



Hutech

Since 2002

Environmental Testing Machine

General Catalogue

Vacuum oven

A system designed for maintaining vacuum at high temperature and also for drying and aging heat treatment



FEATURES

- It allows to dry moisture and solvent of secondary batteries such as lithium ion polymer battery
- By adopting an individual control structure of 8 zone heater, it improves the temperature distribution and precision
- Temperature compensation structure by radiant heat in vacuum
- Chamber cooling method for both air cooling and water cooling and possible structure for N2 purge. These can be chosen between auto/manual action
- Using the cold trap and filter, it extends the lifetime of the vacuum pump by collecting the moisture and solvent during drying
- Programmable control of temperature, vacuum, purge and vent in required pattern (40 patterns / 1200 steps). Vacuum dedicated controller, 12 channel recording applied
- Able to check and manage the operating condition and recording up to 100 set through the 「SAMWON-EZ NET」 network system

SPECIFICATION

Type		Vacuum dryer
Capacity		1830L
Heater capacity		60kW
Temp.	Range	Room Temp.~180℃
	Set width/distribution degree	0.1℃ / ±2.0℃
	Stability time/fall time	60 mins for room temp~120℃/2hours
Vacuum	Range	Atmospheric~3.75x10 ⁻² torr
	Set width/distribution degree	0.001torr
	Stability time/fall time	30 minutes
Structure	Control method	Individual control structure of 8 zone heater
	Heater method	Convection/radiation of inner heater
	Cooling method	External air cooling/water cooling, N2 purge
Operation	Controller	Touch panel type two channel (Temperature, Vacuum only)
	Recorder	Touch panel type twelve channel (Temperature, Vacuum only)
	Mode	Automatic/manual (Temperature, Vacuum, Purge, Vent)
Security device	Moisture and solvent	Filter, Cold trap
	Safety device	Temperature overheat prevention(Electronic, Mechanical), Vacuum degree rise detection blower&freezer overload prevention, Vacuum pump&booster overload prevention and other circuit breaker
	Notice	Buzzer, Warning light, Record preservation
Maintenance	Vacuum pump	Dry Type (Easy for desorption and attachment)
	Heater	SUS304 sheath heater
	Warranty	3 years, Initial flow management system
Inside dimensions(W*H*D)		1380*1250*1060
Outside dimensions(W*H*D)		1950*1845*2000
Power supply		3phase 220V AC / 60Hz / 80kW

※ Size unit : mm

Bench-top temp. & humi. chamber

Hutech bench-top temperature & humidity chamber supports your reliability test with remarkable high performance



FEATURES

- Slide-type water supply bucket located at the bottom of the main body is removable and allows free movement and convenient water replacement
- With low power consumption design of 110/220V AC supply, it is easily installable from general household outlet
- When a system error occurs, the contents of each error can be displayed as a picture for quick confirmation and response
- By adopting BLDC motor, it has achieved low noise of 59dB or less which is ideal for indoor use
- Protects user and device from the accident by preventing overheating and overcurrent which may occur during use (Applied electronic, electric and mechanical triple blocking device)
- Provides user's desired output such as communication, run, alarm and time signal as a relay contact
- Contributes to energy saving by adopting inverter control system

