

# Environmental Simulation and Reliability Test Equipment One-Stop Service



# QUALIFICATIONS



Company Qualifications

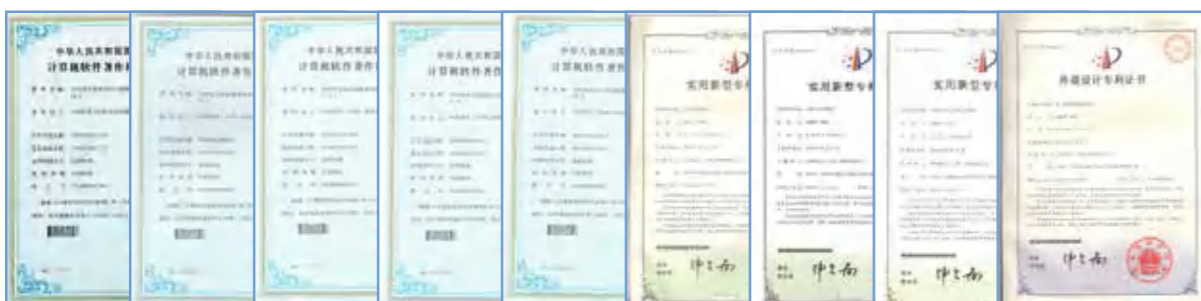
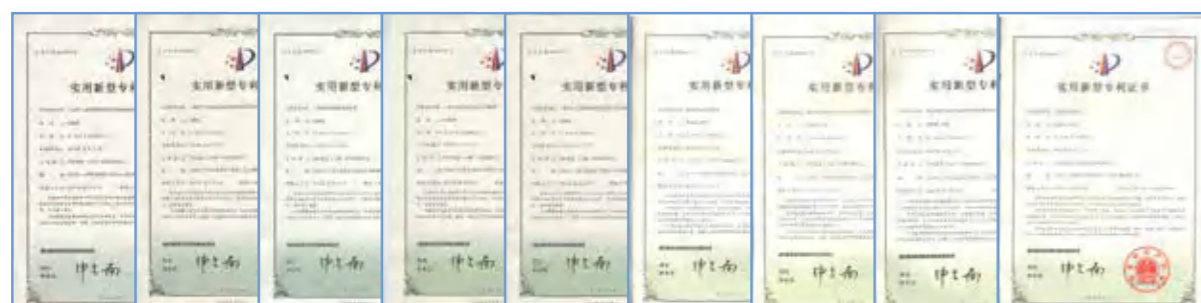


CE

ISO9001

ISO14001

OHSAS

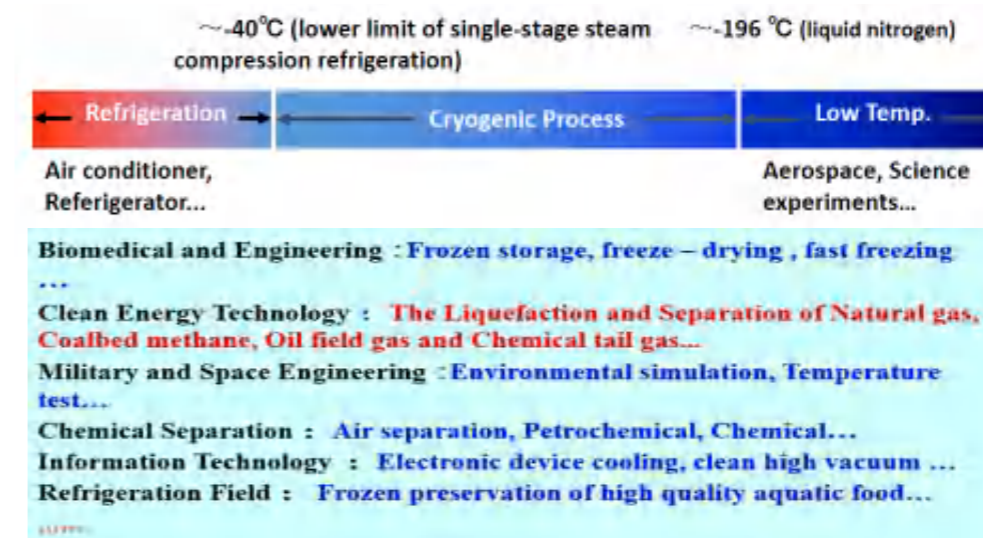


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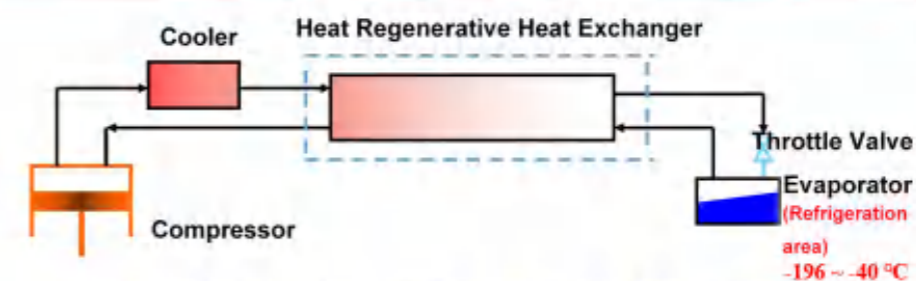
# FEATURES

## I. Cryogenic Technology

### Technical Requirements of Cryogenic Process Zone



### Cryogenic Throttle Refrigeration Technology



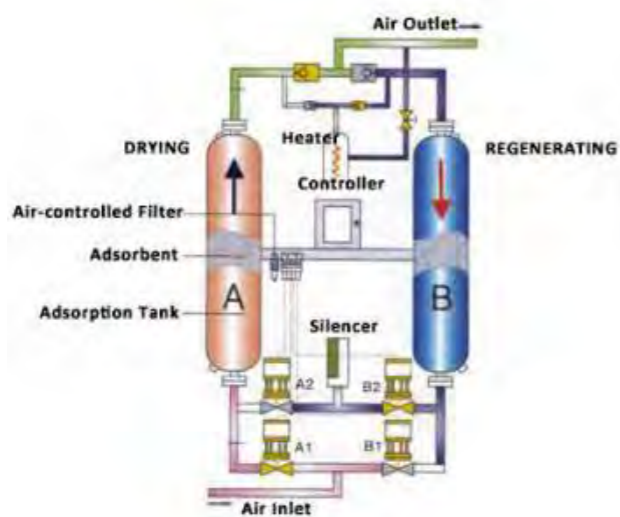
A refrigeration method with excellent performance from -40°C to liquid nitrogen temperature (-196°C)

#### Technical Advantage :

1. High system efficiency and simple system
2. The system can adopt normal cooling oil to lubricate the compressor -- reducing the cost
3. High reliability and flexible system
4. Simple processing, high production efficiency -- easy to integrate and scale

## II. Compressed Air-Drying Technology

In order to avoid the phenomenon of condensation and frost on the surface of the specimen from low temperature raise to high during the temperature cycling test, a compressed air-drying treatment system is installed in the air circulation device of the chamber. The main function of the system is to replace the air in the chamber with dry air ( low humidity air) to reduce the dryness of the air in the chamber, and then completely solve the phenomenon of condensation and frost in the chamber .The dew point of the dry air pressure is  $\leq -70^{\circ}\text{C}$  .



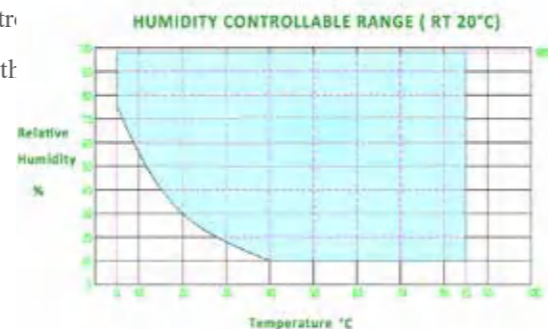
Schematic diagram of adsorption dryer

## III. Precise Indicators

### 1. Widely humidity control range:

Patented external electric heating steam humidifier to control the steam volume via humidifying control valve. It is specialized in the control of low-temperature and low-humidity section, which has reached the world-class level in the climatic chambers filed.

- High temp. & low humi. :  $80^{\circ}\text{C}$  & 10%RH;  $95^{\circ}\text{C}$  & 10%RH
- Low temp. & low humi. :  $10^{\circ}\text{C}$  & 10%RH;  $20^{\circ}\text{C}$  & 10%RH
- Low temp. & high humi. :  $2^{\circ}\text{C}$  & 95%RH;  $5^{\circ}\text{C}$  & 95%RH
- High temp. & high humi. :  $85^{\circ}\text{C}$  & 85%RH;  $90^{\circ}\text{C}$  & 95%RH



### 2. Heating and cooling rate

Standard TH series chambers : heating rate  $> 3^{\circ}\text{C}/\text{min}$ , cooling rate  $\geq 2^{\circ}\text{C}/\text{min}$  ( No load)

Rapid temperature change RT series chamber can achieve the linear rate of  $20^{\circ}\text{C}/\text{min}$  via mechanical refrigeration, which can meet more test needs.

## IV. Intelligent Control

Controller is Germany Siemens or Japan Omron

Professional AI interface design with touch screen, optional computer

Self-developed control software with powerful functions and simple operation

Patented technology of wireless control system for environmental test chamber

With receiving device alarm short message function, so as to be unattended for a short time

Centralized monitoring through RS-485, RS-232, Ethernet and WIFI...



## V. Energy Saving

Self-adaptive evaporation temperature adjustment technology realizes the control of temperature change and constant in the low temperature area with no intervention of heating in this process. Most manufacturers now use the countermeasure of cooling and heating to balance the temperature in the chamber with the consequences of high energy wasting, lower the components life span, poor control stability. Our adaptive evaporation temperature adjustment technology to control the temperature via the intelligent calculation and analysis of the air heat capacity, the test load heat capacity, the heat load and heat leakage in the chamber and then to accurately control the evaporation pressure of the refrigeration system and the amount of refrigeration input to the evaporator to achieve adaptive comparison control of the evaporation temperature and the chamber temperature. This technology saving more than 40% energy for the system, effectively increases the heater life span, intelligently identifies the heat capacity of load, and reduces tedious settings and adjustments.

1 + N refrigeration technology of Zhongkemeiqi with the dividing of the total cooling capacity into 1 + N mode, is particularly suitable for rapid temperature change test chambers and large scale high and low temperature test chambers. When large cooling capacity and high rate temperature needed, full operation of 1+N mode. When small cooling capacity at constant or variable temperature rate are required, only 1 mode operation with power reducing and energy saving can achieve.

## VI. Stable and Reliable

### 1.Core components from Imported brands

#### Air Conditioning System

Forced circulation air is supplied by the centrifugal fan with the motor directly connected.  
304 stainless steel centrifugal impeller with no rust, no deformation and stable wind source.

#### Refrigeration System

The main refrigeration accessories are international first-class brands, such as:

American Copeland, French Tecumseh or German Bizer compressors, Denmark Danfoss pressure controllers, thermal expansion valves, sight glasses, American EMERSON oil separators, drying filters, American EMERSON or Italian CASTEL solenoid valve, etc., the reliability of each component reaches the world-class level, and the key component protection function achieves the ideal reliability;

#### Heating System

Imported heating wire, ceramic insulation, and group design to ensure the normal operation of equipment once another group has some damage.

#### Control System

Temperature sensors: Japan forestry chip A-level PT100 temperature sensor。

Humidity sensors: Finland Vaisala electronic humidity sensor with high accuracy, maintenance-free and 30% lower failure rate.

Controller: German Siemens or Japan Omron controller with reliable quality and good reputation.



American Copeland Compressor



French Tecumseh Compressor



German Bizer Compressor



Denmark Danfoss Solenoid Valve



Japan Omron PLC



German Siemens PLC



Pressure Switch



Finland Vaisala Electronic Humidity Sensor

International first-class brand executive components: Schneider contactors, relays, overload relays, circuit breakers; American Gute solid-state relays, and Taiwan Mingwei switching power.

### 2.Personal safety and system protection, multiple designs, worry-free

#### Personal Safety:

1) The equipment is equipped with a leakage switch. If there is leakage in any part, the test products output controls electric shock, and the system cuts off the total power of the equipment in time.

2) The system has a door opening prompt function to prompt the operator to prevent burns or frostbite.

#### System Protection:

1) The device is reliably grounded, and the grounding resistance is  $<4\Omega$

2) When the device fails, the control system automatically cuts off the operating power and triggers an audible and visual alarm

3) The test chamber and control cabinet are all equipped with door lock device, which can prevent irrelevant personnel to open.

4) The refrigeration system compressor is equipped with mechanical and analog quantity dual overpressure protection, overload protection, overheat protection, exhaust temperature protection, suction pressure protection, winter warm-up, real-time monitoring of operating pressure, and solenoid valve overpressure suppressor protection ect.

5) The heating system is equipped with sensor high and low limit protection, instrument high and low temperature protection, and triple overtemperature protector to ensure the safety of the test product. Meanwhile, it also equipped with heater overheating protection and heater short circuit protection.

6) The control system is equipped with mis operation protection of touch screen system, multi-level password protection of operating system, undervoltage, power phase sequence protection, line fuse (fuse), fan overload, overheating protection, electrical circuit system protection, reliable grounding protection, observation lights timing off protection (can setup time) etc.

## Product Application Field

Applied in national key laboratories and large third-party detecting and testing laboratories, involving aviation, aerospace, weapons, ships, automobiles, materials, intelligent manufacturing, new energy, communications, metrology, electronics, railways, electricity, biomedicine and scientific research institute Schools and many other fields.



