

TEST CHAMBER CATALOGUE

2019-2020

ACE TECHNOLOGY LIMITED

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ABOUT US

ACE Technology Limited is an ISO-9001 certified company with over 18 years of industry experience in designing and manufacturing standard and customized environmental test chambers. Our products vary in size from small bench top test chambers to very large walk-in environmental rooms. Whether you are looking for off-the-shelf or unique solutions, ACE can meet your needs.

ACE is an industry leader with an installed base of over 10,000 test chambers worldwide. The robustness and reliability of our products is shown by the fact that some ACE test chambers that were installed in the 1990s are still in use today.

ACE test chambers are used to test and manufacture items across a broad spectrum of temperatures and humidity. Our test chambers are widely used for many applications. A few examples are: electronics, aerospace, defense, scientific and medical laboratories, manufacturing research and development.

ACE design, engineering, and manufacturing teams work closely together to incorporate new technologies and evolve our state-of-the-art product lines. ACE's goal is to ensure consistent product excellence coupled with conformance to national and international standards.

ACE is a BMA company for over 22 years have enjoyed an outstanding reputation for responsiveness and quality. The availability of support and spare parts helps their customers get the most out of their initial investment. ACE also offers flexible payment plans including leasing (T/T, L/C, Paypal, Western Union). Contact ACE to discuss your test chamber needs today.

PRODUCTS

Humidity test chamber



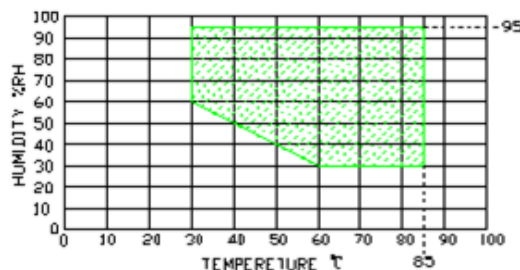
Sample Photograph
of unit

A. PERFORMANCE [Room Temp at 20°C, Air Cooled Type]

Model	ATH-100	ATH-225	ATH-500	ATH-800	ATH-1000
Workroom Dimensions (cm)	45*45*50	50*60*75	70*80*90	80*100*100	100*100*100
Exterior dimensions (cm)	105*97*176.5	105*102*200	132*132*217	147*152*231.5	167*152*231.5
Power	6.0(KW)	7.0(KW)	13.5(KW)	15.0(KW)	16.5(KW)
Temperature Range	A:-20°C~150°C B:-40°C~150°C C:-60°C~150°C D:-70°C~150°C				
Humidity Range	20~98% R.H				
Fluctuation / Uniformity	≤±0.5°C / ≤±2°C				
Humidity Deviation	+2, -3% R.H				
Temp-Ramp up (Heating) Time	1.0~3.0°C/min				
Temp-Ramp Down(Cooling) Time	0.7~1.0°C/min				

Temp & Hum Control Range

See Graph below



B. STRUCTURE

- | | | |
|----|-------------------------|--|
| 1. | Interior Material: | Stainless Steel Plate (SUS#304) |
| 2. | Exterior Material: | A3 Steel Plate sprayed with special coating |
| 3. | Insulation Material: | Double-layer, High Temperature resistant and high Intensity seal is applied between the chamber door and chamber body to ensure high performance |
| 4. | Heater: | Fin Heat Disperse Pipe Stainless Steel-Electric Heater |
| 5. | Humidifier: | Stainless Steel Heater with Auto Adjust |
| 6. | Airflow Cycling System: | Unique System for providing uniform airflow |
| 7. | Door & Window: | Single Door with Observation Window, (Heating cords set around the door to prevent Condensation) |

C. REFRIGERATION SYSTEM

- | | | |
|----|-------------------|---|
| 1. | Compressor | Hermetic Compressor- 2HP, Tecumseh
Option B: two compressors;
Option C: two compressors;
Option D: two compressors |
| 2. | Refrigerant Type: | DuPont Type 404A (Without Fluorine) |
| 3. | Condenser: | Air Cooled with Fan |
| 4. | Evaporator: | Fin with several segments -Auto adjustment |

D. CONTROLLER PROGRAMMABLE COLOR LCD Model TEMI 800



1. Controller Specifications LCD DISPLAY COLOR TOUCH SCREEN KEY IN

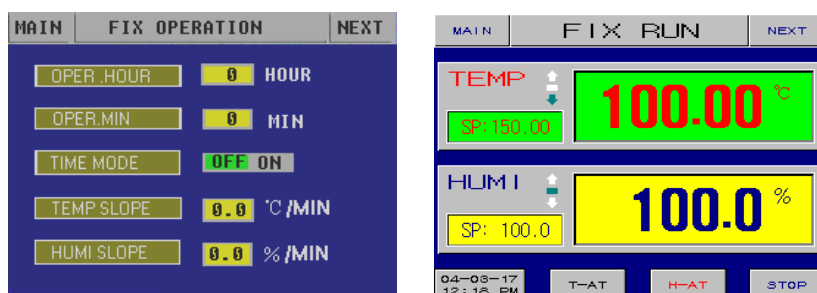
User friendly Color-LCD interactive touch-screen system powerful controller with several Programmable and Fixed Value features such as:

100 Programs and 1200 Segments with Run time of 99H 59M ea. to set up

Temp-Hum profiles per user requirements.

