SONACME
Environmental Test Chambers

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SONACME
Environmental Test Chambers

Environmental Test Chambers

E-Series

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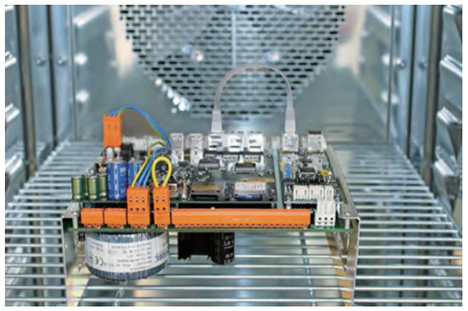
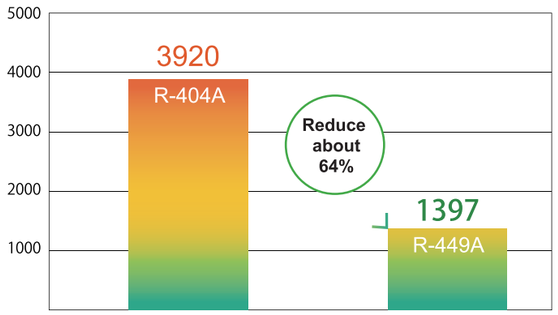
Features

SONACME E-Series environmental chamber will help you test the effect of temperature and humidity on product characteristics, functions and service life under accelerated condition.
Due to seasonal differences, your products must withstand the impact of various temperature and humidity during manufacturing, transportation, storage and use.
The E-Series chambers allow you to control the temperature and humidity inside the chamber with temperature -70℃~180℃,relative humidity 10%~98%.



GWP value (comparison between conventional R-404A and R-449A)



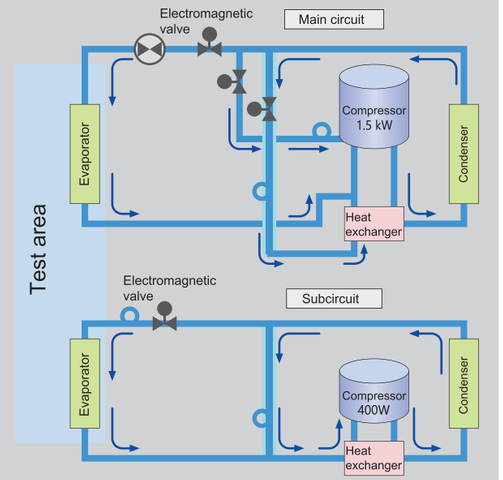
- Compared with the traditional refrigerant R-404A, the environmental load is reduced by 64%.
- Even after the regulation, there is no need to worry about the decrease of refrigerant supply.
- Reduce future maintenance costs.

Green Refrigerant Compliant

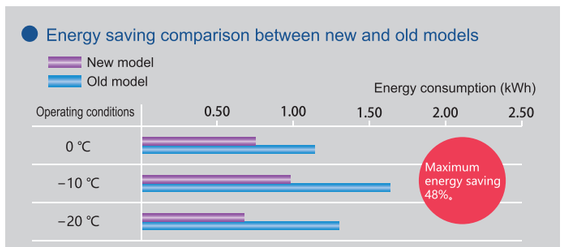
· 64% of GWP(1397) reduction compared with R-404A.
· ODP zero refrigerant that does not destroy the ozone layer at all.
· Non-flammable, non-toxic, inactive mixed refrigerant.

Energy-saving Technilogies

New refrigeration circuit

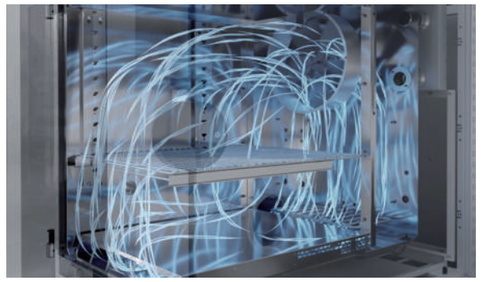


Energy saving comparison between new and old models



Better air duct design

Double air duct, connected with chamber but isolate, air out from top and return from bottom. The racks is made of high-quality cold-formed stainless steel plate, adjustable louver for air outlets.

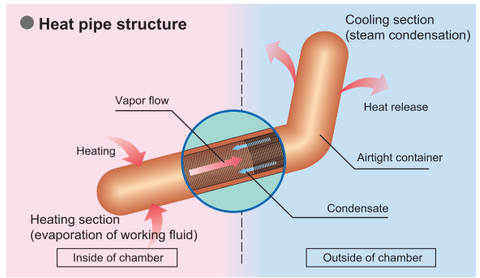


Electronic temperature humidity sensor

Adopt VAISALA electronic humidity sensor imported from Finland; its humidity resolution can reach 0.01%rh. No need to change wet cloth, avoid adding tedious work.

Heat pipe structure

Heat pipe are used for cooling systems and it can achieve high temperature/humidity test, such as 95℃/95%rh,because the heat pipe barely dehumidifies during cooling.



Extended control panel

Equipped with independent over-temperature protector, 2 groups of 220V power sockets, communication interface and leakage circuit breaker for the main power supply of the equipment.

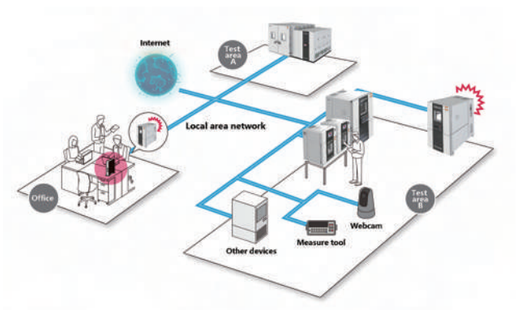
Automatic water replenishment

Equipped with automatic water replenishment system, double-layer filter device. New structure design, high efficiency and low water consumption.

Observation window

A set of observation window is multi-layer hollow tempered glass with automatic defrosting function and anti-condensation electric heating device, which can ensure that the glass surface is free of frost and condensation during any test.

Controller 【Easy-to-use, easy-to-read touchscreen】



Customized PLC by Sonacme

4.3-inch resolution: 65535 true color, LED backlight display screen, integrating monitoring and control; the screen adopts interactive touch operation.

Multi-country language options

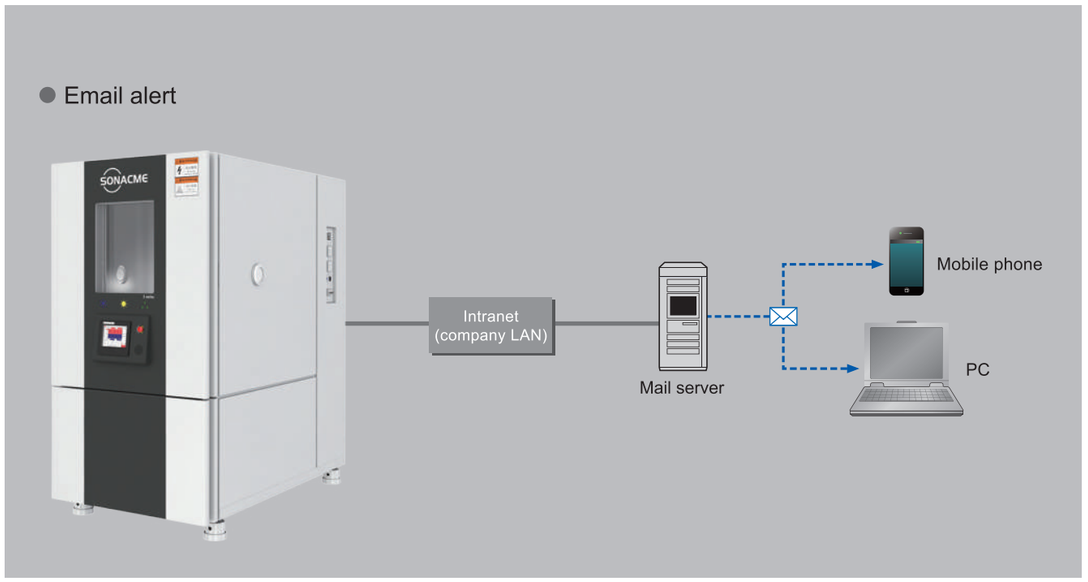
Standard Chinese and English, other languages can be customized.

Program capacity

- The fixed operation time can be set up to 999999 h 59 m (it can also run continuously without time limit);
- Usable program capacity: maximum 269 groups, a total of 13450 segments;
- Usable memory capacity: 50 steps per group;
- Repeatable commands: up to 32,000 cycles per command.

Test data logging and export

Temperature and humidity settings and measurements are recorded in the controller's memory. Data and its graphs can be exported to a USB flash drive.