SPECIFICATION

Division		24		26		64		66	
		HTM	HTP	HTM	HTP	HTM	HTP	HTM	HTP
Temp.	Range	-40.0~150.0°C		-60.0~150.0°C (Att.1)		-40.0~150.0°C		-60.0~150.0°C (Att.1)	
	Fluctuation range	±0.3°C							
	Fall time	20.0~-40.0°C Within about 60 min		20.0~-60.0°C Within about 80 min		20.0~-40.0°C Within about 70 min		20.0~-60.0°C Within about 90 min	
	Rise time	40.0~150.0°C Within about 60 min		-60.0~150.0°C Within about 70 min		40.0~150.0°C Within about 70 min		-60.0~150.0°C Within about 80 min	
	Distribution	±1.0°C (-60.0~100.0°C) ±2.0°C (100.1~150.0°C)							
Humi.	Control range	30.0~98.0%RH	-	30.0~98.0%RH	-	30.0~98.0%RH	-	30.0~98.0%RH	-
	Fluctuation range	±1.0%RH	-	±1.0%RH	-	±1.0%RH	-	±1.0%RH	-
	Distribution	±2.0%RH	-	±2.0%RH	-	±2.0%RH	-	±2.0%RH	-
Material / Configuration part	Internal material	Stainless steel plate(SUS304)							
	External material	Cold rolled steel sheet / Powder coating							
	Insulation material	Aerogel, Urethane foam							
	Fan	Impeller fan							
	Compressor	Scroll(Inverter type)		Scroll(Inverter type), Binary refrigeration		Scroll(Inverter type)		Scroll(Inverter type), Binary refrigeration	
	Condenser	Air-cooled		Cascade + Air-cooled		Air-cooled		Cascade + Air-cooled	
	Refrigerant	R404A		R23, R404A		R404A		R23, R404A	
	Evaporator	Air-cooled plate pin cooler							
	Heater	Nichrome strip wire heater							
Humidifier	Stainless steel cartridge heater	-	Stainless steel cartridge heater	-	Stainless steel cartridge heater	-	Stainless steel cartridge heater	-	
Laboratory capacity(W*H*D)	300*300*250(22.5L)				400*400*400(64L)				
Dimensions(W*H*D)	450*690*815		450*690*990		550*790*970		550*790*1170		
Weight	107Kg		120Kg		137Kg		178Kg		
Operating ambient temperature	+5~35°C								
Safety specifications	Control circuit cutoff, Temperature and rise prevention, Overload relay, Refrigerator protection circuit, Earth leakage circuit breaker, External alarm terminal, Water shortage alarm								
Power specifications	220V AC 1φ 50/60Hz, 110V AC 1φ 50/60Hz <Operation within ± 10%>								
	220V, 7A	220V, 6A	220V, 7.5A	220V, 6.5A	220V, 10A	220V, 8A	220V, 11A	220V, 9A	
	110V, 14A	110V, 12A	110V, 15A	110V, 13A	110V, 20A	110V, 16A	110V, 22A	110V, 18A	

※ Temperature and humidity specifications is no sample, is the performance of the stability of the value. ※ (Att. 1) : Please contact us for -70 °C. ※ Size unit : mm

Solar panel wet-proof chamber

The optimum for adhesion test of bonding material at high temperature and high humidity of solar panel



FEATURES

- In order to improve the temperature distribution, this apparatus employs a full blowout structure (Down-flow) from the ceiling. Also, we can contribute to energy saving as we selectively operate equipment according to the volume size of the test product.
- Through the cassette rack with height adjustment function, it allows to use a wide range of sizes and types
- 20 for the boards and 10 sets for the unit can be inserted
- Corresponding sample size
 - 1) 1400x1200x5t~9t
 - 2) 1200x1000x6t
 - 3) 990x960x6t
 - 4) 410x1010x6t
 - 5) 250x1010x6t
- The cassette rack with height adjustment function eliminates temperature change inside of test room by adopting the stand-up of the panel

