

Help You Make Safe And Reliable Products
Products That People Can't Leave Everyday



SANWOOD[®]
Environmental Test Chambers

Aim To Be The World's Safest Environmental Test Chamber

www.sanwood.cc
www.sanwood.com








COMPANY PROFILE

SANWOOD was founded in 1995 with Taiwanese technology and increased its capital to plan for a public listed company in 2013. Guangdong Sanwood Technology Co., Ltd was incorporated. The company focused on the most secure and reliable technologies for environmental test equipments and the overall solutions for the laboratories. It is a national high-tech enterprise, became a permanent member of National Aerospace Systems Science & Engineering Research Institute executive director and achieved ISO9001: 2015 quality system certification along with CE certification.

SANWOOD formed foreign trade branch with a professional sales and marketing team and with service specialists to handle all oversea after-sales services, products now are exporting to more than 60 countries and regions (Austria, Belgium, Czech, Croatia, Denmark, France, Germany, Hungary, Italy, Netherlands, Poland, Russia, Sweden, Switzerland, Spain, Turkey and etc).



Simulate Various Environmental Conditions:

| | |
|--|---|
|  <p>Polar Cold</p> | <p>In extremely cold conditions, mechanical cooling is used to cool the system to -85°C, cooling with LN 2 (liquid nitrogen) to a temperature as low as -184°C, even rapid temperature change is able to achieve.</p> |
|  <p>Extreme Heat</p> | <p>Extremely high temperature: the maximum temperature can reach up to $+180^{\circ}\text{C}$, and the higher temperature range can be customized according to customer's requirements.</p> |
|  <p>Humidity</p> | <p>Humidity environment: relative humidity ranges from 20% RH to 98% RH. If the low humidity option is added, lower relative humidity can be achieved.</p> |
|  <p>Altitude</p> | <p>Low air pressure: simulates an altitude of 30,000 meters, or by options to an altitude of 60,000 meters.</p> |
|  <p>Vibration</p> | <p>Vibration integrated system: the integrated environmental test chamber has temperature and humidity test functions, it can also be an integrated test system with an electromagnetic vibration table and a mechanical vibration table interface.</p> |





FROM THE PAST TO
THE FUTURE

LISEN



Great Wall Motors

SUNWODA

vtech

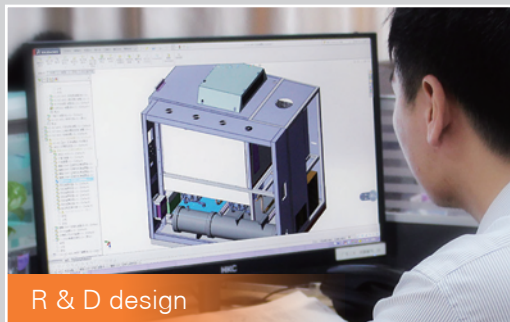


We have never stopped our pace to be as an earlier domestic company specializing in the field of environmental testing equipments, we insist on the reliability test technology research, product development as our core, no matter what the needs from our customers, we will provide them a perfect solution.

From the past to the future, we are as always to continue to be innovative and creative.

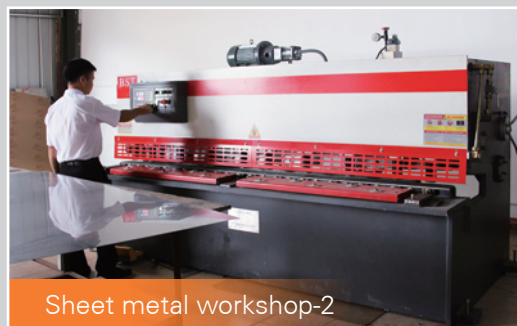


Production workshop-1

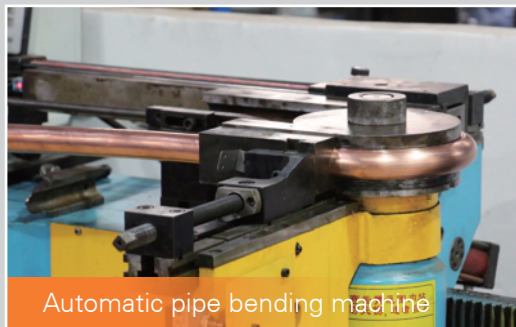




Sheet metal workshop-1



Sheet metal workshop-2



Automatic pipe bending machine



Welding



Circuit cabinet assembly





CUSTOMER REFERENCE CASES



Our Products And Services

Focusing on the innovation of Environmental reliability test.



Battery Environmental Reliability Test

Temperature humidity chambers simulate a range of temperature and humidity conditions to test component and products, especially for those exposed to outdoor temperature and humidity conditions, such as electronics, energy storage, material processing, solar lighting, vehicle parts and etc.

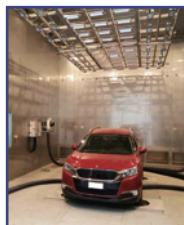
SANWOOD test chambers are mainly configured with international famous brand components, ensure they provide reliable performance and work continuously without defect. Our advanced temperature control system and refrigeration technology reduce operation power consumption, saving energy up to 20% than the traditional technology.



Battery safety test

Many electronic products are around our daily life nowadays, smart phones, tablet, wearable devices, laptop, home robot and etc. The rechargeable battery, mainly Lithium-ion battery are widely adopted in such products. There is greater demand of battery safety testing from both of battery and product manufacturers. They should make sure the battery is qualified before delivering to customers.

SANWOOD dedicates to provide reliable and comprehensive solution for consumer battery safety test equipment, matching the standards complied with IEC62133, UN38.3, and UL1642. Including mechanical, electrical and temperature environment test.



Vehicle test solution

The walk-in environment simulation chamber is widely used in automobiles, metrology and testing, aerospace and defense industries.

It has high reliability requirements, wide temperature and humidity range, comprehensive environmental parameters and complicated test conditions. The operator can enter the laboratory to operate the test article; It provides conditions for temperature and humidity environmental testing for batch or large parts, semi-finished products and finished products from industrial manufacturers.



