Service Line:**+86 769 23280911**
www.belltestchamber.com

Guangdong Bell Experiment Equipment Co.,Ltd.

PROVIDE PROFESSIONAL

ENVIRONMENTAL
TEST EQUIPMENT SOLUTIONS



DGBELL®

Bell Group
Guangdong Yunhai Intelligent Technology Co., Ltd.
Guangdong Yunhai Junlan Technology Co., Ltd.
Changzhou Yunhai Junlan Technology Co., Ltd.
Hefei Yunhai Junlan Technology Co., Ltd.
BELLUE TECHNOLOGY INC

Head office address: Building F2, Songshan Lake Intelligent Valley,Liaobu Town, Dongguan, Guangdong, China.
Factory #1: No.11 Wusong 1st Street, Dongcheng District, Dongguan, Guangdong, China.
Factory #2: No. 8 Dongti West Road, Dongcheng District, Dongguan, Guangdong
Factory #3: No.12 Qingfeng #1Road, Shatou Village, Yuanzhou Town, Boluo County, Huizhou City,Guangdong
Changzhou Office: No. 213, Yulong South Road, Economic Development Zone, Zhonglou District, Changzhou City, Jiangsu

Email:sales@bellgroup.cc

Jane-DGBELL

CONTENTS

Company Profile 01

Corporate Image 03

Development Process 07

Qualification Certificates 09

Corporate Culture 11

Cooperation Partners 13

Application Area 15

Product Catalogue 17

Project Cases 67

Product Catalogue 17-66

Double Deck High and Low Temperature Test Chamber 17
High and Low Temperature Test Chamber 18
Triple-deck High and Low Temperature Test Chamber 19
Four-deck High and Low Temperature Test Chamber 20
High and Low Temperature Charge and Discharge Integrated Machine 21
Double-deck High Temperature Burn-in Test Chamber 23
High Temperature Aging Test Chamber 24
Module Series Special High and Low Temperature Test Chamber 25
Walk-in Temperature Humidity Test Chamber 26
Double-deck Walk-in Temperature Humidity Test Chamber 27
Walk-in Temperature Cycling Test Chamber Series 28
Large-scale Temperature-controlled Room 29
Walk-in Temperature Cycling Test Chamber Series 30
Energy-saving High-low Temperature Test Chamber 31
Constant Temperature Liquid-Cooling Charge and Discharge Integrated Machine 33
Four-deck High And Low Temperature Test Chamber 35
3C Consumer Battery Explosion-proof Box 37
Battery Pack Explosion-proof Chamber (Short-circuit Explosion-proof Chamber) 39
Ambient Temperature Battery Pack Explosion-proof Chamber 40
Aging testing system 41
COB Aging Test System 43
Precise High Temperature Aging oven 45
Thermal Shock Chamber (Two zones) 47
Temperature Humidity Vibration Combined Test Chamber 49
Walk-in Temperature Humidity Test Chamber 51
Rapid Rate Temperature Cycling Test Chamber 53
High-Low Temperature Low Pressure Test Chamber 55
Temperature Humidity Test Chamber 57
Thermal Shock Test Chamber (Three zone) 59
Thermal shock test chamber (two zone) 61
Multiple Types of Aging Oven 63
Customized Non-standard Series 65

Company Profile

Guangdong Bell Experiment Equipment Co., Ltd.(Group), established in 2005, is a high-tech enterprise specializing in the research, development, and production of environmental testing instrument and equipment. With a total factory area of approx 100,000 square meters, BELL has an annual production capacity of over 4,000 types of environmental chambers and battery safety testing equipment. BELL has internationally advanced CNC shears, bending machines, punching machines, laser welding machines, and other production and processing equipments, as well as a large number of industry-leading design and manufacturing talents with mature experience in designing and manufacturing large-scale non-standard complex testing equipment. BELL has also accumulated international leading technical advantages in the field of lithium battery testing equipment.

Factory #1

20000

㎡, located in Yuwu,
Dongcheng, Dongguan

Factory #2

20000

㎡, located in Aozhi Tang Industrial Zone,
Dongcheng, Dongguan

R&D and Marketing Center

2000

㎡ , located in Songshan Lake Inteligent Valley
Industrial Park, Dongguan

Factory #3

50000

㎡, located in Boluo,
Huizhou (Under construction)

Subsidiaries:
Guangdong Yunhai Intelligent Technology Co., Ltd. (Located in Huizhou)
Guangdong Yunhai Junlan Technology Co., Ltd. (Located in Dongguan)
Changzhou Yunhai Junlan Technology Co., Ltd. (Changzhou office)
Hefei Yunhai Junlan Technology Co., Ltd. (Hefei office)
BELLUE TECHNOLOGY INC(US office)



Corporate Image



▲ Factory #1



▲ Corporate Culture Exhibition Hall

Factory #2 ▼



R&D and Marketing Center ▼



Corporate Image













Development Process

2005-2008

Company established, introduced Taiwan technology R & D and started to produce environment reliability testing equipment.

Introduced Japanese and German technologies; Cooperated with Beijing Standardization Research Institute, jointly develop lithium battery safety testing equipment; Established Bell Industry (Hong Kong) Co., Ltd. in Hong Kong to expand overseas market;

2009-2010

Obtained 20 utility model patents;

Passed ISO9001: 2008 certification;

Obtained the title of "Dongguan Private Technology Enterprise";

Won the tittle of "Top 20 Chinese instrument and equipment enterprises" in 2010 sponsored by CCTV.

2011-2012

Awarded "Chinese Famous Brand" ;

Obtained 15 utility model patents;

Awarded the title of "Guangdong Province Private Technology Enterprise"

2013-2014

Awarded the title of National High-tech Enterprise;

Joined the power battery standardization technical committee;

Introduced German technology and manufacturing processes, and comprehensively manufactured high-quality environmental test equipments.

2015-2018

Passed ISO9001:2015 certification;

Comprehensively developed a complete set of testing equipment for battery packs.

The first set of equipment for the whole testing process of power battery pack according to GB / T31467.3 was successfully put into production;

2019-2023

"Dongguan Bell Experiment Equipment Co., LTD." was upgraded to "Guangdong Bell Experiment Equipment Co., LTD."

The company had an annual production capacity of more than 4,000 units; Won the title of "Vice President unit of Dongguan Lithium Battery Industry Association"

Established a branch company of "Guangdong Yunhai Junlan Technology Co., LTD.", "Guangdong Yunhai Intelligent Technology Co., LTD.",

Started to build 50,000 square modern standardized workshop in Huizhou.

Qualification Certificates



Established in 2005, with more than ten years of insisting on originality, excellent quality and leading strategy, the company had won the tittle of "Top 20 Chinese instrument and equipment enterprises" in 2010 sponsored by CCTV network; And with the faith to keep specializing in the test equipment industry to build the leading brand of test equipment , had passed IS09001: 2015 certification. Further more, Bell had been awarded tittles such as "Chinese Famous Brand" "Guangdong Province Private Technology Enterprise" "Dongguan City Private Technology Enterprise"; "Vice President unit of Dongguan Lithium Battery Industry Association" and had obtained more than 40 new patents for inventions and utility models.

BELL' s products had been sold very well throughout the country, and had been exported to Southeast Asia, Europe, United States, Africa, Australia and other countries to achieve the synchronous growth of the domestic market and the international market.









Corporate Culture

Enterprise Culture

Internal

To provide employees with a platform to create happiness and fulfill their dreams.

External

To provide the best test solution for customers

Corporation Vision

To become the leading brand in testing equipment industry

Core Value

Morality

The principle of being a good person

Pragmatism

The attitude of handling things

Service

The concept of management

Innovation

The root of development

Quality Policy

Quality first

Customer satisfaction

Continuous improvement

Pursuit of excellence







DGBELL®

Cooperation Partners

Some of Our Cooperated Customers

BUREAU VERITAS

intertek

lenovo

BYD

北汽新能源 BAIC BJEV

CHERY

National research council Canada

SONY

SAMSUNG

Great Wall

HUAWEI

KING LONG

SGS

SUNWODA 欣旺达

TÜV SÜD

LG Energy Solution

NIO

TOYOTA

TÜVRheinland

UL

YUTONG

....

The above companies logos are arranged in alphabetical order.

Application Area

Solutions In Optoelectronics, Semiconductors and Chips



National Defense And Military Industry





Solutions in photovoltaic and new energy fields

DGBELL®



Customized series

Double Deck High and Low Temperature Test Chamber

+ Inner Chamber Dimensions (W x D x H) mm

600*700*600	**BTL-D2-252**
800*600*600	**BTL-D2-288**
1000*600*600	**BTL-D2-360**

+ Outer Chamber Dimensions (W x D x H) mm

1300*1800*1950	**BTL-D2-252**
1500*1700*1950	**BTL-D2-288**
1740*1900*2100	**BTL-D2-360**



Extraordinary production performance brings more business.