Data Storage and profile recall

Communications: RS485/RS232 – PC Interface



A Sample Program

SEGMENT	TEMP	HUM	TIME	TS1	TS2	TS3	TS4
01	-40.0°C	00.0	0.01	0	0	0	0
02	-40.0 °C	00.0	0.30	0	0	0	0
03	+85.0°C	00.0	1.15	0	0	0	0
04	+85.0°C	00.0	0.30	0	0	0	0
05	+25.0°C	00.0	0.40	0	0	0	0

Repeat the cycle of Segment 01 ~ 05

2. Control Panel

- Lighted Push Button switch for POWER
- Lighted Push Button for chamber lighting
- RS232/485 port for PC interface
- Over Temperature protector – Manually settable
- Emergency reset switch (EMO)– **Optional**

E. SAFETY DEVICES

- Ground protection
- Three phase Over voltage, Under voltage, Phase loss and Phase Sequence Protection
- Leakage/Circuit protection
- Heater and Humidifier heater short-circuit protection

- e. Circulation Fan motor overload protection
- f. Compressor Overload protection
- g. Compressor High Pressure protection
- h. Independent over-temperature alarm system
- i. Lack of Water protection (Humidification)
- j. Circuit breaker
- k. Emergency Shut Off Switch (EMO)–**Optional**

F. ACCESSORIES

- a. Cable Access One (2") (50mm) cable access port with plug
- b. Temp-Humidity Sensors: SUS #304L stainless steel PT 100Ω platinum resistance
- c. AC Power Cord Low Impedance , Length 2.5m
- d. Shelves Two Sets of Stainless Steel Shelves with adjustable Brackets
- e. Door Sealing Environmentally safe Silicone rubber which is high temperature resistance, aging resistance, with excellent good sealing capability
- f. Casters Heavy Duty – Set of 4 (adjustable mobile casters)
- g. Humidity Sensing method: Wet and dry bulb
- h. Water Supply Internal Water Tank
Water Inlet Valve

G. FACILITIES

POWER: 220VAC/50/60Hz/Single Phase/15A/6.0Kw
Chamber Environment:
Temperature: 5~28C
Humidity: <85%

Fast Alternating Temperature test chamber



Purpose of product: Fast alternating high-low temperature test chamber is applicable for the cold resistance tests, the applicability tests under the conditions of fast/slowly-changing temperature and the environmental stress screening (ESS) tests for instruments, meters and electric and electronic products and parts to analyze and evaluate the property and performance of the samples under the simulated conditions.

Main configuration: The shell is made of high-quality cold-rolled steel sheet subject to acid pickling, phosphatization and electrostatic plastic spraying. The interior structure is made of SUS304# high-quality stainless steel. The factory-packed powerful industrial refrigerating machine (unit) with world-famous brands and quality refrigerating parts adopt R404A and R23 environmental protective refrigerant. Imported programmable intelligent computer controller with LCD touch screen and Chinese interface.

Standard spare parts: 2 sets of sample racks; a sheet of observation window; a through hole of $\phi 25$ or $\phi 50$.

Optional parts: communication interface RS232 or RS485, a recording device, a mini printer, a remote temperature controlling system (including a printer, communication software and a computer) and mobile casters.

Main Technical Specifications

No.	Type	Dimensions of work chamber (mm)	Exterior dimensions (Unit Dimensions) (mm)	Power (about Kw)	Temperature range (Range of Temperature change) (℃)	Other indexes	Temperature fluctuation/ uniformity	Implementati on/ Satisfaction Standard
1	ACE701Q-5	400×500×600	1420×960×1480	11.0	-70~+130 -70~+150 (-55~+85)	Average of range 5℃/min Linear average 3℃/min (Average in every 5 minutes)	Temperature Fluctuation ±0.5℃ Temperature uniformity ≤2℃	GB11158 GB10592 GB10589 GB2423.1 GB2423.2 GB2423.22 GJB150.3-86 GJB150.4-86
2	ACE702Q-5	500×600×700	1520×1060×1580	12.0				
3	ACE703Q-5	650×600×800	1660×1060×1680	13.5				
4	ACE705Q-5	700×800×900	1720×1260×1840	15.0				
5	ACE708Q-5	900×900×1000	1920×1360×1980	18.0				
6	ACE710Q-5	1000×900×1100	2020×1360×2080	19.5				
7	ACE701Q-10	400×500×600	1420×960×1480	13.5		Average of range 10℃/min Linear average 5℃/min (Average in every 5 minutes)		
8	ACE702Q-10	500×600×700	1520×1060×1580	15.0				
9	ACE703Q-10	650×600×800	1660×1060×1680	18.0				
10	ACE705Q-10	700×800×900	1720×1260×1840	25.0				
11	ACE708Q-10	900×900×1000	1920×1360×1980	32.0				
12	ACE710Q-10	1000×900×1100	2020×1360×2080	35.0				
13	ACE701 Q-15	400×500×600	1620×960×1480	18.0		Average of range 15℃/min Linear average 10℃/min (Average in every 5 minutes)		
14	ACE702 Q-15	500×600×700	1770×1060×1580	21.0				
15	ACE703 Q-15	650×600×800	1910×1060×1680	25.0				
16	ACE705 Q-15	700×800×900	1650×1260×1500	55.0				
17	ACE708Q-15	900×900×1000	1850×1360×1600	75.0				
18	ACE7010Q-15	1000×900×1100	1950×1360×1700	87.0				

Statement: 1. Apart from the types listed above, we can design and manufacture the non-standard products according to the specific requirements of the customers.

2. Any change in the design of products due to the development of technology is subject to no further notification.

Constant temperature and humidity test chamber



Standard meets:

GB/T 2423.1-2001

GB/T 2423.2-2001

BG/T 2423.3-1993

Application

It's widely used for the performance testing of the spaceflight and aviation products, information electronic instruments and meters, materials, electrical and electronic products, and electronic and electrical components and parts in accelerated or constant temperature and humidity test

environment. Applied to schools, factories, military, research, and other organizations.

Chamber Structure

The inner bladder of the chamber is made of imported SUS304 stainless steel plate while the outer bladder is made of A3 steel plate sprayed with plastic.

A micro-computer temperature and humidity controller is adopted with precise and reliable temperature and humidity.

A large observation window is set on the chamber door.

A test hole with 25mm, or 50mm or 100mm diameter is set on the left of the chamber body.

A high-quality fixable PU moving wheel is adopted on the bottom of the test chamber.

