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

CE | Green CFC-Free | Computer Interface | Program | Calibration | Level Indicater Full Start | Over Temp. | Auto Run

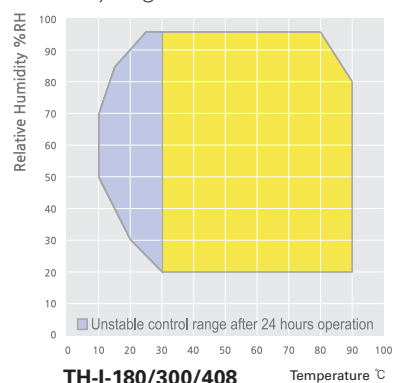## Great low temperature and humidity control performance.

Control range

- Temperature range from -40 to 150 ℃
  Humidity range from 20 to 95% RH

Relative Humidity %RH / Temperature ℃

☐ Unstable control range after 24 hours operation
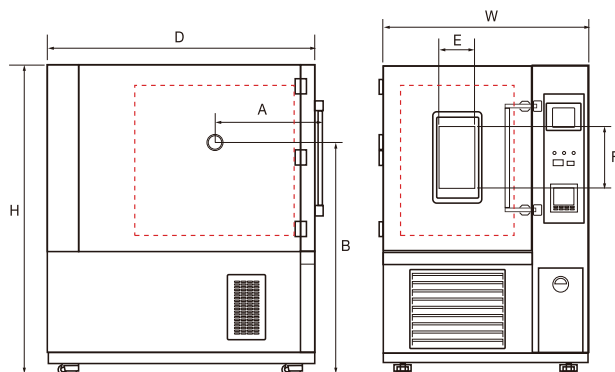
TH-I-180/300/408

TH-I
with optional recorder

Standard accessories
- Viewing window, Wire shelves, Cable port (Ø50mm)
- Water container, Door key

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

Dimension

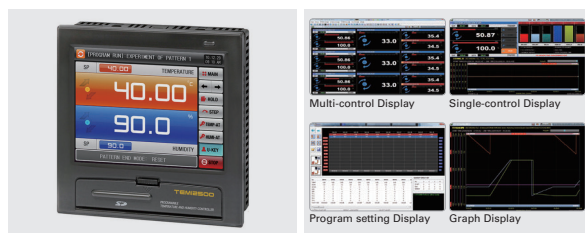| Model	TH-I-180	TH-I-300	TH-I-408
Capacity	189L (7.4cu ft)	302L (11.9cu ft)	408L (14.4cu ft)
W	1003mm (39.5")	1103mm (43.4")	1103mm (43.4")
D	1139mm (44.8")	1139mm (44.8")	1359mm (53.5")
H	1468mm (57.8")	1668mm (65.7")	1668mm (65.7")
A	412mm (16.2")	432mm (17.0")	532mm (20.9")
B	1110mm (43.7")	1246mm (49.0")	1246mm (49.0")

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 ℃.

Safety

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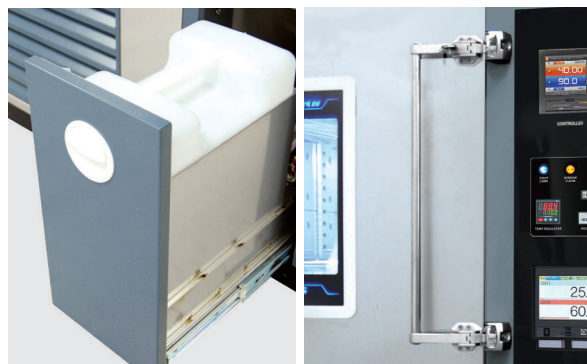- Over current protection.
- Open door alarm.

Convenience

- Three different volume sizes are available to suit any users'needs.
- 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 an 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.

Color LCD controller

Computer interface

Multi-control Display   Single-control Display

Program setting Display   Graph Display

Portable water container

Door handle

Model	TH-I-180	TH-I-300	TH-I-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 (℃ / ℉)	-40 to 150 / -40 to 302 without humidity, 15 to 90 / 59 to 194 with humidity * Best programmable control range : -30 to 140 / -22 to 284		
	Fluctuation [1] (±℃ / ℉) at 40℃ / 75%RH	0.3 / 0.54		
	Variation [1] (±℃ / ℉) at 40℃ / 75%RH	0.5 / 0.9		

| Time | Heating - without humidity (min.) | 70 from -40℃ to 120℃ (-40°F to 248°F) | | |
| | Cooling - without humidity (min.) | 75 from 20℃ to -40℃ (68°F to -40°F) | | |

Humidity	Range (%RH)	20 to 95 ※ See page 213 for more detailed humidity range check.		
	Fluctuation [1] (±%RH) at 75%RH / 40℃	0.4		
	Variation [1] (±%RH) at 75%RH / 40℃	3		

| Refrigeration | System | Mechanical single stage refrigerator system
(air-cooled condenser) | | |
| | Refrigerant | R-507 | | |

| Water Supply | Capacity | 15L (0.53cu ft) - Cartridge type | | |
| | Water quality | pH6.2 to 7.2 / Electrical conductivity 20㎲ /cm to below | | |

No. of wire shelves (standard / max.)	2 / 9	2 / 10	2 / 10
Distance of between shelves (mm / inch)	40 / 1.6	40 / 1.6	40 / 1.6
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 (W×D×H)	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)	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
	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, 60Hz)	1ph / 26.3A	1ph / 26.7A	
Cat. No.	**AAH80111K**	**AAH80121K**	**AAH80131K**
Electrical requirements (230V, 50Hz)	3ph / 15.3A	3ph / 15.6A	
Cat. No.	**AAH80112K**	**AAH80122K**	**AAH80132K**
Electrical requirements (380V, 50Hz)	3ph / 9.1A	3ph / 9.2A	
Cat. No.	**AAH80118K**	**AAH80128K**	**AAH80138K**

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

※ Permissible environmental conditions: temperature (18 to 30℃) and relative humidity (up to 85%).
※ All specifications are under ambient temperature 20℃ (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)	○	○	○	○	○	○
Recorder (digital, 6 channels)	○	○	○	○	○	○
interface converter RS-485C → 232C included a cable (5m / 16.4ft)	○	○	○	○	○	○
Interface cable (5m / 16.4ft)	○	○	○	○	○	○
Warning signal lamp	○	○	○	○	○	○
Inner glass door	○	○	○	○	○	-
Viewing window	□	□	□	□	-	□
Wire shelf	□	□	□	□	□	□
Perforated shelf	○	○	○	○	○	○
Cable port (Ø 50mm / 2")	□	□	□	□	□	□
Cable port (Ø 80mm / 3.2")	○	○	○	○	○	○
Temperature sensor (RTD type)	□	□	□	□	□	□
Humidity sensor	□	□	□	□	□	□
Fluorescent lamp (Cool White)	-	-	-	-	□	-
UVA lamp	-	-	-	-	□	-
UV sensor	-	-	-	-	□	-
Illumination Sensor	-	-	-	-	□	-
HEPA filter	-	-	-	-	-	□
ULPA filter	-	-	-	-	-	○
Water cartridge tank (Water Container)	□	□	□	□	-	□
Water purifier	○	○	○	○	○	○
Direct water system	○	○	○	○	○	○

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/I/KH-180
AAA81551		TH-G/I/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/I/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/I/KH-180
EDA8213		TH-G/I/KH-300
EDA8214		TH-G/I/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/I/KH-180
AAA80602-2		TH-G/I/KH-300
AAA80602-3		TH-G/I/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

Lab Companion