# Incubator

| | |
|---|---|
| CE | Satisfaction with the requirements of European regulations and guidelines. |
| Green CFC-Free | Eco-friendly product that has passed environmental impact assessment tests. |
| 1 Point Temperature Calibration | More precise temperature control through temperature calibration. |
| Timer | Possible to set end time or start time of device operation. |
| Program | Control of temperature / humidity / rpm / time, etc. through dedicated program. |
| 2 year Warranty | 2 year warranty free A/S. |
| LC Connected | Real-time equipment monitoring and control system using mobile app. |
| FDA 21 CFR Part 11 Compliance | Ensuring the reliability of electronic records and signatures to support GMP audit. |
| HI LOW Deviation Warning | Warning alarm in case of deviation of temperature control. |
| Full Strart Level Indicator | Indicator to ascertain water level. |
| Computer Interface | PC communication via RS-232 / RS-485 / USB port. |
| Safety Patented | Registered safety patent based on Jeio Tech's proprietary technology. |
| 3 Points Temperature Calibration | More precise temperature control through 3-point temperature calibration. |
| Over Temp. | Over temperature protection function. |
| Low Level | Alarm if the water is low level. |
| Auto Run | It memorizes the state of power failure and operates automatically when power is restored. |

## 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 | Air-jacket, Advanced (Natural Convection) • Ultimate temperature control • Advanced air-jacket technology | Amb.+5 ~ 80°C / Amb.+9 ~ 176°F | ±0.15 / ±0.27 at 37°C | 25, 60, 114, 150 (L) / 0.88, 2.12, 4.03, 5.31 (cu ft) | IB4-AV | 90 |
| | Air-jacket, Standard (Natural Convection) • Simple yet effective • Film Heater incubator | Amb.+5 ~ 80°C / Amb.+9 ~ 176°F | ±0.15 / ±0.27 at 37°C | 25, 60, 114, 150 (L) / 0.88, 2.12, 4.03, 5.31 (cu ft) | IB4-AS | 92 |
| | Advanced (Forced Convection) • Consistent temperature with forced air circulation • Prevent media drying with adjustable airflow | Amb.+5 ~ 80°C / Amb.+9 ~ 176°F[1)] | ±0.15 / ±0.27 at 37°C | 25, 60, 111, 146 (L) / 0.88, 2.12, 3.92, 5.16 (cu ft) | IB4-V | 94 |
| | Standard (Forced Convection) • User-friendly interface with built-in forced circulation • Uniform temperature distribution | Amb.+5 ~ 80°C / Amb.+9 ~ 176°F[1)] | ±0.15 / ±0.27 at 37°C | 25, 60, 111, 146 (L) / 0.88, 2.12, 3.92, 5.16 (cu ft) | IB4-S | 96 |
| | Mini (Forced Convection) • Space-saving design • Easy access with bottom-hinged door | Amb. +5 to 65 / Amb. +9 to 149 | 0.5 at 37°C / 0.9 at 98.6°F | 10 / 0.4 | IM | 98 |
| | Multi (Forced Convection) • 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 | 99 |
| Low Temperature Incubator | Air-Jacket (Natural Convection) • 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 | 100 |
| | General (Forced Convection) • 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 | 100 |
| | Personal (Forced Convection) • Application of peltier cooling device system • Structure minimizes noise/ vibration | 5 to 40 / +41 to 104 (at 20°C / 68°F) 10 to 40 / +50 to 104 (at 25°C / 77°F) 15 to 40 / +59 to 104 (at 30°C / 86°F) | 0.1 at 25°C / 0.18 at 77°F | 14, 48 / 0.5, 1.7 | ILP | 102 |
| | Multi (Forced Convection) • 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 | 103 |
| Plant Growth Chamber | Growth Chamber • 10-step program control • Temperature/Humidity auto-tuning | 5 to 50 / 41 to 122 (Lamp off) 10 to 50 / 50 to 122 (Lamp on) 20 to 50 / 68 to 122 (with humidity) | 0.1 at 25°C / 0.18 at 77°F | 300, 1000 / 10.6, 35.3 | GC | 104 |

※ 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.

1) IB4-V and IB4-S (forced convection type) can control down to amb +5°C (amb +9°F) when the water tray is filled with water. (Water tray: option)

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

### > Optimized selection model

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 (IB4, IL3)

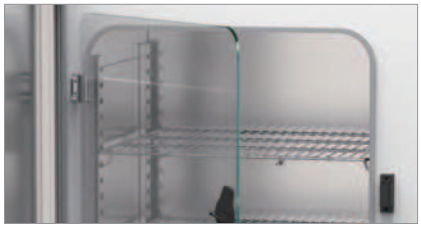
Temperature calibration of up to 3 points provides more reliable temperature control.

### > 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. (IB4, IB4-A)



Sealed glass door for contamination prevention.


Large intuitive touch display controller

Easy shelf height adjustment.

# Functions convenient for actual use and **Jeio Tech'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. (IB4, IB-multi models)

### > Top-grade overheating prevention system (Jeio Tech'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.

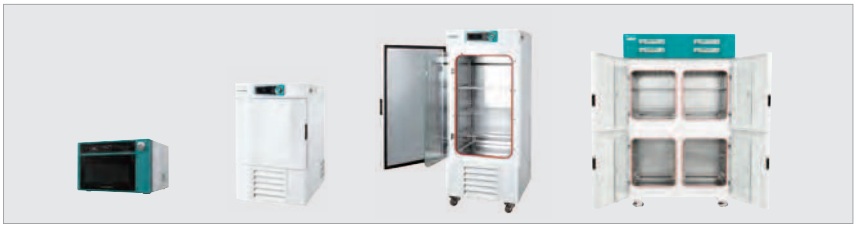
### > Support for remote equipment monitoring services (option)

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.