Specs & Technical Parameters

Model	ACTH-100	ACTH-225	ACTH-500	ACTH-800	ACTH-1000
Workroom dimensions (cm)	45*45*50	50*60*75	70*80*90	80*100*100	100*100*100
Exterior dimensions (cm)	85*102*177	105*102*200	132*132*217	147*152*231.5	167*152*231.5
Power	4.0 (KW)	4.5 (KW)	7.5 (KW)	10.5 (KW)	11.0 (KW)
Temperature range	RT+10℃~100℃				
Humidity range	85~98%R.H				
Fluctuation / Uniformity	≤±0.5℃ / ≤±2℃				
Humidity deviation	+2, -3% R.H				
Temperature rise speed	1.0~3.0℃/min				
Temperature fall speed	0.7~1.0℃/min				

Thermal Shock Chamber



A. PERFORMANCE

1. Standard

Model	ATS-162	ATS-340	ATS-500	ATS-1000
Workroom dimensions (cm)	45*45*45	60*60*60	80*80*80	100*100*100
Exterior dimensions (cm)	156*87*154.5	171*102*184.5	191*122*226.5	211*142*266.5
Sample zone dimensions	30*30*25	45*45*36	65*65*50	85*85*70
Temperature range	A: -20°C~200°C B: -40°C~200°C C: -60°C~200°C			
Temperature fluctuation	≤±2°C for high temperature and low temperature			
Temperature fluctuation	≤±0.5°C (under constant temperature)			
Sample zone load	20kg	30kg	50kg	60kg

2. Customized

Preheat room	Upper limit preheat temperature	200°C
	Temperature ramp up rate	R.T.~+200°C, about 40min (unload)

Precool room	Lower limit precool temperature	-75℃
	Temperature ramp down rate	R.T.~-70℃, about 90min (unload)
Workroom	Temperature shock range	-40℃~+150℃
	Temperature fluctuation	≤±0.5℃
	Temperature deviation	≤±3℃
Transform time		≤15S
Temperature revert time		≤5min
Temperature revert conditions	sample load:10kg	Sample exposed 30min in 150℃, 5min in ambient temp.,30min in -55℃,
Capacity	100 L	
Workroom dimensions (mm)	500D*500W*400H	
Exterior dimensions (cm)	115D*195W*210H	
Power supply	AC380V,50Hz,3 phase and 4 wire + grounding wire	

B. STRUCTURE

1. The outer skin is make of steel plate coating with Zinc on double sides, processed with digital control, and painting process on surface for protection.
2. The inner material is stainless steel SUS304.
3. The chamber is divided into 3 parts: high temperature zone, low temperature zone and testing zone. Special heat isolating structure and preserve cold and heat treatment.
4. Lead high or low temperature into chamber by switching over cold or heat air valve.
5. Can set low, high, or thermal shock model independently, two cases or three cases option at thermal shock model, meanwhile, high and low temperature testing function is available.
6. Switching over time for wind direction valve is less than 10 seconds.

C. CONTROLLER

1. Originally Japanese computer LCD displayer (320*240 Dots), bilingual of Chinese and English, simple and easy to operate.
2. RS232 communication interface, programme with computer to operate, collect data and record.
3. Full-automatic high-accuracy system circuit, high accuracy in temperature control.
4. PLC control, PID automatic calculate.
5. In case of unusual condition, the screen display alarm, and stop operation.
6. High programme memory capacity, can set and store 100 programme. Maximum cycles: 9999. Maximum setting time for every segment: 999 hours 59 minutes.

D. REFRIGERATION SYSTEM

1. Semi-closed binary cascade refrigeration system
2. Semi-closed butterfly valve compressor / full-closed piston compressor
3. Freezing medium: imported R404A,R23

E. ACCESSORIES

1. Cable hole;
2. Embedded 2 layers of shelf made of stainless steel;
3. Time simulative meter;
4. Energy saving lamp;
5. Truckles, 4
6. Standing legs, 4, can up or down by adjusting.

F. SAFETY DEVICES

1. Independent protect for every case to over temperature
2. Short circuit
3. Compressor over voltage, over load, over current.
4. Phase sequence
- 5.

G. FACILITIES

1. Technical data: certificate of quality, warranty card, operation and maintenance manual.
2. Enclosure: a set of quick-wear part

Bench top test chamber



A. Application

Used for reliability test and environmental test of dust-free material, electronic or electric product or component, military product. Conform to National Standard and Military Standard.

B. Standards meet

GB2423.1-89

GB2423.2-89

GB/T5170.2-1996

C. Working environment

Ambient temperature: 10℃~35℃

Relative humidity: ≤85%RH

Power source: AC220±10%V, 50Hz, single phase+ GND

Power: 2KW

D. Features

1. Material: two-sided galvanized steel plate, and SUS304 stainless steel plate.
2. Heat-insulating material: hard polyurethane foam and glass fiber, with enough thickness.
3. Parts connection: weld of seamless tungsten electrode arc, with watertight treatment.
4. Air adjustment system: forced circulation with centrifugal fan, heat with nichrome heater and cooled with compressor.
5. Refrigeration system: world famous brand totally closed compressor, eco-friendly refrigerant R404a.
6. Controller: TEMP880 from Korea, touch screen displayer, resolution 0.1℃, 0.1%RH, 0.1min.;
Running with constant value or program; Displays data of setting temp., actual temp., total running time, running time of segment, residual time of segment, heating condition, calendar time;
Automatically choose working status of compressor according to test terms.
7. Protection device: over-temperature for specimen, overheating for motor, overpressure, overheating and over-current for compressor; earth leakage protective device.

E. PERFORMANCE

Model: AMT30	
Temperature range	-40℃~+150℃
Temperature fluctuation/deviation	≤±0.5℃ / ≤±2℃ (load free)
Temperature deviation	-40℃~+100℃≤2℃; +100℃~+150℃≤3℃
Ramp up / down rate	-40~+150℃ ≤80min; +20~-40℃ ≤60min (load free)
Internal / External dimensions	250Dx300Wx400H(mm); 997Dx460Wx800H(mm)

F. Standard configuration

1. Communication interface: USB, RS232;
2. 2, $\Phi 50$ mm test hole with cover and soft plug;
3. 3, Shelf 2 sets;
4. 4, Power line, 1 piece, 5m length.
5. 5, Files: packing list, user manual, certificate of quality, warranty card.

