
















Incubator



- | | | | | | |
|-------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
|  | <p>Satisfaction with the requirements of European regulations and guidelines.</p> |  | <p>Real-time equipment monitoring and control system using mobile app.</p> |  | <p>Registered safety patent based on JEIO TECH's proprietary technology.</p> |
|  | <p>Eco-friendly product that has passed environmental impact assessment tests.</p> |  | <p>More precise temperature control through 3-point temperature calibration.</p> |  | <p>More precise temperature control through temperature calibration.</p> |
|  | <p>Warning alarm in case of deviation of temperature control.</p> |  | <p>Over temperature protection function.</p> |  | <p>Possible to set end time or start time of device operation.</p> |
|  | <p>Indicator to ascertain water level.</p> |  | <p>Alarm if the water is low level.</p> |  | <p>Control of temperature / humidity / rpm / time, etc. through dedicated program.</p> |
|  | <p>PC communication via RS-232 / RS-485 / USB port.</p> |  | <p>It memorizes the state of power failure and operates automatically when power is restored.</p> |  | <p>2 year warranty Free A/S.</p> |

General Application

Organic bacteria, organic drugs, tissue cultures in the areas of antibody testing, clinical studies, hematology, microbiology, and others.

	Description	Temp. Range (°C/°F)	Max. Temp. Fluctuation (±°C/°F)	Volume (L / cu ft)	Model	Page
Incubator	General <ul style="list-style-type: none"> Stable temperature control through forced convection Airflow that maintains even temperature distribution 	Amb. +5 to 70 / Amb. +9 to 158	0.2 at 37°C / 0.6 at 98.6	60, 102, 151 / 2.1, 102, 151	IB-G	82
	Economy <ul style="list-style-type: none"> Stable product that is faithful to the basics Film heater-type incubator 	Amb. +3 to 60 / Amb. +5.4 to 140	±0.1 at 37°C / 0.18 at 98.6°F	65, 150, 205 / 2.3, 5.3, 7.2	IB-E	83
	Mini <ul style="list-style-type: none"> Compact design Downward door for convenient internal observation 	Amb. +5 to 65 / Amb. +9 to 149	0.5 at 37°C / 0.9 at 98.6°F	10 / 0.4	IM	84
	Multi <ul style="list-style-type: none"> Independent temperature control for each chamber 2-in-1, 4-in-1 models 	Amb. +5 to 70 / Amb. +9 to 158	±0.1 at 37°C / 0.18 at 98.6°F	120 / 4.2 (60 L / 2.1 cu ft x 2 chamber) 240 / 8.5 (60 L / 2.1 cu ft x 4 chamber)	IB-02G-2C IB-02G-4C	85
Low Temperature Incubator	Air-Jacket <ul style="list-style-type: none"> Minimization of culture medium dry-out Air-jacket type incubator 	4 to 70 / 39.2 to 158	0.2 at 37°C / 0.36 at 98.6°F	156, 254 / 5.5, 9.0	IL3-A	86
	General <ul style="list-style-type: none"> Optimized for BOD experiments Forced convection method 	0 to 80 / 32 to 176	±0.1 at 37°C / 0.18 at 98.6°F	150, 242 / 5.3, 8.5	IL3	86
	Personal <ul style="list-style-type: none"> Application of peltier cooling device system Structure minimizes noise/vibration 	5~40 / +41~104 (at 20°C / 68°F) 10~40 / +50~104 (at 25°C / 77°F) 15~40 / +59~104 (at 25°C / 77°F)	0.1 at 25°C / 0.18 at 77°F	14, 48 / 0.5, 1.7	ILP	88
	Multi <ul style="list-style-type: none"> Independent temperature control for each chamber 2-in-1, 4-in-1 models 	0 to 60 / 32 to 140	0.1 at 25°C / 0.18 at 77°F	300 / 10.6 (150 L / 5.3 cu ft x 2 chamber) 600 / 21.2 (150 L / 5.3 cu ft x 4 chamber)	IL-11-2C IL-11-4C	89
Growth Chamber	Growth Chamber <ul style="list-style-type: none"> 10-step program control Temperature/Humidity auto-tuning 	5~50 / 41~122	0.1 at 25°C / 0.18 at 77°F	300, 1000 / 10.6, 35.3	GC	90

※ The contents of the above and the contents of this catalog may differ depending on the specific model and conditions of use. For the information about the features and specifications that applying to each model, please check the information on the corresponding page of each model.



Incubator

An incubator series that provides optimal culture environment
Application of dedicated controller for precise control

> **Optimized selection model provided**

Optimal model provided based on heat transfer method and airflow, capacity, performance and function, controller type, etc.

> **Verified according to international standards**

Fluctuation, variation, heating time, and recovery time are tested according to DIN 12880.

> **Glass door for contamination prevention**

Internal glass door allows for convenient observation of sample without temperature change and prevents inflow of external contaminants.

> **Clean use and maintenance**

Internal stainless steel structure allows for clean maintenance and excellent corrosion resistance.

> **More stable temperature control**

Optimized Microprocessor PID control for more accurate temperature control.

> **3-point temperature calibration function (IL3)**

Temperature calibration of up to 3 points provides more reliable temperature control.

> **Optimized temperature control**

Auto-tuning function enables optimal control even when ambient temperature or conditions are changed frequently.

