

# Temperature & Humidity Chamber

## General type (-5 to 100°C)

### Stable control for long-term temperature and humidity tests



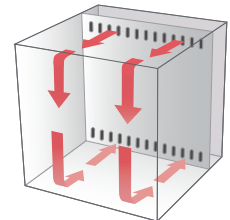
#### TH3-TG-180, 408

with Wire Shelves 2ea,  $\Phi 50$  Cable Port (standard), Recorder, Signal Lamp (Option)



#### TH3-TG-800, 1000, 1500

with Wire Shelves 2ea,  $\Phi 50$  Cable Port (standard), Recorder, Signal Lamp (Option)

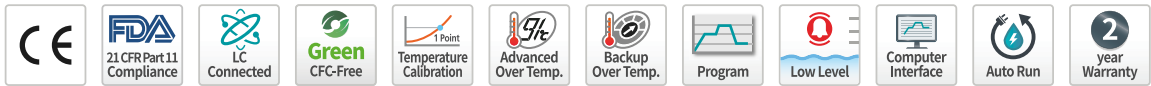


#### Optimized For Long-term Testing

- -5 to 100 °C range; recommended when low-temperature testing is not required.
- Stable temperature control during long-term operation
- Provide 5 kinds of model depending on capacity.
- Satisfies ICH Guideline Q1A (R2) Stability Test.
- Recorder for maintaining test records. (option)
- Options available for convenient internal observation during long-term testing and access to samples under testing. (inner glass door and hand-in port, 180/408 model only)

#### Structural Functional Features

- Stable humidity control ability with applying differentiated external humidification system and convenient maintenance for cleaning testing space.
- Excellent thermal insulation and sealing to ensure stable temperature and humidity reproducibility even for repeated test use.
- Proven reproducibility and reliability with structural design optimized for each capacity.
- The door part is a double-sealed structure that provides enhanced airtightness.



## Use Convenience Features

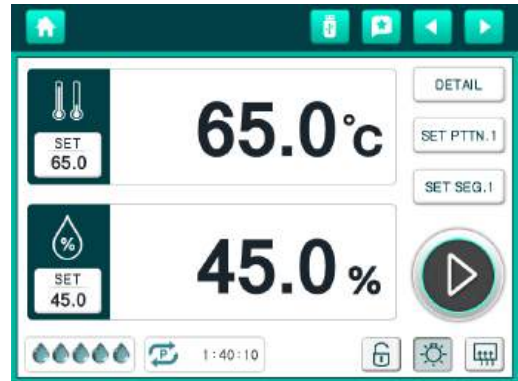
- Convenient operation with large color touch display controller.
- Convenient checking with useful graph display.
- Level-Checker™ function (patented) for real-time monitoring of water level in the humidification tank.
- Water inlet is easy to use with easy cap.
- Possible structure to refill the water even during operation.
- Direct water supply system. (option)
- Easy observation of samples with tempered glass door with built in heating wire and LED lamp.
- Door structure having well-sealed. Included key lock features as standard.
- Cable port (Ø50 mm) is included as standard, making it convenient to connect external equipment.
- Easy to clean as it is easy to remove refrigerator condenser grill, making it convenient to maintain efficiency of refrigeration.
- Equipped with easy-to-move/install caster.
- Optimized slim and compact design minimizes installation space while allowing optional cable ports on both sides (180/408 models only).

## Multifunction Control System

- Save program information and back up the set values.
- Supports highly reliable control through temperature/humidity auto-tuning and temperature calibration.
- PID zone subdivided into 16 zones for more precise control stability.
- RS-232 port (default) and RS-485 port (option) supported.
- Dedicated PC monitoring software provided (up to 4 units)
- Monitor via mobile app anytime, anywhere with LC Connected. (Requires LC GreenBox, option)
- Integrated with 21 CFR Part 11 compliant LC DataKeeper, suitable for GMP audits (option)

Description	No.
Max. number of patterns	100
Max. number of segments per pattern	100
Max. number of segments	2000
Max. repetitions per pattern	999
Max. partial repetitions	99
Max. process time per segment	999 hr. 59 min.