Remote monitoring (Ethernet connection)

The chamber is equipped with a unique web application that allows confirmation and operation of the chamber status through a web browser screen (PC or tablet terminal). Can also be started from a remote location using a PC or other device.

View test data remotely

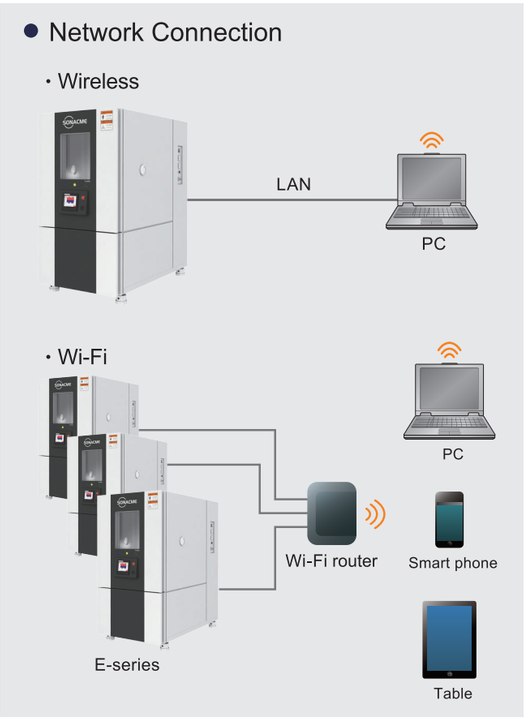
Settings and measurements saved in the test chamber can be displayed graphically on a web browser.

Screen display

Temperature and humidity setting (SV), actual (PV) value, running time, program segment running status, heating, humidifying, cooling output status, equipment operating status indicator light, etc.

Other functions

- Power-off memory function: Can be set to power-off recovery mode: Hot start, Cold start Stop;
- Power-on self-test, automatic fault prompts, and simple troubleshooting methods are displayed.



Typical Functions

1 Status Indicator

Provides viewing of chamber status from a remote location. Light color and light status can be configured as needed.(on, flashing), buzzer on/off.

2 Test lead hole

One piece of high temperature resistant soft silicone, heat insulation, good sealing, easy to disassemble and install.

3 Emergency stop device

Switch for manual emergency stop. Guards or covers are also available to prevent accidental operation.

4 Controller

SONACME customized controller (PLC structure), which integrates monitoring and control; the screen adopts interactive touch operation and supports remote control operation.

5 Seal door rubber edge

Self-developed chamber and door structural part, using double-layer high-tension imported silicone seals, temperature resistance:-90℃～300℃.

6 Refrigeration system pressure gauge

The pressure gauge of the refrigeration system is external, which is convenient for users to check the system pressure before use to ensure that the equipment can operate normally.

7 Security door lock

The ergonomically designed safety lock replaces the traditional door handle, which greatly increases the comfort of the equipment operator when using the equipment.

8 Caster

High load-bearing casters, effective shock absorption, noise reduction, and micro-level adjustment equipment.

9 Over temperature protector

When the temperature in the test chamber overshoots, the over-temperature protector can play an emergency shutdown function, effectively protect the test chamber and prolong the service life of equipment.

Options

1 Sample power control terminal

In the event of a false alarm in the test chamber, the power to the equipment connected through this terminal will be turned off immediately.

2 Folding board

Custom folding table available. It can be used to hold measuring instruments, computers or other equipment connected to the test chamber.

3 High temperature resistant large size window

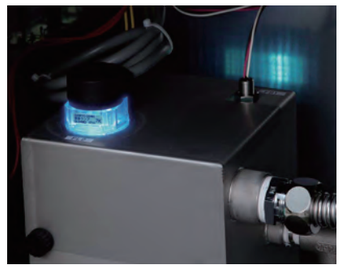
Extended temperature range to+150°C; manual end option available.

4 Reach out for operation

This option features a manual port on the standard door, allowing sample manipulation even during testing.

5 Humidifying water sterilizer maintains water quality

Ultraviolet irradiation germicidal lamps are used to inhibit the growth of bacteria in humidified water. Pipes pass to reduce mucus and limescale.



6 Dust filter

The condenser filter can be easily installed and removed from the test chamber, making cleaning easier.

7 Water purifier (reverse osmosis)

For continuous supply of pure water.

8 Dryer

Ultra-low humidity function with assistance.

9 Sample surface temperature test

It is used to measure the temperature of the desired measuring point in the temperature (humidity) room, or to measure the surface temperature of the sample.

10 Emergency stop button

with protective cover

with protective cap

11 Anti-dew

Prevents dew formed on the ceiling of the test area from dripping onto the sample.
*Same height as standard internal dimensions.
*With this option, the rate of temperature change and the time to extreme temperature realization change.

12 Paperless recorder

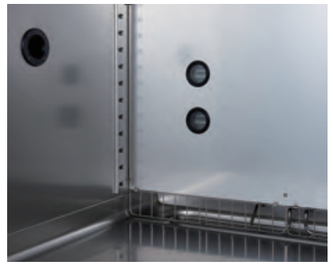
Record the temperature and humidity of each section. Data storage period: 5 seconds.
External recording media: SD card, USB f lash drive.

13 Electronic locks

Prevent non-operators from opening the door.

14 Evaporator Frost Inspection Window

This window is installed in the test area to check for frost on the cooler.
*Diameter: 55mm.



15 Telescopic rail (stainless steel)

Telescopic rails can be extended by approximately 80%.
Maximum load per track: 30 kg.
(special design)

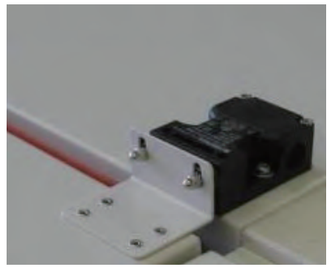
16 Power-on test port

Additional/replacement standard cable ports are available. Comes with lid and silicone stoppe.

•ø25 mm • ø50 mm • ø70 mm
• ø100 mm • ø150 mm

17 Induction device

If the digital switch channel is activated, the fan and temperature controller are switched off immediately. increase security.



18 Test port cable drip tray

Captures dew coming out of the test port cable port.

Test Standards

Low Temperature test

IEC 60068-2-1, Test A; ISO 16750-4, LOW TEMPERATURE; ETSI EN 300019-2-4; Test Ab/Ad, MIL-STD-810 G; Meth. 502.5; JESD22-A119

High Temperature Test

IEC 60068-2-2, Test B; ISO 16750-4,HIGH TEMPERATURE TEST; ETSI EN 300019-2-4, Test Bb/Bd; MIL-STD-202 G, Meth. 108A; MIL-STD-810 G, Meth. 501.5; MIL-STD-883 J, Meth. 1008.2; JESD22-A103D

Alternating Temperature Test

IEC 60068-2-14, Test Nb; ISO 16750-4, Temp. Steps; ISO 16750-4, Temp. Cycling; ETSI EN 300019-2-4, Test Nb; MIL-STD-331 C, Test C6; JESD22-A105C

Temperature& Humidity Test

IEC 60068-2-67; IEC 60068-2-78; ISO 16750-4, Damp heat steady; ETSI EN 300019-2-4, Test Cab; MIL-STD-202 G, Meth. 103B; JESD22-A101C; IEC 60068-2-30, Test Db, Var. 1; IEC 60068-2-30, Test Db, Var. 2; IEC 60068-2-38; ISO 16750-4, Damp heat cyclic; ISO 16750-4, Temp/Humid, cyclic; ETSI EN 300019-2-4, Test Db; VG 95210, Blatt 7, Meth. 106C; MIL-STD-202 G, Meth. 106D; MIL-STD-331 C, Test C1; MIL-STD-750-1, Change 3; MIL-STD-810 G, Meth. 507.5; MIL-STD-883 J, Meth. 1004.7; JESD22-A100D

Safety Features

- Compressor, circulating motor short circuit and over-current protection
- Independent over temperature protection
- Fan motor overload protection
- Compressor overload protection
- Humidifier short circuit over-current protection
- Humidifier water level detection
- Total power supply phase sequence lack of phase over-voltage protectionn
- Temperature upper/lower limit alarm
- Over-current protection of main power leakage short circuit
- Heater dry burning protection
- Heater short-circuit over-current protection
- Humidification system overflow protection
- Cartridge fuse for short circuit protection of secondary circuit
- Wet bulb temperature sensor alarm
- Compressor over temperature protection
- Compressor over-pressure protection
- Humidifier dry burning protection
- Zero-crossing thyristor power protection

