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Walk-in Temperature Humidity Test Chamber

BTHW-15m³ (or 8m³,10m³,12m³,30m³,80m³)

- Internal Size (W x H x D) mm
  3000*2000*2500
- External Size (W x H x D) mm
  4600*2480*2800

Extraordinary production performance brings more business.

Performance Parameter

	BTHW-15m³ (or 8m³,10m³,12m³,30m³, 80m³)
Temperature Range	Type A: 0°C~+120°C, Type B: -20°C~+120°C, Type C: -40°C~+120°C, Type D: -70°C~+120°C (adjustable)
Humidity Range	20%RH~98%RH, low humidity requirement: can reach as low as 5%RH
Temperature Fluctuation	<±0.5°C
Temperature Deviation	<±2.0°C
Temperature Uniformity	<2.0°C
Humidity Fluctuation	<±2.5%RH
Humidity Deviation	Humidity >75%RH: ^+2,-3%RH; Humidity <75%RH: < ±5%RH
Heating Rate	>3°C/MIN(No load)
Cooling Rate	>l°C/MIN(No load)
Control System	PLC + touch screen control, networkable, with USB interface, RS485 interface for PC control, specialized network control software for remote monitoring and data acquisition
Cooling Method	Watercooling
Cable Port	Two or more sets of 100mm diameter cable ports
Other Requirements	Explosion-proof lighting system, explosion-proof pressure relief system, smoke exhaust system, automatic water supply system, fire extinguishing system, sprinkler system, smoke alarm system, etc.

Double-deck Walk-in Temperature Humidity Test Chamber

♦ Single-Chamber Size (W x H x D) mm
1500*2000*2500(dual independent control)

+ External Size (W x H x D) mm
5500*2480*2800

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Performance Parameter

	BTHW-D2-7.5m³ (or custom larger sizes)
Temperature Range	Type A: O'C-H-UOX, Type B: -20°C~+120°C, Type C: -40°C~+120°C, Type D: -70°C~+120°C (adjustable)
Humidity Range	20%RH-98%RH, low humidity requirement: can reach as low as 5%RH
Temperature Fluctuation	<±0.5°C
Temperature Deviation	<±2.0®C
Temperature Uniformity	<2.0°C
Humidity Fluctuation	C±2.5%RH
Humidity Deviation	Humidity >75%RH: ⩽+2,-3%RH; Humidity <75%RH: ^±5%RH
Heating Rate	>3°C/MIN(No load)
Cooling Rate	>l°C/MIN(Noload)
Control System	PLC + touch screen control, networkable, with USB interface, RS485 interface for PC control, specialize network control software for remote monitoring and data acquisition
Cooling Method	Watercooling
Cable Port	Two or more sets of 100mm diameter cable ports
Other Requirements	Explosion-proof lighting system, explosion-proof pressure relief system, smoke exhaust system, automatic water supply system, fire extinguishing system, sprinkler system, smoke alarm system, etc.

Walk-in Temperature Humidity Test Chamber

+ Internal Size (W x H x D) mm	
2000*2000*1500	**BTHW-6m³**
2000*2000*2000	**BTHW-8m³**
2500*2000*2000	**BTHW-IOm³**
3000*2200*2500	**BTHW-15m³**
5000*2000*3000	**BTHW-30m³**
4000*2500*8000	**BTHW-80m³**

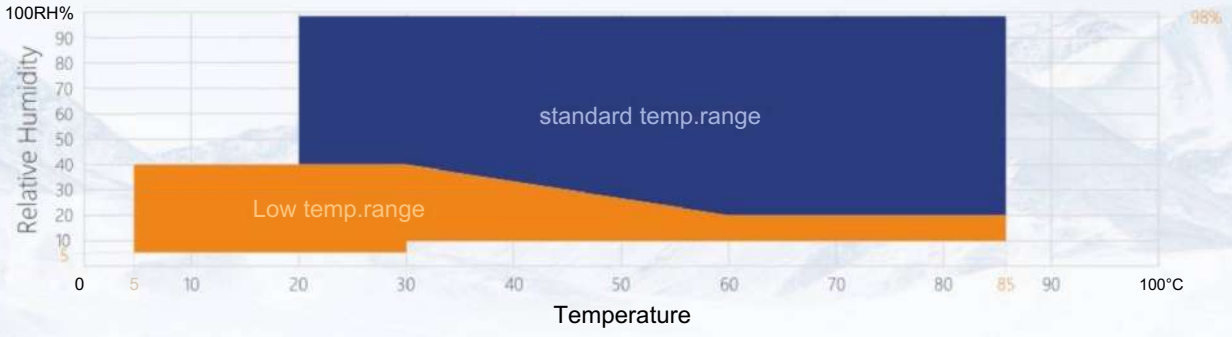
+ External Size (W x H x D) mm	
3350*2280*1800	**BTHW-6m³**
3350*2280*2300	**BTHW-8m³**
3850*2480*2300	**BTHW-IOm³**
4350*2480*2800	**BTHW-15m³**
5200*2280*4350	**BTHW-30m³**
4200*2780*9700	**BTHW-80m³**