SPECIFICATION

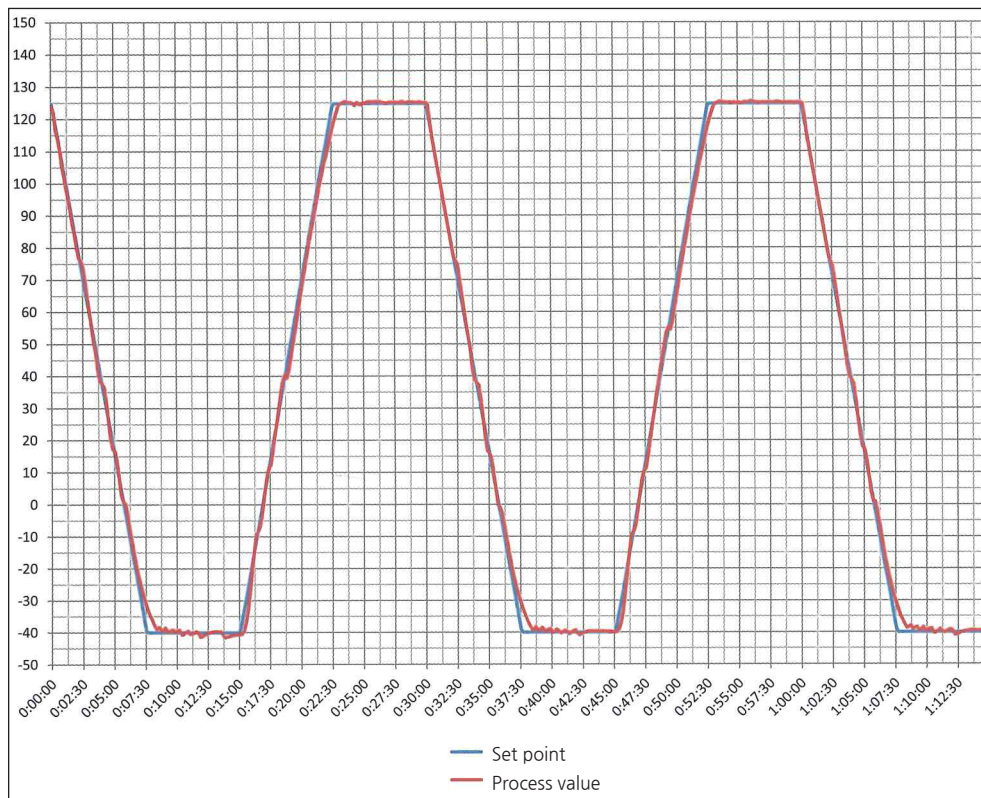
Type	TH-R101-A/W	THC-R101-W
Temp. range	20 ~ 100℃	-40 ~ 100℃
Humi. range	50 ~ 95%RH	40 ~ 95%RH
Inside dimensions(W*H*D)	2000*2000*2800	2050*2150*4400
Outside dimensions(W*H*D)	1600*1250*1600	1600*1350*1800
Use	85℃ 85% Long term moisture resistance test	Proof of condensation and freezing test

※ Size unit : mm

Rapid-rate thermal cycle chamber

Thermal shock chamber, rapid thermal cycle chamber

Rapid thermal cycle testing chamber
Takes 7mins 30secs for rise and fall ; 125°C ⇔ -40°C



JTC-715HS-104

FEATURES

- JEDEC standard JESD22-A104C correspond to test
- Achieve temperature rate of 22°C/min (Range of -55~125°C 10~90%)

SPECIFICATION

Type	JTC-715HS-104	JTCH-715HS-104
Temp. range	-70~150°C	-70~150°C
Humi. range	-	30~95%RH
Temp. rise/fall	22°C/min for -55~125°C	22°C/min for -55~125°C
Inside dimensions(W*H*D)	650*400*400	650*400*400
Outside dimensions(W*H*D)	1100*1850*2000	1100*1850*2000

※ Size unit : mm

Liquid type thermal shock chamber

It is used for endurance tests of the automotive components, printed circuit boards, screening of semiconductor and shipment inspection on the CPU board, so it contributes to shortening of the development period and duration of testing (Patent no.3898210)



LTS-1000-W



LTS-200-W

FEATURES

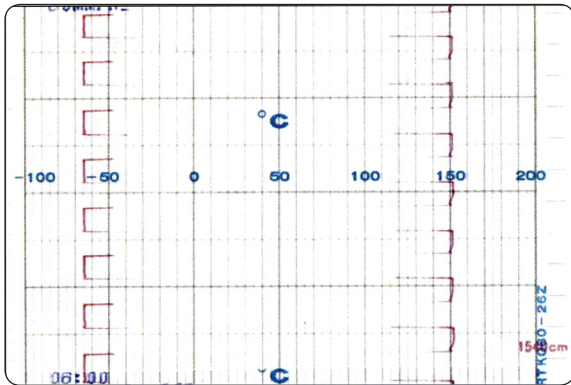
- Able to reduce liquid consumption by completely isolating the test area during the test
- Able to reduce power consumption depending on a test conditions by dual cooling systems. It contributes to energy saving
- It contributes to reducing liquid consumption by adopting a high-temperature liquid quenching circuit after the test
- Automatic liquid supplier device helps to eliminate manual liquid supply
- Suitable for tests requiring rapid temperature changes. Low temp. ⇄ high temp. / High temp. ⇄ low temp.
- MIL-STD, JEDEC, IEC Standard tests available
- Able to monitor sample and liquid during test by installing observation window on the transportation system
- Able to use tray of JEDEC standard