Performance Parameter

	BTL-D2-252	BTL-D2-288	BTL-D2-360
Structure	Two separate working chambers on top and bottom		
Temperature Range	B : -20°C to +150°C C : -40°C to +150°C D : -70°C to +150°C		
Temperature Fluctuation	±0.5°C		
Air Supply Mode	Forced internal circulation, horizontal air supply (or ceiling air supply)		
Heating Rate	Average 1-3°C/min full range (non-linear, no load)		
Cooling Rate	Average 1°C/min full range (non-linear, no load)		
Temperature Uniformity	≤2°C (no load, constant state)		
Temperature Deviation	±2°C		
Observation Window	W300 x H400 mm, triple-layer vacuum toughened glass		
Testing Terminal or Cable Port	12 sets testing terminals installed inside and outside chamber on the left side(cable port for optional)		
Cooling Method	Air-cooling or water-cooling		
Compressor	French Tecumseh compressor, American Copeland compressor, or German Bitzer compressor		
Control Method	Touch screen programmable control PLC, with USB interface, RS485 interface for computer control, special network control software for easy remote monitoring and data acquisition		
Inner Chamber Material	1.0mm SUS304# stainless steel		
Outer Chamber Material	1.2mm cold roll steel, powder-coated, high-temperature plasticized		
Power	AC380V 50Hz		
Safety Protection	Automatic explosion-proof and pressure relief device, explosion-proof chain, Tri-color light alarm device, remote control, smoke exhaust device, fire extinguishing device, etc.		
Communication Protocol	Develop communication protocol for use with charge and discharge tester		

High and Low Temperature Test Chamber

+ Inner Chamber Dimensions (W x D x H) mm

500*500*600	**BTT-150**
500*600*750	**BTT-225**
600*600*900	**BTT-324**
600*800*850	**BTT-408**



Extraordinary production performance brings more business.

Performance Parameter

	BTT-150	BTT-225	BTT-324	BTT-408
Outer Chamber Dimensions (W x D x H) mm	To be determined upon final design.			
Temperature Range	B : -20°C to +150°C C : -40°C to +150°C D : -70°C to +150°C			
Air Supply Mode	Forced internal circulation, from Upper to lower air flow circulation (horizontal air supply or ceiling air supply for optional)			
Temperature Fluctuation	±0.5°C			
Heating Rate	Average 3°C/min full range (non-linear, no load)			
Cooling Rate	Average 1°C/min full range (non-linear, no load)			
Temperature Uniformity	≤2°C (no load, constant state)			
Temperature Deviation	±2°C (no load, constant state)			
Observation Window	Triple-layer vacuum toughened explosion-proof glass			
Cable Port	Cable ports can be opened on both sides of the chamber			
Cooling Method	Air-cooling or water-cooling			
Compressor	French Tecumseh compressor, American Copeland compressor, or German Bitzer compressor			
Control Method	Touch screen programmable control PLC, with USB interface, RS485 interface for computer control, special network control software for easy remote monitoring and data acquisition			
Inner Chamber Material	1.0mm SUS304# stainless steel			
Outer Chamber Material	1.2mm cold roll steel, powder-coated, high-temperature plasticized			
Power	AC380V 50Hz			
Safety Protection	Automatic explosion-proof and pressure relief device, explosion-proof chain, tri-color light alarm device, remote control, smoke exhaust device, fire extinguishing device, etc.			
Communication Protocol	Develop communication protocol for use with charge and discharge tester			

Triple-deck High and Low Temperature Test Chamber

+ Inner Chamber Dimensions (W x D x H) mm

450*450*450	**BTT-D3-80**
1000*600*600	**BTL-D3-360**

+ Outer Chamber Dimensions (W x D x H) mm

1300*1150*1950	**BTT-D3-80**
1740*2100*2500	**BTL-D3-360**



Extraordinary production performance brings more business.

Performance Parameter

	BTT-D3-80 BTL-D3-360
Structure	Testing chamber is designed with a three-compartment structure (upper, middle, and lower compartments)
Air Supply Mode	Forced internal circulation, from upper to lower air supply circulation
Temperature Range	B : -20℃ to +150℃ C : -40℃ to +150℃
Temperature Fluctuation	±0.5℃
Heating Rate	Average 1~3℃/min full range (non-linear, no load)
Cooling Rate	Average 1℃/min full range (non-linear, no load)
Temperature Uniformity	⩽2℃ (no load, constant state)
Temperature Deviation	⩽±2℃ (no load, constant state)
Observation Window	Triple-layer vacuum toughened explosion-proof glass
Cable Port	Cable port can be opened on the left side of the Chamber
Cooling Method	Air-cooling or water-cooling
Compressor	French Tecumseh compressor or German Bitzer compressor
Control Method	Touch screen programmable control PLC, with USB interface, RS485 interface for computer control, special network control software for easy remote monitoring and data acquisition
Inner Chamber Material	1.0mm SUS304# stainless steel
Outer Chamber Material	1.2mm cold roll steel, powder-coated, high-temperature plasticized
Power	AC380V 50Hz
Safety Protection	Automatic explosion-proof and pressure relief device, explosion-proof chain, tri-color light alarm device, remote control, smoke exhaust device, fire extinguishing device, etc.
Communication Protocol	Develop communication protocol for use with charge and discharge tester

Four-deck High and Low Temperature Test Chamber

+ Internal Size (W x D x H) mm

850*850*400	**BTL-D4-289C**



Extraordinary production performance brings more business.

Performance Parameter

	BTL-D4-289C
Structure	Four working chambers in an integral design (customizable to left and right structures)
Air Supply Mode	Forced internal circulation, horizontal air delivery
Temperature Range	-40°C-+150°C
Temperature Fluctuation	±0.5°C
Heating Rate	Average of 1~3°C/minute throughout the process (non-linear, without load)
Cooling Rate	Average of 1°C/minute throughout the process (non-linear, without load)
Temperature Uniformity	⩽2°C (without load, at constant state)
Temperature Deviation	⩽±2°C
Observation Window	W300 X H400 MM, triple-layer vacuum toughened glass
Testing Terminal	12 sets of terminals installed inside and outside the box on the left side for connection with test cabinet
Cooling Method	Optional air cooling or water cooling
Compressor	French Tecumseh compressor
Control	PLC programmable control with touch screen, USB interface, RS485 interface for PC control, specialized network control software for remote monitoring and data acquisition
Internal Material	1.0mm SUS304 stainless steel
External Material	1.2mm cold roll steel powder-sprayed, high-temperature plasticized
Power Supply Voltage	AC380V 50HZ
Safety Protection	Automatic explosion-proof pressure relief device, explosion-proof chain, tri-color lamp alarm device, remote control, smoke exhaust device, fire extinguishing device, etc.

High and Low Temperature Charge and Discharge Integrated Machine

+ Single Layer Inner Box Size (W x D x H) mm
  820*500*700

BTL-D2-287C

This is a specialized testing machine for the environmental performance of new energy batteries. It integrates the battery charging and discharging module with the environmental test chamber, and connects the charging and discharging computer and the environmental test chamber control interface in the control software.



Advantages

+ Saves space and material costs;
+ Easy to install, open, and move;
+ Convenient testing operations greatly improve testing efficiency;
+ Reliable wiring and control provide more accurate test results;
+ Test results are directly merged for easy analysis;
+ Standard machine positions are reserved, which can integrate standard charging and discharging modules from multiple manufacturers;
+ Long-term operation saves energy consumption.

Extraordinary production performance brings more business.

Performance Parameter

	BTL-D2-287C
Structure	Two-chamber structure with upper and lower chambers
Air Supply	Forced internal circulation with horizontal air supply
Temperature Range	-40℃ to +150℃
Temperature Fluctuation	±0.5℃
Heating Rate	Average 1~3℃/minute (non-linear, no load)
Cooling Rate	Average 1.0℃/minute (non-linear, no load)
Temperature Uniformity	≤2℃ (no load, constant state)
Temperature Deviation	≤±2℃
Observation Window	W300 X H400 MM, three-layer vacuum tempered glass
Testing Terminal	12 sets of terminals for connection to the test cabinet
Cooling Method	Air-cooled/water-cooled optional
Compressor	French Tecumseh compressor
Control Method	Touch screen programmable control PLC, with USB interface, RS485 interface can be connected to computer control, dedicated network control software, convenient for remote monitoring and data collection.
Inner Chamber Material	1.0mm SUS304# stainless steel
Outer Chamber Material	1.2mm Cold rolled steel, sprayed with powder, high-temperature plasticized
Power Supply Voltage	AC380V 50HZ
Safety Protection	Automatic explosion-proof pressure relief device, explosion-proof chain, three-color light alarm device, remote control, smoke exhaust device, fire extinguishing device, etc.

Double-deck High Temperature Burn-in Test Chamber

+ Internal Dimension of Single Cabinet (W x D x H) mm

600*600*600	**BTT-D2-216A**
1000*600*600	**BTT-D2-360A**

+ External Dimension (W x D x H) mm

1340*1085*1765	**BTT-D2-216A**
1740*2000*1800	**BTT-D2-360A**



Extraordinary production performance brings more business.