> **Computer interface control**

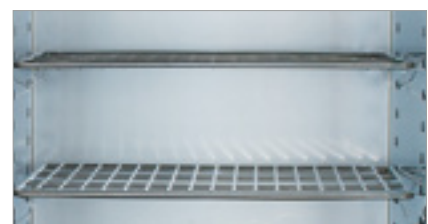
Convenient remote control and data management through built-in dedicated software. (IL3, IL3-A)



Sealed glass door for contamination prevention.



Large VFD-dedicated controller. (4.7 inch)



Easy shelf height adjustment.



Functions convenient for actual use and Lab Companion's patented safety system

> Provide convenient timer function

Wait On/Wait Off is run after the set time elapses. (Max. 999 hours and 59 minutes)

> Controller lock function

Lock function for preventing change of controller settings prevents erroneous operation due to arbitrary changing.

> Convenient temperature value save and operation

Conveniently save and used frequently used temperatures value. (up to 3 presets allowed)

> Cable port provided as standard

38mm diameter cable port and cover for convenient utilization of culture conditions. (general and multi models)

> Top-grade overheating prevention system (Lab Companion's patent)

Even if a failure occurs in the device control unit, the safety device is structured so that it is preferentially operated.

> Over heating limit function in case of accidental over heating.

Safety structure with shutdown function using over temperature limiter in case of overheating.

> Support for remote equipment monitoring services (option)

Real-time monitoring of equipment operating status using smart phones.

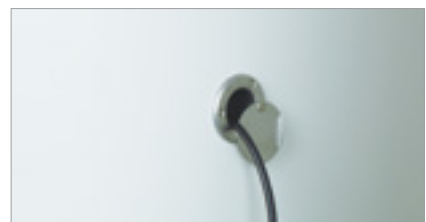
> Prepared for unexpected power failure

Auto-run function capable of selecting reoperation when power is restored after power failure.

※ Some of the above contents are limited to specific models.



Various models for selecting the desired structure.



Cable port provided as standard on the side.

Incubator (Air-jacket)

General type



Versatile air-jacketed natural convection incubators

Structural Functional Features

- Microprocessor PID control / Temperature calibration / Automatic tuning.
- Temperature range from ambient +5°C to 70°C.
- Vibration-free design ideal for yeast cultivation.
 - Air-jacketed natural convection is beneficial for uniform temperature distribution and minimal sample contamination caused by external air intrusion.
- Durable incoloy heating element with radiator fans for efficient heat dissipation.

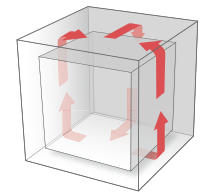
Use Convenience Features

- Vibration-free design ideal for yeast cultivation.
- Corrosion-resistant stainless steel interior with rounded corners for easy cleaning and optimal airflow.
- Intuitive control panel with bright LED display. (0.1°C resolution)
- Dual wait on/off timer modes. (1 min. to 99 hr. 59 min.)
- Convenient preset function for 3 most commonly used temperature settings.
- Convenient sample monitoring without affecting chamber temperature via the inner tempered-glass door.
- Built-in cable port to use other instruments inside the chamber. (diameter: 38mm, provided silicon or rubber cap)
- Monitor via mobile app anytime, anywhere with LC Connected. (mobile monitoring system) (when purchased LC GreenBox)



IB-05G

with Wire Shelves 2ea (standard)



Outstanding Safety

- Top-rated overheating protection system. (registration 10-0397583)
- Safety circuit design to protect against overcurrent and overheating.
- Over temperature limit function.
- Mal-operation prevented by controller lock function.
- Error display and alarm when an abnormality occurs during operation.

Specification

Model		IB-05G	IB-15G	IB-25G
Chamber volume (L / cu ft)		60 / 2.1	102 / 3.6	151 / 5.3
Temperature	Range (°C / °F)	Amb. +5 to 70 / Amb. +9 to 158	Amb. +5 to 70 / Amb. +9 to 158	Amb. +5 to 70 / Amb. +9 to 158
	Fluctuation at 37°C (±°C / °F)	0.1 / 0.18	0.1 / 0.18	0.2 / 0.36
	Variation at 37°C (±°C / °F)	0.6 / 1.08	0.2 / 0.36	0.6 / 1.08
	Heating time to 37°C (min.)	41	22	6
	Recovery time at 37°C (min.)	1	2	1
Dimension	Interior (W x D x H, mm / inch)	400 x 360 x 420 / 15.7 x 14.2 x 16.5	480 x 410 x 520 / 18.9 x 16.1 x 20.5	610 x 460 x 540 / 24 x 18 x 21.3
	Exterior (W x D x H, mm / inch)	595 x 555 x 745 / 23 x 22 x 29	675 x 605 x 855 / 27 x 24 x 34	805 x 655 x 885 / 32 x 26 x 35
	Net weight (Kg / lbs)	45 / 99	55 / 121	62 / 136
Shelves	Quantity of shelves (standard / max.)	2 / 4	2 / 6	2 / 7
	Max. Load per shelf (Kg / lbs)	30 / 66	30 / 66	30 / 66
Electrical requirements (230V, 50 / 60Hz, A)		1.3	2.2	3.1
Cat. No.		AAH21162K	AAH21172K	AAH21182K
Electrical requirements (120V, 60Hz, A)		2.8	4.6	6.4
Cat. No.		AAH21166U	AAH21176U	AAH21186U

※ Technical data (according to DIN 12880 before 2013)

Accessories Page 93 Wire Shelves, Perforated Shelves, Double-stacked Bracket

Incubator (Film Heater) Economy type



Stable incubator that is faithful to the basic functions

Structural Functional Features

- Economical model series that minimizes the purchase burden.
- An incubator in which the internal chamber is heated using a film heater on the outer wall of the space where the sample is placed.
- The sample space is independently kept clean and the structure protects against sources of contamination.
- External door can be opened and closed smoothly with magnetic packing to minimize sample impact.
- Stainless steel interior and shelves are excellent in terms of corrosion resistance and clean maintenance.