The chamber is constructed with a reinforced square steel frame and sturdy assembled with high-strength color steel plates. The external panels are made of cold-rolled plates with double layer electrostatic resin high-temperature spraying, while the inner chamber made by SUS#304 stainless steel with high temperature and cold resistance and sealed welding. The insulation material made by fire-resistant level environmental protection glass fiber cotton. The refrigeration system adopts energy-saving refrigeration control technology from Japan and Germany, which has higher efficiency, better stability, and longer service life than traditional equipment, with energy savings of over 50%. The control system and control circuit both use well-known imported brand components.

Reference standards

+ Manufacturing Standards: GB/T10586-2006, GB/T10592-1989
* Calibration Standards: GB/T5170.2-1996, GB/T5170.5-1996
* Compliance with Test Standards:
  GB2423.1-2008 (IEC68-2-1) Test A: Low temperature test method
  GB2423.2-2008 (IEC68-2-2) Test B: High temperature test method
  GB2423.3-2006 (IEC68-2-3) Test CA: Constant damp heat test method
  GB2423.4-2008 (IEC68-2-30) Test CB: Alternating damp heat test method
  GB2423.22-2008 (IEC68-2-14) Test NB: Temperature cycle test method
  GJB150.3A-2009 (MIL-STD-810D) High temperature test method
  GJB150.4A-2009 (MIL-STD-810D) Low temperature test method
  GJB150.9A-2009 (MIL-STD-810D) Damp heat test method

Temperature and Humidity Control Range Capability Chart



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Performance Parameter

	BTHW-6m³ BTHW-8m³ BTHW-lOm³ BTHW-15m³ BTHW-30m³ BTHW-80m³
Temperature Range	A: 0°C~+120°C, B: -20°C~+120°C, C : -40°C~+120°C, D : -70°C-+120°C (adjustable)
Humidity Range	20%RH-98%RH (lowest humidity requirement: 5%RH)
Temperature Fluctuation	«£±0.5°C
Temperature Deviation	<±2.0T
Temperature Uniformity	<2.0°C
Humidity Fluctuation	<±2.5%RH
Humidity Deviation	Humidity > 75%RH: <+2, -3%RH; Humidity < 75%RH: < ±5%RH
Heating Rate	>3⁰C/min(customized)
Cooling Rate	>I°C/min (customized)
Control System	PLC + touch screen control, with networking, USB interface, RS485 interface for computer control, specialized network control software for remote monitoring and data acquisition
Cooling Method	Watercooling
Cable port	2 ports with diameter of 100mm (Quantity can be customized accoding to request)
Other Options	1. Dry air blowing system, 2. Humidifying water automatic purification supply system, 3. Fresh air ventilation system, 4. Fire, explosion and alarm protection system, 5. Low temperature with low humidity, low and high temperature testing requirements.