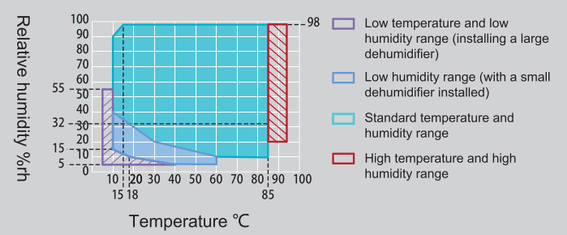
Temperature& Humidity test chamber

-20～100℃ (+150℃/+180℃) • 10～98%rh

Model				ST/64/20(H)	ST/180/20(H)	ST/340/20(H)	ST/600/20(H)	ST/1000/20(H)
System				Temperature and Humidity Balance Control (BTHC) System				
Performance	Temperature & Humidity Range			-20～+100℃ (+150℃/+180℃) / 10～98%rh				
	Temperature & Humidity Fluctuations			±0.3°C / ±2.5%rh				
	Temperature uniformity			1.5°C				
	Temperature change rate			Heating rate: 3.0°C/min Cooling rate: 2.0°C/min				
	Extreme temperature reach time			Heating time: from +20 to +100℃ 30 minutes Cooling time: +20 to -20°C 20 minutes				
	Allowable heat load			Test area temperature: +20°C				
				300 W	500 W	800 W	800 W	1000 W
Structure	Appearance material			Using 1.5mm thick FC advanced electrolytic plate + spray anti-corrosion				
	Test area material			1.2mm thick SUS304 stainless steel				
	Heater			Finned Nichrome Explosion-Proof Heater				
	Humidifier			Stainless Steel Sheathed Humidifier (Steam Humidification)				
	Condenser			Air-cooled condenser				
	Air circulator			Centrifugal fan				
	Water supply	Standard water tank	Automatic replenishment	10 L	10 L	10 L	10 L	10 L
		custom water tank	Manual hydration	10 L	12 L	15 L	15 L	20 L
	Refrigeration unit	System		Mechanical single-stage compression cooling				
		Compressor		Scroll/Piston Compressor				
		Refrigerant		R404A [R449A available on request]				
		Power		1.0 Kw	1.25 Kw	1.5 Kw	2.3 Kw	3 Kw
		Extension mechanism		Electronic expansion valve				
Test area capacity				64L	180L	340L	600L	1000L
Test area load-bearing capacity				30KG		50KG	80KG	100KG
Internal dimensions W×H×Dmm				400*400*400	580*750*450	750*750*600	800*950*800	1000*1000*1000
Dimensions W×H×Dmm				640*1688*1255	800*1800*1500	895*1800*1885	1000*2000*1930	1200*2050*1780
Weight				320kg	420kg	520kg	630kg	680kg
Use environment requirements	Environmental conditions			0～+40℃ (+32～+104℉) /Max 75%rh				
	Power	1φ220V AC&50/60Hz		24A	30A	35A	40A	-
		3φ380V AC&50/60Hz		10A	13A	16A	18A	22A
		Custom power		-	-	-	-	-
Noise level				68dB	68dB	68dB	68dB	68dB

*1 Performance values based on IEC60068-3-5:2001 and IEC60068-3-6:2001;
Performance data is given at +23°C ambient temperature, 65±20%rh relative humidity, rated voltage and no samples in the test area.
*2 Minimum temperature attainable at ambient temperature +5 to +30°C.
*3 When the temperature inside the chamber is +20℃.

● Temperature and humidity control range



* Ambient temperature without sample is +23°C.
* Continuous humidity operation at +40°C or lower is limited due to cooler frost.

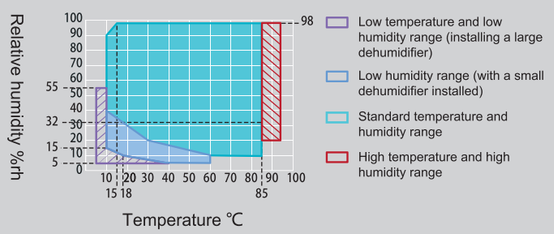
Temperature& Humidity test chamber

-40～100℃ (+150℃/+180℃) • 10～98%rh

Model			ST/64/40(H)	ST/180/40(H)	ST/340/40(H)	ST/600/40(H)	ST/1000/40(H)
System			Temperature and Humidity Balance Control (BTHC) System				
Performance	Temperature& Humidity range		-40～+100℃ (+150℃/+180℃) / 10～98%rh				
	Temperature & Humidity Fluctuations		±0.3°C / ±2.5%rh				
	Temperature uniformity		1.5°C				
	Temperature change rate		Heating rate：3.0°C/min Cooling rate：2.0°C/min				
	Extreme temperature reach time		Heating time：from＋20 to＋100℃ 30 minutes Cooling time：+20 to -40°C 40 minutes				
	Allowable heat load		Test area temperature：+20°C				
			200 W	400 W	600 W	800 W	1000 W
Structure	Appearance material		Using 1.5mm thick FC advanced electrolytic plate + spray anti-corrosion				
	Test area material		1.2mm thick SUS304 stainless steel				
	Heater		Finned Nichrome Explosion-Proof Heater				
	Humidifier		Stainless Steel Sheathed Humidifier (Steam Humidification)				
	Condenser		Air-cooled condenser				
	Air circulator		Centrifugal fan				
	Water supply	Automatic replenishment	10 L	10 L	10 L	10 L	10 L
		Manual refill	10 L	12 L	15 L	15 L	20 L
	Refrigeration unit	System	Mechanical single-stage compression cooling				
		Compressor	Scroll/Piston Compressor				
		Refrigerant	R404A [R449A available on request]				
		Power	1.5 Kw	2.3 Kw	3 Kw	4 Kw	5 Kw
		Extension mechanism	Electronic expansion valve				
Capacity			64L	180L	340L	600L	1000L
Test area load-bearing capacity			30KG		50KG	80KG	100KG
Internal dimensions W×H×Dmm			400*400*400	580*750*450	750*750*600	800*950*800	1000*1000*1000
Dimensions W×H×Dmm			640*1688*1305	800*1800*1500	895*1800*1885	1000*2000*1930	1200*2050*1780
Weight			350kg	450kg	540kg	650kg	730kg
Use environment requirements	Environmental conditions		0～+40℃ (+32～+104℉) / Max 75%rh				
	Power supply	1φ220V AC&50/60Hz	30A	36A	-	-	-
		3φ380V AC&50/60Hz	14A	16A	21A	25A	30A
		Custom power	-				
Noise level			68dB	68dB	68dB	68dB	68dB

*1 Performance values based on IEC60068-3-5:2001 and IEC60068-3-6:2001;
Performance data is given at +23°C ambient temperature, 65±20%rh relative humidity, rated voltage and no samples in the test area.
*2 Minimum temperature attainable at ambient temperature +5 to +30°C.
*3 When the temperature inside the chamber is +20℃.

● Temperature and humidity control range



* Ambient temperature without sample is +23°C.
* Continuous humidity operation at +40°C or lower is limited due to cooler frost.

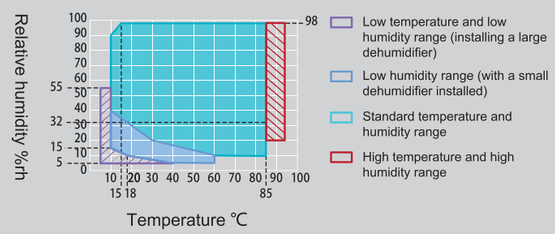
Temperature& Humidity test chamber

-70～100℃ (+150℃/+180℃) • 10～98%rh

Model			ST/64/70(H)	ST/180/70(H)	ST/340/70(H)	ST/600/70(H)	ST/1000/70(H)
System			Temperature and Humidity Balance Control (BTHC) System				
Performance	Temperature& Humidity range		-70～+100℃ (+150℃/+180℃) / 20～98%rh				
	Temperature & Humidity Fluctuations		±0.3°C / ±2.5%rh				
	Temperature uniformity		1.5°C				
	Temperature change rate		Heating rate：3.0°C/min Cooling rate：2.0°C/min				
	Extreme temperature reach time		Heating time：from＋20 to＋100℃ 30 minutes Cooling time：+20 to -70°C 60 minutes				
	Allowable heat load		Test area temperature：+20°C				
			200 W	400 W	600 W	800 W	1000 W
Structure	Appearance material		Using 1.5mm thick FC advanced electrolytic plate + spray anti-corrosion				
	Test area material		1.2mm thick SUS304 stainless steel				
	Heater		Finned Nichrome Explosion-Proof Heater				
	Humidifier		Stainless Steel Sheathed Humidifier (Steam Humidification)				
	Condenser		Air-cooled condenser				
	Air circulator		Centrifugal fan				
	Water supply	Automatic replenishment	10 L	10 L	10 L	10 L	10 L
		Manual refill	10 L	12 L	15 L	15 L	20 L
	Refrigeration unit	System	Mechanical Cascade Compression Cooling				
		Compressor	Scroll/Piston Compressor				
		refrigerant	R404A &R23[R449A&R508B available upon request]				
		Power	2.3 Kw	4.8 Kw	6 Kw	8 Kw	10 Kw
		Extension mechanism	Electronic expansion valve				
Capacity			64L	180L	340L	600L	1000L
Test area load-bearing capacity			30KG		50KG	80KG	100KG
Internal dimensions W×H×Dmm			400*400*400	580*750*450	750*750*600	800*950*800	1000*1000*1000
Dimensions W×H×Dmm			640*1688*1305	895*1800*1570	895*1800*1885	1115*2000*1930	1200*2050*1780
Weight			400kg	520kg	640kg	740kg	860kg
Use environment requirements	Environmental conditions		0～+40℃ (+32～+104℉) / Max75%rh				
	Power supply	1φ220V AC 50Hz/60Hz	40A	50A	-	-	-
		3φ380V AC 50Hz/60Hz	22A	26A	32A	40A	48A
		Custom power	-				
Noise level			68dB	68dB	68dB	68dB	68dB

