom

The internal material is 304 stainless steel, mirror surface, rust-proof to high and low temperature and moisture corrosion; Nice ruggedness and long life.

It is just one chamber for test room, it circulates cold and hot air through the pneumatic damper on the left and right sides

This design makes external size smaller.

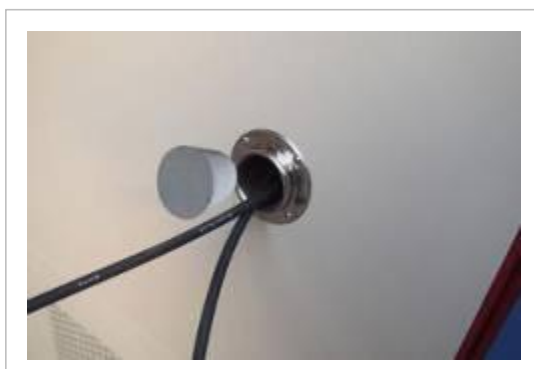


3. Cable Hole

A standard test hole, located at top of the work room, is provided with a sleeve inside to prevent moisture from entering the insulation layer. Equipped with flange.

The standard inner hole diameter is 50mm.

Soft silicone plug seal; Metal enclosure closed, beautiful designed.



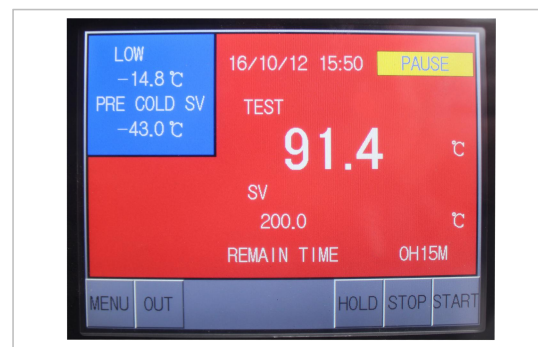
5. Controller

PID programmable color touch screen controller, network connection computer.

It can edit 100 programs 100 segments.

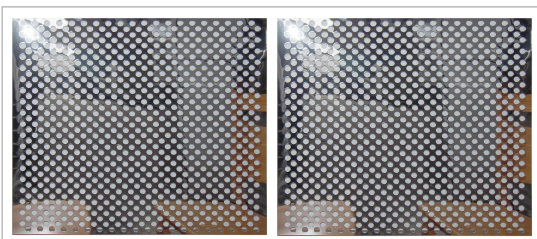
LIB also can preset program into the controller based on user testing requirements.

The set system language is English for standard.



2. Sample Shelf

SUS304 stainless steel punching sample shelf 2pcs; Standard load of 50KGS for each layer of sample shelf; The height of the shelf is adjustable and can be removed directly to facilitate the various sizes of test samples. Conducive to the air circulation.



4. Viewing Window

Double layer insulating glass 8cm thick, made of tempered glass.

The conductive film is located on the interior glass to prevent window frosting, built-in LED light for the work room lighting, can clearly observe samples.

The light control button is located below the controller.



6. Castor

Install 4 castors for ease moving, and with brakes function. Castor height adjustable.



7. Insulation

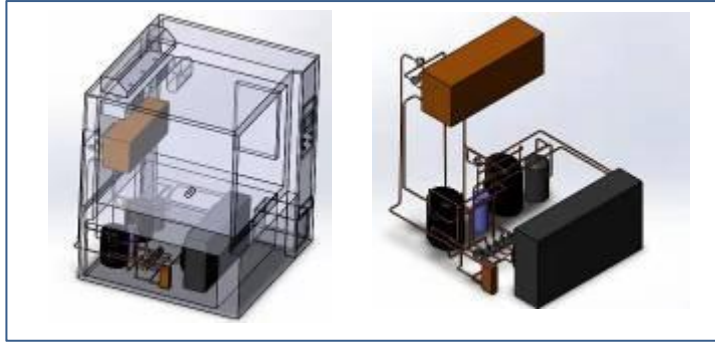
10cm thick polyurethane foam and insulation cotton; Better insulation performance, degradation resistance,

The controller is diversity designed, it can communication with LAN network interface by R-232 / RS-485