※ It is possible to set 100 segments per pattern, but the maximum number of segments is not 10,000 (100 pattern x 100 segment) but 2,000.



Level-Checker™ function for monitoring of water level in the humidification tank



Door handle with built-in key lock.



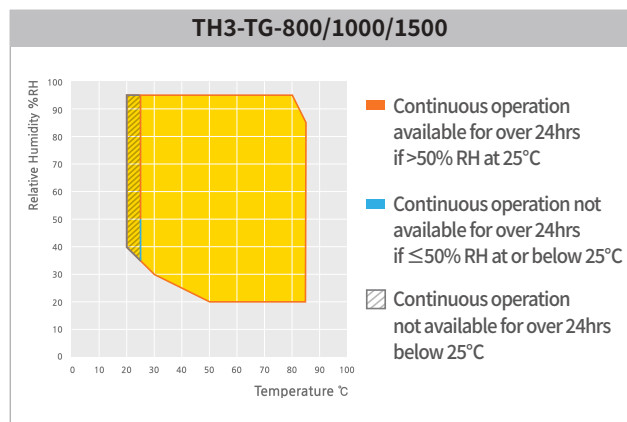
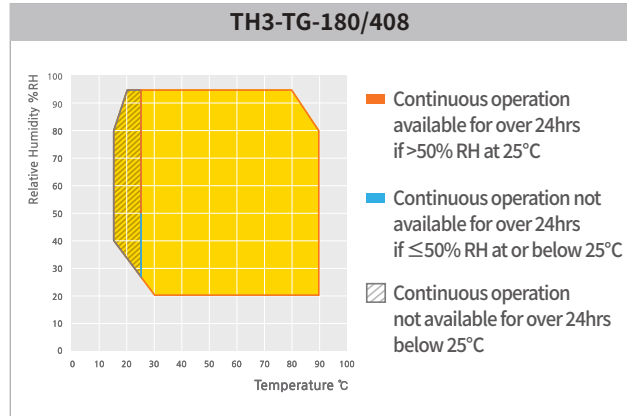
Heated viewing window and LED interior lighting



Possible to check the operation status with graphs.

## Outstanding Safety

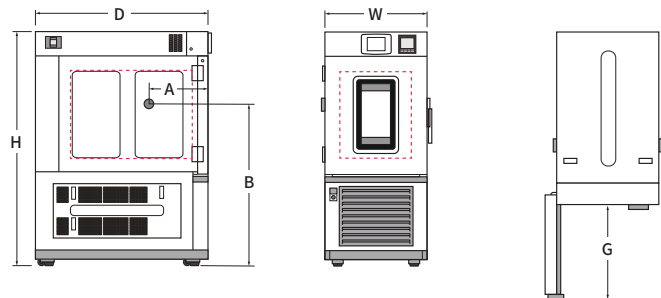
- Electronic over temperature shutdown system. (advanced over temperature. (A-OT) limiter)  
Independent precision temperature sensor and controller for safer and more accurate over temperature shutdown.
- General over power shutdown system. (B-OT, backup over temperature limiter)  
A backup device for electronic system failure, mechanically preventing over temperature even when it occurs electronic errors.
- Direct water supply line and electrical circuitry are simplified to minimize potential failures.
- Ensures that the surface temperature is kept below 60°C.
- Low and empty water level alarm and automatic shut off.
- Door open warning and automatic shut off.
- Overcurrent and short circuit protection of device.
- Each heater is equipped with an independent circuit protector for enhanced safety.
- Auto stop when compressor is overheating.