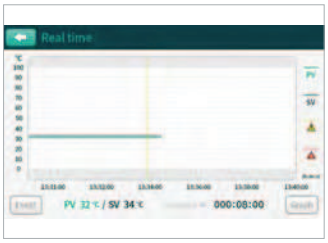
# **Incubator** (Air-jacket)
# Advanced type


**IB4-15AV**

## Intuitive Large Touch Controller

- Intuitive interface with 5-inch display
- Events and alerts in a single view with real-time graph
- Three frequent temperatures automatically suggested
- 'Wait on / Wait off' timer function


Large intuitive display




Graphs for real-time process monitoring

## Unique Structural Functions

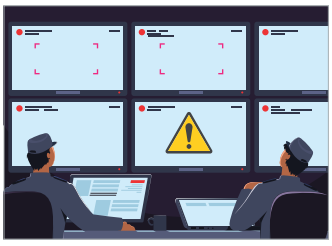
- Using Water tray delays media drying, making incubation time longer (option)
- Double stackable with stacking set (option) maximizes space utilization

Water tray that minimizes media drying (option)

Increased space utilization by double stacking (stacking set : option)
*Double stacking example: (top) forced convection oven (bottom) forced convection incubator

## Supervise Equipment with Real-time Monitoring

- Monitor the temperature on BMS (Building Management System) for quick responses to abnormalities. (option)
- Monitor via mobile app anytime, anywhere with LC Connected. (Requires LC GreenBox, option)



Timely responses via BMS-connected monitoring (BMS port: option)


Real-time monitoring via mobile devices (LC GreenBox: option)

## Convenient Experiment and Data Checking

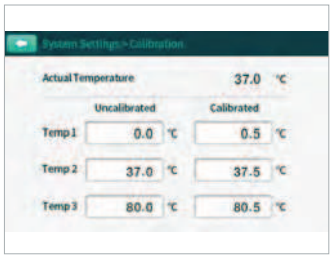
- Support RS-232/USB port and software making easy operation and data management from PC
- Test data are automatically stored and easily exported via USB; easy to edit data (in CSV format)
- Logs 36 recent events, including errors, opened door, etc
- Integrated with 21 CFR Part 11 compliant LC DataKeeper, suitable for GMP audits (option)

Data storage using USB ports

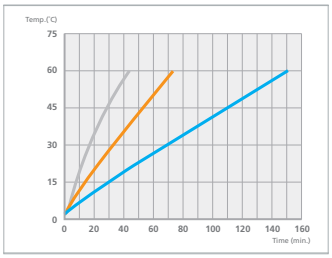

Store recent 36 events

## Reliable Temperature Control Performance

- Temperature accuracy for wide range by 3-point calibration
- Ramp Control™, function that controls the rate of temperature rise by setting ramping rate(°C/min) per experiment
- Uniform temperature distribution through airflow optimized for uniform heat transfer (within ±0.55°C at 37°C)




Accurate temperature control with 3-point calibration




Ramp Control™ per experiment condition

## Specification

| Model | | IB4-03AV | IB4-05AV | IB4-10AV | IB4-15AV |
|---|---|---|---|---|---|
| **Chamber volume (L / cu ft)** | | 25 / 0.88 | 60 / 2.19 | 114 / 4.03 | 150 / 5.3 |
| **Temperature** | Range (°C / °F) | Amb.+5 ~ 80°C / Amb.+9 ~ 176°F | | | |
| | Fluctuation at 37°C (°C / °F) | ±0.1 / ±0.18 | ±0.1 / ±0.18 | ±0.15 / ±0.27 | ±0.1 / ±0.18 |
| | Variation at 37°C (°C / °F) | ±0.31 / ±0.56 | ±0.48 / ±0.86 | ±0.46 / ±0.83 | ±0.55 / ±0.99 |
| | Heating time to 37°C (min.) | 44 | 40 | 46 | 49 |
| | Recovery time at 37°C (min.) | 5 | 9 | 9 | 9 |
| **Control panel** | | 5 inch TFT Color LCD | | | |
| **Communication interface** | | USB-B, RS-232 | | | |
| **Function** | Recently event record | 36 ea | | | |
| | Recommended temperature | Suggest three frequently used temperature | | | |
| | Graph | Available viewing stored and real-time graphs | | | |
| | Data storage | Save your experiment data (in CSV format) | | | |
| | Temp. ramping rate (°C/min. \| °F/min) | 0 ~ 2 \| 0 ~ 3.6 | | | |
| **Dimensions** | Interior (W x D x H, mm / inch) | 300 x 210 x 400 / 11.81 x 8.27 x 15.75 | 380 x 330 x 480 / 14.96 x 12.99 x 18.9 | 485 x 350 x 655 / 19.1 x 13.78 x 25.79 | 550 x 376 x 710 / 21.62 x 14.8 x 27.95 |
| | Exterior (W x D x H, mm / inch) | 478 x 527 x 604 / 18.8 x 20.75 x 23.78 | 558 x 648 x 684 / 21.97 x 25.5 x 26.93 | 663 x 677 x 859 / 26.1 x 26.65 x 33.82 | 728 x 704 x 914 / 28.66 x 27.7 x 36.0 |
| | Net weight (kg / lbs) | 31 / 68.34 | 40 / 88.18 | 55 / 121.25 | 60 / 132.28 |
| **Shelves** | Quantity of shelves (standard/max.) | 2 / 4 | 2 / 5 | 2 / 8 | 2 / 9 |
| | Max. Load per shelf (kg / lbs) | 20 / 44.09 | | | |
| **Electrical requirements (230V, 50/60Hz, A)** | | 2.5 | 3.5 | 3.5 | 3.5 |
| **Cat. No.** | | **AAH21755K** | **AAH21765K** | **AAH21775K** | **AAH21785K** |
| **Electrical requirements (120V, 60Hz, A)** | | 4.8 | 6.7 | 6.7 | 6.7 |
| **Cat. No.** | | **AAH21753U** | **AAH21763U** | **AAH21773U** | **AAH21783U** |

※ Technical data according to DIN 12880

## Accessories Page 107

Wire Shelf, Perforated Shelf, Stacking set, BMS Port, LC GreenBox, LC DataKeeper

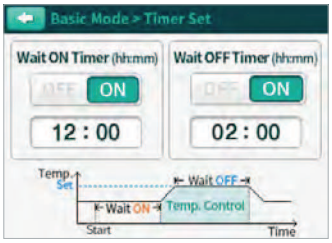
# **Incubator** (Air-jacket)
# Standard type