Use Convenience Features

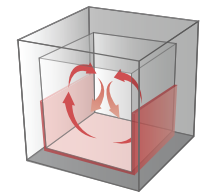
- Accurately controlling temperature based on temperature calibration / auto-tuning / microprocessor PID.
- The inner glass door is completely enclosed with silicone packing, making it easy to observe the sample without changing the temperature.
- Save and use 3 frequently used temperatures.
- Wait On/Off timer. (up to 99 hours 59 minutes)
- Provides notification/alarms when the door is open for an extended period of time.

Outstanding Safety

- Top-rated overheating protection system. (registration 10- 0397583)
- Over temperature limit function.
- Mal-operation prevented by controller lock function.



IB-01E
with Wire Shelves 2ea (standard)



Specification

Model		IB-01E	IB-11E	IB-21E
Chamber volume (L / cu ft)		65 / 2.3	150 / 5.3	205 / 7.2
Temperature	Range (°C / °F)	Amb. +3 to 60 / Amb. +5.4 to 140	Amb. +3 to 60 / Amb. +5.4 to 140	Amb. +3 to 60 / Amb. +5.4 to 140
	Fluctuation at 37°C (±°C / °F)	0.2 / 0.36	0.3 / 0.54	0.1 / 0.18
	Variation at 37°C (±°C / °F)	0.6 / 1.08	0.8 / 1.44	1.1 / 1.98
	Heating time to 37°C (min.)	41	22	6
	Recovery time at 37°C (min.)	1	2	1
Dimension	Interior (W x D x H, mm / inch)	423 x 355 x 445 / 16.7 x 14 x 17.5	500 x 515 x 585 / 19.7 x 20.3 x 23	632 x 515 x 630 / 24.9 x 20.3 x 24.8
	Exterior (W x D x H, mm / inch)	533 x 475 x 725 / 21 x 18.7 x 28.5	595 x 630 x 865 / 23.5 x 24.8 x 34	740 x 630 x 910 / 29.1 x 24.8 x 35.8
	Net weight (Kg / lbs)	33 / 72.8	47 / 103.6	57 / 125.7
Shelves	Quantity of shelves (standard/max.)	2 / 5	2 / 7	2 / 7
	Max. Load per shelf (Kg / lbs)	30 / 66	30 / 66	25 / 55.1
Electrical requirements (230V, 50 / 60Hz, A)		1.1	2.2	2.4
Cat. No.		AAH26015K	AAH26025K	AAH26035K
Electrical requirements (120V, 60Hz, A)		2.1	4.2	4.6
Cat. No.		AAH26016U	AAH26026U	AAH26036U

※ Technical data (according to DIN 12880 before 2013)

Accessories Page 93 Wire Shelves, Perforated Shelves, Double-stacked Bracket

Incubator (Forced Convection)

Mini type



Small-sized incubator with compact design for ambient temperature use

Structural Functional Features

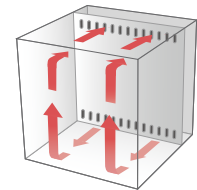
- Small incubator with compact design.
- Structure that circulates internal air for temperature control.
- Design with door that opens downward, minimizing the required space on the side of the device.
- Convenient internal observation door with a sight window.
- Stainless steel interior and shelves are excellent in terms of corrosion resistance and clean maintenance.

Use Convenience Features

- Accurate temperature control through temperature calibration and microprocessor PID.
- Clear VFD panel for convenient operation status checking.
- Easy operation with touch button and jog dial.
- Over-temperature and over-current limiter function.
- Provides notification/alarms when the door is open for an extended period of time.
- Alarm function when temperature sensor is disconnected.



IM-10
with Wire Shelves 2ea (standard)



※ When the chamber is operating with forced convection type, the amount of moisture evaporation of the medium is relatively high.

Specification

Model		IM-10
Chamber volume (L / cu ft)		10 / 0.4
Temperature	Range (°C / °F)	Amb. +5 to 65 / Amb. +9 to 149
	Fluctuation at 37°C (±°C / °F)	0.5 / 0.9
	Variation at 37°C (±°C / °F)	0.5 / 0.9
	Heating time to 37°C (min.)	5
	Recovery time at 37°C (min.)	2
Dimensions	Interior (W x D x H, mm / inch)	278 x 262 x 160 / 11 x 10.4 x 6.3
	Exterior (W x D x H, mm / inch)	400 x 410 x 264 / 15.7 x 16.1 x 10.4
	Net weight (Kg / lbs)	13.0 / 28.7
Shelves	Quantity of shelves (standard/max.)	2 / 4
Electrical requirements (230V, 50 / 60Hz, A)		1
Cat. No.		AAH24315K
Electrical requirements (120V, 60Hz, A)		2.1
Cat. No.		AAH24316U

※ The lowest temperature that can be controlled depends on changes in room temperature and sample temperature. Therefore, please contact the distributor of our products before purchasing for technical consultation.