Contents

| | |
|--|-------|
| Battery Explosion-Proof Temperature Test Chambers-Test standards | 13-14 |
| Battery test chambers Main Fittings And Options | 15 |
| Bench-top temperature & humidity test chamber | 16 |
| Ultra low temperature test chamber | 17 |
| Standard temperature & humidity test chamber | 18 |
| Landing type temperature & humidity test chamber | 19 |
| Battery explosion-proof temperature test chamber | 20 |
| Walk-in battery explosion-proof temperature test chamber | 21 |
| Walk-in temperature & humidity test chamber | 22 |
| ESS rapid temperature change test chamber | 23 |
| Two-zone thermal shock test chamber | 24 |
| Three-zone thermal shock test chamber | 25 |
| Temperature,humidity and vibration integrated test chamber | 26 |
| Vibration testing system | 27 |
| Shock / Bump Test System | 28 |
| Xenon weathering test chamber (A-SUN/E-SUN) | 29 |
| Xenon weathering test chamber (B-SUN/Q-SUN) | 30 |
| Xenon weathering test chamber (Walk-in type) | 31 |
| UV weathering test chamber | 32 |
| Salt spray test chamber / temperature,humidity and salt spray integrated test chamber | 33 |
| Sand & dust test chamber / Ozone test chamber | 34 |
| Rain test chamber (IPX1/2/3/4/5/6/9K) | 35 |
| HAST / HALT,HASS / Altitude test chamber | 36 |
| Precision high temperature oven | 37 |

Battery Explosion-Proof Temperature Test Chamber



Test standards:

| Test specifications | Description |
|---------------------|--|
| IEC 62660-2 | Reliability and abuse test of lithium battery cells for electric vehicles |
| SAE J2464 | Electric vehicle battery abuse test |
| IEC 60086-4 | Primary batteries Part 4: safety of lithium batteries |
| UL 1642 | US lithium battery safety standard |
| UN 38.3 | United Nations lithium battery transportation test requirements |
| IEC 61960 | Portable lithium secondary battery unit |
| IEC 62133 | Single battery (cell) and battery pack with alkaline or non-acid electrolyte: Portable battery cells and batteries manufactured using them, safety requirements for portable applications. |
| UL 2054 | Household and commercial batteries |
| IEEE 1625 | Laptop rechargeable battery |
| IEEE 1725 | Telephone rechargeable battery |



Standard Configuration

- Cable port with silicon plug $\phi 100\text{mm} \times 2$
- Internal lighting
- USB interface and history data review and converting software
- Over temperature protection
- Status indicator light

Optional Configuration

- Multi-temperature probe
- Automatic fire extinguishing CO2 device
- Explosin-proof chains
- Electronic temperature sensor
- Hydrogen induction device
- Intake and exhaust device
- Video monitoring device
- Pressure relief vent

Main Fittings And Options



Standard equipment
Status indicator light

Standard equipment
Explosin-proof chains (options)

Standard equipment
Cable port $\phi 100\text{mm} \times 2$

Standard equipment
Insulating coating

Standard equipment
CO2 device (options)

Standard equipment
Air supply damper (options)

Standard equipment
Pressure relief vent Rubber plug (options)

Standard equipment
Magnetic lock (options)
When the current through silicon steel sheet, electromagnetic lock will have powerful suction tight on adsorption of iron lock effect.

Standard equipment
Emergency stop switch

Standard equipment
Over temperature protection

Standard equipment
Smoke monitor (options)

Standard equipment
Extinguishing manual/AUTO (options)

Standard equipment
Multi-temperature probe (options)

Standard equipment
Observation window

- The window is 4 layers of tempered glass;
- You can customize the window size;
- Equipped LED lamp.

Other options

Video monitoring device
Intake and exhaust device

Thermal protection device
Hydrogen induction device

Electronic temperature sensor

Bench-top Temperature & humidity test chamber

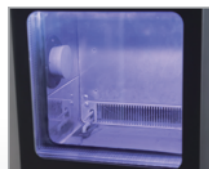
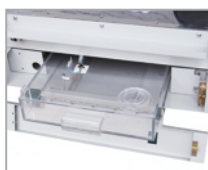
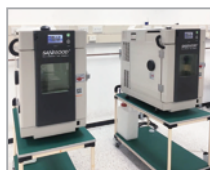
Lightweight and compact design, the whole chamber has a very small volume and the internal volume can reach 22.5L

● International standards

Complies with the following standards:

| | |
|---------------|---------------------|
| ISO 12100 | Safety of Machinery |
| IEC 60204 | Low Voltage |
| IEC 61000-6-2 | EMC |
| IEC 61000-6-4 | EMC |

- Compact design
- Best space use and combination selection
- Colored LCD touch screen
- Mobile app/computer remote control
- Noise as low as 50 dB



| Model | SMC-22-CC |
|------------------------------------|-----------------|
| Temperature range | - 40 ~ +150°C |
| Humidity range | 20 ~ 95% R.H. |
| Internal working volume | 22.5 L |
| Internal dimensions (W x H x D) mm | 300 x 300 x 250 |
| External dimensions (W x H x D) mm | 440 x 740 x 885 |

Ultra low temperature test chamber

Small size and wide temperature range

Temperature range: -85°C ~ +180°C

- Meets the temperature change rate specified by JTMK07 and IEC60068-3-5.

A compact high performance and reliability test chamber solution covers a wide range of temperature testing requirements from ultra low temperature -85 °C to high temperature +180 °C.

- Wide temperature range (-85°C ~ +180°C)
- Mobile APP/ computer remote control
- USB port for data storage and output
- English/Russian and other language options
- Imported well-known components



Hermetic compressors
(France - Tecumseh)



Controller - South Korea
SAMWON TECH



Leakage switch -
Japan Mitsubishi



UK wiring standard



Metal mechanical button

| Model | SM-712 | SM-812 |
|------------------------------------|------------------|------------------|
| Temperature range | - 75 ~ +180°C | - 85 ~ +180°C |
| Internal working volume | 64 L | 64 L |
| Internal dimensions (W x H x D) mm | 400 X 400 X 400 | 400 X 400 X 400 |
| External dimensions (W x H x D) mm | 950 x 1200 x 630 | 950 x 1200 x 630 |

Energy-saving (platinum series) Temperature & humidity test chamber

A variety of models, well fit environmental test chamber

- Meet the following test standards:
 - IEC 60068-2-1: Cold
 - IEC 60068-2-2: Dry heat
 - IEC 60068-2-14: Change of temperature with specified rate of change
 - IEC 60068-2-30: Damp heat, cyclic
 - IEC 60068-2-38: Composit temperature/humidity cyclic test
 - IEC 60068-2-78: Damp heat, steady state
 - IEC 61747 (5.2.7): Liquid crystal and solid-state display devices Environmental, endurance and mechanical test
 - ISO 16750-4 (5.3): Road vehicles (Temperature cycling)



| Model | SMC-80-CC | SMC-150-CC | SMC-225-CC | SMC-408-CC | SMC-800-CC | SMC-1000-CC | SMC-1500-CC |
|-------------------------------|--|---------------|---------------|----------------|----------------|----------------|----------------|
| Inner volume | 80 L | 150 L | 225 L | 408 L | 800 L | 1000 L | 1500 L |
| Inner chamber size (WxHxD) mm | 400x500x400 | 500x600x500 | 600x750x500 | 800x850x600 | 1000*1000*800 | 1000*1000*1000 | 1200*1000*1250 |
| Outer chamber size (WxHxD) mm | 600x1590x1160 | 700x1665x1275 | 800x1870x1315 | 1000x1950x1410 | 1200x2085x1590 | 1200*2085*1790 | 1400*2050*2030 |
| Temperature range | -70℃～180℃ (A:0℃～180℃;B: -20℃～180℃; C: -40℃～180℃;D:-70℃～180℃) | | | | | | |
| Humidity range | 20.0%RH～98.0%RH | | | | | | |

Landing Type Temperature Humidity Test Chamber

The test chamber is suitable for a relatively large test product



Available in 6 different sizes, with a test zone capacity from 1000 L to 8000 L, it is ideal for solar PV module testing.