## Dimension

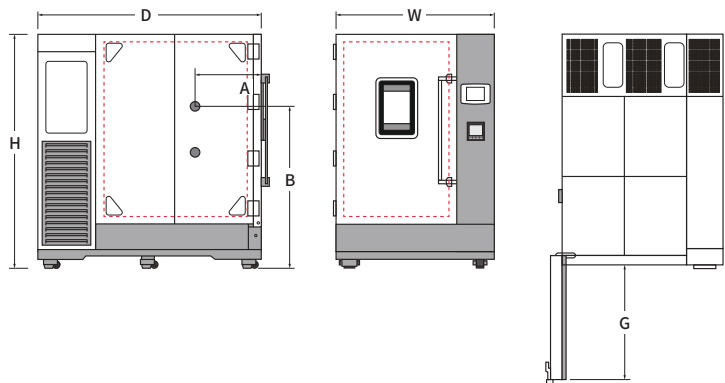
### TH3-TG-180/408 model

Model	TH3-G-180	TH3-G-408
<b>W (mm / inch)</b>	705 / 27.8	805 / 31.7
<b>D (mm / inch)</b>	1220 / 48	1435 / 56.5
<b>H (mm / inch)</b>	1645 / 64.8	1845 / 72.6
<b>A (mm / inch)</b>	420 / 16.5	540 / 21.3
<b>B (mm / inch)</b>	1135 / 44.7	1250 / 49.2
<b>G (mm / inch)</b>	650 / 25.6	750 / 29.5



### TH3-TG-800/1000/1500 model

Model	TH3-TG-800	TH3-TG-1000	TH3-TG-1500
<b>W (mm / inch)</b>	1305 / 51.4	1305 / 51.4	1505 / 59.3
<b>D (mm / inch)</b>	1665 / 65.6	1865 / 73.4	1915 / 75.4
<b>H (mm / inch)</b>	1915 / 75.4	1915 / 75.4	2010 / 79.1
<b>A (mm / inch)</b>	480 / 18.9	555 / 21.9	485 / 19.1
<b>B (mm / inch)</b>	1325 / 52.2	1325 / 52.2	1505 / 59.3
<b>G (mm / inch)</b>	950 / 37.4	950 / 37.4	1150 / 45.3



