

Microbial Incubation Made Easy and Convenient

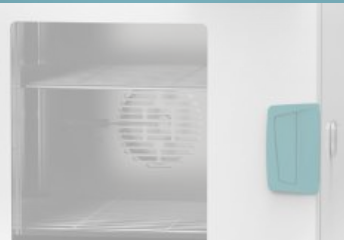
Lab Companion Incubator

- Ensure an optimal incubation environment with optimized fan speed to minimize media drying (IB4-V)
- Ability to adjust rate of temperature change per media characteristics (IB4-V/AV)
- Store or transfer data via internal or USB memory drives (IB4-V/AV)



About Us

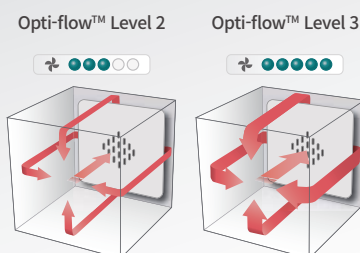
Lab Companion Incubator



What's New with the Lab Companion Incubator?

Having difficulties in controlling incubation time due to dry media? (IB4-V)

- Opti-flow™ adjusts the fan speed, thereby minimizing evaporation and increasing moisture retention time of the culture media
- Optimizing wind speed at level 2 minimizes media drying within two days
- Air-jacket model is recommended for long time incubation



Intuitive Touchscreen-based Controller

- Easy to control with a high-visibility touchscreen
- Data storage/transfer with internal memory (54 units) and USB port (IB4-V/AV)
- Graphs for checking stored or real-time data (IB4-V/AV)
- Control speed of temperature rise by setting ramping rate (°C/min) depending on application (IB4-V/AV)



Data Check in Real-time, and Easy-to-Store

- Monitor experiment progress with real-time graphs (IB4-V/AV)
- Export experiment data through USB port (IB4-V/AV)
- Monitor status and check alerts anytime, anywhere by connecting to LC GreenBox (the real-time monitoring system), which helps you take timely actions (option)



21 CFR Part 11-Compliant Software Support

- IB4 supports LC DataKeeper, a software that guarantees data integrity by complying with 21 CFR Part 11, regulations to ensure data reliability (option)
- Recognized as reliable data in pharmaceutical and medical research, being a core requirement for GMP audits



Lab Companion Incubators

Two Product Groups depending on Controller

Advanced controller with 5-inch-wide display, IB4-V, IB4-AV

- Fan speed optimization(Opti-flow™) with reduced evaporation and higher moisture retention (IB4-V only)
- Graphs for checking stored or real-time data
- Data storage function, 3 frequent temperature function



Standard controller with 3.5-inch display, IB4-S, IB4-AS

- Same temperature uniformity performance as advanced models
- Safety functions equivalent to advanced models (circuit breaker and overheating limiter, etc.)
- Equipped with temperature protection function compliant to DIN 12880 Class 3.1



Product Selection Guide

Model	IB4-V	IB4-S	IB4-AV	IB4-AS
Heating Method	Forced Convection		Natural Convection	
Internal volume (L / cu ft)	25, 60, 111, 146 (L) / 0.88, 2.12, 3.92, 5.16 (cu ft)		25, 60, 114, 150 (L) / 0.88, 2.12, 4.03, 5.31 (cu ft)	
Temperature range (°C / °F)	Amb.+5 ¹⁾ ~ 80°C / Amb.+9 ~ 176°F			
Max. fluctuation at 37°C (±°C / ±°F)	±0.15 / ±0.27		±0.15 / ±0.27	
Max. variation at 37°C (±°C / ±°F)	±0.41 / ±0.74		±0.55 / ±0.99	
Wait ON / Wait OFF timer	99hr 59min			
Circuit breaker	O			
Vent hole	1 ea			
Controller	5 inch TFT Color LCD	3.5 inch TFT Color LCD	5 inch TFT Color LCD	3.5 inch TFT Color LCD
Data storage	O	-	O	-
Fan speed adjustable	O	-	-	-
Recommended temperature	O	-	O	-
Graph	O	-	O	-
Setting the ramp rate	O	-	O	-
Recently event record	36 ea	12 ea	36 ea	12 ea
Communication interface	Standard: USB-B, RS-232 Option: BMS	Option: USB-B, RS-232, BMS	Standard: USB-B, RS-232 Option: BMS	Option: USB-B, RS-232, BMS
Air circulation and incubation period	Uniform temperature with forced airflow, Incubation for 1 - 2 days		Little effect on samples with no airflow, Incubation for 3 - 7 days	

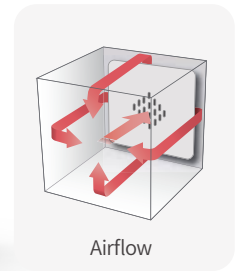
1) IB4-V and IB4-S (the forced convection type) can control down to amb +5°C(amb +9°F) when the water tray is filled with water. (Water tray: option)

Model naming rule for product selection

IB4 - 03/05/10/15 - / A V/S

Internal volume Program / Air jacket Advanced / Standard type

Incubator (Forced Convection), Advanced type (IB4-V)



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



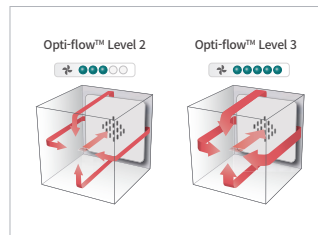
Large intuitive display



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



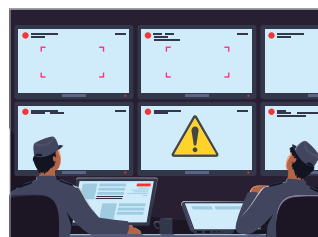
Minimize media drying with Opti-flow™



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 and control anywhere, anytime with LC GreenBox (Mobile Monitoring System, 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)