Solar photovoltaic module testing

Compatible Test Standards

- JIS C-8917 Thermal cycling test A-1
JIS C-8938 Thermal resistance test B-1
Moisture resistance test B-2
- IEC 61215 10.11 Thermal cycling test (JIS C-8990) 10.12 Humidity-freeze test 10.13 Damp-heat test
- IEC 61646 10.11 Thermal cycling test 10.12 Humidity-freeze test 10.13 Damp-heat test

- According to the customer's test conditions, the characteristics of the cabinet can be adjusted.
- Wide temperature range (-70°C to +180°C)
- Large observation window
- User-friendly design panel
- Can achieve remote control (Mobile app/PC)

| Model | SMC-1000-CC | SMC-1800-CC | SMC-2520-CC | SMC-3600-CC | SMC-5000-CC | SMC-8000-CC |
|-------------------------------|--|----------------|----------------|----------------|----------------|----------------|
| Inner volume | 1000 L | 1800 L | 2520 L | 3600 L | 5000 L | 8000 L |
| Inner chamber size (WxHxD) mm | 1000*1000*1000 | 1000*1500*1200 | 1200*1500*1400 | 1200*2000*1500 | 1500*1800*1850 | 2000*2000*2000 |
| Outer chamber size (WxHxD) mm | 1200*1550*2450 | 1200*2000*2650 | 1400*2000*2850 | 1400*2350*2950 | 1700*2150*3300 | 2300*2450*3600 |
| Temperature range | -70°C ~ 180°C (A: 0°C ~ 180°C; B: -20°C ~ 180°C; C: -40°C ~ 180°C; D: -70°C ~ 180°C) | | | | | |
| Humidity range | 20.0%RH ~ 98.0%RH | | | | | |

Battery explosion-proof temperature test chamber

Battery test



Explosion-proof pressure relief port (optional)



Explosion-proof chains (optional)



Automatic fire extinguishing CO2 device (optional)



Multi-temperature probe (options)



| Test specifications | Description |
|----------------------------|--|
| IEC 62660-2 | Reliability and abuse test of lithium battery cells for electric vehicles |
| SAE J2464 | Electric vehicle battery abuse test |
| IEC 60086-4 | Primary batteries Part 4: Safety of lithium batteries |
| UL 1642 | US lithium battery safety standard |
| UN Lithium Battery Testing | United Nations lithium battery test requirements |
| IEC 61960 | Portable lithium secondary battery unit |
| IEC 62133 | Single battery (cell) and battery pack with alkaline or non-acid electrolyte: Portable battery cells and batteries manufactured using them, safety requirements for portable applications. |
| UL 2054 | Household and commercial batteries |
| IEEE 1625 | Laptop rechargeable battery |
| IEEE 1725 | Telephone rechargeable battery |

| Model | SMC-80-CC-FB | SMC-150-CC-FB | SMC-225-CC-FB | SMC-408-CC-FB | SMC-800-CC-FB | SMC-1000-CC-FB | SMC-1500-CC-FB |
|-------------------------------|--|---------------|---------------|----------------|----------------|----------------|----------------|
| Inner volume | 80 L | 150 L | 225 L | 408 L | 800 L | 1000 L | 1500 L |
| Inner chamber size (WxHxD) mm | 400x500x400 | 500x600x500 | 600x750x500 | 800x850x600 | 1000*1000*800 | 1000*1000*1000 | 1200*1000*1250 |
| Outer chamber size (WxHxD) mm | 600x1590x1160 | 700x1665x1275 | 800x1870x1315 | 1000x1950x1410 | 1200x2085x1590 | 1200*2085*1790 | 1400*2050*2030 |
| Temperature range | -70℃～180℃ (A: 0℃～180℃; B: -20℃～180℃; C: -40℃～180℃; D: -70℃～180℃) | | | | | | |
| Humidity range | 20.0% RH～98.0% RH (optional) | | | | | | |

Automobile Walk In Battery Explosion-Proof Temperature Test Chamber

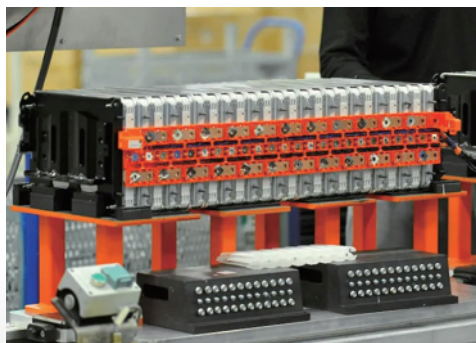
According to the customer's test conditions, the characteristics of the cabinet can be adjusted.

● Environmental test specifications for batteries

| Test specifications | Description |
|----------------------------|--|
| IEC 62660-2 | Reliability and abuse test of lithium battery cells for electric vehicles |
| SAE J2464 | Electric vehicle battery abuse test |
| IEC 60086-4 | Primary batteries Part 4: Safety of lithium batteries |
| UL 1642 | US lithium battery safety standard |
| UN Lithium Battery Testing | United Nations lithium battery test requirements |
| IEC 61960 | Portable lithium secondary battery unit |
| IEC 62133 | Single battery (cell) and battery pack with alkaline or non-acid electrolyte: Portable battery cells and batteries manufactured using them, safety requirements for portable applications. |
| UL 2054 | Household and commercial batteries |
| IEEE 1625 | Laptop rechargeable battery |
| IEEE 1725 | Telephone rechargeable battery |



● Power Battery Test



| Model | SMC-080-CC -FB-WT | SMC-120-CC -FB-WT | SMC-160-CC -FB-WT | SMC-250-CC -FB-WT | SMC-340-CC -FB-WT | SMC-400-CC -FB-WT |
|-------------------------------|---|----------------------|----------------------|----------------------|----------------------|----------------------|
| Inner volume | 8.0m³ | 12.0m³ | 16.0m³ | 25.0m³ | 34.0m³ | 40.0m³ |
| Inner chamber size (WxHxD) mm | 1970*2100*1970 | 3020*2100*1970 | 4070*2100*1970 | 3020*2100*4070 | 4070*2100*4070 | 5120*2100*4070 |
| Outer chamber size (WxHxD) mm | 2170*2350*3500 | 3220*2350*3500 | 4270*2350*3500 | 4650*2350*4270 | 5720*2350*4270 | 5320*2350*6150 |
| Temperature range | -70℃ ~ 150℃ (+15℃) (A: 0℃ ~ 150℃; B: -20℃ ~ 150℃; C: -40℃ ~ 150℃; D: -65℃ ~ 150℃) | | | | | |
| Humidity range | 20.0%RH ~ 95.0%RH | | | | | |



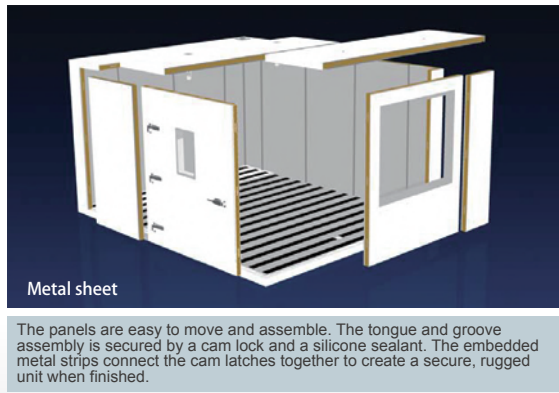
Walk-in Type Temperature & Humidity Test Chamber



The prefabricated finished cabinet panel is suitable for any size formulation, easy to assemble and install. Imposition walk-in test chamber using 4" thick polyurethane foam board.

