# **Oven & Furnace**





Satisfaction with the requirements of European regulations and guidelines.



Ensuring the reliability of electronic records and signatures to support GMP audit.



Real-time equipment monitoring and control system using mobile app.



More precise temperature control through temperature calibration.



Over temperature protection function.



Control of temperature / humidity / rpm / time, etc. through dedicated program.



2 year warranty free A/S.



Registered safety patent based on Jeio Tech's proprietary technology.



Intuitive operation with color touch display.



Real-time monitoring to check status of device.



Data storage using USB ports.



Warning alarm in case of deviation of temperature control.



PC communication via RS-232 / RS-485 / USB port.



Compliance with Guidelines for Restriction of Hazardous Substances use.



Digital Input / Output for external device interlock control.



More precise temperature control through 3-point temperature calibration.



Electronic over temperature protection system.



Possible to set end time or start time of device operation.



It memorizes the state of power failure and operates automatically when power is restored.



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**Jelo**tech

#### **General Application**

**Forced convection oven:** Aging and curing, agricultural genetics, degradation/digestion of proteins and starches, universal/general drying/heating, QC/batch testing, stability testing, sterilization.

Natural convection oven: Annealing, plant tissue drying, drug metabolism, purified chemical precipitation/fine chemical precipitation, universal/general drying/heating, serum protein analysis, sterilization, etc.

**Vacuum oven:** Agricultural genetics, annealing, desiccating, outgassing, vacuum embedding, volatile resin, polymer test, etc.

Furnace: New material development, superconducting material heating, ceramic sintering, heat treatment reaction, melting of glass and metal, casting moulding, organic matter weight analysis and coal ash measurement, heat resistance test, etc.

		Description	Temp. Range (°C/°F)	Max. Temp. Fluctuation (°C/°F)	Volume (L / cu ft)	Model	Page
	Program	• 10 programs & 10 steps • Easy operation with color touch	Amb. +10 to 250 / Amb. +18 to 482	±0.3 / 0.54 at 100°C	26, 61, 112, 147 / 0.9, 2.1, 3.9, 5.1	OF4-P	66
	Advanced	<ul><li>Most representative forced convection type</li><li>Includes safety device as standard</li></ul>	Amb. +10 to 250 / Amb. +18 to 482	±0.3 / 0.54 at 100°C	26, 61, 112, 147 / 0.9, 2.1, 3.9, 5.1	OF4-V	68
Forced Convection Ovens	Large	<ul><li>Large capacity standard type oven</li><li>Uniform and precise temperature control</li></ul>	Amb. +15 to 200 / Amb. +27 to 392 Amb. +15 to 300 / Amb. +27 to 572	±0.2 / 0.36 at 100°C	314, 450, 760 /11.1, 15.9, 26.8	OF3 OF3-H	70
	Standard	<ul> <li>Stable product that is faithful to the basics</li> <li>Includes safety device as standard</li> </ul>	Amb. +10 to 250 / Amb. +18 to 482	±0.3 / 0.54 at 100°C	26, 61, 112, 147 / 0.9, 2.1, 3.9, 5.1	OF4-S	72
	Multi	<ul><li>Independent temperature control by chamber</li><li>4-in-1</li></ul>	Amb. +10 to 200 / Amb. +18 to 392	±0.5 / 0.9 at 100°C	240 / 8.5 (60/2.1 x 4 Chambers)	OF-02G -4C	73
Natural Convection Ovens	Advanced	Most representative natural convection type     Suitable for drying powder samples	Amb. +15 to 250 / Amb. +27 to 482	±0.5 / 0.9 at 100°C	26, 58, 110, 147 / 0.92, 2.05, 3.86, 5.19	ON4-V	74
	Standard	Stable product that is faithful to the basics     Includes safety device as standard	Amb. +15 to 250 / Amb. +27 to 482	±0.5 / 0.9 at 100°C	26, 58, 110, 147 / 0.92, 2.05, 3.86, 5.19	ON4-S	76
Vacuum Oven	Vacuum	<ul> <li>Product optimized for vacuum drying</li> <li>Structure separating vacuum/release line</li> </ul>	Amb. +15 to 250 / Amb. +27 to 482	±0.2 / 0.36 at 100°C	28, 65 / 1.0, 2.3	OV4	78
Furnace	Furnace	High temperature test up to 1100°C     Convenient program control	Max. 1100 / 2012	±1.0 / 1.8 at 1100°C	3.0, 4.5, 12.0 / 0.1, 0.2, 0.4	MF2-G	82

<sup>\*\*</sup> 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 models, please check the information on the corresponding page of each models.

### Oven & Furnace



# Oven Series with proven performance and durability Minimization of energy loss and provision of precise control

#### > Variety of products optimized for specific purpose of use

Optimal model provided based on heat transfer method, control temperature range, chamber capacity and program control.

# > Verified according to international standards

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

#### > Minimization of energy loss

Superior insulation and enclosed design minimize energy loss and reduce operating costs.

# > Provision of remote equipment monitoring service (option)

Real-time monitoring of equipment operation status using smartphone. (when purchased LC GreenBox)

# > Stable and accurate temperature control

Optimized microprocessor PID control for accurate temperature control.

# > 3-point temperature calibration function (OF4 / ON4 / OV4)

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

#### > Optimized temperature control

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

#### > Computer interface control

Convenient remote control and data management through built-in dedicated software. (applicable models)



Inside of forced convection oven



Hands-free door system



Provision of remote equipment monitoring service



# Has functions that are convenient for actual use and applies Jeio Tech's patented safety system

#### > Convenient timer function provided

Device is run (Wait On/Wait Off) 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 save and operation

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

#### > Safe for use at maximum temperature

According to international standards, even when operated at maximum temperature, the surface temperature does not exceed 51°C.

#### > 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.

#### > Overheat temperature cut-off function

Safety structure with shutdown function using Over Temperature Limiter in case of overheating.

#### > Door open detection

Stops the device and provides notification/alarms when the door is open for an extended period of time.

#### > Prepared for unexpected power failure

Auto-run function capable of selecting re-operation when power is restored after sudden power failure.



5-inch touch display (OF4, ON4, OV4, MF2)



General controller with clear VFD panel



\* Some of the above contents are limited to specific models.

Double-stacked for space efficiency (Option) (OF4, ON4)

# Forced Convection Oven Program type

#### **Convenient program control function**

#### Program Type

- · User interface that provides a quick view of temperature changes (heating, stable, and cooling) and fan speed also.
- · Set various test condition using 10 programs and 10 steps, which can be repeated up to 99 times.
- · Setting time up to 99 hours 59 minutes per step.
- Start temperature, temperature and time for each step, and Opti-flow™ all adjustable as desired.
- · Scheduler function to operate at scheduled times.



