



Introduction

Name: ZL-6012B 3-slot hot and cold impact testing machine



Equipment summary:

3-slot hot and cold impact testing machine is divided into high temperature area, low temperature area and test area three parts, each area is a unique insulation structure, so doing hot and cold impact test. High-temperature impact test or low-temperature impact test, the maximum time is up to 9999 minutes,

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the most cycle time is up to 9999 times. The machine can be automatically or manually cycle the impact or selectively set the two areas or three areas to impact of hot and cold. It used binary cooling system that is very effectiveness for cooling, the cooling system is divided into the air-cooled and water-cooled. It also can be connected with a computer, but the record instrument is only for optional purchase. Color LCD touch-control operation interface with Chinese and English, easy to operate.

Corresponding standard:

- 1.GB/T2423.1-1989 low-temperature testing method
- 2.GB/T2423.2-1989 high-temperature testing method
- 3.GB/T2423.22-1989 temperature test
- 4.GJB150.5-86 temperature impact test
- 5.GJB360.7-87 temperature impact test
- 6.GJB367.2-87 405 temperature impact test

Applicable industries:

Applied to aviation, military, ships, electrical, electronics, instruments and meters; medical equipment; civilian nuclear energy; colleges and universities; research laboratories; commodity inspection, arbitration, and technical supervision departments; building materials ceramic; petroleum and chemical products, For high and low temperature impact test.

Technical parameter:

Model		6012-49 A	6012-8 0A	6012-15 0A	6012-4 9B	6012-80 B	6012-15 0B	6012-49 C	6012-80 C	601 2-1 50C
size (W ×H× D) mm	Inner box	35×35× 40	50×40× 40	60×50× 50	35×35× 40	50×40×4 0	60×50×5 0	35×35×4 0	50×40× 40	60× 50× 50
	Outer box	150×19 5×145	180×20 0×145	190×20 0×155	150×19 5×145	180×200 ×145	190×200 ×155	1501×95 ×145	180×20 0×145	190 ×20 0×1 55
High-temper ature range		80°C~200°C								
Low-tempera ture range		-55°C~-10°C			-65°C~-10°C				-75°C~ -10°C	
Testi ng room temp eratu re	high	60°C~150°C								
	low	-10°C~-40°C			-10°C~-55°C				10°C~-60°C	
Heating-up time		60°C~200°C about 25min								
Cooling time		20°C~-55°C about 60min			20°C~-65°C about 75min				20°C~-75°C about 90min	
Impact recover time		High-temperature (150°C) about 30min								
		Low-temperature (-40°C or -55°C or -60°C) about 30min								

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	Impact recover time 5min								
weight	2.5 kg	5 kg	10 kg	25 kg	5 kg	10 kg	2.5 kg	5 kg	10 kg
Inner material	SUS # 304 stainless steel								
Outer material	US # 304 stainless steel								
insulation	High-precision glass wool + PU foam rubber								
Cooling system	Copy blowing type or water-cooled, and environmental protection refrigerant.								
controller	Man-machine interface with touch-programmable control								
protector	Compressor slide off, overheating, over-temperature, over-pressure, dry heat, motor overload protection switch								
Attachment	Compartment frame 2, the test hole 1								
Power(KW)	16	30	42	18	32	45	20	34	48
Power supply	AC380V±10% 3PH 50/60Hz								

Main functions:

Three slot hot and cold impact testing machine is used to test the bad influence of the static state sample in the high and low temperature changes rapidly environment. Commonly used in electronic parts, auto parts and high-tech products, etc; and need to harsh environmental conditions test and high tolerance requirements inspection.