## Specification

Model	TH3-TG-180	TH3-TG-408	TH3-TG-800	TH3-TG-1000	TH3-TG-1500
<b>Interior dimensions</b>					
Chamber volume (L / cu ft)	180 / 6.4	408 / 14.4	800 / 28.3	1000 / 35.3	1450 / 51.2
Width (mm / inch)	500 / 19.7	600 / 23.6	800 / 31.5	800 / 31.5	1000 / 39.4
Depth (mm / inch)	630 / 24.8	850 / 33.5	750 / 29.5	950 / 37.4	1000 / 39.4
Height (mm / inch)	600 / 23.6	800 / 31.5	1350 / 53.1	1350 / 53.1	1450 / 57.1
Quantity of shelves (standard/max.)	2 / 8	2 / 10	2 / 17	2 / 17	2 / 19
Distance between shelves (mm / inch)	60 / 2.4	60 / 2.4	60 / 2.4	60 / 2.4	60 / 2.4
Max. load per shelf (kg / lbs)	20 / 44.1	20 / 44.1	20 / 44.1	20 / 44.1	20 / 44.1
Permitted total load (kg / lbs)	100 / 220.5	100 / 220.5	100 / 220.5	100 / 220.5	100 / 220.5
Cable port (Ø, mm / inch)	50 / 2.0	50 / 2.0	50 / 2.0	50 / 2.0	50 / 2.0
Water tank capacity (L / cu ft)	13 / 0.5	13 / 0.5	15 / 0.5	15 / 0.5	15 / 0.5
<b>Weight (kg / lbs)</b>	170 / 374.8	240 / 529.1	360 / 793.7	410 / 903.9	480 / 1058.2
<b>Temperature data</b>					
Range without humidity (°C / °F)	-5 to 100 / 23.0 to 212.0	-5 to 100 / 23.0 to 212.0	-5 to 100 / 23.0 to 212.0	-5 to 100 / 23.0 to 212.0	-5 to 100 / 23.0 to 212.0
Fluctuation (± °C / °F) <sup>1)</sup>	0.5 / 0.9	0.5 / 0.9	0.5 / 0.9	0.5 / 0.9	0.5 / 0.9
Gradient (°C / °F) <sup>1)</sup>	< 2.0 / < 3.6	< 2.0 / < 3.6	< 2.0 / < 3.6	< 2.0 / < 3.6	< 2.0 / < 3.6
Heat up rate (-5°C to 95°C) (°C/min / °F/min) <sup>1)</sup>	0.5 / 0.9	0.5 / 0.9	0.5 / 0.9	0.5 / 0.9	0.5 / 0.9
Cool down rate (95°C to -5°C) (°C/min / °F/min) <sup>1)</sup>	0.5 / 0.9	0.5 / 0.9	0.5 / 0.9	0.5 / 0.9	0.5 / 0.9
<b>Humidity data (※ Ref.: Temp./ Humid. control range graph)</b>					
Range (%RH)	20 to 95	20 to 95	20 to 95	20 to 95	20 to 95
Fluctuation (±%RH)	2.5	2.5	1.5	1.5	1.5
<b>Electrical data &amp; Ordering information</b>					
Electrical requirement (230V, 1P, 50/60Hz, A)	16	19	24.5	24.5	-
<b>Cat. No.</b>	<b>AAHC20302K</b>	<b>AAHC20322K</b>	<b>AAHC20332K</b>	<b>AAHC20342K</b>	-
Electrical requirement (230V, 1P, 50Hz, A)	-	-	-	-	29
<b>Cat. No.</b>	-	-	-	-	<b>AAHC20352K</b>
Electrical requirement (230V, 1P, 60Hz, A)	-	-	-	-	29
<b>Cat. No.</b>	-	-	-	-	<b>AAHC20351</b>

※ The above specifications comply with DIN 12880 and IEC 60068 standards.

※ Permissible environmental conditions are 18 - 30°C (recommended 20°C), 85%RH or less, under 2000m above sea level.

※ The DI water condition is pH 6.2 - 7.2 and the electrical conductivity is less than 20µs/cm.

※ Verify the plug type and the electrical capacity at the installation site before installation.

※ For set temperatures at or below 5 °C, continuous operation is limited and defrost cycles may be required.

※ Specifications may be changed without prior notice to improve performance and quality.

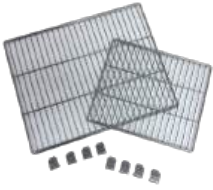
1) Temperature performance follows IEC 60068-3-5, and humidity performance follows IEC 60068-3-6.

## Accessories Page 312

Cable Port, Shelves, Signal Lamp, Recorder, Water Purifier, Direct Water System, Inner Glass Door, LC GreenBox, LC DataKeeper

# Accessories

## Wire Shelf



- Excellent ventilation structure.
- Stainless steel.
- Includes 2ea as standard.

## Perforated Shelf



- Suitable for high-load samples.
- Excellent maintenance as made of stainless steel.

## Recorder (Paper)



- Up to 6 channels supported.
- Set recording range and speed.
- Paper width: 100 mm.

## Recorder (Digital)



- Paperless. (5.7" LCD display)
- Up to 6 channels supported.
- Data stored in internal/external memory.

## Cable Port



- Both cap and silicone plug are included as standard in Ø50 mm cable port.
- It is available to add Ø50 mm, Ø80 mm.

## Signal Lamp



- Figuring out equipment status remotely.
- Run/Stand-by/Error displayed by color.

## Water Purifier



- Water purifier composed of particle filter and carbon filter.
- Solid steel box construction.