Salt Spray / fog chamber



A. Application area:

This product is applicable for salt mist corrosion test to various accessories and parts, electronic components, coating of metal material and industrial products.

1. Newly improved, excellent function of energy-saving.
2. comply with a series of GB standard and equivalent IEC, MTL, DIN, ASTM.
3. The test chamber can be extended and reformed into Alternating Salt Mist Test Chambe and Cycling Salt Mist Test Chamber. Then the cycling salt mist test chamber can effect temperature & humidity test, salt mist test, and drying test individually.

B. PERFORMANCE

Model	AS-150B/C	AS-250B/C	AS-750B	AS-010B	AS-016B	AS-020B
Workroom dimensions (cm)	45*60*40	60*90*50	75*110*50	85*130*60	85*160*60	90*200*60

Exterior dimensions (cm)	80*108*108	96*140*135	115*175*140	125*200*155	125*300*155	130*270*155
Power	1.3(KW)	2(KW)	2.5(KW)	4.5(KW)	4.8(KW)	6.5(KW)
Temperature range	35℃~55℃					
Humidity range	95~98%R·H					
Temperature fluctuation	≤±0.5℃					
Temperature uniformity	2℃					
Air saturator	RT+5℃ ~ 55℃					
Spray deposition	1~2ml / 80cm ² · h					
Spray type	Continuous / Periodic					
Test type	NSS, ASS, CASS					

C. STRUCTURE

1. The inner bladder is made of imported PVC/PP plate with function and performance of corrosion-resisting, high-strength, anti-aging, thermo stability.
2. The outer body is made of imported PVC plate with function and performance of corrosion-resisting, high-strength, anti-aging.
3. The cover is made of imported PCV/PP plate with function and performance of corrosion-resisting, high-strength, transparent, thermo stability. The situation inside the chamber can be observed clearly through the cover.
4. Other accessories is made of stainless steel or copper, corrosion-resisting and thermo stability.
5. The whole mould is soldered with high-temperature, corrosion-resisting, easy to clear, no leak.
6. Tower type spray system with saline solution heating function and non-crystallization nozzle, salt mist spray uniformly, settlement adjusted automatically.
7. Water seal structure is adopted between the cover and chamber body, no mist leak.
8. Circuit board and other components are fixed at proper position which is convenient to be checked and maintained. Lock and door type of side cover, elegant appearance and convenient to maintain.

D. CONTROLLER

1. Temperature controller: LED digital display PID + SSR microprocessor integrated controller. High-precision PID temperature controller, optional in brands Fuji and PKC, deviation is merely ±0.1℃.
2. Temperature and humidity sensor: PT100.
3. Heating system: nichrome electric heater, full independent system.
4. Spray system: tower type spray device with non-crystallization nozzle, salt mist spray finer and more uniformly.

5. Spray time: 1 – 99 (S,M,H), period adjustable.
6. Saline solution collecting: standard funnel and standard metering cylinder.
7. Saline solution preheating: saline solution temperature equal to temperature inside chamber.

E. SAFETY DEVICES

Protection for: leakage of electricity, short circuit, extra-temperature, lack of water, extra-voltage, test over.

Memory function when controller power shut off.

Every circuit equipped with breaker, every heater attach electronic and mechanical over-heat protection device.

F. ACCESSORIES

1. Technical data: qualified certificate, instruction for use, circuit diagram, warranty card, two sets of install manual, operation and maintenance manual, purchased parts certificate and instruction for use.
2. Enclosure: a set of quick-wear part, include pole, V type sample shelf, 2 nozzles, 2 sets of funnel and metering cylinder.

Sand and dust test chamber



A. PERFORMANCE

Model	ASD-500	ASD-800	ASD-1000	ASD-1500	ASD-2000
Workroom dimensions(cm)	80*80*80	80*100*100	100*100*100	100*150*100	120*180*120
Exterior dimensions(cm)	105*122*155	105*142*182	125*142*182	125*192*182	145*222*218
Power	0.5(KW)	1.0(KW)	1.2(KW)	2.5(KW)	3.5(KW)
Mesh diameter	50um				
Wire spacing	75um				
Stone powder quantity	2kg~4kg/m ³				
Hitting time	0~99H59M				
Blower time	0~99H59M				
Air velocity	2-3m/s (measured at the air outlet, accord with IEC)				

1. Application area:

This product is applicable for the dust proof and resistant test of various auto components and parts including lamps, meters, electric dust proof sheath, steering system and lock, etc.

2. Standard conformed

DIN, GB4208, GB4706, GB2423, GB/T2423.37

3. Features

Digit-display programmable controller controls time and order for working or interval.
World-famous key implementing components, ensure excellent performance and reliability.
Big viewing windows, observe specimen condition clearly anytime.

4. Executive components

Programmable controller, with digital display.
Schneider AC contactor, switch and button.
Panasonic time relay.
Panasonic dust proof socket.
Specimen power socket: dust-proof style socket AC220V, 16A

B. CONTROLLER

Digital-display programmable controller, control the time and orders of the whole system.

- 1.Controller: imported microprocessor programmable integrated controller.
- 2.Vacuum system: equipped with pressure meter, air filter, pressure adjusting 3-united components, connecting pipe.
- 3.Cycling blower: closed alloy electric machine, low noise, multi-blade centrifugal blower.

4. Powder heating system: stainless steel mica plate heating jacket.

Remark: Vacuum pump is optional.

C. SAFETY DEVICES

Protection for: leakage of electricity, short circuit, extra-temperature, lack of water, extra-voltage.
Memory function when controller power shut off.

