

Temperature &

SELECTION GUIDE

Temp. & Humid. Chambers
(Floor Standing Models)

Temp. & Humid. Chambers
(Tabletop Models)

Fingerprint Development
Chamber

Clean Temp. & Humid. Chamber

Plant Growth Chambers

Temperature & Humidity Chambers

Description		Operating Temp. Range ¹⁾ (°C/°F)	Operating Humid. Full Range ²⁾ (%RH)	Chamber Volume (L / cu ft)	Page
Temp. & Humid. Chambers (Floor Standing Models)	TH-G Models	-35 to 150 / -31 to 302	25 to 98	189 to 1000 / 7.4 to 35.3	194
	TH-I Models		20 to 98	180 to 408 / 6.4 to 14.4	
	TH-GU-300	-60 to 150 / -76 to 302	25 to 98	300 / 10.6	201
	TH-TG Models	-5 to 100 / 23 to 212	10 to 95	190 to 1500 / 6.7 to 53	
	TH-ICH ³⁾ Models	-5 to 85 / 23 to 185	20 to 85	300, 760 / 10.6, 26.8	
Temp. & Humid. Chambers (Tabletop Models)	TH-KE Models	-35 to 150 / -31 to 302	20 to 95	25 to 100 / 0.9 to 3.53	206
	TH-ME Models	-20 to 150 / -4 to 302	20 to 95		
	TH-PE Models	0 to 120 / 32 to 248	30 to 95		
Fingerprint Development Chamber	TH-PF-100	40 to 100 / 104 to 212	50 to 95	100 / 3.53	213
Clean Temp. & Humid. Chamber	TH-CR-270	-35 to 100 / -31 to 212	30 to 90	270 / 9.5	216

1) Operating temperature ranges obtained without using humidity.

2) Please, refer to the specification details in the catalog.

3) TH-ICH Models temperature ranges obtained w/o using light or humidity.

Plant Growth Chambers

Description		Operating Temp. Range ¹⁾ (°C/°F)	Operating Humid. Full Range ²⁾ (%RH)	Chamber Volume (L / cu ft)	Page
Plant Growth Chambers (Floor Standing Models)	GC-300TL	5 to 50 / 41 to 122 - Lamp off	-	300 / 10.6	222
	GC-300TLH	10 to 50 / 50 to 122 - Lamp on	40 to 90		
	GC-1000TLH		50 to 90	1000 / 35.3	

Accessories & Options

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for Plant Growth Chambers	225



Humidity Chambers

GENERAL APPLICATIONS



Temperature & Humidity Chambers

Test for reliability, durability, climatic, freezing resistance, quality assurance, thermal endurance etc.

- Testing for electric and electronic component, sensors.
- Testing for semiconductor, PCB, LCD & LED.
- Pharmaceutical tests.
- Mechanical / Military / Aircraft engineering.
- Automobile, Transport / automobile supply industries.
- Chemical / Petrochemical industries.
- Construction materials / Plastic / Textile industries.
- Testing mould, liquor, cigar, paintings.
- Testing metal related industries like plating etc.
- Ninhydrin, DFO and other fingerprint development processes. (only TH-PF-100)

Plant Growth Chambers

- Agriculture experiment with growth of plants.
- Growth experiment of animals and insects.
- Food preservation experiments.
- Genetic of life science researches.
- Genetic researches and pathology of plants.
- Retardation researches of seeds.
- Tissue culture of plants and germinating researches of seeds.

TECHNICAL BENEFITS

Safety Features

- 1) Self-protecting cut-off function
 - Over temperature, electrical leakage or over voltage automatically cuts the power from the unit, in an orderly fashion, starting with the heating element then the controller unit.
- 2) Time setting function for automated RUN / OFF
 - Enable automatic start and shut off of a unit at any specific time.
 - A timer can be set for a month and data can be recorded in time, day, or week intervals.
- 3) Low fluid level protection water leakage alarm
 - Intermittent toned alarm audible alarm and visual alarms.
 - Water supply and circuit compartment separate from each other to ensure safety.
- 4) Door-open warning alarm
 - Intermittent toned alarm audible alarm and visual alarms.
 - Heating element, fan, and platform auto-matically stops when the door is opened to minimize heat loss and to ensure users safety.

Optimum control Features

- 1) Microprocess PID control / Auto-tuning / Calibration.
- 2) Optimize CPU logic control system.
 - Optimum control of temperature / humidity with economical controls that reduces power consumption.
- 3) Touch screen type display.
 - 5.7-inch Color LCD display with interactive input system.
(Floor Standing Models only)
 - Temperature & humidity timer settings, and operation condition.
 - Temperature & humidity and other operating parameters can be recorded using a recorder.
 - Easily visible set value: set point value (SV) / present value (PV) are also added on the colorful LCD controller.

Protect the global environment

- 1) Use of HFC refrigerant prevents damage to the ozone layer.
- 2) Complies with the Montreal Protocol on Substances That Deplete the Ozone Layer control measures.