**IB4-15AS**

## Intuitive Touch Controller

- Intuitive interface with 3.5-inch display
- 'Wait on / Wait off' timer function

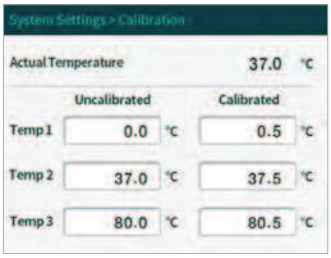

3.5-inch touch display



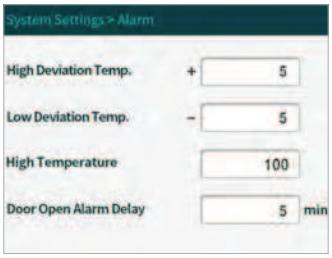

Wait on & Wait off timer

## Reliable Temperature Control Performance

- Temperature accuracy for wide range by 3-point calibration
- The upper and lower temperature limits can be set, enabling alerts for deviations to trigger quick actions
- Uniform temperature distribution through airflow optimized for uniform heat transfer (within ±0.55°C at 37°C)




Accurate temperature control with 3-point calibration




Settings for temperature deviation

## Convenient Experiment and Data Checking

- Support RS-232/USB port and software making easy operation and data management from PC (option)
- Monitor via mobile app anytime, anywhere with LC Connected. (Requires LC GreenBox, option)
- Monitor the temperature on BMS (Building Management System) for quick responses to abnormalities. (option)
- Integrated with 21 CFR Part 11 compliant LC DataKeeper, suitable for GMP audits (option)


Manipulation via PC (option)


Real-time monitoring via mobile devices (LC GreenBox: option)

## Enhanced Safety and Convenience

- Implemented with the highest-level overheating prevention system (Patented in Korea)
- Over Temperature Limiter
- Complaint to IEC Class II protection standards and temperature protection in line with DIN 12880 Class 3.1
- Logs the last 12 events, including run times, stops, and errors
- Double stackable with stacking set (option) maximizes space utilization

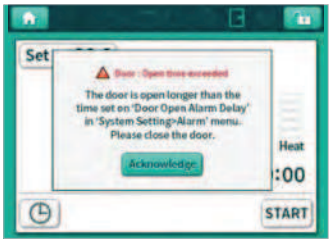

Logs the recent 12 events

Increased space utilization by double stacking (stacking set : option)
*Double stacking example: (top) forced convection oven (bottom) forced convection incubator

## Multiple Features to Minimize Incubation Failure

- Using Water tray delays media drying, making incubation time longer (option)
- Automatically resume the control of previous operations when restored within 30 seconds from blackouts
- Controller can be locked with the button on the top, preventing any actions from unintended pressing
- Abnormalities are notified with audiovisual alerts to trigger quick actions

Water tray that minimizes media drying (option)




Audiovisual alerts to notify abnormalities

## Specification

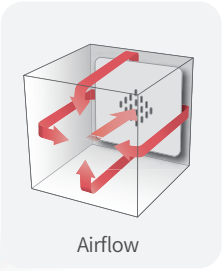
| Model | | IB4-03AS | IB4-05AS | IB4-10AS | IB4-15AS |
|---|---|---|---|---|---|
| **Chamber volume (L / cu ft)** | | 25 / 0.88 | 60 / 2.19 | 114 / 4.03 | 150 / 5.3 |
| **Temperature** | Range (°C / °F) | Amb.+5 ~ 80°C / Amb.+9 ~ 176°F | | | |
| | Fluctuation at 37°C (°C / °F) | ±0.1 / ±0.18 | ±0.1 / ±0.18 | ±0.15 / ±0.27 | ±0.1 / ±0.18 |
| | Variation at 37°C (°C / °F) | ±0.31 / ±0.56 | ±0.48 / ±0.86 | ±0.46 / ±0.83 | ±0.55 / ±0.99 |
| | Heating time to 37°C (min.) | 44 | 40 | 46 | 49 |
| | Recovery time at 37°C (min.) | 5 | 9 | 9 | 9 |
| **Control panel** | | 3.5 inch TFT Color LCD | | | |
| **Communication interface** | | USB-B, RS-232 (option) | | | |
| **Function** | Recently event record | 12 ea | | | |
| **Dimensions** | Interior (W x D x H, mm / inch) | 300 x 210 x 400 / 11.81 x 8.27 x 15.75 | 380 x 330 x 480 / 14.96 x 12.99 x 18.9 | 485 x 350 x 655 / 19.1 x 13.78 x 25.79 | 550 x 376 x 710 / 21.62 x 14.8 x 27.95 |
| | Exterior (W x D x H, mm / inch) | 478 x 527 x 604 / 18.8 x 20.75 x 23.78 | 558 x 648 x 684 / 21.97 x 25.5 x 26.93 | 663 x 677 x 859 / 26.1 x 26.65 x 33.82 | 728 x 704 x 914 / 28.66 x 27.7 x 36.0 |
| | Net weight (kg / lbs) | 31 / 68.34 | 40 / 88.18 | 55 / 121.25 | 60 / 132.28 |
| **Shelves** | Quantity of shelves (standard/max.) | 2 / 4 | 2 / 5 | 2 / 8 | 2 / 9 |
| | Max. Load per shelf (kg / lbs) | 20 / 44.09 | | | |
| **Electrical requirements (230V, 50/60Hz, A)** | | 2.5 | 3.5 | 3.5 | 3.5 |
| **Cat. No.** | | **AAH21555K** | **AAH21565K** | **AAH21575K** | **AAH21585K** |
| **Electrical requirements (120V, 60Hz, A)** | | 4.8 | 6.7 | 6.7 | 6.7 |
| **Cat. No.** | | **AAH21553U** | **AAH21563U** | **AAH21573U** | **AAH21583U** |