SPECIFICATION

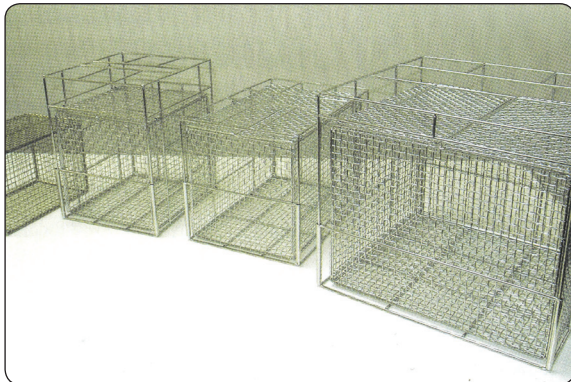
Type	LTS-100-A	LTS-150-A/W	LTS-300S-W	LTS-1000-W
High temp. test temp. range	+50℃~150℃			
Low temp. test temp. range	-65℃~+25℃			
High temp. exposure time	150℃/5mins			
Low temp. exposure time	-65℃/5mins			
Recovery time	2mins			
Specimen	IC 1.0Kg	IC 1.5Kg	IC 10.Kg	IC 6.0Kg
Specimen basket dimensions (W*H*D)	150*150*250	220*220*250	200*300*400	350*260*350
Outside dimensions(W*H*D)	1000*1650*1000	1420*1870*1400	1420*1950*1750	1750*1900*1800
Initial liquid amount	58Liter	95Liter	180Liter	200Liter

※ Size unit : mm

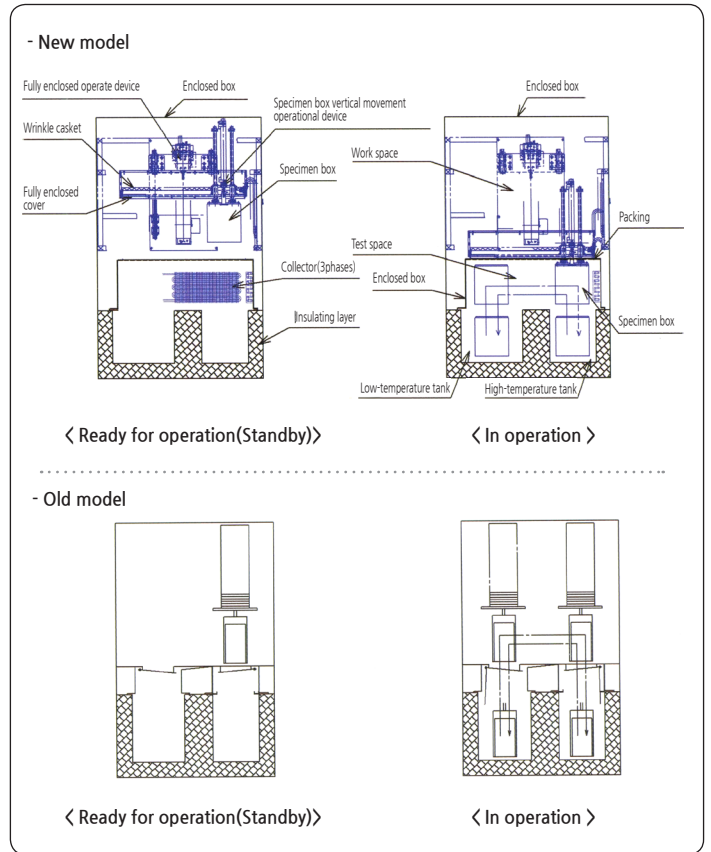
IC 2.0kg test data (LTS-200-W)