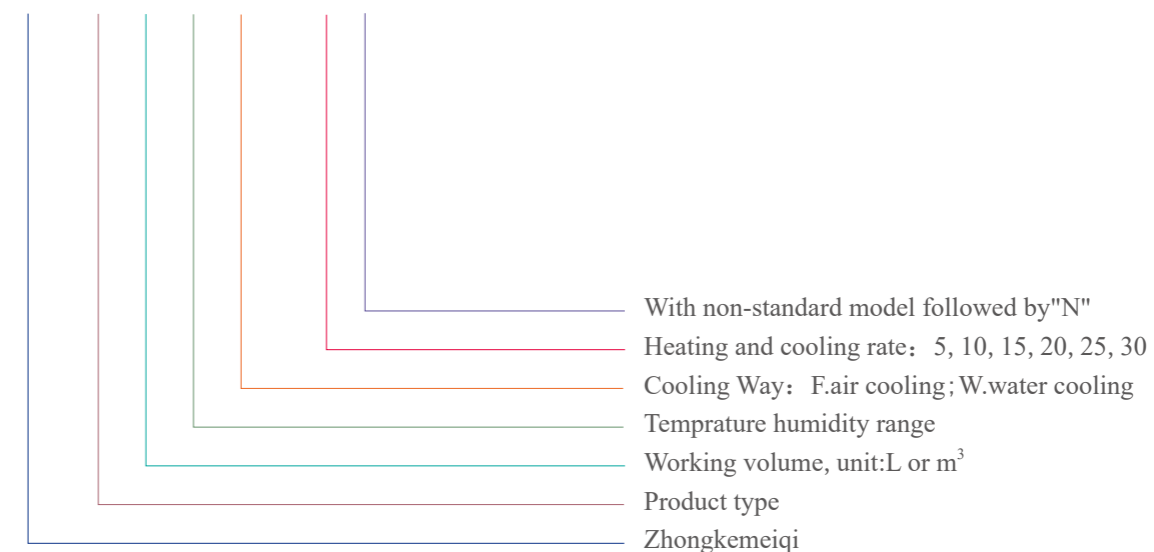
## Selection Guidelines

To ensure that the equipment you purchase is suitable, please read it carefully and confirm the following details with our sales engineer:

1. Test Space: Specimen volume does not exceed 2/3 of the total volume of the test space;
2. Tempe. Index: whether there is ultra-low, ultra-high temp., Rapid temp. change, high accuracy requirements;
3. Humi.Index: whether there is low temp. with low humi., low temp. with high humi., and high accuracy requirements;
4. Test Load: whether there is a load, whether the load is charged or not;
5. Cooling Way: If you choose a test chamber with a smaller refrigeration system, you may give priority to air cooling; if you choose a test chamber with a larger refrigeration system, you may give preference to water cooling if conditions permit;
6. Use Site: Taking into consideration of the chamber's overall dimensions, site load, entering and exiting the laboratory, positioned, and maintenance channels to avoid unnecessary trouble in the future;
7. Sample Holder: quantity and load bearing of the sample holder;
8. Power Supply voltage: whether the power supply voltage conditions and the maximum installed power are available;
9. Non-standard Requirements: whether an optional function or not, non-standard structures, and special customization requirements.

## Model Definition

MQ - [ X X X F/W ] [ 5 N ]



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## High Temperature Test Chamber



### Application:

High temperature test chambers are widely used in national key laboratories and large third-party testing and testing laboratories, involving aviation, aerospace, weapons, ships, automobiles, smart manufacturing, new energy, communications, metrology, electronics, railways, power, medical and scientific research Colleges and other key areas of the national economy, under high-temperature environmental conditions, the test piece temperature stress detection, temperature aging screening, reliability test, performance test, weather resistance test, high temperature storage, etc.

### Specification:

Product	High Temperature Test Chamber				
Model	MQ-HT-100	MQ-HT-150	MQ-HT-225	MQ-HT-500	MQ-HT-1000
Volume (L)	100	150	225	500	1000
Internal Size W*D*H(cm)	50×40×50	50×50×60	60×50×75	80×70×90	100×100×100
External Size W*D*H(cm)	95×90×106	100×95×116	110×105×131	120×125×146	150×150×156
Temp. Range	A. RT+20°C ~ +200°C B. RT+20°C ~ +300°C C. RT+20°C ~ +500°C				
Heating Rate	I. ≥3.0°C/min II. ≥5.0°C/min III. ≥10.0°C/min				
Temp. Fluctuation	≤±0.5°C				
Temp. Uniformity	≤±2.0°C				
Temp. Deviation	≤±2.0°C				
Running Noise	≤55dB(A)				
Power Supply	AC 220V±10% , 50HZ			AC 380V ±10% ,50HZ	
Standards	IEC60068-2-2; MIL-STD-810F-501.4 GB/T 11158-2008; GB/T 5170.2-2008 GB/T 2423.2-2008; GJB 150.3A-2009...				

## Air Drying Oven



### Application:

Air drying oven is suitable for drying various products or materials and electrical, instrument, instrument, componen, electronics, electrician and automobile, aviation, communication, plastic, machinery, chemical, food, hardware tools under constant temperature conditions.

### Specification:

Product	Air Drying Oven						
Model	MQ-BDB-923	MQ-BDB-907	MQ-BDB-914	MQ-BDB-924	MQ-BDB-942	MQ-BDB-962	MQ-BDB-992
Volume (L)	30	70	140	240	420	620	920
Internal Size W*D*H(cm)	34×32×32	40×35×50	45×55×55	50×60×75	60×55×130	80×60×130	100×60×160
External Size W*D*H (cm)	48×50×63	55×53×81	59×73×86	64×78×106	74×73×167	94×78×169	114×78×199
Input Power (W)	1050	1500	2000	2500	4500	6000	7500
Power Supply	AC 220V±10% ,50HZ				AC 380V±10% ,50HZ		
Temp. Range	A. RT+10°C ~ 250°C B. RT+10°C ~ 300°C C. 100°C ~ 400°C D. 100°C ~ 500°C						
Temp. Fluctuation	≤±0.5°C						
Temp. Uniformity	≤±2.0°C						
Temp. Resolution	0.1°C						
Timing Range	0-9999min						
Standards	GB/T32710.10-2016 Part 10; GB/T30435-2013...						



## Large Scale High Temperature Test Chamber



### Application:

Large high-temperature test chambers are widely used in national key laboratories and large third-party testing and testing laboratories, involving aviation, aerospace, weapons, ships, automobiles, intelligent manufacturing, new energy, communications, metrology, electronics, railways, power, medical and Research institutes and many other key areas of the national economy, under high-temperature environmental conditions, test the temperature stress of the test piece, temperature aging screening, reliability test, performance test, weather resistance test, high temperature storage, etc.

### Specification:

Product	Large Scale High Temperature Test Chamber			
Model	MQ-WHT-04	MQ-WHT-08	MQ-WHT-024	MQ-WHT-060
Volume (m <sup>3</sup> )	4.5	8	24.5	60
Internal Size W*D*H (m)	1.5×1.5×1.5	2×2×2	3.5×3.5×2	4.5×4.5×3
External Size W*D*H (m)	1.8×2×2.1	2.4×2.6×2.8	3.8×4.3×2.8	5×5.5×4
Temp. Range	A. RT+20°C ~ +100°C B. RT+20°C ~ +200°C C. RT+20°C ~ +300°C			
Heating Rate	I. ≥3.0°C/min II. ≥5.0°C/min III. ≥10.0°C/min			
Temp. Fluctuation	≤±0.5°C			
Temp. Uniformity	≤±2.0°C			
Temp. Deviation	≤±2.0°C			
Running Noise	≤55dB(A)			
Power Supply	AC 380V±10% ,50HZ			
Standards	IEC60068-2-2; MIL-STD-810F-501.4; GB/T 11158-2008; GB/T 5170.2-2008 GB/T 2423.2-2008; GJB 150.3A-2009...			

## Constant Temperature and Humidity Test Chamber



### Application:

Constant temperature and humidity test chambers are widely used in state-level key laboratories and large third-party testing and testing laboratories, involving aviation, aerospace, weapons, ships, automobiles, intelligent manufacturing, new energy, communications, measurement, electronics, railways, power, medical And scientific research institutions and many other key areas of the national economy, under constant temperature and humidity conditions, the temperature and humidity screening of test pieces, reliability tests, performance tests, weather resistance tests, constant temperature and humidity storage, etc.

### Specification:

Product	Constant Temperature and Humidity Test Chamber				
Model	MQ-CTH100F	MQ-CTH250F	MQ-CTH500F	MQ-CTH1000F	MQ-CTH2000F
Volume (L)	100	250	500	1000	2000
Internal Size W*D*H (cm)	45×45×50	60×60×70	75×75×90	100×100×100	130×130×120
External Size W*D*H (cm)	67×120×165	85×142×190	105×190×205	135×215×235	165×260×195
Temp. Range	0°C ~ 100°C				
Humi. Range	40% ~ 90%RH				
Temp. Fluctuation	≤±0.5°C				
Humi. Fluctuation	≤±2%RH				
Temp. Uniformity	≤2.0°C				
Temp. Deviation	≤±2.0°C				
Humi. Deviation	Humidity > 75%RH : ≤±2,-3%RH; Humidity < 75%RH: ≤±5%RH				
Heating & Cooling Rate	≥3.0°C/min & ≥1.0°C/min				
Refrigeration Mode	Compressor Refrigeration				
Cooling Mode	Air-Cooling				
Power Supply	AC 380V±10% ,50HZ				
Standards	GB/T 2423.3-2008 / IEC60068-2-78; GJB 150.9A-2009; GJB 360B-2009; JJF 1101-2003 GB/T 5170.2-2008; GB/T5170.5-2008...				

## Mini Size High-Low Temperature (Humidity) Test Chamber



### Application:

Mini size temperature humidity test chamber offers flexibility, uniformity, and control accuracy required for cost-effective environmental testing. Ideal for testing smaller products such as computer components, automobile sensors, or cell phones. It combines superior performance in a small, compact design well suited for research and development or personal point-of-use testing. 15L ,30L ,50L volume are available.

### Specification:

Product	Mini Size High-Low Temperature (Humidity) Test Chamber		
Model	MQ-DT(H)15F-2	MQ-DT(H)30F-2	MQ-DT(H)50F-2
Volume(L)	15	30	50
Internal Size W*D*H(cm)	30×20×25	30×30×35	35×35×40
External Size W*D*H (cm)	50×82×75	50×92×85	59×99×131
Temp. Range	A. -40°C ~150°C B. -70°C ~150°C		
Humi. Range	A. 10% ~ 98%RH B. 20% ~ 98%RH C.30% ~ 98%RH		
Temp. Fluctuation	≤ ±0.3°C		
Humi. Fluctuation	≤ ±2%RH		
Temp. Uniformity	≤ 2.0°C		
Temp. Deviation	≤ ±2.0°C		
Humi. Range	20% ~ 98%RH		
Humi. Deviation	Humidity > 75%RH: ≤±2,-3%RH; Humidity < 75%RH: ≤±5%RH		
Heating Rate	≥3.0°C/ min		
Cooling Rate	≥2.0°C/ min		
Linear Temp. Control	0.5 ~ 1.0°C/min		
Refrigerating Mode	Single Compressor Refrigeration Technology to -70°C		
Cooling Way	Air-Cooling		
Controller	SIEMENS PLC +Independent Programming development design +touch screen		
Humi. System	Independent patented technology, electric steam humidification		
Power Supply	AC 220V±10% ,50HZ		
Standards	GB/T 2423.1-2008/IEC 60068-2-1; GB/T 2423.2-2008/IEC 60068-2-2; GB/T 2423.3-2008/IEC 60068-2-78; GB/T 2423.4-2008/IEC 60068-2-30; GJB 150.3A-2009; GJB 150.4A-2009; GJB 150.9A-2009; GJB 360B-2009; GB/T 5170.2-2008; GB/T 5170.5-2008 ...		

## High-Low Temperature (Humidity) Test Chamber



### Application:

Temperature and humidity test chambers are available as standard products in a variety of sizes to suit your needs. Test component temperature stress detection, temperature screening, reliability test, performance test, weathering test, high and low temperature storage, etc. during the high and low temperature (humidity) environment conditions.

### Specification:

Product	High-Low Temperature (Humidity) Test Chamber				
Model	MQ-T(H)100F-2	MQ-T(H)250F-2	MQ-T(H)500F-2	MQ-T(H)1000F-2	MQ-T(H)2000F-2
Volume(L)	100	250	500	1000	2000
Internal Size W*D*H (cm)	45×45×50	60×60×70	75×75×90	100×100×100	130×130×120
External Size W*D*H(cm)	67×120×165	85×142×190	105×190×205	135×215×235	165×260×255
Temp. Range	A. -40°C ~ 150°C B. -70°C ~150°C				
Humi. Range	A. 10% ~ 98%RH A. 20% ~ 98%RH A. 30% ~98%RH				
Temp. Fluctuation	≤±0.3°C				
Humi. Fluctuation	≤±2%RH				
Temp. Uniformity	≤2.0°C				
Temp. Deviation	≤±2.0°C				
Humi. Deviation	Humidity > 75%RH: ≤+2,-3%RH; Humidity < 75%RH: ≤±5%RH				
Heating Rate	≥3.0°C/ min				
Cooling Rate	≥2.0°C/ min				
Linear Temp. Control	0.5 ~1.0°C/min				
Refrigerating Mode	Single Compressor Refrigeration Technology to -70°C				
Cooling Way	Air-Cooling				
Controller	SIEMENS PLC +Independent Programming development design +touch screen				
Humidity System	Independent patented technology, electric steam humidification				
Power Supply	AC 380V±10% ,50HZ				
Standards	GB/T 10589-2008; GB/T 10592-2008 GB/T 2423.1-2008/IEC 60068-2-1; GB/T 2423.2-2008/IEC 60068-2-2 GB/T 2423.3-2008/IEC 60068-2-78; GB/T 2423.4-2008/IEC 60068-2-30 GJB 150.3A-2009; GJB 150.4A-2009; GJB 150.9A-2009 GB/T 5170.2-2008; GB/T 5170.5-2008...				