The plates are tightly locked to each other to form a sealed test chamber. Stainless steel, aluminum or embossed construction is available to suit different requirements.

- The performance values are based on IEC60068-3-6:2001(EBE,EBL,EBR),IEC 60068-3-5:2001(EBF,EBU,EBUU)



| Model | SMC-080-CC-WT | SMC-120-CC-WT | SMC-160-CC-WT | SMC-250-CC-WT | SMC-340-CC-WT | SMC-400-CC-WT |
|--------------------------------|---|----------------|----------------|----------------|----------------|----------------|
| Internal working volume | 8.0m³ | 12.0m³ | 16.0m³ | 25.0m³ | 34.0m³ | 40.0m³ |
| Internal dimensions (WxHxD) mm | 1970x2100x1970 | 3020x2100x1970 | 4070x2100x1970 | 3020x2100x4070 | 4070x2100x4070 | 5120x2100x4070 |
| External dimensions (WxHxD) mm | 2170x2350x3500 | 3220x2350x3500 | 4270x2350x3500 | 4650x2350x4270 | 5720x2350x4270 | 5320x2350x6150 |
| Temperature range | -65°C ~ 80°C(+15°C) (A: 0°C ~ 80°C; B: -20°C ~ 80°C; C: -40°C ~ 80°C; D: -65°C ~ 80°C) Customized version (-70~+150°C) | | | | | |
| Humidity range | 20.0% RH ~ 95.0% RH | | | | | |

ESS Test Chamber

Surface temperature control of sample and environmental temperature control technology in test area

● International standards

Meet the stress screening and lead-free process of electronic equipment products, MIL-STD-2164, MIL-344A-4-16, MIL-2164A-19, NABMAT-9492, GJB-1032-90, GJB/Z34-5.1.6, IPC-9701...and other test requirements.

- Different stress can be set to screen the temperature change rate: 5°C/min, 10°C/min, 15°C/min, 20°C/min.
- Can perform rapid temperature change (stress screening), condensation test, high temperature and high humidity, temperature and humidity cycle, etc.
- Meet the stress screening test requirements for electronic equipment products.
- Executable equal temperature and average temperature test.
- Complete real-time test curve analysis shows no time limit.



Compressor (Germany--BOCK)



Liquid nitrogen - rapid cooling effect (Optional)



Electronic temperature sensor Finland--vaisala (Optional)

| Model | SM-KS-225-CC | SM-KS-408-CC | SM-KS-800-CC | SM-KS-1000-CC | SM-KS-1500-CC |
|-------------------------------|--|--------------|---------------|----------------|----------------|
| Inner volume | 225 L | 408 L | 800 L | 1000 L | 1500 L |
| Inner chamber size (WxHxD) mm | 500*750*600 | 800*850*600 | 1000*1000*800 | 1000*1000*1000 | 1200*1000*1250 |
| Temperature range | -70 °C ~ 180 °C (A:5 °C/min; B:10 °C/min; C:15 °C/min; D:20 °C/min) Linear/Nonlinear | | | | |
| Humidity range | 20.0%RH ~ 98.0%RH | | | | |



Two-zone Thermal Shock Test Chamber

The high-precision refrigeration system controls the cooling capacity with high precision and achieves significant energy savings

● International standards

Safety Standards: Safety of machinery (ISO 12100,) Low voltages (IEC 60204,) and EMC (IEC 61000-6-2 and IEC 61000-6-4).

- Uniform thermal stress performance.
- Optimal mechanism and high efficiency refrigeration machinery design.
- Mobile APP/ computer remote control.
- Cooling mode supports air cooling and water cooling.
- Controller supports multiple languages such as Chinese/English.



Controller - SANWOOD



Compressor - Germany BOCK



Metal mechanical button



Φ100mm cable port

| Model | SM-50-2P-A | SM-80-2P-A | SM-150-2P-A | SM-200-2P-A | SM-300-2P-A | SM-500-2P-A |
|------------------------------------|--|----------------|----------------|----------------|----------------|----------------|
| Internal working volume | 50 L | 80 L | 150 L | 200 L | 300 L | 500 L |
| Internal dimensions (W x H x D) mm | 350x400x350 | 400x500x400 | 500x600x500 | 650x460x670 | 960x460x670 | 960x650x800 |
| External dimensions (W x H x D) mm | 1100x1930x1460 | 1150x2130x1550 | 1250x2530x1650 | 1400x2250x1850 | 1750x2250x1850 | 1750x2630x1980 |
| Temperature impact range | -55 C ~ +150 C (A: -40 C ~ +150 C; B: -55 C ~ +150 C;) Recovery time: 5~10min Transfer time: 3 seconds | | | | | |

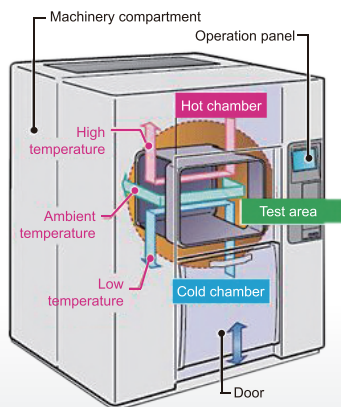
Three-Zone Thermal Shock Test Chamber

Good temperature uniformity and high test accuracy

● International standards

Safety Standards: Safety of machinery (ISO 12100,) Low voltages (IEC 60204,) and EMC (IEC 61000-6-2 and IEC 61000-6-4).

- High specification professional design, meet international requirements.
- Use branded compressors with significant sound insulation.
- Meet the three-zone impact condition at room temperature air 20~35 °C, avoid test product frost condensation.
- Low error, high wind speed, uniform sample exposure.
- User-friendly controller, program setting, troubleshooting, etc.