※ Technical data according to DIN 12880

## Accessories Page 107 Wire Shelf, Perforated Shelf, Stacking set, BMS Port, LC GreenBox, LC DataKeeper

# **Incubator** (Forced Convection), Advanced type


21 CFR Part 11 FDA Compliance



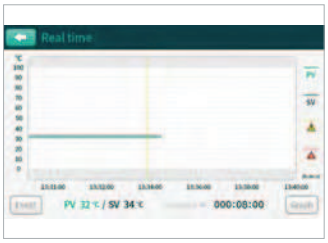
Airflow

IB4-15V

## Intuitive Large Touch Controller

- Intuitive interface with 5-inch display
- Events and alerts in a single view with real-time graph
- Three frequent temperatures automatically suggested
- 'Wait on / Wait off' timer function

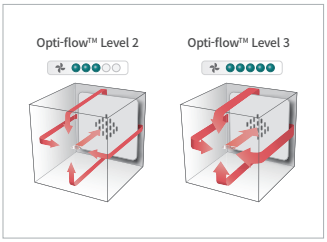

Large intuitive display




Graphs for real-time process monitoring

## Unique Structural Functions

- Opti-flow™, the fan speed control function based on sample and testing conditions
- Double stackable with stacking set (option) maximizes space utilization

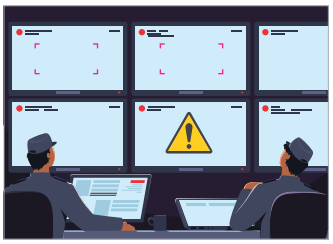



Minimize media drying with Opti-flow™

Increased space utilization by double stacking (stacking set : option)
*Double stacking example: (top) forced convection oven (bottom) forced convection incubator

## Supervise Equipment with Real-time Monitoring

- Monitor the temperature on BMS (Building Management System) for quick responses to abnormalities (option)
- Monitor via mobile app anytime, anywhere with LC Connected. (Requires LC GreenBox, option)



Timely responses via BMS-connected monitoring (BMS port: option)


Real-time monitoring via mobile devices (LC GreenBox: option)

## Convenient Experiment and Data Checking

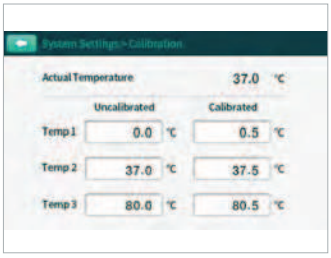
- Support RS-232/USB port and software making easy operation and data management from PC
- Test data are automatically stored and easily exported via USB; easy to edit data (in CSV format)
- Logs 36 recent events, including errors, opened door, etc
- Integrated with 21 CFR Part 11 compliant LC DataKeeper, suitable for GMP audits (option)

Data storage using USB ports

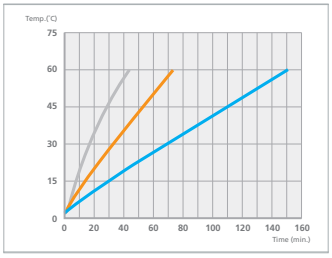

Store recent 36 events

## Reliable Temperature Control Performance

- Temperature accuracy for wide range by 3-point calibration
- Ramp Control™, function that controls the rate of temperature rise by setting ramping rate(°C/min) per experiment
- Uniform temperature distribution through airflow optimized for uniform heat transfer (within ±0.41°C at 37°C)




Accurate temperature control with 3-point calibration




Ramp Control™ per experiment condition

## Specification

| Model | | IB4-03V | IB4-05V | IB4-10V | IB4-15V |
|---|---|---|---|---|---|
| **Chamber volume (L / cu ft)** | | 25 / 0.88 | 60 / 2.12 | 111 / 3.92 | 146 / 5.16 |
| **Temperature** | Range (°C / °F) | Amb.+5[1] ~ 80°C / Amb.+9 ~ 176°F | | | |
| | Fluctuation at 37°C (°C / °F) | ±0.1 / ±0.18 | ±0.15 / ±0.27 | ±0.1 / ±0.18 | ±0.1 / ±0.18 |
| | Variation at 37°C (°C / °F) | ±0.23 / ±0.41 | ±0.41 / ±0.74 | ±0.39 / ±0.70 | ±0.35 / ±0.63 |
| | Heating time to 37°C (min.) | 5 | 4 | 8 | 7 |
| | Recovery time at 37°C (min.) | 5 | 4 | 4 | 3 |
| **Control panel** | | 5 inch TFT Color LCD | | | |
| **Communication interface** | | USB-B, RS-232 | | | |
| **Function** | Recently event record | 36 ea | | | |
| | Recommended temperature | Suggest three frequently used temperature | | | |
| | Graph | Available viewing stored and real-time graphs | | | |
| | Data storage | Save your experiment data (in CSV format) | | | |
| | Temp. ramping rate (°C/min. \| °F/min) | 0 ~ 8 \| 0 ~ 14.4 | 0 ~ 6 \| 0 ~ 10.8 | 0 ~ 5 \| 0 ~ 9 | 0 ~ 4 \| 0 ~ 7.2 |
| **Dimensions** | Interior (W x D x H, mm / inch) | 300 x 210 x 400 / 11.81 x 8.27 x 15.75 | 380 x 330 x 480 / 14.96 x 12.99 x 18.9 | 485 x 350 x 655 / 19.1 x 13.78 x 25.79 | 550 x 376 x 710 / 21.62 x 14.8 x 27.95 |
| | Exterior (W x D x H, mm / inch) | 478 x 527 x 604 / 18.8 x 20.75 x 23.78 | 558 x 648 x 684 / 21.97 x 25.5 x 26.93 | 663 x 677 x 859 / 26.1 x 26.65 x 33.82 | 728 x 704 x 914 / 28.66 x 27.7 x 36.0 |
| | Net weight (kg / lbs) | 32 / 70.55 | 41 / 90.39 | 56 / 123.46 | 62 / 136.69 |
| **Shelves** | Quantity of shelves (standard / max.) | 2 / 4 | 2 / 5 | 2 / 8 | 2 / 9 |
| | Max. Load per shelf (kg / lbs) | 20 / 44.09 | | | |
| **Electrical requirements (230V, 50/60Hz, A)** | | 3 | | | |
| **Cat. No.** | | **AAH21655K** | **AAH21665K** | **AAH21675K** | **AAH21685K** |
| **Electrical requirements (120V, 60Hz, A)** | | 5.8 | | | |
| **Cat. No.** | | **AAH21653U** | **AAH21663U** | **AAH21673U** | **AAH21683U** |