D. ACCESSORIES

1. Technical data: certificate of quality, warranty card, operation and maintenance manual.
2. Enclosure: a set of quick-wear part

CUSTOMIZED test chamber



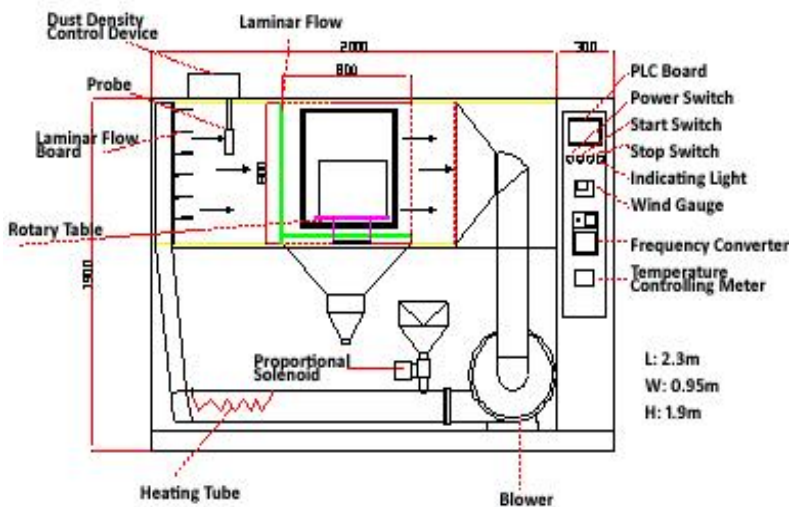
A. Application area:

This test chamber is applicable for electrical products which may withstand wind sand or dust storm erosion, to run a normal operation in a simulated environment, so that to make the test. After the trial with regulated and effective time, make observation and analysis to determine whether the specimen meet the requirements of the standards. The results can be used to guide the improvement or reform of product technology, design, manufacturing process, to achieve the perfect performance. This test chamber is essential laboratory equipment for electrical appliance manufacturers.

B. Features

- Reasonable structure, durable, easy operation and maintenance.
- Rotary specimen rack, rotation direction, speed and rack height are all adjustable.
- Wind speed: 0.5–15m/s in working-room, adjustable.
- Time: 0.01s to 99h99m, preset at will.
- Motor speed: 0–1400r/m, adjustable, frequency conversion control.

C. Sketch and schematic diagram



D. Specifications

- Voltage input: Single phase, 220VAC \pm 10%/50Hz, GND.
- Power: approx. 15KW
- Load capacity: \leq 10A, output AC 0~220V
- Rotary table:
 - Diameter: \varnothing 600mm
 - Rotation speed: (1–5) rpm
 - Load table: pipe net type
 - Rotation direction and speed is controlled by controlling cabinet.
- Inner dimension: D800mm \times W1000mm \times H1000mm
Outer dimension: D1000mm \times W2300mm \times H1900mm
- Chamber body is made of A3 cold-roll steel sheet, processed with integrated weld.
- Dust applicable: conform to relative standard.
- Mesh diameter: 50 μ m, wire spacing: 75 μ m.
- Dust density: 1–3g/m³, adjusted by controlling proportion solenoid.
- Wind speed: 0.5–15m/s in working-room, adjustable.

- k) Total test time: 0.01s to 99h99m, preset at will, memory function when power interrupt.
- l) Time of power on or power off to specimen: 0.01s to 99h99m, preset at will.
- m) Interval time in blow: 0.1s to 99m, preset at will.
- n) The blower's wind power conform to requirement, and adjustable within 0-5500m³/h, control the blower by sensor of wind speed.
- o) Motor speed: 0-1400r/m, adjustable, frequency conversion control.
- p) Temperature: ambient +15℃---70℃
- q) Weight: appro.600KG

Pharmaceutical Stability Test Chamber



Quality guarantee

Conform to ICH Q1B, FDA and GMP standard;

Provide 3Q confirmation (IQ, OQ, PQ).

The light system

Two light sources: day light + UV light (optional), and can be controlled respectively; NUV

energy \geq 200W.hr/m²

Protection system

Safe and reliable grounding protection devices; workroom over-temperature protection; Heater short circuit and overload protection.

Standard configuration

A cable lead hole $\Phi 50\text{mm}$; two sample shelves.

Application

This test chamber is applicable for pharmaceutical industry, medical science, biotechnology, food industry, etc; Especially for pharmaceutical and new drug's accelerated test, long term test, high temperature experiment and high-light exposure experiment; Through the chamber test, the medicine's period of validity can be determined.

Chamber Structure

The out bladder is made of cold-roll steel ST12 with electrostatic spray; the inner bladder is made of SUS304 stainless steel plate, which is acid resistant, corrosion resistant and easy to clean.

The insulation material is rigid polyurethane foam. The door adopts silicon rubber sealing strip.

A large observation window with high transmittance and good heat insulation.

Control and Cooling System

The temperature controller adopts Germany Siemens PLC programmable controller with PID regulation; BTHC balance tempering and humidifying control mode.

The cooler adopts original French TECUMSEH fully-closed compressor.

Specs & Technical Parameters

Model	ACE-150C	ACE-250C	ACE-500C	ACE-1000C	ACE-100IS	ACE-200IS
Workroom dimensions(mm)	450*500*650	450*600*900	600*800*1000	1000*1000*1000	470*500*600	470*500*950
Temperature range	0℃~65℃				10℃~65℃	
Temperature fluctuation	$\leq \pm 0.5^\circ\text{C}$				$\leq \pm 0.5^\circ\text{C}$	
Temperature uniformity	$\leq 2^\circ\text{C}$				$\leq 2^\circ\text{C}$	
Humidity range	20~95%R.H.					
Humidity deviation	$\pm 5\%\text{R.H.}$					
Ultraviolet irradiation					Total illuminance $\geq 1200000\text{Lux.hr}$;	

Illumination intensity		4000~6000Lux
Illumination deviation		$\leq \pm 500\text{Lux}$
Spectral range		320~400nm

Integrated test chamber



Purpose of product: Applicable for the simulation tests for the electronic products, materials and parts in aerospace, aviation, electronics, national defense, scientific research, automobile and motorcycle under the single or compound conditions of temperature, humidity, vibration, illumination, rain, dew, wind and low air pressure to analyze and evaluate the property and performance of the samples under the simulated conditions.