Performance Parameter

	BTT-D2-216A	BTT-D2-360A
Structure	Two single cabinets in upper-and-lower direction	
Temperature Range	RT+10℃ to +150℃	
Temperature Fluctuation	±0.5℃	
Heating Ramp Rate	RT+10～+100℃, about 10min	
Temperature Uniformity	⩽±2℃ (No load, constant state)	
Observation Window	W300 X H300mm, Explosion-proof glass is with explosion-proof film	
Cooling Mode	Air-cooled	
Control Mode	Touch screen programmable control PLC, USB interface, RS485 interface which can be connected to the computer control. With special network control software, it's convenient to monitor remotely and collect data.	
Internal Material	1.0MM thick, SUS304# mirror stainless steel	
External Material	1.2mm cold rolled steel, powder sprayed, plasticized at high temperature	
Power Source	AC380V, 50HZ	
Safety Functions	Automatic explosion-proof pressure relief device, explosion-proof chains, tricolor light alarm device, remote control, smoke exhaust device, fire extinguishing device, etc	
Cable Port	One ¢ 100mm hole on the left and right sides separately, with silicone plug and stainless steel cover.	
Extra Function	Develop communication protocol for use with charge and discharge tester	

High Temperature Aging Test Chamber

+ Internal Dimension (W x H x D) mm

1000*1200*600	**BTG-720**
1000*1000*1000	**BTG-1000**
1500*1800*650	**BTG-1755**

+ External Dimension (W x H x D) mm

1200*1815*920	**BTG-720**
1400*1650*1270	**BTG-1000**
2400*2087*1365	**BTG-1755**



Extraordinary production performance brings more business.

Performance Parameter

	BTG-720	BTG-1000	BTG-1755
Temperature Range	RT+10℃～+150℃ (Full range controllable. Adjustable control accuracy is ±0.1℃)		
Temperature Fluctuation	±0.5℃		
Temperature Uniformity	⩽±2℃ (No load, constant state)		
Observation Window	W300 X H300mm, Explosion-proof glass is with explosion-proof film		
Cooling Mode	Air-cooled		
Control Mode	Touch screen programmable control PLC, USB interface, RS485 interface which can be connected to the computer control. With special network control software, it's convenient to monitor remotely and collect data.		
Internal Material	1.0mm thick, SUS304# stainless steel		
External Material	1.2mm thick cold rolled steel, powder sprayed, plasticized at high temperature		
Safety Functions	Automatic explosion-proof pressure relief device, explosion-proof chains, tricolor light alarm device, remote control, smoke exhaust device, fire extinguishing device, etc		
Cable Port	One ¢ 100mm hole on the left and right sides separately, with silicone plug and stainless steel cover.		
Extra Function	Develop communication protocol for use with charge and discharge tester		

Module Series Special High and Low Temperature Test Chamber

+ Internal Dimension (W x D x H) mm

1000*800*1000	**BTT-800C**
900*600*1600	**BTT-864C**
1060*800*1200	**BTT-960C**

+ External Dimension (W x D x H) mm

1200*1620*1920	**BTT-800C**
1470*2020*1665	**BTT-864C**
1200*2100*1830	**BTT-960C**



Extraordinary production performance brings more business.

Performance Parameter

	BTT-800C	BTT-864C	BTT-960C
Temperature Range	B type:-20°C-+150°C C type:-40°C-+150°C D type:-70°C-+150°C		
Air Supply Mode	Forced internal circulation. Air is out upper and returns back lower (Or horizontal air supply turns 90°)		
Temperature Fluctuation	±0.5°C		
Heating Ramp Rate	Average 1~3°C/min (Non-linear and no-load)		
Cooling Ramp Rate	Average 1°C/min (Non-linear and no-load)		
Temperature Uniformity	⩽2°C (No load, constant state)		
Temperature Deviation	⩽±2°C		
Observation Window	3-layer vacuum tempered glass		
Cable Port	Located at the left side of the machine		
Cooling Mode	Air-cooled / water-cooled (Optional)		
Compressor	Tecumseh from France Germany GEA Bock		
Control Mode	Touch screen programmable control PLC, USB interface, RS485 interface which can be connected to the computer control. With special network control software, it's convenient to monitor remotely and collect data.		
Internal Material	1.0mm SUS304# stainless steel, Teflon sprayed insulation		
External Material	1.2mm cold rolled steel, powder sprayed, plasticized at high temperature		
Power Source	AC380V 50HZ		
Safety Functions	Automatic explosion-proof pressure relief device, explosion-proof chains, tricolor light alarm device, remote control, smoke exhaust device, fire extinguishing device, etc		
Communication Protocal	Develop communication protocol for use with charge and discharge tester		

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	⩾1°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	Water cooling
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



Extraordinary production performance brings more business.

Performance Parameter

	BTHW-D2-7.5m³ (or custom larger sizes)
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	≥1°C/MIN(No load)
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	Water cooling
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 Cycling Test Chamber Series

BTKS5-12m³-C (Larger one can be customized accordingly)

+ Internal Size (W x D x H) mm
  2000*3000*2000
+ External Dimension (W x D x H) mm
  2400*4500*2940



Extraordinary production performance brings more business.

Performance Parameter

	BTKS5-12m³-C (Larger one can be customized accordingly)
Temperature Range	A type: 0°C~+150°C B type: -20°C~+150°C C type: -40°C~+150°C D type: -70°C~+150°C
Humidity Range	20%RH~98%RH
Heating Ramp Rate	≥5°C (Or 10°C, 15°C) /min(-40°C~+85°C)
Cooling Ramp Rate	≥5°C (Or 10°C, 15°C) /min(+85°C~-40°C)
Cooling Way	Water-cooled
Other Requirements	Explosion-proof lighting system Explosion-proof pressure relief system Smoke exhaust system Automatic water supply system Fire extinguishing device, sprinkler device, smoke alarm device, etc

Large-scale Temperature-controlled Room

BTHW-80m³ (Larger one can be customized accordingly)

+ Internal Dimension (W x H x D) mm
  4000*2500*8000

+ External Dimension (W x H x D) mm
  4250*2780*9700



Extraordinary production performance brings more business.

Performance Parameter

	BTHW-80m³ (Larger one can be customized accordingly)
Temperature Range	0°C~+60°C (adjustable)
Humidity Range	20%RH~98%RH Low humidity requirements: the minimum can reach 10%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 Ramp Rate	⩾3°C/min(No load)
Cooling Ramp Rate	⩾1°C/min(No load)

Walk-in Temperature Cycling Test Chamber Series

BTGW-14.4m³ (Larger one can be customized accordingly)

+ Internal Dimension (W x D x H) mm
  3000*2400*2000

+ External Dimension (W x D x H) mm
  3300*3800*2400



Extraordinary production performance brings more business.

Performance Parameter

	BTGW-14.4m³ (Larger one can be customized accordingly)
Temperature Range	(RT+10)°C～100°C
Temperature Fluctuation	⩽±0.5°C
Temperature Deviation	⩽±2°C
Temperature Uniformity	⩽±2°C
Heating Ramp Rate	RT→+100°C ⩽60 min (No load)

Energy-saving High-low Temperature Test Chamber

+ Equipped with a Cold-balance Controller

+ Internal Dimension (W x H x D) mm

900*900*700	**BTT-567BT**
900*900*700	**BTT-567CT**

+ External Dimension (W x H x D) mm

1240*1780*1360	**BTT-567BT**
1240*1780*1360	**BTT-567CT**

The cold-balance controller uses an electronic throttling valve to control the refrigeration capacity of the compressor. The system provides only the necessary amount of cooling, eliminates excess cooling and balances out the excess cooling with heating, resulting in significant energy savings.



Advantages

+ Energy saving of more than 30% during low-temperature operation;
+ Water consumption reduced more than 40% when humidity is being controlled;
+ Prolongs the evaporator's frost-free operation time during long-term use;
+ Linear heating and cooling are easier to achieve;
+ Temperature uniformity performance is improved;
+ The compressor is less likely to frost, and has a longer lifespan;
+ Easy operation for both low-humidity and high-humidity conditions;
+ More convenient for non-standard design.

Extraordinary production performance brings more business.

Performance Parameter

	BTT-567BT	BTT-567CT
Temperature Range	-20℃~+100℃	-40℃~+100℃
Temperature Fluctuation	≤±0.5℃	
Temperature Deviation	≤±2.0℃	
Temperature Uniformity	≤2.0℃	
Heating Ramp Rate	≥3.0℃/min (Average in full range, no load)	
Cooling Ramp Rate	≥1.0℃/min (Average in full range, no load)	
Refrigeration System	Single stage refrigeration system	
Controller	Cold balance controller is used. Required cooling capacity is controlled by system automatically.	
Air Supply	Horizontal air supply	
Cooling Way	Water-cooled	
Control Mode	Touch screen programmable PLC	
Internal Material	1.0mm SUS304# stainless steel	
External Material	1.2mm cold rolled steel, powder sprayed	
Safety Functions	Tricolor light alarm device (explosion-proof chains, automatic pressure relief device, smoke exhaust device, fire extinguishing device) for option	
Extra Function	Develop communication protocol for use with charge and discharge tester	

Constant Temperature Liquid-Cooling Charge and Discharge Integrated Machine

BTCY-1638AT

+ Internal Dimension (W x H x D) mm
  1400*1800*650
+ External Dimension (W x H x D) mm
  2350*2130*1750mm



Advantages

+ Independent R&D program to meet a wider range of customer needs;
+ Test data can be directly merged for easy analysis of test results;
+ Built-in charge and discharge module that can integrate multiple manufacturer modules;
+ All circuits are internal, with no external piping required, saving on pipeline costs;
+ Built-in liquid cooling system that allows for simultaneous temperature, flow, and charge-discharge testing;
+ Supports 12 independent flow control channels, with a maximum flow rate of 4.5L/Min per channel;
+ Supports 12 water inlet temperature monitoring channels, all of which can set temperature upper and lower limit alarms;
+ Supports 12 water inlet flow monitoring channels, all of which can set flow upper and lower limit alarms;
+ The temperature box and the liquid cooling system use one refrigeration system to save costs;
+ Built-in charge and discharge module saves space and is easier to layout in a site;
+ Comes with standard USB, RS485, LAN interfaces;
+ Can customize liquid-cooled plates and fixtures to meet more working conditions.