Temp. & Humid. Chambers

Temp. & Humid. Chambers (Floor Standing Models)

Floor Standing Models



TH-G with optional Recorder

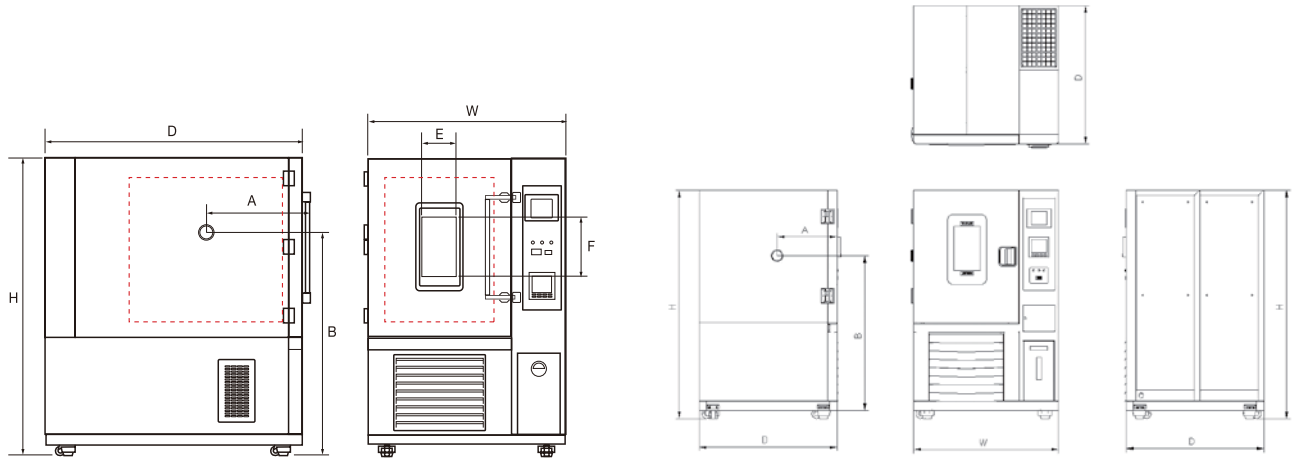


TH-I / TH-GU Models
with optional Recorder

Temp. & Humid. Chambers

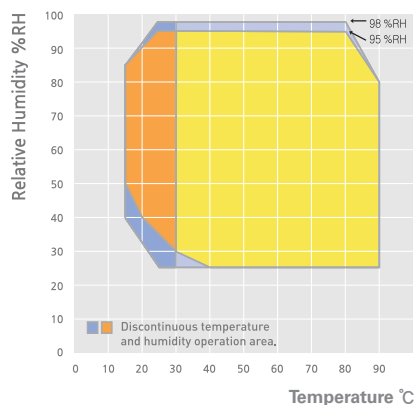
Temp. & Humid. Chambers (Floor Standing Models)

Dimension



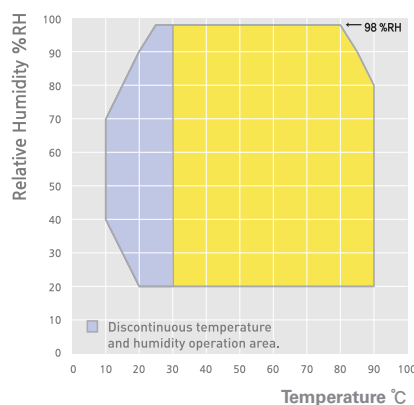
Models	Capacity	W	D	H	A	B
TH-I / GU	180L (6.4cu ft)	1025mm (40.4")	1035mm (40.7")	1530mm (60.2")	450mm (17.7")	1230mm (48.4")
	300L (10.6cu ft)	1120mm (44.1")	1070mm (42.1")	1730mm (68.1")	450mm (17.7")	1230mm (48.4")
	408L (14.4cu ft)	1120mm (44.1")	1240mm (48.8")	1730mm (68.1")	520mm (20.5")	1230mm (48.4")
TH-G	189L (7.4cu ft)	1003mm (39.5")	1139mm (44.8")	1468mm (57.8")	412mm (16.2")	1110mm (43.7")
	302L (11.9cu ft)	1103mm (43.4")	1139mm (44.8")	1668mm (65.7")	432mm (17.0")	1246mm (49.0")
	408L (14.4cu ft)	1103mm (43.4")	1359mm (53.5")	1668mm (65.7")	532mm (20.9")	1246mm (49.0")
	800L (28.3cu ft)	1503mm (59.2")	1319mm (51.9")	1968mm (77.5")	509mm (20.0")	1465mm (57.7")
	1000L (35.3cu ft)	1503mm (59.2")	1519mm (59.8")	1968mm (77.5")	609mm (23.9")	1465mm (57.7")

Temperature & Humidity Control Range



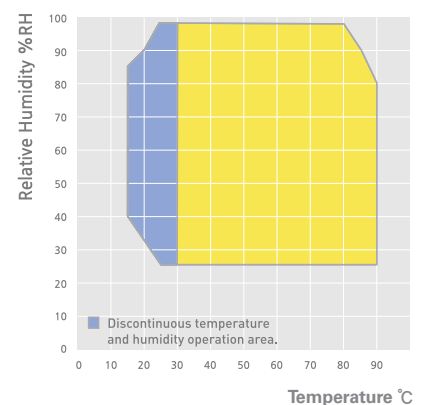
TH-G (189, 302, 408L)

- 40 ~ 85% RH at 15°C
- 25 ~ 98% RH at 25°C to 80°C
- 25 ~ 80% RH at 90°C



TH-I (180, 300, 408L)

- 40 ~ 70% RH at 10°C
- 20 ~ 90% RH at 20°C
- 20 ~ 98% RH at 25 ~ 80°C
- 20 ~ 80% RH at 90°C