※ Technical data (according to DIN 12880 before 2013)

Accessories Page 93 Wire Shelves, Perforated Shelves

Incubator (Forced Convection) Multi type



Independent Control and Effective Space Utilization per Chamber

Structural Functional Features

- 2 / 4 chambers can be controlled independently.
- Easy to use with maximally space-efficient structure.
- Structure that circulates internal air for temperature control.
- Easy to open and close the door. Soft handle minimizes shock to the sample.
- Stainless steel interior and shelves are excellent in terms of corrosion resistance and clean maintenance.
- Easy to clean as inner edges are curved.
- Useful cable port and cover on the side.
- Equipped with easy-to-move/install caster.

Use Convenience Features

- Accurate temperature control through temperature calibration and microprocessor PID.
- Save and use 3 frequently used temperatures.
- Wait On/Off timer. (up to 99 hours 59 minutes)
- Mal-operation prevented by controller lock function.
- Over temperature limit function.
- Alarm function when temperature sensor is disconnected.
- Provides notification/alarms when the door is open for an extended period of time.

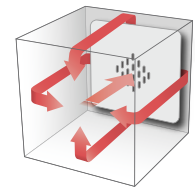


IB-02G-2C

with Wire Shelves
2ea per chamber (standard)

IB-02G-4C

with Wire Shelves
2ea per chamber (standard)



※ When the chamber is operating with forced convection type, the amount of moisture evaporation of the medium is relatively high.

Specification

Model		IB-02G-2C	IB-02G-4C
Chamber volume (L / cu ft)		120 / 4.2 (60 / 2.1 x 2 chambers)	240 / 8.5 (60 / 2.1 x 4 chambers)
Temperature	Range (°C / °F)	Amb. +5 to 70 / Amb. +9 to 158	Amb. +5 to 70 / Amb. +9 to 158
	Fluctuation at 37°C (±°C / °F)	0.1 / 0.18	0.1 / 0.18
	Variation at 37°C (±°C / °F)	0.6 / 1.08	0.6 / 1.08
	Heating time to 37°C (min.)	16	16
	Recovery time at 37°C (min.)	3	3
Dimension	Interior (W x D x H, mm / inch)	400 x 360 x 420 / 15.7 x 14.2 x 16.5 (each chamber)	400 x 360 x 420 / 15.7 x 14.2 x 16.5 (each chamber)
	Exterior (W x D x H, mm / inch)	570 x 640 x 1360 / 22.4 x 25.2 x 53.5	1170 x 640 x 1360 / 46.1 x 25.2 x 53.5
	Net weight (Kg / lbs)	110 / 242.5	168 / 370.4
Shelves	Quantity of shelves (standard/max.)	2 / 4 (each chamber)	2 / 4 (each chamber)
	Max. Load per shelf (Kg / lbs)	30 / 66	30 / 66
Electrical requirements (230V, 50 / 60Hz, A)		4.1	4.1 x 2ea
Cat No		AAH2A115K	AAH2A015K
Electrical requirements (120V, 60Hz, A)		7.5	7.5 x 2ea
Cat No		AAH2A116U	AAH2A016U

※ The lowest temperature that can be controlled depends on changes in room temperature and sample temperature. Therefore, please contact the distributor of our products before purchasing for technical consultation.

※ Technical data (according to DIN 12880 before 2013)

Accessories Page 93 Wire Shelves, Perforated Shelves

Low Temperature Incubator (Forced Convection/Air-jacket) General type

Provides stable, low-temperature culture environment



IL3-15/15A

with Wire Shelves 2ea (standard)



IL3-25

with Wire Shelves 3ea (standard)

Structural Functional Features

- Compact structure design.
- Clear VFD panel for clear information display.
- The inner toughened-glass door is completely enclosed with silicone packing, making it easy to observe the sample without changing the temperature.
- External door can be opened and closed smoothly with magnetic packing to minimize sample impact.
- The sample space is independently kept clean and the structure protects against sources of contamination.
- Internal power outlet included as standard for easy operation of small products.
- Easily removable condenser grill structure.
- Stainless steel interior and shelves are excellent in terms of corrosion resistance and clean maintenance.
- Easy to clean as inner edges are curved.

Use Convenience Features

- Accurately controlling temperature based on temperature calibration /auto-tuning / microprocessor PID.
- Save and use 3 frequently used temperatures.
- Wait On/Off timer. (up to 999 hours 59 minutes)
- USB/RS-232 connection and software provide convenient computer operation and data managing.
- Operation and data management with computer connection.
- Alarm function when temperature sensor is disconnected.
- Monitor via mobile app anytime, anywhere with LC Connected. (mobile monitoring system) (when purchased LC GreenBox)

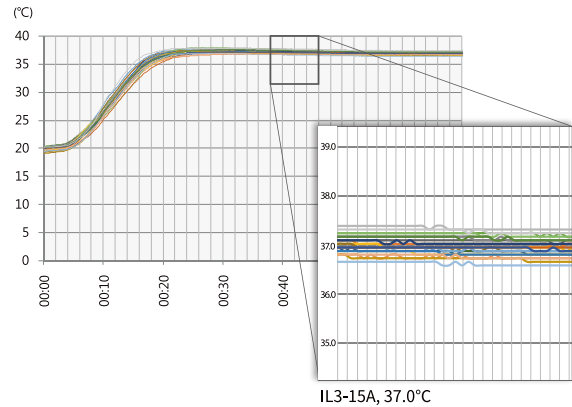
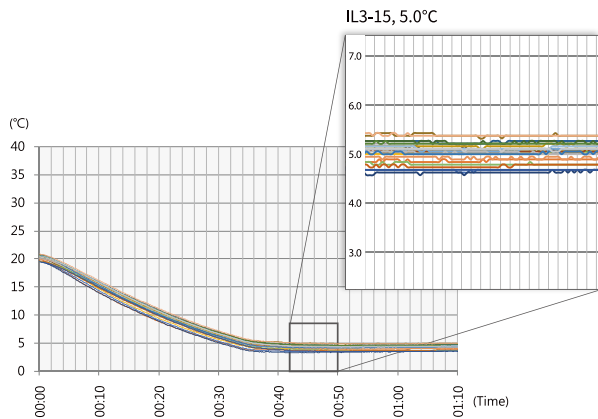
Outstanding Safety