Extraordinary production performance brings more business.

Performance Parameter

	BTCY-1638AT
Temperature Range	0℃~+100℃ (Environmental cabinet) +5℃~+60℃ (Liquid cold tank)
Temperature Fluctuation	≤±0.3℃(≤85℃);≤±0.5℃(>85℃);
Temperature Deviation	≤±1.0℃(≤85℃);≤±2.0℃(>85℃);
Temperature Uniformity	≤1.0℃(≤85℃);≤2.0℃(>85℃);
Heating Ramp Rate	≥5.0℃/min(Average in full range, no load)
Cooling Ramp Rate	≥1.0℃/min(Average in full range, no load)
Charge-discharge Module	800A,12CH
Liquid Cooling Module	4.5L/Min, 12CH
Air Supply Mode	Horizontal air supply
Cooling Way	Water-cooled / Air-cooled
Control Way	Touch screen programmable PLC
Internal Material	1.0mm SUS304# stainless steel
External Material	1.2mm cold rolled steel, powder sprayed
Safety Functions	Tri-color light alarm device (explosion-proof chains, automatic pressure relief device, smoke exhaust device, fire extinguishing device) for option.
Extra Function	Develop communication protocol for use with charge and discharge tester

Four-deck High And Low Temperature Test Chamber

+ Internal Dimension (W x D x H) mm
  500*800*600

+ External Dimension (W x D x H) mm
  1750*2150*2150

TC-D4-240CT
Uses a one-to-many temperature and humidity controller and one set of refrigeration system.



Advantages

+ Can independently control temperature;
+ Supports one-to-two, one-to-three, and one-to-four control;
+ Linear control, high humidity and low humidity control;
+ Comes with standard USB, RS485, LAN interfaces;
+ Expandable without limits;
+ Saves space for the unit and makes the equipment's overall size smaller;
+ Saves costs by not requiring a separate refrigeration system for each temperature zone;
+ Convenient operation with one touch screen controlling four temperature zones;
+ Easy to maintain, the unit is simple and has fewer refrigeration components.

Extraordinary production performance brings more business.

Performance Parameter

	TC-D4-240CT
Temperature Range	-40°C~+100°C
Temperature Fluctuation	≤±0.3°C(≤85°C);≤±0.5°C(>85°C);
Temperature Deviation	≤±1.0°C(≤85°C);≤±2.0°C(>85°C);
Temperature Uniformity	≤1.0°C(≤85°C);≤2.0°C(>85°C);
Heating Ramp Rate	≥5.0°C/min (Average in full range, no load)
Cooling Ramp Rate	≥1.0°C/min (Average in full range, no load)
Charge-discharge Module	1000A, 8CH
Liquid Cooling Module	It adopts 1 set of refrigeration system and 1 controller which can independently control temperature in 4 cabinets.
Air Supply Mode	Horizontal air supply
Cooling Way	Water-cooled
Control Way	Touch screen programmable PLC
Internal Material	1.0mm SUS304# stainless steel
External Material	1.2mm cold rolled steel, powder sprayed
Safety Functions	Tri-color light alarm device (explosion-proof chains, automatic pressure relief device, smoke exhaust device, fire extinguishing device) for option.

DGBELL®

3C Consumer
Battery Explosion-proof Box

BE-001
+ Internal Dimension (W x H x D) mm
500*500*500 Single-cabinet

BE-002
+ Internal Dimension (W x H x D) mm
500*500*500 Two-cabinet

BE-004
+ Internal Dimension (W x H x D) mm
500*500*500 Four-cabinet

BE-006
+ Internal Dimension (W x H x D) mm
500*500*500 Six-cabinet

BE-008
+ Internal Dimension (W x H x D) mm
500*500*500 Eight-cabinet

BE-016
+ Internal Dimension (W x H x D) mm
300*300*300 Sixteen-cabinet

BE-030
+ Internal Dimension (W x H x D) mm
300*300*300 Thirty-cabinet









Extraordinary production performance brings more business.

Performance Parameter

	BE-001	BE-002	BE-004	BE-006	BE-008	BE-016	BE-030
Purpose	This battery explosion-proof box is used to prevent the explosion or combustion of the battery from causing unnecessary damage to the test personnel in the overcharge and overdischarge of the battery. The whole euqipment's structure is made of strong steel material with good explosion-proof performance.						
Internal material	1.5mm stainless steel						
External material	Cold rolled steel is treated with plastic spray						
Explosion-proof door	The strong hinge is connected with the machine structure with an explosion-proof lock.						
Bottom	Marble slab is laid to prevent external short circuits of the battery						
Top	A high-brightness energy-saving light is installed to illuminate the whole test space.						
Exhaust Device	A strong exhaust fan is installed at the back of the machine, and smoke can be discharged to the outside when there are smoke parameters.						
Pressure-relief Port	A pressure relief door is on equipment's back side which will automatically open when under high pressure.						
Cable Port	A diameter of 50mm cable port is opened on the side with stainless steel cover for sealing when it is not in use.						
Movement	Install casters for easy movement and fixation						

Battery Pack Explosion-proof Chamber (Short-circuit Explosion-proof Chamber)

BE-001-125

+ Internal Dimension (W x H x D) mm
500*500*500

BE-001-512

+ Internal Dimension (W x H x D) mm
800*800*800

BE-001-1m³

+ Internal Dimension (W x H x D) mm
1000*1000*1000

BE-001-2m³

+ Internal Dimension (W x H x D) mm
1000*2000*1000





Extraordinary production performance brings more business.

Performance Parameter

	BE-001-125	BE-001-512	BE-001-1m³	BE-001-2m³
Smoke Exhaust Function	The smoke exhaust generated by the test can be discharged to the outside through the blower on the top of the pipe, and the smoke exhaust port on the top of the explosion-proof box is connected to the pipe to the outside.			
Safety Functions	The door is equipped with 10mm toughened explosion-proof glass.			
	The interior of the door is welded with reinforcing bars to make it more firm and strong			
	Cable port: One cable port with a diameter of 100mm			
	Pressure relief device with exhaust function. A large number of exhaust gas produced in the test is discharged outside, reaching the explosion-proof pressure relief function.			
	The system has carbon dioxide fire extinguishing device which has function of remote control automatic fire extinguishing.			
External and internal material	Steel plate			
Bottom	Test area is with a marble slab, which has effective flame retardant and corrosion resistant. It is easy to clean and avoid external short circuit.			
Cable Port	A cable port with a diameter of 100mm is opened on the left side of equipment for cables to pass through.			
Movement	4 universal wheels are installed with 4 fixed feet. It's easy to move and be securely fixed.			
Door	High strength hinges are adopted and fixed. The door is equipped with 2 sets of explosion-proof lock which can be fixed.			
Power Source	AC 220V 50HZ			
Power	1.0KW			

Ambient Temperature Battery Pack Explosion-proof Chamber

BE-8214-120m³

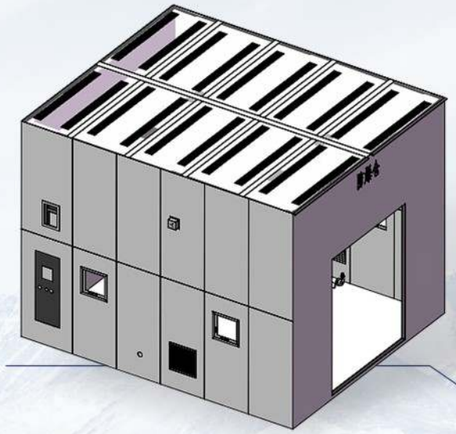
+ Internal Dimension (W x H x D) mm
5000*4000*6000

BE-8214-125m³

+ Internal Dimension (W x H x D) mm
5000*5000*5000

BE-8214-140m³

+ Internal Dimension (W x H x D) mm
5000*4000*7000



Extraordinary production performance brings more business.