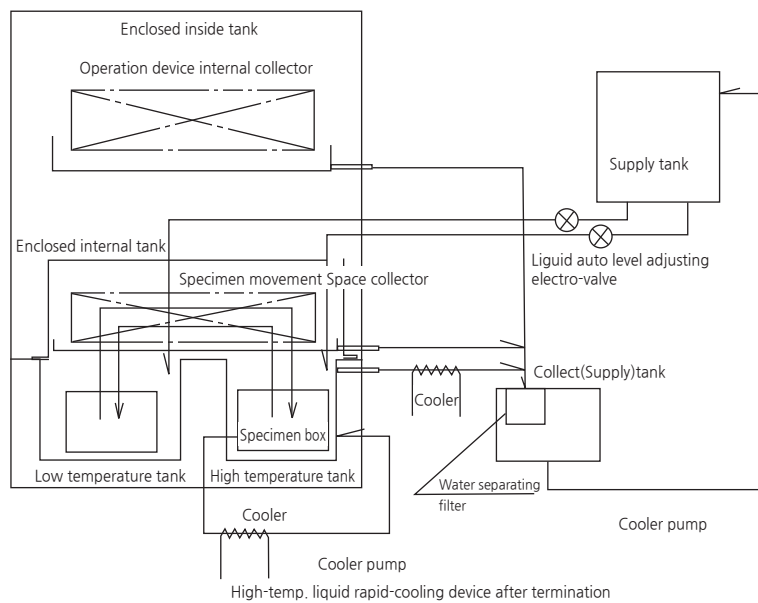
Specimen basket tailored to customer needs



Liquid consumption saving action



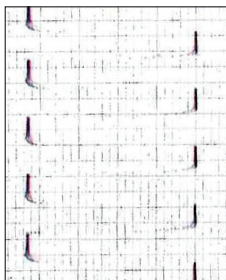
Vapor collect structure (Liquid collect circulation system)



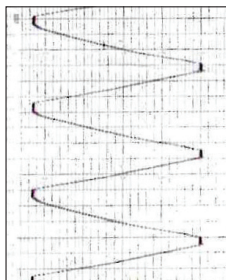
Multifunctional chamber

Multichamber suitable for JEDA104B temperature cycle test, MIL-STD thermal shock test, and low temperature and high temperature test

Test data



MIL STD Test

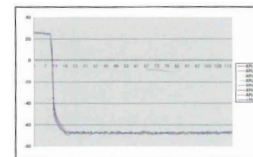


Test of JEDEC standard

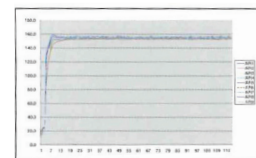


Low temp. & high temp. test

- Low temperature test



- High temperature test



FEATURES

- Able to correspond to the evaluation test of Rohs contact
- Simply change mode(Function) with touch panel
- Able to realize the Agree test of 5°C/min and JEDEC test of 10°C~15/min as linear-zero
- Various test can be done in the same cases, so no device error. Improved test quality and compatibility
- Significantly improved temperature distribution by adopting newly designed special rubber

SPECIFICATION

Type	JTS-615-64	JTS-615-100	JTS-815-64	JTS-815-100	JTS-815-80
JESD temp. cycle main test conditions °C (Deviation)	B : -55(+0,-10)~+125(+15,-0) H : -55(+0,-10)~+150(+15,-0) K : 0(+0,-10)~+125(+15,-0) M : -40(+0,-10)~+150(+15,-0)		B : -55(+0,-10)~+125(+15,-0) C : -65(+0,-10)~+150(+15,-0) H : -55(+0,-10)~+150(+15,-0) K : 0(+0,-10)~+125(+15,-0) M : -40(+0,-10)~+150(+15,-0)		
Exposure mode(Time)	1, 5, 10, 15mins				
MIL-STD thermal shock	3 Zone		2 Zone		No function of thermal shock test
High temp. exposure time	150°C/15mins		150°C/15mins		
Low temp. exposure time	-65°C/15mins		-65°C/15mins		
Recovery time	5mins		5mins		
Specimen	IC 5.0Kg	IC 7.0Kg	IC 5.0Kg	IC 7.0Kg	IC 5.0Kg
Inside dimensions(W*H*D)	400*400*400	400*400*600	400*400*400	400*400*600	400*500*400
Outside dimensions(W*H*D)	1300*1850*1600	1500*1850*1800	1300*1850*1600	1500*1850*1800	1300*1850*1500