304 stainless steel

| Model | SM-50-3P-A | SM-80-3P-A | SM-150-3P-A | SM-200-3P-A | SM-300-3P-A | SM-500-3P-A |
|-------------------------------|---|----------------|----------------|----------------|----------------|----------------|
| Inner volume | 50 L | 80 L | 150 L | 200 L | 300 L | 500 L |
| Inner chamber size (WxHxD) mm | 350*400*350 | 400*500*400 | 500*600*500 | 650*460*670 | 960*460*670 | 960*650*800 |
| Outer chamber size (WxHxD) mm | 1400*1750*1750 | 1450*1850*1800 | 1550*2050*2050 | 1700*2000*2200 | 2050*2000*2250 | 2050*2150*2450 |
| Temperature impact range | -55 °C ~ +150 °C (A: -40 °C ~ 150 °C; B: -55 °C ~ +150 °C;) Recovery time : 5~10min Transfer time : 3s | | | | | |

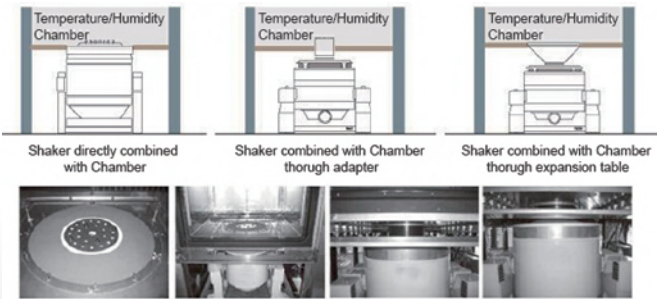
Temperature/Humidity/Vibration Test Chamber

Applied to environmental adaptability of aerospace, marine, automotive and other electronic products

- Safe and reliable vibration.
- High performance product test.
- Cable port allow cables to be connected to products in the test box.
- South Korea SAMWONTECH controller supports multi language.
- Vertical + horizontal vibration table, wider test range.



Vibration system connecting method:

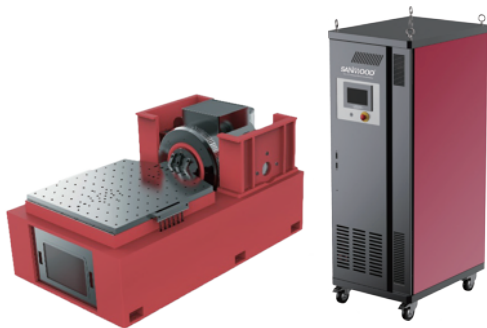


| Model | SM-MVH-500-CC | SM-MVH-1000-CC | SM-MVH-1700-CC | SM-MVH-3400-CC |
|-------------------------------|--|----------------|----------------|----------------|
| Inner volume | 500 L | 1000 L | 1700 L | 3400 L |
| Inner chamber size (WxHxD) mm | 800*800*800 | 1000*1000*1000 | 1200*1200*1200 | 1500*1500*1500 |
| Temperature range | -70℃ ~ 180℃ (A:0℃ ~ 180℃; B: -20℃ ~ 180℃; C: -40℃ ~ 180℃; D:-70℃ ~ 180℃) Ramp rate could be customized : 5℃、10℃、15℃、20℃/min | | | |
| Humidity range | 20.0%RH ~ 98.0%RH | | | |

Electromagnetic vibration testing machine

The EV series electromagnetic vibration tester simulates the vibration environment under laboratory conditions and tests the impact strength and reliability in various vibration test applications.

In the laboratory, the vibration tester can simulate modes such as sine, random, resonant search and dwell, typical shock and road simulation.



• Specifications

| System Vlode | SM-TS10-240 | SM-TS20-320 | SM-TS30-445 | SM-TS40-445 | SM-TS50-445 | SM-TS60-445 | SM-TS70-445 |
|------------------------------------|------------------|--------------|--------------|---------------|----------------|---------------|----------------|
| Frequency Range (Hz) | 5-3000 | 5-3000 | 2-3000 | 5-2600 | 5-2600 | 5-2500 | 5-2400 |
| Max Sine Force (KN) | 10 | 20 | 30 | 40 | 50 | 60 | 70 |
| Max Displacement (mm-p) | 51 | 51 | 76 | 100 | 100 | 100 | 100 |
| Max Acceleration(g) | 100 | 100 | 75 | 90 | 85 | 100 | 100 |
| Max Velocity(m/s) | 1.8 | 2.0 | 1.8 | 1.8 | 2.0 | 2.0 | 2.0 |
| Max Load(kg) | 300 | 300 | 500 | 500 | 800 | 800 | 800 |
| Shaker Model | TS300/10 | TS300/20 | TS500/30 | TS500/40 | TS800/50 | TS800/60 | TS800/70 |
| Armature Weight(kg) | 10 | 20 | 40 | 45 | 50 | 60 | 60 |
| Armature Diameter (mm) | φ240 | φ320 | φ445 | φ445 | φ445 | φ445 | φ445 |
| Cooling Mothod | Forced Cooling | | | | | | |
| Shaker Weight (kg) | 930 | 1750 | 2550 | 2550 | 4550 | 4550 | 4550 |
| Power Amplifier Model | PWA10 | PWA20 | PWA30 | PWA40 | PWA50 | PWA60 | PWA80 |
| Power Amplifier (KVA) | 21 | 44 | 54 | 73 | 82 | 95 | 140 |
| Power Amp. Dimensions (LxWxH) mm | 1520x600x820 | 1660x600x820 | 1750x600x820 | 2000x1000x600 | 2000x1000x1200 | 2000x1000x600 | 2000x1000x2400 |
| Power Supply | 3ΦAC380V±10%50Hz | | | | | | |
| Aggregate Capacity (kW) | 9 | 20 | 25 | 35 | 45 | 64 | 85 |

Shock / Bump Test System

- Main applications: mobile phones, computer components, optical components, connectors, etc, also used to test the shock absorbance ability of materials .

● Technical Specifications

- Windows-based stable control system, full-automatic remote-control interface.
- Multi-track guide posts combined with good lubricity and noise free hydraulic balance lifting system to achieve stable shifting.
- Automatic control of lifting height with high accuracy and good repeatability.