## Ultra-Low Temperature (Humidity) Test Chamber



### Application:

Ultra-low temperature (humidity) test chambers are widely used in national key laboratories and large third-party testing and testing laboratories, involving aviation, aerospace, weapons, ships, automobiles, intelligent manufacturing, new energy, communications, measurement, electronics, railways, power Medical and scientific research institutions and many other key areas of the national economy, under ultra-low temperature conditions, test parts temperature and humidity stress testing, temperature screening, reliability testing, performance testing, weather resistance testing, ultra-low temperature storage, etc.

### Specification:

Product	Ultra-Low Temperature (Humidity) Test Chamber			
Model	MQ-UT(H)100	MQ-UT(H)250	MQ-UT(H)500	MQ-UT(H)1000
Volume (L)	100	250	500	1000
Internal Size W*D*H (cm)	45×45×50	60×60×70	75×75×90	100×100×100
External Size W*D*H (cm)	65×100×145	80×120×170	95×140×190	120×150×195
Temp. Range	A. -90°C ~ +50°C B. -120°C ~ +50°C C. -150°C ~ +50°C D. -170°C ~ +50°C			
Humi. Range	20% ~ 98%RH			
Temp. Fluctuation	≤±0.5°C			
Humi. Fluctuation	≤±2%RH			
Temp. Uniformity	≤2.0°C			
Temp. Deviation	≤±2.0°C			
Humi. Deviation	Humidity > 75%RH: ≤±2,-3%RH; Humidity < 75%RH: ≤±5%RH			
Cooling Time	+25°C ~ -90°C≤2H +25°C ~ -120°C≤3H +25°C ~ -150°C≤4H +25°C ~ -170°C≤5H			
Refrigeration Mode	Compressor Refrigeration			
Cooling Way	F. Air-Cooling W. Water-Cooling			
Power Supply	AC 380V±10% ,50HZ			
Standards	GB/T 2423.1-2008/IEC 60068-2-1; GB/T 2423.2-2008/IEC 60068-2-2 GB/T 2423.3-2008/IEC 60068-2-78; GB/T 2423.4-2008/IEC 60068-2-30 GJB 150.3A-2009; GJB 150.4A-2009; GJB 150.9A-2009 GJB 360B-2009; GB/T 5170.2-2008; GB/T 5170.5-2008...			

## Rapid Temperature Change (Humidity) Test Chamber



### Application:

It tests products' performance by simulating rapid temperature change, the purpose is to screen unqualified products caused by defective design, manufacturing or wrong artwork in early stage, to improve products quality, minimize repair rate, Rapid Temperature Change (Humidity) Test Chamber is an effective solution for environmental stress screening.

### Specification:

Product	Rapid Temperature Change (Humidity) Test Chamber				
Model	MQ-RT(H)100	MQ-RT(H)250	MQ-RT(H)500	MQ-RT(H)1000	MQ-RT(H)2400
Volume (L)	100	250	500	1000	2400
Internal Size W*D*H (cm)	45×45×50	60×60×70	75×75×90	100×100×100	140×130×130
External Size W*D*H (cm)	67×130×165	85×152×190	105×200×205	135×225×235	175×280×285
Temp. Range	-70°C ~ 150°C				
Humi. Range	A. 10% ~ 98%RH B. 20% ~ 98%RH C. 30% ~ 98%RH				
Temp. Fluctuation	≤±0.3°C				
Humi. Fluctuation	≤±2%RH				
Temp. Uniformity	≤2.0°C				
Temp. Deviation	≤±2.0°C				
Humi. Deviation	Humidity > 75%RH: ≤±2,-3%RH; Humidity < 75%RH: ≤±5%RH				
Heating & Cooling Rate	5,10,15,20,25,30°C/min				
Controller	SIEMENS PLC +Independent Programming development design +touch screen				
Humidity System	Independent patented technology, electric steam humidification				
Refrigeration Mode	Single Compressor Refrigeration Technology to -70°C				
Cooling Way	F. Air-Cooling W. Water-Cooling				
Power Supply	AC 380V±10% ,50HZ				
Standards	GB/T 10589-2008; GB/T 10592-2008 GB/T 2423.1-2008/IEC 60068-2-1; GB/T 2423.2-2008/IEC 60068-2-2;GJB 150.4A-2009; GJB 150.9A-2009; GB/T 2423.3-2008/IEC 60068-2-78; GB/T 2423.4-2008/IEC 60068-2-30 GB/T 2423.22-2008/IEC 60068-2-14; GJB 150.3A-2009 ;GB/T 5170.2-2008...				

## Walk-In High-Low Temperature (Humidity) Test Chamber



### Application:

Walk-in test chambers give the maximum flexibility in both chamber size and performance for your most demanding temperature/humidity testing requirements. It also allows manufacturers to simulate how their products will perform in temperature and humidity conditions. Test component temperature, stress detection, temperature screening, reliability test, performance test, weathering test, high and low temperature storage, etc. during the high and low temperature (humidity) environment conditions.

### Specification:

Product	Walk-In High-Low Temperature (Humidity) Test Chamber						
Model	MQ-WT(H)08	MQ-WT(H)018	MQ-WT(H)048	MQ-WT(H)100	MQ-WT(H)180	MQ-WT(H)280	MQ-WT(H)480
Volume (m³)	8	18	48	100	180	280	480
Internal Size W*D*H (m)	2×2×2	3×3×2	4×4×3	5×5×4	6×6×5	7×8×5	8×10×6
Temp. Range	A. -40°C ~ 100°C B. -70°C ~ 100°C C. -90°C ~ 100°C D. -120°C ~ 100°C						
Humi. Range	20% ~ 98%RH						
Temp. Fluctuation	≤±0.5°C						
Humi. Fluctuation	≤±2%RH						
Temp. Uniformity	≤±2.0°C						
Temp. Deviation	≤±2.0°C						
Humi. Deviation	Humidity > 75%RH: ≤±2,-3%RH; Humidity < 75%RH: ≤±5%RH						
Heating Rate	≥2.0°C/ min						
Cooling Rate	≥0.7~1.0°C/ min						
Refrigeration Mode	Single Compressor Refrigeration Technology to -70°C						
Cooling Way	F, Air-Cooling W, Water-Cooling						
Controller	SIEMENS PLC +Independent Programming development design +touch screen						
Humidity System	Independent patented technology, electric steam humidification						
Power Supply	AC 380V±10% ,50HZ						
Standards	GB/T 10589-2008; GB/T 10592-2008; GB/T 2423.1-2008/IEC 60068-2-1;GJB 150.4A-2009; GB/T 2423.2-2008/IEC 60068-2-2; GB/T 2423.3-2008/IEC 60068-2-78 ;GJB 150.9A-2009; GB/T 2423.4-2008/IEC 60068-2-30; GB/T 2423.22-2008; GJB 150.3A-2009; GB/T 5170.2-2008 ...						

## Economy-type High-Low Temperature (Humidity) Test Chamber



### Application:

Temperature and humidity test chambers are available as standard products in a variety of sizes to suit your needs. Test component temperature stress detection, temperature screening, reliability test, performance test, weathering test, high and low temperature storage, etc. during the high and low temperature (humidity) environment conditions.

### Specification:

Product	Economy-type High-Low Temperature (Humidity) Test Chamber					
Model	MQ-GDW-100	MQ-GDW-150	MQ-GDW-225	MQ-GDW-408	MQ-GDW-800	MQ-GDW-1000
	MQ-WSJB-100	MQ-WSJB-150	MQ-WSJB-225	MQ-WSJB-408	MQ-WSJB-800	MQ-WSJB-1000
Volume(L)	100	150	225	408	800	1000
Internal Size W*D*H (cm)	50×40×50	50×50×60	60×50×75	80×60×83	100×80×100	100×100×100
External Size W*D*H(cm)	95×90×165	95×100×170	105×110×180	125×120×195	150×150×215	165×160×215
Temp. Range	A. -40°C ~150°C B. -70°C ~150°C					
Humi. Range	A. 20% ~ 98%RH B. 30% ~ 98%RH					
Temp. Fluctuation	≤±0.5°C					
Humi. Fluctuation	≤±2%RH					
Temp. Uniformity	≤±2.0°C					
Temp. Deviation	≤±2.0°C					
Humi. Deviation	Humidity > 75%RH: ≤±2,-3%RH; Humidity < 75%RH: ≤±5%RH					
Heating Rate	≥3.0°C/ min					
Cooling Rate	0.7~1.0°C/ min					
Refrigerating Mode	Single Compressor Refrigeration Technology to -40°C					
Cooling Way	Air-Cooling					
Controller	Taiwan WeinView TH7008 touch screen					
Humidity System	Wet and dry bulb sensor					
Power Supply	AC 380V±10% ,50HZ					
Standards	GB/T 10589-2008; GB/T 10592-2008; GB/T 2423.1-2008/IEC 60068-2-1 GB/T 2423.2-2008/IEC 60068-2-2; GB/T 2423.3-2008/IEC 60068-2-78 GB/T 2423.4-2008/IEC 60068-2-30; GJB 150.3A-2009; GJB 150.4A-2009 GJB 150.9A-2009; GJB 360B-2009; JJB 1101-2003; GB/T 5170.2-2008; GB/T 5170.5-2008 ...					

## Two-Zone Thermal Shock Test Chamber (Vertical / Horizontal)



### Application:

It is a chamber with two compartments corresponding to two different temperature levels. It is characterized by a design for the test basket, which is transferred between the hot and cold compartments through a motorized system connected by a screw rod. It can be divided into Vertical Type and Horizontal Type.



### Specification:

Product	Two-Zone Thermal Shock Test Chamber					
Mode	MQ-2IT50	MQ-2IT100	MQ-2IT200	MQ-2IT320	MQ-2IT500	MQ-2IT1000
Volume (L)	50	100	200	320	500	1000
Internal Size W*D*H(cm)	40×35×35	50×50×40	60×60×55	65×70×70	70×80×90	100×100×100
External Size W*D*H(cm)	95×110×175	105×120×190	115×130×210	195×160×230	200×200×228	245×230×238
Sample Holder Bearing(kg)	15	30	40	45	50	60
Working Mode	Vertical Type			Horizontal Type		
Temp. Range	A. -75°C ~ +200°C		B. -90°C ~ +200°C		C. -120°C ~ +200°C	
Shock Temp. Range	A. -55°C ~ +160°C		B. -75°C ~ +160°C		C. -85°C ~ +160°C	
Temp. Fluctuation	≤±0.5°C					
Temp. Uniformity	≤±2.0°C					
Temp. Deviation	≤±2.0°C					
Heating Rate	RT ~ +200°C ≤ 40min					
Cooling Rate	A. +25°C ~ -75°C ≤ 60min		B. +25°C ~ -90°C ≤ 80min		C. +25°C ~ -120°C ≤ 120min	
Temp. Conversion Time	≤10s					
Temp. Recovery Time	≤5min					
Exposure Condition	High Temp. Exposure 30min ; Low Temp. Exposure 30min					
Refrigeration Mode	Compressor Refrigeration					
Cooling Way	F. Air-Cooling W. Water-Cooling					
Power Supply	AC 380V±10% ,50HZ					
Standards	GB/T 10592-2008; GJB 150.3A-2009; GJB 150.4A-2009 GJB 150.5A-2009; GJB 360B-2009: 107; GB/T 5170.2-2008 ...					

## Three-Zone Thermal Shock Test Chamber



### Application:

It is a different approach to do thermal shock test with payload in a fixed position. It has a new design that can dramatically improve the space crowded situation of many testing laboratories, as the specimen is fixed in its position and the chamber switch alternatively to hot and cold chamber to realize the temperature shock .

### Specification:

Product	Three-Zone Thermal Shock Test Chamber				
Model	MQ-3IT50	MQ-3IT100	MQ-3IT200	MQ-3IT500	MQ-3IT1000
Volume(L)	50	100	200	500	1000
Internal Size W*D*H (cm)	40×50×40	50×50×40	60×60×55	70×80×90	100×100×100
External Size W*D*H (cm)	115×130×195	125×140×200	135×160×220	145×180×268	175×250×258
Sample Holder Bearing (kg)	15	30	40	50	60
Working Mode	Automatic Switching Type				
Temp. Range	A. -75°C ~ +200°C		B. -90°C ~ +200°C		C. -120°C ~ +200°C
Shock Temp. Range	A. -55°C ~ +160°C		B. -75°C ~ +160°C		C. -85°C ~ +160°C
Temp. Fluctuation	≤±0.5°C				
Temp. Uniformity	≤±2.0°C				
Temp. Deviation	≤±2.0°C				
Heating Rate	RT ~ +200°C ≤ 40min				
Cooling Rate	A. +25°C ~ -75°C ≤ 60min		B. +25°C ~ -90°C ≤ 80min		C. +25°C ~ -120°C ≤ 120min
Temp. Conversion Time	≤10s				
Temp. Recovery Time	≤5min				
Exposure Condition	High Temp. Exposure 30min ; Low Temp. Exposure 30min				
Refrigeration Mode	Compressor Refrigeration				
Cooling Way	F. Air-Cooling W. Water-Cooling				
Power Supply	AC 380V±10% ,50HZ				
Standard	GB/T 10592-2008; GJB 150.3A-2009; GJB 150.4A-2009; GJB 150.5A-2009 GJB 360B-2009: 107; GB/T 5170.2-2008...				

## Vacuum Drying Oven



### Application:

Vacuum drying ovens are widely used in biochemical, chemical and pharmaceutical, medical and health, agricultural scientific research, environmental protection and other research and application fields, used for powder drying, baking and disinfection and sterilization of various glass containers. It is especially suitable for quick and efficient drying of dry heat-sensitive, easily decomposed, easily oxidized substances and complex components.