※ Size unit : mm

Air to air thermal shock chamber

Test the heat resistance by applying the thermal stress to specimen



ATS-2000-W



TSE-100-2W
(Elevator type)



ATS-252S-W
(Safety vent included)

FEATURES

- Able to tailor to various field needs with flexible product design
- Easy to understand for workers with simple operation and high performance
- Significantly improved the temperature distribution by adopting newly designed special louvers
- Able to produce a tester for 100 inch or more TV LCD (ATS-3000-W10800Liter)

SPECIFICATION

Type	TSE-100-2W	ATS-70-W	ATS-100-W	ATS-252S-W	ATS-2000-W
Major use	PPS of Korea	MIL STD	MIL STD	Lithium-Ion rechargeable battery	65"LCD, PDP TV
High temp. arrival time	150°C/15mins	150°C/15mins		70°C/30mins	85°C/60mins
Low temp. arrival time	-65°C/15mins	-65°C/15mins		-40°C/30mins	-40°C/60mins
Recovery time	5mins	5mins		10mins	5mins
Specimen	IC 10Kg	IC 5.0Kg	IC 5.0Kg	IC 15Kg	MAX. 100Kg
Inside dimensions(W*H*D)	700*400*400	450*400*400	450*400*600	700*600*600	2000*1800*1500
Outside dimensions(W*H*D)	1350*2050*2000	1350*1850*1700	1350*1850*1800	1650*1950*1800	4000*2250*2400

※ Size unit : mm

Semiconductor chamber

Able to produce various chambers such as memory IC burn-in chamber, power device withstands voltage chamber, temperature humidity-bias chamber(THB), 400mm wafer bake oven, hast system and ultra-low temperature liquid circulation device etc.

MEMORY IC BURN-IN CHAMBER

Specifications

Type	BC-615 / R15-460
Inside dimensions(W*H*D)	650*850*650 x 2chambers
Temp. range	Low Temp. part : -65℃~150℃
	High Temp. part : 25℃~150℃

12layers with 60mm pitch rack

PCB insert	Able to produce vertical or horizontal insert
Anti-condensation	Install N2 gas purge function

※ Size unit : mm



POWER DEVICE WITHSTANDS VOLTAGE CHAMBER

Specifications

Type	HS-351
Inside dimensions(W*H*D)	350*300*450
Temp. range	30℃~160℃
Humi. range	60%RH~100%RH

Power supply device

Chanel number	40CH
Voltage	MAX. 1500V

※ Size unit : mm



TEMPERATURE HUMIDITY BIAS CHAMBER (THB)

Specifications

Type	THB-85-460
Inside dimensions(W*H*D)	600*1300*600
Temp. range	20℃~100℃
Humi. range	30%RH~08%RH

Power supply device

Zone number	1~15 Zone
Power	3power
Signal number	32units signal frequency 100KHz MAX.

※ Size unit : mm



400mm WAFER BAKE OVEN

Specifications

Type	BKO-R450-180
Inside dimensions(W*H*D)	600*500*600 x 2rooms
Temp. range	60℃~450℃
Temp. distribution	Within ±2.5℃(When 450℃)
Anti-oxidants	N2 gas purge function installed

※ Size unit : mm



HAST SYSTEM

Operable for both saturated and unsaturated mode
Bias device terminal 20p standard, able to produce rack

Specifications

Type	HS-351	HS-352	
Inside dimensions(W*H*D)	350*300*450	350*300*450	
Temp. range	105℃~160℃	Bottom	30℃~160℃
		Top	105℃~160℃
Humi. range	65%RH~100%RH	65%RH~100RH	
Pressure range	0.02~0.35MPa	0.02~0.35Mpa	
		Bottom	30℃ 160%RH possible

※ Size unit : mm



ULTRA-LOW TEMPERATURE LIQUID CIRCULATION DEVICE

Suitable for semiconductor manufacturing device
cryo-unit, ideal for cryogenic test device such as biorelated

Specifications

Type	ULT-75P
Temp. range	-75℃~0℃
Liquid circulation amount	7.0L/min
※ Externally installed circulation pump devices are also available for production	



Decompression (Altitude) chamber

It is used for corresponding to highlands such as evaluation test and stress analysis of analysis of aircraft parts, LCD PDP panel and electronic part etc.