| Model Parameters | | SM-10-2 | SM-10-5 | SM-10-25 | SM-10-50 | SM-10-100 | SM-10-200 | SM-10-400 | SM-10-600 | SM-10-1000 | SM-10-1500 |
|---------------------|--------------------|--------------------------|----------------|---------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| Rated Load (kg) | | 2 | 5 | 25 | 50 | 100 | 200 | 400 | 600 | 1000 | 1500 |
| Table | Size (mm) | 115×115 | 200×200 | 300×300 | 500×500 | 600×600 | 800×600 | 1000×800 | 1000×1000 | 1200×1000 | 1500×1200 |
| Peak Acc. (g) | Half-sine | 5~3k | 20~2K | 15~3k | 15~600 | 15~600 | 15~300 | | 15~200 | | |
| | Post-peak Sawtooth | | 10~100 | 15~100 | 15~200 | | 15~100 | 10~50 | | | |
| | Trapezoid | | | | 15~100 | | | 15~50 | | | |
| Pulse Duration (ms) | Half-sine | 0.2~30 | 0.3~11 | 0.3~11 | 1~30 | 1~30 | 1~30 | 2~30 | 6~30 | | |
| | Post-peak Sawtooth | | 1~18 | 1~18 | 3~18 | 3~18 | 3~18 | 6~18 | | | |
| | Trapezoid | | | | | 6~18 | | | | | |
| Overall | Dimensions (mm) | 450×180×2100 | 1000×900×2200 | 1400×120×2300 | 1600×1400×2300 | 1700×1500×2300 | 1700×1500×2300 | 1900×1500×2450 | 2000×1500×2450 | 1900×1800×2550 | 2200×1800×2550 |
| Weight (kg) | | 350 | 550 | 1200 | 3000 | 3100 | 3800 | 4200 | 5100 | 7100 | 8500 |
| Power | | None | AC220V 50/60Hz | AC380V±10%, 50/60Hz | | | | | | | |
| Standards | | MIL-STD-810F, IEC68-2-27 | | | | | | | | | |

A-SUN Xenon lamp weathering test chamber



The A-SUN bench-top xenon lamp weathering test chamber is compact, simple and economical. It uses a low-power air-cooled xenon lamp and a mirror-reflective system to ensure that the irradiation energy in the working room is large enough and evenly distributed.

Conforms to a large number of national,international and industry standards,included but not limited to:

ASTM C1442, ASTM C1501, ASTM D3424, ASTM D5071, ASTM D6695, ASTM G151, ASTM G155, ISO 4049, ISO 7491, ISO 4892-1, ISO 4892-2.

| | | | |
|--------------------------|---|---------------------|---------------------------|
| Light source | 1.8KW imported air-cooled xenon lamp or 1.8KW domestic xenon lamp (normal service life is about 1500 hours) | | |
| External dimensions | 950×570×535mm (W × D × H) | Internal dimensions | 420×310×150mm (W × D × H) |
| Effective exposure area | 1,000cm ² (9 pieces of 150×70mm samples can be placed at a time) | | |
| Irradiance setting range | Chinese Xenon lamp: 30W/m ² ~ 100W/m ² (300nm ~ 400nm) or 0.3 W/m ² ~ 0.8 W/m ² (@ 340nm) or 0.5 W/m ² ~ 1.5 W/m ² (@ 420nm) | | |
| | American Xenon lamp: 50W/m ² ~ 120W/m ² (300nm ~ 400nm) or 0.3 W/m ² ~ 1.0 W/m ² (@ 340nm) or 0.5 W/m ² ~ 1.8 W/m ² (@ 420nm) | | |
| Remarks | Support lighting function, no spray, no humidity, no temperature function | | |

E-SUN Xenon lamp weathering test chamber



Water purifying system



Conforms to a large number of national,international and industry standards, included but not limited to:

ASTM C1442, ASTM C1501, ASTM D3424, ASTM D5071, ASTM D6695, ASTM G151, ASTM G155, ISO 4049, ISO 7491, ISO 10977, ISO 11431.

| | | | |
|--------------------------|--|---------------------|---------------------------|
| Light source | 1.8KW imported air-cooled xenon lamp or 1.8KW domestic xenon lamp (normal service life is about 1500 hours) | | |
| External dimensions | 925×600×1050mm (W × D × H) | Internal dimensions | 320×310×140mm (W × D × H) |
| Effective exposure area | 1,000cm ² (9 pieces of 150×70mm samples can be placed at a time) | | |
| Filter | UV extension filter (daylight filter or window glass filter is optional) | | |
| Irradiance setting range | Chinese Xenon lamp : 30W/m ² ~ 100W/m ² (300nm ~ 400nm) or 0.3 W/m ² ~ 0.8 W/m ² (@ 340nm) or 0.5 W/m ² ~ 1.5 W/m ² (@ 420nm) | | |
| | American Xenon lamp : 50W/m ² ~ 120W/m ² (300nm ~ 400nm) or 0.3 W/m ² ~ 1.0 W/m ² (@ 340nm) or 0.5 W/m ² ~ 1.8 W/m ² (@ 420nm) | | |
| Remarks | Support light, spray, humidity function, no temperature function | | |



B-SUN Xenon Lamp Weathering Test Chamber

Equipped with three different filter systems to obtain spectra of different energy distributions:

- A.** Daylight filter: simulates the spectral distribution of ultraviolet and visible light of solar radiation (equivalent to outdoor direct sunlight), and has the best correlation with most outdoor practical applications. It is used to test outdoor materials, called artificial weather aging test.
- B.** Window glass filter: simulates the spectral distribution of ultraviolet and visible light of the window glass after passing through 3mm(corresponding to the sunlight transmitted through the window glass). It is used for testing indoor materials, called artificial radiation exposure.



Conforms to a large number of national,international and industry specifeccations,including but not limited to:

AATCC TM169、ASTM C1442、ASTM C1501、ASTM D4355、ASTM D6695、ASTM G151、ASTM G155、ISO 105-B06、ISO 105-B10、MIL-STD 810G

| Xenon Lamp | One 1.8KW xenon lamp （imported from America） |
|-----------------------------|--|
| External dimension | 860×800×1740mm |
| Xenon Lamp | One 1.8KW xenon lamp （imported from America） |
| Adjustable Irradiance Range | 0.3～0.75 W/m2 (Single point of control: 340nm) 0.5～1.35 W/m2 (Single point of control: 420nm) 30 W/m2～90 W/m2 (Full spectrum：from 300～400nm) |

Q-SUN Xenon Lamp Weathering Test Chamber

Using 6.5KW high-power precision water-cooled xenon lamp, the exposed area reached 6500cm²

- ◆ Meet all domestic and foreign xenon lamp test standards.
- ◆ The original imported Atlas xenon lamp and filter components are used to ensure the comparability and reproducibility of the test data.
- ◆ The exposed area is up to 6500cm2, and can be exposed to various shapes and sizes.
- ◆ Advanced xenon lamp cooling system and intelligent air conditioning system.
- ◆ Chinese and English operation interface conversion.



Conforms to a large number of national,international and industry specifeccations,including but not limited to:

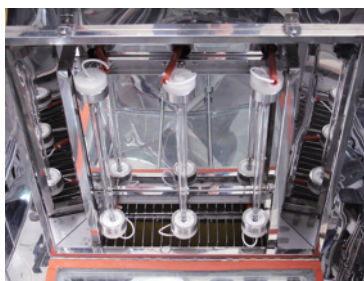
AATCC TM16-2004、AATCC TM 16.3 (2014)、AATCC TM169、ASTM C1442、ASTM D2565、ASTM D3424、ISO 12040、VDA 75202、SAE J2412

| Light source | 6.5 KW water-cooled long arc xenon lamp | | |
|--------------------------|---|--------------------|----------------------|
| External dimension | 1200*1200*2000mm(WxDxH) | Internal dimension | 780*780*670mm(WxDxH) |
| Effective exposure area | 6500 cm² | | |
| Filter | ATLAS original filter; fully simulates indoor or outdoor solar spectrum | | |
| Irradiance setting range | 30W / m² ~ 150W / m² （ Full spectrum 300-400nm ） or 0.3W / m² ~ 1.5W / m² @340nm or 0.5W / m² ~ 2.7 W / m²@420nm | | |

Xenon lamp weathering test chamber

Simulate hazards caused by freezing, sunlight, rain, dew, and high temperatures

The simulated natural illumination is different from the spectrum required by the laboratory, and is realized by various ways, and the degree of damage of the product is tested according to the solar radiation of different frequencies. The most common application is to perform rapid aging tests on equipment or instruments.



