SANWOOD®

Compact Ultra Low Temperature Chamber

Main technical parameters

- **Temperature fluctuation:** ≤±0.5 ℃

Temperature uniformity: ≤2.0 ℃

- **Temperature deviation:** ≤±2.0 ℃

Ambient temperature: +5~+35℃

- **Power(V): AC 380±10%V 50HZ±0.5HZ**

Ambient temperature: +5~+35℃

- **Equipment noise: ≤69dB**

(testing from one meter in f/ront of the door)

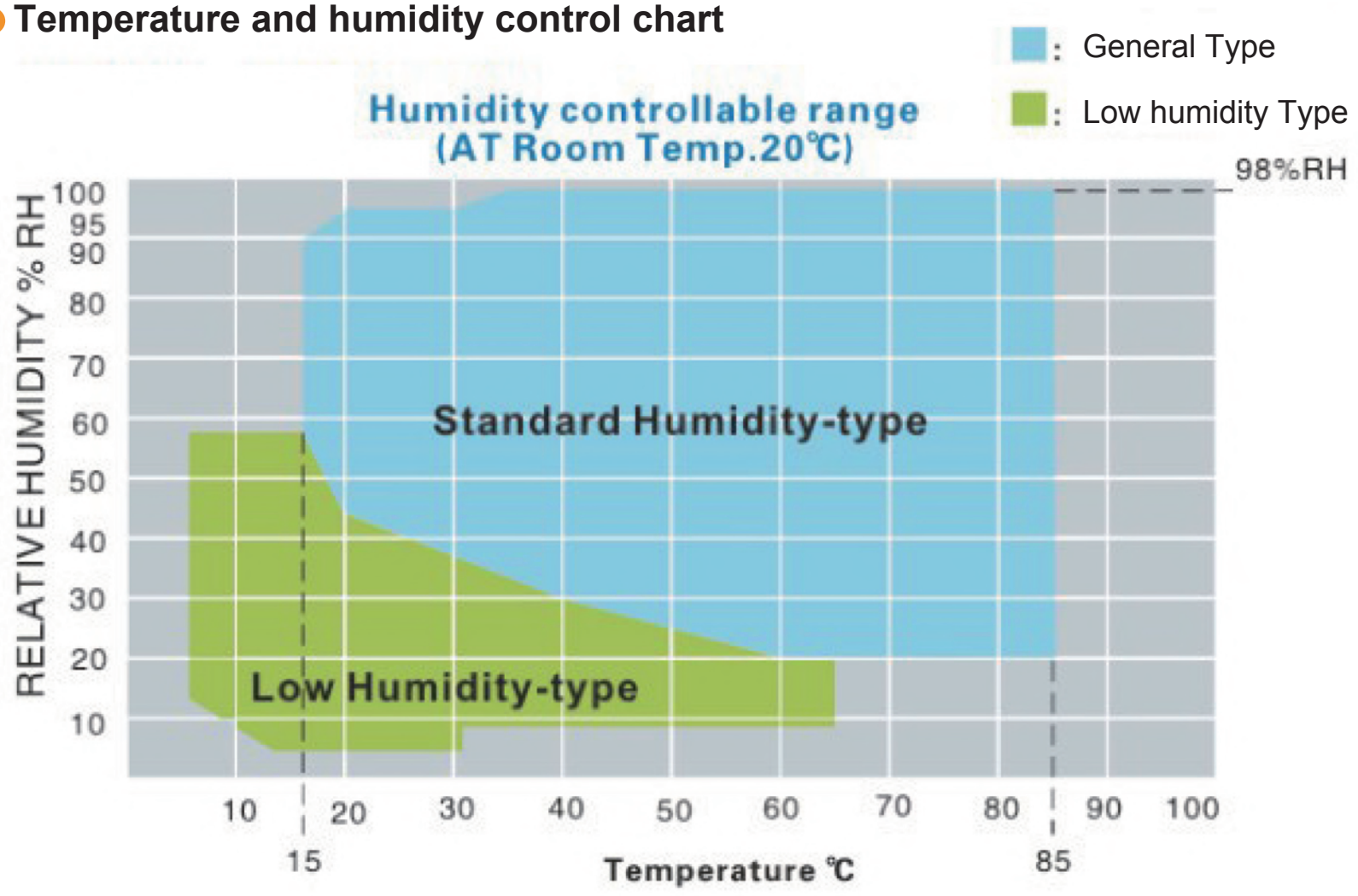
- **Standard configuration:** Electrothermal film glass observation 2 pcs ;