- · Opti-flow™, a function to flexibly adjust the fan speed according to the specimen type and test conditions.
- · Scheduler function to operate at scheduled times.
- Test data is automatically saved and easily downloaded via USB easy to edit and use. (in CSV format)
- Real-time graphs that allow users to view events and alarms at a glance so that the test progress can be easily and intuitively monitored.
- · Ramping rates (°C/min) flexibly adjustable for each test performed
- · RS-232/USB port and compatible software provided to enable easy device control and data management using PC.
- 36 latest events, such as errors and door opened or closed, automatically recorded, helping user obtain feedback on experimental results.
- · Monitor and control via mobile app anytime, anywhere with LC Connected. (Requires LC GreenBox, option)
- · Integrated with 21 CFR Part 11 compliant LC DataKeeper, suitable for GMP audits (option)

#### Outstanding Safety

- · Top-rated overheating protection system. (registration KR 10-0397583)
- BMS communication port that helps monitor the device temperature on the building management system, enabling quick response in case of abnormality. (option)
- Device surface not overheating even in operation at the highest temperature. (70°C or below, at 250°C)
- · Over temperature limiter function
- · Triple-toughened viewing window for safe and convenient observation even at high temperatures.
- Self-diagnostics function to check abnormal condition of temperature sens

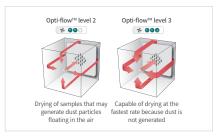


#### **OF4-10PW**

with Wire Shelves 2ea (standard)



Easy and intuitive program setting interface



Fan speed can be adjusted manually according























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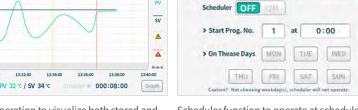




#### Structural Functional Features

- · Wide temperature range of up to 250°C.
- · Excellent visibility and easy control with a 5-inch touch screen
- · Airflow optimized for uniform heat transfer.
- · Superior insulation and enclosed design minimize energy loss and reduce operating costs.
- · Hands-free<sup>TM</sup> door system to allow users to easily open the door while carrying samples with both hands.
- · Double stackable with stacking set (option) maximizes space utilization (-05 / -15 models only)
- · Vent holes for gas discharge at the top.
- · Compact models designed to be used in a fume hood available. (OF4-03)







Graph generation to visualize both stored and real-time data

Scheduler function to operate at scheduled

Real-time monitoring and control via mobile (option)

#### **Specification**

Model	Solid door (without window)	OF4-03P	OF4-05P	OF4-10P	OF4-15P		
Model	Window door	OF4-03PW	OF4-05PW	OF4-10PW	OF4-15PW		
Chamber volum	ne (L / cu ft)	26 / 0.92	61 / 2.15	112 / 3.96	147 / 5.19		
	Range (°C / °F)	Amb. + 10 to 250 / Amb. + 18 to 482					
	Fluctuation at 100°C (±°C / ±°F)	0.3 / 0.54	0.3 / 0.54	0.3 / 0.54	0.3 / 0.54		
Temperature <sup>1)</sup>	Variation at 100°C (±°C / ±°F)	1.4 / 2.52	1.9 / 3.42	1.7 / 3.06	1.5 / 2.70		
	Heating time to 100°C (min)	8	10	14	15		
	Recovery time at 100°C (min)	4	4	4	4		
Control panel			5 inch TF	T Color LCD	<u>'</u>		
Communication	n interface		USB-B	, RS-232			
	Program setting	10 program, 10 step, start temp.					
	Scheduler	Set day, time, and program No.					
Function	Recently event record	36 ea					
	Fan speed adjustable	Three-level wind speed settings					
	Recommended temperature	Three frequently used temperature settings suggested					
	Graph	Available checking the stored and real-time data as graphs					
	Data storage		Save the test d	ata in CSV format			
	Temp. ramping rate (°C/min. / °F/min.)	0 to 13 / 0 to 23.4	0 to 9 / 0 to 16.2	0 to 6 / 0 to 10.8	0 to 5 / 0 to 9		
	Interior (W x D x H, mm / inch)	300 x 210 x 400 / 11.8 x 8.3 x 15.8	380 x 330 x 480 / 15.0 x 13.0 x 18.9	485 x 350 x 655 / 19.1 x 13.8 x 25.8	550 x 376 x 710 / 21.7 x 14.8 x 28.0		
Dimensions	Exterior (W x D x H, mm / inch)	478 x 527 x 604 / 18.8 x 20.8 x 23.8	558 x 648 x 684 / 22.0 x 25.5 x 26.9	663 x 677 x 859 / 26.1 x 26.7 x 33.8	728 x 704 x 914 / 28.7 x 27.7 x 36.0		
	Net weight (kg / lbs)	33 / 72.8	53 / 116.8	63 / 138.9	73 / 160.9		
Shelves	Quantity of shelves (Standard / max.)	2 / 4	2/5	2/8	2/9		
Siletves	Max. Load per shelf (kg / lbs)	20 / 44.09					
Number of air o	hange per hour at 100°C <sup>2)</sup>	123	22	18	11		
Electrical requi	rements (230V, 50/60Hz, A)		(	6.4			
Cat. No.	Solid door (without window)	AAH12915K	AAH12925K	AAH12935K	AAH12945K		
Cat. NO.	Window door	AAH12955K	AAH12965K	AAH12975K	AAH12985K		
Electrical requi	rements (120V, 60Hz, A)		1	2.3			
Cat. No.	Solid door (without window)	AAH12916U	AAH12926U	AAH12936U	AAH12946U		
Cat. NO.	Window door	AAH12956U	AAH12966U	AAH12976U	AAH12986U		

<sup>1)</sup> Data measured at fan speed 3, with possible increase of Fluctuation and Variation values at fan speeds 1 and 2 (According to DIN 12880, pre-2013)

2) Data measured at fan speed 3, with possible decreases in Air change at fan speeds 1 and 2. (According to ASTM D 5374, reapproved 1999)



# **Forced Convection Oven** Advanced type

#### Improved functionality and reliable temperature control performance

#### Excellent Functionality

- · Wide temperature range of up to 250°C.
- Excellent visibility and easy control with a 5-inch touch screen
- · Airflow optimized for uniform heat transfer.
- · Superior insulation and enclosed design minimize energy loss and reduce operating costs.
- Hands-free<sup>™</sup> door system to allow users to easily open the door while carrying samples with both hands.
- Double stackable with stacking set (option) maximizes space utilization. (-05 / -15 models only)
- · Vent holes for gas discharge at the top.
- · Compact models designed to be used in a fume hood available. (OF4-03)