## Inner Glass Door



- Minimized temperature and humidity changes and observation of internal samples enabled.
- Hand-in port is provided as standard. (selectable when purchasing)

## Stand (1 Stage)



- Dedicated stand for small appliances.
- Provides lower drawer and loading space.
- Casters provided as standard for moving/fixing.

## Stand (2 Stage)



- Placing of two compact devices vertically.
- Minimized installation space for different temperature and humidity tests.

## Direct Water System



- Direct connection of distilled water to direct water line of the equipment from a water supply pipe.
- Useful for long-term testing.

Model	Cable Port (ø50)	Cable Port (ø80)	Wire Shelf	Perforated Shelf	Signal Lamp	Recorder (Paper)	Recorder (Digital)	Water Purifier	Direct Water System	Inner Glass Door	Stand (1 stage)	Stand (2 stage)
TH3-KE-025	AAA8T612	N/A	00RTD0000679	AAA80602-6	AAA80550	AAA8T504	AAA8T506	AAA8T625	AAA80620	N/A	AAA80631	AAA80634
TH3-KE-065	AAA8T612	AAA8T611	00RTD0000680	AAA80602-7	AAA80550	AAA8T504	AAA8T506	AAA8T625	AAA80620	N/A	AAA80632	AAA80635
TH3-KE-100	AAA8T612	AAA8T611	00RTD0000681	AAA80602-8	AAA80550	AAA8T504	AAA8T506	AAA8T625	AAA80620	N/A	AAA80633	N/A
TH3-ME-025	AAA8T612	N/A	00RTD0000679	AAA80602-6	AAA80550	AAA8T504	AAA8T506	AAA8T625	AAA80620	N/A	AAA80631	AAA80634
TH3-ME-065	AAA8T612	AAA8T611	00RTD0000680	AAA80602-7	AAA80550	AAA8T504	AAA8T506	AAA8T625	AAA80620	N/A	AAA80632	AAA80635
TH3-ME-100	AAA8T612	AAA8T611	00RTD0000681	AAA80602-8	AAA80550	AAA8T504	AAA8T506	AAA8T625	AAA80620	N/A	AAA80633	N/A
TH3-PE-025	AAA8T612	N/A	00RTD0000679	AAA80602-6	AAA80550	AAA8T504	AAA8T506	AAA8T625	AAA80620	N/A	AAA80631	AAA80634
TH3-PE-065	AAA8T612	AAA8T611	00RTD0000680	AAA80602-7	AAA80550	AAA8T504	AAA8T506	AAA8T625	AAA80620	N/A	AAA80632	AAA80635
TH3-PE-100	AAA8T612	AAA8T611	00RTD0000681	AAA80602-8	AAA80550	AAA8T504	AAA8T506	AAA8T625	AAA80620	N/A	AAA80633	N/A
TH-KH-180	AAA8T610	AAA8T6111	00EDA0008212	AAA80602-1	AAA80550	AAA8T500	AAA8T505	AAA8T625	AAA80620	AAA81552	N/A	N/A
TH-KH-300	AAA8T610	AAA8T6111	00EDA0008213	AAA80602-2	AAA80550	AAA8T500	AAA8T505	AAA8T625	AAA80620	AAA81551	N/A	N/A
TH-KH-408	AAA8T610	AAA8T6111	00EDA0008214	AAA80602-3	AAA80550	AAA8T500	AAA8T505	AAA8T625	AAA80620	AAA81551	N/A	N/A
TH-G-800	AAA8T610	AAA8T611	00EDA0008215	AAA80602-4	AAA80550	AAA8T500	AAA8T505	AAA8T625	AAA80620	AAA81550	N/A	N/A