Standard configuration: Electrothermal film glass observation 2 pcs ; Cable hole (Φ100) 1 PCS; sample shelf 2 kits; Lighting 1 pcs; Sample power control terminal 1 (C), only C type equipment equipment with this.

Implementation standards

- GB/T5170.2-2008 Temperature test equipment
- GB/T2423.1-2008(IEC68-2-1) testing A, Low temperature test method
- GB/T2423.2-2008(IEC68-2-2) testing B, High temperature test method
- GJB150.3A-2009(MIL-STD-810F-2000) High Temperature test
- GJB150.9A-2009(MIL-STD-810F-2000) thermal humidity test (C)

Temperature and humidity control chart



Model		MC-711
Interiol volume (L)		60
Performance*1	Temperature Range	-70~+150℃
	Temperature Fluctuation	1℃
	Temperature Deviation	±2.0℃
	Temperature Heat-up time	+20~+150℃≤30min
	Temperature Pull down time	+20~-70℃≤60min
Inside dimension(mm)		W400 X H375 X D400
Outside dimension(mm)*2		W900 X H1200 X D610
Temperature Control system		BTC Balanced Temperature Control system
Ambient operating conditions		+5~+35℃
Construction	Exterior	Galvanized steel Epoxy paint(ESPEC standard colour)
	Interior	Stainless steel plate (SUS304)
	Insulation	Expanded polyurethane+glass wool Door material:Glass wool
	Heater	Nichrome strip wire heater
	Air circulator	Stainless steel axial flow fan
	Refrigerator	Hermetically sesled rotary compressor
	Refrigerant	R404a/R23
	Refrigeration system	Mechanical cascade refrigeration system(air-cooled condenser)
Controller	Display	5.7 inch,640*480 dot matrix,TFT Color LCD Display
	Operation mode	Program operation,Constant operation
	Setting mode	Chinese/English Menu,Interactive key input by touch panel
	Program capacity	RAM Pattern:20 program patterns(max),Max 1,000 steps/pattern,can set 20 cycles (Max.99 times/cycle); ROM:10 program patterns,pattern linking available
	Setting range	Temperature:Can be adjust according to chamber operating temperature (upper limit +5℃， lower limit -5℃)
	Display resolution	Temperature:0.1℃;time:0.1 min
	Input	Thermocouple
	Communication function (option)	RS-485 interface,Networking functions (RAS-2003 Monitoring software required,RS-485/RS-232 converter,Communication port required: COM & USB port each,Max.16 chambers can be connected,Max cable length 800m
	Control method	PID control
	Data tecord function	RAM with battery protection,equipment setting value,sample value and sample time can be saved,Max.record time is 60days(when sample period is 1.5min)
	USB functions	Hardware comprise of 1USB drive,1CD(software)for PC (Compatible to Window 2000 or Window XP -Chinese/English cersion). Test program can be edited throgh PC via USB drive and to the chamber controller,and be edited also through -chamber control via USB drive to PC. Test data and trend graph can be stored to the USB drive,saved to PC for analysis and management. Test data and trend graph are printed with a “Water Mark” uniquely and cannot be tampered. Recorded data can be converted to Microsoft Office version by the software provided. Set and process temperature together with recording time are recorded.Hence when printed shows set and -process temperature and recording time.
	Auxiliary functions	Alarm indication function;Caust and Treatment indicating functions;Power failure protectio function; Upper&lower limit temp.protect function;Timer function (automatic start/stop);Self diangnosis function
Power		AC380(1±10%）V （50+0.5）Hz 3 phase 4W+Protective grounding wire
Max.Current(A)		8.5
Capacity(kw)		2.6
Weight(kg)		165
Standard accessories		Viewing window,Specimen shelf 2sets,Cable port （φ50）1 pce,Chamber lamp,Hour meter, Cable cord(4 meters),Glass tube fuse 1 set, USBport,USB Drive
Safety Devices		Refrigerator overheat protector,Refrigerator overload realy,Air circulator temperature switch, Overheat protector,Electric parts compartment door switch