TH-GU-300

- 40 ~ 85% RH at 15°C
- 25 ~ 98% RH at 25 ~ 80°C
- 25 ~ 80% RH at 90°C

TH-G (800, 1000L)

- 50 ~ 85% RH at 15°C
- 35 ~ 95% RH at 25°C
- 25 ~ 95% RH at 40°C to 80°C

Temp. & Humid. Chambers

Temp. & Humid. Chambers (Floor Standing Models)

Operating & Constructional Features



Door Handle (TH-G)



Door Handle (TH-I/GU)



Color LCD Controller



Digital Recorder (optional)

Constructional Features

- Standard environmental test chambers.
- High quality #304 stainless steel exterior and interior.
- Casters for easy mobility when installing or moving temp. and Humid. test chamber.
- Spacious chamber volume maximum capacity of 1000L.
- Choose from 9 different model chambers based on size and temperature preference.
 - The series comes in 3 different models based on temp. and humid. ranges ranging in -35°C to 150°C, -60°C to 150°C / upmost 25 to 98% RH, 20 to 98% RH and five different volume capacities of 180L, 300L, 408L, 800L, 1000L.
- Air-tight door closure with perfect sealed packing.
 - Heat-resistant silicone packing completely blocks high heat leakage formed the inner chamber.
 - Two-point door latch for TH-G models and vice lock type door for TH-I/GU models enhances tightness to door closure.
- Energy efficiency is achieved thanks to optimization of the insulation system.
- Chart recorder. (optional)
 - 6-point dot type recorder with a digital display.
- Container type tank for easy adding and changing of water.
 - Maintenance of the water tank can be easily performed from the front side.
- Viewing window for observation.
 - Tempered glass window with lighting provides a clear view of samples in the chamber, beneficial during testing.
- Cable port for external probes or wires.
 - 50mm diameter cable port comes standard on the left side of the unit. Additional 50mm or 80mm diameter cable ports can be custom ordered. (optional)
- Easy cleaning of condenser air-filter.
 - To prevent deterioration of refrigeration system and keep filter dust free by periodically cleaning the filter.

Safety Features

- Leakage breaker for power supply.
- Over current protection, Overheat protection.
- Switch-off after alarm for over heating.
- Water empty alarm, Door open alarm.

Temp. & Humid. Chambers

Temp. & Humid. Chambers (Floor Standing Models)

Operating Features

- Microprocess PID control / Auto-tuning / Calibration.
- Chamber supports three different languages: English, Chinese, and Korean.
- Optimize CPU logic control system.
 - Optimum control of temperature with economical power consumption.
- Convenient maintenance-available to view total operating time.
- Built-in SD card drive.
- Touch screen type display.
 - 5.7-inch Color LCD display with interactive input system.
 - : Easily visible set value: set point value (SV) /present value (PV) are also added on the colorful LCD controller.
 - Temperature and humidity / timer settings and operation condition.
 - Temperature, humidity, and other operating parameters can be recorded using a chart recorder.
- Programming operation.

Description	TH-G, I, GU
Programmable Pattern Capacity	120
Pattern Repeat Time	999
Max. Segments per a Pattern	100
Available Max. Segments*	1200
Programmable Process Time per a Segment	0 to 999hr 59 min 59 sec

* Even though the max. segments per a pattern are 100, available total segments are up to 1200 not 12000, so you need to arrange the number of segment an patterns properly.

- Computer interface.
 - Save data in excel format.
 - Software provided.
 - Storage of program information, backup of value settings / recovery, and temperature values.
 - RS-232C port as standard offer.
- RS-485 communication port offers connection to PC. (optional)



WaterTank (TH-G)



WaterTank (TH-I/GU)



Air filter



Ventilation



Multi-control Display



Single-control Display



Program Setting Display



Graph Display

Temp. & Humid. Chambers

Temp. & Humid. Chambers (Floor Standing Models)