Main Feature:

1. Air-cooled hot and cold impact test chamber easy to operation, reliable in performance. Good appearance, reasonable structure, advanced technology, fine material, ect.
2. Equipment is divided into high temperature box, low temperature box, test box of three parts, adopt unique thermal structures and heat storage effect, the sample is static when testing, guide into hot and cold air to test ozone by hot and cold switching road to achieve hot and cold temperature impact purpose.
3. Use the most advanced measuring device, controller is large touch color LCD, easy to operate, reliability, curve of system operation conditions, implement and setting program can be show by Chinese and English.
4. 96 test specification set independently, impacting time is 999 hours and 59min, cycle time 1~999 times can be set. Can realize refrigerating machine automatic operation, reduce the operating personnel workload, can run automatically and stop work at any time.
5. There is 50mm test hole on the left side, to plus power supply load wiring test components.
6. Can independently set high temperature, low temperature, and the function of cold and hot shock in three different conditions.
7. Can be used as high temperature box or low temperature box, as high temperature machine, low temperature machine and hot -cold impact testing machine.
8. Have fully automatic, high precision system circuit, P.L.C lock handle all parts working, adopt the P.I.D control automatic calculation, high temperature control precision.

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9. Advanced air circulation loop design of science, to make inner temperature uniformity, avoid any corner. Complete security protection device, to avoid any possible security hidden danger, ensure long-term reliability of the equipment.

10. Can set cycle-index and defrost the number, automatic or manual defrost.

11. Air outlet and air return vent controlled by sensors detection, throttle body switch time less than 10s, cold and hot shock temperature recover time less than 15min.

12. When running the state and curve display, if there any unusual condition, screen instantly automatic display failure point, the reason and provide troubleshooting methods. If the input power is not stable, the emergency stop device will protect the testing machine.

13. Refrigeration system using cascade cryogenic loop system design, frozen with Europe and the United States imported compressor, and use of ozone coefficient is zero (HFC) of green environmental protection refrigerants R507, R23.

14. Strong safety protection function: overload protection, power leakage protection, control circuit overload, short circuit protection, compressor protection, earthing protection, over temperature protection, alarm voice prompt and so on.

3-slot hot and cold impact testing machine specifications

*Control method and characteristics:

Using low temperature and high temperature hot and cold storage storage tank, in accordance with the need to open damper, the hot and cold temperature in the storage tank to entrance test slot to achieve rapid temperature shock effect, Balance the thermostat control system(BTC)+special design air distribution system, use P.I.D way to control SSR, Make the system plus calories quantity of heat loss, thus the use of long-term stability.

A: Model: HZ-2012B

B: performance: Air cooled at room temperature +25°C, no-load.

1. Test tank temperature range: high temperature: +60°C ~ 150°C low temperature: -10°C ~ -40°C

2. High temperature tank temperature setting range: 60°C ~ 200°C.

High temperature tank heating time RT ~ +200°C about 35min (when RT between 10°C and 30°C)

3. The low temperature tank temperature setting range: -10°C ~ -70°C

Cryogenic tank cooling time RT ~ -70°C about 80min (when RT between 10°C and 30°C)

4. temperature fluctuation: ±1.0°C

5. temperature uniformity: ±2.0°C

6. Shock return time: -50°C ~ +150°C about 5min (no-load) (High and low temperature impact constant temperature time are more than 30min)