- Top-rated overheating protection system. (registration 10-0397583)
- Mechanical/ electronic overheat protection.
- Set the temperature deviation notification.
- Mal-operation prevented by controller lock function.



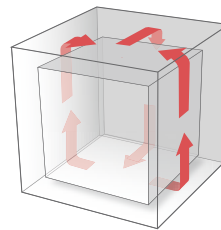
Temperature Variation

- Superior temperature uniformity with excellent temperature control capability.

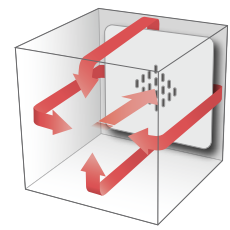


Two Series Of Models According To Heat Transfer Method

- **Forced Convection**
The structure allows for the inside air to be circulated and the temperature to be controlled, producing stable temperature control and good distribution. However, the amount of moisture evaporation of the culture is relatively high.
- **Natural Convection (Air-jacket)**
The air-jacket structure heats the outside air in the space where the sample is placed and transfers the heat to the inside, and the moisture evaporation amount of the culture is relatively low.



Natural Convection (Air-jacket)



Forced Convection

Specification

Model		Forced Convection		Natural Convection (Air-jacket)	
		IL3-15	IL3-25	IL3-15A	IL3-25A
Chamber volume (L / cu ft)		150 / 5.3	242 / 8.5	156 / 5.5	254 / 8.97
Refrigerator (Hp)		1 / 6	1 / 6	1 / 6	1 / 6
Temperature	Range (°C / °F)	0 to 80 / 32 to 176	0 to 80 / 32 to 176	4 to 70 / 39.2 to 158	4 to 70 / 39.2 to 158
	Fluctuation at 37°C (±°C / °F)	0.1 / 0.18	0.1 / 0.18	0.2 / 0.36	0.2 / 0.36
	Variation at 37°C (±°C / °F)	0.6 / 1.08	1.0 / 0.18	0.7 / 1.26	1.0 / 0.18
	Heating time 20 to 37°C (min.)	43	45	45	50
	Cooling time 20 to 5°C (min.)	45	50	53	58
Recovery time at 37°C (min.)		4	4	5	5
Dimension	Interior (W x D x H, mm / inch)	600 x 500 x 500 / 24 x 20 x 20	500 x 520 x 930 / 20 x 20.5 x 36.6	600 x 520 x 500 / 24 x 20.5 x 20	500 x 540 x 940 / 20 x 21.3 x 37
	Exterior (W x D x H, mm / inch)	720 x 760 x 1070 / 28.3 x 29.9 x 42.1	620 x 770 x 1618 / 24.4 x 30.3 x 63.7	770 x 790 x 1115 / 30.3 x 31.1 x 43.9	670 x 805 x 1668 / 26.4 x 31.7 x 65.7
	Net weight (Kg / lbs)	100 / 220	135 / 297	108 / 238.1	145 / 319.7
Shelves	Quantity of shelves (standard/max.)	2 / 6	3 / 13	2 / 6	3 / 13
	Max. Load per shelf (Kg / lbs)	26 / 57.3	30 / 66	26 / 57.3	30 / 66
Electrical requirements (230V, A)		60Hz, 4.5 50Hz, 4.5	60Hz, 6.4 50Hz, 6.4	60Hz, 6.6 50Hz, 6.6	60Hz, 8 50Hz, 8
Cat. No.		AAH220422K AAH220412K	AAH220522K AAH220512K	AAH220622K AAH220612K	AAH220722K AAH220712K
Electrical requirements (120V, 60Hz, A)		8.3	10.6	10.2	12.3
Cat. No.		AAH220462U	AAH220562U	AAH220632U	AAH220732U

※ Technical data (according to DIN 12880 before 2013)

Accessories Page 93 Wire Shelves, Perforated Shelves, LC GreenBox

Low Temperature Incubator Personal type



Low temperature personal incubator

Structural Functional Features

- Small incubator with compact design.
- Minimizes vibration and power consumption by using electronic cooling element. (peltier module)
- Structure that circulates internal air for temperature control.
- The inner glass door is completely enclosed with silicone packing, making it easy to observe the sample without changing the temperature.
- External door can be opened and closed smoothly with magnetic packing to minimize sample impact.
- Stainless steel interior and shelves are excellent in terms of corrosion resistance and clean maintenance.