TH-G-1000	AAA8T610	AAA8T611	00EDA0008216	AAA80602-5	AAA80550	AAA8T500	AAA8T505	AAA8T625	AAA80620	AAA81550	N/A	N/A
TH-G-1500	AAA8T610	AAA8T611	00EDA0008216	AAA80602-5	AAA80550	AAA8T500	AAA8T505	AAA8T625	AAA80620	N/A	N/A	N/A
TH3-G-180	AAA8T610	AAA8T611	00EDA0008212	AAA80602-10	AAA80550	AAA8T500	AAA8T505	AAA8T625	AAA80620	AAA81552	N/A	N/A
TH3-G-408	AAA8T610	AAA8T611	00EDA0008214	AAA80602-12	AAA80550	AAA8T500	AAA8T505	AAA8T625	AAA80620	AAA81551	N/A	N/A
TH3-TG-180	AAA8T610	AAA8T611	00EDA0008212	AAA80602-10	AAA80550	AAA8T500	AAA8T505	AAA8T625	AAA80620	AAA81552	N/A	N/A
TH3-TG-408	AAA8T610	AAA8T611	00EDA0008214	AAA80602-12	AAA80550	AAA8T500	AAA8T505	AAA8T625	AAA80620	AAA81551	N/A	N/A
TH3-TG-800	AAA8T610	AAA8T611	00RTE0001631	AAA80602-13	AAA80550	AAA8T500	AAA8T505	AAA8T625	AAA80620	N/A	N/A	N/A
TH3-TG-1000	AAA8T610	AAA8T611	00RTE0001620	AAA80602-14	AAA80550	AAA8T500	AAA8T505	AAA8T625	AAA80620	N/A	N/A	N/A
TH3-TG-1500	AAA8T610	RTE1663	00RTD0001305	AAA80602-15	AAA80550	AAA8T500	AAA8T505	AAA8T625	AAA80620	N/A	N/A	N/A
TH3-DG-150	AAA8T610	AAA8T611	00EDA0008251	AAAC6501	AAA80550	AAA8T500	AAA8T505	AAA8T625	AAA80620	AAAC6511	N/A	N/A
TH3-DG-300	AAA8T610	AAA8T611	00RTD0001280	AAAC6502	AAA80550	AAA8T500	AAA8T505	AAA8T625	AAA80620	AAAC6512	N/A	N/A
TH3-DG-400	AAA8T610	AAA8T611	00EDA0008250	AAAC6503	AAA80550	AAA8T500	AAA8T505	AAA8T625	AAA80620	AAAC6513	N/A	N/A
TH3-E-200	AAA8T610	AAA8T611	00EDA0008212	AAA80602-1	AAA80550	AAA8T500	AAA8T505	AAA8T625	AAA80620	AAA81552	N/A	N/A
TH3-E-400	AAA8T610	AAA8T611	00EDA0008214	AAA80602-3	AAA80550	AAA8T500	AAA8T505	AAA8T625	AAA80620	AAA81551	N/A	N/A
TH-ICH-300	AAA8T610	AAA8T611	00RTD0001196	AAA80604-2	AAA80550	AAA8T500	AAA8T505	AAA8T625	AAA80620	AAA81554	N/A	N/A
TH-ICH-800	AAA8T610	AAA8T611	00RTD0001198	AAA80604-4	AAA80550	AAA8T500	AAA8T505	AAA8T625	AAA80620	AAA81555	N/A	N/A

### LC GreenBox (only TH3 models)

- Real-time monitoring of device operation via mobile app, LC Connected.
- Up to 4 devices can be connected at once.

Description	Dimension (W x D x H, mm / inch)	Cat. No.
LC GreenBox	156 x 94 x 34 / 6.1 x 3.7 x 1.3	AAHQ1011K



### LC DataKeeper (only TH3 models)

- High-integrity software compliant with FDA 21 CFR Part 11
- Integrated with Jeio Tech equipment for GMP audits

Description	Cat. No.
LC DataKeeper-Basic	SSA11001
LC DataKeeper-Pro	SSA11002

※ Trial version is available for 30 days, offering the same features as the Basic version, and can be requested through the website.