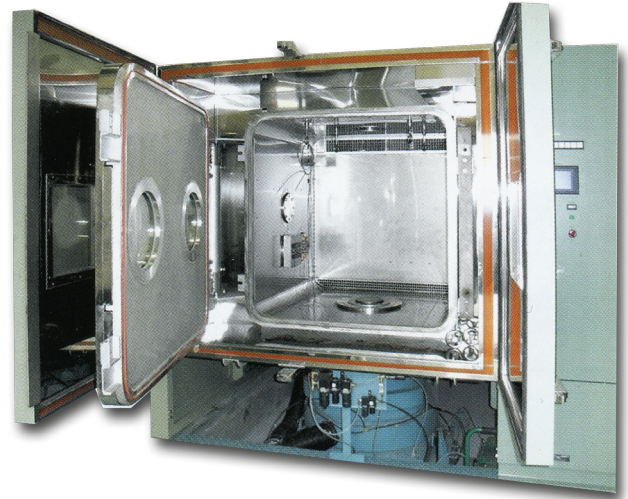
ALT-410-2000(8000LIT)

Usable for highlands such as LCD or PDP TV and air transportation



ALT-615-1500

Combined test device for temperature, humidity, vacuum and vibration test
Can be used for CERT standard test such as part of jet engine (10°C/min)



FEATURES

- Programmable for combined circulation test such as temperature, humidity, vibration and decompression (Vacuum) etc.
- Actualization for temperature rise & fall at 10°C/min (-54°C~125°C)
- With dual structure, it is able to maintain stable temperature even under the decompression
- Possible to control the slope of temperature, decompression and boosting

SPECIFICATION

Type	ALT-410-300	ALT-410-800	ALT-410-2000	ALT-615-1500
Temp. range	-40°C~100°C(-60°C~150°C option selectable)			-60~150°C
Temp. rise time	Within 60mins until room temperature~100°C			10°C/min
Temp. fall time	Within 60mins until room temperature~-40°C			10°C/min
Temp. distribution	±2.0°C			±2.5°C
Humi. range	20°C~90°C, 20%RH ~ 95%RH(Excluding decompression)			
Pressure(Decompression) range	101kPa~2.7kPa(Altitude 0~80,000ft)			101kPa~2kPa
Vibration test	X			O
Fix mode	-40°C~100°C (-60°C ~ 150°C) 8 banks can be set in the range			
Program mode	-40°C~100°C (-60°C ~ 150°C) 32 steps 8 banks can be programmed in the range			

Air pressure chamber for lithium battery

There are temperature cycle, vibration and low pressure test according to the UN test standard of lithium battery. However, this device is capable of low pressure test at 20°C and -56.5°C/11.6KPa (JIS C8712 is applicable) 11.6KPa



Exclusively developed temperature, vacuum controller

SPECIFICATION

Type	AP-310-250	AP-610-250	AP-310-800	AP-610-800
Major use	Air transport testing such as lithium-ion battery, LCD and panel etc.			
Temp. range	-30°C~100°C	-60°C~100°C	-30°C~100°C	-60°C~100°C
Temp. rise time	Within 60mins until room temperature~100°C (Atmospheric conditions)			
Temp. fall time	Within 60mins until room temperature~ -30°C, Within 60mins until room temperature~-60°C (Atmospheric conditions)			
Temp. distribution	±2.0°C		±2.5°C	
Pressure(Vacuum) range	100KPa~1KPa available for linear control of pressure rise and pressure fall		100KPa~3KPa available for linear control of pressure rise and pressure fall	
Fix mode	8banks can be set in the range of -30°C~100°C(-60°C~100°C)			
Program mode	32steps and 8programs can be set in the range of -20°C~100°C(-55°C~100°C)			
Power supply terminal	10P/1unit 200V 10A Standard mounting (Option: can be added per unit)			
Signal line terminal	10P/1unit 200V 2A Standard mounting (Option: can be added per unit)			
Thermocouple	Option equipment available in a set of 12units			
Inside dimensions(W*H*D)	500*600*500		1000*1000*800	
Outside dimensions(W*H*D)	1220*1950*1700		1650*1950*1850	