### Specification:

Product	Vacuum Drying Oven						
Model	MQ-VDB602	MQ-VDB603	MQ-VDB605	MQ-VDB609	MQ-VDB621	MQ-VDB625	MQ-VDB650
Volume (L)	20	30	50	90	210	250	500
Internal Size W*D*H (cm)	30×30×27	32×32×30	41×37×34	45×45×45	56×64×60	70×60×60	63×81×84
External Size W*D*H (cm)	58×45×45	63×51×46	72×53×54	61×59×147	72×82×175	105×76×161	79×103×185
Structure Mode	V. Floor-Standing D. Benchtop						
Control Mode	A. Digital Display Buttons B. Program Loop C. Vacuum Degree Digital Display + Automatic Control D. PLC program						
Vacuum Pump	A. Domestic B. Imported German Leybold						
Vacuum Degree (pa)	A. ≤133pa B. 50pa ~100kpa adjustable C. 0.1 ~ 9.99kpa						
Temp. Range	A. RT+10°C ~ +250°C B. RT+10°C ~ +300°C						
Temp. Fluctuation	≤±0.5°C						
Heating Rate	≥3°C/min						
Timing Range	0-9999min						
Power Supply	AC 220V±10% ,50HZ			AC 380V±10% ,50HZ			
Liquid Water Filter (Optional)	Suitable for materials that are moisture and non-corrosive, preventing the oil-water mixture from damaging the service life of the pump						
Condensing Unit (Optional)	Suitable for corrosive chemicals to prevent the volatilization of reagents into the pipeline such as pumps						
Stainless Steel Liner (Optional)	If the specimen has acid-base corrosion, the liner material needs to be replaced with 316L medical grade anti-corrosion stainless steel.						
Standards	GB/T29251-2012..						

## High-Low Temperature (Humidity) Low Pressure Test Chamber



### Application:

High and low temperature (humidity) low pressure test chamber is used in the fields of aviation, aerospace, information, electronics, etc., instruments and meters, electrical products, materials, parts, and equipment under low pressure, high temperature, low temperature or high and low temperature humidity and low pressure Adaptability and reliability tests, and at the same time, the electrical performance parameters of the test piece are energized.

### Specification:

Product	High-Low Temperature (Humidity) Low Pressure Test Chamber			
Model	MQ-TL/THL100	MQ-TL/THL250	MQ-TL/THL500	MQ-TL/THL1000
Volume(L)	100	250	500	1000
Internal Size W*D*H (cm)	45×45×50	60×60×70	80×80×80	100×100×100
External Size W*D*H (cm)	98×100×175	110×130×180	125×150×198	145×180×228
Temp. Range	A. -40°C ~150°C B. -70°C ~150°C C. -120°C ~150°C			
Humi. Range	A. 10% ~ 98%RH B. 20% ~ 98%RH C. 30% ~ 98%RH			
Temp. Fluctuation	≤±0.5°C (Atmospheric Pressure, No load)			
Temp. Uniformity	≤2.0°C (Atmospheric Pressure, No load)			
Temp. Deviation	≤±2.0°C (Atmospheric Pressure, No load)			
Heating Rate	RT ~ +150°C ≤ 40min			
Cooling Rate	A. +25°C ~ -40°C ≤ 30min B. +25°C ~ -70°C ≤ 80min			
Pressure Range	Atmospheric Pressure ~ 0.5KPa			
Pressure Decrease Time	Atmospheric Pressure ~1.0KPa ≤ 30min (when the inner space is dry)			
Pressure Deviation	≥40KPa:±2KPa ; 40KPa ~ 2KPa: ±5% ; ≤2KPa: ±0.1KPa			
Pressure Recovery Time	≤10KPa/min			
Refrigeration Mode	Compressor Refrigeration			
Cooling Way	F. Air-Cooling W. Water-Cooling			
Power Supply	AC 380V±10% ,50HZ			
Standards	GB/T 10590-2008; GB/T 2423.25-2008; GB/T 2423.26-2008; GJB 150.2A -2009; GJB 150.3A-2009; GJB 150.4A-2009; GJB 150.24A-2009; GJB 360A-2009; GB/T 5170.2-2008; GB/T 5170.10-2008...			

## Thermal Vacuum Testing Equipment



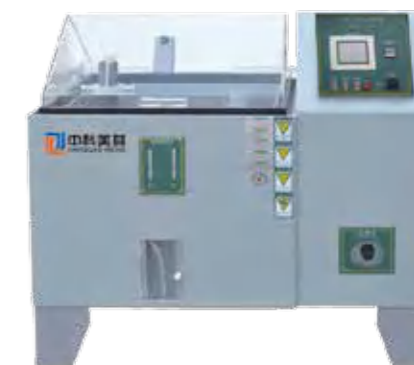
### Application:

Thermal vacuum testing equipment is used for military industry and aerospace products to simulate the space vacuum, cold black and solar radiation environments in the ground environment, to conduct thermal vacuum tests and thermal balance tests. Space environment ground simulation test equipment can simulate the cold and hot environment of vacuum space, perform thermal vacuum test on the test piece, and effectively control, monitor and record the temperature of the test piece in the vacuum space, which provides necessary conditions for the research of related aerospace products.

### Specification:

Product	Thermal Vacuum Testing Equipment		
Model	MQ-KM1	MQ-KM2	MQ-KM3
Vacuum Tank Size (m)	φ1×1.5	φ2×2.5	φ3×3.5
Limiting Vacuum (Pa)	≤ 5×10 <sup>-5</sup>		
Working Vacuum (Pa)	≤ 1.0×10 <sup>-3</sup>		
Refrigeration Mode	Refrigerating Medium	Complex Working Medium	Liquid Nitrogen Refrigeration
	Thermal Sink + Cold-Plate	Thermal Sink +Heating Cage	Liquid Nitrogen thermal sink+ Heating Cage
Temp. Range	-70°C ~ +130°C	-150°C ~ +150°C	-173°C ~ +170°C
Temp. Stability	≤1°C/h	≤1°C/h	≤1°C/h
Temp. Uniformity	≤±2.0°C	≤±3.0°C	≤±5.0°C
Temp. Precision	±1°C	±1°C	±1°C
Heating / Cooling Rate	≥1°C/min		
Leakage Rate of Vacuum System	< 5×10 <sup>-9</sup> Pa.m3/s		
Noise	Noise from Vacuum Extraction Equipment < 70dB (A)		
Vacuum Time	The container can be pumped to better than 1.0×10 <sup>-3</sup> Pa within 4 hours under atmospheric temperature and no load.		
Temp. Detection System	The system uses multi-channel Pt100 temperature inspection meter to measure multi-point temperature		
Control Monitoring System	Mainly include industrial control computer, control cabinet, PLC, instrument, various operation control switches, etc		
Controller	Programmable controller, communication module, communication cable		
Power Supply	AC 380V±10% ,50HZ		
Standards	GJB 1027A; GJB 1033; QJ 1446A; QJ 2630.1; QJ 2630.2; QJ 2630.3; GB 150-1998; GB/T 3164-2007; GB/T 6070-2007; GB 50054-1995; GB 50316-2008...		

## Salt Spray Test Chamber



### Application:

Salt spray test chamber is suitable for electroplating, electrical, automotive parts, hardware tools and other product parts, metal materials and products, etc. for dry, wet, salt spray corrosion test. In addition to the function of a conventional salt spray test chamber, it also has the function of an alternating (cyclic) salt spray test, providing test environments such as scab corrosion and filamentous corrosion.

### Specification:

Product	Salt Spray Test Chamber				
Model	MQ-YW-60	MQ-YW-90	MQ-YW-120	MQ-YW-160	MQ-YW-200
Volume (L)	108	270	480	800	1440
Internal Size W*D*H(cm)	60×40×45	90×50×60	120×50×80	160×50×100	200×60×120
External Size W*D*H(cm)	115×109×67	145×120×84	208×128×124	248×152×145	290×155×165
Temp. Range	Test Chamber Temp. Range: RT ~ 50°C; Saturated Air Barrel Temp. Range: RT ~ 63°C				
Temp. Deviation	≤±1.0°C				
Temp. Uniformity	≤2.0°C				
Temp. Fluctuation	≤±0.5°C				
Heating Rate	Test chamber RT ~ +50°C ≤ 60min ; Pressure Barrel RT ~ +63°C ≤ 60min				
Salt Spray Settlement	1~2ml / 80 m <sup>2</sup> (Collect at least 16 hours, take the average)				
Spray Pressure	70 ~ 170Kpa				
Spray Mode	Continuous Spray				
Test Timing	1 ~ 999 (S, M, H ) adjustable				
PH Values	Neutral Test 6.5 ~ 7.2 ; Acid Test 3.0 ~ 3.3				
Power Supply	AC 220V±10% ,50HZ				
Standards	GJB 150.11A-2009; GB/T 2424.17-2008/IEC60068-2-11:1981; ASTM.B117-2009; GB/T 2423.18-2012/IEC 60068-2-52:1996; GB/T 10125-2012/ISO9227-2006 GB/T 31467.3-2015 Part 3; GB/T 10587-2006; GB/T 5170.8-2008 JIS H8502; GB-T5170.8-2008; GB-T5170.11-2008; GBT 20121-2006 / ISO11474-1998 ...				

## Compound Type Salt Spray Test Chamber



### Application:

Compound type salt spray test chamber is suitable for testing and drying under high temperature, humidity, drying, salt spray and other alternating composite conditions such as parts and components of electronic, electrical, automotive parts, hardware tools and other products, metal materials and products Moisture, salt spray corrosion test. In addition to the function of a conventional salt spray test chamber, it also has the function of an alternating (cyclic) salt spray test, providing test environments such as scab corrosion and filamentous corrosion.

### Specification:

Product	Compound Type Salt Spray Test Chamber			
Model	MQ-FHYW-90	MQ-FHYW-120	MQ-FHYW-160	MQ-FHYW-200
Volume (L)	216	600	800	1200
Internal Size W*D*H(cm)	90×40×60	120×50×100	160×50×100	200×50×120
External Size W*D*H(cm)	245×155×143	283×155×183	323×155×183	363×155×203
Temp. Range	Test Chamber Temp. Range: RT ~ 85°C Saturated Air Barrel Temp. Range: RT~ 63°C			
Humi. Range	20%RH ~ 98%RH			
Temp. Deviation	≤±2.0°C			
Humi. Deviation	≤±3%RH			
Temp. Uniformity	≤±2.0°C			
Humi. Uniformity	≤±3%RH			
Temp. Fluctuation	≤±0.5°C			
Humi. Fluctuation	≤±2%RH			
Heating Rate	RT ~ +85°C ≤ 55min			
Salt Spray Settlement	1 ~ 2ml / 80m <sup>2</sup> (Collect at least 16 hours, take the average)			
Spray Pressure	70 ~ 170Kpa			
Spray Mode	Continuous Spray			
Test Timing	1 ~ 999 (S, M, H) Adjustable			
PH Values	Neutral Test 6.5 ~ 7.2 ; Acid Test 3.0 ~ 3.3			
Refrigeration Mode	Compressor refrigeration			
Power Supply	AC 380V±10% ,50HZ			
Standards	GB/T 20854-2007/ISO14993-2001; GB/T24195-2009/ISO 16151:2005 GB/T 20853-2007/ISO 16701:2003; GJB 150.11A-2009 GB/T 2424.17-2008/IEC60068-2-11:1981 ;GB/T 2423.18-2012/IEC 60068-2-52□1996 GB/T 2423.3-2006/IEC6008-2-78-2001; GB/T 10125-2012/ISO9227-2006 GB/T 31467.3-2015 Part3; GB/T 10587-2006; GB/T 10586-2006 GB/T 5170.8-2008; ASTM.B117-2009; JIS H8502; GB-T5170.8-2008 GB-T5170.11-2008; GBT 20121-2006 / ISO11474-1998 ...			

## Ozone Aging Test Chamber



### Application:

Ozone is a major factor in rubber cracking although it is rare in the atmosphere. Ozone test chamber can be used to test rubber products with static tensile deformation, such as vulcanized rubber, thermoplastic rubber, cable insulating bush; Expose the test specimens to the sealed air in the ozone chamber without light and with constant ozone concentration and constant temperature according to predetermined time, and then observe the cracks on test specimens' surface and the degree of change of other properties to evaluate the rubber's ozone aging resistance properties.

### Specification:

Product	Ozone Aging Test Chamber				
Model	MQ-CY-150	MQ-CY-225	MQ-CY-408	MQ-CY-500	MQ-CY-1000
Volume (L)	150	225	408	500	1000
Internal Size W*D*H (cm)	50×50×60	50×60×75	60×83×85	70×80×90	100×100×100
External Size W*D*H (cm)	95×110×160	95×120×175	105×133×185	110×135×190	150×150×210
Temp. Range	RT+10°C ~ +100°C				
Temp. Indicator	Fluctuation ≤ ±0.5°C; Deviation ≤ ±2°C				
Ozone Concentration	1 ~ 1000pphm adjustable				
Ozone Concentration Deviation	≤ 5% pphm				
Rotary Speed	1 ~ 30r/min adjustable				
Tensile Speed	1 ~ 30 times /min adjustable				
Tensile Distance	1 ~ 150mm adjustable				
Stretch Length	1 ~ 100mm adjustable				
Power Supply	AC 380V±10% ,50HZ				
Standards	GB/T7762-2003; GB/T2951.21-2008 Part 21; GJB1217-91...				



## SO2 Corrosion Test Chamber



### Application:

SO2 corrosion chamber is widely applied to the accelerated corrosive testing of the protective layer from metallic material, as well as parts, electrical components and industrial products. It can reproduce the corrosion process happened to the painted or untreated metal surface.