CLIMATE STSAR series has advanced features in terms of quality and reliability

Customer first

1. If you have ever used environmental test equipment, you will soon feel the unique design and ease of use of the device CLIMATE STSAR.

2. First of all, you can feel the equipment is easy to use, low maintenance rate and high reliability

3. Then, You can choose different the testing volume, temperature range and special parts to meet your special requirements

Products Features

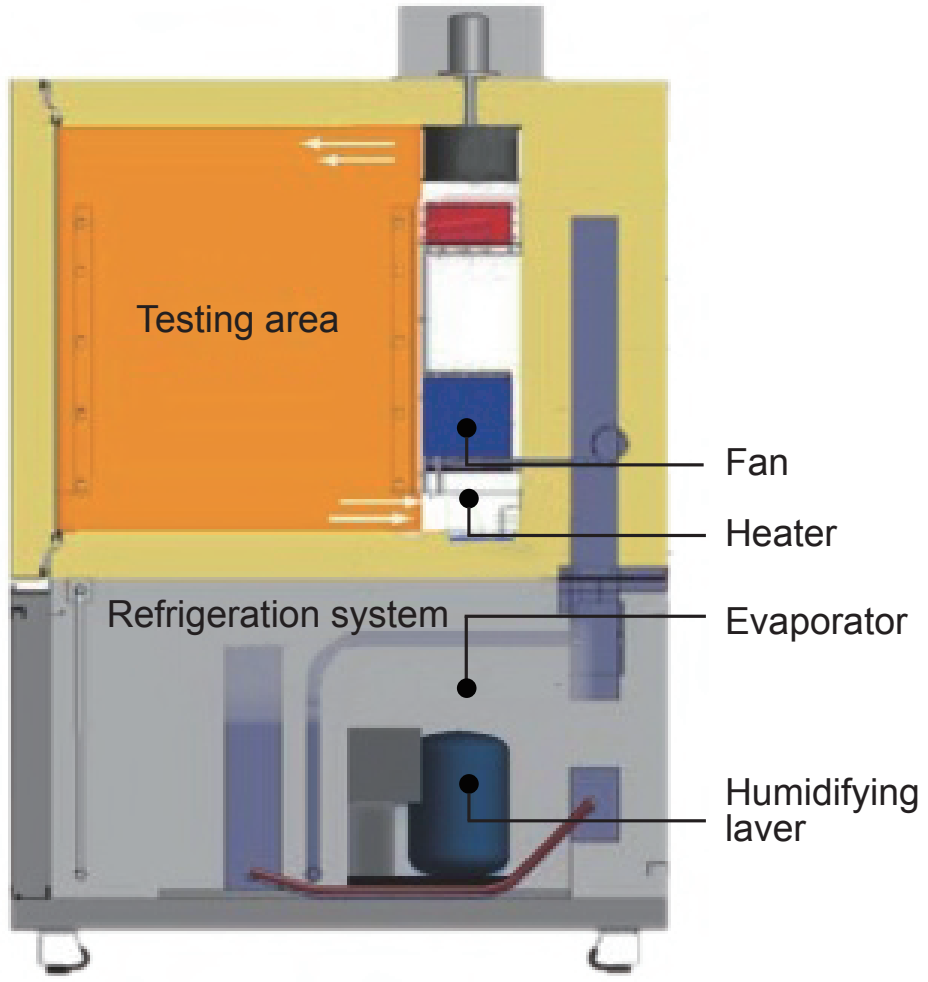
The CLIMATE STAR series products have excellent design and high quality standard features.