# Compliance 30.0 1

#### Use Convenience Features

- · Opti-flow™, a function to flexibly adjust the fan speed according to the specimen type and test conditions.
- Three-point temperature calibration that ensures hightemperature accuracy over a wide temperature range.
- · Ramping rates (°C/min) flexibly adjustable for each test performed
- 36 latest events, such as errors and door opened or closed, automatically recorded, helping user obtain feedback on experimental results.
- · Monitor and control via mobile app anytime, anywhere with LC Connected. (Requires LC GreenBox, option)

# Convenient checking for the test progress and data

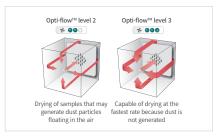
- RS-232/USB port and compatible software provided to enable easy device control and data management using PC.
- Test data is automatically saved and easily downloaded via USB; easy to edit and use. (in CSV format)
- · Real-time graphs that allow users to view events and alarms at a glance.
- $\cdot\,$  Integrated with 21 CFR Part 11 compliant LC DataKeeper, suitable for GMP audits (option)

#### **OF4-10VW**

with Wire Shelves 2ea (standard)



5-Inch touch display



Fan speed can be adjusted manually according

































#### Outstanding Safety

- · Top-rated overheating protection system. (registration KR 10-0397583)
- · BMS communication port that helps monitor the device temperature on the building management system, enabling quick response in case of abnormality. (option)
- · Device surface not overheating even in operation at the highest temperature. (70°C or below, at 250°C)
- · Over temperature limiter function
- · Triple-toughened viewing window for safe and convenient observation even at high temperature.(OF4-VW)
- · Self-diagnostics function to check abnormal condition of temperature sensor.







Fumes inside the chamber effectively removed

Data storage using USB ports

Safe surface of the device even in operation at the highest temperature

#### **Specification**

Model	Solid door (without window)	OF4-03V	OF4-05V	OF4-10V	OF4-15V	
Model	Window door	OF4-03VW	OF4-05VW	OF4-10VW	OF4-15VW	
Chamber volun	ne (L / cu ft)	26 / 0.92	61 / 2.15	112 / 3.96	147 / 5.19	
	Range (°C / °F)	Amb. + 10 to 250 / Amb. + 18 to 482				
	Fluctuation at 100°C (±°C / ±°F)	0.3 / 0.54	0.3 / 0.54	0.3 / 0.54	0.3 / 0.54	
Temperature <sup>1)</sup>	Variation at 100°C (±°C / ±°F)	1.4 / 2.52	1.9 / 3.42	1.7 / 3.06	1.5 / 2.70	
	Heating time to 100°C (min)	8	10	14	15	
	Recovery time at 100°C (min)	4	4	4	4	
Control panel			5 inch TF	T Color LCD		
Communication	n interface		USB-E	3, RS-232		
	Recently event record		3	6 ea		
Function	Fan speed adjustable	Three-level wind speed settings				
	Recommended temperature	Three frequently used temperature settings suggested				
	Graph	Available checking the stored and real-time data as graphs				
	Data storage	Save the test data in CSV format				
	Temp. ramping rate (°C/min. / °F/min.)	0 to 13 / 0 to 23.4	0 to 9 / 0 to 16.2	0 to 6 / 0 to 10.8	0 to 5 / 0 to 9	
	Interior (W x D x H, mm / inch)	300 x 210 x 400 / 11.8 x 8.3 x 15.8	380 x 330 x 480 / 15.0 x 13.0 x 18.9	485 x 350 x 655 / 19.1 x 13.8 x 25.8	550 x 376 x 710 / 21.7 x 14.8 x 28.0	
Dimensions	Exterior (W x D x H, mm / inch)	478 x 527 x 604 / 18.8 x 20.8 x 23.8	558 x 648 x 684 / 22.0 x 25.5 x 26.9	663 x 677 x 859 / 26.1 x 26.7 x33.8	728 x 704 x 914 / 28.7 x 27.8 x 36.0	
	Net weight (kg / lbs)	33 / 72.8	53 / 116.8	63 / 138.9	73 / 160.9	
Shelves	Quantity of shelves (standard / max.)	2 / 4	2/5	2/8	2/9	
Siletves	Max. Load per shelf (kg / lbs)	20 / 44.09				
Number of air o	change per hour at 100°C <sup>2)</sup>	123	22	18	11	
Electrical requirements (230V, 50/60Hz, A)		6.4				
Cat. No.	Solid door (without window)	AAH12715K	AAH12725K	AAH12735K	AAH12745K	
Cat. NO.	Window door	AAH12815K	AAH12825K	AAH12835K	AAH12845K	
Electrical requi	rements (120V, 60Hz, A)		1	.2.3		
Cat. No.	Solid door (without window)	AAH12716U	AAH12726U	AAH12736U	AAH12746U	
Cat. No.	Window door	AAH12816U	AAH12826U	AAH12836U	AAH12846U	

<sup>1)</sup> Data measured at fan speed 3, with possible increase of Fluctuation and Variation values at fan speeds 1 and 2 (According to DIN 12880, pre-2013) 2) Data measured at fan speed 3, with possible decreases in Air change at fan speeds 1 and 2. (According to ASTM D 5374, reapproved 1999)



Accessories Page 84 Wire Shelf, Perforated Shelf, Stacking set, BMS Port, LC GreenBox, LC DataKeeper

# **Forced Convection Oven**Large type

#### Up to 300°C and program/general control selection

#### Structural Functional Features

- · Optimized model provision and selection based on temperature range, capacity, controller, etc.
- · Air flow optimized for uniform heat transfer ensures stable overall temperature uniformity.
- · Includes vent hole base with cover for gas exhaust, cable connection, etc. on the side.
- · Includes castors making it easy to move and install.

#### Use Convenience Features

- Monitor via mobile app anytime, anywhere with LC Connected. (Requires LC GreenBox, option)
- Temperature calibration of up to 3 points allows for more reliable temperature control.
- · Optimized control with temperature auto-tuning.
- · Microprocessor PID method for precise temperature control.

#### Outstanding Safety

- · Top-rated overheating protection system. (registration KR 10-0397583)
- · Over temperature limit function.
- · Safe product surface, even when operated at maximum temperature.
- · Triple-toughened viewing window for safe and convenient observation even at high temperatures. (OF3-W)
- $\cdot\,$  Malfunction prevented by controller lock function.
- · Self-diagnostics function to check abnormal condition of temperature sensor.

#### Program Type

- · Possible to set and save 10 programs.
- · Up to 10 steps can be set per program.
- · Set time up to 99 hours and 59 minutes per step.
- · Includes useful scheduler management functions such as program operation range and repeat interval setting.
- · Program repetition possible up to 99 times.
- · Digital Input / Output function makes it easy to connect external equipment.