Specifications & Ordering Information

Model		TH-G-180	TH-G-300	TH-G-408	TH-G-800	TH-G-1000
Chamber Volume (L / cu ft)		189 / 7.4	302 / 11.9	408 / 14.4	800 / 28.3	1000 / 35.3
Control System		BDBC2 system - Balanced Dehumidifying & Bath Cooling control				
Controller		Programmable, Touch screen type controller (5.7" Color monitor)				
Temperature	Range (°C / °F) - without Humidity	-35 to 150 / -31 to 302 * best programmable control range : -30 to 140 / -22 to 284				
	Fluctuation ¹⁾ (±°C / °F) at 40°C / 75%RH	0.3 / 0.55				
	Variation ¹⁾ (±°C / °F) at 40°C / 75%RH	0.5 / 0.9				
Time	Heating - without Humidity (Min.)	60 From -35°C to 120°C (-31°F to 248°F)			70 From -35°C to 120°C (-31°F to 248°F)	
	Cooling - without Humidity (Min.)	60 From 20°C to -35°C (68°F to -31°F)			75 From 20°C to -35°C (68°F to -31°F)	
		On single point control *				
Humidity	Range (%RH)	Full Range: 25 to 98			Full Range: 10 to 95	
		40 to 85 at 15°C (59°F) 35 to 90 at 20°C (68°F) 25 to 98 at 25°C to 80°C (77°F to 176°F) 25 to 80 at 90°C (194°F)			50 to 85 at 15°C (59°F) 40 to 90 at 20°C (68°F) 35 to 95 at 25°C (77°F) 30 to 95 at 30°C (86°F) 25 to 95 at 40°C to 80°C (104°F to 176°F) 25 to 80 at 90°C (194°F)	
	Fluctuation ¹⁾ (±%RH) at 75%RH / 40°C	0.4			1.0	
	Variation ¹⁾ (±%RH) at 75%RH / 40°C	3				
Refrigeration	System	Mechanical single stage refrigerator system (air-cooled condenser)			Mechanical dual stage refrigerator system (air-cooled condenser)	
	Refrigerant	R-507				
	Capacity (W)	1500			2250 / 375	
Cooler		AL Plate fin cooler				
Heater	Material	SUS sheath Heater				
	Drying Bulb (w)	700 x 3			900 x 3	
	Humidity Bulb (w)	500 x 3			700 x 3	
Sensor	Temperature	Pt 100				
	Humidity	Electronic sensor - Free of drying a wet pack and good reaction time				
Material	Interior	Stainless steel #304				
	Exterior	Stainless steel #304				
	Insulation	Polyurethane foam 100mm (3.94")				
	Door	Glass wool				
Air Flow		2 sets of sirocco fan				
Water Supply	Capacity	15L (0.53cu ft) - Cartridge type				
	Water Quality	pH6.2 to 7.2 / Electrical conductivity 20µs /cm to below				
Dimension (WxDxH)	Interior (mm / inch)	500×630×600 / 19.7×24.8×23.6	600×630×800 / 23.6×24.8×31.5	600×850×800 / 23.6×33.5×31.5	1000×800×1000 / 39.4×31.5×39.4	1000×1000×1000 / 39.4×39.4×39.4
	Exterior (mm / inch)	1003×1139×1468 / 39.5×44.8×57.8	1103×1139×1668 / 43.4×44.8×65.7	1103×1359×1668 / 43.4×53.5×65.7	1503×1319×1968 / 59.2×51.9×77.5	1503×1519×1968 / 59.2×59.8×77.5
	Viewing Windows (mm / inch)	200×330 / 7.9×13			270×330 / 10.6×13	
	Net Weight (kg / lbs)	320 / 705.5	385 / 848.8	410 / 903.9	620 / 1366.9	680 / 1499.1
Cable Port		Basically one hole provided / Ø50mm (2") Optionally max. two holes available / Ø50 or 80mm (2 or 3.2")				
Interface Port		Basically RS-232C [RS-485-optional]				
Electrical Requirements (230V, 60Hz)		1ph / 26.3A	1ph / 26.7A		-	-
Cat. No.		AAH80011K	AAH80021K	AAH80031K	AAH80041K	AAH80051K
Electrical Requirements (230V, 50Hz)		3ph / 15.3A	3ph / 15.6A		3ph / 20.6A	
Cat. No.		AAH80012K	AAH80022K	AAH80032K	AAH80042K	AAH80052K
Electrical Requirements (380V, 50Hz)		3ph / 9.1A	3ph / 9.2A		3ph / 12.2A	
Cat. No.		AAH80018K	AAH80028K	AAH80038K	AAH80048K	AAH80058K

Temp. & Humid. Chambers

Temp. & Humid. Chambers (Floor Standing Models)

Specifications & Ordering Information



Model		TH-I-180	TH-I-300	TH-I-408
Chamber Volume (L / cu ft)		180 / 6.4	300 / 10.6	408 / 14.4
Control System		BDBC2 system - Balanced Dehumidifying & Bath Cooling control		
Controller		Programmable, Touch screen type controller (5.7" Color monitor)		
Temperature	Range (°C / °F)	-35 to 150 / -31 to 302 without humidity * best programmable control range : -30 to 140 / -22 to 284		
	Fluctuation ¹⁾ (±°C / °F) at 55°C / 60%RH	0.1 / 0.18	0.2 / 0.36	0.2 / 0.36
	Variation ¹⁾ (±°C / °F) at 55°C / 60%	0.6 / 1.08	0.5 / 0.9	0.5 / 0.9
Time	Heating - without Humidity (Min.)	50 From -35°C to 120°C (-31°F to 248°F)		
	Cooling - without Humidity (Min.)	60 From 20°C to -35°C (68°F to -31°F) on single point control *		
Humidity	Range (%RH)	Full Range: 20 to 98 40 to 70 at 10°C (50°F) 20 to 90 at 20°C (68°F) 20 to 98 at 25 to 80°C (77°F to 176°F) 20 to 80 at 90°C (194°F)		
Refrigeration	System	Mechanical single stage refrigerator system (air-cooled condenser)		
	Refrigerant	R-404A		
	Capacity (W)	1500		
Cooler		Plate fin cooler		
Heater	Material	Ni-Cr Wire Heater / SUS sheath Heater		
	Drying Bulb (w)	2000		
	Humidity Bulb (w)	1500		
Sensor	Temperature	Pt 100		
	Humidity	Electronic sensor - Free of drying a wet pack and good reaction time		
Material	Interior	Stainless steel #304		
	Exterior	Stainless steel #304		
	Insulation	Polyurethane foam 100mm (3.94")		
	Door	Glass wool		
Air Flow		Tangent blower		
Water Supply	Capacity	15L (0.53cu ft) - Cartridge type		
	Water Quality	pH6.2 to 7.2 / Electrical conductivity 20µS/cm to below		
Dimension (WxDxH)	Interior (mm / inch)	500×630×600 / 19.7×24.8×23.6	600×630×800 / 23.6×24.8×31.5	600×850×800 / 23.6×33.5×31.5
	Exterior (mm / inch)	1025×1035×1530 / 40.4×40.7×60.2	1120×1070×1730 / 44.1×42.1×68.1	1120×1240×1730 / 44.1×44.8×68.1
	Viewing Windows (mm / inch)	200×330 / 7.9×13		
	Net Weight (kg / lbs)	310±10 / 683.4±22	375±10 / 826.7±22	400±10 / 881.8±22
Cable Port		Basically one hole provided / Ø50mm (2") Optionally max. two holes available / Ø50 or 80mm (2 or 3.2")		
Interface Port		Basically RS-232C [RS-485-optional]		
Electrical Requirements (230V, 60Hz)		1ph / 23A		
Cat. No.		AAH80111K	AAH80121K	AAH80131K
Electrical Requirements (230V, 50Hz)		1ph / 23A		
Cat. No.		AAH80112K	AAH80122K	AAH80132K
Electrical Requirements (380V, 50Hz)		3ph / 7.7A		
Cat. No.		AAH80118K	AAH80128K	AAH80138K