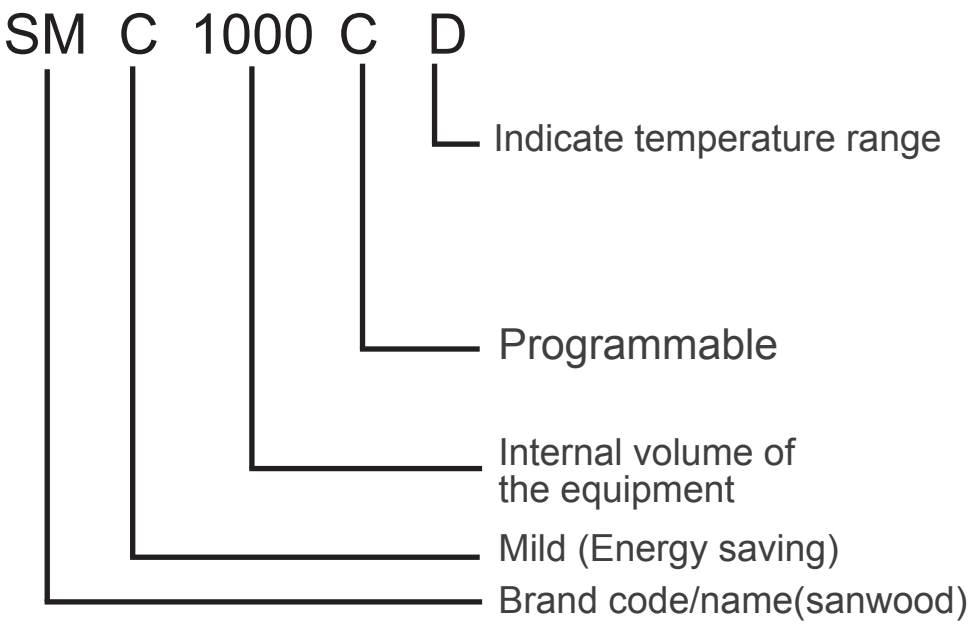
1. Large viewing angle and full heating observation window
2. High stability full color touch screen
3. Pin holes on both sides
4. Sample holder capable of conveniently adjusting height
5.Triple independent over temperature protection
6. Safety sample terminal
7. High quality casters for the equipment easily level shift
8. Ultra quiet
9. Disassemble operation panel for easy maintenance

Scope of application

1. This model is a simulation products in climate field, it's combination of temperature conditions (high and low temperature operation & storage, temperature cycle, high temperature, low temperature, condensation test) testing the product whether it has any changes in the ability and the characteristic.

2. Must meet the requirements of the international standard(IEC, JIS , GB, MIL---) to achieve the consistency of the international measurement procedures.





Structure characteristics

1. Shell: Spray galvanized color steel plate, the surface electrostatic spray processing.
2. Liner: stainless steel SUS 304.
3. Thermal insulation layer: Polyurethane foam board and glass fiber.
4. Seal: Toshiba high purity silicon rubber raw materials, effectively prevent aging.

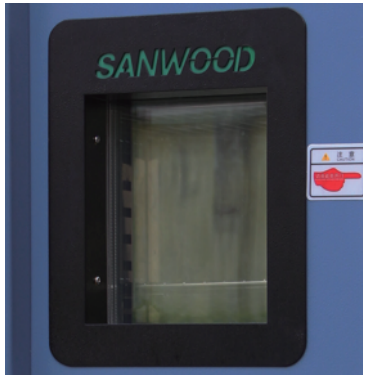
5.Heater: Ni Cr alloy electric heater.