Performance Parameter

	BE-8214-120m³	BE-8214-125m³	BE-8214-140m³
Temperature range	RT		
Internal Material	After welding 3mm thick stainless steel plate, the inner part is tightly assembled and fully welded (effective corrosion resistance, high temperature resistance and flame retardant).		
Air Inlet	The equipment is equipped with air inlet, and the air inlet is filtered to ensure the air flow in the machine and will not harm the operator.		
Cable Port	Reserved diameter of 100mm cable port. Port position is according to customer' s requirement.		
Control System	The equipment is equipped with smoke monitoring and alarm device and sound and light alarm device. When the smoke monitoring and alarm device detects abnormal signals, the sound and light alarm will be triggered and the smoke exhaust system will be opened automatically. At the same time, a manual button is set up in the control room, and the operator can directly start the smoke exhaust system after pressing it.		
Safety Protection System	1.Smoke alarm device and tri-color light sound-and-light alarm device 2.Camera monitoring system		
Explosion-proof Pressure Relief And Smoke Exhaust	1. Pressure relief port 2. Smoke exhaust system		
Explosion-proof Door	Double door. Material is the same as equipment's structure. Explosion-proof chains are equipped on the door.		
Observation Window	The double door has an observation window which is covered with 2-layer vacuum explosion-proof large glass.		
E-stop Button	The emergency button is installed outside of the machine, and the door can be opened automatically when there is a person inside and the door is closed.		
Overall Structure	The inner wall of the machine is a steel plate with a thickness of 3mm. The middle is reinforced with a square pass, and the outer wall is welded firmly with a 3mm steel plate.		
Explosion-proof Lighting System	The machine is equipped with two sets of LED lights, energy saving and high brightness, with explosion-proof toughened glass.		
High-definition Explosion-proof Camera	A 1080P high-definition camera is installed at the observation window of the equipment.		

Aging testing system

+ Internal dimension (W x H x D) mm
  5000*2700*1200 (customizable based on user requirements)
+ External Dimension (W x D x H) mm
  5800*3400*2500 (customizable based on user requirements)

Suitable for FPD, CMOS, IC and photoelectric related products and other products, parts and materials in high temperature or other harsh environment performance reliability test;especially FPD (STN-LCD、TFT-LCD、COLOR、FILITER、TOUCH PANEL、OLED、PDP) ,Can help users quickly detect product conditions, provide effective directions in solving problems, fully improve production efficiency and product quality, also can provide a complete system integration



Visualization aging equipment

Advantages

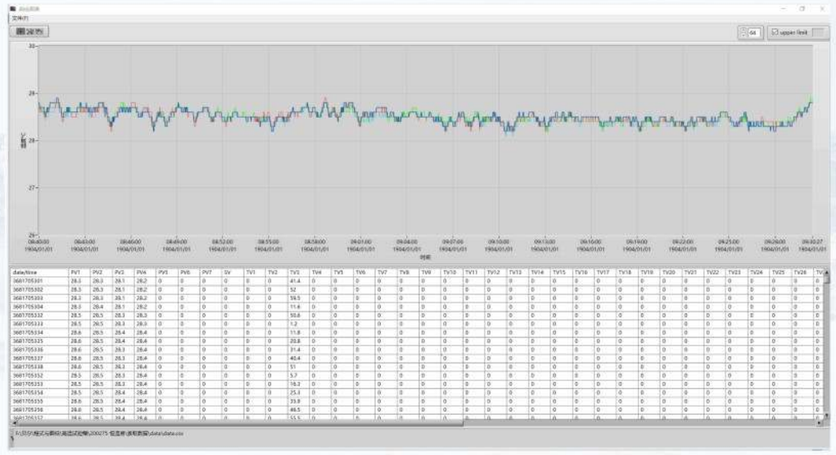
+ Integrated testing equipment that can perform various environmental tests in single or multiple test zones.
+ Automatic control and supply of signals and power according to the process of the test samples.
+ Option to choose single equipment or turnkey projects (with fixtures, shelves, signal sources, monitoring, automation, etc.).
+ Insulation layer made of high-strength PU polyurethane foam insulation material with fire resistance.
+ Control system and circuitry use high-quality components from well-known imported brands.
+ Adopt new imported industrial microcomputer control system, anti-integral saturation PID, and BTC balance adjustment temperature control mode.



Drawer-type aging equipment



track-type aging equipment



Control system interface for reference

Extraordinary production performance brings more business.

Performance Parameter

Temperature range	RT+5°C~80°C
Control accuracy	⩽±0.1°C
Temperature change rate	1~3°C/min (Full range average)
Temperature deviation	⩽±2°C
Working process	Loading->placing sample holder->connecting wires (signal wires)->power on ->aging->power off->unloading
Power module	Provides various signals including LVDS, VBYONE, MIPI, EDP, and RGB
Power specifications	Independent control of power ON/OFF, 2 channels independent VDD outputs, automatic VDD voltage compensation
Power protection	OCP/OVP/UCP/UVP settings

COB Aging Test System

+ Inner Chamber Size (W x H x D) mm
  950*600*600MM (customizable upon request)
+ Outer Chamber Size (W x D x H) mm
  1800*1900*1050MM (customizable upon request)

Suitable for various optoelectronic products, electrical& electronic products, and other products, components, and materials for high-temperature constant environment simulation reliability tests. Help users quickly detect product conditions and provide effective solutions to solve problems, fully improving production efficiency and product quality.

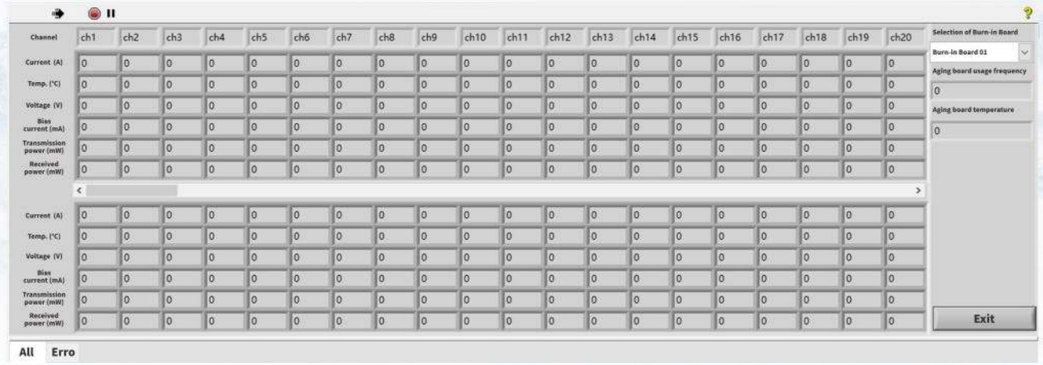


Advantages

+ Innovative precision design with customized volume and test standards according to customer requirement.
+ External chamber adopts cold-rolled plate double-layer electrostatic resin high-temperature spray coating.
+ Inner chamber all uses SUS#304 high-temperature resistant stainless steel seal welding.
+ Insulation layer uses fire-resistant high-strength glass fiber cotton insulation materials.
+ Can monitor in real-time aging module product parameters such as SN, DDM_TX, DDM_RX, Icc, Ibias, temperature, voltage, etc.
+ Supports various inputs such as dry and wet bulb PT100 (T/C, RTD, DCV).
+ Test temperature, current, voltage, time, and over-temperature protection conditions can be set, with data able to be output in real-time. When the equipment is aging under normally operation, the door locks automatically and cannot be opened.



Aging board sample reference



Software interface reference image

Extraordinary production performance brings more business.

Performance Parameter

Temperature Range	RT+10°C~120°C
Temperature Control Mode	Two chambers operate independently and support different temperature settings
Power Supply Voltage Range	3V~3.6V adjustable (customizable upon request)
Current Supply Capability of Module Motherboard	⩾4000mA, and required overcurrent protection function
Monitoring Capability	Real-time monitoring of parameters such as SN, DDM_TX, DDM_RX, Icc, Ibias, temperature, and voltage of the aging module product
Communication Interface	LAN, RS485/RS232/GPIB
Working Process	Material placement -> Sample holder insertion -> Wiring (signal cable) -> Power supply aging -> Power off -> Material removal
Aging Board Module	Different VCSEL modules can be supported by replacing the holder.
Same holder used for aging and testing, no need to repeatedly clamp the DUT.	

DGBELL®

Precise High Temperature Aging oven

+ BTG series- standard equipment

BTG-072
+ Inner Size (W x H x D) mm
  450*400*400
+ Outer Size (W x H x D) mm
  850*1000*850

BTG-125
+ Inner Size (W x H x D) mm
  500*500*500
+ Outer Size (W x H x D) mm
  900*1100*1000

BTG-270
+ Inner Size (W x H x D) mm
  600*900*500
+ Outer Size (W x H x D) mm
  1000*1300*1000

BTG-600
+ Inner Size (W x H x D) mm
  1000*1000*600
+ Outer Size (W x H x D) mm
  1200*1450*1100

BTG-1000
+ Inner Size (W x H x D) mm
  1000*1000*1000
+ Outer Size (W x H x D) mm
  1200*1400*1450

New and perfect precision exterior design, with the outer chamber using cold-roll steel plate double-layer electrostatic resin high-temperature spray, inner chamber using SUS#304 high-temperature resistant stainless steel for sealing welding. The insulation layer adopts high-strength glass fiber cotton insulation and insulation materials of fire-resistant grade. The control system and control circuit both use well-known brand components.