*1 Performance values based on IEC60068-3-5:2001 and IEC60068-3-6:2001;
Performance data is given at +23°C ambient temperature, 65±20%rh relative humidity, rated voltage and no samples in the test area.
*2 Minimum temperature attainable at ambient temperature +5 to +30°C.
*3 When the temperature inside the chamber is +20℃.

● Temperature and humidity control range



* Ambient temperature without sample is +23°C.
* Continuous humidity operation at +40°C or lower is limited due to cooler frost.

Temperature test chamber -20～100℃ (+150℃/+180℃)

Model			ST/64/20	ST/180/20	ST/340/20	ST/600/20	ST/1000/20
System			Temperature Balance Control (BTC) System				
Performance	Temperature range		-20～+100℃ (+150℃/+180℃)				
	Temperature fluctuation		±0.3°C				
	Temperature uniformity		1.5°C				
	Temperature change rate		Heating rate：3.0°C/min Cooling time：2.0°C/min				
	Extreme temperature reach time		Heating time：from +20 to +100℃ 30 minutes Cooling time：+20 to -20°C 20 minutes				
	Allowable heat load		Test area temperature：+20°C				
			300 W	500 W	800 W	800 W	1000 W
Structure	Appearance material		Using 1.5mm thick FC advanced electrolytic plate + spray anti-corrosion				
	Test area material		1.2mm thick SUS304 stainless steel				
	Heater		Finned Nichrome Explosion-Proof Heater				
	Condenser		Air-cooled condenser				
	Air circulator		Centrifugal fan				
	Refrigeration unit	System	Mechanical single-stage compression cooling				
		Compressor	Scroll/Piston Compressor				
		Refrigerant	R404A [R449A available on request]				
		Power	1.0 Kw	1.25 Kw	1.5 Kw	2.3 Kw	3 Kw
		Extension mechanism	Electronic expansion valve				
Test area capacity			64L	180L	340L	600L	1000L
Test area load-bearing capacity			30KG		50KG	80KG	100KG
Internal dimensions W×H×Dmm			400*400*400	580*750*450	750*750*600	800*950*800	1000*1000*1000
Dimensions W×H×Dmm			640*1688*1255	800*1800*1500	895*1800*1885	1000*2000*1930	1200*2050*1780
Weight			310kg	410kg	510kg	620kg	670kg
Use environment requirements	Environmental conditions		0～+40℃ (+32～+104℉) / Max75%rh				
	Power supply	1φ220V AC&50/60Hz	16A	24A	26A	28A	-
		3φ380V AC&50/60Hz	5A	8A	10A	12A	15A
		Custom power	-				
Noise level			68dB	68dB	68dB	68dB	68dB

*1 Performance values based on IEC60068-3-5:2001 and IEC60068-3-6:2001； Performance data is given at +23°C ambient temperature, 65±20%rh relative humidity, rated voltage and no samples in the test area.

*2 Minimum temperature attainable at ambient temperature +5 to +30°C.

*3 When the temperature inside the chamber is +20℃.

Temperature test chamber -40～100℃ (+150℃/+180℃)

Model			ST/64/40	ST/180/40	ST/340/40	ST/600/40	ST/1000/40
System			Temperature Balance Control (BTC) System				
Performance	Temperature range		-40～+100℃ (+150℃/+180℃)				
	Temperature fluctuation		±0.3°C				
	Temperature uniformity		1.5°C				
	Temperature change rate		Heating rate：3.0°C/min Cooling time：2.0°C/min				
	Extreme temperature reach time		Heating time：from +20 to +100℃ 30 minutes Cooling time：+20 to -40°C 40 minutes				
	Allowable heat load		Test area temperature：+20°C				
			200 W	400 W	600 W	800 W	1000 W
Structure	Appearance material		Using 1.5mm thick FC advanced electrolytic plate + spray anti-corrosion				
	Test area material		1.2mm thick SUS304 stainless steel				
	Heater		Finned Nichrome Explosion-Proof Heater				
	Condenser		Air-cooled condenser				
	Air circulator		Centrifugal fan				
	Refrigeration unit	System	Mechanical single-stage compression cooling				
		Compressor	Scroll/Piston Compressor				
		Refrigerant	R404A [R449A available on request]				
		Power	1.5 Kw	2.3 Kw	3 Kw	4 Kw	5 Kw
		Extension mechanism	Electronic expansion valve				
Capacity			64L	180L	340L	600L	1000L
Test area load-bearing capacity			30KG		50KG	80KG	100KG
Internal dimensions W×H×Dmm			400*400*400	580*750*450	750*750*600	800*950*800	1000*1000*1000
Dimensions W×H×Dmm			640*1688*1305	800*1800*1500	895*1800*1885	1000*2000*1930	1200*2050*1780
Weight			340kg	440kg	530kg	640kg	720kg
Use environment requirements	Environmental conditions		0～+40℃ (+32～+104℉) / Max75%rh				
	Power supply	1φ220V AC&50/60Hz	21A	24A	-	-	-
		3φ380V AC&50/60Hz	7A	8A	21A	25A	30A
		Custom power	-				
Noise level			68dB	68dB	68dB	68dB	68dB

*1 Performance values based on IEC60068-3-5:2001 and IEC60068-3-6:2001； Performance data is given at +23°C ambient temperature, 65±20%rh relative humidity, rated voltage and no samples in the test area.

*2 Minimum temperature attainable at ambient temperature +5 to +30°C.

*3 When the temperature inside the chamber is +20℃.

Temperature test chamber -70～100℃ (+150℃/+180℃)

Model			ST/64/70	ST/180/70	ST/340/70	ST/600/70	ST/1000/70
System			Balance Temperature Control (BTC) System				
Performance	Temperature range		-70～+100℃ (+150℃/+180℃)				
	Temperature fluctuation		±0.3°C				
	Temperature uniformity		1.5°C				
	Temperature change rate		Heating rate：3.0°C/min Cooling rate：2.0°C/min				
	Extreme temperature reach time		Heating time：from＋20 to＋100℃ 30 minutes Cooling time：+20 to -70°C 60 minutes				
	Allowable heat load		Test area temperature：+20°C				
			200 W	400 W	600 W	800 W	1000 W
Structure	Appearance material		Using 1.5mm thick FC advanced electrolytic plate + spray anti-corrosion				
	Test area material		1.2mm thick SUS304 stainless steel				
	Heater		Finned Nichrome Explosion-Proof Heater				
	Condenser		Air-cooled condenser				
	Air circulator		Centrifugal fan				
	refrigeration unit	System	Mechanical Cascade Compression Cooling				
		Compressor	Scroll/Piston Compressor				
		Refrigerant	R404A &R23[R449A&R508B upon request]				
		Power	2.3 Kw	4.8 Kw	6 Kw	8 Kw	10 Kw
		Extension mechanism	Electronic expansion valve				
Capacity			64L	180L	340L	600L	1000L
Test area load-bearing capacity			30KG		50KG	80KG	100KG
Internal dimensions W×H×Dmm			400*400*400	580*750*450	750*750*600	800*950*800	1000*1000*1000
Dimensions W×H×Dmm			640*1688*1305	895*1800*1570	895*1800*1885	1115*2000*1930	1200*2050*1780
Weight			390kg	510kg	630kg	730kg	850kg
Use environment requirements	Environmental conditions		0～+40℃（+32～+104℉）/ Max75%rh				
	Power supply	1φ220V AC 50Hz/60Hz	20A	40A	-	-	-
		3φ380V AC 50Hz/60Hz	14A	18A	24A	32A	40A
		Custom power	-				
Noise level			68dB	68dB	68dB	68dB	68dB

*1 Performance values based on IEC60068-3-5:2001 and IEC60068-3-6:2001; Performance data is given at +23°C ambient temperature, 65±20%rh relative humidity, rated voltage and no samples in the test area.
*2 Minimum temperature attainable at ambient temperature +5 to +30°C.
*3 When the temperature inside the chamber is +20℃.