1) Technical data according to DIN 12880, IEC 60068.

※ Permissible environmental conditions: temperature (18 to 30°C) and relative humidity (up to 85%).

Temp. & Humid. Chambers

Temp. & Humid. Chambers (Floor Standing Models)



Specifications & Ordering Information

Model		TH-GU-300
Chamber Volume (L / cu ft)		300 / 10.6
Controller		Programmable, Touch screen type controller (5.7" Color monitor)
Temperature	Range (°C / °F)	-60 to 150 / -76 to 302 without humidity *best programmable control range : -50 to 140 / -58 to 284
	Fluctuation ¹⁾ (±°C / °F) at 40°C / 60%RH	0.3 / 0.54
	Variation ¹⁾ (±°C / °F) at 40°C / 60%RH	0.5 / 0.9
Time	Heating - without Humidity (Min.)	60 From -60°C to 120°C (-76°F to 248°F)
	Cooling - without Humidity (Min.)	65 From 20°C to -60°C (68°F to -76°F) on single point control
Humidity	Range (%RH)	Full Range: 25 to 98 40 to 85 at 15°C (59°F) 25 to 98 at 25 to 80°C (77°F to 176°F) 25 to 80 at 90°C (194°F)
	Fluctuation ¹⁾ (±%RH) at 60%RH / 55°C	3
	Variation ¹⁾ (±%RH) at 60%RH / 55°C	3
Refrigeration	System	Mechanical dual stage refrigerator system (air-cooled condenser)
	Refrigerant	R-404A(1st step), R-23(2nd step)
	Capacity (W)	3000
Cooler		Plate fin cooler
Heater	Material	Ni-Cr Wire Heater / SUS sheath Heater
	Drying Bulb (W)	2000
	Humidity Bulb (W)	1500
Sensor	Temperature	Pt 100
	Humidity	Electronic sensor - Free of drying a wet pack and good reaction time
Material	Interior	Stainless steel #304
	Exterior	Stainless steel #304
	Insulation	Polyurethane foam 100mm (3.94")
	Door	Glass wool
Air Flow		Tangent blower
Water Supply	Capacity	15L (0.53cu ft) - Cartridge type
	Water Quality	pH6.2 to 7.2/ Electrical conductivity 20μs / cm to below
Dimension (WxDxH)	Interior (mm / inch)	600×630×800 / 23.6×24.8×31.5
	Exterior (mm / inch)	1120×1070×1730 / 44.1×42.1×68.1
	Viewing Windows (mm / inch)	200×330 / 7.9×13
	Net Weight (kg / lbs)	395±10 / 870.8±22
Cable Port		Basically one hole provided / Ø50mm (2") Optionally max. two holes available / Ø50 or 80mm (2 or 3.2")
Interface Port		Basically RS-232C [RS-485-optional]
Electrical Requirements (230V, 60Hz)		1ph / 23A
Cat. No.		AAH80321K
Electrical Requirements (230V, 50Hz)		1ph / 23A
Cat. No.		AAH80322K
Electrical Requirements (380V, 50Hz)		3ph / 7.7A
Cat. No.		AAH80328K

1) Technical data according to DIN 12880, IEC 60068.

※ Permissible environmental conditions: temperature (18 to 30°C) and relative humidity (up to 85%).

※ Upon request, other sizes of chambers are available. Please contact with us.

※ All specifications are under ambient temperature 20°C (68°F), No load.

Temp. & Humid. Chambers

Temp. & Humid. Chamber (Floor Standing Models)



Please visit JEIOTECH.com

For further information on Jeio Tech's Temperature & Humidity Chamber products
Information is readily available on our website.