Use Convenience Features

- Accurately controlling temperature based on temperature calibration / auto-tuning / microprocessor PID.
- Save and use 3 frequently used temperatures.
- Wait On/Off timer. (up to 99 hours 59 minutes)
- Operation and data management with computer connection.
- Alarm function when temperature sensor is disconnected.
- Internal air circulation speed and defrost cycle control.
- Provides notification/alerts when the door is open for an extended period of time.
- Monitor via mobile app anytime, anywhere with LC Connected. (mobile monitoring system) (when purchased LC GreenBox)

Outstanding Safety

- Top-rated overheating protection system. (registration 10-0397583)
- Over temperature limit function.
- Mal-operation prevented by controller lock function.

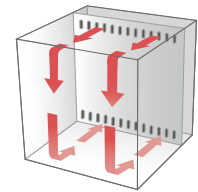


ILP-02 (stackable unit)

with Wire Shelf 1ea (standard)

ILP-12

with Wire Shelf 1ea (standard)



Convenient Program Control

- Various culture and incubating experiments with the 9 step program.
- Temperature/time settings for each step.
- Up to 99 hours and 59 minutes.
- Repeat operation up to 200 times.

Specification

Model		ILP-02		ILP-12	
Chamber volume (L / cu ft)		14 / 0.5		48 / 1.7	
Temperature	Range (°C / °F)	5~40 / +41~104 (at 20°C / 68°F) 10~40 / +50~104 (at 25°C / 77°F) 15~40 / +59~104 (at 30°C / 86°F)		5~40 / +41~104 (at 20°C / 68°F) 10~40 / +50~104 (at 25°C / 77°F) 15~40 / +59~104 (at 30°C / 86°F)	
	Fluctuation at 25°C (±°C / °F)	0.1 / 0.18		0.1 / 0.18	
	Variation at 25°C (±°C / °F)	0.5 / 0.9		0.4 / 0.72	
	Heating time to 40 (min.)	17		9	
	Cooling time 40 to 5°C (min.)	60		60	
	Recovery time at 25°C (min.)	1.5		1.5	
Dimension	Interior (W x D x H, mm / inch)	315 x 200 x 230 / 12.4 x 7.9 x 9.1		334 x 334 x 430 / 13.1 x 13.1 x 17	
	Exterior (W x D x H, mm / inch)	430 x 495 x 400 / 17 x 19.4 x 15.7		430 x 665 x 620 / 17 x 26.2 x 24.4	
	Net weight (Kg / lbs)	27.5 / 60.6		49 / 108	
Shelves	Quantity of shelves (standard/max.)	1 / 6		2 / 13	
	Max. Load per shelf (Kg / lbs)	15 / 33.0		20 / 44.1	
Electrical requirements (230V, A)		60Hz, 1.8	50Hz, 1.8	60Hz, 3.5	50Hz, 3.5
Cat. No.		AAH24031K	AAH24032K	AAH24041K	AAH24042K
Electrical requirements (120V, 60Hz, A)		3.4		6.7	
Cat. No.		AAH24033U		AAH24043U	

※ Technical data (according to DIN 12880 before 2013)

Accessories Page 93 Wire Shelves, Perforated Shelves, LC GreenBox

Low Temperature Incubator Multi type (Forced Convection)



Independent control and efficient space utilization for each chamber

Structural Functional Features

- Each chamber can be controlled independently and easy to use with maximally space-efficient structure.
- Structure that circulates internal air for temperature control.
- The inner glass door is completely enclosed with silicone packing, making it easy to observe the sample without changing the temperature.
- External door can be opened and closed smoothly with magnetic packing to minimize sample impact.
- Stainless steel interior and shelves are excellent in terms of corrosion resistance and clean maintenance.
- Easy to clean as inner edges are curved.



IL-11-2C

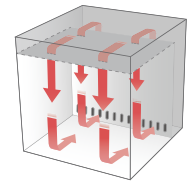


IL-11-4C

Use Convenience Features

- Accurately controlling temperature based on temperature calibration / auto-tuning / microprocessor PID.
- Save and use 3 frequently used temperatures.
- Wait On/Off timer. (up to 99 hours 59 minutes)
- Alarm function when temperature sensor is disconnected.
- Internal air circulation speed and defrost cycle control

※ When the chamber is operating with forced convection type, the amount of moisture evaporation of the medium is relatively high.



Outstanding Safety

- Top-rated overheating protection system. (registration 10-0397583)
- Over temperature limit function.
- Mal-operation prevented by controller lock function.

Convenient Program Control

- Various culture and incubating experiments with the 9 step program.
- Temperature/time settings for each step.
- Up to 99 hours and 59 minutes.
- Repeat operation up to 200 times.

Specification

Model		IL-11-2C		IL-11-4C	
Chamber volume (L / cu ft)		300 / 10.6 (150 / 5.3 x 2 chambers)		600 / 21.2 (150 / 5.3 x 4 chambers)	
Refrigerator (Hp)		1/8 x 2ea		1/8 x 4ea	
Temperature	Range (°C / °F)	0 to 60 / 32 to 140		0 to 60 / 32 to 140	
	Fluctuation at 25°C (±°C / °F)	0.1 / 0.18		0.1 / 0.18	
	Variation at 25°C (±°C / °F)	0.5 / 0.9		0.5 / 0.9	
	Heating time to 40°C (min.)	16		16	
	Cooling time 40 to 5°C (min.)	53		53	
Dimension	Recovery time at 40°C (min.)	2		2	
	Interior (W x D x H, mm / inch)	600 x 500 x 500 / 23.6 x 19.7 x 19.7 (each chamber)		600 x 500 x 500 / 23.6 x 19.7 x 19.7 (each chamber)	
	Exterior (W x D x H, mm / inch)	760 x 760 x 1690 / 29.9 x 29.9 x 66.1		1500 x 760 x 1690 / 59.1 x 29.9 x 66.1	
Shelves	Net weight (Kg / lbs)	180 / 397		350 / 772	
	Quantity of shelves (standard/max.)	2 / 12 (each chamber)		2 / 12 (each chamber)	
Max. Load per shelf (Kg / lbs)		26 / 57.3		26 / 57.3	
Electrical requirements (230V, A)		60Hz, 9	50Hz, 9	60Hz, 9 x 2ea	50Hz, 9 x 2ea
Cat No	AAH28111K	AAH28112K		AAH28011K	AAH28012K
Electrical requirements (120V, 60Hz, A)		16.5		16.5 x 2EA	
Cat No	AAH28113U			AAH28013U	