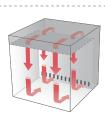
#### General Type

- $\cdot\,$  4.7-inch large VFD panel for clear information display.
- · Easy and convenient to use with simple operation.
- · Notifies when deviation from control temperature upper limit and lower limit occurs.
- · USB/RS-232 connection and software provide convenient computer operation and data managing.
- · Save and use 3 frequently used temperatures.



#### **OF3-45PW**

with Wire Shelves 2ea (standard)







#### General Controller

Simultaneous display of set temperature and current temperature.



#### **Program Controller**

- · Color touch display
- · Intuitive operation environment.

























pecificati	on		Max. 200°C		
	General (Without Window)	OF3-30	OF3-45 (CE Completed)	OF3-75 (CE Completed)	
Model	General (Window Door)	OF3-30W	OF3-45W (CE Completed)	OF3-75W (CE Completed)	
модеі	Program (Without Window)	OF3-30P	OF3-45P (CE Completed)	OF3-75P (CE Completed)	
	Program (Window Door)	OF3-30PW	OF3-45PW (CE Completed)	OF3-75PW (CE Completed)	
Chamber volu	me (L / cu ft)	314 / 11.1	450 / 15.9	760 / 26.8	
	Range (°C / °F)	Amb. +15 to 200 / Amb.+27 to 392	Amb. +15 to 200 / Amb.+27 to 392	Amb. +15 to 200 / Amb.+27 to 392	
	Fluctuation at 100°C (±°C / °F)	0.2 / 0.36	0.2 / 0.36	0.2 / 0.36	
Temperature	Variation at 100°C (±°C / °F)	3.5 / 6.3	3.5 / 6.3	4.5 / 8.1	
	Heating time to 100°C (min.)	20	25	25	
	Recovery time at 100°C (min.)	7	7	7	
	Interior (W x D x H, mm / inch)	645 x 750 x 650 / 25.4 x 29.5 x 25.6	645 x 750 x 930 / 25.4 x 29.5 x 36.6	745 x 850 x 1200 / 29.3 x 33.5 x 47.2	
Dimension	Exterior (W x D x H, mm / inch)	850 x 1100 x 1235 / 33.5 x 43.3 x 48.6	850 x 1100 x 1525 / 33.5 x 43.3 x 60	950 x 1200 x 1785 / 37.4 x 47.2 x 70.3	
	Net weight (Kg / lbs)	200 / 440.9	240 / 529.1	300 / 661.4	
Shelves	No. of wire shelf (standard / max.)	2/5	3/8	3 / 11	
Siletves	Max. load per shelf (kg / Ibs)	25 / 55.1	25 / 55.1	25 / 55.1	
Electrical requ	iirements (230V, 50/60Hz, A)	1P, 13.2			
	General (Without Window)	AAH18215K	-	-	
Cat. No.	General (Window Door)	AAH18315K	-	-	
Cat. No.	Program (Without Window)	AAH18615K	-	-	
	Program (Window Door)	AAH18715K	-	-	
Electrical requ	uirements (380V, 50/60Hz, A)	-	3P, 6.7	3P, 9.0	
	General (Without Window)	-	AAH182214K	AAH182314K	
Cat. No.	General (Window Door)	-	AAH183214K	AAH183314K	
Cat. NO.	Program (Without Window)	-	AAH186214K	AAH186314K	
	Program (Window Door)	-	AAH187214K	AAH187314K	

X Technical data (according to DIN 12880 before 2013)

			Max. 300°C	
	General (Without Window)	OF3-30H (CE Completed)	OF3-45H (CE Completed)	OF3-75H (CE Completed)
	General (Window Door)	OF3-30HW (CE Completed)	OF3-45HW (CE Completed)	OF3-75HW (CE Completed)
Model	Program (Without Window)	OF3-30HP (CE Completed)	OF3-45HP (CE Completed)	OF3-75HP (CE Completed)
	Program (Window Door)	OF3-30HPW (CE Completed)	OF3-45HPW (CE Completed)	OF3-75HPW (CE Completed)
Chamber volume (L / cu ft)		314 / 11.1	450 / 15.9	760 / 26.8
Temperature	Range (°C / °F)	Amb. +15 to 300 / Amb.+27 to 572	Amb. +15 to 300 / Amb.+27 to 572	Amb. +15 to 300 / Amb.+27 to 572
	Fluctuation at 100°C (±°C / °F)	0.2 / 0.36	0.2 / 0.36	0.2 / 0.36
	Variation at 100°C (±°C / °F)	3.5 / 6.3	3.5 / 6.3	4.5 / 8.1
	Heating time to 100°C (min.)	15	20	20
	Recovery time at 100°C (min.)	7	7	7
	Interior (W x D x H, mm / inch)	645 x 750 x 650 / 25.4 x 29.5 x 25.6	645 x 750 x 930 / 25.4 x 29.5 x 36.6	745 x 850 x 1200 / 29.3 x 33.5 x 47.2
Dimension	Exterior (W x D x H, mm / inch)	850 x 1100 x 1235 / 33.5 x 43.3 x 48.6	850 x 1100 x 1525 / 33.5 x 43.3 x 60	950 x 1200 x 1785 / 37.4 x 47.2 x 70.3
	Net weight (Kg / lbs)	200 / 440.9	240 / 529.1	300 / 661.4
Shelves	No. of wire shelf (standard / max.)	2/5	3/8	3 / 11
Sneives	Max. load per shelf (kg / lbs)	25 / 55.1	25 / 55.1	25 / 55.1
Electrical requ	irements (380V, 50/60Hz, A)	3P, 6.7	3P, 9.0	3P, 10.8
	General (Without Window)	AAH192114K	AAH192214K	AAH192314K
Cat. No.	General (Window Door)	AAH193114K	AAH193214K	AAH193314K
Cat. NO.	Program (Without Window)	AAH196114K	AAH196214K	AAH196314K
	Program (Window Door)	AAH197114K	AAH197214K	AAH197314K

<sup>\*</sup> 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)

Oven with uniform horizontal airflow (up to 350°C), check Page 346 for industrial heating chamber





Accessories Page 84 Wire Shelves, Perforated Shelves, Recorder, LC GreenBox

# **Forced Convection Oven** Standard type



























Provide the same temperature uniformity performance as advanced/programmable types

#### Stable Temperature Control

- · Wide temperature range of up to 250°C.
- · Airflow optimized for uniform heat transfer.
- · Superior insulation and enclosed design minimize energy loss and reduce operating costs.
- · Three-point temperature calibration that ensures high-temperature accuracy over a wide temperature range.
- · Available to set the upper and lower temperature limit, alarm activated to quick response when occurring the deviation.