Product Application

+ This equipment is suitable for high-temperature constant environment simulation and reliability testing of various automotive components, electrical and electronic products, and other products, parts, and materials.
+ Reference test standards: GB/T 24232-2001
+ Environmental testing for electrical and electronic products：Test method B: High temperature



Extraordinary production performance brings more business.

Performance Parameter

	BTG-072	BTG-125	BTG-270	BTG-600	BTG-1000
Temperature Range	RT+10°C~250°C (customized up to 500°C)				
Temperature Fluctuation	⩽±0.5°C				
Temperature Uniformity	⩽±2°C (RT+10°C~+100°C); ⩽±3°C (RT+10°C~+200°C)				
Inner Chamber Material	Stainless steel				
Outer Chamber Material	Cold roll sheet, powder coating, high-temperature plasticization				
Power Supply	AC380V 50HZ				
Cooling Method	Air-cooling				
Cable Port	2 pcs ¢ 100mm on each side with silicone seal plugs and stainless steel covers				
Controller	Touch screen or digital display				
Optional Expansion	Can be customized as single-layer, double-layer, or multi-layer				

Thermal Shock Chamber (Two zones)

+ Internal Dimension (W x H x D) mm

1400*1200*1500	**BTS2-2520**
2200*1200*1500	**BTS2-4500**
2800*1800*1200	**BTS2-6000**

+ External Dimension (W x H x D) mm

4170*2445*2435	**BTS2-2520**
5100*2550*3200	**BTS2-4500**
5700*3510*3200	**BTS2-6000**

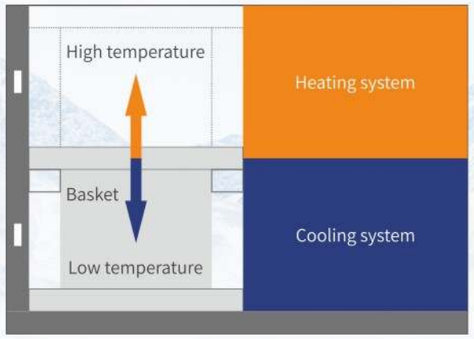
This product features a brand new, precise and perfect exterior design with a cold-rolled plate ,coated with high-temperature electrostatic resin on both sides. The inner chamber adopt sealed and welded with internationally recognized SUS #304 heat-resistant and cold-resistant stainless steel. The insulation material uses a fire-resistant high-strength PU polyurethane foam. The refrigeration system adopts energy-saving refrigeration control technology from Japan and Germany, which can save more than 20% energy compared with traditional equipment. Both the control system and control circuit use imported well-known components.



Product Application

This equipment is suitable for reliability testing of various electrical and electronic products, parts, materials, other products subjected to constant high and low temperature and various temperature shocks and changes.

Thermal shock chamber(2 zones) schematic diagram



Extraordinary production performance brings more business.

Performance Parameter

	BTS2-2520	BTS2-4500	BTS2-6000
Pre-cooling zone temperature	-10~-75°C		
Pre-heating zone temperature	+50~+200°C		
Pre-cooling zone cooling rate	2°C/min		
Pre-heating zone heating rate	5°C/min		
Test zone temperature (temperature shock range)	B: -40~150°C	C:-55~150°C	D:-65~150°C
Temperature conversion time	<5s		
Temperature fluctuation	≤±0.5°C		
Temperature recovery time	<5min		
Temperature deviation	≤±2°C		
Temperature uniformity	≤±2°C		

DGBELL®

Temperature Humidity Vibration Combined Test Chamber

+ Inner dimensions (W x H x D) mm

1000*1000*1000	**BTHZ-1000**
2000*1000*1500	**BTHZ-3m³**
3000*2000*2000	**BTHZ-12m³**

This equipment complied to national and military standards and can meet users specific test requirements.It is suitable for comprehensive environmental simulation reliability tests of various electrical and electronic products, automobile components, other products, components, and materials, including high and low temperature constant, gradual, sudden changes, humid and vibration tests.

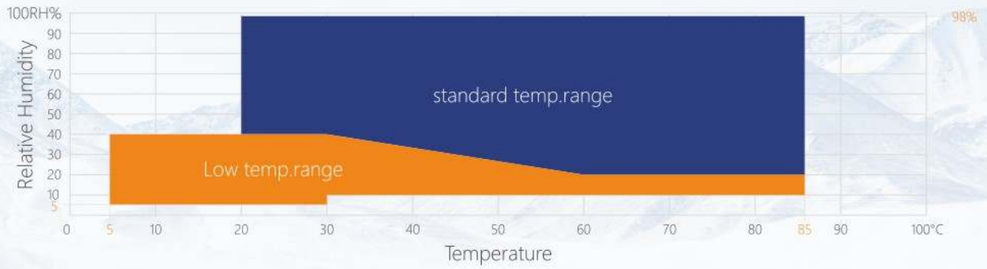


Reference standards

+ Manufacturing Standards: GB/T10586-2006 and GB/T10592-1989
+ Calibration Standards: GB/T5170.2-1996, GB/T5170.5-1996
+ Test Standards:
  GB2423.1-2008 (IEC6821) Test A: Low-temperature test methods
  GB2423.2-2008 (IEC68-2-2) Test B: High-temperature test methods
  GB2423.3-2006 (IEC68-2-3) Test CA: Constant damp heat test methods
  GB2423.4-2008 (IEC68-2-30) Test CB: Alternating damp heat test methods
  GB2423.22-2008 (IEC68214) Test NB: Temperature cycling test methods
  GJB150.3A-2009 (MIL-STD-810D) High-temperature test methods
  GJB150.4A-2009 (MIL-STD-810D) Low-temperature test methods
  GJB150.9A-2009 (MIL-STD-810D) Humid heat test methods



Temperature and Humidity Control Range Capability Chart



Extraordinary production performance brings more business.

Performance Parameter

	BTHZ-1000	BTHZ-3m³	BTHZ-12m³
Workbench	Vertical/Horizontal		
Temperature range	B:-20°C~+150°C	C:-40°C~+150°C	D:-70°C~+150°C
Humidity range	20~98%R.H		
Temperature ramp rate	1°C~15°C/min(optional, linear/non-linear)		
Temperature uniformity	⩽2°C		
Temperature fluctuation	⩽±0.5°C		
Humidity uniformity	＞75%RH:⩽+2,-3%RH；＜75%RH:⩽±5%RH		
Temperature resolution	0.1°C		
Humidity resolution	0.1%R.H		
Controller	True-color LCD touch screen PLC controller with multiple intelligent PID control groups.		
Inner material	304 stainless steel		
Outer material	Cold roll sheet double-sided electrostatic resin high-temperature spray coating		
Power	AC380V 50HZ		
Cooling method	Air-cooling/Water-cooling		
Refrigeration compressor	Copeland, Bitzer, Bock, or Tecumseh		

DGBELL®

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-10m³**
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-10m³**
4350*2480*2800	**BTHW-15m³**
5200*2280*4350	**BTHW-30m³**
4200*2780*9700	**BTHW-80m³**

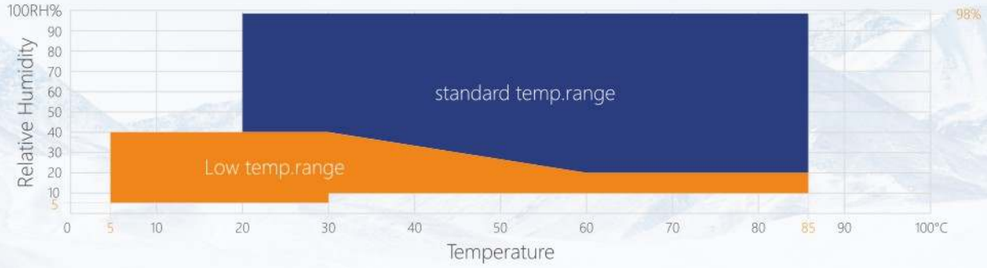
The chamber is constructed with a reinforced square steel frame and sturdy assembled with high-strength color steel plates. The external panels are made of cold-rolled plates with double layer electrostatic resin high-temperature spraying, while the inner chamber made by SUS#304 stainless steel with 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



Extraordinary production performance brings more business.

Performance Parameter

	BTHW-6m³	BTHW-8m³	BTHW-10m³	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	⩽±2.0°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(customized)					
Cooling Rate	⩾1°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	Water cooling					
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.					