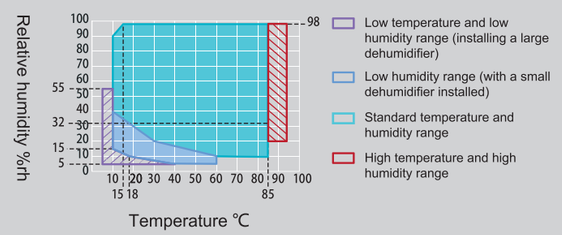
Rapid temperature and humidity test chamber (5K/min)

-70～+180℃ • (10～98%rh)

Model			SR/180/70/5(H)	SR/340/70/5(H)	SR/600/70/5(H)	SR/1000/70/5(H)
System			Balance Temperature & Humidity Control (BTHC) System			
Temperature performance	Temperature range		-70～+180℃			
	Temperature fluctuation		±0.3K			
	Temperature uniformity		1.5°C			
	Space temperature change		−70 to +150℃: 1.5K, +150.1 to +180℃: 2.0K			
	Temperature change rate	Heating rate	5K/min (nonlinear)			
		Cooling rate	5K/min (nonlinear)			
	Extreme temperature reach time	Heating time	+20℃ to +180℃ 40 min.			
		Cooling time	+20℃ to −70℃ 40 min.			
	Allowable heat load		Test area temperature：+20°C			
			4000W	4000W	5000W	5000W
Humidity performance	Temperature & Humidity Range		+10 to 95℃ / 10 to 98%rh			
	Humidity Fluctuation		±2.5%rh			
	Allowable heat load		Test area conditions： +85℃ / 85%rh 500W			
Structure	Appearance material		Using 1.5mm thick FC advanced electrolytic plate + spray anti-corrosion			
	Test area material		1.2mm thick SUS304 stainless steel			
	Heater		Finned Nichrome Explosion-Proof Heater			
	Humidifier		Stainless Steel Sheathed Humidifier (Steam Humidification)			
	Condenser		Water cooled condenser			
	Air circulator		Centrifugal fan			
	Water supply	Automatic replenishment	10 L	10 L	10 L	10 L
		Manual refill	12 L	15 L	15 L	20 L
	Refrigeration unit	System	Mechanical cascade refrigeration			
		Compressor	Scroll compressor			
		Refrigerant	R404A&R23 R449A&R508B			
		Power	4.5 Kw	6 Kw	8 Kw	10 Kw
		Extension mechanism	Electronic expansion valve, capillary			
Capacity			180L	340L	600L	1000L
Test area load-bearing capacity			30KG	50KG	50KG	100KG
Internal dimensions W×H×Dmm			580*750*450	750*750*600	800*950*800	1000*1000*1000
Dimensions W×H×Dmm			780*1800*1570	950*1800*1720	1000*2000*1930	1200*2050*2050
Weight			600kg	720kg	780kg	880kg
Use environment requirements	Environmental conditions		0～+40℃/ Max75%rh			
	Power supply	1φ220V AC&50/60Hz	60A	-	-	-
		3φ380V AC&50/60Hz	28A	32A	40A	48A
Noise level			70dB	70dB	70dB	70dB

*1 Performance values based on IEC60068-3-5:2001 and IEC60068-3-6:2001;
Performance data is given at +23°C ambient temperature, 65±20%rh relative humidity, rated voltage and no samples in the test area.
*2 Minimum temperature attainable at ambient temperature +5 to +30°C.
*3 When the temperature inside the chamber is +20℃.

● Temperature and humidity control range



* Ambient temperature without sample is +23°C.
* Continuous humidity operation at +40°C or lower is limited due to cooler frost.

Rapid temperature test chamber (5K/min) -70～+180℃

Model			SR/180/70/5	SR/340/70/5	SR/600/70/5	SR/1000/70/5
System			Balance temperature control (BTC) system			
Temperature performance	Temperature range		-70～+180℃			
	Temperature fluctuation		±0.3K			
	Temperature uniformity		1.5°C			
	Space temperature change		−70 to +150℃: 1.5K, +150.1 to +180℃: 2.0K			
	Temperature change rate	Heating rate	5K/min（nonlinear）			
		Cooling rate	5K/min（nonlinear）			
	Extreme temperature reach time	Heating rate	+20℃ to +180℃ 40 min.			
		Cooling rate	+20℃ to −70℃ 40 min.			
	Allowable heat load		Test area temperature：+20°C			
			4000W	4000W	5000W	5000W
Structure	Appearance material		Using 1.5mm thick FC advanced electrolytic plate + spray anti-corrosion			
	Test area material		1.2mm thick SUS304 stainless steel			
	Heater		Finned Nichrome Explosion-Proof Heater			
	Condenser		Water cooled condenser			
	Air circulator		Centrifugal fan			
	Refrigeration unit	System	Mechanical cascade refrigeration			
		Compressor	Scroll compressor			
		Refrigerant	R404A&R23 R449A&R508B			
		Power	4.5 Kw	6 Kw	8 Kw	10 Kw
		Extension mechanism	Electronic expansion valve, capillary			
Capacity			180L	340L	600L	1000L
Test area load-bearing capacity			30KG	50KG	50KG	100KG
Internal dimensions W×H×Dmm			580*750*450	750*750*600	800*950*800	1000*1000*1000
Dimensions W×H×Dmm			780*1800*1570	950*1800*1720	1000*2000*1930	1200*2050*2050
Weight			600kg	720kg	780kg	880kg
Use environment requirements	Environmental conditions		0～+40℃/ Max75%rh			
	Power supply	1φ220V AC&50/60Hz	56A	-	-	-
		3φ380V AC&50/60Hz	26A	30A	38A	46A
		Custom power	-	-	-	-
Noise level			70dB	70dB	70dB	70dB

*1 Performance values based on IEC60068-3-5:2001 and IEC60068-3-6:2001； Performance data is given at +23°C ambient temperature, 65±20%rh relative humidity, rated voltage and no samples in the test area.
*2 Minimum temperature attainable at ambient temperature +5 to +30°C.
*3 When the temperature inside the chamber is +20℃.

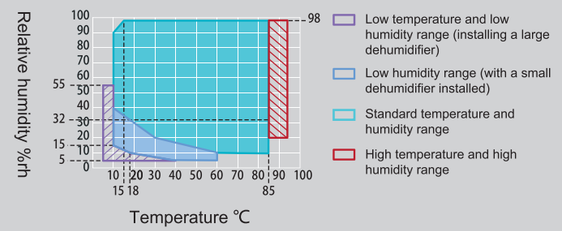
Rapid temperature and humidity test chamber (10K/min)

-70～+180℃ • (10～98%rh)

Model			SR/180/70/10(H)	SR/340/70/10(H)	SR/600/70/10(H)	SR/1000/70/10(H)
System			Balance Temperature & Humidity Control (BTHC) System			
Temperature performance	Temperature range		-70～+180℃			
	Temperature fluctuation		±0.3K			
	Temperature uniformity		1.5°C			
	Space temperature change		−70 to +150℃: 1.5K, +150.1 to +180℃: 2.0K			
	Temperature change rate	Heating rate	10K/min （nonlinear）			
		Cooling rate	10K/min （nonlinear）			
	Extreme temperature reach time	Heating time	+20℃ to +180℃ 20 min.			
		Cooling time	+20℃ to −70℃ 20 min.			
	Allowable heat load		Test area temperature：+20°C			
			4000W	4000W	5000W	5000W
Humidity performance	Temperature & Humidity Range		+10 to 95℃ / 10 to 98%rh			
	Humidity Fluctuation		±2.5%rh			
	Allowable heat load		Test area conditions ： +85℃ / 85%rh 500W			
Structure	Appearance material		Using 1.5mm thick FC advanced electrolytic plate + spray anti-corrosion			
	Test area material		1.2mm thick SUS304 stainless steel			
	Heater		Finned Nichrome Explosion-Proof Heater			
	Humidifier		Stainless Steel Sheathed Humidifier (Steam Humidification)			
	Condenser		Water cooled condenser			
	Air circulator		Centrifugal fan			
	Water supply	Automatic replenishment	10 L	10 L	10 L	10 L
		Manual refill	12 L	15 L	15 L	20 L
	Refrigeration unit	System	Mechanical cascade refrigeration			
		Compressor	Scroll compressor			
		Refrigerant	R404A&R23 R449A&R508B			
		Power	10 Kw	14 Kw	16 Kw	20 Kw
		Extension mechanism	Electronic expansion valve, capillary			
Capacity			180L	340L	600L	1000L
Test area load-bearing capacity			30KG	50KG	50KG	100KG
Internal dimensions W×H×Dmm			580*750*450	750*750*600	800*950*800	1000*1000*1000
Dimensions W×H×Dmm			780*1800*1670	950*1800*1720	1000*2000*1980	1200*2050*2050
Weight			690kg	790kg	940kg	1040kg
Use environment requirements	Environmental conditions		0～+40℃/ Max75%rh			
	Power supply	1φ220V AC&50/60Hz	-	-	-	-
		3φ380V AC&50/60Hz	44A	52A	60A	68A
Noise level			70dB	70dB	70dB	70dB

*1 Performance values based on IEC60068-3-5:2001 and IEC60068-3-6:2001；
Performance data is given at +23°C ambient temperature, 65±20%rh relative humidity, rated voltage and no samples in the test area.
*2 Minimum temperature attainable at ambient temperature +5 to +30°C.
*3 When the temperature inside the chamber is +20℃.