TH-TG Models with optional Recorder



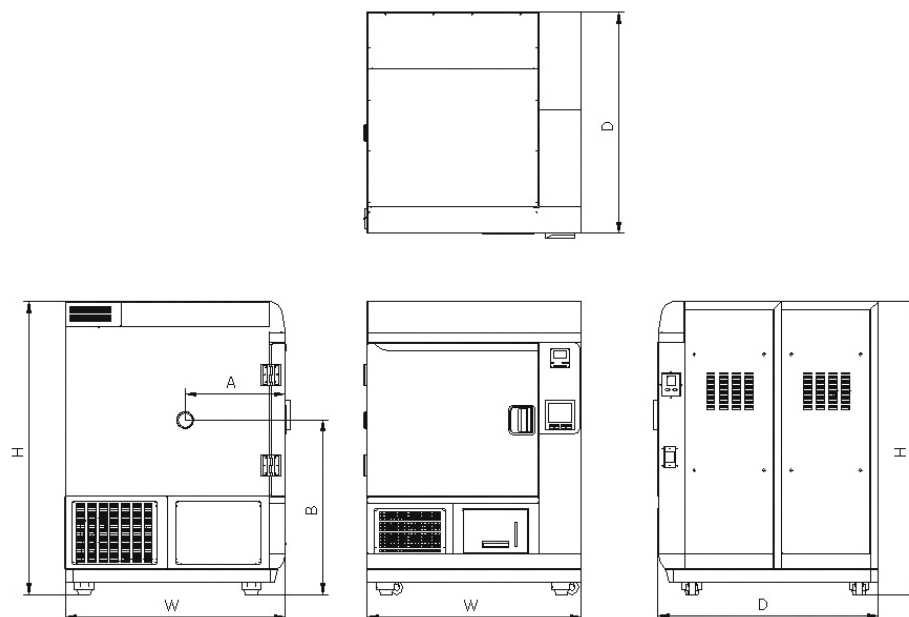
TH-ICH Models with optional Recorder

Temp. & Humid. Chambers

Temp. & Humid. Chamber (Floor Standing Models)

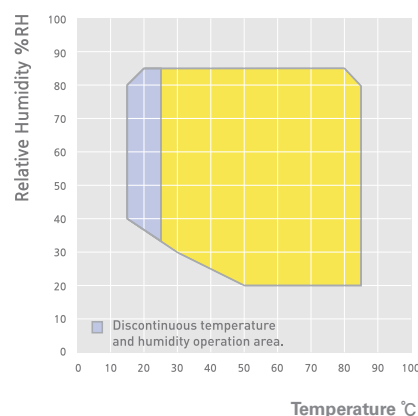
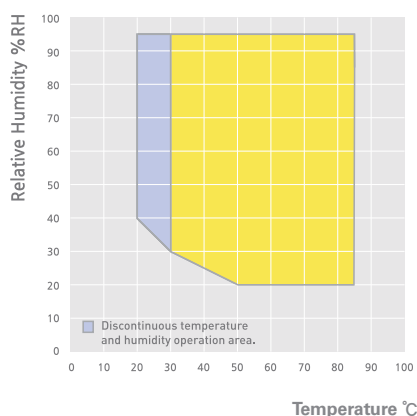
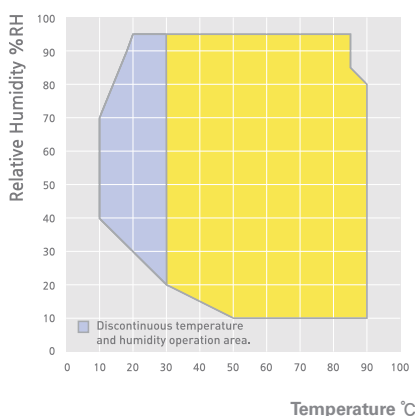
Dimension

(TH-TG / TH-ICH Models)



Model	Capacity	W	D	H	A	B
TH-TG-180	185L (6.5 cu ft)	950mm (37.4")	907mm (35.7")	1484mm (58.4")	321mm (12.6")	985mm (38.8")
TH-TG-300	300L (10.6 cu ft)	1200mm (47.2")	863mm (33.9")	1524mm (60.0")	295mm (11.6")	1015mm (39.9")
TH-TG-408	408L (14.4 cu ft)	1200mm (47.2")	1063mm (41.9")	1504mm (59.2")	421mm (16.6")	995mm (39.2")
TH-TG-800	800L (28.3 cu ft)	1200mm (47.2")	1230mm (48.4")	1973mm (77.7")	385mm (15.2")	1315mm (51.8")
TH-TG-1000	1000L (35.3 cu ft)	1200mm (47.2")	1365mm (53.7")	1973mm (77.7")	475mm (18.7")	1315mm (51.8")
TH-TG-1500	1540L (54.4 cu ft)	1554mm (61.2")	1876mm (73.9")	1935mm (76.2")	478mm (18.8")	1354mm (53.3")
TH-ICH-300	300L (10.6 cu ft)	1130mm (44.5")	985mm (38.8")	1520mm (59.8")	460mm (18.1")	905mm (35.6")
TH-ICH-800	760L (26.8 cu ft)	1220mm (48")	1215mm (47.8")	1965mm (77.4")	545mm (21.5")	1185mm (46.7")

Temperature & Humidity Control Range



TH-TG (190 to 410L)

- 40~70% RH at 10°C
- 30~95% RH at 20°C
- 20~95% RH at 30°C
- 10~95% RH at 50~85°C

TH-TG (760 to 1500L)

- 40~95% RH at 20°C
- 30~95% RH at 30°C
- 25~95% RH at 40°C
- 20~95% RH at 50°C~85°C

TH-ICH (300, 760L)

- 40~80% RH at 15°C
- 30~85% RH at 30°C
- 20~90% RH at 80°C
- 20~85% RH at 85°C

Temp. & Humid. Chambers

Temp. & Humid. Chamber (Floor Standing Models)

The temperature & humidity chamber units comply with the ICH guidelines.

Stability Testing Q1A (R2)-ICH, TG Chamber Models.

Photostability Testing Q1B (Option 2)-ICH Chamber Models.