※ Technical data (according to DIN 12880 before 2013)

※ This product is forced convection type. If the sample dries easily or is sensitive, we recommend using the natural convection type.

Accessories Page 93 Wire Shelves, Perforated Shelves

Plant Growth Chamber

Provision of optimum photosynthesis conditions for plant growth



GC-1000TLH



GC-300TLH

Optimal photosynthesis condition for plant growth.

- Uniform temperature and humidity. (TLH models)
- Reinforced Blue and Red spectrums lighting system for plant photosynthesis.
- Optional CO₂ sensor. (option)
- Programmable temperature, humidity, and lighting.
- Progressive temperature, humidity, illumination program control for optimization of plant growth environment for night and day.



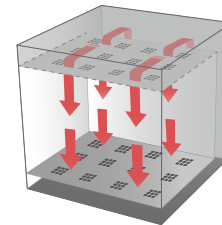
Structural Functional Features

General control system

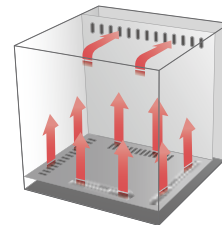
- 5°C to 50°C (lamp off) / 10°C to 50°C. (lamp on)
- Max. to 35,000Lux for GC-1000.
Max. to 20,000Lux for GC-300 Models.
- 40 to 80% RH for GC-300TLH. (at 20 to 35°C)
50 to 90% RH for GC-1000TLH. (at 20 to 35°C)
- Max. 5,000ppm CO₂ on/off system. (option)
- Microprocessor PID control / Temperature calibration / Automatic tuning.
- 10 step programmable temperature, humidity, and illumination profiles and repeatable steps of up to 999 cycles.
- 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.

Illuminance control system

- Uniformed luminescence distribution.
- Broad distribution of side lamps for hastening the growth of plants.
- High intensity illumination of upper lamp for light efficient and low thermal load. (for GC-1000TLH/1000TL)
- Unique construction for minimization of heat increase from surrounding lamps.
 - Tempered glass door blocks heated air from lamps.
 - Designed to exhaust heated air through upper vent holes. (for GC-1000TLH)
- Stable and long lasting lighting through introduction of high frequency electronic ballast lamps.



GC-300



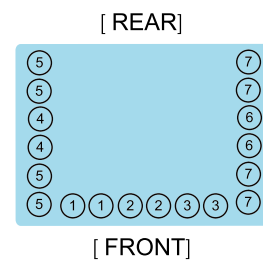
GC-1000

Outstanding Safety

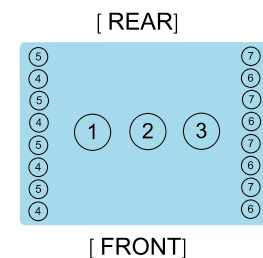
- Automatic shut off after overheat alarm.
- Low and empty water level alarm.
- Power supply leakage breaker.
- Over current protection,
- Open door alarm.

Lamps setting

- Control illumination values with the below lamp setting arrangements.



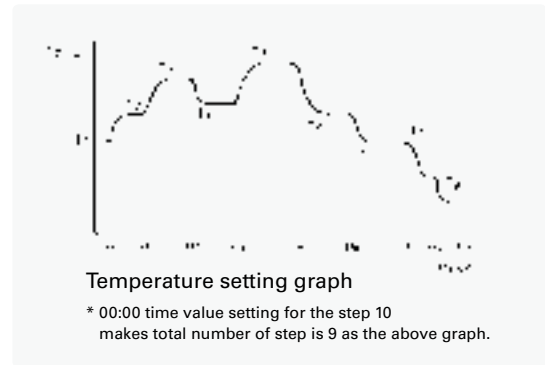
GC-300 lamp arrangement



GC-1000 lamp arrangement

Use Convenience Features

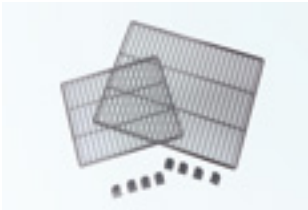
- Ergonomically designed door construction.
 - Inner glass door with silicone and external door with magnetic sealing for dual airtight packing.
 - Well designed providing a smooth open for minimization of damage to plants.
- Wide inner tempered glass door for clear observation of plant growth without affecting inner chamber's environment.
- Tall plants can be grown inside of the chamber with adjustment of shelf level.
- Maintenance of water supply are easily performed with a front water tank. (GC-1000TLH)
 - Water level check indicated by water level bar in the tank.
- Water supply during operation is also available for long term test purposes.
- Adjustable water tank position. (for GC-300TLH)
- Detachable condenser air-filter for easy maintenance of refrigerating efficiency.
 - Maintenance of air filter no longer cumbersome with our detachable condenser air filter.
- Casters for easy mobility during installation or relocation.
- Eco-friendly CFC-free refrigerant use.