● Temperature and humidity control range



* Ambient temperature without sample is +23°C.
* Continuous humidity operation at +40°C or lower is limited due to cooler frost.

Rapid temperature test chamber (10K/min) -70～+180℃

Model			SR/180/70/10	SR/340/70/10	SR/600/70/10	SR/1000/70/10
System			Balance temperature control (BTC) system			
Temperature performance	Temperature range		-70～+180℃			
	Temperature fluctuation		±0.3K			
	Temperature uniformity		1.5°C			
	Space temperature change		−70 to +150℃: 1.5K, +150.1 to +180℃: 2.0K			
	Temperature change rate	Heating rate	10K/min（nonlinear）			
		Cooling rate	10K/min（nonlinear）			
	Extreme temperature reach time	Heating rate	+20℃ to +180℃ 20 min.			
		Cooling rate	+20℃ to −70℃ 20 min.			
	Allowable heat load		Test area temperature：+20°C			
			4000W	4000W	5000W	5000W
Structure	Appearance material		Using 1.5mm thick FC advanced electrolytic plate + spray anti-corrosion			
	Test area material		1.2mm thick SUS304 stainless steel			
	Heater		Finned Nichrome Explosion-Proof Heater			
	Condenser		Water cooled condenser			
	Air circulator		Centrifugal fan			
	Refrigeration unit	System	Mechanical cascade refrigeration			
		Compressor	Scroll compressor			
		Refrigerant	R404A&R23 R449A&R508B			
		Power	10 Kw	14 Kw	16 Kw	20 Kw
		Extension mechanism	Electronic expansion valve, capillary			
Capacity			180L	340L	600L	1000L
Test area load-bearing capacity			30KG	50KG	50KG	100KG
Internal dimensions W×H×Dmm			580*750*450	750*750*600	800*950*800	1000*1000*1000
Dimensions W×H×Dmm			780*1800*1620	950*1800*1720	1000*2000*1980	1200*2050*2050
Weight			680kg	780kg	930kg	1030kg
Use environment requirements	Environmental conditions		0～+40℃/ Max75%rh			
	Power supply	1φ220V AC&50/60Hz	-	-	-	-
		3φ380V AC&50/60Hz	40A	48A	56A	64A
		Custom power	-	-	-	-
Noise level			70dB	70dB	70dB	70dB

*1 Performance values based on IEC60068-3-5:2001 and IEC60068-3-6:2001; Performance data is given at +23°C ambient temperature, 65±20%rh relative humidity, rated voltage and no samples in the test area.

*2 Minimum temperature attainable at ambient temperature +5 to +30°C.

*3 When the temperature inside the chamber is +20℃.

Rapid temperature and humidity test chamber (15K/min)

-70～+180℃ • (10～98%rh)

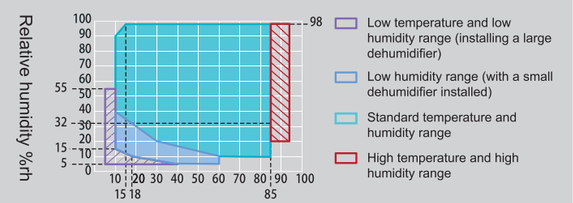
Model			SR/180/70/15(H)	SR/340/70/15(H)	SR/600/70/15(H)	SR/1000/70/15(H)
System			Balance Temperature & Humidity Control (BTHC) System			
Temperature performance	Temperature range		-70～+180℃			
	Temperature fluctuation		±0.3K			
	Temperature uniformity		1.5°C			
	Space temperature change		−70 to +150℃: 1.5K, +150.1 to +180℃: 2.0K			
	Temperature change rate	Heating rate	15K/min（nonlinear）			
		Cooling rate	15K/min（nonlinear）			
	Extreme temperature reach time	Heating time	+20℃ to +180℃ 15 min.			
		Cooling time	+20℃ to −70℃ 15 min.			
	Allowable heat load		Test area temperature：+20°C			
			4000W	4000W	5000W	5000W
Humidity performance	Temperature & Humidity Range		+10 to 95℃ / 10 to 98%rh			
	Humidity Fluctuation		±2.5%rh			
	Allowable heat load		Test area conditions： +85℃ / 85%rh 500W			
Structure	Appearance material		Using 1.5mm thick FC advanced electrolytic plate + spray anti-corrosion			
	Test area material		1.2mm thick SUS304 stainless steel			
	Heater		Finned Nichrome Explosion-Proof Heater			
	Humidifier		Stainless Steel Sheathed Humidifier (Steam Humidification)			
	Condenser		Water cooled condenser			
	Air circulator		Centrifugal fan			
	Water supply	Automatic replenishment	10 L	10 L	10 L	10 L
		Manual refill	12 L	15 L	15 L	20 L
	Refrigeration unit	System	Mechanical cascade refrigeration			
		Compressor	Scroll compressor			
		Refrigerant	R404A&R23 R449A&R508B			
		Power	12 Kw	16 Kw	20 Kw	26 Kw
		Extension mechanism	Electronic expansion valve, capillary			
Capacity			180L	340L	600L	1000L
Test area load-bearing capacity			30KG	50KG	50KG	100KG
Internal dimensions W×H×Dmm			580*750*450	750*750*600	800*950*800	1000*1000*1000
Dimensions W×H×Dmm			1030*1800*1720	1100*1800*1780	1250*2000*2130	1450*2050*2400
Weight			820kg	880kg	1020kg	1150kg
Use environment requirements	Environmental conditions		0～+40℃/ Max75%rh			
	Power supply	1φ220V AC&50/60Hz	-	-	-	-
		3φ380V AC&50/60Hz	44A	58A	64A	78A
Noise level			72dB	72dB	72dB	72dB

*1 Performance values based on IEC60068-3-5:2001 and IEC60068-3-6:2001;
Performance data is given at +23°C ambient temperature, 65±20%rh relative humidity, rated voltage and no samples in the test area.

*2 Minimum temperature attainable at ambient temperature +5 to +30°C.

*3 When the temperature inside the chamber is +20℃.

● Temperature and humidity control range



* Ambient temperature without sample is +23°C.
* Continuous humidity operation at +40°C or lower is limited due to cooler frost.

Rapid temperature test chamber (15K/min) -70～+180℃

Model			SR/180/70/15	SR/340/70/15	SR/600/70/15	SR/1000/70/15
System			Balance temperature control (BTC) system			
Temperature performance	Temperature range		-70～+180℃			
	Temperature fluctuation		±0.3K			
	Temperature uniformity		1.5°C			
	Space temperature change		−70 to +150℃: 1.5K, +150.1 to +180℃: 2.0K			
	Temperature change rate	Heating rate	15K/min（nonlinear）			
		Cooling rate	15K/min（nonlinear）			
	Extreme temperature reach time	Heating rate	+20℃ to +180℃ 15 min.			
		Cooling rate	+20℃ to −70℃ 15 min.			
	Allowable heat load		Test area temperature：+20°C			
			4000W	4000W	5000W	5000W
Structure	Appearance material		Using 1.5mm thick FC advanced electrolytic plate + spray anti-corrosion			
	Test area material		1.2mm thick SUS304 stainless steel			
	Heater		Finned Nichrome Explosion-Proof Heater			
	Condenser		Water cooled condenser			
	Air circulator		Centrifugal fan			
	Refrigeration unit	System	Mechanical cascade refrigeration			
		Compressor	Scroll compressor			
		Refrigerant	R404A&R23 R449A&R508B			
		Power	12 Kw	16 Kw	20 Kw	26 Kw
		Extension mechanism	Electronic expansion valve, capillary			
Capacity			180L	340L	600L	1000L
Test area load-bearing capacity			30KG	50KG	50KG	100KG
Internal dimensions W×H×Dmm			580*750*450	750*750*600	800*950*800	1000*1000*1000
Dimensions W×H×Dmm			1030*1800*1720	1100*1800*1780	1250*2000*2130	1450*2050*2400
Weight			800kg	860kg	1000kg	1130kg
Use environment requirements	Environmental conditions		0～+40℃/ Max75%rh			
	Power supply	1φ220V AC&50/60Hz	-	-	-	-
		3φ380V AC&50/60Hz	40A	56A	60A	72A
		Custom power	-	-	-	-
Noise level			72dB	72dB	72dB	72dB

*1 Performance values based on IEC60068-3-5:2001 and IEC60068-3-6:2001； Performance data is given at +23°C ambient temperature, 65±20%rh relative humidity, rated voltage and no samples in the test area.