DGBELL®

Rapid Rate Temperature Cycling Test Chamber

+ Internal Size (W x D x H) mm

800*600*850	**BTKS-408**
1000*1000*1000	**BTKS-1000**
2000*1000*2000	**BTKS-4000**
2000*2000*2000	**BTKS-8000**
3000*2000*2000	**BTKS-12000**

+ External Size (W x D x H) mm

/	**BTKS-408**
/	**BTKS-1000**
/	**BTKS-4000**
/	**BTKS-8000**
4600*2800*2300	**BTKS-12000**

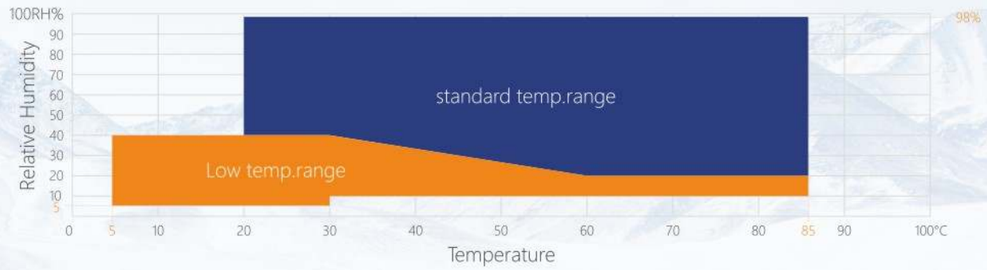
Can be customized to different temperature rapid rates in 5°C/min, 10°C/min, 15°C/min, and 20°C/min The exterior is designed with a new and perfect precision craftsmanship. The outer chamber made of cold-rolled steel plate with double-layer electrostatic resin high-temperature spray, and the inner chamber all made by SUS #304 heat-resistant and cold-resistant stainless steel with sealed welding. The insulation material adopts fire-resistant high-strength PU polyurethane foam insulation. The refrigeration system introduces advanced energy-saving refrigeration control technology from Japan and Germany, which is more energy-efficient than traditional equipment, saving more than 20%. The control system and control circuit both use imported brand components.



Reference standards

+ 1.Manufacturing standards: GB/T10586-2006, GB/T10592-1989
+ 2.Calibration standards: GB/T5170.2-1996, GB/T5170.5-1996
+ Meet test standards:
  GB2423.1-2008 (IEC68-2-l) 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 humidity and heat test method

Temperature and Humidity Control Range Capability Chart



Extraordinary production performance brings more business.

Performance Parameter

	BTKS-408	BTKS-1000	BTKS-4000	BTKS-8000	BTKS-12000
Temperature range	A : 0°C to 150°C; B : -20°C to 150°C; C : -40°C to 150°C; D : -70°C to 150°C				
Rapid temperature change range	A : 0°C to 85°C; B : -20°C to 85°C; C : -40°C to 85°C; D : -70°C to 85°C				
Humidity range	20%RH to 98%RH (low temperature and low humidity can be customized)				
Temperature uniformity	⩽2°C				
Temperature deviation	⩽±2°C				
Temperature fluctuation	⩽±0.5°C				
Humidity deviation	Humidity > 75%RH: ⩽+2, -3%RH; Humidity < 75%RH: ⩽±5%RH				
Control system	PLC + touch screen control, can be connected to the internet with USB and 485 interfaces, dedicated network control software for remote monitoring and data acquisition				
Cooling method	Water cooling				
Cable port	Diameter 100mm, 2 or more sets				

High-Low Temperature Low Pressure Test Chamber(High Low Temperature& Altitude Combined Test Chamber)

+ Inner dimensions (W x D x H) mm

450*500*450	**BTTQ-100**
600*750*500	**BTTQ-225**
800*900*700	**BTTQ-500**
1000*1000*800	**BTTQ-800**
1000*1000*1000	**BTTQ-1000**

+ Outer dimensions (W x D x H) mm

1150*1750*1050	**BTTQ-100**
1100*1900*1200	**BTTQ-225**
1450*2100*1450	**BTTQ-500**
1550*2200*1500	**BTTQ-800**
1520*2280*1720	**BTTQ-1000**

This product features a brand-new, perfect, and precise exterior design. The exterior of the chamber is made of double layer electrostatic resin high-temperature spray-coated cold-rolled steel plates, and the interior is made entirely of internationally recognized SUS #304 heat-resistant and cold-resistant stainless steel with welded seals. The insulation material made of fire-resistant high-strength PU polyurethane foam . The cooling system adopts 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 use only high-quality branded components.



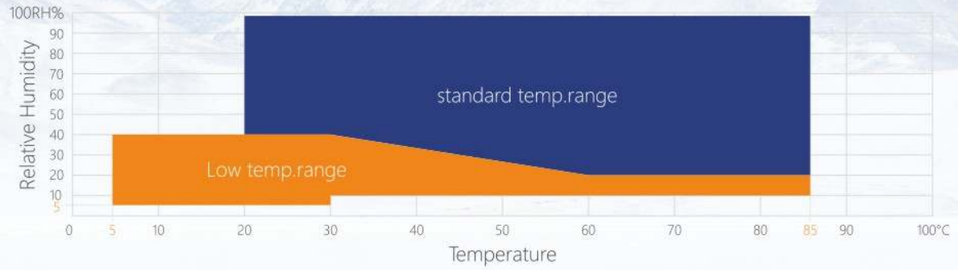
Reference standards

+ Manufacturing Standards: GB/T10589-2008 Technical Conditions for Low-Temperature Test Chambers, GB/T11158-2008 Technical Conditions for High-Temperature Test Chambers, and GB/T11159-2008 Technical Conditions for Low-Pressure Test Chambers.
+ Temperature Test Equipment Standards: GB/T5170.2-2008 and GB/T5170.10-1996 for high-low temperature low-pressure test equipment.
+ Meets Test Standards: GB/T2423.1-2001 Test A: Low-Temperature Test Method, GB/T2423.2-2001 Test B: High-Temperature Test Method, GB10590-89 Technical Conditions for Low-Temperature/Low-Pressure Test Chambers, GB15091-89 Technical Conditions for High-Temperature/Low-Pressure Test Chambers, GB11159-89 Technical Conditions for Low-Pressure Test Chambers, GB/T2423.25-1992 Comprehensive Test Chamber for Low-Temperature/Low-Pressure, GB/T2423.26-1992 Comprehensive Test Chamber for High-Temperature/Low-Pressure, GJB150.2-86 Low-Temperature/Low-Pressure (Height) Test, GJB150.3-1986 High-Temperature Test, GJB150.4-1986 Low-Temperature Test, and GJB360A Method 105: Low-Pressure Test.

Pressure Altitude Reference Table

Setting pressure.	Altitude
1.09 kPa	30500 m
2.75 kPa	24400m
4.43 kPa	21350 m
11.68 kPa	15250 m
19.16 kPa	12200 m
30.06 kPa	9150 m
46.54 kPa	6100 m
57.3 kPa	4550 m
69.66 kPa	3050 m

Temperature and Humidity Control Range Capability Chart



Extraordinary production performance brings more business.

Performance Parameter

	BTTQ-100	BTTQ-225	BTTQ-500	BTTQ-800	BTTQ-1000
Temperature Range	B : -20~150°C C : -40~150°C D: -70~150°C				
Temperature Fluctuation	±0.5°C (atmospheric,no-load)				
Temperature Deviation	⩽±2°C (atmospheric,no-load)				
Temperature Uniformity	⩽±2°C (atmospheric,no-load)				
Cooling Rate	0.8~1.2°C/min				
Pressure Level	101KPa~0.5KPa				
Pressure Reduction Time	101kPa-1.0kPa<30min (dry)				
Pressure Deviation	Atmospheric 40Kp: ±1.8Kpa; 40Kp to 4Kpa: ±4.5%Kpa; 4Kp to 0.5KPa: ±0.1Kpa				
Pressire Recovery Rate	⩽10KPa/min				

DGBELL®

Temperature Humidity Test Chamber

+ 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-l) Test A: Low temperature test method
  GB 2423.2-2008 (IEC68-2-2) Test B: High temperature test method
  GB 2423.3-2006 (IEC68-2-3) Test CA: Constant humidity and heat test method
  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

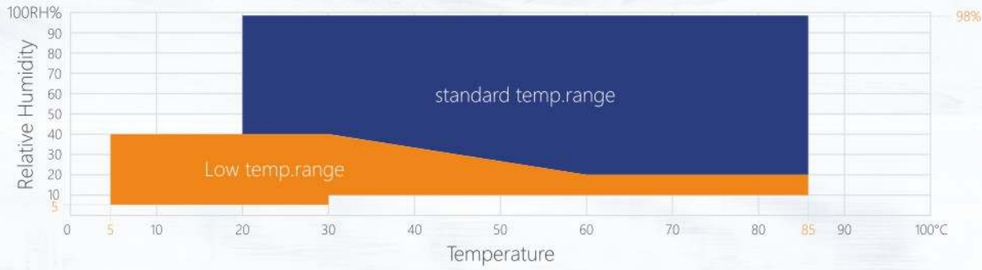
This equipment is suitable for various electrical and electronic products, components, and materials to perform reliability tests of high and low temperature constant, gradual, alternating, and humidity environment simulations.

Model Description

B — H — T — 150 — A — W

- B: Product series code
- H: With humidity; T: Without humidity
- 150: Internal Dimension
- A: Temp. range
  A: 0~150C
  B:-20~150°C
  C:-40~150°C
  D:-60/70~150°C
- W: Special requirement code

Temperature and Humidity Control Range Capability Chart



Extraordinary production performance brings more business.