4.5KW / 6KW
(Water-cooled full-spectrum long-arc xenon lamp)



International well-known brand compressors

| Model | SM-XD-600-CA | SM-XD-1000-CA | SM-XD-3600-CA |
|------------------------------------|---|----------------|----------------|
| Internal working volume | 600 L | 1000 L | 3600 L |
| Internal dimensions (W x H x D) mm | 850x900x750 | 1000x1000x1000 | 1700x1800x1200 |
| External dimensions (W x H x D) mm | 1500x1900x1050 | 1650x2100x1300 | 3600x2300x1600 |
| Temperature control range | -70.0 °C ~ +80.0 °C (A: +25 °C ~ +80.0 °C; B: -20 °C ~ +80.0 °C; C: -40 °C ~ +80.0 °C; D: -70 °C ~ +80.0 °C) | | |
| Irradiance | 30W / m ² ~ 150W/m ² (Full spectrum 280-800nm or 1120nm) or 0.3W/m ² ~ 1.5W/m ² @340nm or 0.5W/m ² ~ 2.7 W/m ² @420nm | | |



UV lamp

Weathering Test Chamber (UV600)



The UV lamp accelerated weathering test chamber (UV600) uses a fluorescentultraviolet lamp as a light source, and appropriately controls the temperature and humidity to periodically generate condensation on the sample, thereby comprehensively obtaining the damage effect of sunlight, moisture and temperature on the polymer material.

The UV-600 conforms to a large number of national,international and industry specifecations,including but not limited to:

- ASTM D4799 ▪ ASTM D6662 ▪ ASTM G154 ▪ ASTM D4587 ▪ EN 927-6 ▪ ISO 11507 ▪ ISO 4892-3 ▪ SAE J2020
- J15K 5600-7-8 ▪ AATCC TM186

| Light source | UV-A (wavelength 340nm) or UV-B (wavelength 313nm) ; 40W×8pcs (normal service life: 6000h) |
|--------------------------|---|
| External dimension | 1360×520×1310mm (WxDxH) |
| Effective exposure area | 5175cm²/828in² |
| Irradiance setting range | 0.3W/m² ~1.0 W/m² |

UV lamp

Weathering Test Chamber (UV800)

- Protection function: Once the door is open, the UV light goes out.
- Illumination and condensation can be controlled independently or alternatively.
- The interior is made of SUS304 stainless steel.
- The heating method is the internal tube heater heating, the heating is fast, and the temperature distribution is uniform.



| Light source | UV-A (320 ~ 400nm) / UV-B (275 ~ 320nm) |
|---------------------|---|
| External dimensions | 1300x1750x750 mm (W x H x D) |
| Internal dimensions | 1170x500x600 mm (W x H x D) |
| Lighting dimensions | W1,000mm x D600mm ± 2mm |

Salt spray test chamber

Environmental test equipment for simulating the corrosion resistance of products or metal materials by simulating salt spray environmental conditions

The artificial simulated salt spray environment test uses a test equipment with a certain working volume - the salt spray test chamber, to artificially use the salt spray environment in the working room to assess the salt spray corrosion resistance quality of the product. .



| Model | SM-Y-60D | SM-Y-90D | SM-Y-120D | SM-Y-160D | SM-Y-200D |
|------------------------------------|---|---------------|----------------|----------------|----------------|
| Internal working volume | 108 L | 270 L | 480 L | 800 L | 1440 L |
| Internal dimensions (W x D x H) mm | 600x450x400 | 900x600x500 | 1200x850x500 | 1600x1000x550 | 2000x1200x600 |
| External dimensions (W x D x H) mm | 1130x630x1070 | 1460x910x1280 | 2200x1200x1450 | 2600x1450x1550 | 3000x1650x1600 |
| Saline solubility | 0.26 grams of copper chloride (CuCl ₂ 2H ₂ O) per liter of sodium chloride solution concentration 5% or sodium chloride solution concentration 5% | | | | |

Walk-in type temperature, humidity and salt spray integrated chamber

Artificial climatic environment "three factors" (wet heat, salt spray, mold) test equipment

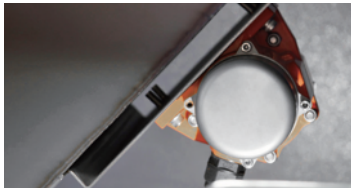


| Model | SM-F-120CA | SM-F-160CA | SM-F-200CA | SM-F-1800CA | SM-F-8000CA (one unit) |
|------------------------------------|---|----------------|----------------|----------------|-------------------------------|
| Internal working volume | 408 L | 800 L | 1440 L | 1800 L | 8000 L (customizable) |
| Internal dimensions (W x D x H) mm | 1200x850x500 | 1600x1000x550 | 2000x1200x600 | 1800x1000x1000 | 2000x2000x2000 (customizable) |
| External dimensions (W x D x H) mm | 2200x1200x1450 | 2600x1450x1550 | 3000x1650x1600 | 2800x1450x2150 | 3200x2350x2800 (customizable) |
| Temperature range | -10°C ~ +80°C (A: +25°C; B: -10°C) | | | | -40°C ~ +80°C (customizable) |
| Saline solubility | 0.26 grams of copper chloride (CuCl ₂ 2H ₂ O) per liter of sodium chloride solution concentration 5% or sodium chloride solution concentration 5% | | | | |

Sand & Dust test chamber



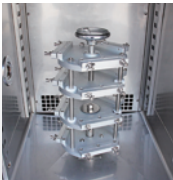
- Controller can control time and temperature
- Equipped with air switch (to prevent overcurrent and short circuit), dustproof socket
- We have insulation mineral wool on both sides of the machine, which effectively reduces the noise of the machine.
- Cable port for easy power-on test.
- Wiper: the dust adhering to the wall can be wiped to maintain the concentration required for the test.



| Model | SM-SC-500C | SM-SC-1000C | SM-SC-2000 |
|--------------------------|----------------|----------------|----------------|
| Internal working volume | 500 L | 1000 L | 2000 L |
| External dimensions (mm) | 1450x1700x1000 | 1650x1900x1200 | 1650x2900x1200 |
| Internal dimensions (mm) | 800x800x800 | 1000x1000x1000 | 1000x2000x1000 |

Ozone aging test chamber

- Imported ozone concentration control analyzer
- signal output and sampling.
- Silent discharge tube type ozone generator (with low noise, high purity).
- The heating method is tube heater heating, fast heating, uniform temperature distribution, built-in 360-degree rotating sample holder.