*2 Minimum temperature attainable at ambient temperature +5 to +30°C.

*3 When the temperature inside the chamber is +20℃.

Rapid temperature and humidity test chamber (20K/min)

-70～+180℃ • (10～98%rh)

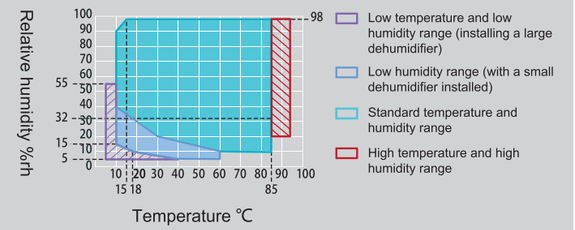
Model			SR/340/70/20(H)	SR/600/70/20(H)	SR/1000/70/20(H)
System			Balance Temperature & Humidity Control (BTHC) System		
Temperature performance	Temperature range		-70～+180℃		
	Temperature fluctuation		±0.3K		
	Temperature uniformity		1.5°C		
	Space temperature change		−70 to +150℃: 1.5K, +150.1 to +180℃: 2.0K		
	Temperature change rate	Heating rate	20K/min （nonlinear）		
		Cooling rate	20K/min （nonlinear）		
	Extreme temperature reach time	Heating time	+20℃ to +180℃ 10 min.		
		Cooling time	+20℃ to −70℃ 10 min.		
	Allowable heat load		Test area temperature：+20°C		
			4000W	5000W	5000W
Humidity performance	Temperature & Humidity Range		+10 to 95℃ / 10 to 98%rh		
	Humidity Fluctuation		±2.5%rh		
	Allowable heat load		Test area conditions ： +85℃ / 85%rh 500W		
Structure	Appearance material		Using 1.5mm thick FC advanced electrolytic plate + spray anti-corrosion		
	Test area material		1.2mm thick SUS304 stainless steel		
	Heater		Finned Nichrome Explosion-Proof Heater		
	Humidifier		Stainless Steel Sheathed Humidifier (Steam Humidification)		
	Condenser		Water cooled condenser		
	Air circulator		Centrifugal fan		
	Water supply	Automatic replenishment	10 L	10 L	10 L
		Manual refill	15 L	15 L	20 L
	Refrigeration unit	System	Mechanical cascade refrigeration		
		Compressor	Piston Compressor		
		Refrigerant	R404A&R23 R449A&R508B		
		Power	20 Kw	26 Kw	30 Kw
		Extension mechanism	Electronic expansion valve, capillary		
Capacity			340L	600L	1000L
Test area load-bearing capacity			50KG	50KG	100KG
Internal dimensions W×H×Dmm			750*750*600	800*950*800	1000*1000*1000
Dimensions W×H×Dmm			1100*1800*1880	1250*2000*2130	1450*2050*2400
Weight			980kg	1080kg	1250kg
Use environment requirements	Environmental conditions		0～+40℃/ Max75%rh		
	Power supply	1φ220V AC&50/60Hz	-	-	-
		3φ380V AC&50/60Hz	74A	82A	90A
Noise level			72dB	72dB	72dB

*1 Performance values based on IEC60068-3-5:2001 and IEC60068-3-6:2001；
Performance data is given at +23°C ambient temperature, 65±20%rh relative humidity, rated voltage and no samples in the test area.

*2 Minimum temperature attainable at ambient temperature +5 to +30°C.

*3 When the temperature inside the chamber is +20℃.

● Temperature and humidity control range



* Ambient temperature without sample is +23°C.
* Continuous humidity operation at +40°C or lower is limited due to cooler frost.

Rapid temperature test chamber (20K/min) -70～+180℃

Model			SR/340/70/20	SR/600/70/20	SR/1000/70/20
System			Balance temperature control (BTC) system		
Temperature performance	Temperature range		-70～+180℃		
	Temperature fluctuation		±0.3K		
	Temperature uniformity		1.5°C		
	Space temperature change		−70 to +150℃: 1.5K, +150.1 to +180℃: 2.0K		
	Temperature change rate	Heating rate	20K/min（nonlinear）		
		Cooling rate	20K/min（nonlinear）		
	Extreme temperature reach time	Heating rate	+20℃ to +180℃ 10 min.		
		Cooling rate	+20℃ to −70℃ 10 min.		
	Allowable heat load		Test area temperature：+20°C		
			4000W	5000W	5000W
Structure	Appearance material		Using 1.5mm thick FC advanced electrolytic plate + spray anti-corrosion		
	Test area material		1.2mm thick SUS304 stainless steel		
	Heater		Finned Nichrome Explosion-Proof Heater		
	Condenser		Water cooled condenser		
	Air circulator		Centrifugal fan		
	Refrigeration unit	System	Mechanical cascade refrigeration		
		Compressor	Piston Compressor		
		Refrigerant	R404A&R23 R449A&R508B		
		Power	20 Kw	26 Kw	30 Kw
		Extension mechanism	Electronic expansion valve, capillary		
Capacity			340L	600L	1000L
Test area load-bearing capacity			50KG	50KG	100KG
Internal dimensions W×H×Dmm			750*750*600	800*950*800	1000*1000*1000
Dimensions W×H×Dmm			1100*1800*1880	1250*2000*2130	1450*2050*2400
Weight			960kg	1060kg	1230kg
Use environment requirements	Environmental conditions		0～+40℃/ Max75%rh		
	Power supply	1φ220V AC&50/60Hz	-	-	-
		3φ380V AC&50/60Hz	72A	80A	88A
		Custom power	-	-	-
Noise level			72dB	72dB	72dB

*1 Performance values based on IEC60068-3-5:2001 and IEC60068-3-6:2001; Performance data is given at +23°C ambient temperature, 65±20%rh relative humidity, rated voltage and no samples in the test area.

*2 Minimum temperature attainable at ambient temperature +5 to +30°C.

*3 When the temperature inside the chamber is +20℃.

Rapid temperature and humidity test chamber (25K/min)

-70～+180℃ • (10～98%rh)

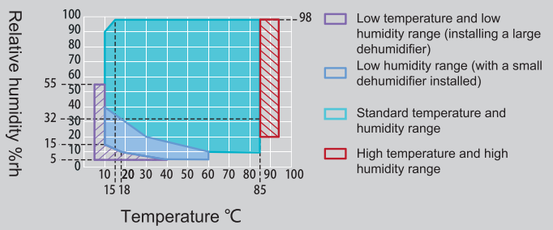
Model			SR/340/70/25(H)	SR/600/70/25(H)	SR/1000/70/25(H)
System			Balance Temperature & Humidity Control (BTHC) System		
Temperature performance	Temperature range		-70～+180℃		
	Temperature fluctuation		±0.3K		
	Temperature uniformity		1.5°C		
	Space temperature change		−70 to +150℃: 1.5K, +150.1 to +180℃: 2.0K		
	Temperature change rate	Heating rate	25K/min（nonlinear）		
		Cooling rate	25K/min（nonlinear）		
	Extreme temperature reach time	Heating time	+20℃ to +180℃ 7 min.		
		Cooling time	+20℃ to −70℃ 7 min.		
	Allowable heat load		Test area temperature：+20°C		
			4000W	5000W	5000W
Humidity performance	Temperature & Humidity Range		+10 to 95℃ / 10 to 98%rh		
	Humidity Fluctuation		±2.5%rh		
	Allowable heat load		Test area conditions：+85℃ / 85%rh 500W		
Structure	Appearance material		Using 1.5mm thick FC advanced electrolytic plate + spray anti-corrosion		
	Test area material		1.2mm thick SUS304 stainless steel		
	Heater		Finned Nichrome Explosion-Proof Heater		
	Humidifier		Stainless Steel Sheathed Humidifier (Steam Humidification)		
	Condenser		Water cooled condenser		
	Air circulator		Centrifugal fan		
	Water supply	Automatic replenishment	10 L	10 L	10 L
		Manual refill	15 L	15 L	20 L
	Refrigeration unit	System	Mechanical cascade refrigeration		
		Compressor	Piston Compressor		
		Refrigerant	R404A&R23 R449A&R508B		
		Power	26 Kw	31 Kw	40 Kw
		Extension mechanism	Electronic expansion valve, capillary		
Capacity			340L	600L	1000L
Test area load-bearing capacity			50KG	50KG	100KG
Internal dimensions W×H×Dmm			750*750*600	800*950*800	1000*1000*1000
Dimensions W×H×Dmm			1100*1800*1980	1250*2000*2250	1450*2050*2450
Weight			1060kg	1180kg	1400kg
Use environment requirements	Environmental conditions		0～+40℃/ Max75%rh		
	Power supply	1φ220V AC&50/60Hz	-	-	-
		3φ380V AC&50/60Hz	88A	96A	110A
Noise level			72dB	72dB	72dB