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	⩽±1.5°C					
Temperature Uniformity	⩽2°C					
Humidity Fluctuation	<±2.5%RH					
Humidity Deviation	>75%RH:⩽+2, -3%RH; < 75%RH:⩽± 5%RH					

DGBELL®

Thermal Shock Test Chamber (Three zone)

+ Inner Box Size (W x H x D) mm

350*400*360	**BTS-50**
400*500*400	**BTS-80**
500*600*500	**BTS-150**
600*700*600	**BTS-250**
800*800*800	**BTS-512**
1000*1000*1000	**BTS-1000**

+ Outer Box Size (W x H x D) mm

1320*1860*1420	**BTS-50**
1320*2180*1520	**BTS-80**
1450*2200*1700	**BTS-150**
1550*2280*1800	**BTS-250**
1800*2300*2000	**BTS-512**
2000*2350*2300	**BTS-1000**

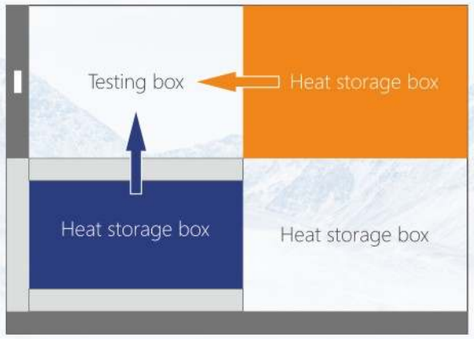
Precision outer appearance design with cold-rolled sheet double-sided electrostatic resin high-temperature spray, and the inner chamber is completely sealed and welded with international SUS #304 heat-resistant and cold-resistant stainless steel. The insulation layer is made of fire-resistant high-strength PU polyurethane foam insulation material. The refrigeration system introduces advanced energy-saving refrigeration control technology from Japan and Germany, which can save more than 20% compared with traditional equipment. The control system and control circuit both adopt imported brand components.



Reference standards

+ Manufacturing Standards: GB/T10586-2006 and GB/TL0592-1989
+ Calibration Standards: GB/T5170.2-1996, GB/T5170.5-1996
+ Meet the test standards:
  GB2423.1-2008(IEC68-2-l) Test A: Low temperature test method
  GB2423.2-2008(IEC68-2-2) Test B: High temperature test method
  GB/T2423.22-2008 Test N: Temperature change test method
  GJB150.3A-2009(MIL-STD-810D) High temperature test method
  GJB150.4A-2009(MIL-STD-810D) Low temperature test method
  GJB/150.5-2009 Temperature Shock Test.

Schematic diagram of a three box-type cold and hot shock chamber



Extraordinary production performance brings more business.

Performance Parameter

	BTS-50	BTS-80	BTS-150	BTS-250	BTS-512	BTS-1000
Pre-cooling chamber temperature	-10~-80°C					
Pre-heating chamber temperature	+50~+220°C					
Pre-cooling chamber cooling rate	2°C/min					
Pre-heating chamber heating rate	5°C/min					
Temperature shock range	B: -40~150°C C:-55~150°C D:-65~150°C					
Temperature conversion time	<10s					
Temperature recovery time	<5min					
High and low temperature exposure time	<30min					
Temperature fluctuation	⩽±0.5°C					
Temperature deviation	⩽±2°C					
Temperature uniformity	⩽±2°C					
Cooling method	Air-cooling/Water-cooling					

Thermal shock test chamber (two zone)

+ Internal dimensions (W x H x D) mm

350*400*360	**BTS2-50**
400*500*400	**BTS2-80**
500*600*500	**BTS2-150**
600*700*600	**BTS2-250**
700*800*600	**BTS2-330**

+ External dimensions (W x H x D) mm

1280*1920*1160	**BTS2-50**
1320*2000*1520	**BTS2-80**
1500*2100*1700	**BTS2-150**
1600*2200*1900	**BTS2-250**
1700*2300*1900	**BTS2-330**

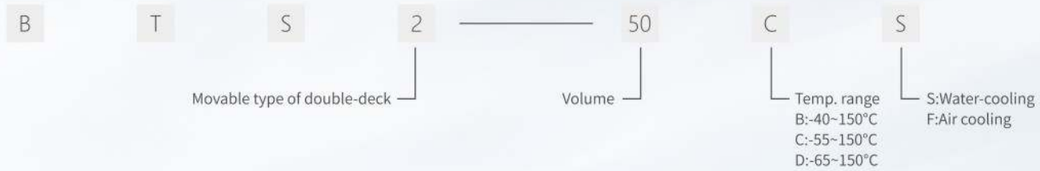
The thermal shock test chamber (two zone) has a sleek and precise appearance design, with an external chamber made of cold-rolled sheet double-sided electrostatic resin high-temperature spray, and an inner chamber made entirely of international SUS #304 heat-resistant and cold-resistant stainless steel, with a sealed welding. The insulation layer is made of fire-resistant high-strength PU polyurethane foam insulation material. The refrigeration system adopts advanced energy-saving refrigeration control technology imported from Japan and Germany, which is more than 20% more energy-efficient than traditional equipment. The control system and control circuit both adopt imported brand components.



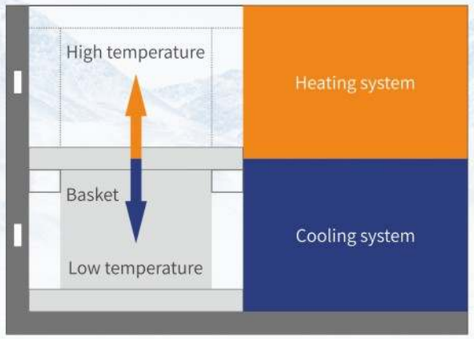
Product Usage

This equipment is suitable for various electrical and electronic products, components, and materials for high and low temperature constant and various temperature shock and temperature change reliability testing.

Model Description



Thermal shock chamber(2 zones) schematic diagram



Extraordinary production performance brings more business.

Performance Parameter

	BTS2-50	BTS2-80	BTS2-150	BTS2-250	BTS2-330
Pre-cooling zone temperature	−10~-75°C				
Pre-heating zone temperature	+50~+200°C				
Pre-cooling zone cooling rate	2°C/min				
Pre-heating zone heating rate	5°C/min				
Test zone temperature (temperature shock range)	B: -40~150°C C:-55~150°C D:-65~150°C				
Temperature conversion time	<5s				
Temperature fluctuation	⩽±0.5°C				
Temperature recovery time	<5min				
Temperature deviation	⩽±2°C				
Temperature uniformity	⩽±2°C				

Multiple Types of Aging Oven

+ BTG Series - High Temperature Ageing Test Chamber

The aging oven is a type of equipment used for load or temperature aging tests of various products such as switch power, mobile phone chargers, batteries, LCDs, motherboards, scanners, monitors, interface cards, etc. The outer framework of this equipment is composed of insulation storage boards, with main distribution box, sample holder, temperature controller, timer, various electrical switches, heating elements, plate rail, sliding door, circulating fan, exhaust fan, socket, and other equipment to simulate a high-temperature and harsh environment (40°C to 70°C ±5°C power on-off actions), allowing products to operate by connecting to simulated loads under this environment. The test time can be set arbitrarily within 0-99.9 hours. This testing procedure can detect defective products or parts and is essential equipment for process and quality control.



Product Usage

+ Accurate temperature control with high precision. Due to the unique air duct system design and electrical control system, it can maintain high uniformity of temperature in the entire chamber, which is significantly higher than similar products.
+ The temperature range of the chamber is wide and continuously adjustable. It can be arbitrarily set within the range of normal temperature +5°C to 80°C. If customers have special requirements, higher temperature products can also be designed.
+ The system has complete protection functions and can ensure long-term safe, stable, and trouble-free operation.
+ The chamber structure design is advanced and reasonable, and the supporting products and functional components have a leading advanced level in the industry, which can adapt to the long-term, stable, safe, and reliable production needs. It can meet the processing and production requirements for the above-mentioned purposes, and is easy to use, operate, and maintenance, with a long service life and beautiful appearance, and a good user interface, making the operation and monitoring of users simpler and more intuitive.
+ The main components of the equipment are selected from high-quality products of well-known domestic and foreign brand manufacturers, ensuring the quality and performance of the entire machine.
+ Beautiful appearance, convenient construction, and short construction period.

Product Sample holder

Product test stands are typically designed and manufactured according to customer products and requirements. If load is required, a corresponding load framework will be produced. The design requirements for the test stand generally include a stable and reasonable structure, easy operation, beautiful appearance, and functional features, which can meet the customer's requirements to the greatest extent.





Extraordinary production performance brings more business.

Performance Parameter

Temperature range	RT+10°C to 60°C (RT+10°C to 80°C).
Temperature fluctuation	±0.5°C
Temperature deviation	maximum accuracy ±2°C (precision can be designed according to customer requirements)
Chamber inner size	designed according to user' s requirements.
Operation mode	temperature adjustable, constant operation or program operation (touch screen program operation for options).
Power supply	AC380V; 50 Hz.

DGBELL®

Customized
Non-standard Series



Online Aging Test Chamber



Vehicle Walk-in Environmental Chamber

Project Cases



▲ Single deck high and low temperature test chamber 512L



▲ Double deck high and low temperature test chamber 288L



▲ Triple deck 288L high and low temperature test chamber



▲ Walk-in high and low temperature warehouses



▲ Three deck high and low temperature test chamber 360L



▲ Three deck high and low temperature test chamber 80L



▲ Double deck high and low temperature integrated machine



▲ Single deck high and low temperature test chamber 960L