Structure features: Piece assembling structure. The shell is made of high-quality cold-rolled steel sheet subject to acid pickling, phosphatization and electrostatic plastic spraying. The interior structure is made of SUS304# high-quality stainless steel. The factory-packed powerful industrial refrigerating machine (unit) with world-famous brands and quality refrigerating parts adopt R404A and R23 environmental protective refrigerant. Imported high-accuracy programmable intelligent computer temperature (humidity) controller with LCD touch screen and Chinese interface.

Standard configuration: 2 sets of sample racks; a sheet of observation window; a through hole of $\phi 25$ or $\phi 50$.

Optional parts: communication interface RS232 or RS485, a recording device, a mini printer, a remote temperature controlling system (including a printer, communication software and a computer) and mobile casters.

Three integrated chamber



No.	Product name	Type	Dimensions of work chamber (mm)	Power (about Kw)	Temperature range (℃)	Other parameters	Implementation/ Satisfaction Standard
1	Temperature/ humidity/ vibration integrated test chamber	TET401Z	400×500×600	7	-40～+100	Temperature Fluctuation ±0.5℃	GB/T2423.25-92 GB/T2423.26-92 GJB150.2-86
2		TET402Z	500×600×700	8.5			
3		TET405Z	700×800×900	10.8			
4		TET410Z	1000×900×1100	13.4			
5		TET701Z	400×500×600	9	-70～+100	Temperature uniformity ≤2℃ Temperature deviation ±2℃ Vibration bench: Configuration according to customer's requirement	
6		TET702Z	500×600×700	11.5			
7		TET705Z	700×800×900	12.5			
8		TET710Z	1000×900×1100	17.8			

Integrated low pressure chamber



No .	Product name	Type	Dimensions of work chamber (mm)	Power (about Kw)	Temperature range (℃)	Other parameters	Implementation / Satisfaction Standard
1	High-low temperature and low air pressure test chamber	TET401Y	450×450×580	6.5	-40~+130 -40~+150	Extreme pressure 0.5Kpa	GB/T2423.25-92 GB/T2423.26-92 GJB150.2-86
2		TET402Y	500×600×650	7.5			
3		TET405Y	900×750×750	12			
4		TET410Y	1000×1000×1000	16			
5		TET701Y	450×450×580	8.5	-70~+130 -70~+150	Equipped with high-efficiency vacuum pump with well-known brand	
6		TET702Y	500×600×650	10			
7		TET705Y	900×750×750	14.5			
8		TET710Y	1000×1000×1000	19			

Xenon lamp weather resistance test chamber



Application

SN xenon lamp test chamber adopts the xenon arc lamp that can simulate full sunlight spectrum to reproduce destructive light waves existing in different environments so as to provide the corresponding environment simulation and acceleration test for scientific research, product development and quality control.

Chamber Structure

The inner bladder of the chamber is made of imported high-class stainless steel plate while the outer bladder is made of A3 steel plate sprayed with plastic.

Adopts the full spectrum xenon lamp with the functions of temperature and humidity, illumination, spray and condensation.

Temperature controller: Imported microprocessor temperature and humidity integrated controller

Specs & Technical Parameters

Model	AXL-150	AXL-500
Workroom dimensions (cm)	50*60*60	50*76*60
Exterior dimensions (cm)	125*115*170	125*127*170
Lamp quantity	2pcs	3pcs
Lamp cooling mode	Air cooling	Air cooling
Spectrum wavelength	290nm~800nm	
Temperature range	RT+10℃~70℃	

Humidity range	50~98% R.H
Time setting	0~9999 min (adjustable)
Irradiance	550W/m ² ~1200 W/m ² , adjustable
Full power	12KW

UV weather resistance test chamber



1. Overview

1-1. Typical Application

Used for nonmetal materials aging test, to inspect the resistance ability of sunshine and artificial light.

1-2. Standard

- GB/T14522-93 " - plastic industrial products, paint, rubber material - artificial climate accelerated test methods"
- GB/T16585-96 " - vulcanized rubber artificial weathering (fluorescent UV lamps) test methods"
- GB/T16422.3-97 "plastic laboratory light exposure test methods"
- Other terms of the corresponding standard of design and manufacturing;

2. Features

- Imported USA made Q-Panel lamps;
- Spray function, condensing function, UV function, can be circulate
- Heating from water tanker in the inner bladder, heating fast, temperature uniform.
- Drain system match to backset-style and U-style deposition device, convenient to clean.
- Black board connect to temperature sensor, the device controls heating, lead to stable temperature.
- Fix style radiation meter probe.

3. Specification

3-1. Key Parameters

- Working room size: 450(D)×1170(W)×500(H)mm
- External size: 580(D)×1280(W)×1350(H)mm
- Temperature Range: RT+10℃~70℃;
- Humidity: 90~98%R·H;
- Humidity uniformity: ±2%;
- Temperature uniformity: ±2℃;
- Temperature Fluctuation: ±0.5℃;
- Humidity fluctuation: ±2%;
- Temperature control: PID self-tuning temperature control;
- Lamp center distance: 70mm;
- The distance between sample and lamp: 50mm;
- Standard sample shelf: 75×150mm, approximately 40 pieces
- 300×75mm, approximately 20 pieces (optional)
- Water depth in tanker requirements: 25mm, automatic control;
- Effective irradiation: 900×210mm;
- UV wavelength : UV-B wavelength range 280-315nm ,UV-A wavelength range 315-400nm (optional);
- Test time: 0~999H adjustable
- Blackboard temperature: 40℃~65℃;
- UV, Condensation time adjustable alternating

3-2. Configuration

- Outer Material: SUS304 Stainless steel plate、A3 sheet spray treatment;
- Interior materials: SUS304 Stainless steel plate;
- Cover Material: SUS304 stainless steel spray treatment;
- Lamp: 8 pieces of UV-A or UV-B UV lamp
- Heating from inner water tanker lead to warming fast, uniform temperature distribution;

- two-way clamshell cover, opening and closing easily;
- Automatic water supply to prevent dryout damage to the heating pipe;
- Sample holder made of stainless steel or aluminum;
- The bottom of chamber with high-quality PU activity wheel can be fixed;
- Drainage system use backset-style and U-shaped plot sink to drain
- Sample surface parallel with UV light plane
- Spray-type equipment is installed with an automatic sprinklers inside, water pressure adjustable;
- Once the cabinet door opened while the lamp is on, the machine will automatically cut off the lamp power supply, and automatically turn into a state of equilibrium for cooling, so it is not harm to the human;



3-3. Control system-----The controller is upgraded to Touch Screen, programmable.