*1 Performance values based on IEC60068-3-5:2001 and IEC60068-3-6:2001;
Performance data is given at +23°C ambient temperature, 65±20%rh relative humidity, rated voltage and no samples in the test area.

*2 Minimum temperature attainable at ambient temperature +5 to +30°C.

*3 When the temperature inside the chamber is +20℃.

● Temperature and humidity control range



* Ambient temperature without sample is +23°C.
* Continuous humidity operation at +40°C or lower is limited due to cooler frost.

Rapid temperature test chamber (25K/min) -70～+180℃

Model			SR/340/70/25	SR/600/70/25	SR/1000/70/25
System			Balance temperature control (BTC) system		
Temperature performance	Temperature range		-70～+180℃		
	Temperature fluctuation		±0.3K		
	Temperature uniformity		1.5°C		
	Space temperature change		−70 to +150℃: 1.5K, +150.1 to +180℃: 2.0K		
	Temperature change rate	Heating rate	25K/min（nonlinear）		
		Cooling rate	25K/min（nonlinear）		
	Extreme temperature reach time	Heating rate	+20℃ to +180℃ 7 min.		
		Cooling rate	+20℃ to −70℃ 7 min.		
	Allowable heat load		Test area temperature：+20°C		
			4000W	5000W	5000W
Structure	Appearance material		Using 1.5mm thick FC advanced electrolytic plate + spray anti-corrosion		
	Test area material		1.2mm thick SUS304 stainless steel		
	Heater		Finned Nichrome Explosion-Proof Heater		
	Condenser		Water cooled condenser		
	Air circulator		Centrifugal fan		
	Refrigeration unit	System	Mechanical cascade refrigeration		
		Compressor	Piston Compressor		
		Refrigerant	R404A&R23 R449A&R508B		
		Power	26 Kw	31 Kw	40 Kw
		Extension mechanism	Electronic expansion valve, capillary		
Capacity			340L	600L	1000L
Test area load-bearing capacity			50KG	50KG	100KG
Internal dimensions W×H×Dmm			750*750*600	800*950*800	1000*1000*1000
Dimensions W×H×Dmm			1100*1800*1980	1250*2000*2250	1450*2050*2450
Weight			1060kg	1180kg	1400kg
Use environment requirements	Environmental conditions		0～+40℃/ Max75%rh		
	Power supply	1φ220V AC&50/60Hz	-	-	-
		3φ380V AC&50/60Hz	88A	96A	110A
		Custom power	-	-	-
Noise level			72dB	72dB	72dB

*1 Performance values based on IEC60068-3-5:2001 and IEC60068-3-6:2001； Performance data is given at +23°C ambient temperature, 65±20%rh relative humidity, rated voltage and no samples in the test area.

*2 Minimum temperature attainable at ambient temperature +5 to +30°C.

*3 When the temperature inside the chamber is +20℃.

Other Environmental Test Chambers

Bench-top temperature & humidity chamber

Bench-top temperature& humidity test chamber is very suitable for temperature and humidity testing of small samples.
Daily use, cosmetics, electronic components and medical products must meet certain quality standards and testing specifications.
Bench-top temperature & humidity test chamber can test sample in a small space.

Model	Temperature range	Humidity range
ST/22/40(H)	−40 to +150℃	30～95%rh

Double-Layer Temperature And Humidity Chambers

The double-layer temperature and humidity chamber can be integrated with two machines in an effective space, so that a single chamber has two independent spaces.

Two different temperature conditions can be tested at the same time to achieve good space utilization and shorten the test time.

Model	Temperature range	Humidity range
ST/600/70(H)/2	−70 to +180℃	10～98%rh

Battery Temperature Test Chambers

Sonacme Technology's high and low temperature battery explosion-proof chamber is an ideal choice for battery and battery module testing. These temperature chambers are available for environmental testing with or without humidity.

To test its reliability, our battery explosion-proof chamber tests lithium batteries under various test conditions.

Model	Temperature range	Humidity range
ST/600/70/EP	−70 to +180℃	10～98%rh

SONACME
Environmental Test Chambers

Thermal Shock Chambers

The Thermal Shock Chamber is ideal for testing IC chips and small electronic products.

The design consists of two independently controlled inner chamber. One is the high temperature zone and the other is the low temperature zone. Rapid product transfer between high and low temperature chambers creates a temperature shock to the sample to help find product defects in electronic components and product assembly.

Model	Temperature impact range	Type
SS/80/2P	−65 to +150℃	Two zone/ Three zone

Walk-In Temperature And Humidity Chambers

Walk-In temperature and humidity chambers are available in a variety of sizes and configurations for standard and custom solutions.

Ideal for testing large products, batches or full vehicle testing with panelized or welded walk-in chamber solutions.

Model	Temperature range	Humidity range
SWT/18/70(H)	−70 to +150℃	20～95%rh

AGREE Chambers

The three comprehensive chamber can simulate the changes and damages of the three physical quantities of temperature, humidity and vibration to the product in the natural environment.

It is used to evaluate the reliability of the product and its adaptability to the environment, so it can perform temperature and humidity changes and random vibration at the same time to find out the defects of the product.

Model	Temperature range	Humidity range
SA/1000/70(H)	−70 to +150℃	20～95%rh

Altitude Test Chambers

Allows users to perform temperature and altitude condition testing in one combined chamber and create multiple conditions to meet multiple testing needs simultaneously.

For test applications on satellites, rockets, aircraft or helicopters: Modern aircraft are subjected to extreme stress during use.

Model	Temperature range	Pressure range
SAT/1000	−70 to +180℃	Normal pressure ~0.1kpa（101pa)

UV Accelerated Aging Test Chambers

Fluorescent ultraviolet lamps are used as the light source, and the temperature and humidity are properly controlled to periodically generate condensation on the samples, so as to fully obtain the damage effects of sunlight, humidity and temperature on polymer materials.

Material aging including fading, loss of gloss, loss of strength, cracking, peeling, powdering and oxidation, etc

Model	Light Source	The range of Irradiance
ST/UV/A	UV-A (wave length 340 nm) or UV-B (wave length 313 nm)	0.3 W/m² ～1.55 W/m²

Xenon Test Chambers

The xenon lamp weathering chamber reproduces the damage caused by the full spectrum of sunlight and rain.

In a matter of days or weeks, xenon arc weathering chambers are capable of reproducing damage from months or years of outdoor aging. Xenon lamp aging chamber is a full-featured light stability, color fastness and light fastness test chamber.

Model	Xenon Lamp	Exposure Area
SX/6500/H	Import originally from America	6500 cm²

Special Features

Energy Saving

In energy-saving operation mode, reduce energy consumption by up to 50%（per cycle, by comparing SONACME test chamber）

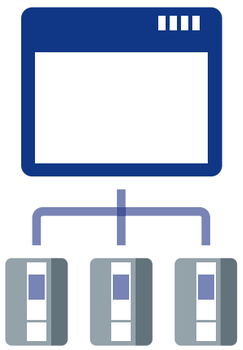
Automatic setting of precooling and preheating in energy saving mode

High performance

Time Saving

Minimize defrost load by defrosting.

Minimize defrost load through frost-free operation
（Option: frost-free operation）
1000 cycles of continuous operation
（Option: frost-free operation）



Simple monitoring

By connecting a room in a network group，
You can monitor the status of the chamber through browser.
No specific application required.

Centralized control monitor

You can observe the current operating status of all test
Equipment in a real time through one computer.

Customized Test

We offer years of custom chamber experience.
We can meet your individual requirements

Wide viewing window

Clearly visible at -40°C

Vehicle test

Altitude Training Systems

Hypoxic environment