► Constructional Features

- High quality #304 stainless steel exterior and interior.
- Casters for easy mobility when installing or moving environmental test chamber.
- Convenient maintenance
 - Available to check total operating time.
- Air-tight door closure with perfect sealed packing.
 - Heat-resistant silicone packing completely blocks high heat leakage formed the inner chamber.
 - Two-point door latch for TH-TG models and vice lock type door for TH-ICH models enhances tightness to door closure.
- Cable port for external probes or wires.
- 50mm diameter cable port comes standard on the left side of the unit. Additional 50mm or 80mm diameter cable ports can be custom ordered. (optional)
- Container type tank for easy adding and changing of water.
 - Maintenance of the water tank can be easily performed from the front side.
- Door lock.
- Cyclic defrost functions does not affect the temperature and humidity control for extended operation. (Under 15°C set value)
- Powerful two Sirocco fans maintains a constant airflow in the chamber.

► Additional TH-ICH 300/800 Features

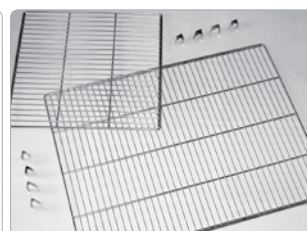
- In the event of a validation the apparatus correctly controls each light and then transfers accurate data and is equipped with light sensors. (UV light sensor / VIS light sensor)
- Samples that have to be exposed to the light in which it is completely near the UV energy of less than 200W-hr/m² is provided to compare directly the results from overall intensity of less than 1.20 million lux-hr, drug substances and reagent.
- Total fluorescent lamp and UV lamp indicator and operating time indicator.

► Safety Features

- Leakage breaker for power supply.
- Over current protection.
- Overheat protection.
- Switch-off after alarm for over heating.
- Door open alarm.
- Water empty.
- Alarm for completed Photostability Test. (only TH-ICH Models)

► Operating Features

- Microprocess PID control / Auto-tuning / Calibration.
- Easy operation with wide LCD screen.
 - Easily visible set value: set point value (SV) / present value (PV) are also added on the LCD controller.
 - Temperature and humidity / timer settings and operation condition.
 - Temperature, humidity, and other operating parameters can be recorded using a chart recorder.
- Programming operation.
- Computer interface.
 - Software provided.
 - Save data in excel format.
 - Storage of program information, backup of value settings / recovery, and temperature / humidity values.
 - RS-232C port as standard offer.
- Chart recorder. (optional)
 - 6-point dots type recorder with digital display.
 - Digital recorder. (6-channels)



Specifications & Ordering Information



Model			TH-TG-180	TH-TG-300	TH-TG-408	TH-TG-800	TH-TG-1000	TH-TG-1500
Chamber Volume (L / cu ft)			185 / 6.5	300 / 10.6	408 / 14.4	800 / 28.3	1000 / 35.3	1540 / 54.4
Controller			PID control (LCD Type)					
Temperature ¹⁾	Range	without Humidity (°C / °F)	-5 to 100 / 23 to 212					
		with Humidity (°C / °F)	10 to 90 / 50 to 194				20 to 90 / 68 to 194	
	Fluctuation ¹⁾ (±°C / °F) at 40°C / 60%RH		0.3 / 0.55					
	Variation ¹⁾ (±°C / °F) at 40°C / 60%RH		0.5 / 0.9					
Humidity	Range (%RH)	Full Range: 10 to 95	40 to 70 at 10°C (50°F) 30 to 95 at 20°C (68°F) 20 to 95 at 30°C (86°F) 10 to 95 at 50 to 85°C (122°F to 185°F) 10 to 80 at 90°C (194°F)			Full Range: 20 to 95 40 to 95 at 20°C (59°F) 30 to 95 at 30°C (86°F) 25 to 95 at 40°C (104°F) 20 to 95 at 50°C to 85°C (122°F to 185°F)		
		Fluctuation ²⁾ (±%RH) at 60%RH / 40°C	2					
		Variation ²⁾ (±%RH) at 60%RH / 40°C	3					
	Time	Heating ³⁾	50min (-5°C → 100°C)				55min (-5°C → 100°C)	
Cooling ³⁾		120min (100°C → -5°C)				145min (100°C → -5°C)		
Refrigeration	System	Air-cooled						
	Refrigerant	R-507A						
	Capacity (W)	250	375					750
Cooler		AL plate fin cooler						
Heater	Material	SUS sheath Heater						
	Drying Bulb (w)	700 x 2	900 x 2		1000 x 2		1500 x 2	
	Humidity Bulb (w)	600 x 2						600 x 3
Sensor	Temperature	Pt 100						
	Humidity	Electronic sensor (Free of drying a wet pack and good response time)						
Air Flow		2 sets of sirocco fan						
Material	Internal	Stainless steel #304						
	External	Stainless steel #304						
	Insulation	Polyurethane foam (70mm / 2.76")						
	Door	Glasswool						
Water Tank	Capacity (L / cu ft)	15 / 0.53						30 / 1.1
	Water Quality	pH6.2 ~ 7.2, Electrical conductivity 20μS / cm to below						
Interface Port		Basically RS-232C, [RS-485 : optional]						
Cable Port		Basically one hole provided / Ø 50mm (2"), Optionally max. two holes available / Ø 50 or 80mm (2 or 3.2")						
Dimension (WxDxH)	Viewing Window (mm / inch)	200×330 / 7.9×13						
	Internal (mm / inch)	500×630×600 / 19.7×24.8×23.6	600×630×800 / 23.6×24.8×31.5	600×850×800 / 23.6×33.5×31.5	1000×800×1000 / 39.4×31.5×39.4	1000×1000×1000 / 39.4×39.4×39.4	1100×1000×1400 / 43.3×39.4×55.1	
	External (mm / inch)	950×907×1484 / 37.4×35.7×58.4	1200×863×1524 / 47.2×34×60	1200×1063×1504 / 47.2×41.9×59.2	1200×1230×1973 / 47.2×48.4×77.7	1200×1365 ×1973 / 47.2×53.7×77.7	1554×1876×1935 / 61.2×73.9×76.2	
Net Weight (kg / lbs)		220±10 / 485±22	250±10 / 551±22	280±10 / 617±22	360±10 / 794±22	410±10 / 904±22	480±10 / 1058±22	
Electrical Requirements	AC230V, 1ph, 60Hz	12.3 A	14.5 A	14.5 A	14.5 A	14.5 A	25.0A	
	Cat.No.	AAHC2001K	AAHC2011K	AAHC2021K	AAHC2031K	AAHC2041K	AAHC2051K	
	AC230V, 1ph, 50Hz	12.3 A	14.5 A	14.5 A	14.5 A	14.5 A	25.0A	
	Cat.No.	AAHC2002K	AAHC2012K	AAHC2022K	AAHC2032K	AAHC2042K	AAHC2052K	