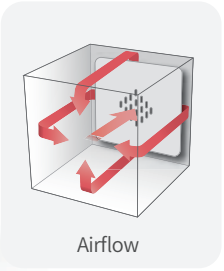
1) Able to control down to amb +5°C(amb +9°F) when the water tray is filled with water. (Water tray: option)
※ Technical data according to DIN 12880

## Accessories Page 107

Wire Shelf, Perforated Shelf, Stacking set, BMS Port, LC GreenBox, LC DataKeeper

# **Incubator** (Forced Convection), Standard type

21 CFR Part 11 FDA Compliance



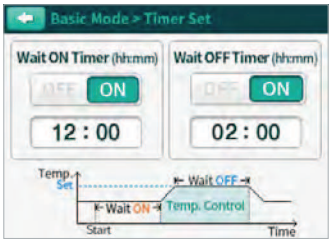
Airflow

**IB4-15S**

## Intuitive Touch Controller

- Intuitive interface with 3.5-inch display
- 'Wait on / Wait off' timer function

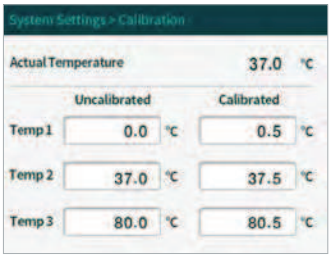

3.5-inch touch display



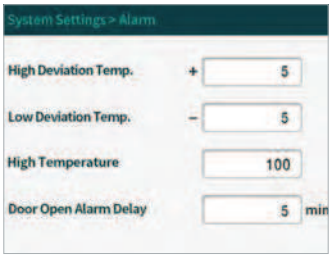

Wait on & Wait off timer

## Reliable Temperature Control Performance

- Temperature accuracy for wide range by 3-point calibration
- The upper and lower temperature limits can be set, enabling alerts for deviations to trigger quick actions
- Uniform temperature distribution through airflow optimized for uniform heat transfer (within ±0.41°C at 37°C)




Accurate temperature control with 3-point calibration




Settings for temperature deviation

## Convenient Experiment and Data Checking

- Support RS-232/USB port and software making easy operation and data management from PC (option)
- Monitor via mobile app anytime, anywhere with LC Connected. (Requires LC GreenBox, option)
- Monitor the temperature on BMS (Building Management System) for quick responses to abnormalities. (option)
- Integrated with 21 CFR Part 11 compliant LC DataKeeper, suitable for GMP audits (option)


Manipulation via PC (option)


Real-time monitoring via mobile devices (LC GreenBox: option)

## Enhanced Safety and Convenience

- Implemented with the highest-level overheating prevention system (Patented in Korea)
- Over Temperature Limiter
- Complaint to IEC Class II protection standards and temperature protection in line with DIN 12880 Class 3.1
- Logs the last 12 events, including run times, stops, and errors
- Double stackable with stacking set (option) maximizes space utilization

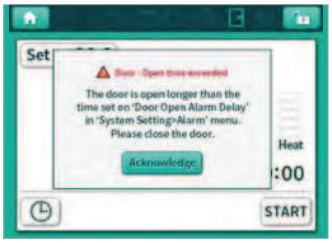

Logs the recent 12 events

Increased space utilization by double stacking (stacking set : option)
*Double stacking example: (top) forced convection oven (bottom) forced convection incubator

## Multiple Features to Minimize Incubation Failure

- Using Water tray delays media drying, making incubation time longer (option)
- Alarm is activated when door remains open longer than the set time to maintain internal temperature
- Automatically resume the control of previous operations when restored within 30 seconds from blackouts
- Controller can be locked with the button on the top, preventing any actions from unintended pressing

Water tray that minimizes media drying (option)




Audiovisual alerts to notify abnormalities

## Specification

| Model | | IB4-03S | IB4-05S | IB4-10S | IB4-15S |
|---|---|---|---|---|---|
| **Chamber volume (L / cu ft)** | | 25 / 0.88 | 60 / 2.19 | 111 / 3.92 | 146 / 5.16 |
| **Temperature** | Range (°C) | Amb.+5[1] ~ 80°C / Amb.+9 ~ 176°F | | | |
| | Fluctuation at 37°C (°C / °F) | ±0.1 / ±0.18 | ±0.15 / ±0.27 | ±0.1 / ±0.18 | ±0.1 / ±0.18 |
| | Variation at 37°C (°C / °F) | ±0.23 / ±0.41 | ±0.41 / ±0.74 | ±0.39 / ±0.70 | ±0.35 / ±0.63 |
| | Heating time to 37°C (min.) | 5 | 4 | 8 | 7 |
| | Recovery time at 37°C (min.) | 5 | 4 | 4 | 3 |
| **Control panel** | | 3.5 inch TFT Color LCD | | | |
| **Communication interface** | | USB-B, RS-232 (option) | | | |
| **Function** | Recently event record | 12 ea | | | |
| **Dimensions** | Interior (W x D x H, mm / inch) | 300 x 210 x 400 / 11.81 x 8.27 x 15.75 | 380 x 330 x 480 / 14.96 x 12.99 x 18.9 | 485 x 350 x 655 / 19.1 x 13.78 x 25.79 | 550 x 376 x 710 / 21.62 x 14.8 x 27.95 |
| | Exterior (W x D x H, mm / inch) | 478 x 527 x 604 / 18.8 x 20.75 x 23.78 | 558 x 648 x 684 / 21.97 x 25.5 x 26.93 | 663 x 677 x 859 / 26.1 x 26.65 x 33.82 | 728 x 704 x 914 / 28.66 x 27.7 x 36.0 |
| | Net weight (kg / lbs) | 32 / 70.55 | 41 / 90.39 | 56 / 123.46 | 62 / 136.69 |
| **Shelves** | Quantity of shelves (standard/max.) | 2 / 4 | 2 / 5 | 2 / 8 | 2 / 9 |
| | Max. Load per shelf (kg / lbs) | 20 / 44.09 | | | |
| **Electrical requirements (230V, 50/60Hz, A)** | | 3 | | | |
| **Cat. No.** | | **AAH21455K** | **AAH21465K** | **AAH21475K** | **AAH21485K** |
| **Electrical requirements (120V, 60Hz, A)** | | 5.8 | | | |
| **Cat. No.** | | **AAH21453U** | **AAH21463U** | **AAH21473U** | **AAH21483U** |