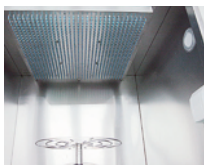
| Model | SM-150CY |
|--------------------------|--------------------------------|
| Ozone concentration | 0~1,500pphm (level adjustable) |
| External dimensions (mm) | 1150(W) x 1500(H) x 750(D) |
| Internal dimensions (mm) | 500(W) x 600(H) x 500(D) |

Integrated Type Rain Test Chamber (IPX-12/34/56)

Applicable to the evaluation of the degree of protection of electrical appliances, electronic equipment and etc.

* The different standard rain test chamber can be customized according to customers' requirements.

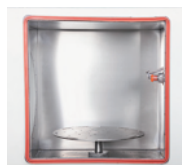
Mainly used to determine: the effectiveness of the protective shell to prevent rain, the ability of the equipment to meet its performance requirements during or after the rain exposure, the physical damage caused by the rain, and whether the rainwater removal system is effective. Size can be customized.



IPX-1/2



IPX-3/4



IPX-5/6

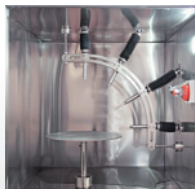
Rain Test Chamber (IPX-9K)

Water spray angle : 0、30、60、90 degree (4 positions)

Water flow : 14-16L/min

* The different standard Rain Test Chamber can be customized according to customers' requirements

- Germany imported high booster pump
- Water pressure overload protection switch
- Internal SUS#304 stainless steel plate material
- PLC multi-machine interface control can be used to set the actuation time and water spray time



| Model | SM-IPX9K-1000 |
|------------------------------|-----------------------------|
| External dimensions (mm) | 1500(W) x 1950(H) x 1250(D) |
| Testing room dimensions (mm) | 1000(W) x 1080(H) x 1050(D) |
| Test table size | 400mm x 400mm |



HAST accelerated aging test chamber



HAST



PCT

● IEC 60068-2-66,an environmental testing standard of the IEC (International Electrotechnical Commission).

- Precise pressure and temperature gauge shows pressure and temperature in the pot at any time.
- Automatic watering function and automatic water replenishment when the water level is too low during the test.
- The test process is automatically run to the end of the test, easy to use.
- LED digital temperature controller can accurately set, control and display test temperature.
- The running water automatically discharges the unsaturated steam during operation to achieve the best steam quality.

| Model | SM-HAST-250-A | SM-HAST-300-A | SM-HAST-400-A |
|--------------------------|---|----------------------------|----------------------------|
| External dimensions (mm) | 560(W) x 1050(H) x 1250(D) | 660(W) x 1050(H) x 1250(D) | 760(W) x 1150(H) x 1350(D) |
| Internal dimensions (mm) | Φ250 x 450(D) | Φ300 x 450(D) | Φ400 x 500(D) |
| Pressure control range | Normal pressure +0.2 ~ 2.0kg/cm ² / Normal pressure +0.2 ~ 3.0kg/cm ² | | |
| Humidity range | 70.0% RH ~ 100.0% RH | | |

HALT/HASS test chamber



HALT accelerates the exposure of test samples to defects and weak points by systematically setting incremental environmental stresses, and then analyzes and improves the exposed defects and faults from design, process and materials to improve product reliability.

The most important feature is to set environmental stresses above the operating limits of the product design, which not only makes the exposure time much shorter than the time required under normal reliability stress conditions, but also determines the working and damage limits of the product.

Temperature and altitude test chamber

Mainly used in the aerospace, electronics, defense, scientific research and other industrial sectors to determine electrical and electronic products (including components, materials and instrumentation).



| Model | SM-VTH-250-CC | SM-VTH-500-CC | SM-VTH-1000-CC | SM-VTH-2000-CC |
|--------------------------------|---|----------------|----------------|----------------|
| External dimensions (mm) WxHxD | 2000x1060x1900 | 2500x1260x2050 | 2720x1460x2130 | 3150x1650x2050 |
| Internal dimensions (mm) WxHxD | 550x600x700 | 700x800x900 | 1000x1000x1000 | 1400x1200x1200 |
| Air pressure range | Normal pressure ~ 0.5kpa (500pa) | | | |
| Temperature range | -70℃ ~ +180℃ (A: 0℃ ~ +180℃; B: -20℃ ~ +180℃; C: -40℃ ~ +180℃; D: -70℃ ~ +180℃) | | | |

Precision high temperature oven



It is suitable for lithium-ion battery and battery core vacuum drying; put the pole piece or battery core into the oven, set the required drying process time on the PLC interface, press the start button to start the drying process, according to the process setting. It is required that the equipment automatically performs the work of vacuuming and nitrogen filling.

| Model | SM-G-1000-DA | SM-G-1800-DA | SM-G-2520-DA | SM-G-3600-DA | SM-G-5000-DA | SM-G-8000-DA |
|--------------------------------|--|----------------|----------------|----------------|----------------|----------------|
| Internal working volume | 1000 L | 1800 L | 2520 L | 3600 L | 5000 L | 8000 L |
| Internal dimensions (WxHxD) mm | 1000x1000x1000 | 1000x1500x1200 | 1200x1500x1400 | 1200x2000x1500 | 1500x1800x1850 | 2000x2000x2000 |
| External dimensions (WxHxD) mm | 1200x1550x1450 | 1200x2000x1650 | 1400x2000x1850 | 1400x2350x1950 | 1700x2150x2300 | 2300x2450x2600 |
| Temperature control range | RT+10℃ ~+300℃ (A: +25℃ ~+200℃; B: +25℃ ~+300℃) | | | | | |

Double-layer battery oven

Size can be customized

- Two sets of systems are configured, and each layer is independently controlled in temperature;
- Continuous uninterrupted working time ≥ 1000 h under the test condition of 140℃;
- Equipped with an explosion-proof pressure relief port, when the pressure increases sharply, the pressure relief port will automatically pop to open;
- The smoke flame sensor detects the smoke flame and fire extinguishing system to extinguish the fire in the chamber;
- Explosion-proof safety design of the cabinet, equipped with explosion-proof chains, insulation layer using aluminum silicate insulation and insulation material.



This image shows a full page of handwriting practice paper. It features multiple sets of horizontal dashed lines spaced evenly down the page, providing a guide for letter height and placement. The background is plain white, and there are no margins or additional markings.



☎ TEL: +86-769-81182799

📠 FAX: +86-769-82987199

✉ info@sanwood.cc

info@sanwood.com

🌐 www.sanwood.cc

www.sanwood.com

📍 Address: No.88, Songchang Road, Songbotang, Changping, Dongguan 523560, Guangdong, China