- Intelligent Korea "Alto Knicks" temperature controller, accuracy is ± 0.1 °C;
- Thin-film style KEY BOARD button;
- LED digital display;
- Temperature controlled by P. I. D + S. S. R, the system coordinate and control in the same channel, and can improve the stability and lifetime of interface and controlling elements;
- With P. I. D automatic calculation function, can reduce manual working;
- Light and condensation can be controlled independently or alternating circulate, and the time of both can be arbitrarily set within 1000 hours;
- If an error occurs when setting or operation, warning signal will be released.
- French "Schneider" components;
- Philips rectifier and trigger to ensure UV light can be lit at every start.

3-4. Protection system

- Protection switch (no-fuse style)
- Electric leakage;
- Over heated;
- Over load;
- Short circuit;
- Water shortage;
- Over current;
- Automatic power off;
- Controller's memory function

3-5. Temperature control

UV cycle

First stage of photochemical reaction is not sensitive to temperature change. However, the subsequent second stage reaction rate closely relate to temperature. In general, with increasing temperature, the reaction is speed up. Therefore, in UV exposure test process, the temperature control becomes very

important, more important is to match temperature in accelerating test to the practical maximum temperature which material will encounter in application. The temperature in the UV equipment can be set at any point from 50°C to 70 °C, depending on the illumination level and temperature of the indoor environment. The temperature control device is a micro-computer controller, which direct calculation function devices such as air heaters, water heaters, and a series of systems to complete.

Moisture cycle

As the temperature increased, humidity's destructive power to material will increase dramatically. Therefore, in the process of moisture exposure, temperature control is a basic requirement. Furthermore, to produce acceleration effect, keeping high temperature is required in the process of moisture exposure. During condensation process in the device, temperature can be set at any point from 40°C to 60 °C.

Heating system

- U-type titanium alloy high-speed electric heating tube;
- Independent temperature control system and lighting systems
- Temperature control and power output are all calculated by the microcomputer, to achieve high accuracy and high efficiency;
- With over heated protection function to the heating system;
- Heating and temperature to black aluminum plate is controlled by intelligent temperature controller made in Korea, the output power calculated by microcomputer, PID self-tuning. The monitor is standard Pt-100 blackboard temperature sensor;

Heating and temperature of water tanker is controlled by Korean "Knicks Alto" temperature controller. The water tank locates in the lower position of chamber, with built-in electric heater. In the cycle test, a test section is a dark condensation process, it requires the inside cabinets can produce hot saturated steam. As the steam touch to the relatively cool surface of sample board, condensation occur.

4. Standard enclose and data

- Operation and maintenance instruction, Circuit schematic, Qualification, Warranty card.

5. Working condition

- Temperature: 5°C ~ +32°C;
- Humidity: ≤85%;
- Power supply: AC380 (±10%) V/50HZ Three-phase five-wire
- Capacity: 5KW;

Ozone Aging test chamber



Ozone aging test chamber: This product series are mainly used to evaluate the ozone aging resisting performance of rubber and the protective efficacy of the antiozonant so as to take the effective ozone-aging resisting measures to extend the life span of the rubber products. The whole ozone generating and capture process is performed in an airtight loop, which guarantees the safety of people. Static strain and dynamic strain are both considered. And an interface with the conventional chemical test of ozone concentration is provided to help with the analysis and test.

Application				
This series is applicable for the aging cracking test of non-metal materials and rubber products.				
Chamber Structure				
The inner bladder of the chamber is made of imported hi-class stainless steel plate while the outer bladder is made of A3 steel plate sprayed with plastic. Heating is obtained via heating body, ensuring fast temperature rise and equal temperature distribution. A 360 rotating sample rack is inbuilt. The heating mode adopts inner bladder trough type heating with its rapid temperature rise and even temperature distribution.				
Specs & Technical Parameters				
Model	AOC-100	AOC-250	AOC-500	AOC-010
Workroom dimensions (cm)	45*45*50	50*60*75	70*80*90	100*100*100
Exterior dimensions (cm)	115*90*165	120*110*190	135*128*210	165*148*220
Power	4.0(KW)	4.5(KW)	4.5(KW)	6.5(KW)

Temperature range	0℃~70℃
Humidity range	≥65%R.H
Ozone density	50~1000 pphm
Temperature fluctuation	±0.5℃

Statement:

1. Apart from the types listed above, we can design and manufacture the non-standard products according to the specific requirements of the customers.
2. Any change in the design of products due to the development of technology is subject to no further notification.

Box Rain test chamber



A. Performance

Model	BR-500	BR-1200
Workroom dimensions (cm)	80*80*80	102*120*100
Exterior dimensions (cm)	102*136*156	128*172*182
Power	2.0(KW)	2.5(KW)
Water spray ring radius	375 mm	500 mm
Water pipe diameter	φ16mm	
Spraying hole diameter	φ0.4mm	

Aperture spacing	50 mm
Swing range	$\pm 45^\circ$, $\pm 60^\circ$, $\pm 90^\circ$, $\pm 180^\circ$
Test bench rotation speed	1r/min, or steeples speed regulating (optional)
Swing speed	adjustable
Raining pressure	80KPa, adjustable. (Meet 5 ± 2 mm/min of rain density, according to standard calculation)
Rotate speed of holder	1 ~ 3r/min, adjustable. (changeable following special requirement). Can make an angle of 45°
Area of holder	$\varnothing 600\text{mm}$
Power supply	AC 380V $\pm 10\%$; 50 Hz
Ambient temperature & humidity	+5 $^\circ\text{C}$ ~32 $^\circ\text{C}$ $\leq 85\%RH$
Remark: The water for raining should be filtered soft water or purified water, to prevent the raining holes from blocked.	