#### Use Convenience Features

- · Recording the 12 most recent events, such as start/stop of operation, the operating time, and error occurrence.
- · Monitor and control via mobile app anytime, anywhere with LC Connected. (Requires LC GreenBox, option)
- · BMS communication port that helps monitor the device temperature on the building management system. (option)

#### Outstanding Safety

- · Top-rated overheating protection system. (registration KR 10-0397583)
- · Device surface not overheating even in operation at the highest temperature. (70°C or below, at 250°C)
- · Over temperature limiter function
- · Triple-toughened viewing window for safe and convenient observation even at high temperatures.



**OF4-10SW** 

with Wire Shelves 2ea (standard)



3.5 Inch touch display

#### **Specification**

Model	Solid door (without window)	OF4-03S	OF4-05S	OF4-10S	OF4-15S	
Model	Window door	OF4-03SW	OF4-05SW	OF4-10SW	OF4-15SW	
Chamber volume (L / cu ft)		26 / 0.92	61 / 2.15	112 / 3.96	147 / 5.19	
	Range (°C / °F)	Amb. +10 to 250 / A	mb. +18 to 482			
	Fluctuation at 100°C (±°C / ±°F)	0.3 / 0.54	0.3 / 0.54	0.3 / 0.54	0.3 / 0.54	
Temperature <sup>1)</sup>	Variation at 100°C (±°C / ±°F)	1.4 / 2.52	1.9 / 3.42	1.7 / 3.06	1.5 / 2.70	
	Heating time to 100°C (min)	8	10	14	15	
	Recovery time at 100°C (min)	4	4	4	4	
Control panel			3.5 inch Tf	T Color LCD		
Communication interface		USB-B, RS-232 (option)				
Function	Recently event record	12 ea				
	Interior (W x D x H, mm / inch)  Exterior (W x D x H, mm / inch)	300 x 210 x 400 /	380 x 330 x 480 /	485 x 350 x 655 /	550 x 376 x 710 /	
		11.8 x 8.3 x 15.8	15.0 x 13.0 x 18.9	19.1 x 13.8 x 25.8	21.7 x 14.8 x 28.0	
Dimensions		478 x 527 x 604 / 18.8 x 20.8 x 23.8	558 x 648 x 684 / 22.0 x 25.5 x 26.9	663 x 677 x 859 / 26.1 x 26.7 x 33.8	728 x 704 x 914 / 28.7 x 27.7 x 36.0	
	Net weight (kg / lbs)	33/72.8	53/116.8	63/138.9	73/160.9	
	Quantity of shelves (Standard / max.)	2/4	2/5	2/8	2/9	
Shelves	Max. Load per shelf (kg / lbs)	20 / 44.09				
Number of air c	hange per hour at 100°C <sup>2)</sup>	123	22	18	11	
Electrical requir	rements (230V, 50/60Hz, A)	6.4				
Cat Na	Solid door (without window)	AAH14115K	AAH14125K	AAH14135K	AAH14145K	
Cat. No.	Window door	AAH14215K	AAH14225K	AAH14235K	AAH14245K	
Electrical requirements (120V, 60Hz, A)		12.3				
Cat No	Solid door (without window)	AAH14116U	AAH14126U	AAH14136U	AAH14146U	
Cat. No.	Window door	AAH14216U	AAH14226U	AAH14236U	AAH14246U	

Accessories Page 84 Wire Shelves, Perforated Shelves, Stacking set, BMS Port, LC GreenBox, Communication port, LC DataKeeper

# **Forced Convection Oven** Multi type













#### Independent temperature control and optimal space efficiency per chamber

#### Structural Functional Features

- · Airflow optimized for uniform heat transfer.
- · Superior insulation and enclosed design minimize energy loss and reduce operating costs.
- · 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.
- · Includes vent hole base with cover for gas exhaust, cable connection, etc. on the side.

#### Use Convenience Features

- · Calibration function minimizes temperature deviation.
- · Optimized control with temperature auto-tuning.
- · Save and use 3 frequently used temperatures.
- · Wait On/Off timer. (up to 99 hours 59 minutes)
- · Microprocessor PID method for precise temperature control.
- · Automatic restart of operation when power is restored after sudden power failure.

#### Outstanding Safety

- · Top-rated overheating protection system. (registration KR 10-0397583)
- · Over temperature limit function.
- · Safe product surface, even when operated at maximum
- · Malfunction prevented by controller lock function.
- · Self-diagnostics function to check abnormal condition of temperature sensor.



OF-02G-4C

with Wire Shelves 2ea (standard)





#### **Specification**

•		
	Model	OF-02G-4C
Chamber volume (L / c	u ft)	240 / 8.5 (60 / 2.1 x 4 chambers)
	Range (°C / °F)	Amb. +10 to 200 / Amb. +18 to 392
	Fluctuation at 100°C (±°C / °F)	0.5 / 0.9
Temperature	Variation at 100°C (±°C / °F)	1 / 1.8
	Heating time to 100°C (min.)	15
	Recovery time at 100°C (min.)	2
	Interior (W x D x H, mm / inch)	400 x 360 x 420 / 15.7 x 14.2 x 16.5 (each chamber)
Dimension	Exterior (W x D x H, mm / inch)	1170 x 640 x 1360 / 46.1 x 25.2 x 53.5
	Net weight (Kg / lbs)	170 / 374.8
Shelves	Quantity of shelves (standard / max.)	2 / 4 per chamber
Snetves	Max. Load per shelf (Kg / lbs)	26 / 57.3
Electrical requirements (230V, 50/60Hz, A)		16.8
Cat. No.		AAH1A015K
Electrical requirement	ts (120V, 60Hz, A)	33.4
Cat. No.		AAH1A016U

<sup>\*</sup> The lowest controllable temperature depends on variations in room and sample temperatures. Please contact technical support for consultation



Accessories Page 84 Wire Shelves, Perforated Shelves

<sup>\*</sup> Technical data (according to DIN 12880, before 2013)

# **Natural Convection Oven,**

## Advanced type









**ON4-10V** 

**ON4-10VW** 

#### Intuitive 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

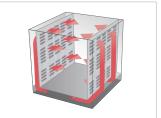
Graphs for real-time process monitoring

#### Convenient Structural Functions

- · Designed with a depth of less than 750 mm, making it easy and stable on a lab table
- · Uniform and stable temperature distribution with multipath airflow improves reliability of experiment data



Depth of less than 750 mm allows stable positioning on lab table



Uniform temperature control with multi-path airflow

#### 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 BMSconnected monitoring (BMS port: option)



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

Oven & Furnace































#### 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)







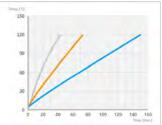
Store recent 36 events

#### Reliable Temperature Control **Performance**

- · Wide temperature range of up to 250°C
- · 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  $\pm 3.6$  °C at 100°C)