1) All specifications are under ambient temperature 20°C (68°F), No load.

2) Technical data according to DIN 12880, IEC 60068.

3) Up to 98% of the set value.

Temp. & Humid. Chambers

Temp. & Humid. Chamber (Floor Standing Models)

Specifications & Ordering Information



Model		TH-ICH-300	TH-ICH-800
Chamber Volume (L / cu ft)		300 / 10.6	760 / 26.8
Controller		PID control (LCD Type)	
Temperature ¹⁾	Range	without Humidity (°C / °F)	-5 to 85 / 23 to 185 without Light
		0 to 85 / 32 to 185 with Light	
		with Humidity (°C / °F)	+15 to 85 / 59 to 185 with Light
	Fluctuation ¹⁾ (±°C / °F) at 40°C / 60%RH		0.3 / 0.55
	Variation ¹⁾ (±°C / °F) at 40°C / 60%RH		0.5 / 0.9
Humidity	Range (%RH)		Full Range: 20 to 90 40 to 85 at 15°C (59°F) 30 to 85 at 30°C (86°F) 20 to 90 at 80°C (176°F) 20 to 85 at 85°C (185°F)
	Fluctuation ²⁾ (±%RH) at 60%RH / 40°C		3
	Variation ²⁾ (±%RH) at 60%RH / 40°C		5
Light Source (ICH Q1B option 2)	Cool White ³⁾		6,000 lux
	Ultraviolet-A ³⁾		5 W/m ²
	Light Uniformity		VIS. : ±10% UVA : ±15%
Typical Time Required to Reach ICH Recommendation of 1.2 million lux-hr		≐ 200Hr	≐ 184Hr
Typical Time Required to Reach ICH Recommendation of 200 W-hr/m ²		≐ 50Hr	≐ 40Hr
Time	Heating ⁴⁾	25min (20°C → 85°C)	30min (20°C → 85°C)
	Cooling ⁴⁾	35min (20°C → -5°C)	40min (20°C → -5°C)
Refrigeration	System	Air-cooled	
	Refrigerant	R-404A	
	Capacity (W)	250	470
Cooler		Copper plate fin cooler	
Heater	Material	Ni-Cr Wire Heater / SUS Tube Heater	
	Drying Bulb (W)	1500	2300
	Humidity Bulb (W)	1200	2000
Sensor	Temperature	Pt 100	
	Humidity	Electronic sensor (Free of drying a wet pack and good response time)	
Air Flow		2 set of sirocco fan	
Material	Internal	SUS #304 (2B polish)	
	External	SUS #304 (Hairline finish) & Steel, 2t, Double painted & baked	
	Insulation	Polyurethane (70mm / 2.76")	
	Door	EPDM Sheet	
Water Tank	Capacity (L / cu ft)	15 / 0.53	
	Water Quality	pH6.2 ~ 7.2, Electrical conductivity 20μS / cm to below	
Interface Port		Basically RS-232C, [RS-485 : optional]	
Cable Port		Basically one hole provided / Ø 50mm (2"), Optionally max. two holes available / Ø 50 or 80mm (2 or 3.2")	
Dimension (WxDxH)	Internal (mm / inch)	750×650×650 / 29.5×25.6×25.6	750×880×1160 / 29.5×34.6×45.7
	External (mm / inch)	1130×985×1520 / 44.5×38.8×59.8	1220×1215×1965 / 48×47.8×77.4
Net Weight (kg / lbs)		280±10 / 617±22	400±10 / 882±22
Electrical Requirements	AC230V, 1ph, 60Hz	15.4 A	24.5 A
	Cat.No.	AAHC1001K	AAHC1011K
	AC230V, 1ph, 50Hz	14.7 A	23.5 A
	Cat.No.	AAHC1002K	AAHC1012K

1) All specifications are under ambient temperature 20°C (68°F), No load.

2) Technical data according to DIN 12880, IEC 60068.

3) The value is measured on the center of chamber at the point of vertical direction.

4) Up to 98% of the set value.