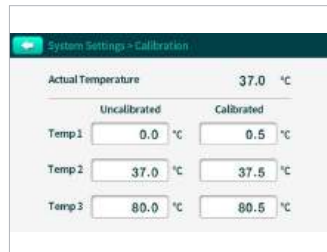
Data storage using USB ports



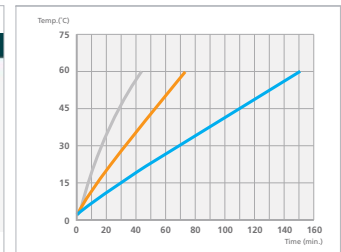
Store recent 36 events

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 ±0.36 °C at 37°C)



Accurate temperature control with 3-point calibration



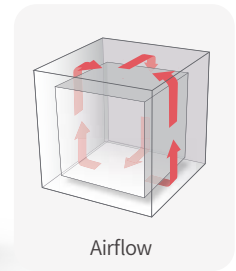
Ramp Control™ per experiment condition

Specification (IB4-V)

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			
	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
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	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

Incubator (Air-jacket), Advanced type (IB4-AV)



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



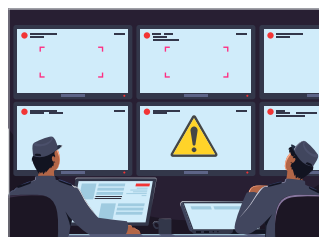
Water tray that minimizes media drying (option)



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 and control anywhere, anytime with LC GreenBox (Mobile Monitoring System, 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
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- Logs 36 recent events, including errors, opened door, etc
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Data storage using USB ports



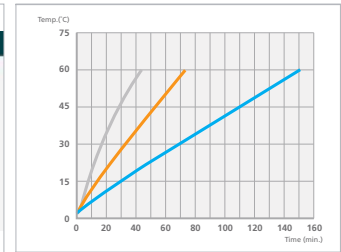
Store recent 36 events

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 ±0.36 °C at 37°C)



Accurate temperature control with 3-point calibration



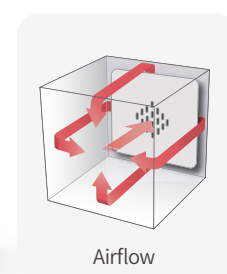
Ramp Control™ per experiment condition

Specification (IB4-AV)

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

Incubator (Forced Convection), Standard type (IB4-S)



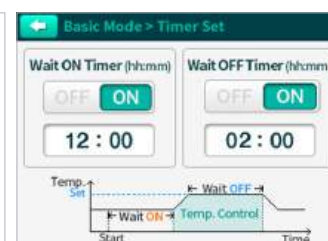
IB4-15S

Intuitive Touch Controller

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



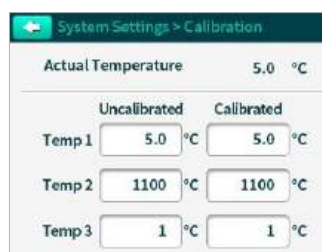
3.5-inch touch display



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 $\pm 0.36^{\circ}\text{C}$ 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 and control anywhere, anytime with LC GreenBox (Mobile Monitoring System, 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 (Patent 10-0397583)
- 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

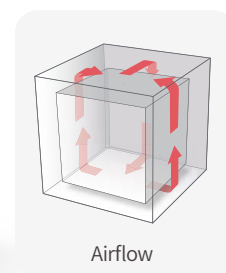
Specification (IB4-S)

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

Incubator (Air-jacket), Standard type (IB4-AS)



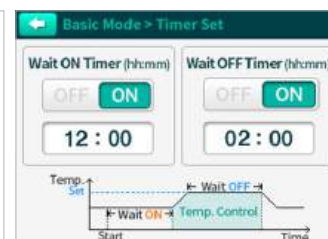
IB4-15AS

Intuitive Touch Controller

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



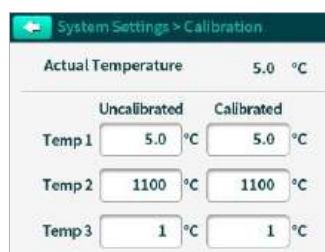
3.5-inch touch display



Wait on & Wait off timer

Reliable Temperature Control Performance

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Accurate temperature control with 3-point calibration



Settings for temperature deviation

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- Support RS-232/USB port and software making easy operation and data management from PC (option)
- Monitor and control anywhere, anytime with LC GreenBox (Mobile Monitoring System, 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 (Patent 10-0397583)
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- 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 (IB4-AS)

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

Accessory



Wire shelf

(2 shelves included in the basic product)

- Stainless Steel
- Uniform temperature distribution based on high air permeability



Perforated shelf

- Stainless Steel
- Robust structure is ideal for heavy load samples



Stacking Set

- 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)



LC DataKeeper

- High-integrity software compliant with FDA 21 CFR Part 11
- Integrated with JEIOTECH equipment to undergo GMP audits



BMS Port

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



LC GreenBox (Mobile Monitoring System)

- Real-time monitoring and control via mobile app
- Can connect up to four devices to a single LC GreenBox
- Communication port connectivity via a RS-232 port



Communication Port

- Allows PC-connection control and data extraction via dedicated software
- Standard for IB4-V model, optional for IB4-S model



Water Tray

- Stainless Steel
- Minimizes media drying and extends incubation time for liquid media

Lab Companion Korea

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