※ Size unit : mm

Multi-environmental chamber

Chambers for vibration testing of various product such as automobiles, aircraft and electronic components

VERTICAL CHAMBER

Chamber of electrical parts

Available manufacture range

Corresponding vibrator	Vertical, horizontal, 3 axes
Temp. range	-70℃~180℃
Humi. range	20%RH~98%RH
Inside volumes	64L~4500L



VERTICAL, HORIZONTAL, ELEVATOR CHAMBER

Multi-purpose chamber

Available manufacture range

Corresponding vibrator	Vertical, horizontal, 3 axes
Temp. range	-70℃~180℃
Humi. range	20%RH~98%RH
Inside volumes	64L~4500L



2DOOR TYPE MULTI-CHAMBER

Temperature and humidity chamber installed multi-chamber

Available manufacture range

Corresponding vibrator	Vertical, horizontal, 3 axes
Temp. range	-70℃~180℃
Humi. range	20%RH~98%RH
Inside volumes	64L~4500L



Various multi-chamber that can be with temperature and humidity chamber

INFRARED IRRADIATION MULTI-CHAMBER

Available manufacture range

Corresponding vibrator	Vertical, horizontal, 3 axes
Temp. range	-70℃~180℃
Humi. range	20%RH~98%RH
Infrared irradiation	120℃ for specimen temperature can be done by setting test room temperature as 75℃
Inside volumes	800L~9000L



ISO STANDARD SHOWER CHAMBER

Available manufacture range

ISO corresponding standard	ISO-16750
Temp. range	-40℃~150℃
Humi. range	20%RH~98%RH
Shower water temp.	0℃~4℃
Nozzle qty.	1~3units
Inside volumes	640L~4500L



CUSTOM-ORDER MOVABLE TEMPERATURE CHAMBER

Back and front movable chamber
Used for measure physical feature according to temperature of products

Available manufacture range

Type	OG-625-45
Method	Movable chamber
Temp. range	-65℃~250℃
Outside dimensions(W*H*D)	250*600*300

※ Size unit : mm



SIDE FLOW-TYPE HIGH FUNCTIONAL CHAMBER

The flow close to natural wind

Type	TC(TH)-7515-104	TC(TH)-7515-306	TC(TH)-7515-640	TC(TH)-7515-800
Method	Dual side flow-type			
Temp. range	-75~150℃			
Humi. range	(THtype 20%RH~98%RH)			
Inside dimensions(W*H*D)	400*650*400	600*850*600	800*1000*800	1000*1000*800
Outside dimensions(W*H*D)	1075*1600*1250	1275*1800*1450	1475*1950*1650	1675*1950*1650

※ Size unit : mm



WIDE AREA LOW HUMIDITY CHAMBER

Humidity can be controlled even under a wide range of humidity and sub-zero, and it reproduces the polar environment.

Type	HU-710-80-L	HU-010-80-H	HU-410-80-W
Method	Dual side flow-type		
Temp. range	-40℃~100℃	0℃~100℃	-40℃~100℃
Humi. range	-30℃~20℃	1℃~100℃	-30℃~100℃
	5%RH~90%RH		
Inside dimensions(W*H*D)	400*500*400		
Outside dimensions(W*H*D)	1050*1750*1400		1350*1750*1400

※ Size unit : mm



Remote network system

Remote control of test equipment based on network server「SAMWON-EZ NET」 network technology, real-time monitoring and sending e-mail to the PC, mobile phones, thereby enhancing the user's convenience.



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We also accept special orders

NOTE.