1) Able to control down to amb +5°C(amb +9°F) when the water tray is filled with water. (Water tray: option)
※ Technical data according to DIN 12880

## Accessories Page 107 Wire Shelf, Perforated Shelf, Stacking set, BMS Port, LC GreenBox, LC DataKeeper

# **Incubator** (Forced Convection)
# Mini type

Over Temp. | 2 year Warranty

## Small-sized incubator with compact design for ambient temperature use

### Structural Functional Features

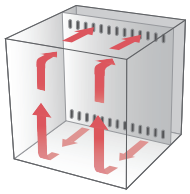
- Small incubator with compact design.
- Structure that circulates internal air for temperature control.
- Design with door that opens downward, minimizing the required space on the side of the device.
- Convenient internal observation door with a sight window.
- Stainless steel interior and shelves 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 (℃ / ℉) | Amb. +5 to 65 / Amb. +9 to 149 |
| | Fluctuation at 37°C (±℃ / ℉) | 0.5 / 0.9 |
| | Variation at 37°C (±℃ / ℉) | 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 controllable temperature depends on variations in room and sample temperatures. Please contact technical support for consultation before purchasing.
※ Technical data (according to DIN 12880 before 2013)

## Accessories Page107 Wire Shelves, Perforated Shelves

# **Incubator** (Forced Convection)
# Multi type



## Independent control and effective space utilization per chamber

### Structural Functional Features

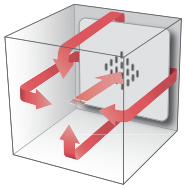
- 2 / 4 chambers can be controlled independently.
- Easy to use with maximally space-efficient structure.
- Structure that circulates internal air for temperature control.
- Easy to open and close the door. Soft handle minimizes shock to the sample.
- Stainless steel interior and shelves are excellent 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.

**IB-02G-2C**
with Wire Shelves
2ea per chamber (standard)

**IB-02G-4C**
with Wire Shelves
2ea per chamber (standard)

### 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.



※ 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 (℃ / ℉) | Amb. +5 to 70 / Amb. +9 to 158 | Amb. +5 to 70 / Amb. +9 to 158 |
| | Fluctuation at 37℃ (±℃ / ℉) | 0.1 / 0.18 | 0.1 / 0.18 |
| | Variation at 37℃ (±℃ / ℉) | 0.6 / 1.08 | 0.6 / 1.08 |
| | Heating time to 37℃ (min.) | 16 | 16 |
| | Recovery time at 37℃ (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 controllable temperature depends on variations in room and sample temperatures. Please contact technical support for consultation before purchasing.
※ Technical data (according to DIN 12880 before 2013)

## Accessories Page 107 Wire Shelves, Perforated Shelves

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

## Provides stable, low-temperature culture environment

**IL3-15A**
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

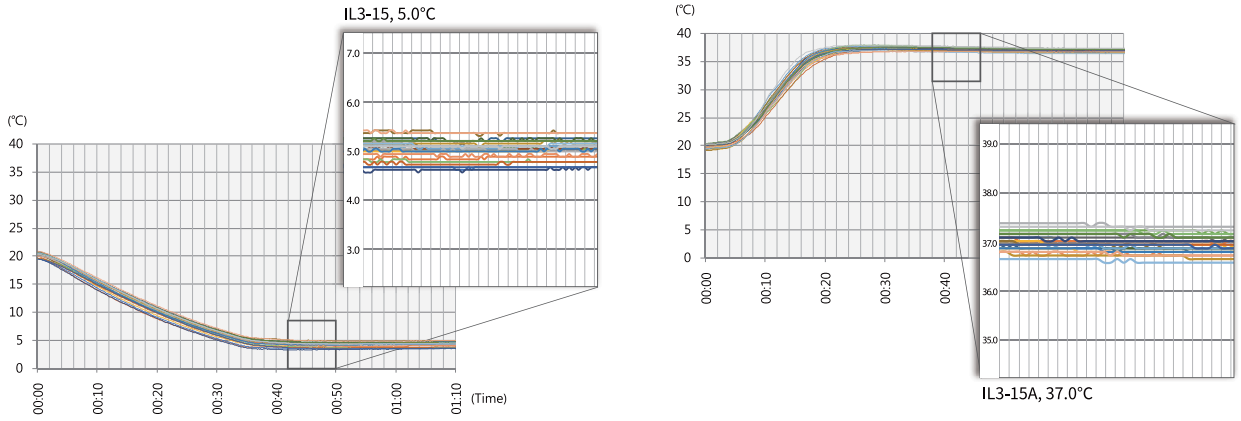
- Accurately controlling temperature based on temperature calibration /auto-tuning / microprocessor PID.
- Save and use 3 frequently used temperatures.
- Wait On/Off timer. (up to 999 hours 59 minutes)
- USB/RS-232 connection and software provide convenient computer operation and data managing.
- Operation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

### Outstanding Safety

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

## Temperature Variation

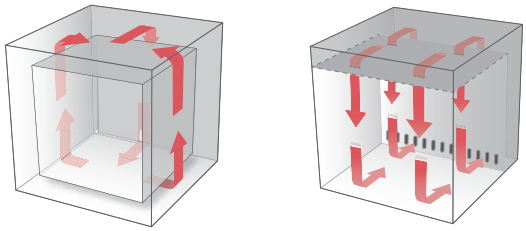
· Superior temperature uniformity with excellent temperature control capability.