* pay attention to the environmental conditions



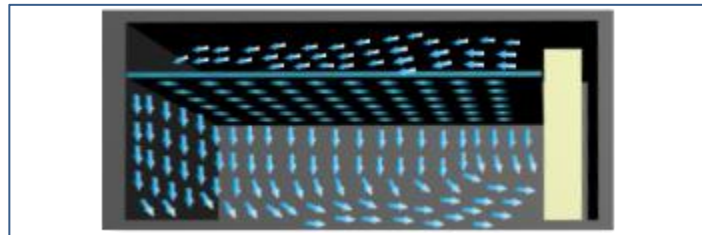
Core Function



Cooling System

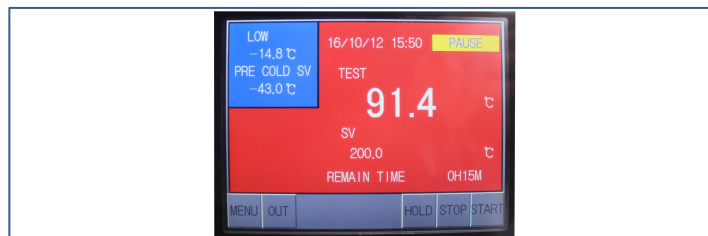
After the liquid refrigerant absorbs the heat of the cooled object in the evaporator, it is vaporized into low-temperature and low-pressure steam, sucked by the compressor, compressed into high-pressure high-temperature steam, discharged into the condenser, and radiated to the cooling medium in the condenser, condensed into a high-pressure liquid, throttling through a throttle valve into a low-pressure low-temperature refrigerant, and again entering the evaporator to absorb heat and vaporize, to achieve the purpose of cycle refrigeration.

In this way, the refrigerant completes a refrigeration cycle through four basic processes of evaporation, compression, condensation, and throttling in the system.



Air Circulation

The centrifugal fan is installed at the rear of the chamber body, and the air is uniformly distributed through the air outlet. Air circulation adopts air outlet at top and air return at bottom, and the wind speed and pressure are in compliance with the test standard, and the temperature is stabilized at the moment of switching. The high-quality centrifugal fan is used to strongly supply air circulation, making the temperature distribution in the test area uniform.

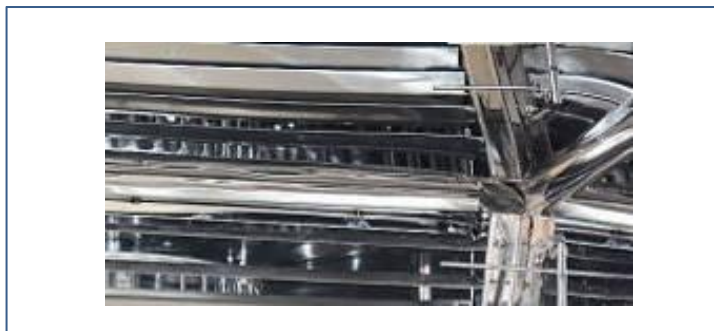


Controller System

The PID controller as the main control unit to command, operate, detect and redistribute the various components of the equipment to achieve maximum effective use.

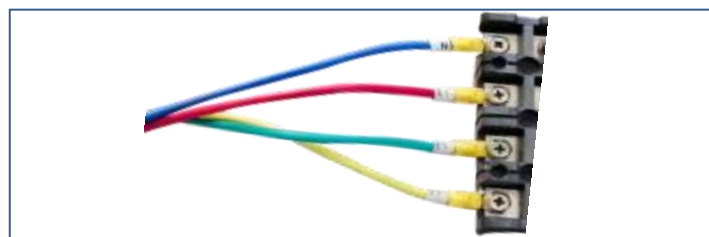
The temperature control adopts P.I.D. S.S.R. system synchronous coordinated control, which can improve the stability and life of the control components and interface.

Screen display function: LCD display, which can display test conditions (including temperature section, cycle number, running time and remaining time, etc.).



Temperature Sensor

PT-100 Class A sensor, real-time accurate detection and display of temperature changes at 0.001 degrees.