Application area

Comprehensive box rain test chamber (with swing pipe and right angle tube) is used to test the electric and electronic devices by simulating natural rainfall with spraying water from the water nozzles (holes) on swing pipe or straight tube. To estimate and recognize if the shell or sealing elements of these device could ensure a good condition of working during and after the test. The products are widely used in the industries of light, electrical, electronics, automobile, motorcycle, household electric appliances, electromechanical equipment, instruments and meters, and other industries.

B. Standards

GB2423. 38-90, Basic environmental test regulation of electric and electronic product, Test R: The method of test with water;
GB10485-89;
GB/T4942.2-93, IP rating of low voltage shell;
and conform to the standards of Europe and Japan.

C. Features

1. Newly improved, scientific design, advanced structure, excellent function of energy-saving.
2. The key components are from world brands, guarantee advanced and reliable performance, noise and every-saving in a optimum control.
3. Total fields raining cover in 360° .
4. Excellent operation, stability, durability and safety, eco-friendly.

D. Structure

1. The inner bladder is made of imported high-quality stainless steel plate.
2. The outer body is made of high grade cold-roll steel sheet with Zinc coating, the surface is treated with powder painting, looks bright, clean and graceful.
3. Raining tube is made of stainless steel, spray nozzles can be adjusted.

4. Other accessories which touch to water is made of stainless steel or copper.
5. Control board: touch screen color controller, and run/stop button, at the right side of the chamber.
6. Door: the inner material is stainless steel plate, sealed with silicon rubber, thermostable, anti-aging. A water channel is equipped under the door, a part of water can be discharged by the channel after test finished.
7. Handle: a handle without reaction force, easy open or close.
8. Observing window: equipped on the door, large view, with a manual wiper.
9. Illumination light: a light installed on the window for seeing the test condition, controlled by manual switch.
10. Moving device: four fixable castors are installed at the bottom of the chamber, result in convenient moving and placing the equipment.

E. Controller

1. Speed regulating device: Rotary holder is controlled by a gear motor, and the rotate speed is regulated by a speed controller.
2. Set to swing tube: work with stepping motor, controlled by gear motor, the parameters needed can be set on controller directly.
3. Swing tube and rotary holder respectively has their own independent control system.
4. Time setting individually controls several separate systems.
5. Water filter is equipped.

F. SAFETY DEVICES

No fuse protection switch, Leakage of electricity, Full jacket terminals, Timing for the whole equipment, Automatic stop.

G. ACCESSORIES

- 1 Technical data: qualified certificate, warranty card, user manual.
- 2 Enclosure: power cable, 3 meters (3 phase, 4 wires+ GND).

H. FACILITIES

- 1 Power supply: AC 380V \pm 10%; 50 Hz
- 2 Ambient temperature & humidity: +5 $^{\circ}$ C \sim 32 $^{\circ}$ C \leq 85%RH
- 3 Environment: no severe vibration, no strong interference of electromagnetic, no direct sunlight or radiation from other heat source.

Walk-in Environmental test room



Purpose and features of the product: This product series are in piece assembling structure, which enables on-site installation and commissioning. They are equipped with separate controlling chamber or operation bench. With large volume, the work chamber can be used to simulate the single or complicated environmental factors in the atmosphere such as temperature, humidity, salt fog, illumination, wind, rain and vibration. The products can be used to analyze and evaluate the property and performance of the

batch elements and parts or machine sets under simulated conditions, and can also be used in experiment and production.

High Temperature Test Room

No.	Product name	Type	Dimensions of work chamber (mm)	Volume (m2)	Temperature range (°C)	Implementation / satisfaction standard
1	High Temperature Test Room	HTT1003F	1500×1200×1500	3	R.T.+10~+100℃	GB11158-89
2		HTT1005F	2000×1200×2000	5		
3		HTT1008F	2000×2000×2000	8		
4		HTT1010F	2500×2000×2000	10		
5		HTT1015F	3800×2000×2000	15		GB2423.2-89
6		HTT1020F	4000×2500×2000	20		
7		HTT1025F	4000×2500×2500	25		IEC68-2-2-Ba
8		HTT1030F	4000×3000×2500	30		
9		HTT1050F	5000×4000×2500	50		
10		HTT1080F	8000×4000×2500	80		
11		HTT1100F	10000×4000×2500	100		

High-low Temperature Test Room

No.	Product name	Type	Dimensions of work chamber (mm)	Volume (m2)	Temperature range (°C)	
1	High-low temperature test room	ACE□003F	1500×1200×1500	3	ACE0-FSeries	-5~+85
2		ACE□005F	2000×1200×2000	5		
3		ACE□008F	2000×2000×2000	8		
4		ACE□010F	2500×2000×2000	10		
5		ACE□015F	3800×2000×2000	15		
6		ACE□020F	4000×2000×2500	20		
7		ACE□030F	4000×3000×2500	30		
8		ACE□050F	5000×4000×2500	50		
9		ACE□080F	8000×4000×2500	80		
10		ACE□100F	10000×4000×2500	100		

High-low Temperature Humidity Test Room

No.	Product name	Type	Dimensions of work chamber (mm)	Volume (m2)	Temperature range (°C)
1	High-low temperature /humidity/heat test room	HRT□003F	1500×1200×1500	3	HRTR-F Series R.T.+10~+85 HRT0-F Series -5~+85 HRT2-F Series -20~+85 HRT4-F Series -40~+85 HRT6-F Series -65~+85
2		HRT□005F	2000×1200×2000	5	
3		HRT□008F	2000×2000×2000	8	
4		HRT□010F	2500×2000×2000	10	
5		HRT□015F	3800×2000×2000	15	
6		HRT□020F	4000×2000×2500	20	
7		HRT□030F	4000×3000×2500	30	
8		HRT□050F	5000×4000×2500	50	
9		HRT□080F	8000×4000×2500	80	
10		HRT□100F	10000×4000×2500	100	