## 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 (℃ / °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 (±℃ / °F) | 0.1 / 0.18 | 0.1 / 0.18 | 0.2 / 0.36 | 0.2 / 0.36 |
| | Variation at 37°C (±℃ / °F) | 0.8 / 1.4 | 1.0 / 1.8 | 0.7 / 1.3 | 1.0 / 1.8 |
| | 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, 50/60Hz, A) | | 4.5 | 6.4 | 6.6 | 8 |
| Cat. No. | | AAH220412K | AAH220512K | AAH220612K | 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 107 Wire Shelves, Perforated Shelves, LC GreenBox

# Low Temperature Incubator
## Personal type

CE | LC Connected | Safety Patented | 1 Point Temperature Calibration | Program | Timer | Auto Run | 2 year Warranty

## Low temperature personal incubator

### Structural Functional Features

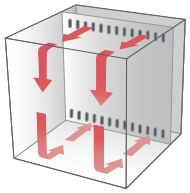
- Small incubator with compact design.
- Minimizes vibration and power consumption by using electronic cooling element. (peltier module)
- Structure that circulates internal air for temperature control.
- The inner glass door is completely enclosed with silicone packing, making it easy to observe the 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.

**ILP-02 (stackable unit)**
with Wire Shelf 1ea (standard)

**ILP-12**
with Wire Shelf 2ea (standard)

### 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.
- Monitor via mobile app anytime, anywhere with LC Connected. (Requires LC GreenBox, option)



### Outstanding Safety

- Top-rated overheating protection system. (registration KR 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 | | ILP-02 | ILP-12 |
|---|---|---|---|
| **Chamber volume (L / cu ft)** | | 14 / 0.5 | 48 / 1.7 |
| **Temperature** | Range (°C / °F) | 5 to 40 / +41 to 104 (at 20°C / 68°F)<br>10 to 40 / +50 to 104 (at 25°C / 77°F)<br>15 to 40 / +59 to 104 (at 30°C / 86°F) | 5 to 40 / +41 to 104 (at 20°C / 68°F)<br>10 to 40 / +50 to 104 (at 25°C / 77°F)<br>15 to 40 / +59 to 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°C (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, 50/60Hz, A)** | | 1.8 | 3.5 |
| **Cat. No.** | | **AAH24032K** | **AAH24042K** |
| **Electrical requirements (120V, 60Hz, A)** | | 3.4 | 6.7 |
| **Cat. No.** | | **AAH24033U** | **AAH24043U** |

※ Technical data (according to DIN 12880 before 2013)

**Accessories** Page 107 Wire Shelves, Perforated Shelves, LC GreenBox

# Low Temperature Incubator
## Multi type (Forced Convection)

Safety Patented | Green CFC-Free | 1 Point Temperature Calibration | Program | Auto Run | 2 year Warranty



## 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.

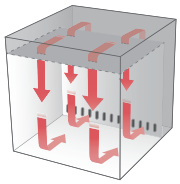
IL-11-2C

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 KR 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 (℃ / ℉) | 0 to 60 / 32 to 140 | | 0 to 60 / 32 to 140 | |
| | Fluctuation at 25℃ (±℃ / ℉) | 0.1 / 0.18 | | 0.1 / 0.18 | |
| | Variation at 25℃ (±℃ / ℉) | 0.5 / 0.9 | | 0.5 / 0.9 | |
| | Heating time to 40℃ (min.) | 16 | | 16 | |
| | Cooling time 40 to 5℃ (min.) | 53 | | 53 | |
| | Recovery time at 40℃ (min.) | 2 | | 2 | |
| **Dimension** | 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 | |
| | Net weight (Kg / lbs) | 180 / 397 | | 350 / 772 | |
| **Shelves** | 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)** | | 50Hz, 9 | 60Hz, 9 | 50Hz, 9 x 2ea | 60Hz, 9 x 2ea |
| **Cat No** | | **AAH28112K** | **AAH28111K** | **AAH28012K** | **AAH28011K** |
| **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 107 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 $CO_2$ sensor. (option)
- Programmable temperature, humidity, and lighting.
- Progressive temperature, humidity, illumination program control for optimization of plant growth environment for night and day.

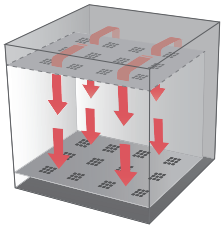
## Structural Functional Features

**General control system**

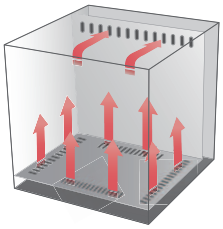
- 5°C to 50°C(lamp off) / 10°C to 50°C. (lamp on)
- Max. to 35,000Lux for GC-1000.
  Max. to 20,000Lux for GC-300 Models.
- 40 to 80% RH for GC-300TLH. (at 20 to 35°C)
  50 to 90% RH for GC-1000TLH. (at 20 to 35°C)
- Max. 5,000ppm $CO_2$ on/off system. (option)
- Microprocessor PID control / Temperature 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.



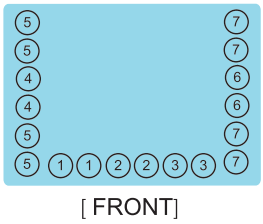
GC-300



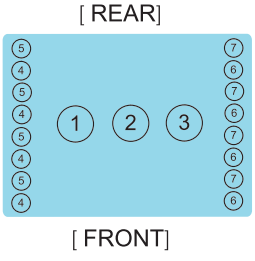
GC-1000

## Outstanding Safety

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




GC-300 lamp arrangement



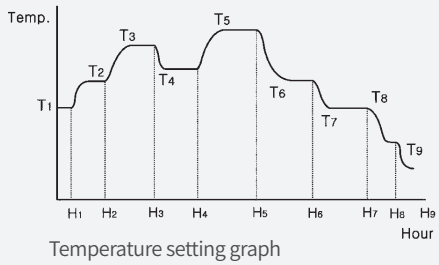

GC-1000 lamp arrangement

## Lamps setting

- Control illumination values with the below lamp setting arrangements.