6. Humidifier: Outer tube: SUS316 stainless steel seamless pipe Internal heating wire: Ni Cr alloy wire.
7. Sample holder: 40kg/ layer * 2 layer (standard configuration)
   80kg/ layer ; 120kg/ layer
   Total bearing ≤ 240 kg (optional).

Pin hole

Φ100mm (standard equipment)
Φ50mm Φ80mm Φ160mm
(optional equipment)

Operation sample hole on the glass (No display on the picture)



Inner glass door (optional)

Refrigeration design

1. Modular production, reliable quality, convenient maintenance.
2. Silver brazing welding vibration pipe with a silver content of 45% to prevent the welding leak effectively.
3. Adequate space position, easy to operate.
4. Welding through nitrogen, ensure the inner pipe not nitriding.
5. Take a variety of techniques to decouple shock.
6. Take a variety of techniques to anti-corrosive.

Compressor

Tecumseh L'UNITE HERMETIQUE

France Taikang compressor (Original import)

Pressure relay

EMERSON Danfoss

America EMERSON or Denmark DANFOSS

Evaporator

Custom efficient fin type heat exchanger

Solenoid valve

Castel

Italy CASTEL

Refrigerant

R404A
R23(-70)
Ozone depletion index was 0

Denmark DANFOSS brand

Danfoss

1.condenser
2.evaporator condenser(-70)
3.Evaporation pressure regulating valve
4.Thermal expansion valve
5.Dry filter
6.Condensation pressure regulating valve (water-cold)

Controller

1. 5.7" 640*480 lattice. TFT LCD displayer
2. 1200 programs， program can cycle
3. RS - 485 interface, with remote communication function.
4. SD card storage test data, about 7500 days (Sampling period: 5min)
5. operating language: Chinese or English

Recorder(option)

1. Large screen LED display
2. High reliability of industrial r ecords requirements

The sample power control terminal

1. When the equipment safety protection device works,the power supply of the electrified sample is controlled through the connecting terminal.

Safety protection device

1.Compressor

1.1 Compressor overpressure
1.2 Compressor motor overheating
1.3 Compressor motor over-current
1.4 Condenser fan overheating (air-cold)
1.5 Cooling circulating water pressure shortag (water-cold).

2. Test samples of protection

2.1 Adjustable overtemperature protection.
2.2 Air conditioning channel over temperature limit.
2.3 controller set overtemperature shut down alarm.
2.4 sample terminal protection.

3. Electric control

3.1 The fan motor overheating.
3.2 Total power phase sequence and lack of phase protection.
3.3 Leakage protection.
3.4 Load short circuit protection.

The Experience you Rely on...

Sanwood Environmental Chambers was established in 1995, which integrated Taiwan and Japan technologies. We have been focus on the most secure and reliable climatic test chamber technology since established. And has become a private science and technology enterprises in Dongguan,Guangdong Province, which passed the ISO9001:2008 quality system certification.

Our products upgrade constantly and our customers come portable batteries, power batteries, battery, lithium batteries, lead-acid, new energy vehicles, electric bicycles, electric tools, electric systems, solar, military, universities research and other technology industries fields.