7. Throttle opening time: less than 3s.

C. structure:

1. Dimension: a. inner size: W50*H60*D50cm

b. outside size: W145*H180*D155 cm

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2. Material: a. inner material: Mirror stainless steel plate (SUS#304)
b. exterior material: Special antirust process of plate coating.
 3. Insulation material: a. High temperature tank: Aluminum silicate insulation cotton
b. cryostat: High density PU foam
 4. Heater: Fin type radiator pipe shaped stainless steel electric heater.
a. high temperature tank: 10.5 KW. B. cryostat: 6.5 KW.
 5. Supply air circulation system:
a. motor 1HP×2PCS. b. Stainless steel long axis.
c. SIROCCO FAN d. specially designed fan forced air supply system.
 6. Test cabinet door: Single door, left open.
a. Embedded graphic handles b. back button: SUS#304. c. Silicone foam strip.
 7. Refrigeration system:
a. compressor: The original French "tai kang" all closed efficient cascade type compressor.
b. Refrigerant: Environmental protection refrigerant R-507/R-23.
c. condenser: air cooled condenser.
d. evaporator: Fins more sections of automatic load capacity adjustment.
e. attachment: desiccant, oil separator, refrigerant flow window, repair the valve,
high pressure protection switch
f. Expansion system: Capacity control of the refrigeration system (capillary tube)
g. Cooling auxiliary parts: Expansion valve (Denmark "DANFOSS"), Solenoid valve (Japan);
Filter (Denmark "DANFOSS"); Pressure controller (Denmark "DANFOSS"); Check valve (Italy CASTEL); Oil
separator (US ALCO) and so on, Refrigeration parts are adopt imported parts.
 8. Shock temperature program controller: imported with original packaging 256 colors LCD touch
screen, button type controller, Chinese or English to show. 7.5" wide viewing angle, high contrast,
adjustable backlight, large LCD display controller.
 - a. Controller specification:
 - ① Accuracy: $\pm 0.1^{\circ}\text{C} + 1\text{digit}$.
 - ② Resolution: ± 0.1 .
 - ③ With upper and lower limits and alarm functions.
 - ④ Temperature signal: T type thermal line.
 - ⑤ P.I.D Control parameters setting, P.I.D automatic calculus.
 - b. Image display:
 - ① Using figure control software dialogue type, keystroke. Touch screen option: Program setting,
curve display, historical data, manual operation and automatic operation, auxiliary setting etc.
 - ② can to show current execution state, temperature setting, time setting, time remaining, the
remaining cycles
 - ③ Separate program edit screen, input temperature, time and cycle times.
 - ④ Temperature program with a real-time display temperature curve of executive function.
 - ⑤ Display failure state and troubleshooting methods
 - ⑥ Screen can adjust backlight, screen protection function for timing, closed set.
 - ⑦ Chinese and English can switch to each other.
 - c. Program capacity and control function:
 - ① Can use the program groups: Max. 96 sets PATTEN (96 sets test specification can independent



set and stored).

②Able repeat orders:999 times.

③EGMENTS time setting 0~99Hour59Min.

④Program uses the dialogue type setting function.

⑤8groups mutual connection function.

⑥With power program memory, after restore power the automatic start and continue to perform the function of application.

⑦Automatic temperature compensation function when high and low temperature impacting.

⑧When the program execution curve can be real-time display.

⑨Defrost endurance , frequency and defrost temperature setting and execute function.

⑩Reservation startup and shutdown functions.

9.Main component:

* Valve: vapour-pressure type (atmospheric pressure: 50G customer shall provide air) .

* The power button switch: Taiwan.

* timer: Taiwan.

* AC contactor: FUJI.

* thermorelay: FUJI.

* AC relay: OMRDN

* time relay: Taiwan.

* controller: Imported.

* Over temperature protection device: Taiwan.

* No fuse master switch: Japan MITSUBISHI.

* solid-state relay: OMRDN

* button switch: Taiwan.

* Dry heating protection: Italy.

10. Safety protection device:

* overtemperature protection device .

* anti-phase,Thousands of phase protection device.

* The compressor overheating protection switch.

* The compressor high pressure protection switch.

* The compressor over-current protection switch.

* No fuse switch overload protection.

* Blower motor protection.

* SHRT、 overload protection device.

* Line fuse and all sheathed type terminal.

11. Control panel:

* Impact controller: 1PCS (Imported) .

* Power button switch: 1 PCS (Taiwan) .

* Overtemperature protection switch: 1PCS (Taiwan) .

* timer:1PCS (Taiwan).

* Standby recorder hole one.

12. Cable hole : On the left side of the machine with one diameter 50mm hole, attached to the stainless



steel plate 1PCS, silicone head 1PCS.

13. Sample frame implantation:

- a. stainless steel SUS#304 mesh pallet 2PCS.
- b. Stainless steel adjustable spacing orbit 2 groups.

14. Surrounding:

* Permitted useful temperature range: 0°C ~ +35°C.

* Performance guarantee scope: -5 ~ 30 (The cooling time and the minimum temperature at the reference 1~6) .