## 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 shelve 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.




Temperature setting graph
* 00:00 time value setting for the step 10 makes total number of step is 9 as the above graph.

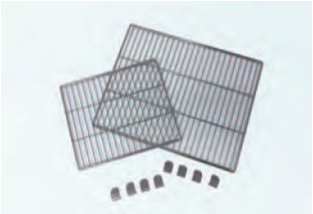
## Specification

| Model | | GC-300TL | GC-300TLH | GC-1000TLH | |
|---|---|---|---|---|---|
| **Chamber volume (L / cu ft)** | | 300 / 10.6 | 300 / 10.6 | 1000 / 35.3 | |
| **Temperature** | Range (℃ / ℉) | 5 to 50 / 41 to 122 - Lamp off<br>10 to 50 / 50 to 122 - Lamp on<br>20 to 50 / 68 to 122 - with humidity | | | |
| | Fluctuation at 25℃ (±℃ / ℉) | 0.4 / 0.72 - without humidity | | | |
| | Variation at 25℃ (±℃ / ℉) | 1.0 / 1.8 - without humidity | | | |
| **Humidity** | Range (%RH) | - | 40 to 80 at 20 to 35℃ | 50 to 90 at 20 to 35℃ | |
| | | | 70 to 90 at 36 to 50℃ | 60 to 90 at 36 to 50℃ | |
| | Fluctuation at 60%RH (±%RH) | - | 3 | 3 | |
| **Illumination** | Range (Lux) | 0 to 20000 | 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 | |
| **$CO_2$ (Option)** | Range | 750 to 5000 | 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<br>/ 20 x 21.3 x 43.3 | 510 x 540 x 1100<br>/ 20 x 21.3 x 43.3 | 1200 x 800 x 1080<br>/ 47.2 x 31.5 x 42.5 | |
| | Exterior (W x D x H, mm / inch) | 700 x 805 x 1900<br>/ 27.6 x 31.7 x 74.8 | 700 x 805 x 1900<br>/ 27.6 x 31.7 x 74.8 | 1410 x 1070 x 2150<br>/ 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)** | | 50/60Hz, 12.5 | 50/60Hz, 16 | 50Hz, 23.2 | 60Hz, 30 |
| **Cat. No.** | | **AAHA1012K** | **AAHA1022K** | **AAHA1032K** | **AAHA1031K** |

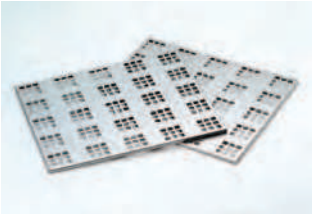
## Accessories Page 107 Wire Shelves, Perforated Shelves, Recorder, $CO_2$ Sensor

# **Accessories** for Incubator





**Wire Shelf**
(2 shelves included as standard)
- Stainless Steel
- Uniform temperature distribution based on high air permeability



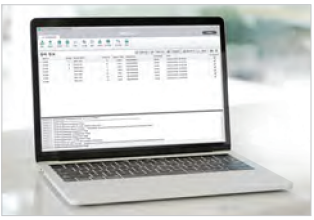
**Perforated Shelf**
- Stainless Steel
- Robust structure is ideal for heavy load samples


**Recorder (Dot)**
- 6-channel graph-type temperature recorder.
- Adjustable recording range, speed, etc.

**$CO_2$ Control System**
- $CO_2$ control system for optimal photosynthetic conditions (Sensor, PCB, Valve, etc)

| Model | Wire Shelves | | Perforated Shelves | | Recorder | $CO_2$ Control System |
|---|---|---|---|---|---|---|
| | Cat. No. | Quantity of shelves (standard/max.) | Cat. No. | Quantity of shelves (max.) | Cat. No. | Cat. No. |
| IB4-03 | 00FDA0009739 | 2 / 4 | AAA125341 | 4 | - | - |
| IB4-05 | 00FDA0009738 | 2 / 5 | AAA125342 | 5 | - | - |
| IB4-10 | 00FDA0009737 | 2 / 8 | AAA125343 | 8 | - | - |
| IB4-15 | 00FDA0009736 | 2 / 9 | AAA125344 | 9 | - | - |
| IM-10 | 00EDA0008244 | 2 / 4 | AAA24511 | 4 | - | - |
| 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 DataKeeper**
- High-integrity software compliant with FDA 21 CFR Part 11
- Integrated with Jeio Tech equipment to undergo GMP audits

**LC GreenBox**
- Real-time monitoring and control via mobile app
- Connect up to 4 devices to one
- Communication port connectivity via a RS-232 port

**BMS Port**
- Real-time equipment monitoring from a central monitoring facility
- Useful for safety management at laboratories that operate multiple devices

**Stacking Set** (-05 / -15 models only)
- Double stackable
- Firm stacking allows efficient utilization of space
  (※ When double stacking, the minimum control temperature of the upper chamber may be limited due to the heat generated by the lower chamber)

| Model | IB4-03 | IB4-05 | IB4-10 | IB4-15 |
|---|---|---|---|---|
| LC DataKeeper-Basic[1)] | SSA11001 | | | |
| LC DataKeeper-Pro[1)] | SSA11002 | | | |
| LC GreenBox | AAHQ1011K | | | |
| BMS Port | AAA125534 | | | |
| Stacking Set | - | AAA125547 | - | AAA125549 |
| Water Tray | AAA125443 | AAA125444 | AAA125445 | AAA124554 |
| Communication Port[2)] | AAA125533 | | | |

1) Trial version is available for 30 days, offering the same features as the Basic version, and can be requested through the website.
2) Communication port is provided as a standard in advanced (-V) model and is an optional add-on for the basic (-S) model for connecting LC DataKeeper, LC GreenBox, BMS, and PC.