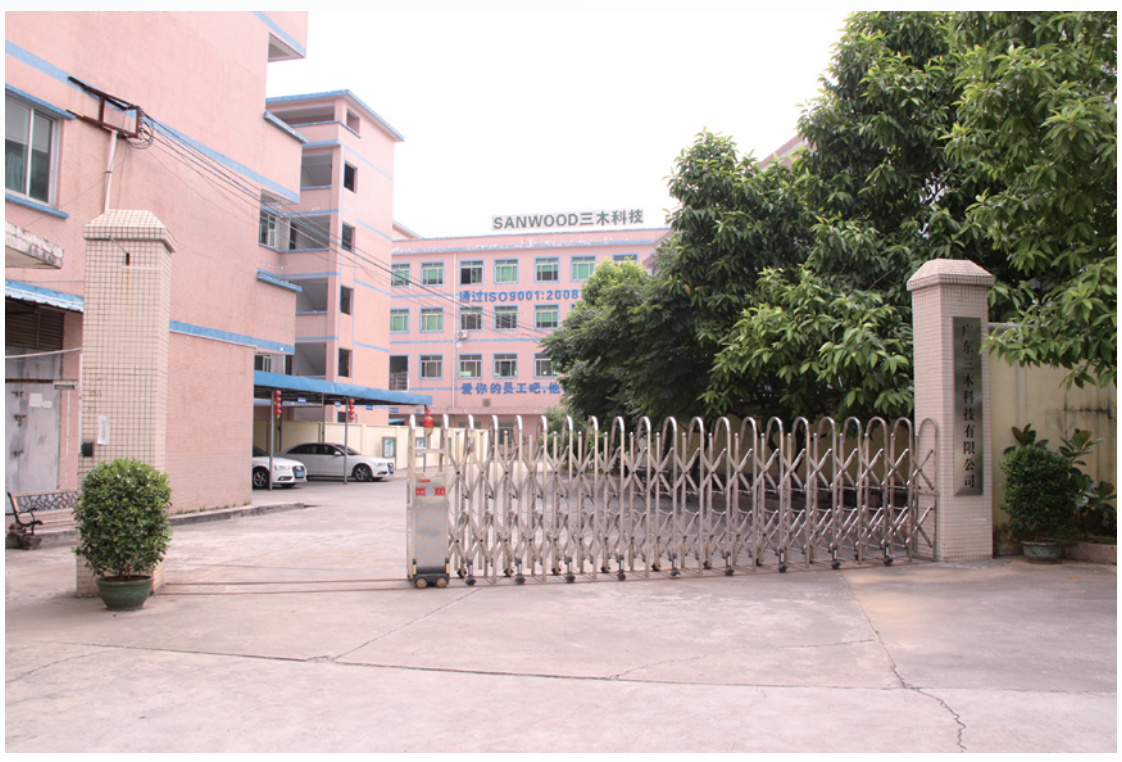
Having experienced nearly 20 years efforts, we have successfully developed a series of products:

- High and low temperature test chamber
- explosion-proof type thermal shock chamber
- an explosion-proof type temperature test box
- walk-in temperature and humidity chamber
- weather resistance test chamber
- battery thermal abuse test box
- explosion-proof type hot box
- Temperature&humidity&Vibration integrated test chamber
- dust test box
- vibration table
- rain test chamber
- ozone test box
- xenon lamp test chambe
- high temperature oven
- seawater immersion box

All of products meet GB31241、IE62133、QCT/743、UN38.3、UL2054 Standard. And we have had a good cooperation with ATL, Sony, Sunwoda, Desay, Samsung, BYD, Toyota, Yutong Bus, Nissan, Guangdong Province entry-exit, Tsinghua University, Henan University, Chinese Academy of Sciences, Central South University Successively.

Enterprise vision:

Sanwood Technology has established a large production base in Dongguan after many years efforts. The plant area reached more than 12000 square meters. The foreign trade branch and foreign service agencies were established in 2010. And branches successively established in Taiwan, Suzhou, Hunan, Hubei, Beijing, Henan. Excellent products and good after-sales service make us won the recognition and trust of customers. Products are exported to more than 30 countries, such as Russia, Singapore , the United States, Turkey, Denmark, Vietnam, India, Malaysia, Kazakhstan, Austria, Canada, etc. In the age with fierce competitions, Sanwood thrived little by little and aims to become the leading brand in the safety and reliability environmental test equipment industry all over the world.



SANWOOD®

Focusing on the innovation of environmental reliability test

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