### Specification:

Product	SO2 Corrosion Test Chamber			
Model	MQ-SO2-270	MQ-SO2-480	MQ-SO2-1000	MQ-SO2-6000
Volume (L)	270	480	1000	6000
Internal Size W*D*H (cm)	90×60×50	120×80×50	100×100×100	150×200×200
Internal Size W*D*H (cm)	150×90×120	190×120×135	210×130×175	230×285×253
Temp. Range	RT+10°C ~ 50°C			
Testing Time	0.1 ~ 999.9 (H, M, S) adjustable			
Gas Concentration	0.1~1% adjustable			
Gas Generation	Titration / Cylinder Method			
Control Instrument	Touch Screen Controller			
Precision Range	Setting Accuracy: Temp. ±0.1 °C; Indicating Accuracy: Temp. ± 0.1 ° C			
Heating System	Fully independent system, ni-cr alloy electric heater			
Sample Holder Angle	15° ~ 30°			
Gas Control	Own made high precision flow controller			
Safety Protection	Leakage, short circuit, over temperature, water shortage, over current protection			
Power Supply	AC 380V±10% ,50HZ			
Standards	GBT2423.33-2005; DIN50018; GB 9789-1988...			

## Waterproof Test Chamber



### Application:

IPX1~IPX9K waterproof test chamber contains: "IPX1, IPX2, IPX3, IPX4, IPX4K, IPX5, IPX6, IPX6K, IPX7, IPX8, IPX9K" full-grade waterproof level, you can choose the corresponding test level to combine, and sometimes they can share a chamber .The waterproof test chamber is mainly suitable for outdoor lighting, outdoor lamps, household appliances, communication products, signaling devices, and automotive lamps and other electrical products.

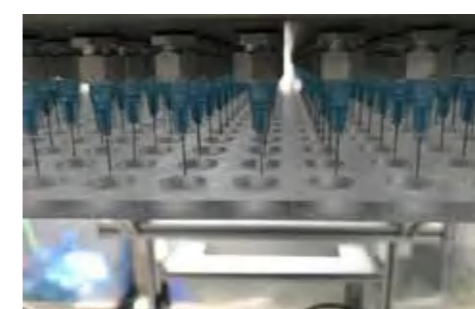
### Standards:

IEC 60529-2013; GB/T4942-93;

GB4208-2008 ;GB/T10485-2007; GB5170.20-90



Rain Test Chamber



IPX1 IPX2 Drop Test



IPX3 IPX4 Rain/Splash Test



IPX5 IPX6 Water Spray Test



IPX9K High Temp. High Pressure Water

## Drop Test Chamber

Product	Drop Test Chamber	
Model	MQ-IPX1	MQ-IPX2
IP Grade	IPX1	IPX2
Test Time	10min	4 directions 2.5min each
Drop Water Volume	1.0mm / min	3.0 mm / min
Drop Rain Distance	200mm	
Drop Rain Area	Customized according to the specimen size	
Drop Water Distance	Lifting adjustable, Max distance is about 1000mm	
Needle Nozzle Distance	20*20mm	
Dia. of needle nozzle	Φ0.4mm	
Test Platform	Rotate Speed 3~5 rpm adjustable (Test platform can be adjusted by 15° (to meet IPX2 test requirements))	

## Rain / Splash Test Chamber

Product	Rain / Splash Test Chamber					
Model	MQ-IPX3		MQ-IPX4		MQ-IPX4K	
IP Grade	IPX3		IPX4		IPX4K	
Radius of Swing Tube (R/mm)	Num of Tube Spray Hole	Water Spray Volume (L/min)	Num of Tube Spray Hole	Water Spray Volume (L/min)	Num of Tube Spray Hole	Water Spray Volume (L/min)
200	8	0.56	12	0.84	12	4.8
400	16	1.1	25	1.8	25	15
600	25	1.8	37	2.6	37	22.2
800	33	2.3	50	3.5	50	30
1000	41	2.9	62	4.3	62	37.2
1200	50	3.5	75	5.3	75	45
1400	58	4.1	87	6.1	87	52.2
1600	67	4.7	100	7.0	100	60

## Water Spray / Flush Test Chamber

Product	Water Spray / Flush Test Chamber		
Mode	MQ-IPX5	MQ-IPX6	MQ-IPX6K
IP Grade	IPX5	IPX6	IPX6K
Inner Dia. of Nozzle	Φ6.3mm	Φ12.5mm	Φ6.3mm
Water Spray Volume	12.5L/min±5%	100L/min±5%	75L/min±5%
Pressure	About 100kPa	About 100kPa	About 1000kPa
Num of Nozzle	1pc	1pc	1pc
Test Time	1min/m² at least 3min		
Test Platform	Rotate Speed 3~5 rpm adjustable		

## Immersion Test Chamber

Product	Immersion Test Chamber
Model	MQ-IPX7
IP Grade	IPX7
Internal Size	Customized according to the specimen size
Test Time	30min OR adjustable
Test Requirement	Distance between the top of specimen and water surface ≥ 15cm Distance between the bottom of specimen and water surface ≥ 100cm
Enclosure Material	304 Stainless Steel
Water Tank Level Control	Cooperate between stainless steel float ball and overflow hole
Water Supply	Deionized pure water or tap water

## Continuous Immersion Test Chamber

Product	Continuous Immersion Test Chamber
Model	MQ-IPX8
IP Grade	IPX8
Internal Size	Customized according to the sample size
Tank Material	SUS304# Stainless Steel Tank
Simulated Water Depth	30m ~300m according to the requirement
Pressure Control	Electronic pressure gauge, PLC, man-machine interface
Accuracy Control	0.01kg
Pressure Deviation	±10%
Test Time	Time adjustable

## High Temp. High Pressure Water Spray Test Chamber

Product	High Temp. High Pressure Water Spray Test Chamber	
Model	MQ-IPX9	MQ-IPX9K
IP Grade	IPX9	IPX9K
Water Spray Volume	14~16L/min	
Water Pressure	8~10MPa	
Water Temp	80±5°C	
Impact Force	0.9~1.2N	
Test Time	30s (adjustable), 120s in total for 4 angles, or corresponding set value	
Spray Angle	0°,30°,60°,90°	

## Military Standard Rain Test Chamber



### Application:

The military standard wind source rain test chamber is mainly suitable for external lighting, signaling devices and automotive lamps of scientific research units such as electronic, electrical, aerospace, military and other scientific research units. To test the sealing and rainproof performance of the equipment enclosure in storage, transportation or working status exposed to rain, spray, drop conditions.

### Specification:

Product		Military Standard Rain Test Chamber
Model		MQ-MSR
PROG I Rain & Blow Rain	Raindrop Dia.	0.5 ~ 4.5mm
	Wind Speed	≥18m/s±10%, Allows the raindrops to form a 45° angle evenly to blow the specimen
	Specimen Temp.	Above water temp. 10°C ± 2°C (water temp. +10°C ~ 55°C)
	Test Bench Rotary Speed	1 ~ 5rpm/min (adjustable)
	Rainfall Intensity	100mm/m <sup>2</sup> /h ~ 300mm/m <sup>2</sup> /h adjustable
PROG II Intensity Test	Test Spray Surface	6 sides up and down, left and right, front and back
	Nozzle Water Pressure	About 276Kpa
	Nozzle Spacing	710×710mm
	Distance Nozzle and Specimen	480mm
	Spray Shape	The nozzle spray area is a positive cone square raindrop
PROG III Drop Test	Drop Apertu	20 ~ 25.4mm
	Drop Volume	> 280L/ m <sup>2</sup> /h
	Dropping Speed	9m/s
	Specimen Temp.	Above the water temp. 10°C±2°C (water temp. +10°C ~ 55°C)
	Drop Height	> 1m
	Spray Time	Continuous rain time ≥60min
Power Supply		AC 380V±10% ,50HZ
Standards		GJB150.8A-2009 Part 8 ...

## Dust Test Chamber



### Application:

It is specially designed for reproducing a dust filled environment in a limited workspace for research and development works. It is suitable for military equipment, police equipment, indoor and outdoor lamps, all kinds of electrical appliances, communication products, signaling devices, automotive lamps and other products in various industries for shell protection testing.

### Specification:

Product	Dust Test Chamber		
Model	MQ-SC-500	MQ-SC-1000	MQ-SC-2000
Volume (m <sup>3</sup> )	0.5	1	2
Internal Size W*D*H (cm)	70 × 80 × 90	100 × 100 × 100	130 × 150 × 100
External Size W*D*H (cm)	130 × 105 × 180	150 × 165 × 200	180 × 185 × 230
Test Temp.	RT+10 ~ 80°C ( adjustable ) ; 45% ~75% (optional display) ;		
Temp. Fluctuation	≤±0.5°C		
Metal Screen Wire Dia.	50um/80um/100um		
Wire Spacing	75um		
Talcum Powder Dosage	2kg/m <sup>3</sup>		
Airflow Velocity	2 m/s (OR adjustable according to requirements)		
Vibration Time	0 ~ 99H59M59S		
Fan Cycle Time	0 ~ 99H59M59S		
Power Supply	AC 380V±10% ,50HZ		
Standards	GB/T 4208-2017 ; GJB150.12-2009 Part 12; GB/T2423.37-2006 JIS D 0207-1977; ISO-20653-2013 ; IEC 60529-2013; DIN-40050-9 ...		

## Military Standard Dust Test Chamber



### Application:

Military standard dust test chamber is suitable for the adaptability of military mechanical equipment and electromechanical equipment such as electrical and electronic, optical components, seals and other products exposed to dry blowing dust, blowing sand and dust fall conditions.

### Specification:

Product		Military Standard Dust Test Chamber		
Model		MQ-JBSC-500	MQ-JBSC-1000	MQ-JBSC-4000
Volume (m <sup>3</sup> )		0.5	1	4
Internal Size W*D*H (cm)		80×80×80	100×100×100	100×400×100
External Size W*D*H (cm)		About 800×350×240	About 850×390×260	About 870×1300×380
PROG I Blowing Dust	Working Temp.	+20°C ~ +80°C adjustable		
	Working Humi.	≤ 30%R.H		
	Dust Blowing Wind Speed	1.5m/s ~ 8.9m/s		
	Sand Dust Concentration	10.6g/m <sup>3</sup> ± 7g/m <sup>3</sup>		
PROG II Blowing Sand	Working Temp.	+20°C ~ +80°C adjustable		
	Working Humi.	≤30%R.H		
	Sand Blowing Wind Speed	18m/s ~29m/s		
	Sand Dust Concentration	1.1g/m <sup>3</sup> ± 0.3g/m <sup>3</sup>		
2.2g/m <sup>3</sup> ± 0.5g/m <sup>3</sup>				
PROG III Dust Fall	Dust Fall Temp.	23°C ± 2°C		
	Working Humi.	≤ 30%R.H		
	Settling Rate	6g/m <sup>2</sup> /d		
Power Supply		AC 380V±10% ,50HZ		
Standards		GJB150.8A-2009 Part 12...		

## Xenon Lamp Aging Test Chamber



### Application:

Xenon lamp aging test chamber is used to simulate the hazards caused by sunlight, rain and dew. The xenon lamp is used to simulate the effect of sunlight irradiation. The condensation moisture is used to simulate rain and dew. The test material is placed at a certain temperature. The cycle of alternating light and moisture The test can be conducted in days, and the hazards that occur in the outdoor months or even years can be reproduced in days or weeks. The artificial accelerated aging test data can help select new materials, transform existing materials, and evaluate how the changes in formulations affect the durability of the product.

### Specification:

Product		Xenon Lamp Aging Test Chamber			
Model		MQ-XD-250	MQ-XD-500	MQ-XD-800	MQ-XD-1000
Volume (L)		250	500	800	1000
Internal Size W*D*H (cm)		60×60×70	80×80×80	80×100×100	100×100×100
External Size W*D*H(cm)		112×115×145	122×125×150	132×135×195	150×145×215
Temp. Range		RT+10°C ~ +100°C			
Humi. Range		55% ~ 90%RH			
Temp. Fluctuation		≤ ± 0.5°C			
Wavelength		290 ~ 800nm			
Irradiation Intensity		500W/m <sup>2</sup> ~ 1120W/m <sup>2</sup>			
Rainfall		Cycle or Continuous Rainfall, rainfall time adjustable			
Test Bench		Rotated test bench , rotate speed ≥ 1rpm			
Power Supply		AC 380V±10% ,50HZ			
Standards		GB/T2424.14-1995 Part 2;GB/T2423.24-2013 Part 2;GB/T8427-2008 GB/T8430-1998 ;GB/T16422.2-2014 Part 2;GB/T1865-2009 GB/T12831-1991 ;GB/T5137.3-2002 ;GB/T16259-2008 ASTM G155; ISO10SB02/B04;GJB150.8A-2009 Part 7...			

## UV Aging Test Chamber



### Application:

UV aging test chamber uses fluorescent ultraviolet lamps that are analogous to the ultraviolet spectrum in the sun, and combined with temperature control causes damage to the material such as discoloration, brightness, strength reduction, cracking, flaking, powdering, oxidation, etc. The synergy between moisture makes the material's single light resistance or single moisture resistance weaken or fail, so it is widely used to evaluate the weather resistance of the material. Fluorescent ultraviolet lamp is used as the light source. By simulating the ultraviolet radiation and condensation in natural sunlight, the material is subjected to accelerated weather resistance test to obtain the weather resistance results of the material, which can simulate ultraviolet, rain, high temperature, high humidity, Condensation, darkness and other environmental conditions, by reproducing these conditions, merge into a cycle, and let it automatically complete the number of cycles.

### Specification:

Product	UV Aging Test Chamber			
Model	MQ-UV1	MQ-UV2	MQ-UV500	MQ-UV1000
Volume (L)	170	500	500	1000
Internal Size W*D*H (cm)	114×40×39	114×64×69	80×80×80	100×100×100
External Size W*D*H (cm)	130×50×147	130×70×163	130×140×180	150×150×210
Temp. Range	RT+10°C ~ +70°C		+50□+80°C	
Humi. Range	≥ 90%RH		45%□95%RH	
Temp. Fluctuation	± 3°C		± 2°C	
Center Distance of Lamp	70mm		/	
Distance between Specimen and Tube Center	50mm ± 3mm	Up and down adjustable	50mm ± 3mm / up and down adjustable	
Standard Specimen Size	Option 1: 75×290mm;-total 24pcs Option 2: 75×150mm;-total 48pcs	No specimen size requirement		
Tube Parameters	UVA-340(315 ~ 400nm); UVB-313(280 ~315nm) optional		360 ~ 420nm	
Tube Numbers	8pcs		1pc	
Irradiation Intensity	Maximum power output / display adjustable			
Power Supply	AC 220V±10% ,50HZ		AC 380V±10% ,50HZ	
Standards	GB/T16422.3-1997 ;GB/T16585-1996 ;GB/T14522-2008;GB/T16422.3-1997; GB/T16585-96 ;ASTM D4329;SAE J2020:2003 ;ISO 4892 Part 3; ISO 11507...			