Wiring System

Voltage 380V 50Hz 3 phase.
L1, L2, L3, PE, N, grounding protection.
Standard 2m long cable.

| | | |
|-----------------------------|--|--------------------------------------|
| Over Temperature Protection | Over Current Protection Earth Leakage Protection Phase Sequence Protection | Refrigerant High Pressure Protection |
|-----------------------------|--|--------------------------------------|

Protection System

Option

3-Zone Thermal Shock Test Chamber

Sample Shelf

- Quantity can be increased
- Special sample shelf can be customized

Power Cords

- 2.5m
- 3m

Test Hole

- Diameter 100mm
- Diameter 125mm
- Shape and size can be customized

Demineral Water Device

Capacitive Temperature Sensor

- VAISALA
- ROTRONIC

Observation Window

- Size can be customized
- Inner glass door
- Hand-in ports

Reverse Osmosis Unit

Controller

- WiFi connection
- Mobile APP control
- Multi-language controller interface: Russian, French, Polish, Romanian, German

Install Condition

Environment Conditions
 Temperature: +5°C ~ +35°C
 Relative humidity: ≤85%;
 Pressure: 86 KPa—106 KPa

Space Conditions
 Sufficient space for ventilation

***Safety Instruction:**

1. Prohibited to test explosive, inflammable and high corrosive substance
2. Chemical exposure to the equipment is prohibited
3. Equipment must be safety on the ground to avoid electrostatic induction

Packaging



First, seal chamber with waterproof plastic film. Protect chamber from seawater corrosion.
 Second, buffer foam is placed in the four corners of the chamber. It is used for fixing equipment to prevent shaking and damaging chamber during transportation.



Plywood: standard wood export packaging. The wooden box is fixed by sheet metal to prevent damage during transportation.

Gross weight: 547.5kgs~
 Package size: 2100*1900*2500 mm

Warranty Condition

Our company will repair the product, if the product, the material of the parts, the design and manufacturing of the products raised hardware problems caused by product itself rather than human error within three years warranty period since the date of dispatching by the customer.

Our company repairs the products, but will collect the basic costs of the spare parts after the warranty period, but service is free always.

Shipping



Material: Export standard wooden box

*Can be used for Sea, Air, Railway, Truck and multimodal transport.

Warranty & Service

- 3 Years Warranty, Lifelong Follow-up Services

Professional After-sales Team
 If you have any questions during operation, we will supply solution to you with 24 hours.

How to Service

1. At first, our test chambers are produced based on 20 years product lifetime.

Normally once test chambers have problems, we judge the problems, and send spare parts to our customers, and teach them how to change new parts on by email or video, all spare parts and shipping cost (by DHL, TNT, and FedEx) paid by LIB.

2. If the customer needs our engineer on-site service, they only need pay the ticket accommodation to our Engineers, service is for free.

3. If products still can't use after our engineers repair, we will produce a new test chamber (same as the old one) to our customers with no charge.

PROVIDING TEST SOLUTION, PROVIDING TEST EQUIPMENT

Xi'an LIB Environmental Simulation Industry is a lead provider of environmental test chamber in China, with its own brand (LIB) design, production, sales and service since 2009. We continually update technology and develop new products for customer's needs.

Our main products included temperature and climate test chambers, corrosion chambers, weathering testers, IP dust and rain chambers, ozone test chamber, noxious gas SO2 H2S chamber, walk-in chambers. We provide test chamber, we provide test solutions. Standard and customized products to meet different customer needs.

By 2018, global market has spread to 51 countries to USA, Canada, Mexico, Brazil, Peru, Russia, German, UK, France, Finland, Netherlands, Poland, Switzerland, Thailand, Philippines, Singapore, Malaysia, Australian, South Africa etc. and the market continues to expand.

At present 7 Tier-one agents around the world provide LIB products, installation and maintenance service for customers. Make things simple and convenient.

Contact Us

Website: www.lib-industry.com
 Add: No.5 Zhangba First St, Xian High-Tech Area, Shaanxi Province P.R.China 710065
 Tel: +86 29 68918976
 WhatsApp: +86 18700875368
 Skype: serena_lib
 Email: serena@lib-industry.com

Sales Team: sales@lib-industry.com
 After Sales Team: asd@lib-industry.com
 Shipping Team: vip@lib-industry.com
 Finance Team: account@lib-industry.com

PARTNER

LIB Industry®

LIB became a registered trademark of our company since 2017 year.



CE ROHS