Accurate temperature control with 3-point calibration



Ramp Control<sup>™</sup> per experiment condition

#### **Specification**

	Solid door (without window)	ON4-03V	ON4-05V	ON4-10V	ON4-15V	
Model	Window door	ON4-03VW	ON4-05VW	ON4-10VW	ON4-15VW	
Chamber volume (L / cu	ft)	26 / 0.92	58 / 2.05	110 / 3.88	147 / 5.19	
	Range (°C / °F)		Amb.+15 ~ 250°C	/ Amb.+27 ~ 482°F		
	Fluctuation at 100°C (°C / °F)	±0.4 / ±0.72	±0.5 / ±0.9	±0.5 / ±0.9	±0.5 / ±0.9	
Temperature	Variation at 100°C(°C / °F)	±2.8 / ±5.04	±2.6 / ±4.68	±3.6 / ±6.48	±3.5 / ±6.3	
	Heating time to 100°C (min.) <sup>1)</sup>	25	39	22	21	
	Recovery time at 100°C (min.)	17	19	10	9	
Control panel			5 inch TFT	Color LCD		
Communication interfac	e		USB-B,	RS-232		
	Recently event record		36	ea		
	Recommended temperature	Suggest three frequently used temperature				
Function	Graph	Available viewing stored and real-time graphs				
runction	Data storage	Save your experiment data (in CSV format)				
	Temp. ramping rate (°C/min.   °F/min)	0 to 2.2   0 to 3.96	0 to 2   0 to 3.6	0 to 4.4   0 to 7.92	0 to 2.6   0 to 4.68	
	Interior (W x D x H, mm / inch)	273 x 270 x 350 / 10.75 x 10.63 x 13.78	340 x 390 x 422 / 13.4 x 15.35 x 16.61	441 x 420 x 597 / 17.36 x 16.54 x 23.5	500 x 446 x 659 / 19.69 x 17.56 x 25.95	
Dimensions	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)	33 / 72.8	53 / 116.8	63 / 138.9	73 / 160.9	
Chalusa	Quantity of shelves (standard/max.)	2 / 4	2/5	2/8	2/9	
Shelves	Max. Load per shelf (kg / lbs)		20 /	44.09		
Number of air change per hour at 100°C		16				
Electrical requirements	230V, 50/60Hz, A	3.2	3.5	5.7	7.4	
Cat. No.	Solid door (without window)	AAH111105K	AAH111115K	AAH111125K	AAH111135K	
	Window door	AAH112105K	AAH112115K	AAH112125K	AAH112135K	
Electrical requirements	120V, 60Hz, A	6	6.7	10.9	14.2	
Cat No.	Solid door (without window)	AAH111106U	AAH111116U	AAH111126U	AAH111136U	
Cat. No.	Window door	AAH112106U	AAH112116U	AAH112126U	AAH112136U	

<sup>1)</sup> Heating time is defined as the time taken to reach 98% of the set temperature.

Accessories Page 84 Wire Shelf, Perforated Shelf, Stacking set, BMS Port, LC GreenBox, LC DataKeeper

<sup>\*</sup> Technical data according to DIN 12880

# Natural Convection Oven, Standard type





**ON4-10SW** 





ON4-10S

#### 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

- $\cdot\,$  Wide temperature range of up to 250°C
- · 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  $\pm 3.6^{\circ}$ C at 100°C)



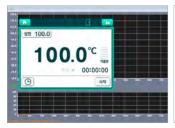




Settings for temperature deviation

#### 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)



























#### Ensuring User Safety

- · Effectively removes fumes from the inside of the chamber via the top vent hole (ON4-03)
- $\cdot\,$  Safe surface even when operating at max temperatures (less than 70°C at 250°C)
- · Implemented with the top-rated 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



Removes fume from the inside of the chamber



Safe surface even at maximum temperature

#### Convenient Structure and Functions

- · Logs the last 12 events, including run times, stops, and errors
- · Double stackable with stacking set (option) maximizes space utilization (-05 / -15 models only)
- · 「Hands-free™」 door allows both hands free while holding samples



Logs the recent 12 events



Increased space utilization by double stacking (stacking set: option) (% When double stacking, the minimum control temperature of the upper chamber may be limited.)

#### **Specification**

	Solid door (without window)	ON4-03S	ON4-05S	ON4-10S	ON4-15S
Model	Window door	ON4-03SW	ON4-05SW	ON4-10SW	ON4-15SW
Chamber volume (L / cu	ft)	26 / 0.92	58 / 2.05	110 / 3.88	147 / 5.19
	Range (°C / °F)		Amb.+15 ~ 250°C ,	/ Amb.+27 ~ 482°F	
	Fluctuation at 100°C (°C / °F)	±0.4 / ±0.72	±0.5 / ±0.9	±0.5 / ±0.9	±0.5 / ±0.9
Temperature	Variation at 100°C (°C / °F)	±2.8 / ±5.04	±2.6 / ±4.68	±3.6 / ±6.48	±3.5 / ±6.3
	Heating time to 100°C (min.) <sup>1)</sup>	25	39	22	21
	Recovery time at 100°C (min.)	17	19	10	9
Control panel			3.5 inch TF	T Color LCD	
Communication interface		USB-B, RS-232 (option)			
Function	Recently event record		12	ea	
	Interior (W x D x H, mm / inch)	273 x 270 x 350 / 10.75 x 10.63 x 13.78	340 x 390 x 422 / 13.4 x 15.35 x 16.61	441 x 420 x 597 / 17.36 x 16.54 x 23.5	500 x 446 x 659 / 19.69 x 17.56 x 25.95
Dimensions	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)	33 / 72.8	53 / 116.8	63 / 138.9	73 / 160.9
Chalana	Quantity of shelves (standard/max.)	2 / 4	2/5	2/8	2/9
Shelves	Max. Load per shelf (kg / lbs)		20 /	44.09	
Number of air change pe	er hour at 100°C	16			
Electrical requirements	230V, 50/60Hz, A	3.2	3.5	5.7	7.4
Cat. No.	Solid door (without window)	AAH15045K	AAH15065K	AAH15075K	AAH15085K
Cat. No.	Window door	AAH15145K	AAH15165K	AAH15175K	AAH15185K
Electrical requirements	120V, 60Hz, A	6	6.7	10.9	14.2
Cat No.	Solid door (without window)	AAH15046U	AAH15066U	AAH15076U	AAH15086U
Cat. No.	Window door	AAH15146U	AAH15166U	AAH15176U	AAH15186U

<sup>1)</sup> Heating time is defined as the time taken to reach 98% of the set temperature.

