

Temperature & Humidity Chambers (Floor Standing - TH-KH)

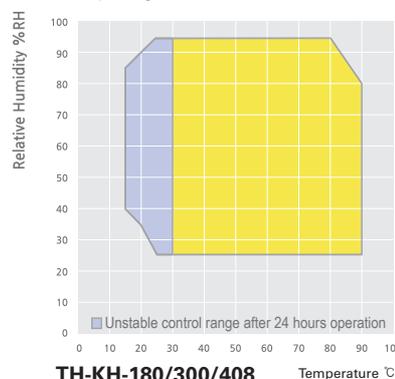


Wide temperature range down to -70°C and high advanced safety features for quality and reliability.



Control range

- Temperature range from -70 to 150°C
- Humidity range from 25 to 95% RH

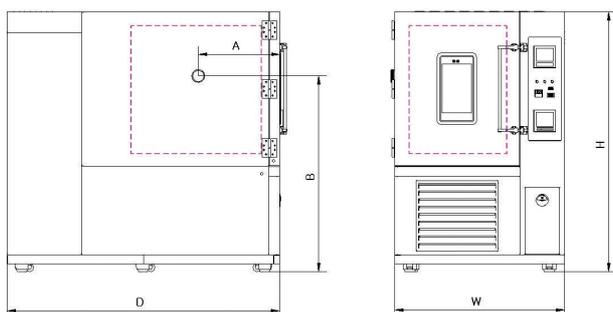


TH-KH

with optional recorder

- Standard accessories**
- Viewing window, Wire shelves, Cable port ($\varnothing 50\text{mm}$)
 - Water container, Door key

- Optional accessories**
- Interface converter, Water purifiers, Direct water system
- see page 238



Dimension

Model	TH-KH-180	TH-KH-300	TH-KH-408
Capacity	189L (7.4cu ft)	302L (11.9cu ft)	408L (14.4cu ft)
W	1043mm (41.1")	1143mm (45.0")	1143mm (45.0")
D	1613mm (63.5")	1833mm (72.2")	2053mm (80.8")
H	1558mm (61.3")	1758mm (69.2")	1758mm (69.2")
A	550mm (21.7")	570mm (22.4")	670mm (26.4")
B	1225mm (48.2")	1325mm (52.2")	1325mm (52.2")

Performance

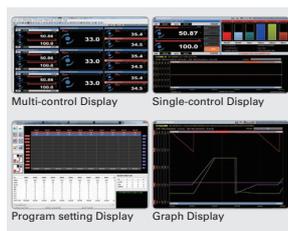
- Microprocessor PID control / Temperature calibration / Automatic tuning.
- Advanced performance of low and high temperature and humidity control, achieved by adapting the humidification tank exterior to the chamber, added benefit for long term test.
- Water recycling and filtering system reduce water consumption for longer operation.
- Air-tight door closure with perfect sealed packing.
 - Heat-resistant silicone packing completely blocks high heat leakage from the inner chamber.
 - Two-point door latch also enhances tightness to door closure.
- Energy efficiency is achieved by optimization of the insulation system.
 - Even if the unit is operating at max. temperature, the surface of the unit doesn't allow high temperatures of over 60 °C.

Safety

- Built in door lock with a key.
- Automatic shut off after overheat alarm.
- Low and empty water level alarm.
- Power supply leakage breaker.
- Over current protection.
- Open door alarm.



Color LCD controller



Computer interface



Door handle



Portable water container

Convenience

- Three different volume sizes are available to suit any users' needs.
 - Various volume sizes, available to suit any users' need.
- Corrosion resistance stainless steel chamber and electric polished humidification tank.
- Maintenance of water supply are easily performed with a front water tank.
 - Portable water container makes supplying water convenient.
- Water supply during operation is also available for long term test purposes.
- Direct water system provides user great convenience when performing long-term tests. (optional)
- Clear observation of samples.
 - Tempered glass door with built in heating wire.
 - Energy efficient, long life span LED lighting.
 - Wider view, inner glass door is available for monitoring of samples. (optional)
- Cable port for introduction of external probes or wires.
 - 50mm diameter cable port comes standard on the left side of the unit.
 - Additional 50mm or 80mm diameter cable ports, custom ordered. (optional)
- Casters for easy mobility during installation or relocation.
- User friendly LCD controller.
 - 5.7 inch colorful interactive touch type LCD controller.
 - Set value and present value are clearly visible together on display.
 - Operating progress visible in graph mode allow for direct data interpretation.
 - Built-in SD card drive.
 - Trilingual support. (English / Chinese / Korean)
 - Temperature and other operating parameters recorded with use of selectable recorder. (optional)
 - Sufficient programmable control support.