Specification

Model		GC-300TL		GC-300TLH		GC-1000TLH	
Chamber volume (L / cu ft)		300 / 10.6		300 / 10.6		1000 / 35.3	
Temperature	Range (°C / °F)	5 to 50 / 41 to 122 - Lamp off 10 to 50 / 50 to 122 - Lamp on 20 to 50 / 68 to 122 - with humidity					
	Fluctuation at 25°C (±°C / °F)	0.4 / 0.72 - without humidity					
	Variation at 25°C (±°C / °F)	1.0 / 1.8 - without humidity					
Humidity	Range (%RH)	-		40 to 80 at 20 to 35°C	50 to 90 at 20 to 35°C		
	Fluctuation at 60%RH (±%RH)	-		70 to 90 at 36 to 50°C	60 to 90 at 36 to 50°C		
Illumination	Range (Lux)	0 to 20,000		0 to 20000		0 to 35000	
	Control (steps)	10		10		11	
	Fluorescent lamp (W)	32 x 18ea		32 x 18ea		32 x 16ea	
	Metal lamp (W)	-		-		400 x 3ea	
CO₂ (Option)	Range	750 to 5,000		750 to 5000		750 to 5000	
	Sensor	NDIR CO ₂ sensor		NDIR CO ₂ sensor		NDIR CO ₂ sensor	
Dimensions	Interior (W x D x H, mm / inch)	510 x 540 x 1100 / 20 x 21.3 x 43.3		510 x 540 x 1100 / 20 x 21.3 x 43.3		1200 x 800 x 1080 / 47.2 x 31.5 x 42.5	
	Exterior (W x D x H, mm / inch)	700 x 805 x 1900 / 27.6 x 31.7 x 74.8		700 x 805 x 1900 / 27.6 x 31.7 x 74.8		1410 x 1070 x 2150 / 55.5 x 42.1 x 84.6	
	Net weight (Kg / lbs)	250 / 551.2		250 / 551.2		550 / 1212.5	
Electrical requirements (230V, A)		60Hz / 15	50Hz / 15	60Hz / 15	50Hz / 15	60Hz / 17	50Hz / 17
Cat. No.		AAHA1011K	AAHA1012K	AAHA1021K	AAHA1022K	AAHA1031K	AAHA1032K

Accessories for Incubator



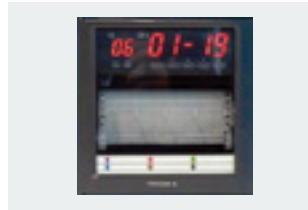
Wire Shelf

- Excellent corrosion resistance as made of stainless steel.
- Excellent air permeability and uniform temperature distribution.



Perforated Shelf

- Porous structure made of stainless steel.
- Solid structure makes it suitable for high load samples.



Recorder (Dot)

- 6-channel graph-type temperature recorder.
- Adjustable recording range, speed, etc.



CO₂ Sensor

- Dedicated sensor for CO₂ measurement
- Formation of optimal photosynthetic conditions

Model	Wire Shelves		Perforated Shelves		Recorder	CO ₂ Sensor
	Cat. No.	Quantity of shelves (standard/max.)	Cat. No.	Quantity of shelves (max.)	Cat. No.	Cat. No.
IB-05G	00EDA0008136	2 / 4	AAA12531	4	-	-
IB-15G	00EDA0008135	2 / 6	AAA12532	6	-	-
IB-25G	00EDA0008137	2 / 7	AAA12535	7	-	-
IM-10	00EDA0008244	2 / 4	AAA24511	4	-	-
IB-01E	00EDA0008136	2 / 5	AAA12531	5	-	-
IB-11E	00EDA0008220	2 / 7	AAA22522	7	-	-
IB-21E	00EDA0008219	2 / 7	AAA22521	7	-	-
IB-02G-2C/4C ¹⁾	00EDA0008136	2 / 4	AAA12531	4	-	-
ILP-02	00EDA0008223	1 / 6	AAA24501	6	-	-
ILP-12	00EDA0008221	2 / 13	AAA24502	13	-	-
IL3-15/15A	00EDA0008219	2 / 6	AAA22521	6	-	-
IL3-25/25A	00EDA0008220	3 / 13	AAA22522	13	-	-
IL-11-2C/4C ¹⁾	00EDA0008219	2 / 12	AAA12532	12	-	-
GC-300TL	00EDA0008220	3 / 14	AAA22522	14	AAAA1501	AAAA1521
GC-300TLH	00EDA0008220	3 / 14	AAA22522	14	AAAA1501	AAAA1521
GC-1000TLH	00EDA0008222	6 / 29	AAAA1512	29	AAAA1502	AAAA1521

1) Standard for each chamber

LC GreenBox

- Monitor and control the operation status of the product in real time via mobile app with an internet connection.

Model	Description	Dimension (mm / inch)	Cat. No.
IL3 / ILP	Mobile Monitoring System	156 x 94 x 34 / 6.1 x 3.7 x 1.3	AAAQ1011



Double-stacked bracket

- Incubator bracket for double stacked.

Model	Cat. No.	Model	Cat. No.
IB-05G	AAA21521	IB-01E	AAA26501
IB-15G	AAA21522	IB-11E	AAA26502
IB-25G	AAA21523	IB-21E	AAA26503