Technical data according to DIN 12880

#### Vacuum Oven

#### Excellent temperature uniformity, allowing testing at any position

#### Precise temperature control

- $\cdot\,$  Wide temperature range of up to 250 °C
- $\cdot$  Temperature variation up to  $\pm 1.5^{\circ}\mathrm{C}$  at 100°C according to DIN 12880:2013
- · Actual experiment area is expanded by excellent temperature uniformity
- · 3-point calibration improves temperature accuracy in the entire area

#### Structural Functions

- · Excellent corrosion resistance by stainless steel and aluminum shelves
- Safety circuits protect from overcurrent and over temperature
- Vacuum line and release line are separated and convenient to use
- · Viton gasket when drying highly reactive chemicals (option)
- · In vacuum, tempered glass adheres tightly to the gasket, maintaining an airtight seal

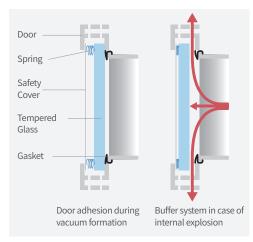
#### Outstanding User Safety

- Door buffer system that maintains stable vacuum condition.
   In case of explosion, internal pressure is discharged via the upper/lower exhaust ports
- · BMS port is provided as standard to monitor within a building management system (option)
- Polycarbonate cover is provided as standard in case of tempered glass breakage
- · Top-rated overheating protection system (Patented in Korea)
- · The surface remains safe(< 60°C) at high temperature



**OV4-30** 

2 shelves included (standard)



Buffer system door structure



Variation less than  $\pm$  1.5 °C at 100°C



3-point calibration for accuracy



Safe from burns with surface below 60°C even at max temperature



























#### User Convenience

- · Wide LCD Color touch display controller
- · Monitor via mobile app anytime, anywhere with LC Connected. (Requires LC GreenBox, option)
- $\cdot\,$  Test data are automatically stored and easily exported with USB in CSV format (except for OV-S)
- · Events/alerts in a single view with real-time graph (except for OV-S)
- Able to limit speed of temperature rise with [Ramp Control™] (except for OV-S)
- · Wait On/Off timer (up to 99hrs 59mins)
- · Auto recommendation of 3 temperatures based on user history
- · Integrated with 21 CFR Part 11 compliant LC DataKeeper, suitable for GMP audits (option)



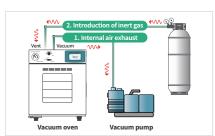
Intuitive touch controller (OV4:5 inch / OV4-S:3.5 inch)



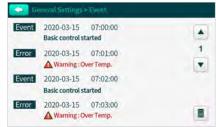
Real-time monitoring via mobile devices (LC GreenBox: option)



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



Application of replacing internal air of chamber with inert gas



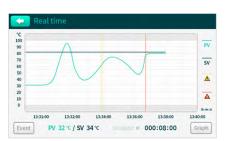
Store recent 36 events (OV-S: 12 events)



Automatic storage of experimental data in the internal memory



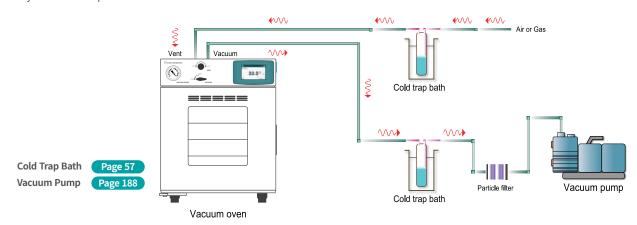
Data storage using USB ports



Graphs for real-time process monitoring

#### Vacuum Oven Use Configuration

· It is recommended to use the cold trap bath on the vacuum line to protect the weak vacuum pump against water/solvent or to supply dry air to the sample.



#### **Specification**

Model		OV4-30	OV4-30S*	OV4-65	OV4-65S*
Control panel	Control panel		3.5 inch	5 inch	3.5 inch
Chamber volume	Chamber volume (L / cu ft)		<u>'</u>	65 / 2.3	
	Range (°C / °F)	Amb. +15 to 250 /	Amb. +27 to 482	Amb. +15 to 250 /	Amb. +27 to 482
T	Fluctuation at 100°C (±°C / °F)	0.2 / 0.36		0.2 / 0.36	
Temperature	Variation at 100°C (±°C / °F)	1.5 / 2.7		1.5 / 2.7	
	Heating time to 100°C (min.)	70		90	
Vacuum gauge range, analog (Mpa)		0 to 0.1		0 to 0.1	
	Interior (W x D x H, mm / inch)	302 x 305 x 302 / 11.9 x 12 x 11.9		402 x 405 x 402 / 15.8 x 15.9 x 15.8	
Dimension	Exterior (W x D x H, mm / inch)	537 x 522 x 655 / 21.1 x 20.6 x 25.8		636 x 622 x 755 / 25.0 x 24.5 x 29.7	
	Net weight (Kg / lbs)	68 / 150		107 / 235.9	
Chalusa	Quantity of shelves (standard / max.)	2/3		3 / 4	
Shelves	Max. Load per shelf (Kg / lbs)	20 / 44.1		20 / 44.1	
Material		Body: Stainless Steel, Shelf: Aluminum		Body: Stainless Steel, Shelf: Aluminum	
Electrical requirements (230V, 50/60Hz, A)		5.7		6.7	
Cat. No.		AAH13315K	AAH13335K	AAH13325K	AAH13345K
Electrical requirements (120V, 60Hz, A)		10.2		11.7	
Cat. No.		AAH13316U	AAH13336U	AAH13326U	AAH13346U

<sup>\*</sup> The lowest controllable temperature depends on variations in room and sample temperatures. Please contact technical support for consultation









How to choose the right shelf for the OV4 series

Accessories Page 84 BMS Port, Silicone Gasket, Viton Gasket, Shelf, Shelf Spacer, LC GreenBox, LC DataKeeper

Technical data (according to DIN 12880, after 2013)
 \* The OV4-30S and OV4-65S exclude some convenient features. (real-time graphs, data storage, etc.)

# **Vacuum Oven System Station**

#### **Dedicated Table for Neat Organization of Vacuum Drying**

#### Compact System Structure

- · Compact system placing vacuum oven on top, cold trap bath and vacuum pump below.
- · Neat arrangement of power cords and vacuum hoses using ring bolts and cable clamps.

#### Convenient Use and Maintenance

- · Two outlets for cold trap bath and vacuum pump and convenient on/off control of using front-panel switches.
- Easy removal for cleaning and replacing glass traps of cold trap bath.
- $\cdot$  Easy installation and movement with casters.