Description	No
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.
 - RS-485 communication port enables connection of up to maximum 9 units. Simultaneous monitoring and operating of multiple units is an available feature. (optional)
 - Program patterns are simple to set with the use of our software.
 - Storage of program information, backup of value settings, recovery, temperature, humidity values.
 - RS-232 communication port comes standard.

Temperature & Humidity Chambers (Floor Standing - TH-KH)

Model		TH-KH-180	TH-KH-300	TH-KH-408
Chamber volume (L / cu ft)		189 / 7.4	302 / 11.9	408 / 14.4
Controller		Programmable, Touch screen type controller (5.7" color monitor)		
Temperature	Range (°C / °F)	-70 to 150 / -94 to 302 without humidity, 15 to 90 / 59 to 194 with humidity * Best programmable control range : -60 to 140 / -76 to 284		
	Fluctuation ¹⁾ (±°C / °F) at 40°C / 75%RH	0.3 / 0.54		
	Variation ¹⁾ (±°C / °F) at 40°C / 75%RH	0.5 / 0.90		
Time	Heating - without humidity (min.)	70 from -70°C to 120°C (96°F to 248°F)		
	Cooling - without humidity (min.)	80 from 20°C to -70°C (68°F to 96°F)		
Humidity	Range (%RH)	25 to 95 ※ See page 216 for more detailed humidity range check.		
	Fluctuation ¹⁾ (±%RH) at 75%RH / 40°C	0.4		
	Variation ¹⁾ (±%RH) at 75%RH / 40°C	3.0		
Refrigeration	System	Mechanical dual stage refrigerator system (air-cooled condenser)		
	Refrigerant	R-507, R-23		
Water supply	Capacity	15L (0.53cu ft) - Cartridge type		
	Water quality	pH6.2 to 7.2 / Electrical conductivity 20 ^{µS} /cm to below		
No. of wire shelves (standard / max.)		2 / 9	2 / 10	2 / 10
Distance of between shelves (mm / inch)		60 / 2.4	60 / 2.4	60 / 2.4
Max. load per shelf (kg / lbs)		20 / 44.1	25 / 55.1	25 / 55.1
Permitted total load (kg / lbs)		50 / 110.2	65 / 143.3	65 / 143.3
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)	1043×1613×1558 / 41.1×63.5×61.3	1143×1833×1758 / 45.0×72.2×69.2	1143×2053×1758 / 45.0×80.8×69.2
	Viewing windows (mm / inch)	200×330 / 7.9×13		
	Net weight (kg / lbs)	320 / 705.5	385 / 848.8	410 / 903.9
Cable port		Basically one hole provided / ø50mm (2") - Optionally max. two holes available / ø 50 or 80mm (2 or 3.2")		
Interface port		Basically RS-232C [RS-485-optional]		
Electrical requirements (230V, 50Hz)		3ph / 17.2A		3ph / 17.3A
Cat. No.		AAHC3012K	AAHC3112K	AAHC3212K
Electrical requirements (380V, 50Hz)		3ph / 10.1A		3ph / 10.2A
Cat. No.		AAHC3014K	AAHC3114K	AAHC3214K

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

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

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

※ FDA establishment registered company. FDA listed products.