Temperature Humidity Test Chamber

8

+ Internal Dimensions (W x H x D) mm

400*500*400	**BTH-80**
500*600*500	**BTH-150**
500*750*600	**BTH-225**
600*850*800	**BTH-408**
1000*1000*800	**BTH-800**
1000*1000*1000	**BTH-1000**

+ External Dimensions (W x H x D) mm

650*1650*1270	**BTH-80**
700*1700*1370	**BTH-150**
700*1750*1420	**BTH-225**
800*1800*1620	**BTH-408**
1200*1900*1620	**BTH-800**
1200*1900*1820	**BTH-1000**

The equipment features a brand new and perfectly precise exterior design, with the external chamber made of cold-rolled sheet with double-sided electrostatic resin high-temperature spray, and the inner chamber made entirely of international SUS #304 heat-resistant and cold-resistant stainless steel with sealed welding. The insulation layer uses fire-resistant and high-strength PU polyurethane foam insulation material. The cooling system introduces advanced energy-saving refrigeration control technology from Japan and Germany, which is more than 20% more energy-efficient than traditional equipment. The control system and control circuit both use imported brand components.

Controller

- Programmable TT-5166 Color LCD Touch Screen PLC
- Architecture Controller with Multiple Intelligent PID Control Chinese/English language switch display, true color touch screen input
- Program capacity: up to 999999 hours and 59 minutes, maximum of 269 groups, with a total of 13450 segments, and up to 32000 cycles
- Communication interface: RS-485, Ethernet, USB2.0 interface, mobile APP function (can be linked with charging and discharging communication); the communication port can meet and support the information transmission function of equipment operation connected to LIMS or MES system

Reference standards

- Manufacturing Standard: GB/T 10586-2006, GB/T 10592-1989
- Calibration Standard: GB/T 5170.2-1996, GB/T 5170.5-1996
- Meet Test Standards:

GB 2423.1-2008 (IEC68-2-1) Test A: Low temperature test method
GB 2423.2-2008 (IEC68-2-2) Test B: High temperature test method
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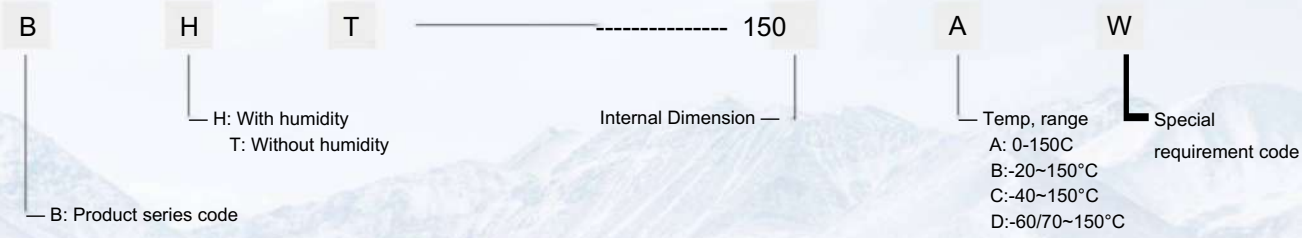
GB 2423.4-2008 (IEC68-2-30) Test CB: Alternating humidity and heat test method
GB 2423.22-2008 (IEC68-2-14) Test NB: Temperature cycle test method
GJB 150.3A-2009 (MIL-STD-810D) High temperature test method
GJB 150.4A-2009 (MIL-STD-810D) Low temperature test method
GJB 150.9A-2009 (MIL-STD-810D) Humidity and heat test method

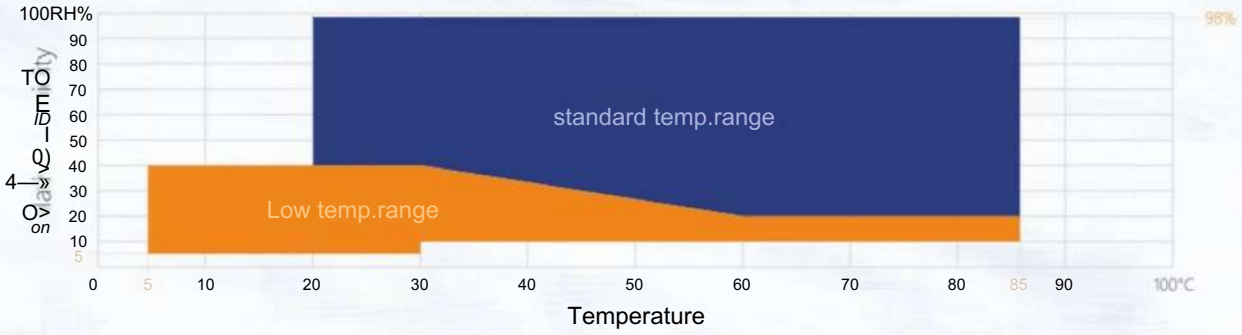
Product Usage

This equipment is suitable for various electrical and electronic products, components, and materials to perform reliability tests of high and low temperature constant, gradual, alternating, and humidity environment simulations.