## Mould Test Chamber



### Application:

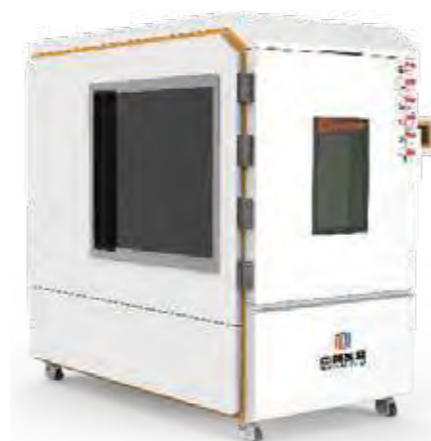
Mould Test Chamber is a kind of incubator, which mainly cultivates organisms and plants, and sets corresponding temperature and humidity in a closed space, so that the mold grows out in about 4-6 hours, and it is used for artificially speeding up the propagation of molds. The mold resistance and mildew of electronic products. It is an important testing method in the artificial three-season climate. It is a storage strain and biological cultivation for colleges and universities, medicine, military, electronics, chemical, and biological research departments. It is a necessary test equipment for scientific research laboratories. It is used to test and judge its parameters and performance after changing environment in hot and humid temperature.

### Specification:

Product	Mould Test Chamber				
Model	MQ-MT100	MQ-MT225	MQ-MT500	MQ-MT800	MQ-MT1000
Volume (L)	100	225	500	800	1000
Internal Size W*D*H (cm)	45×45×50	50×60×75	80×70×90	80×100×100	100×100×100
External Size W*D*H (cm)	90×105×168	95×118×195	135×135×205	148×145×215	187×165×228
Temp. Range	+10°C ~ +80°C				
Humi. Range	45% ~ 98%RH				
Temp. Fluctuation	≤ ± 0.5°C				
Temp. Uniformity	≤ ± 2°C				
Humi. Fluctuation	± 2%RH				
Humi. Uniformity	± 3%RH				
Wind Speed	0.5 ~ 1m/s				
Power Supply	AC 380V±10% ,50HZ				
Standards	GB/T 10592-2008 ;GB/T 10586-2006;GB/T2423.2-2008 ;GB/T2423.3-2008 GB/T2423.16-2008...				



## Wave-Transparent Temperature Test Chamber



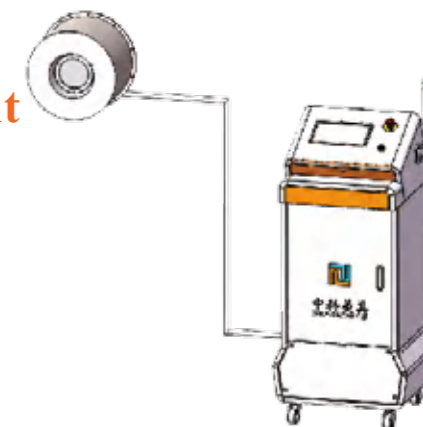
### Application:

The Wave-Transparent Temperature Test Chamber is customized to verify the environmental adaptability of the relay terminal. In order to simulate the high and low temperature working environment, the radio frequency performance deterioration and phase change heat storage performance of the relay terminal under high and low temperature conditions are verified by the star-ground large loop, whether the equipment works normally or not.

### Specification:

Product	Wave-Transparent Temperature Chamber			
Model	MQ-DMT216	MQ-DMT512	MQ-DMT1000	MQ-DMT2000
Volume(L)	216	512	1000	2000
Internal Size W*D*H (cm)	60×60×60	80×80×80	100×100×100	120×130×130
External Size W*D*H(cm)	85×120×180	105×140×190	125×150×215	150×180×245
Temp. Range	A. -40°C ~ 150°C B. -70°C ~ 150°C			
Temp. Fluctuation	≤ ± 1.0°C			
Temp. Deviation	≤ ± 2.0°C			
Heating /cooling Rate	≥1.0°C/min	≥2.0°C/min	≥5.0°C/min	≥10.0°C/min
Wave-Transparent Depletion	≤ 2.5dB (Ka band) OR Customized			
Wave-Transparent Angle	Customized			
Wave-Transparent Window	Customized Position Size			
Wave-Absorbing Side	Customized			
Refrigeration Mode	Compressor refrigeration			
Structure Style	Integrated OR Split Type			
Power Supply	AC 380V±10% ,50HZ			

## Photogrammetry Testing Equipment Protective Cans



### Application:

It is widely used in spacecraft deformation measurement, large aircraft wing dynamic measurement, large radar antenna array measurement, satellite antenna thermal vacuum deformation measurement and other fields of aviation, aerospace and satellite communications. Aiming at the particularity of thermal deformation photogrammetry in space, a thermal deformation measuring camera vacuum protection canister with monitoring system is designed to ensure that the thermal deformation measurement system camera can work normally under the hot vacuum environment. It is also used for the protection of measuring cameras in large atmospheric and high temperature environment test equipment to ensure the normal operation of the camera under normal pressure and high temperature environment.

### Specification:

Product	Photogrammetry Testing Equipment Protective Cans	
Model	MQ-ATMO	MQ-VACU
Working Environment	Atmospheric Pressure with High and Low Temp.	Vacuum with High and Low Temp.
Internal Size of the Can	φ300mm×300mm	φ400mm×300mm
External Vacuum Degree of the Can	≤ 1.3×10 <sup>-3</sup> Pa	
External Temp. Range of the Can	-160°C ~ +150°C	
Internal Temp. Range of the Can	+15°C ~ +30°C	
Protective Can Weight	≤20kg (not include photogrammetry)	≤25kg (not include photogrammetry)
Material of the Can	Stainless Steel	
Material of the Window	Imported optical quartz glass	
Power Supply	AC 380V±10% ,50HZ	
Standard Configuration	1 set of Photogrammetry fixing tool in the can, 1 copy of operation manual, 1 copy of conformity certificate	
Safety Protection	Inner Temp. protection, over-temperature alarm of the Can	
Optional Accessory	Inner rotary table, communication interface of the Can	

## Temperature Chamber for Multi-Axis Rate Table System



### Application:

This direct-drive multi-axis motion simulator features a temperature chamber for simultaneous performance testing of several medium-sized Inertial Measurement Units (IMUs) or Micro Electro Mechanical Systems (MEMS) sensors under different environmental conditions.



### Specification:

Product	Temperature Chamber for Multi-Axis Rate Table System			
Model	MQ-ZT-252	MQ-ZT-393	MQ-ZT-578	MQ-ZT-1000
Volume (L)	252	393	578	1000
Internal Size W*D*H(cm)	60×60×70	75×75×70	85×85×80	100×100×100
Rate Table Type	Single-Axis ; Double-Axis ; Three-Axis Rate Table			
Angle Range	Inner Ring: continuous & infinite ; Outer Ring: continuous & infinite			
Temp. Range	A. -70°C ~ 150°C B. -80°C ~ 150°C			
Temp. Fluctuation	±0.5°C			
Temp. Uniformity	≤2.0°C			
Temp. Deviation	≤±2.0°C			
Heating & Cooling Rate	≥ 2.0 / 5.0 / 10.0 °C/min			
Refrigeration Mode	Compressor Refrigeration			
Cooling Way	F. Air-Cooling W. Water-Cooling			
Unit Installation Mode	Indoor Integrated; Indoor Split Type; Outdoor Split Type			
Power Supply	AC 380V±10% ,50HZ			
Standards	GB/T 10589-2008 ;GB/T 10592-2008 ;GB/T 2423.1-2008; GB/T 2423.2-2008 ; GB/T 2423.22-2008 ;GJB 150.3A-2009; GJB 150.4A-2009; GJB 360B-2009 ;JF 1101-2003 ; GB/T 5170.2-2008...			

## Temperature Humidity Vibration (Altitude) Test Chamber



### Application:

During transportation or at the site of the end user, a product will come under some type of vibration motion. Using vibration test chambers, manufacturers can determine if a product can withstand the rigors during its normal life span. Often vibration testing is combined with another test criteria such as temperature, humidity to provide complete vibration, temperature and humidity environmental testing. It also can be custom-designed to meet your application.

### Specification:

Product	Temperature Humidity Vibration ( Altitude ) Test Chamber			
Model	MQ-THF500	MQ-THF1000	MQ-THF2000	MQ-THF4000
Volume (L)	500	1000	2000	4000
Internal Size W*D*H (cm)	75×75×90	100×100×100	130×130×120	160×180×140
External Size W*D*H (cm)	95×240×195	120×260×215	150×350×240	210×450×260
Temp. Range	A. -40°C ~ 150°C B. -70°C ~ 150°C C. -90°C ~ 150°C			
Humi. Range	A.10% ~ 98%RH B.20% ~ 98%RH C.30% ~ 98%RH			
Pressure Range	Atmospheric Pressure ~ 0.5kPa			
Temp. Fluctuation	≤ ± 0.5°C			
Humi. Fluctuation	≤ ± 2%RH			
Temp. Uniformity	≤ 2.0°C			
Temp. Deviation	≤ ± 2.0°C			
Humi. Deviation	Humidity > 75%RH: ≤+2,-3%RH; Humidity < 75%RH: ≤±5%RH			
Heating & Cooling Rate	2,5,10,15,20°C/min			
Vibration Frequency	3~2500HZ; 3~3000HZ;5~4500HZ			
Max Acceleration	500m/s <sup>2</sup> ; 700 m/s <sup>2</sup> ; 1000m/s <sup>2</sup>			
Max Displacement	25mm;51mm			
Tabletop Size	φ320mm; φ445mm; φ550mm			
Refrigeration Mode	Compressor Refrigeration			
Cooling Way	F. Air-Cooling W. Water-Cooling			
Pressure Bearing Mode	Inner pressure bearing / Outer pressure bearing			
Power Supply	AC 380V±10% ,50HZ			
Standards	GB/T 10589-2008 ;GB/T 10592-2008 ;GB/T 10590-2008 GB/T 2423.25-2008 GB/T 2423.26-2008 ;GJB 150.2A -2009 ;GJB 150.3A-2009 GJB 150.4A-2009 GJB 150.24A-2009 ;GJB 360A-2009 105; GB/T 2423.1-2008/IEC 60068-2-1 GB/T 2423.2-2008/IEC 60068-2-2 ;GB/T 2423.3-2008/IEC 60068-2-78 GB/T 2423.4-2008/IEC 60068-2-30;GB/T 2423.22-2008 ;GJB 150.3A-2009 GJB 150.4A-2009 ;GJB 150.9A-2009 ;GJB 150.16A-2009 ;GJB 360B-2009 JF 1270-2010;GB/T 5170.2-2008...			



## Integrated Environmental Simulation Laboratory



### Application:

Comprehensive environmental simulation laboratory is widely used in aviation, aerospace, electronics, instrumentation, electrical products, materials, automotive parts, plastic and rubber products, chemicals, building materials, medical, photo voltaic and other industries for high temperature, low temperature, high and low temperature humidity, low pressure, light, rain, salt spray corrosion and dust environmental simulation reliability test.

### Specification:

Product	Integrated Environmental Simulation Laboratory						
Model	MQ-IESL8	MQ-IESL12	MQ-IESL22	MQ-IESL48	MQ-IESL81	MQ-IESL120	MQ-IESL162
Volume (m³)	8	12.5	22	48	81	120	162
Internal Size W*D*H (m)	2×2×2	2.5×2.5×2	3×3×2.5	4×4×3	4.5×4.5×4	5×5×5	6×6×5
Optional Function	High Temp., Low Temp., High and Low Temp., High and Low Temp. & Humi., Low Pressure, Light, Rain, Salt Spray Corrosion, Sand & Dust, Snowfall, Freeze						
Temp. Range	A. -40°C ~ 100°C B. -70°C ~ 100°C C. -90°C ~ 100°C D. -120°C ~ 100°C						
Humi. Range	20% ~ 98%RH						
Pressure Range	Atmospheric Pressure ~ 0.5KPa						
Irradiation Intensity	500W/m² ~ 1120W/m²						
Salt Spray Deposition	1~2ml / 80m²						
Temp. Fluctuation	±0.5°C						
Humi. Fluctuation	≤±2%RH						
Temp. Uniformity	≤±2.0°C						
Temp. Deviation	≤±2.0°C						
Humi. Deviation	Humidity > 75%RH: ≤±2,-3%RH; Humidity < 75%RH: ≤±5%RH						
Heating Rate	≥2.0°C/ Min						
Cooling Rate	≥1.0°C/ Min						
Refrigeration Mode	Compressor Refrigeration						
Cooling Way	F. Air-Cooling W. Water-Cooling						
Power Supply	AC 380V±10% ,50HZ						
Standards	GB/T 10589-2008 ;GB/T 10592-2008 ;GB/T 2423.1-2008/IEC 60068-2-1 ;GB/T 2423.2-2008/IEC 60068-2-2 ; GB/T 2423.3-2008/IEC 60068-2-78 ;GB/T 2423.4-2008/IEC 60068-2-30 ;GB/T 2423.22-2008/IEC 60068-2-14 ; GJB 150.3A-2009 ;GJB 150.4A-2009 ;GJB 150.9A-2009 ;GJB 360B-2009 ;JJF 1101-2003 ;GB/T 5170.2-2008 ;GB/T 11159-2008 ;GB/T 2423.25-2008 ;GB/T 2423.26-2008 ;GJB 150.2 A -2009...						