Accessories & Options

for Floor Standing Chambers

Accessory check list

Standard Optional

Description	Models					
	TH-G	TH-I	TH-KH	TH-TG	TH-ICH	TH-CR
Recorder (6 points)	<input type="checkbox"/>					
Recorder (digital, 6 channels)	<input type="checkbox"/>					
interface converter RS-485C → 232C included a cable (5m / 16.4ft)	<input type="checkbox"/>					
Interface cable (5m / 16.4ft)	<input type="checkbox"/>					
Warning signal lamp	<input type="checkbox"/>					
Inner glass door	<input type="checkbox"/>	-				
Viewing window	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	-	<input type="checkbox"/>
Wire shelf	<input type="checkbox"/>					
Perforated shelf	<input type="checkbox"/>					
Cable port (Ø 50mm / 2")	<input type="checkbox"/>					
Cable port (Ø 80mm / 3.2")	<input type="checkbox"/>					
Temperature sensor (RTD type)	<input type="checkbox"/>					
Humidity sensor	<input type="checkbox"/>					
Fluorescent lamp (Cool White)	-	-	-	-	<input type="checkbox"/>	-
UVA lamp	-	-	-	-	<input type="checkbox"/>	-
UV sensor	-	-	-	-	<input type="checkbox"/>	-
Illumination Sensor	-	-	-	-	<input type="checkbox"/>	-
HEPA filter	-	-	-	-	-	<input type="checkbox"/>
ULPA filter	-	-	-	-	-	<input type="checkbox"/>
Water cartridge tank (Water Container)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	-	<input type="checkbox"/>
Water purifier	<input type="checkbox"/>					
Direct water system	<input type="checkbox"/>					

Ordering information

Cat. No.	Description	Suitable for	
AAA8T500	Recorder (6 points)	All models	
AAA8T505	Recorder (digital, 6 channels)	All models	
AAA8T540	interface converter RS-485C → 232C included a cable (5m / 16.4ft)	All models	
AAA8T542	Interface cable (5m / 16.4ft)	All models	
AAA80550	Warning signal lamp	All models	
AAA81552	Inner glass door	TH-G//KH-180	
AAA81551		TH-G//KH-300, 408, CR-270	
AAA81550		TH-G-800, 1000	
AAAC2501		TH-TG-180	
AAAC2502		TH-TG-300, 408	
AAAC2503		TH-TG-800, 1000	
AAA81554		TH-ICH-300	
AAA81555		TH-ICH-800	
AAA8T610		Cable port (Ø 50mm / 2")	All models
AAA8T611		Cable port (Ø 80mm / 3.2")	All models
CFA1185	Temperature sensor (RTD type)	TH-G//GU models	
CFA1923		TH-TG/ICH/CR models	
CFA7113	Humidity sensor	All models	
RTD1190	Fluorescent lamp (cool white)	TH-ICH-300	
RTD1191		TH-ICH-800	
RTD1188	UVA lamp	TH-ICH-300	
RTD1189		TH-ICH-800	
AAA80680	THE-680 UV sensor	TH-ICH-300/800	
AAA80681	THE-681 Illumination sensor	TH-ICH-300/800	
AAA80661	Door lock device	TH-ICH-300/800	
EDA9184	HEPA filter	TH-CR-270	
EDA9175	ULPA filter	TH-CR-270	
AAA80622	Water cartridge tank	All models	

Cat. No.	Description	Suitable for
AAA8T621	Water purifier	All models
AAA80620	Direct water system	All models
EDA8212	Wire shelf	TH-G//KH-180
EDA8213		TH-G//KH-300
EDA8214		TH-G//KH-408
EDA8215		TH-G-800
EDA8216		TH-G-1000
RTD1302		TH-TG-180
RTD1303		TH-TG-300
RTD1300		TH-TG-408
RTD1304		TH-TG-800
RTD1301		TH-TG-1000
RTD1305		TH-G/TG-1500
RTD1196		TH-ICH-300
RTD1198		TH-ICH-800
STT1040		TH-CR-270
AAA80602-1	Perforated shelf	TH-G//KH-180
AAA80602-2		TH-G//KH-300
AAA80602-3		TH-G//KH-408
AAA80602-4		TH-G-800
AAA80602-5		TH-G-1000
AAA80604-11		TH-TG-180
AAA80604-12		TH-TG-300
AAA80604-13		TH-TG-408
AAA80604-14		TH-TG-800
AAA80604-15		TH-TG-1000
AAA80604-16		TH-G/TG-1500
AAA80604-2		TH-ICH-300
AAA80604-4		TH-ICH-800
AAA80603-1		TH-CR-270