Model Description



Temperature and Humidity Control Range Capability Chart



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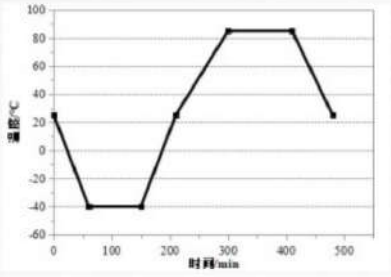
Performance Parameter

	BTH-80 BTH-150	BTH-225	BTH-408	BTH-800	BTH-1000
Temperature Range	Type A: 0-150°C	Type B: -20-150°C	Type C:-40-150°C	Type D: -70~-150°C	
Humidity Range	20~98%RH				
Temperature Fluctuation	<±0.5*C				
Temperature Deviation	<±1.5X				
Temperature Uniformity	<2°C				
Humidity Fluctuation	<±2.5%RH				
Humidity Deviation	>75%RH:^+2, -3%RH; < 75%RH<± 5%RH				

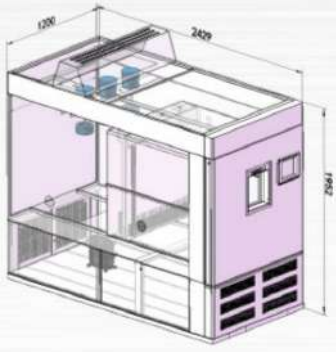
Temperature Cycling Test Chamber

Related Standard Test Requirements

1.1 Test object: Li-ion cell battery.
1.2 The test battery should be charged according to the method 7.1.1.
1.3 Put the test battery into the temperature chamber, temperature of the chamber adjusted according to table 1 and figure 2, test 5 cycles
1.4 After testing, observe for 1 h under the testing temperature.



Schematic diagram of temperature cycle test



Temp.	℃	25	-40	-40	25	85	85	25
Time increment	min	0	60	90	60	90	110	70
Cumulative time	min	0	60	150	210	300	410	480
Temp. Variety Rate	℃/min	0	13/12	0	13/12	2/3	0	6/7

Performance parameters

Model	BTH-1000D
Effective Volume	IOOOL
Internal Dimension	W1000X H1000X DI 000mm (Can be customized)
External Dimension	W1200 X H2250 X D2400mm(including the motor height for the top of the chamber)
Temperature Range	-70°C - +150°C(Can be customized)
Humidity Range	20%RH-98%RH (Limit temperature section, see the regional figure)
Temperature Fluctuation	±0.5'C
Humidity Fluctuation	±2.5%RH
Temperature Deviation	<±2.0°C
Humidity Deviation	<+2,-3%RH (Humidity>75%RH) , <±5%RH (Humidity<75%RH)
Temperature Uniformity	< ± 1.0°C
Heating Rate	0.1 ~1.2°C/min(From -40°C up to +80°C .average, linear with load)
Cooling time	0.1 ~1.2°C/min(From -40'C up to +80°C .average, linear with load)
Temperature Overshoot	< ±2'C
Maximum Load	20KG
Constant Max. Heating Load	No
Noise	<70dB (A Level)
External Material	Galvanized sheet with high temperature electrostatic resin coating at both sides.
Internal Material	1.2 mm thickness SUS# 304 heat and cold resistant stainless steel with seal welding.
Control Method	Touch screen programmable PLC, with USB interface, with RS485 interface can be connected to computer controlling, special network control software, convenient remote monitoring, data acquisition.
Compressor	Semi-Hermetic Compressors BOCK (Germany)
Observe Window	With 3-layers vacuum glass observation window on the door(W430mm*H580mm) ; Door frame with electric heat function (auto adjustable), anti-frosting, anti-condensing devices, ensures clear observation of the specimen under testing
Power Supply	AC 380V 50HZ 14.0KW
Auxiliary Function	Explosion-proof pressure relief device, explosion-proof chain, mobile phone alarm device, networking, smoke exhaust device, fire extinguishing device, etc.

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