## Temperature Humidity Chamber for Testing Machine



### Application:

Temperature humidity for testing machine is used to test the mechanical properties of rubber, plastic, wire and cable, textile, waterproof and other materials under high and low temperature environment such as tensile, compression and tearing. It is suitable for testing fields such as quality supervision, teaching and scientific research, aerospace, iron and steel metallurgy, automobiles, and construction materials.

### Specification:

Product	Temperature Humidity Chamber for Testing Machine
Model	MQ-TMT
Internal Size W*D*H (cm)	Customized size according to the testing machine
Temp. Range	A. -40°C ~ 150°C B. -70°C ~ 150°C
Humi. Range	20% ~ 98%RH
Temp. Fluctuation	≤ ± 0.3°C
Temp. Uniformity	≤ 2.0°C
Temp. Deviation	≤ ± 2.0°C
Heating Rate	≥ 3.0°C/min
Cooling Rate	≥ 2.0°C/min
Refrigeration Mode	Compressor Refrigeration
Cooling Way	F. Air-Cooling W. Water-Cooling
Standards	GB/T 10589-2008 ;GB/T 10592-2008 ;GB/T 2423.1-2008 ;GB/T 2423.2-2008 ;GJB 150.3A-2009 ;GJB 150.4A-2009 ;GJB 360B-2009 ;JJF 1101-2003 ;GB/T 5170.2-2008...

## Vibration Test Bench



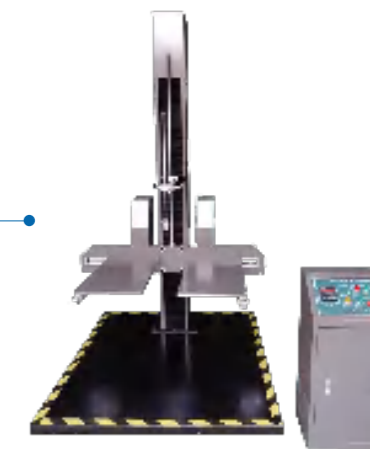
### Application:

Vibration test bench is widely used in related vibration tests for products in the defense and civil fields such as aerospace, aviation, ships, weapons, automobiles, rail transit, and electronics. Such as environmental acceptance test, quality qualification test, reliability qualification test, durability test, vibration simulation analysis, material property test, fatigue test, vibration prevention improvement, etc. Simulate the vibration environment suffered by a product during manufacturing, assembly, transportation, and use to assess the vibration resistance, reliability, and integrity of its structure.

### Specification:

Product		Vibration Test Bench								
	Model	Frequency (Hz)	Rated Sine Force (KN)	Random Force (KN)	Shock Force (KN)	Max Acceleration (m/s <sup>2</sup> )	Max Displacement (mm)	Max Speed (m/s)	Moving Parts Weight (kg)	Table Size (mm)
Air Cooling Series	V2-230	5~3000	20	20	40	1000	51	2	20	320
	V20-445	5~2500	20	20	40	700	51	2	28	445
	V30-370	5~2800	30	30	60	1000	51	2	30	370
	V40-445	5~2700	40	40	80	800	51	2	50	445
	V60-445	5~2700	60	60	120	1000	51	2	60	445
Air Cooling Large Displacement Series	V20LS3-340	5~3000	20	20	40	800	76	2	25	340
	V30LS4-445	5~3000	30	30	60	750	100	1.8	40	445
	V40LS4-445	5~3000	40	40	80	900	100	1.8	45	445
	V50LS3-445	5~3000	50	50	90	900	76	2	55	445
	V60LS3-445	5~2500	60	60	100	1000	76	2	55	445
	V70LS3-550	5~2500	70	70	140	850	76	1.8	82	550
Water Cooling Series	V50W-445	2~2700	50	50	100	1000	51	2	60	445
	V70W-445	2~2700	70	70	140	1000	51	2	60	445
	V80-480	2~2500	80	80	160	1000	51	2	80	480
	V100-550	2~2500	100	100	200	1000	51	2	80	550
	V160-650	2~2200	160	160	320	1000	51	2	150	650
Water Cooling Large Displacement	V50WLS3-445	2~2500	50	50	100	850	76	2	60	450
	V60WLS3-550	2~2500	60	60	120	1000	76	2	60	550
	V100LS3-550	2~2500	100	100	200	1000	76	2	90	550
	V120LS3-550	2~2500	120	120	240	1000	76	2	90	550
	V200LS3-650	2~2100	200	200	400	1000	76	2	150	650
Standards	GB/T 2423.10-2008 Part 2; GB/T 2423.11-2008 Part 2; GB/T 2423.12-2008 Part 2; GB/T 2423.13-2008 Part 2; GB/T 2423.14-2008 Part 2; GB/T 2423.35-2008 Test Z/AFc; GB/T 2423.36-2008 Test Z/BFc; GJB 150.16A-2009; JJF 1270-2010...									

## Drop Test Bench



### Application:

The drop test bench is used to simulate the performance of large and heavier packaging products against drop and impact, and can achieve the drop test of the surface, edge and angle of the test product. It is used to evaluate the ability of product packages to withstand falling during transportation and handling, thus improving and perfecting the packaging design.

### Specification:

Product	Drop Test Bench		
Model	MQ-D1500	MQ-D2000	MQ-D2500
Drop Height(cm)	30 ~150	30 ~ 200	30 ~ 250
Max Size of Specimen(cm)	100×80×100	100×80×100	120×80×100
Plate Size (cm)	170×120×4	170×120×2	
Bracket Arm Size (cm)	70×35		
Max Load (kg)	60	100	
Drop Way	Electrodynamics Type (E)	Pneumatic Type (P)	
Drop Height Deviation (cm)	±1		
Test Method	Side, Edge, Angle		
Height display mode	Digital		
Control Cabinet	Split Type		
Weight (kg)	600	800	900
Power Supply	AC 380V±10% ,50HZ		
Standards	GB/T4857.5-92 ;GB/T2423.5-2008 Part 2 ;ISO2248-1985(E); IEC 68-2-27 Ea...		
Working Environmental	Ambient temperature: 5 ~35°C, relative humidity: ≤40%RH, no strong vibration, electromagnetic radiation, no dust and corrosive substances around		
PS: can be customized according to requirements			

## Universal Testing Machine



### Application:

Universal Testing Machine (UTM) is used to test both the tensile and compressive strength of materials. Universal testing Machines are named as such because they can perform many different varieties of tests on an equally diverse range of materials, components, and structures. Most UTM models are modular, and can be adapted to fit the customer's needs.

### Specification:

Product	Universal Testing Machine
Model	MQ-BTM
Test Force Range	0 ~ 2000kN
Test Force Accuracy	±1%
Speed Test Range	10.10—500mm/min adjustable
Test Stroke	200 ~ 1000mm
Compression Space	300 ~ 900mm
Flat Specimen clamping thickness	0 ~ 60mm
Round Specimen clamping thickness	φ0 ~ φ70mm
Power Supply	AC 380V±10% ,50HZ
Standards	GB/T16491-2008 ;JIG139-1999...
Working Environmental	Ambient temperature: 5 ~35°C, relative humidity: ≤40%RH, no strong vibration, electromagnetic radiation, no dust and corrosive substances around
PS: can be customized according to requirements	

## Inclined Impact Test Bench



### Application:

Incline Impact testers are used to simulate the ability of product packaging to resist impact damage in actual environments, such as handling, stacking of shelves, sliding of motors, loading and unloading of locomotives, transportation of products, etc., as well as scientific research institutions, colleges and universities, Packaging technology testing center, packaging material manufacturing plant, and foreign trade, transportation and other departments to carry out common test equipment for ramp impact.

### Specification:

Product	Inclined Impact Test Bench							
Model	MQ-II010	MQ-II020	MQ-II030	MQ-II050	MQ-II080	MQ-II100	MQ-II150	MQ-II200
Max Load (kg)	100	200	300	500	800	1000	1500	2000
Shock Panel Size (cm)	160×200		210×200		240×200		240×200	
Max Slide Length (cm)	200 (OR negotiate)							
Slope Angle	10°± 1°							
Final Impact Velocity (c/s)	2.608			2.334				
Impact Speed Deviation	≤± 5%							
Pulley Tabletop Size(cm)	100×100		120×120		150×150		200×200	
Outline Size (cm)	652×160×250		632×210×300		760×240×320		1150×250×350	
Power Supply	AC 380V±10% ,50HZ							
Standards	GJB2711-96; GB/T 4857.11-2005 Part11...							
Working Environment	Ambient temperature: 0 ~ 40°C, relative humidity: ≤80%RH, no strong vibration, electromagnetic radiation, no dust and corrosive substances around							
Standards	GJB2711-96 ; GB/T 4857.11-2005 Part 11...							
PS: can be customized according to requirements								

## Simulated Transportation Test Bench



### Application:

The simulated transportation test bench is an assessment of the actual road conditions of the specific load of each item in the laboratory to simulate the impact of the car on the road, such as impact, vibration and other actual road conditions, in order to obtain the actual working conditions in the laboratory for the loading and unloading and transportation of the goods. The impact of packaging, packaging, or internal products, thereby providing a basis for assessment or confirmation of the packaging of the item.

### Specification:

Product	Simulated Transportation Test Bench								
Model	MQ-S020	MQ-S030	MQ-S060	MQ-S100	MQ-S150	MQ-S200	MQ-S300	MQ-S400	MQ-S600
Max Load (kg)	200	300	600	1000	1500	2000	3000	4000	6000
Vibration Waveform	Broad-band Random Vibration								
Car Speed Simulation (km/h)	20 ~ 40								
Road Simulation	Intermediate and lower grade pavements of three-level highways, intermediate roads and four-level highways								
Time Acceleration Level	1:1 ( OR Negotiate )								
Specimen Height of the center of Gravity (cm)	< 50	< 60	< 70	< 70	< 70	< 70			< 80
Working Table Size(cm)	150×70	150×70	200×150	240×170	270×180	270×180	400×250		
Outline Size (cm)	192×85×96		255×192×140		300×200×160		450×250×220		
Test Bench Weight (KG)	1600	1800	5500	6000	7000	7550	13000		
Power Supply	AC 380V±10% ,50HZ								
Standards	GJB2711-96 ; QJ815.2...								

## Vertical Shock / Bump Tester



### Application:

Pneumatic vertical shock / Bump Tester is a shock and bump test equipment with novel design, high degree of automation, simple operation and convenient maintenance. It can perform conventional shock tests such as semi-positive sine wave, back peak saw tooth wave, square wave, and shock response spectrum function.

### Specification:

Product	Vertical Shock / Bump Tester														
Model	MQ-AK25			MQ-AK50			MQ-AK100			MQ-AK400			MQ-AK1000		
Max Load (kg)	25			50			100			400			1000		
Tabletop Size (mm)	300×350			400×400			500×500			600×800			1000×1000		
Surge Waveform	Half Sine	Final Peak Saw tooth	Half Sine	Final Peak Saw tooth	Trapezoid	Half Sine	Final Peak Saw tooth	Trapezoid	Half Sine	Final Peak Saw tooth	Trapezoid	Half Sine	Final Peak Saw tooth	Trapezoid	
Shock Acceleration (m/s <sup>2</sup> )	100 ~ 7500	150 ~ 1500	100 ~ 6500	150 ~ 1500	300 ~ 1000	100 ~ 6000	150 ~ 1000	300 ~ 1000	100 ~ 3000	150 ~ 1000	300 ~ 1000	100 ~ 1000	150 ~ 600	300 ~ 600	
Pulse Duration (ms)	40 ~ 0.8	18 ~ 6	40 ~ 1	18 ~ 6	12 ~ 6	40 ~ 1	18 ~ 6	12 ~ 6	40 ~ 2	18 ~ 6	12 ~ 6	40 ~ 6	18 ~ 6	12 ~ 6	
Outline Size (cm)	90×75×200			100×80×200			120×80×200			150×130×210			200×165×220		
Tester Weight (kg)	1300			1800			2300			5000			10000		
Power Supply	AC 380V±10% ,50HZ														
Standards	GJB 150.16A-2009 ;GJB 360B-2009 ;JJF 1270-2010;GB/T2423.5-2008 Part 2 IEC60068-2-27-2008; JIG541-2005...														

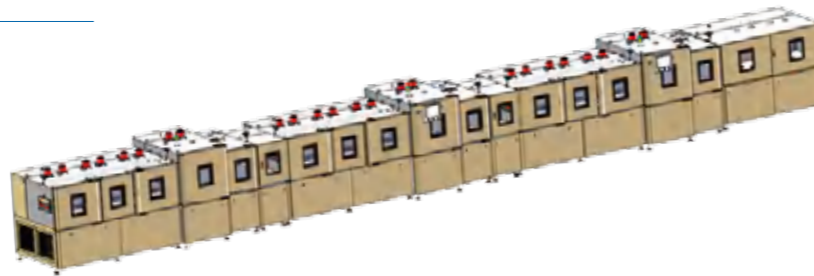
## Production Line Series Environmental Test Chamber

### Function:

It is used for production line product testing to provide high and low temperature test environment, which can realize product high and low temperature test. The product has no condensation, frost and other functions in the entire temperature control box of the assembly line.

### Specification :

- 1. Internal Volume: 750L, 490L, 200L
- 2. Temperature Range: -70°C ~ +150°C
- 3. Temperature Uniformity:  $\leq 2.0$  °C
- 4. Heating / Cooling Rate:  $\geq 1.0$  °C/min
- 5. Test Speed: 2min/pc



## Explosion-proof Temperature Chamber with Photogrammetry Testing

### Function:

It can provide high temperature, low temperature and other environmental simulation, high temperature / low temperature storage test, high and low temperature cycle test, designed with camera and infrared shooting window, to achieve clear shooting at temperature, with electrical explosion-proof and explosion-proof dynamic test function.