**Vacuum Oven System Station** (OVT)



Neat hose arrangement



Convenient caster for moving/fixing



Easy replacement and cleaning



Convenient power On/Off

#### **Composition Example**

Table	OVT
Vacuum Oven	OV4-30
Cold Trap Bath	CTB-20 with glass trap
Vacuum Pump	G-50DA, 1.3 <sup>-1</sup> Pa

<sup>\*\*</sup> The above configuration is an example using Jeio Tech products. Please purchase the model that suits your needs.



#### **Specification**

Cat. No.	Description
AAA13551	Vacuum Oven Table (OVT), 910 x 710 x 890 mm





## **Accessories** for Oven & Furnace

#### **Shelves**



#### Wire Shelf (Oven)

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



#### Perforated Shelf (Oven)

- $\cdot \ \mathsf{Porous} \ \mathsf{structure} \ \mathsf{made} \ \mathsf{of} \ \mathsf{stainless} \ \mathsf{steel}.$
- $\cdot$  Solid structure makes it suitable for high load samples.



#### **Ceramic Shelf (Furnace)**

- · Plate for placing a crucible.
- · Made of Mullite for thermal resistance.

#### **Shelves for Forced/Natural Convection Oven**

Model	Wire shelves		Perforated shelves	
Modet	Cat. No.	Quantity (standard/max.)	Cat. No.	Quantity (max.)
OF4-03P/V/S, OF4-03PW/VW/SW	00FDA0009739	2/4	AAA125341	4
OF4-05P/V/S, OF4-05PW/VW/SW	00FDA0009738	2/5	AAA125342	5
OF4-10P/V/S, OF4-10PW/VW/SW	00FDA0009737	2/8	AAA125343	8
OF4-15P/V/S, OF4-15PW/VW/SW	00FDA0009736	2/9	AAA125344	9
OF3-30/30W/30P/30PW	00RTD0001196	2/5	AAA18501	5
OF3-30H/30HW/30HP/30HPW	00RTD0001196	2/5	AAA18501	5
OF3-45/45W/45P/45PW	00RTD0001196	3 / 11	AAA18501	8
OF3-45H/45HW/45HP/45HPW	00RTD0001196	3 / 11	AAA18501	8
OF3-75/75W/75P/75PW	00RTD0001197	3 / 11	AAA18502	11
OF3-75H/75HW/75HP/75HPW	00RTD0001197	3 / 11	AAA18502	11
OF-02G-4C	00EDA0008136	8 / 16	AAA12531	16
ON4-03V/S, ON4-03VW/SW	00FDA0009739	2 / 4	AAA125341	4
ON4-05V/S, ON4-05VW/SW	00FDA0009949	2/5	AAA125362	5
ON4-10V/S, ON4-10VW/SW	00FDA0009950	2/8	AAA125363	8
ON4-15V/S, ON4-15VW/SW	00FDA0009951	2/9	AAA125364	9

<sup>\*</sup> Brackets for each shelf are included.

#### **Shelves for Vacuum Oven**

Description	Position	Material	Cat. No.	
	Position		OV4-30/30S	OV4-65/65S
Bottom shelf, Basic <sup>2)</sup>		Aluminum	AAA13519	AAA13520
		Stainless Steel	AAA13529	AAA13530
Extra shelf, Optional <sup>1), 4)</sup>		Aluminum	AAA13511	AAA13513
extra sneif, Optional"	■ Multiple shelf ■ Upper shelf	Stainless Steel	AAA13521	AAA13523
Lower shelf, Basic <sup>2)</sup>		Aluminum	AAA13517	AAA13518
	Lower shelf	Stainless Steel	AAA13527	AAA13528
Upper shelf, Basic <sup>2), 3)</sup>	Extra shelf Bottom shelf	Aluminum	AAA13512	AAA13514
		Stainless Steel	AAA13522	AAA13524
Multiple shelf, Optional <sup>1), 4)</sup>		Aluminum	AAA13531	AAA13533
		Stainless Steel	AAA13532	AAA13534
Shelf spacer, Basic <sup>2)</sup>	Insert where	Aluminum	AAA13515	AAA13516
	the gap occurs	Stainless Steel	AAA13525	AAA13526

<sup>1)</sup> You can add an extra shelf or multiple shelf that can be placed at the bottom to experiment with more samples same time, and the value of Variation and Fluctuation may increase slightly.

#### **Shelves for Furnace**

Model	Dimension (W x D x H, mm)	Ceramic Shelf
MF2-12 series	120 x 230 x 12t	00FDA0009706
MF2-22 series	140 x 280 x 12t	00FDA0009707
MF2-32 series	260 x 260 x 12t	00FDA0009708

<sup>2)</sup> The shelf and shelf spacer are included as bundled accessories, and you can purchase when need to replace them.

<sup>3)</sup> For OV4-65 models, 2 upper shelves are basic provided.

<sup>4)</sup> Maximum number of shelf for OV4-30 model: 4 extra shelves / 5 multiple shelves and for OV4-65 model: 4 extra shelves / 8 multiple shelves.

#### **Recorders & Brackets**



#### Recorder (Dot)

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



#### Recorder (Thermal Line)

- · Graph/Digital mode.
- · Thermal-type temperature recorder.



#### 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.)

Model	Description	Cat. No.
OF3-30/45/75/30H/45H/75H Series	Recorder (Dot)	AAA8T500
	Recorder (Thermal line)	AAAE1503
MF2 series	Recorder (Thermal line)	AAAE1503
OF4/ON4-05	Stacking set	AAA125547
OF4/ON4-15	Stacking set	AAA125549

#### **Door Gaskets for Vacuum Oven**

Description		Cat. No.	
		OV4-30/30S	OV4-65/65S
Silicone Gasket	Included as standard. Silicon gasket for sealing the door.	00FDA0009912	00FDA0009913
Viton Gasket	High chemical resistance	00FDA0009914	00FDA0009915

#### Communication



#### **BMS Port**

- Real-time monitoring at a central monitoring facility.
- Easier to ensure safety, especially in labs where multiple units are operated.



#### **Communication Port**

- Control PC connection and data by dedicated software.
- · Included as default in OF4-P/V and optional for OF4-S.



#### LC GreenBox

(Mobile Monitoring System)

- · Remote monitoring and control via mobile application.
- · One LC GreenBox can connect up to 4 devices.
- Connect using RS-232 port on the communication port.



#### LC DataKeeper

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

Ports	OF4-P/V, ON4-P/V	OF4-S, ON4-S	OV4
BMS Port	AAA125534		AAA125558
Communication Port1)	Standard	AAA125533	-
LC GreenBox	AAHQ1011K		
LC DataKeeper Basic <sup>2)</sup>	SSA11001		
LC DataKeeper Pro <sup>2)</sup>	SSA11002		

- 1) 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.

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