### Specification :

- 1. Internal Volume: 4000L
- 2. Internal Size: 1500×1500×1800mm
- 3. Temperature Range: -70°C ~ +150°C
- 4. Temperature Uniformity:  $\leq \pm 1.0$  °C
- 5. Heating/Cooling Rate:  $\geq 1.0$  °C/h ~ 0.5°C/min
- 6. Shooting Window: Camera :  $\phi 300$ mm, Infrared :  $\phi 160$ mm
- 7. Humidity Requirement: The dew point temperature of the air in the cabin is  $\leq -60$  °C. No condensation, no icing, or frosting during the temperature rise and fall and high and low temperature maintenance.



## Large Walk-In High-Low Temperature Test Laboratory

### Function:

The large walk-in high and low temperature test chamber is used for high temperature, low temperature and drying tests of large equipment and equipment. It has automatic temperature control in the cabin, automatic data recording, thermal deformation measurement monitoring during the test, dry air purging, and large-scale rotating shooting. Features. Photogrammetry system protective tank is used to protect the camera of the mobile digital photogrammetry system at high and low temperatures to ensure that the camera can work normally in high and low temperature environments.

### Specification :

- 1. Internal Volume: 200m<sup>3</sup>
- 2. Internal Size: 6×6×5.5m
- 3. Temperature Range: -80°C ~ +100°C (Liquid nitrogen refrigeration -100°C)
- 4. Temperature Uniformity:  $\leq 2.0$  °C
- 5. Heating/Cooling Rate:  $\geq 1.0$  °C/min
- 6. Shooting Window Camera:  $\phi 300$ mm, Infrared:  $\phi 160$ mm
- 7. Humidity Requirement: The dew point temperature of the air in the chamber is  $\leq -60$  °C. No condensation, no icing, or frosting during the temperature rise and fall and high and low temperature maintenance.
- 8. Camera Protective Cans Internal Size:  $\phi 400 \times 280$ mm
- 9. Temperature Range Inside the Cans: 15°C ~ 30°C



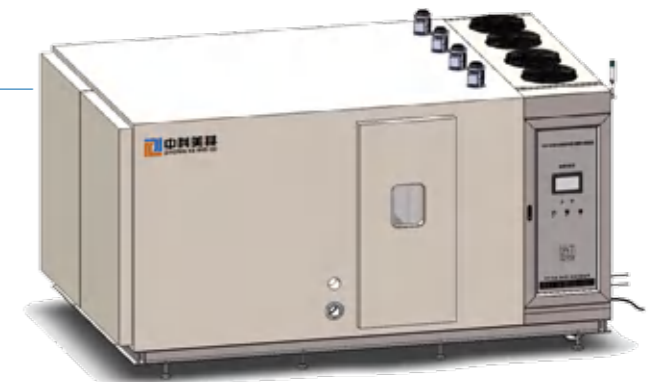
## High-Low Temperature Humidity Chamber with Noise Testing System

### Function:

It is used for sound insulation test of materials in high and low temperature environments. It has high and low temperature controllability and adjustable temperature and humidity. It can realize high and low temperature environment and reverberation sound field simulation and control.

### Specification :

- 1. Internal Volume: 15m<sup>3</sup>
- 2. Internal Size: 3×2.5×2m
- 3. Temperature Range: -60°C ~ +100°C
- 4. Temperature Uniformity:  $\leq 2.0$  °C
- 5. Humidity Range: 30% ~ 98%RH
- 6. Sound Insulation of Walls:  $\geq 40$ dB



## Non-Standard (customized) Equipment Projects

VALTEST

### Steel Bridge Welding Environmental Simulation Laboratory

#### Function:

Used for steel bridge welding environment simulation test. It has high / low temperature controllability, adjustable temperature and humidity, can realize the simulation of wind speed of 0~4m / s, and has the functions of lighting, fire prevention and smoke exhaust.

#### Specification :

- 1. Internal Volume: 28.8m<sup>3</sup>
- 2. Internal Size: 3.5×5.5×2.3m
- 3. Temperature Range: -50°C ~ +90°C
- 4. Temperature Uniformity: ≤2.0 °C
- 5. Humidity Range: 30% ~ 98%RH
- 6. Wind Speed Simulation: 0 ~ 4m/s adjustable



### Walk-In Constant Temperature Humidity Equipment

#### Function:

It is used to provide a constant temperature and humidity environment for the storage of ancient cultural relics. This equipment adopts a dual backup system to achieve non-stop maintenance. It has high temperature / low temperature controllable, temperature and humidity adjustable, electronic password lock and SMS alarm .

#### Specification :

- 1. Internal Volume : 35m<sup>3</sup>
- 2. Internal Size: 3.8×2×4.4m
- 3. Temperature Range: 0°C ~ +100°C
- 4. Temperature Deviation: ≤±1.5°C
- 5. Temperature Uniformity: ≤2.0 °C
- 6. Humidity Range: 40% ~ 80%RH
- 7. Heating/Cooling Rate: ≤30min



### Temperature Humidity Curing Chamber

#### Function:

It is used to provide environment for cement maintenance. It has high / low temperature controllability, adjustable temperature and humidity, can realize computer preset program operation curve, directly import excel data volume according to user needs, and has special requirements design such as import and export platforms, shelves, lifting, etc.

#### Specification :

- 1. Internal Volume: 12m<sup>3</sup>
- 2. Internal Size: 3×2×2m
- 3. Temperature Range: 0°C ~ +100°C
- 4. Temperature Uniformity: ≤1.0 °C
- 5. Humidity Range: 40% ~ 95%RH
- 6. Heating/Cooling Rate: ≥ 0.5°C/day



### Large Scale Rain Test Chamber

#### Function:

It is used for the simulation of different flushing environments during transportation, storage or use of national power grid equipment, and the test rooms and test turntables constructed by waterproof transparent tempered glass to achieve flushing simulation tests.

#### Specification :

- 1. Internal Volume: 12m<sup>3</sup>
- 2. Internal Size : 2×2×3m
- 3. Spraying Volume: 3 ~ 4L (1±5%) /min adjustable
- 4. Spraying Mode: Swing pipe flush mode
- 5. Swing Pipe Size: 180°semi-circular swing pipe  
Radius: 800 mm ; Inside diameter: φ 16mm ;
- 6. Swing Angle: Swing from center to left and right on each side 175° respectively
- 7. spraying swing pipe Period: 3 ~ 12S adjustable, 60°/s
- 8. Test Table Rotational Speed: 2 ~ 10 (±1) r/min adjustable



# Non-Standard (customized) Equipment Projects

**VALTEST**

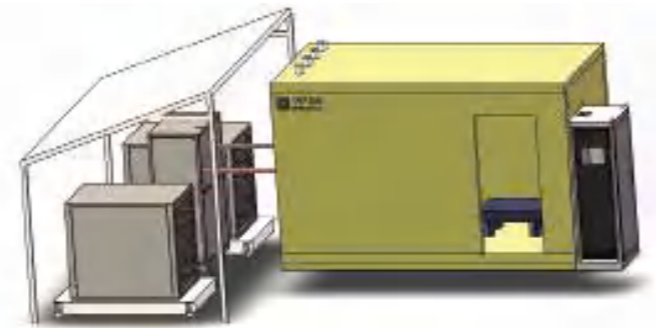
## Ultra-static Temperature Humidity Laboratory

### Function:

It is used to provide the simulation test of super static temperature and humidity environment for the working environment of the National Observatory Seismic Instrument. It has the functions of high / low temperature controllable, temperature and humidity adjustable, marble and bedrock test platform, windshield device and shock absorption base of refrigeration unit.

### Specification :

- 1. Internal Volume: 16m<sup>3</sup>
- 2. Internal Size: 4×2×2m
- 3. Temperature Range: -70°C ~ +100°C
- 4. Temperature Deviation:  $\leq \pm 2^\circ\text{C}$
- 5. Temperature Uniformity:  $\leq 2.0^\circ\text{C}$
- 6. Heating/Cooling Rate: 1.0 ~ 3.0°C/min



## Thermal Vacuum Testing Equipment

### Function:

It is used to simulate the vacuum, high and low temperature environment of aerospace products. It can realistically simulate the hot and cold environment of the vacuum space, and perform the hot vacuum test on the test product. It has the functions of effectively controlling, monitoring and recording the temperature of the test product in the vacuum space.

### Specification :

- 1. Actual Dimension:  $\Phi 1.5 \times 1.5\text{m}$ ;  $\Phi 2.5 \times 3\text{m}$
- 2. Temperature Range:  $-150^\circ\text{C} \sim +150^\circ\text{C}$
- 3. Limiting Vacuum:  $8 \times 10^{-5}\text{Pa}$
- 4. Temperature Uniformity:  $\leq \pm 3.0^\circ\text{C}$
- 5. Heating/Cooling Rate:  $\geq 1^\circ\text{C}/\text{min}$



## Thermal Vacuum Testing Equipment

### Function:

It is used to simulate the vacuum, high and low temperature environment, and low pressure (discharge) test of aerospace products. It can realistically simulate the hot and cold environment of vacuum space, conduct hot vacuum test on test products, and effectively control the temperature of test products with vacuum space. , Monitoring and recording.

### Specification :

- 1. Actual Working Dimension:  $\Phi 1.2 \times 1.5\text{m}$
- 2. Temperature Range:  $-173^\circ\text{C} \sim +150^\circ\text{C}$
- 3. Limiting Vacuum:  $5 \times 10^{-5}\text{Pa}$
- 4. Temperature Uniformity:  $\leq \pm 3.0^\circ\text{C}$
- 5. Heating/Cooling Rate:  $\geq 1^\circ\text{C}/\text{min}$



## Vacuum Drying Oven

### Function:

Used for drying metal materials, providing vacuum and high temperature environment, with vacuum and temperature control, monitoring and recording functions. Designed as two-box, three-box and four-box structures.

### Specification :

- 1. Actual Working Size :  $0.8 \times 0.8 \times 0.6\text{m}$
- 2. Temperature Range:  $\text{RT} + 10^\circ\text{C} \sim 250^\circ\text{C}$
- 3. Temperature Fluctuation:  $\leq \pm 1.0^\circ\text{C}$
- 4. Vacuum Degree:  $\leq 133\text{pa}$
- 5. Heating Rate:  $3^\circ\text{C} \sim 5^\circ\text{C}/\text{min}$
- 6. Vacuum Extraction Mode: Program controlled



### Large Scale Thermal Shock Test Chamber

#### Function:

Used for temperature shock test of power supply, aerospace model products and weapon model supporting products. It is equipped with the mechanical + liquid nitrogen two kinds of refrigeration mode, compressed air drying technology, temperature control etc.

#### Specification :

- 1. Specimen Holder Size : 1×1×1m
- 2. Temperature Range: -185°C ~ 200°C
- 3. Temperature Shock Range:  
-55°C ~ +180°C (Mechanical Refrigeration)  
-180°C ~ +180°C (Liquid Nitrogen Refrigeration)
- 4. Specimen Holder Conversion Time: ≤5s
- 5. Temperature Recovery Time: ≤5min
- 6. Temperature Uniformity: ≤2.0°C
- 7. Temperature Fluctuation: ≤±0.5°C



### Split-type Ultra-Low Temperature Rapid Temperature Change Test Chamber

#### Function:

Used for ultra-low temperature test and rapid temperature change test of aerospace model products. It has the functions of controlling ambient temperature, ambient humidity and specimen temperature etc.

#### Specification :

- 1. Internal Volume: 1.8m<sup>3</sup>
- 2. Internal Size: 1.3×1.4×1m
- 3. Temperature Range: -150°C ~ +180°C (Mechanical Refrigeration)
- 4. Humidity Range: 10% ~ 98%RH (2°C & 95%RH)
- 5. Temperature Uniformity: ≤2.0°C



### Maintenance and Repair Advice for Temperature Humidity Test Chamber

All the products sold by Zhongkemeiqi are accompanied by relevant detailed operation instructions. The instructions are accompanied by maintenance instructions. Please kindly note the following points of maintenance knowledge:

1. Operating environment requirements: ambient temperature 5 ~ 35 °C, relative humidity ≤ 85% RH, no strong vibration, electromagnetic radiation, no dust and corrosive substances around. For laboratory that does not have this condition must be equipped with appropriate air conditioner (when choosing air cooling) or cooling tower (when choosing water cooling).
2. It is best to have someone in charge of it , and regular training should be organized to obtain professional maintenance and repair experience and capabilities.
3. Clean the condenser every 3 months. If the compressor is air-cooled, the condenser fan should be regularly repaired, and the condenser should be decontaminated and dedusted to ensure its good ventilation and heat exchange performance.
4. Clean the evaporator every 3 months. Due to different test products, under the action of forced wind circulation, a lot of dust and other small particles will condense on the evaporator, so it should be cleaned regularly.
5. The cleaning of fan blades of the circulating motor and condenser motor is similar to the evaporator cleaning. Due to the different working environment of the test chamber, a lot of dust and small particles will condense on the circulating fan blade and the condenser fan.
6. The water pipeline must be cleaned regularly, cause if the cooling water is not smooth, it may damage the hardware of the equipment.
7. After the end of each experiment, reheat the temperature of the equipment to 50 ° C for about 30 minutes, then cut off the power and wipe the wall of the working room.
8. The equipment needs to be relocated under the guidance of our company's technical engineers, so as not to cause unnecessary damage or damage to the equipment.
9. If the equipment is not used for a long time, the equipment should be powered on regularly every 3 months, and the power-on time is < 1 hour.
10. Since the environmental test chamber is composed of several systems such as structure, refrigeration, heating, electrical, etc., Once there is a problem with the equipment, the entire equipment should be inspected and analyzed comprehensively and systematically. Generally speaking, the process of analysis and judgment can be "outside" and then "inside", that is, first eliminate external factors, such as cooling water, power supply, etc. After completely excluding external factors, beginning the internal parts according to the fault phenomenon, and then comprehensive analysis and judgment of the system, and finally confirm the problem of the equipment. Before clarifying the cause of the failure, do not blindly replace parts to avoid unnecessary trouble.